

ABSTRACT

The establishment of marine protected areas has become an important conservation tool in the effort to manage marine and coastal habitats. Many developing nations have decided to utilize this conservation mechanism in an effort to protect their relatively unexploited marine ecosystems. In several unique cases local communities have taken the initiative to protect their natural resources. The focus of my research is Xcalak, a remote fishing village located on the Caribbean coast of Mexico's Yucatan Peninsula. In 1995 the people of Xcalak initiated an effort to protect their reefs and coastal resources from the impending threats of development and overexploitation. Five years later the national marine park, Arrecifes de Xcalak (Reefs of Xcalak), was declared by the Mexican government. The primary objective of my project is to document this unique case of a community-based conservation effort and to promote future cooperative management of the area by identifying all stakeholder groups involved in resource management issues in Xcalak and revealing their interests in and goals for the area. In order to obtain the necessary information I performed a series of focus groups with different sectors of the Xcalak community along with qualitative interviews with representatives from involved government agencies as well as academic and non-governmental organizations. I propose a cooperative management regime for the marine park and hope the results of this research will serve as a link between the involved stakeholder groups and promote cooperation in future efforts to both develop Xcalak as a tourism destination and conserve its abundant and diverse coral reef habitat.

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I. INTRODUCTION

According to a human impacts report by the Pew Oceans Commission, 10% of the world's coral reefs have been destroyed and an estimated 60% are threatened and will possibly disappear in the next 50 years if current trends continue (www.pewoceans.org, 2002).

Furthermore, 50% of the world's wetlands and mangrove swamps have been cleared and filled for development purposes (Agardy, 1997). In fact, development and overexploitation are the two most detrimental anthropogenic impacts on the marine environment. An effort must be made to protect remaining reef and wetland resources from ruin as a result of human expansion.

The establishment of marine protected areas (MPAs) has become an important management tool in the effort to conserve marine and coastal habitats (Agardy, 1997; Ticco, 1995; Wells, 1998). MPAs can be utilized to effectively manage the exploitation of marine resources and abate negative impacts on marine systems. In her seminal work, *Marine Protected Areas and Ocean Conservation*, Tundi Agardy (1997) lays out seven broad management goals of MPA establishment. These are: 1) to clearly define a particular management site in order to facilitate stewardship of marine resources in that area by providing a "sense of place" for which people can take ownership and by focusing resources to that site; 2) to provide a testing ground for adaptive management; 3) to create a new jurisdictional entity which can empower local resource users by giving them a collective voice in resource management decision-making; 4) to regulate levels of natural resource harvest; 5) to enable the sustainable development of an area, resource or set of resources; 6) to conserve species of special concern or sensitive habitats; and 7) to put the precautionary principle into practice by creating buffers against unforeseeable management mistakes.

Many developing nations have decided to utilize MPAs as a conservation mechanism in an attempt to protect their relatively unexploited marine resources (Barzetti, 1993; Alder, 1996).

In many places governments have realized that protected areas and parks, whether marine or terrestrial in nature, cannot be successfully implemented and maintained without the support of local communities. As a result they are attempting to include local residents in their management efforts (Brown, 1999; Elliot, 2001; Luttinger, 1997; Viridin, 2000; Wells, 1992). In several unique cases, it is the local residents that have taken the initiative to protect their natural resources. The town of Xcalak (pronounced “ish- kalak”), located on Mexico’s Caribbean coast, is such a place.

The residents of Xcalak, referred to as Xcalakeños, instigated an effort to establish a marine protected area encompassing the portion of the Mesoamerican Barrier Reef System that borders their village. This initiative was a response to current coastal resource management problems in Xcalak. The marine park, “Arrecifes de Xcalak” (Xcalak Reefs), was officially declared in November of 2000 by the federal government of Mexico. With the establishment of the park come a whole new set of resource management issues that are land-based and broader in scope. These problems are a result of plans to develop the southern zone of the state of Quintana Roo, in which Xcalak lies, as a premier tourism destination. These plans bring a wide variety of interests into the area apart from those of the local population.

The state government of Quintana Roo, as well as many domestic and foreign investors, now has a stake in Xcalak and its development. This diverse array of traditionally opposing interests may result in future conflict between stakeholder groups as park management decisions are implemented and investors begin to develop the large tracts of land that have already been purchased along Xcalak’s coastline. The Xcalak of the future threatens to provide yet another example of the quintessential conservation versus development conflict.

In an effort to address these issues and explore possible solutions, I performed a series of qualitative interviews and focus groups with representatives from all stakeholder groups involved in Xcalak. This project documents the perspectives of the various respondents, identifies areas of agreement and points of contention between different stakeholder groups, and offers final recommendations as to how future problems can be avoided. I assert that future discord between varying interests can be circumvented if attempts are made to involve all stakeholder groups by designing a cooperative management regime for the marine park, Arrecifes de Xcalak (AXC). I will propose a structure for this regime and define its functions, in the hopes that it will open the doors to communication between the stakeholders, and that efforts are made to permit sustainable economic development and conservation to occur simultaneously in Xcalak.

