Conservation of Critical Coastal Ecosystems in Mexico

Project Proposal
1998 – 2003

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By:
University of Rhode Island – Coastal Resources Center
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1. Coastal Resources Conservation: Opportunities for USAID Mexico

The coastal region of Mexico is made up of productive and diverse ecosystems that have become major contributors to the economic foundation of this country, with maritime transport, aquaculture and coastal tourism offering the greatest opportunities for economic growth. Mexico is ranked the fourth most biologically diverse country in the world, in part due to its rich coastal habitats including mangroves, coastal lagoons and coral reefs. As more people move to growing coastal urban settlements and tourism development continues to expand, the long-term productivity and biodiversity of its 11,000 km of coast will be in jeopardy. Julia Carabias Lillo, Minister of Environment, Natural Resources and Fisheries stated recently "if we do not take care in how we incorporate [coastal resources] into development, we will generate problems of contamination, destruction of ecosystems, and disruption of environmental and ecological balances that will put the brakes on our economic growth." [1]

Mexican authorities realize that coastal economic development presents potential threats as well as opportunity for the nation's social and financial prosperity. The Secretary of Natural Resources, Environment and Fisheries (SEMARNAP) has identified several principal threats to Mexico's Coastal Ecosystems[2]:

- Most coastal lagoons are threatened by serious problems of environmental deterioration.
- Development is intensifying in the coastal zone and includes: urban settlements, industrial complexes, tourism infrastructure and services, industrial and fishing ports, petroleum facilities, agriculture, and modifications to rivers discharging to coastal waters.
- Coastal fishing effort has intensified, along with the use of destructive fishing techniques.
- Scientific understanding of environmental, social and economic dimensions coastal ecosystems is inadequate.

Existing coastal management efforts have focused on addressing specific, single resource uses; establishing marine and coastal protected areas; watershed and wetlands management; aquaculture in coastal lagoons; fisheries management; and general zoning and mitigation of environmental problems from coastal tourism development. Mexico is actively decentralizing environmental planning by shifting decision-making from the national to state level. This shift

[1] "Necesario proteger ecosistemas de las costas Mexicanas", El Nacional, México. 11 November, 1997.
[2] 1998 Work Plan, Secretary of Environment, Natural Resources and Fisheries, México. Section 1.A.4.

creates additional opportunities for stakeholder participation in formulating and implementing policies that address the social and economic aspirations of coastal residents.[3]

There is an urgent need to promote sustainable development and conserve critical habitats and biological resources. USAID/Mexico is promoting integrated approaches to coastal resources management as a practical strategy to protect critical ecosystems both within and outside protected areas, and as a substantial contribution to the Meso-American Reef Initiative. This ambitious effort, to promote conservation and sustainable use of the coral reef system and related ecosystems, is shared by Belize, Honduras, Guatemala and Mexico. All of these nations will be encouraged to engage in unprecedented collaboration, sharing of information, negotiation of policies, and creation of a broad constituency within each country to insure that implementation is successful.

USAID/Mexico's critical coastal ecosystem conservation strategy is to support NGOs to initiate pilot activities that address critical issues within priority coastal situations; promote the adoption of polices and action proposals; and then foster extension and replication of successful outcomes to other critical sites, regions and states. USAID/Mexico will continue to strategically focus its efforts in two regions, the state of Quintana Roo and the Gulf of California, due to their unique biological diversity, the importance of conserving endemic species, and the continued pressures of coastal population and economic growth. Integrated Coastal Management (ICM) is a practical methodology for accomplishing the above strategy. ICM is defined as a response to the urgent need to promote sustainable development and conserve critical habitats and biological resources. The overall goal of ICM is to improve the quality of life of communities that depend on coastal resources, while maintaining the biological diversity and productivity of coastal ecosystems. Worldwide ICM is increasingly recognized as the most effective means for advancing sustainable use and conservation of coastal resources.

USAID/Mexico projects are designed to insure creation of sustained initiatives. Expanded participation of all social sectors in site conservation assures a long-term constituency for management. Capacity building creates the indigenous capability for management. Seeking and securing collaboration from government agencies, which have lead responsibility in decisions about and administration of key resources permits the formation of a stronger institutional framework for conservation and management. In addition, leveraging funds and resources from other sources provides for financial stability.

An additional feature of USAID Mexico's strategy is linkages with other USAID-sponsored coastal conservation initiatives in Latin America and the Caribbean, including PROARCA and the USAID-LAC-HFTE mariculture project. Both offer experiences and results that can be tested and replicated in both Quintana Roo and the Gulf of California. The activities described below will be useful to neighboring countries to effectively manage the region's coastal resources as one sensitive biological unit.

[3] SEMARNAP Work Plan, 1998.

2. Conservation of Critical Coastal Ecosystems in Mexico

Life of partnership results

USAID/Mexico has a strategic objective (SO3), "to conserve critical ecosystems and biological reserves". USAID/Washington's Global Center for Environment (USAID/G/ENV) Coastal Resources Management II (CRMII) can significantly contribute to obtaining this objective by focusing on coastal ecosystems and resources in the Meso-American reef region and the Gulf of California, achieving four intermediate results (IR) by the year 2003:

IR 3.1 Adequate community-based management of three protected areas and/or critical ecosystems including Xcalak and two additional communities in Quintana Roo is achieved.

IR 3.2 Definition and increased use of best management practices for environmentally compatible tourism development, in Costa Maya (southern Quintana Roo), with some application state-wide and to locations in the Gulf of California.

IR 3.3 Improved policies for conservation and sustainable use are incorporated into marine park and coastal environmental plans, and improved conditions for implementing these policies are created in Quintana Roo and the Gulf of California.

IR 3.4 Improved NGO and professional capacity enables site management plans, best practices, in addition to improved policies to be implemented, replicated, and sustained in Quintana Roo and the Gulf of California.