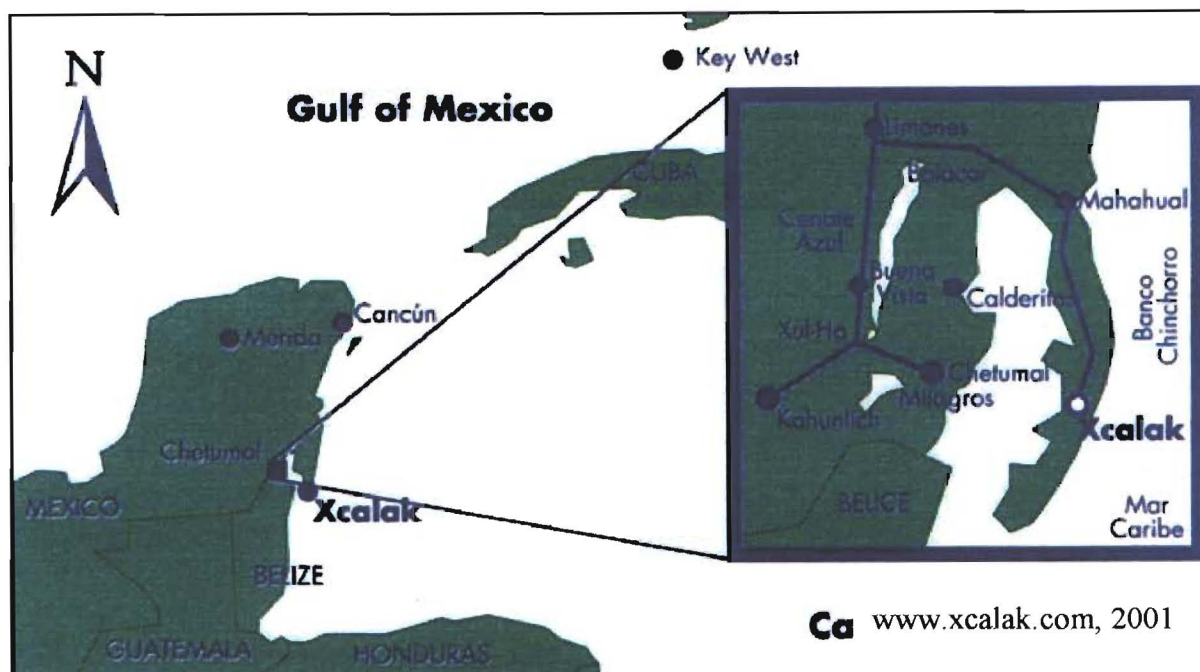
II. XCALAK

Xcalak is a remote fishing village located on the Caribbean coast of Mexico's Yucatan Peninsula. In this coastal town of approximately 375 residents the main sources of income are the local lobster and conch fisheries and, within the past ten years, a growing tourism industry. The local culture of Xcalak is heavily influenced by Belize due to the village's proximity to the Mexico-Belize border (Fig.1). In fact, many of the villagers are Belizean nationals or descendents of natives of the island of San Pedro, Belize who migrated to Mexico. Migrants from the Mexican states of Yucatan, Campeche, Tabasco, and Veracruz have also come to Xcalak looking for opportunities in the local fisheries and tourism industries.

Xcalak was originally the center of Mexico's copra (coconut meat) industry. There were over 1,800 inhabitants in the village who either owned or worked on the coconut plantations

located along the coast both north and south of town. In September of 1955 Hurricane Janet, a category three hurricane, directly collided with Xcalak completely destroying the plantations and

Fig.1



the village. Most of the survivors of this catastrophe fled to the city of Chetumal, the capital of the state. Those who remained, along with migrants from Belize and other areas of Mexico, formed the tranquil fishing village that is Xcalak today.

Local services consist of approximately nine small stores which sell mostly dry goods and soft drinks; one locally owned motel in town and nine American owned and operated small hotels north of town; two dive shops; five local restaurants and two more in the American hotels; and two public telephones. Meats and produce are sold from two different food supply trucks that come in from the cities of Chetumal and Felipe Carillo Puerto twice a week. There is also an Wusinich

ice truck that comes at least once a week. There are three schools in Xcalak: a kindergarten, primary school (grades one through six), and secondary school (grades seven through nine). The quality of the education offered at the primary and secondary schools is questionable, and as a result many parents are choosing to send their children to live with relatives in Chetumal, Cancun and Cozumel to take advantage of their relatively good school systems. There is a public clinic in Xcalak with a live-in doctor, a local nurse, and an ambulance driver. Treatment at this clinic is free to all fishing cooperative members as well as their families, due to the medical insurance that the co-op provides. Other must pay only minimal fees for medications.

With regards to local infrastructure, most houses have individual wells and either directly bucket the water out of these wells or pump it up to rooftop tanks using water pumps run by gasoline-fueled generators. There is one large diesel-fueled generator in town which generates electricity for all houses connected to the local grid for approximately four hours a day (usually from seven o'clock to eleven o'clock in the evening). Residents pay a monthly fee of about \$10 per house for this service. Newer houses on the fringes of town have yet to be connected to this grid. Some residents of Xcalak have purchased individual gasoline-fueled generators for pumping water and providing electricity to their homes when the town generator is not in use. A large majority of the homes in Xcalak have indoor bathrooms. Others (mostly those on the outskirts of town) have outhouses. Most septic tanks are completely bottomless allowing sewage waste to percolate directly into the water table. There is one main highway running 60 kilometers down the center of the Xcalak peninsula directly from Majahual (Fig. 1). An older, unpaved road runs along the coastline. It is in extremely poor condition, and is the only way to reach the hotels located north of town.