Indicators have been developed to measure progress towards achieving the intermediate results. Specific targets for each IR are listed in the sections below.

USAID/Mexico funds will be used for activities both on the Caribbean and Gulf of California coasts, which will be coordinated by the University of Rhode Island's Coastal Resources Center (URI-CRC). The initial project focus will be to continue to support work to conserve and manage the reef ecosystems and associated environments in Quintana Roo. It will also build the foundation for a meaningful program of activities in the Gulf of California. At the mid-point, the project will shift its emphasis to sustaining activities occurring in Quintana Roo, largely through leveraged funding, and will place greater emphasis on defining and carrying out a strategy and capacity-building program for effective coastal conservation in the Gulf of California. The expectation is that tools, techniques, experiences and lessons learned will be shared between the two areas, with the hope that future replication will occur throughout the coast of Mexico.

To utilize available resources effectively, this results package relies on developing the capacity of non-governmental groups and local universities to provide leadership and build public support for coastal management at the state level, as well as deepen their capacity to work towards tangible conservation results with coastal communities. At both project locations, USAID resources will assist organizations to gain experience in conducting demonstration activities; providing information; participating in advisory, coordination and decision making opportunities;

working to expand professional capacity; and leveraging financial resources for coastal resource conservation and management.

The primary partners for this initiative are Amigos de Sian Ka'an (ASK) and the University of Quintana Roo (UQROO) in Quintana Roo; and Conservation International, The Nature Conservancy (TNC) and World Wildlife Fund (WWF) in the Gulf of California.

Coastal management challenges in Quintana Roo

USAID/Mexico, through its Summit of the Americas special project, and the USAID Global Coastal Resources Management Project II, has supported the promotion of coastal ecosystem conservation in Quintana Roo through a modest, but strategic portfolio of activities, which are already yielding results. Quintana Roo is recognized for its rich coastal biological diversity and habitats including extensive mangrove, lagoon and coral reef systems. Mexican officials, NGOs and the private sector value the biological and economic benefits of this pristine area and have taken action to protect it while also developing the coastal area. At the northern end of the coast is the tourism mecca of Cancun with over 22,000 hotel rooms in just 20 kilometers of coastline. Over 200,000 additional rooms are being allowed in the Cancun-Tulum corridor under the existing environmental plan. In just 25 years over 300,000 Mexicans have migrated to Cancun to live due to the employment opportunities offered by this development.[4]

Although efforts are being made (see map) to protect the natural resources and implement wise planning through park designations and land use zoning efforts (Environmental Land Management Plan), serious environmental impacts are occurring. Dramatic examples of coastal degradation in Quintana Roo include: dead and damaged reefs of Cancun, degradation of the Laguna Nichupte, beach erosion and property damage in Cancun and Playacar, and concern about mangrove deforestation in Puerto Morelos.

The economic benefits of tourism and the still pristine environment along much of the state's coast, encourages government officials and the private sector to continue to push for even more tourism development along the fragile coastline. Yet if tourism continues to develop in a "business as usual" manner, critical habitats and endangered flora and fauna will be lost. The degradation of tourist attractions (i.e. beaches and reefs), as the Mexican Secretary of Environment, Natural Resources and Fisheries has warned, could threaten long term economic viability of the tourism market. The draft Environmental Land Management Plan for Costa Maya, prepared by the University of Quintana Roo, covers the development area which includes the shore from the southern portion of the Sian Ka'an Biosphere Reserve to the border with Belize. The University predicts that in the long term, large hotels aimed at the mass market will find themselves empty as the market changes toward more environmentally attractive options. For the Costa Maya, the most probable scenario for economically viable future development is the construction of 10-15,000 hotel rooms along the approximately 150 km of coast, supporting about 1 million visitors annually, and a permanent population of 50-100,000. This poses major challenges for addressing water, waste disposal, drainage, storm hazard and land use issues in planning tourist facilities and residential settlements to avoid dramatic negative impacts on

[4] Draft "Ordenamiento Ecologico Territorial" for Costa Maya, Section 7.2, University of Quintana Roo, 1997.

marine, coastal and terrestrial resources. This pace of growth is paradoxically both the hope and fear of both the state government and communities.

Coastal management needs in the Gulf of California

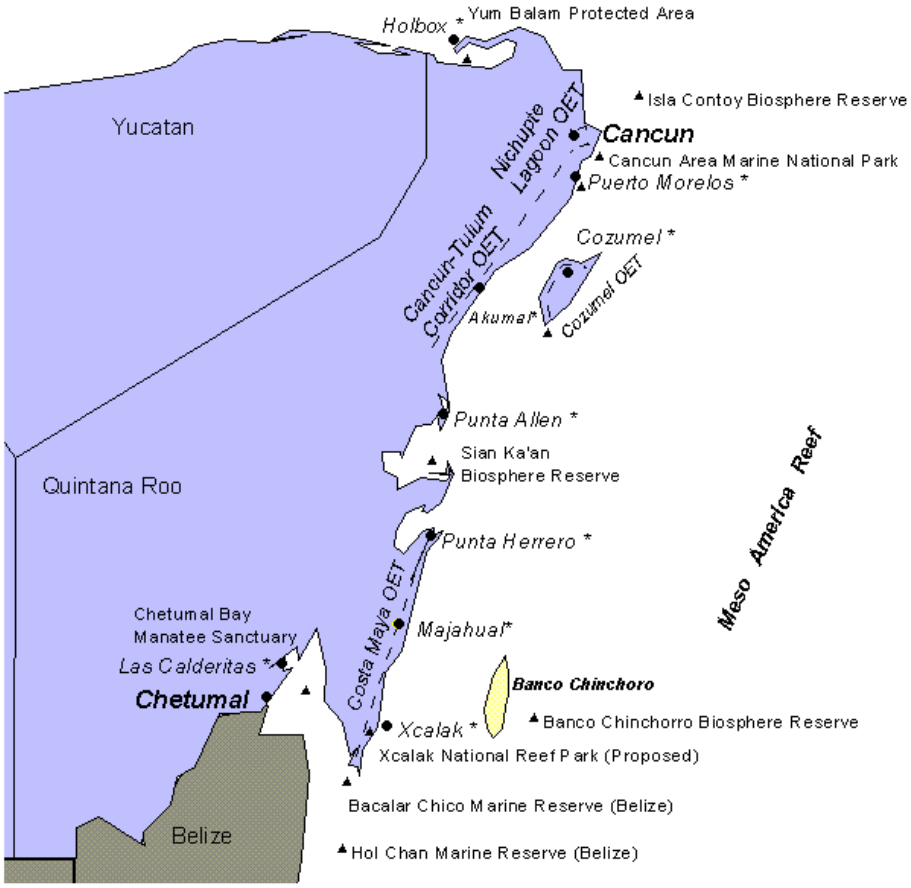
The Gulf of California is a large and varied eco-region, rich in flora and fauna, under the jurisdiction of four states (Baja California, Baja California Sur, Sonora, and Sinaloa). Increased pressures on the fishery stocks, biological diversity and critical habitats has lead several international, national and local organizations to work towards providing these natural resources the protection they deserve.

According to the Marine Ecology Office of SEMARNAP, the Gulf faces numerous challenges in marine and coastal resource conservation including:

- The reduction of flow of the Colorado River to the Upper Gulf has triggered significant environmental changes affecting mangrove ecosystem, creating hypersaline conditions, elimination of sediments and nutrients to the marine ecosystem.
- Confusion over the jurisdiction of the 100 islands in the Gulf, including exclusion of marine waters in island management designations, has impeded the implementation of integrated approaches and solutions.
- Endangered status of marine mammal populations such as harbor porpoise (vaquita), several species of whales, and dolphins.
- Decline in the population of Totoaba (drum), an important sport and commercial fish species, which has been protected since 1975.
- Weak protection for marine turtles.
- Destructive fishing gear, such as non-selective nets which generate by-catch, mortality of marine mammals, long lines, and use of fish species as animal feed.
- Limited knowledge of the effects of sport fishing.
- Contamination from agrochemicals and industrial discharges.
- Free access to resources.
- Limited information and research useful for management.
- Population growth.
- Protecting the condition and functioning of coastal lagoons and estuaries.

Coastal management efforts in the Gulf of California to date have focused primarily on fisheries management and conducting research on the area's biodiversity to develop conservation priorities. USAID funded organizations have led efforts to create artificial reefs, curtail illegal fishing practices, develop a fisheries management zone, and offer training, public outreach, and educational programs. USAID funding has also enabled testing and promotion of the use of turtle excluder devices and techniques to reduce by-catch. Gaps in existing fishing legislation have been examined along with the need to tighten and expand fisheries regulations. A key activity has been priority setting through the preparation of biological, social and economic profiles, which can contribute directly to the development of a strategy to conserve the Gulf's biological diversity.

Emerging Coastal Management in Quintana Roo



▲ Marine Protected Areas
● Communities (* indicates communities with ICM initiatives)
OET- Zoning Plans

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Scattered specific site conservation efforts are also occurring in nearshore areas, with an emphasis on wetland and lagoon conservation. To date, projects have not consistently attracted local citizen involvement. USAID/Mexico partners are already contributing to better management in the Gulf as demonstrated in the table briefly summarized below.

USAID/Mexico Gulf of California Coastal Initiatives

Organization	Initiatives
Conservation International/Mexico	Creation of biodiversity data-base for use in priority setting strategy. Involvement in the management of the Upper California Biosphere Reserve. Improved fisheries management through training, education and promotion of techniques to reduce by catch. Promotion of scallop aquaculture project.
PRONATURA	Improved fisheries management through development of inventories. Educational programs and analysis of fisheries policies and legislation. Creation of artificial reefs to reduce illegal fishing practices and promote low impact tourism.
The Nature Conservancy	Multiple activities to strengthen the management of the Sian Kaían biosphere reserve and develop systems for the long-term protection of priority sites in the Gulf of California
MNCF, PRONATURA, WWF, TNC	Building NGO capacity for work in biodiversity conservation
National Marine Fisheries Service, Conservation International/Mexico	Training in the use of turtle excluder devices for shrimp fishing
CONABIO	Prioritization of biologically diverse areas in Mexico. Development of strategies to conserve biological diversity in Mexico.

There has been limited exchange to date between the USAID initiatives in Quintana Roo and the portfolio of work in Gulf of California. Organizations working within the Gulf of California are employing many of the same participatory methods used in Quintana Roo. The Gulf is so immense, however, that the goal of managing the area as a coherent region remains elusive. Instead, non-governmental groups and the federal government have chosen to concentrate on improving the management of single species of critical concern and focusing on geographic areas of concern and/or specific sites. Local and state governments have yet to become fully active in gulf-wide management initiatives, but need to if substantial progress is to be made.

3. A Strategy for Conservation of Critical Coastal Ecosystems in Mexico, 1998-2003

IR 3.1 *Community-based site management is established in protected areas and critical ecosystems.*

Targets

- Expanded community-based site management in Xcalak and two additional communities in Quintana Roo.