The village is surrounded by a lush mangrove forest and coastal lagoon system to the west and an extensive coral reef ecosystem to the east. This reef represents the northern segment of the Mesoamerican Barrier Reef System, which also borders the nations of Belize, Guatemala and Honduras. Within Xcalak's reefs lies a unique geological structure known as "La Poza", or to the resident Americans as "The Blue Hole". It is basically an underwater ravine that runs for eight miles along a wall of coral. The Poza measures 35 feet in depth at its shallowest end and reaches depths of over 120 feet as it stretches southward into Belizean waters (Biller, 2000). Various species of charismatic megafauna can be observed in the Poza such as schools of 75 to 300 pound tarpon, various species of sea turtles, rays, sharks, and the occasional large grouper. The local community has identified the Poza as an important tourism commodity. Scientific research of this unique area should be realized in order to evaluate the ecological significance of the Poza within the local reef ecosystem. The Rio Huache coastal lagoon system consists of five shallow, highly saline coastal lagoons, two of which have a direct connection with the Caribbean Sea. These lagoons are important habitat for many recreational fish species such as snook, permit, bonefish, and barracuda. It is believed that the mangrove swamps may act as nursery grounds for the Caribbean Spiny Lobster and other commercially important fishery species (Amigos de Sian Ka'an, 2000). The five lagoons are: Cemetery Lagoon, Xcalak Lagoon, Saint Rosa Lagoon, Saint Julia Lagoon, and Huache Lagoon. On the western side of the Xcalak Peninsula lies Chetumal Bay, which has been designated by the state government of Quintana Roo as a manatee sanctuary. Due to a complete lack of enforcement it is essentially a "paper park".

III. COASTAL RESOURCE MANAGEMENT ISSUES

A. MARINE RESOURCE EXPLOITATION

The two main fisheries of Xcalak, Caribbean Spiny Lobster (*Panulirus argus*) and Queen Conch (*Strombus gigas*), are exclusively controlled by the local fishing cooperative, “Andrés Quintana Roo”. Founded in 1959, the cooperative is the oldest in the state of Quintana Roo. It is made up of approximately 35 members and is completely closed off to new members. The only way to enter the cooperative is if a current member retires or dies and passes on his membership. These fishermen harvest the majority of their catch on Chinchorro Banks, a large coral atoll located west of Xcalak in the Northwest Caribbean. They have constructed primitive fishing shacks that stand on stilts in the shallow waters surrounding the small islands in the center of the atoll. The fishermen usually live on Chinchorro for two weeks to a month at a time. They fish along the reefs of Xcalak in between trips to Chinchorro.

Although the cooperative members have been awarded the concession to the lobster and conch along Xcalak’s reefs, poachers from Chetumal and other states such as Veracruz are able to exploit the species due to a lack of enforcement and surveillance. The members of the cooperative claim to adhere strictly to seasonal fishery closures as well as size limits. They do not harvest juveniles or females with eggs, and believe that the poachers do not respect these conservation measures and are therefore contributing to the depletion of the species. Independent fishermen who are not cooperative members, and therefore cannot legally harvest lobster and conch, target various species of finfish located on the reef. These species are completely unregulated and populations of the most valuable ones, such as groupers and snappers, have been severely depleted as a result of unsustainable fishing practices such as the indiscriminant use of traps and nets (Amigos de Sian Ka’an, 1997).

B. A SOLUTION: “ARRECIFES DE XCALAK”

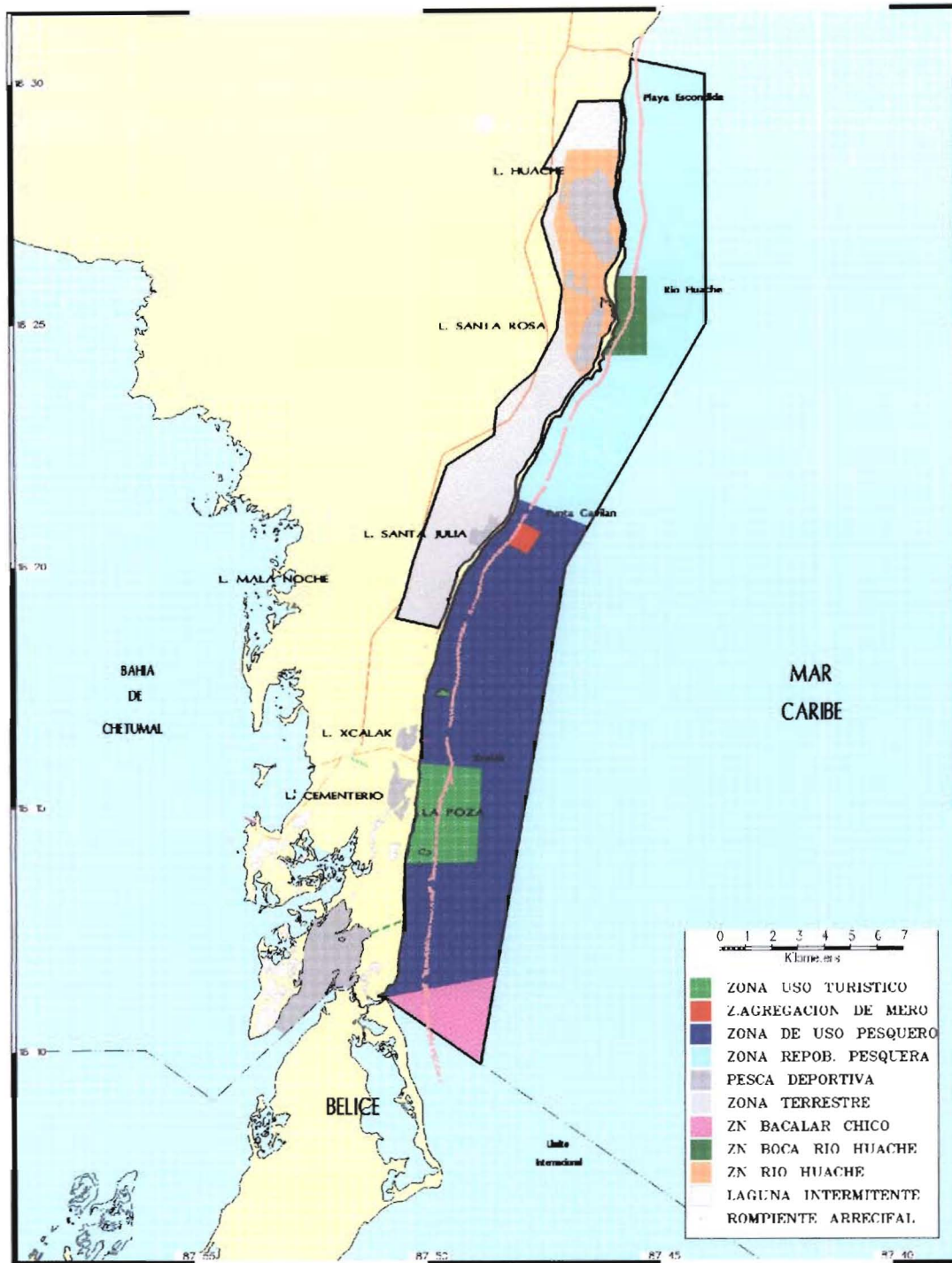
In response to these problems the community of Xcalak initiated an effort to protect their reefs and coastal resources from overexploitation. In 1995, members of the fishing cooperative, Andrés Quintana Roo, contacted the governor of the state requesting assistance in protecting Xcalak’s fishery resources. At the same time, Xcalak’s mayor petitioned SEMARNAT, Mexico’s Secretary of the Environment and Natural Resources, to establish a marine protected area in Xcalak. In September of 1996 interested residents formed a community committee, Comité Comunitario de Xcalak (CCX), which worked for four years to negotiate the terms of the MPA with municipal, state and federal government officials.

Although the federal government expressed support for the initiative from the beginning, the state government did not. It is widely believe among the proponents of the MPA that many officials from the State Secretary of Urban Development and the Environment (SEDUMA) had conflicting interests in the development of the Xcalak area, and therefore were adamantly opposed to any effort that might restrict the development of the area as a major tourism destination. On November 27th of 2000, shortly after some changes in the structure of Quintana Roo’s government (including the offices of SEDUMA), the National Marine Park, “Arrecifes de Xcalak” (Reefs of Xcalak), was officially declared.

The park contains approximately 18,000 hectares of protected area, 80 percent of which is barrier reef habitat. The remaining 20 percent consists of coastal lagoon and mangrove areas. CCX has proposed a zoning plan for the park based on different use areas (Fig. 2). The entire northern half of the park, the “fish repopulation zone”, is a no take zone in this proposal. The large majority of the southern half of the park could be fished with the exception of a grouper spawning area, which will be closed during the Nassau grouper aggregation season (December

Fig.2

Arrecifes de Xcalak- Proposed Zoning Structure



¹ Zona uso turistico = tourism use zone, zona agregacion de mero = grouper spawning zone, zona de uso pesquero = fishing zone, zona repoblacion pesquera = fish repopulation zone, pesca deportiva = sport fishing, zona terrestre = land zone, Bacalar Chico is a Belizean MPA, Boca Rio Huache = mouth of Huache River, laguna intermitente = intermittent lagoons, rompiente arrecifal = reef crest (Amigos de Sian Ka'an, 2001).

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and January) as well as the Poza and another reef site known as “Doña Nica” which have been designated as tourism zones. These two areas have been closed to fishing in the hopes that large groupers, as well as other reef fish species that divers and snorkelers enjoy, will become more common. The coastal lagoons have been proposed as sport-fishing zones where no net fishing will be permitted. The zone entitled “Rio Huache Zone” has been offered as a possible “nucleus” for the protected area in which very limited activity would be permitted. Notice that a Belizean MPA, Bacalar Chico, borders Arrecifes de Xcalak to the south. Hopefully management efforts between these two protected areas will be coordinated at some level, considering their direct effects upon each other.

Arrecifes de Xcalak (AXC) has yet to be fully implemented by the federal government of Mexico. After a series of meetings in Xcalak to discuss management objectives, a local conservation organization, Amigos de Sian Ka’an, proposed a rough draft of a management plan to the federal Secretary of the Environment and Natural Resources (SEMARNAT) in the spring of 2001 (Amigos de Sian Ka’an, 2000). The newly assigned park director is now making some changes to the proposed plan, and the final version of the Arrecifes de Xcalak Management Plan is expected to be complete this summer. Currently the director of another Mexican MPA, the Chinchorro Banks Biosphere Reserve, has been assigned as the AXC park director as well. This is believed to be temporary and SEMARNAT representatives have communicated that a separate AXC director will be assigned when more federal funding for the park is available.