Overview and progress

Xcalak is a small fishing village located on the southern most tip of the Quintana Roo coast. Local residents are concerned about the sustainability of increased fishing and tourism activities taking place in their small community. The Xcalakeños realize their economic and social well being depends directly on the health of their natural resources. Their response has been to form the Xcalak Community Committee (XCC), a non-partisan group representing different sectors of the community. The XCC, with support from the Amigos de Sian Ka'an and the Coastal Resources Center, is working to obtain designation of the Xcalak coral reef area and lagoon system as a National Park. Between 1995 and 1997, ASK, CRC-URI and the XCC completed the required National Park designation proposal documents as well as developed a community strategy for coastal management.[5] This unofficial document provides a much needed voice expressing the local vision for the area's development, and specifies their preferred solutions to potential social and environmental problems.

The XCC has developed a water-based zoning scheme for the proposed Xcalak National Park, which allows for economic development while protecting the natural resources. The zoning plan is based on technical findings, discussions with all users of the resources, and lessons learned during site visits of community members to the Belize Hol Chan Marine Reserve.

The designation proposal was submitted to the Governor of Quintana Roo, state agencies and the federal agency responsible for environmental management issues in 1997. While formal designation of the park is expected later in 1998, implementation of the park concept is already underway. The XCC is negotiating tourism and fishing user agreements to enhance the management of the Xcalak National Park area. These agreements will be signed by the stakeholders, including the local fishing cooperative, independent fishermen, local tour operators and state officials. These agreements will provide an important Mexican model of effective community-based marine management.

Neighboring communities observing the Xcalak process have expressed interest in replicating the approach. CRC/UQROO will work with two other communities over the next three years to achieve adequate management of their coastal and marine resources.

[5] "Estrategia Comunitaria para el Manejo de la Zona de Xcalak", Quintana Roo, México. December. 1997.

Subresults and principal tasks to achieve IR 3.1

USAID/Mexico will support community efforts to improve natural resources management in protected areas and other critical habitats in Quintana Roo. Facilitation of local groups and technical assistance to communities will be provided by UQROO and ASK (with CRC-URI back-up) to integrate conservation of environmental resources with economic development. This will be achieved through the effective use of community initiatives coupled with state/national regulatory and management tools (i.e. creation of protected areas, site management plans, and Environmental Land Management Plans).

This work directly supports Mexico's responsibilities for the Meso-American Reef Initiative, which is aimed at achieving sustainable use of coral reef ecosystems and related habitats. These results will be achieved through funding the following activities:

a. Implementation and completion of protected area management plan, along with expanded community- based coastal management program for Xcalak. ASK will continue to provide technical assistance to Xcalak for implementation of activities identified in the Xcalak Community Strategy document. Additionally, findings and policies on other issues not currently in the plan such as implementation of a low impact tourism strategy, reduction of land-based non-point source pollution (solid and liquid waste), and beach erosion will be added. Law enforcement, public education and citizen monitoring programs will be initiated to help protect critical habitats, including the adjacent coral reefs, lagoons and mangrove forests. Xcalak will serve as a model for replication in other coastal communities in Quintana Roo, as well as be of interest to emerging efforts in the Gulf of California.

b. Identification and incorporation of new community sites in a network of Quintana Roo marine and coastal protected areas. Through workshops, site visits, training courses and mentoring programs, local organizations and individuals involved in community-based natural resources management will learn about effective management tools and techniques. A network will be developed among these groups to ensure that experience and lessons- learned are shared.

In 1998, UQROO prepared a needs-assessment to provide an overview of coastal management initiatives that are currently occurring in ten Quintana Roo coastal communities. Based on the results of the needs assessment, individuals from Xcalak, Las Calderitas, Los Raudales, Cozumel, and Chetumel along with government officials and NGOs including ASK, Amigos del Manati, Guardianos de la Bahia de Chetumal, and Guardianos de Chinchorro will participate in two workshops planned 1998. From this pool of interested communities, two additional sites will be targeted for focused support from the site conservation and coastal management extension program UQROO has initiated. The sites will be chosen on the basis of:

- Local interest, support and readiness;
- Presence of issues and opportunities that will contribute to replicable methods for other sites;
- Project scale which can be properly supported with available resources; and

- Provides experience to strengthen our partner's ability to provide extension in ICM.

By the end of the program, several coastal communities will have implemented selected management actions, the Xcalak community strategy will have been expanded to cover additional issues of community concern, and both ASK and UQROO will have gained critical experience in supporting community level coastal management.

c. Responding to opportunities for additional replication. As opportunities and resources allow, the project team will support the replication of ICM tools and techniques in other coastal communities requesting this assistance. These communities would likely share pressures and social attributes similar to the communities with whom the project team is already coordinating. Representatives from these communities would also be invited to participate in project events and encouraged to work closely with the project's community participants. For example, an individual from Xcalak could provide advice and support to this new community requesting support.

d. Provide support to ongoing ICM activities in the Gulf of California. In the Gulf of California, USAID's existing partners in marine and coastal conservation will continue to take the lead in efforts at site conservation and species management. CRC will, however, provide assistance to these efforts if asked and resources allow.

IR 3.2 *Definition and increased use of best management practices for environmentally compatible tourism development, on Costa Maya (southern Quintana Roo), with application state-wide and adaptation to locations in the Gulf of California.*

Targets

- The number of men and women in Quintana Roo practicing sustainable activities promoted by USAID will reach 120 by 2002. The number of communities where sustainable use activities are occurring will increase from a targeted 5 in 1999 to 8 by 2003, or 67% of the total number of communities in the region.

- The number of new enterprises in Quintana Roo using best management practices advocated by the USAID-supported program will increase from an expected 2 of 10 in 1999, or 20 percent, to 9 out of 30, or 30% of new developments by 2003.