Although SEMARNAT has yet to put any regulations into effect and there are no official park guards for the MPA, the citizens of Xcalak have taken it upon themselves to “police” the closest no-take zone, the Poza. The community committee produced a document declaring that all community members agree not to fish in the Poza and that anyone found fishing in the area

will be forced to pay a fine. All cooperative members and most independent fishermen signed the agreement. If any local fisherman is found harvesting in the Poza, the mayor of Xcalak imposes a fine². If the perpetrator refuses to pay the fine there are further repercussions that are applied by the local fishing cooperative. Although only cooperative members can legally harvest and sell lobster and conch, many independent fishermen harvest these species illegally and sell them to the cooperative. The president of the cooperative proposed that anyone found fishing in the Poza who refuses to pay the fine will no longer be able to sell their catch to the cooperative, rendering them unable to harvest lobster (the most valuable fishery in Xcalak) and conch. The cooperative readily accepted this measure and it has already been implemented in at least two cases. The federal government is aware of this local initiative and supports it for the time being. It may be quite a while before the necessary resources are allocated to AXC, so local enforcement initiatives such as the ones described above are essential.

C. FUTURE THREATS

The state government of Quintana Roo has taken notice of the potential value of the Xcalak area as a tourism destination and has initiated a tourism development strategy known as “Costa Maya” (the Mayan Coast). Developers hope to attract visitors from the booming tourism industries of Cancún and the Riviera Maya, another state development project including Playa del Carmen, Akumal, Tulum and other tourist destinations south of Cancún. Together, Cancún and the Riviera Maya generate one third of Mexico’s tourism revenues (Bezaury, 1998). The state hopes to draw tourists from these areas southward to the capital city of Chetumal and the towns of Xcalak and Majahual located on the Xcalak peninsula (Fig.1).

² The amount of this fine was established in the community agreement and is equal to 1000 Mexican Pesos, or approximately 100 U.S. Dollars.

The residents of Xcalak have seen what can happen when Mexican communities are developed as tourist destinations. Coastal residents in the above-mentioned towns of northern Quintana Roo were displaced from prime beachfront areas and relocated to peripheral neighborhoods. Their access to the beach, and therefore coastal resources, has been severely limited by a lack of public access points between the large hotels and condominiums which block off the coastline. Development has also severely impacted the natural environment in these areas. The Nichupté Coastal Lagoon System, once a major tourist attraction in Cancún, is now extremely polluted due to illegal sewage discharges (Bezaury, 1998).

Development of this type in Xcalak could render the newly established marine park useless. The threat of development moved even closer to Xcalak this past year when a large cruise ship pier was constructed in Majahual, another small fishing town located directly north of Xcalak (Fig. 1). Large cruise ships arrive at this pier loaded with American tourists who can shop and dine in the large commercial center that was built adjacent to the pier, or take a bus tour to the city of Chetumal or archeological sites (Mayan ruins) in the southern zone of Quintana Roo. Similar cruise ships and pier construction have been blamed for extensive damage to coral reefs on the island of Cozumel, located between Xcalak and Cancun (Galacia, 2001).

Although many stakeholder groups have a vested interest in Xcalak, there is little conflict at the present time due to the fact that AXC exists on paper only and that development efforts are currently focused on the town of Majahual. But it is only a matter of time before the focus shifts to Xcalak and tensions arise due to conflicting endeavors to both develop the area as a prime tourist location and protect its coastal resources. Minor conflicts have already arisen in Xcalak when the local tourism cooperative proposed to close the Poza to everyone for an extended period. The cooperative president proposed that if all activities in the Poza were temporarily

terminated the fish populations would grow quickly as well as coral communities in the undisturbed area. American hotel owners who bring many of their tourists to dive in the Poza strongly disagreed with this proposal and viewed it as an attempt by the tourism cooperative to gain control over the Poza area and exclude private businesses. The plan was never implemented due to a lack of public and governmental support. Poor communication between these foreign investors and the local population has resulted in mounting tensions between the two groups. If avenues for communication on such issues are not developed, conflicts will soon drastically increase in quantity and intensity.

IV. A CULTURAL ECOLOGY FRAMEWORK FOR XCALAK

Coastal management systems are governed by the relationships among the four components of their cultural ecology framework (Orbach, 2001). These components are: the biophysical environment, human constituents, the scientific community, and the governance structure and process. In order address management issues in Xcalak we must understand this framework and how its components interact.

A. THE BIOPHYSICAL ENVIRONMENT

As discussed earlier, the biophysical environment of Xcalak consists of the Mesoamerican Barrier reef system, the Rio Huache coastal lagoon system, and Chetumal Bay. Activities in each of these areas directly impact AXC and must be considered in the design and implementation of a management plan.

B. THE CONSTITUENTS

There are many local constituent groups who have interests in the Xcalak area and in the marine park. These are:

- The community committee (CCX, worked to form the park)
- Amigos de Sian Ka'an (local NGO that worked with CCX)
- Amigos del Manati (local NGO)
- Local fishing cooperative, "Andrés Quintana Roo"
- Local tourism cooperative, "Bahia Blanca"
- Independent fishermen
- Local business owners
- Foreign and domestic investors
- The community at large.

C. ACADEMIA

Involved members of the academic community consist of researchers and resource managers from two local institutions, the University of Quintana Roo (UQROO) and the College of the Southern Frontier (ECOSUR), as well as the Coastal Resources Center (CRC) of the University of Rhode Island. UQROO is a state institution and was contracted by the state government to develop a Territorial Ecological Ordinance (OET) for the Costa Maya region. An OET is a state level conservation policy tool that sets limits and restrictions regarding the density of development that can occur within a region that has been earmarked for development. The ordinance also defines areas that are to be set aside for conservation purposes. The Costa Maya

OET mainly focuses on terrestrial areas but also sets some regulations for the use of the marine zone. Critics of this ordinance, as well as its authors, agree that the conservation standards laid out in the plan are unclear and are open to self-interpretation by developers. UQROO has also developed an integrated coastal resource management program (ICRM) that involves communities surrounding the Bay of Chetumal and an “Alternative Tourism” program that is exploring ecotourism activities for the area (Rosado May, 2001). ECOSUR is a research institution that is involved in reef studies and monitoring activities along the coast of the peninsula. The CRC, with funding from the U.S. Agency for International Development (USAID), is working directly with UQROO in their ICRM program, along with Amigos de Sian Ka’an, to develop and implement an integrated coastal resource management strategy in Xcalak.