Overview and progress

Characterization of marine and coastal systems in Costa Maya. Attracting international and national investors and developers to the Costa Maya is a priority for the Government of Quintana Roo. In preparation for more effective participation in decisions on future development, ASK and CRC-URI developed a biological and physical characterization of the area that is contained in a Geographical Information System's database, which includes satellite imagery, field surveys, and maps. Elements include beaches and shore features, wetlands and mangroves, hydrology, surficial and bedrock geology, current and ancient shorelines, and coral reefs. The database is a valuable management tool for understanding coastal processes and guiding development in appropriate places along the coast, as well as protecting more fragile areas. When the

characterization was completed, the project team was able to identify fragile areas vulnerable to increased development.

Preparation of guidelines for environmentally compatible tourism development in Costa Maya. A unique guidance document on best site development practices, *Manual of Low Impact Tourism Practices for the Development of Quintana Roo*, has been prepared by ASK and CRC-URI to demonstrate how the Costa Maya characterization information can be applied to individual site decisions. The best practices included in the manual were compiled from experiences in Mexico and around the world, and demonstrate techniques to reduce impacts from tourism projects on dunes and beaches, wetlands and lagoons, within the context of the ecosystems and building pressures of Quintana Roo. A concurrent program of promotion led by the Amigos de Sian Ka'an is serving to educate local developers and practitioners on the critical coastal issues and resources of the region, and to encourage the use of specific techniques that can promote low-impact tourism development and a sustainable tourism economy. The Spanish language manual illustrates how developers and regulators can voluntarily adopt improved construction and management techniques.

The preliminary version of the manual was printed in June 1998, previous to which has been tested with the private and public sectors in site specific decision making, and in several training courses. A summary version is also available in English.

Early participation in decision-making for future development in Costa Maya. CRC-URI worked closely with ASK staff to strengthen their skills to apply technical information to local and state coastal planning decisions. The University of Quintana Roo, motivated by its independent work in land and shore planning, has also benefited from the opportunity to engage in the partnerships and activities of the USAID/Mexico project. The Environmental Land Management Plan incorporated some of the basic concepts from the ASK/URI *Manual of Low Impact Tourism Practices for the Development of Quintana Roo* into the draft land use zoning plan, which will have a regulatory effect on new development. ASK has also worked to include recommendations from the manual into the decision-making criteria for the Cancun-Tulum Corridor zoning plan, which was being revised in 1998. In addition, the mapping and resource characterization of Costa Maya corridor conducted by ASK was used to recommend to the state government relocation of portions of the proposed IDB-funded highway from Majahual to Xcalak, so as to minimize extensive impacts to wetlands and water resources. ASK is monitoring the extent of adoption of its proposal. ASK also assisted the state government in applying the data-base to the siting of a new cruise ship pier in Majahual. Lastly, a voluntary field testing program for low impact tourism development practices is also underway, with project staff from ASK working with a local developer and his architect on a small hotel development in Costa Maya.

Subresults and principal tasks to achieve IR 3.2

The results will be achieved through funding of the following activities:

a. The application low impact tourism development practices. USAID/Mexico partners will participate in ongoing efforts to make better site-specific decisions about tourism development, and promote sustainable tourism development within the region. The low impact tourism practices manual will be a principal tool for educating both the private and

public sectors on the processes occurring along the coast and on techniques for reducing impacts to natural resources, thereby supporting habitat protection in the region. Illustrative activities, which will be implemented by the project team, include:

- Provide technical support to communities to promote low impact tourism both at a community and regional level. Emphasis will be placed on capacity building, quality of tourism and reduction of impact on the natural resources
- Target developers, practitioners (architects, planners, engineers), policy makers, and regulators for training on applying low impact development techniques. Events will range from field exercises to presentations at state level professional conferences, as well as direct technical consultation proposed developments.
- Continue to identify proposed developments which will serve to illustrate the feasibility and benefits of low impact practices including use of setbacks, landscaping vegetation, and solid and liquid waste disposal alternatives. This will help "promote" the low impact practices while providing the necessary "ground-truthing" for expanded use of both the practices and the manual.
- Evaluate the feasibility of incorporating low impact techniques in existing eco-tourism resort certification programs.
- Introduce guidelines, as appropriate, as a potential tool for better coastal management in selected Gulf of California locations, as well as other Meso-American Reef Initiative communities.

b. Increased use of best practices in community conservation project sites. Xcalak and the two additional community sites will be provided special attention as the focal point for implementing best practices in marine protected area management, tourism development and fisheries management. The program will fund additional practical implementation actions in support of the community strategy in Xcalak, as well as in the two other community sites once their strategies have been drafted. In addition, all communities in the coastal region will be encouraged to collaborate to assume a more visible role in offering destination opportunities for the environmentally-oriented tourism slated for the Costa Maya region. It is equally important that these villages apply best management practices to maintain the attractiveness and environmental quality of the Costa Maya region.

c. Transfer of lesson's learned to Gulf of California. Relevant experience and ideas from the Quintana Roo effort will be provided to the Gulf of California early on and as they emerge during the life of the project.

IR 3.3 *Improved policies for conservation and sustainable use are incorporated into marine park and coastal environmental plans, and improved conditions for implementing these policies are created in Quintana Roo and the Gulf of California.*

Targets

- Quintana Roo

  - New policies are incorporated into the Xcalak National Park and community coastal management plans.
  - A long-term statewide coastal management strategy will be prepared which draws lessons from site-based initiatives, supports implementation and refinement of the Environmental Land Management documents and stimulates the more effective use of existing coordination mechanisms.
  - Eighty percent of the policy framework for coastal management in Quintana Roo will be in place, with input from the USAID Program, by 1999.

- Gulf of California

  - CRC-URI will prepare an analysis of impediments to effective coastal resources management in the Gulf of California region, and work with USAID partner organizations to examine the lessons and opportunities for replicating and/or adapting site-based conservation methods throughout the region.
  - CRC-URI-sponsored problem-solving workshops, which focus on specific topics, such as environmentally compatible tourism development, community based protected area management, and best practices for shrimp mariculture will start linking isolated site programs.

Overview and progress

Collaboration toward integrated coastal management, Quintana Roo. The concept of state level integrated coastal management is new to Mexico. To set the stage for development and implementation of a successful state strategy to manage coastal resources, diverse stakeholders must have the capacity to actively and effectively participate in this initiative. As the context for development changes, the private sector is seeking clearer guidance from the state on the forms of development which are desired. Until recently the federal and state government have lacked specific site development criteria and guidelines, and municipal governments have not been well prepared to carry out the detailed planning and regulatory work needed to shape the development process for new communities.

The four Environmental Land Management plans now in place or being proposed (Cancun-Tulum, Costa Maya, Nichupte Lagoon, and Cozumel) cover most of the state's coast, and in some instances, several kilometers inland as well. The Biosphere Reserve has its own management plan and nearly three-quarters of the marine areas within the state are covered by some type of marine protected area designation. The principal challenge is to implement, integrate and refine these plans toward the goal of creating a cohesive management framework for the state.

To build support for the idea that discussing coastal policy matters would be a useful addition to existing environmental planning tools in Quintana Roo, an emphasis has been placed on providing ASK, UQROO, government officials, local communities, and the private sector with opportunities to learn from other ICM experiences in Latin America and the Caribbean, while examining their own initial experiences in applying aspects of integrated coastal management. Leaders from NGOs and the government have participated in a number of workshops and other activities that have promoted opportunity exchange. These activities include: the URI-ESPOL Integrated Coastal Management course held in Ecuador in 1996; a special workshop organized by ASK on Using Geographic Information Systems (GIS) as a Tool for Natural Resources Management; and Conservation Training Week, held in Cancun in April 1997.

A special statewide workshop "Developing Integrated Coastal Management in Quintana Roo" was held in the capital city, Chetumal, in August 1997, on the University of Quintana Roo campus to initiate a state level dialogue on coastal management. Presentations of experience in the Chetumal workshop revealed that no single tool has been effective in improving how decisions are made, rather Quintana Roo has successfully experimented with a variety of the collaboration mechanisms. Recent experience in the Cancun-Tulum corridor reveals the limits and weaknesses of the general guidance given to shore development through the Environmental Land Management Plan. After much debate, the consensus conclusion of the workshop was that the top priority for Quintana Roo was to establish a mechanism for discussion of coastal policy and integrated decision-making. This opened a window of opportunity for engaging government, NGO and private stakeholders in sustained, structured discussions of policy concerns within the framework of the USAID/Mexico project.

Subresults and principal tasks to achieve IR 3.3

These intermediate results will be achieved through funding the following activities:

a. Implementation, refinement and adoption of environmental guidelines for tourism development. ASK and UQROO will work with local communities, government agencies responsible for guiding tourism development, as well as private sector investors and practitioners, to adopt recommended best practices for specific project proposals.

Specific activities include:

- Promoting the inclusion of low-impact development guidelines in the Environmental Land Management Plans for Cancun-Tulum, Costa Maya and Cozumel.
- Preparing a final version of the guidelines for tourism development based on field experiences and stakeholder reviews.
- FIDECARIBE, the state tourism development office, will participate in training on the guidelines, becoming a prime promoter for these voluntary guidelines, which is seen as one key step towards broader implementation.
- Training government officials on the application of the guidelines as part of the Environmental Impact Assessment process.

- Work with local and foreign investors on the application of the low impact development guidelines into planning and constructing their tourist facilities.

b. Establishment and functioning of a Quintana Roo Coastal coordinating group. By the end of the planned work in Quintana Roo, the USAID program seeks to see the establishment and functioning of a coordinating group that regularly meets to discuss ICM policy issues at the state level. This group will have a clear agenda and charge to strengthen collaborative decision making. Such a group will be established using the following tools:

- Create opportunities for stakeholders to work together to examine, assess and strengthen ongoing coastal management initiatives, including the government's Environmental Land Management Plans and protected area management efforts; encouraging developers and investors to apply low impact development techniques; and securing funds and commitments to support this initiative.
- Provide regular opportunities for productive exchange among groups engaged in innovative coastal management efforts in Quintana Roo through coordination events, and joint planning exercises. These will provide a consistent way to encourage coordinated behavior among the broad array of government agencies and actors involved in development. If dramatic events such as a coastal storm or new economic crisis occur, they will be treated as "opportunities" to rapidly establish channels for communication which encourage decision-makers to address environmental concerns.
- Prepare a document which outlines the opportunities for integrated coastal resources management based upon the experience and the existing legal framework for Quintana Roo. This document will serve as a road map for strengthening policy, capacity, planning and development in support of coastal management.

c. Assess impediments and opportunities for integrated coastal management in geographic areas of particular concern in the Gulf of California. The Gulf of California encompasses a vast marine and coastal area where numerous management initiatives are emerging. A key early task is for CRC-URI to become more familiar with the region and develop a proposal for activities. CRC-URI will prepare an analysis of impediments to effective coastal resources management in selected areas of concern, and work with organizations currently engaged in the Gulf to examine the lessons and opportunities for replicating or adapting site based conservation methods for application to a broader region.

CRC-URI will initially work with a small group of regional experts to sketch out the dimensions of this challenge by reviewing the status of coastal management in the Gulf. In years two and three, CRC-URI will engage with USAID supported groups working in the Gulf of California to organize activities which will complement ongoing coastal management initiatives and promote regional coordination. Dialogue concerning coastal management among the four states will occur periodically to identify mechanisms to advance regional management of the Gulf.

Drawing upon recommendations from the diagnosis, CRC-URI expects to conduct workshops on problem-solving and experience-exchange which will focus on specific topics, such as

environmentally compatible tourism development, community-based protected area management, and the lessons learned from ongoing USAID supported coastal management efforts in the region and worldwide. Topics may include best practices for lagoon management and shrimp mariculture.