Despite the existence of scientific institutions, such as those mentioned above as well as others located throughout the Yucatan Peninsula, little scientific research has been performed on Xcalak’s reefs. Biologists from Amigos de Sian Ka’an completed an inventory of the different flora and fauna that inhabit the Xcalak area as well as geological and hydrological characteristics. However, few studies have been done on the actual reef to investigate the ecological significance of this area. This is surprising considering the presence of rare reef formations like the Poza. Amigos de Sian Ka’an has recently developed a coral reef monitoring program for the area and is working to train local volunteers so that the effects of the MPA (if any) can be documented.

D. GOVERNANCE

The governance structure supporting Xcalak’s coastal management system is represented at the federal, state, municipal, and international levels (Fig.3). The federal Secretary of the

Environment and Natural Resources (SEMARNAT) is the ultimate authority over the marine park, AXC. The National Commission of Protected Areas (CONANP) falls under SEMARNAT's authority and is responsible for designating a park director who then employs a staff to assist in the management of the park area. PROFEPA (Federal Deputy for the Protection of the Environment), the enforcement authority under SEMARNAT, is responsible for designating park guards for AXC (Fig. 4).

Fig.3

AXC Governance Structure

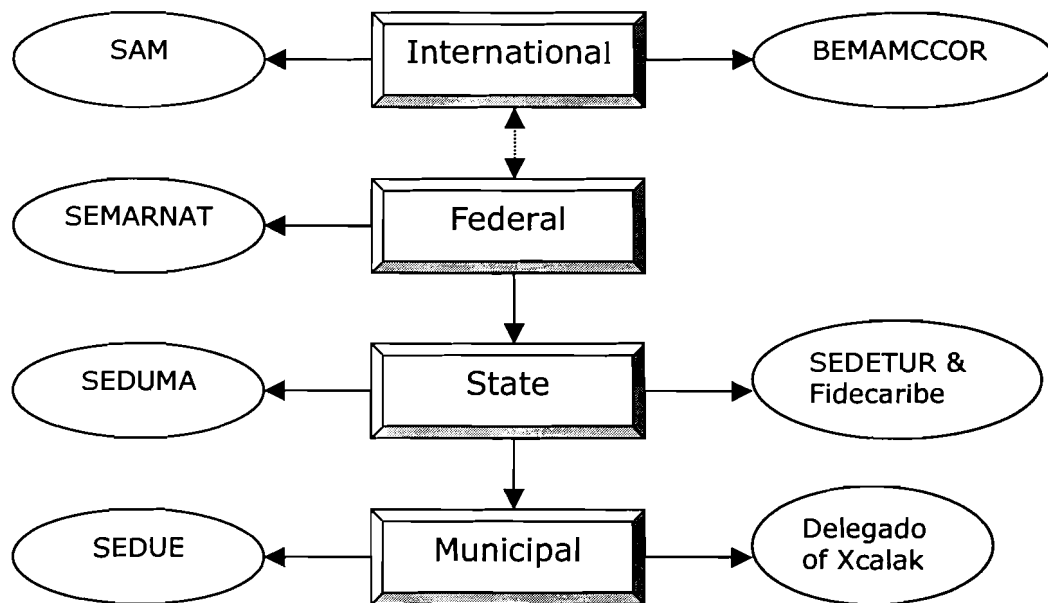
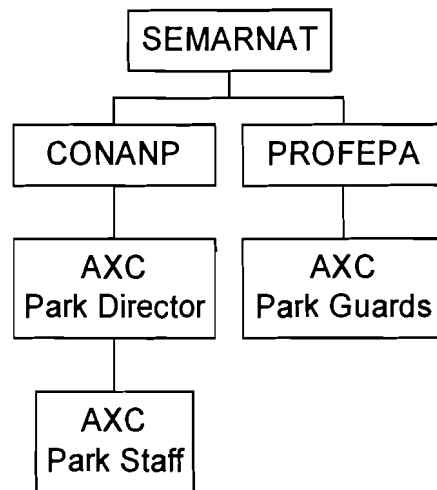


Fig. 4

Federal Governance Structure for AXC



The state government contains agencies responsible for the conservation of Xcalak's natural resources as well as for the development of the area as a tourist destination. The state Secretary of the Environment and Urban Development (SEDUMA) is the direct authority over the Chetumal Bay Manatee Sanctuary, and is also responsible for working with developers to ensure low-impact development practices. They perform environmental impact statements for individual development projects. As mentioned earlier, this agency is heavily involved in development efforts in the area. Two tourism development agencies are involved in the advancement of the Costa Maya plan. These are Fidecaribe, which is a consulting agency for new and prospective developers and landowners, and the state Secretary of Tourism (SEDETUR). Fidecaribe informs prospective developers of the necessary permits and other requirements for development in the region and guides them through the process of obtaining these documents. SEDETUR is a promotional agency that works to attract tourists and developers to the region.