Each year, a workshop/site visit will be held in the Gulf region to share lessons learned, build skills and identify opportunities for coordination. Although these events will be focused on the Gulf of California, representatives from other ICM initiatives in Quintana Roo as well as groups working at the national level including CONABIO will be invited. Discussions will center on how to promote ICM at the regional level through policy dialogue, capacity building, and public education. Ideas and opportunities for preparing additional proposals to leverage funding are expected to arise from these sessions.

CRC-URI will also foster improved communication by providing relevant global and regional ICM experience (in Spanish) to existing regional communication vehicles such as newsletters, e-mail discussions, and web pages.

IR 3.4 *Improved NGO and professional capacity enables site management plans, best practices and improved policies to be implemented, replicated, and sustained in Quintana Roo and the Gulf of California.*

Targets

- Amigos de Sian Ka'an will have the capacity to apply a greater diversity of tools and techniques to enhance their role in the development and implementation of community-based ICM projects within and adjacent to marine protected areas.
- The University of Quintana Roo establishes a statewide capacity for educating and training NGOs, communities and professionals on marine and coastal management practices.
- Partner organizations will become strong leaders in promoting state coastal management initiatives, and preparing funding proposals for longer term support to sites.
- NGOs and government agencies statewide become familiar with coastal conservation issues, management approaches and best practices, and apply them to an increasing number of decisions and sites.
- The number of Mexican NGOs demonstrating improved ability to manage environmental projects effectively will increase by 2 per year between 1999 and 2002.
- The total number of individuals participating in training and technical exchange programs will increase from a targeted 80 in 1999 to 140 by 2002, of whom at least 20% will be women.

Overview and progress

In Quintana Roo, several strong and determined organizations have successfully secured protection for the state's coastal resources. The Amigos de Sian Ka'an (ASK) has applied its strengths in science and policy to secure designation of several protected areas. The University of Quintana Roo has led the development of the Environmental Land Management Plan for the

Costa Maya. The USAID Mexico ICM project is building on these strengths by providing both organizations with the opportunity to involve and train new staff to work with public, private and community-based stakeholders who must be invited to participate in management efforts for the Quintana Roo coast. Through the CRC- ASK partnership, staff capacity in community based coastal management has increased. ASK is working effectively with developers and government officials in the application of low impact development techniques along the coast. The CRC-UQROO collaboration is providing skill building opportunities for faculty and technical staff, as well as training students in ICM. UQROO is extending its ability to work with communities to apply tools and techniques to more effectively achieve ICM. This three-way partnership (CRC-URI, ASK, UQROO) is building a strong base for community-based and state ICM in Quintana Roo.

Staff members, from two Gulf of California NGOs (ISLA, an island conservation NGO, and Conservation International's Guaymas field office) joined team members from ASK and UQROO to participate in CRC-URI's biennial Summer Institute in Coastal Management during June 1998. This has initiated communication among the USAID/Mexico ICM partners.

Enhanced partner capacity to promote ICM allows the USAID Mexico project to multiply the effect of its investment and reach other organizations and individuals in the public and private sectors.

Subresults and principal tasks to achieve IR 3.4

These will be achieved through funding of the following activities:

a. Partnership with Amigos de Sian Ka'an. CRC-URI will continue to work with Amigos de Sian Ka'an to support their existing leadership role in community-based marine conservation, as well as their participation in statewide decision-making on development of coastal areas. By the end of the project, ASK will have the capacity to apply a greater diversity of tools and techniques to enhance their role in the development and implementation of community-based ICM projects. By developing partnerships with the private and public sector to apply low impact development techniques, ASK will provide these players with the capacity to reduce environmental impacts and increase the overall economic and social benefits of development. In addition, the project will support their increased role in shaping statewide marine and coastal conservation issues.

b. Partnership with the University of Quintana Roo. USAID/Mexico project initiatives will enhance UQROO's existing efforts to promote ICM in Quintana Roo through the formal creation of an ICM extension, outreach and policy program. The goal of UQROO's extension program is to provide technical support and guidance to communities, government organizations, the private sector and others to apply ICM in their day-to-day activities. Technical assistance may include working with community members to develop management plans, organizing a citizen-based monitoring or enforcement program, and providing alternative technologies to resolve energy and water resource challenges. UQROO's ICM extension program, which is receiving substantial core funding from the University itself, will develop the capacity to ensure that ICM continues to grow in Quintana Roo.

UQROO's vision and responsibility also includes projecting its growing experience to service the Caribbean region. Presently, there is no mechanism for these efforts to communicate and support each other. They are actively involved in creating an advanced professional educational program drawing upon the ongoing work to address coastal management for its new facility on Cozumel. These initiatives will be appropriately linked to the ongoing extension program supported by this project.

c. Capacity building for ICM partners. The project team will work together to discuss capacity building needs and then identify opportunities both in Mexico and internationally. Depending on the opportunities and the resources, Mexican project team may attend workshops and short and/or long term training events or participate in mentoring programs.

d. Training for organizations and communities in Quintana Roo and selected areas of concern in the Gulf of California. Numerous training events are planned in support of Element 3 of the Meso-America Reef Initiative-National Capacity Building, which will enable both ASK and UQROO to become lead providers of technical and training support to community groups, stakeholder groups and government agencies, with a continuing program of course and workshop offerings. Illustrative activities include:

- Training events targeted to the growing cadre of coastal management professionals engaged in developing tourism initiatives and management plans for marine parks in local communities. Training will also be directed at staff of government agencies on the correct application of recommended planning and construction technique and will be a conduit to disseminate these guidelines into both the government and development sector.

- Workshops that address marine protected areas issues. Government officials and NGO's including ASK, Amigos del Manati, and Guardianos de Chinchorro will participate in the workshops on techniques to develop low impact tourism and lower the impact of development along the coast, and techniques to improve voluntary compliance and involve stakeholders in enforcement.

- As with Xcalak, there are several coastal communities that understand their direct economic and social dependency on the health of the natural resources. ASK, UQROO, and several government agencies presently receiving training on ICM initiatives will provide these communities and other government officials with the capacity to achieve a balance between economic development and natural resources protection.

- For selected geographic areas of particular concern within the four states of the Gulf of California, the USAID/Mexico program will emphasize assisting USAID regional partners to prepare and seek funding for integrated coastal management projects and build region-wide capacity in ICM. This will likely include educating and training NGOs, communities and professionals on marine and coastal management practices, and creating local capacity for training, drawing upon the experiences of Quintana Roo.

4. Project Implementation

Structure

The Program will be implemented through the University of Rhode Island, Coastal Resources Center (CRC-URI). CRC-URI is an organization with over twenty-five years of experience in working with partners to formulate and implement effective coastal management programs. CRC-URI and USAID have been partners for over a decade in assisting developing regions and nations to manage their coastal resources. CRC-URI assistance to Mexico is being provided under USAID/Washington's Global Center for Environment (USAID/G/ENV) Coastal Resources Management II (CRMII) Cooperative Agreement.

CRC-URI's Quintana Roo partners, ASK and UQROO, will be subcontracted by CRC-URI for the implementation of the agreed upon program activities occurring in Quintana Roo. The project's joint work plan will ensure coordination among the three parties. A local coordinator will work with the CRC-URI project team to facilitate program activities in the Gulf of California.

Work Plans

Each year CRC-URI and program partners will develop a work plan and budget. Annual work plans will be developed in reference to the coastal results package document, the Program self-assessment made during the proceeding year, and emerging opportunities.

The work plan will specify:

- Annual activities in reference to anticipated Program results;
- Tasks, schedule, outputs and responsibility;
- Participant agencies/institutions and their specific work tasks; and
- Budget for each activity.

Roles of CRC-URI, USAID/Mexico and USAID/G/ENV

CRC-URI

Through the Cooperative Agreement with USAID, CRC-URI is ultimately responsible for ensuring completion of all program activities. CRC-URI will work with USAID/Mexico and Program partners to supervise and implement Program activities. CRC-URI will also provide necessary technical assistance to implement all Program activities. CRC-URI's specific responsibilities include:

- Actively work to achieve the USAID/Mexico SO targets;
- Actively work to achieve the USAID/Mexico major results as specified in this document and annual work plans;
- Facilitate the Program's annual review sessions and in coordination with Mexican partners prepare annual work plans and budgets;

- Conduct specific work tasks as assisted under the work plan, and support and collaborate with other Program partners on their assigned tasks;
- Carry out Program monitoring functions as outlined in this document and detailed in the Program monitoring plan; and
- Identify international training opportunities as specified in annual work plans and be responsible for participant placement.

USAID/Mexico

USAID/Mexico will be a full partner in project implementation. Responsibilities include:

- Project oversight, including:
  - Strategic planning regarding project direction;
  - Reviewing work plans; and
  - Participating in discussions and decisions regarding technical assistance.

- Provision of in-country officer to represent USAID/Mexico in facilitating effective coordination of the Programs activities with the overall SO. The officer will provide in-country monitoring and coordination for the Program activities with the USAID/Mexico SO management structure.

- Provision of annual budget (OYB) transfers to USAID/G/ENV through the CRC-URI CRMII Cooperative Agreement for Program activities.

USAID/G/ENV

USAID/G/ENV will provide project oversight as set forth in the USAID-CRC-URI Cooperative Agreement. Responsibilities include:

- Coordination with CRC-URI:
  - Reviewing workplans;
  - Participating in discussions and decisions regarding technical assistance;
  - Strategic planning regarding overall direction; and
  - Linking Mission and global activities.

- Promote learning and sharing of lessons from the USAID/Mexico with USAID's global coastal management portfolio.

Monitoring/Reporting

The principle documents for USAID-Mexico's project monitoring and reporting are the annual work plans and the Coastal Results Framework. Activities in support of performance monitoring will include:

- Finalization of performance monitoring plan, preparation of data tables, and indicator and parameter definitions. CRC-URI has submitted baseline and target data for

USAID/Mexico's Coastal Results Framework. By September 30, 1998 an approved Project Monitoring Plan will be developed by CRC-URI.

- On-going data collection and management which will allow CRC-URI to provide USAID/Mexico results and other required information in a timely and efficient manner.

- Preparation of a semi-annual progress report based on the work plan and an annual report. The first annual report is scheduled for October 1998, with the semi-annual report scheduled six months thereafter.

ANNEX 1.

Conservation of Critical Coastal Ecosystems in Mexico
University of Rhode Island - Coastal Resources Center

Project Proposal
Illustrative Budget FY1998-2003

	FY 98/99	FY2000	FY2001	FY2002	FY2003
Quintana Roo Direct Costs	225,800	198,000	171,800	165,000	141,500
Gulf of California Direct Costs	71,900	97,800	123,000	128,900	152,400
Subtotal Direct Costs	297,700	295,800	294,800	293,900	293,900
University Overhead 24%	52,300	54,200	55,200	56,100	56,100
Grand Total	350,000	350,000	350,000	350,000	350,000

notes:
1. Subcontracts will be developed each year with Mexican Partner organizations (including ASK and UQROO) as described in the proposal text.
2. Direct costs indicated here account for home office direct costs, subcontracts, and subcontract overhead.
3. University overhead of 24% is based on the direct costs incurred by the homeoffice.