Involved at the municipal level is the Municipal Secretary of Urban Development and Ecology (SEDUE). This agency is responsible for the formation of an urban development plan

for the town of Xcalak as well as the management of both solid and residual waste. The mayor, or “delegado”, of Xcalak is also employed by the municipal government. The current mayor has been closely involved in the establishment of AXC.

Two international endeavors directly affect coastal resource management in Xcalak. The first is the Mesoamerican Coral Reef System Initiative (SAM). This is a treaty between the federal governments of Belize, Guatemala, Honduras and Mexico to “promote the conservation of the reef system through its sustainable use...establish links between responsible authorities...and to communicate the adoption of this initiative to the United Nations as a contribution of the four countries towards the implementation of the measures contemplated in Chapter 17 of Program 21 of the Rio Declaration” (BEMAMCCOR, 2000). The second international effort is the Belize Mexico Alliance for the Management of Common Coastal Resources (BEMAMCCOR). This is a forum for “consultation, coordination, convergence and mutual effort in the management of the common coastal resources between Belize and Mexico” (BEMAMCCOR, 2000). It is a consortium of NGOs and research institutions from southern Quintana Roo and northern Belize.

All of the groups presented in this section cumulatively represent “the stakeholders” of Arrecifes de Xcalak. These are the local constituents, academic institutions and bodies of government that have an interest in the park and will be involved in or affected by management decisions that are made for AXC.

Fig. 5

Stakeholder Group Acronyms

International Agreements:

SAM – Sistema Arrecifal Mesoamericano (Mesoamerican Reef System)

BEMAMCCOR – Belize Mexico Alliance for the Management of Common Coastal Resources

Government Agencies:

SEMARNAT – Secretary of the Environment and Natural Resources (federal)

CONANP – National Commission of Protected Natural Areas (federal)

PROFEPA – Federal Deputy for the Protection of the Environment (federal)

SEDUMA – Secretary of Urban Development and the Environment (state)

SEDETUR – Secretary of Tourism (state)

SEDUE – Secretary of Urban Development and Ecology (municipal)

Academic Institutions:

UQROO – University of Quintana Roo

OET – Territorial Ecological Ordinance

CRC – the Coastal Resources Center of the University of Rhode Island

ECOSUR – College of the Southern Frontier

Non-Governmental Organizations:

ASK – Amigos de Sian Ka'an (Friends of Sian Ka'an)

AM – Amigos del Manati (Friends of the Manatee)

CCX – Community Committee of Xcalak

V. RESEARCH OBJECTIVES

The objective of this project was to document the opinions and perspectives of representatives from involved stakeholder groups regarding the marine park Arrecifes de Xcalak, its management, and the development of the Xcalak area as a tourism destination. I plan to use these perspectives to identify areas of agreement between stakeholder groups as well as possible points of contention in the hopes that this information will enhance future communication between the groups. I also intend to consider these perspectives in proposing a cooperative management structure for AXC. This structure will serve as a forum for future conflict resolution between stakeholders.

VI. RESEARCH METHODS

I chose both qualitative stakeholder interviews and community focus groups as my two research methods. By implementing a qualitative interview procedure I was able to target specific respondents so that perspectives from all of the different interests in Xcalak could be documented. I wanted to interview the community in interest groups and found that focus group sessions were more productive than individual interviews with community members. Much of the information obtained in the focus groups resulted from conversations between the participants as well as direct answers to my questions.

For three years, before initiating this research, I lived and worked in the community of Xcalak. As a field coordinator in Amigos de Sian Ka'an's Integrated Coastal Resource Management project in Xcalak I became familiar with the different government agencies and institutions that are involved in environmental management in the area. As a result of this experience I was able to identify potential interview respondents from many different stakeholder groups.

In order to obtain the opinions of the various groups I performed a series of 17 qualitative, open-ended interviews with representatives from each of the following organizations, institutions and government agencies:

- UQROO - OET Project
- UQROO - Integrated Coastal Resource Management Project (MIRC)
- UQROO - Alternative Tourism Program
- Coastal Resources Center – University of Rhode Island
- SEMARNAT – Quintana Roo Delegation
- SEDUMA – Chetumal Manatee Sanctuary and Environmental Department
- SEDETUR

- Fidecaribe
- SEDUE
- Mayor of Xcalak
- Amigos de Sian Ka'an (two representatives)
- Amigos del Manati
- American hotel owners in Xcalak (three representatives)

To ascertain local perspectives on these issues I also formed three focus groups with different sectors of the community: local fishermen (independent as well as cooperative members), local tour guides, and local business owners (owners of small shops and restaurants in town).

Before performing the interviews and focus groups I developed a general interview guide for each method (Appendix A). I submitted these guides to the Institutional Review Board at Duke University and obtained the necessary permission to perform research with human subjects. Upon arrival in Mexico, I contacted the agencies where I hoped to perform the interviews and scheduled appointments with at least one representative from each agency or organization. I selected interview respondents by requesting to speak with a representative from each agency who was familiar with Xcalak and with the AXC establishment process.

All interviews were performed face-to-face and recorded (with permission) with a cassette recorder except for the interviews with the CRC and the environmental department of SEDUMA, which were performed over the telephone. Interviews were then individually translated and transcribed (Appendix B).

Focus groups were held at a local restaurant in Xcalak. Due to the large number of fishermen in the village, twelve individuals were identified as prospective respondents and invited to a one-hour meeting three to four days before the meeting was to take place. Participants were identified based on several factors: availability, willingness to participate, and awareness of the fact that a marine park exists in Xcalak. All local business owners and tour guides were invited to participate in their respective focus group sessions. Participants were informed that I would be asking for opinions regarding the park and development in Xcalak, and told that dinner and refreshments would be provided. The first group consisted of six local tour guides; the second of five fishermen; and the final focus group session was with seven local business owners. Before each meeting the participants were read the following consent statement,

“I have invited you all here tonight to participate in a study that I am realizing with Duke University. The intention of this study is to document the perceptions and opinions of the people of Xcalak about the marine park, Arrecifes de Xcalak. This study attempts to help the residents of Xcalak by providing the park decision-makers with the opinions of the community. The discussion will last about an hour. There are neither correct answers nor incorrect answers to my questions. I just want to hear your honest opinions. The results of this discussion will be used to inform involved organizations (ASK, UQROO, CRC) of the opinions of the residents of Xcalak regarding the park. Your participation in this study will be confidential in that none of your names will appear in the final document. With your permission I would like to record the discussion with a tape recorder so that I can pay attention to you and not try to write everything down rapidly. Your participation in this study is voluntary and you can refrain from answering any of my questions. If you

have any questions about my work or your rights as participants in this study, you can ask me anytime (local address was provided). I am very interested in the opinions of everyone here and I want everyone to have a chance to talk. Let's begin."

After obtaining permission to record the discussion from all participants I proceeded to ask questions from my focus group guide and solicit responses from all present. The focus group recordings were then translated and transcribed (Appendix C).

VII. RESULTS

A. INTERVIEWS

The following are the results from my interviews with representatives from municipal, state and federal agencies of government representing both conservation and development interests; the two different non-governmental organizations involved with marine resource conservation in the Xcalak area; involved academic institutions (UQROO and CRC) and three different hotel owners in Xcalak. The interview questions focused on the following themes:

- The level of support for the park within the represented agency or institution
- Perceptions of the local community's effort
- Regulatory preferences
- Feasibility of co-management
- Requirements for the success of AXC
- Funding for the park
- Development preferences
- Potential for conflict between development interests and conservation efforts

- Potential for conflict between the Territorial Ecological Ordinance (OET) produced by UQROO and the park management plan
- Needs of the local community.

I will now discuss the perceptions of the different stakeholder groups regarding each one of these themes.

1. SUPPORT FOR ARRECIFES DE XCALAK

Most respondents expressed a high level of support for the park. The representative of Fidecaribe refused to comment when asked whether or not he supported AXC. The respondents from SEDETUR as well two of the hotel owners expressed a conditional support for the park. They are in agreement with the existence of AXC as long as it does not prevent the development of tourism in the area.

2. PERCEPTIONS OF THE LOCAL COMMUNITY: WHY DO THEY WANT A PARK?

Responses to this question were similar among most stakeholder groups. They believe that the community of Xcalak sees the park as a means of maintaining ownership of Xcalak's natural resources as well as controlling the type of tourism that Xcalak realizes. The main perception is that the local population believes that their participation in this effort will both prevent their displacement by large developers and allow them to benefit from development of the area as well by staking a claim on Xcalak's greatest tourist attraction, the reef. One representative from UQROO responded that because of this effort "they are immersed in the growth process of Xcalak". Respondents from Amigos del Manati, SEDUE, SEDUMA, and SEMARNAT offered the opinion that the park is being utilized by the community as a tool to

control local fisheries. They see it as a means of preventing outsiders from coming in and exploiting “their” resources. They also believe that the fishing cooperative, Andrés Quintana Roo, sees the park as a means of eliminating the poaching practices within the lobster and conch fisheries. One respondent from SEDUMA and one from UQROO alluded to the fact that Amigos de Sian Ka’an instigated the park effort and not the community. There was “pressure from ASK, they proposed the park and taught the community about the advantages of a protected area”. A hotel owner expressed his opinion that the CRC of URI “pushed” the idea on the community. Only two respondents, one hotel owner and a representative of SEDUMA, stated that the community was interested in establishing the park for conservation’s sake and not for some benefit of their own. The mayor of Xcalak said that it was the example of the marine park Hol Chen in San Pedro, Belize and the benefits that it brought to the San Pedro community that inspired Arrecifes de Xcalak.

3. REGULATORY PREFERENCES

The representative of Fidecaribe expressed the thought that any regulations that prohibit the removal of mangroves, and limit development in the coastal lagoons would negatively affect development of the Xcalak area. One respondent from ASK conveyed that he would like to see all fishing practices terminated immediately in the designated tourism zones. He also referred to the numerous conflicts between hotel owners and fishermen who use traps and nets in front of the hotel areas, and stated that he would like to see regulations addressing this issue. Various hotel owners were misinformed about the development of park regulations. One owner was told that his boats would no longer be able to enter the park and that the local tourism cooperative, Bahia Blanca, now had an exclusive concession to all tourism activities in the park area. After investigating this matter with SEMARNAT and SEDUMA, I learned that this information was

false and that no concession has been granted nor will an exclusive concession ever be granted to Bahia Blanca due to anti-monopoly legislation in Mexico. This same owner was also informed that only ten to fifteen of his hotel guests will be able to enter the park on a daily basis. Although one of the endeavors of the management plan is to set a carrying capacity for daily visits to the park, no such number has been calculated at this time.

This owner would like to see an adaptive management approach to the park where new methods and regulations are tested before they are “cut in stone”. He wants all regulations to be applied uniformly to all users of the area, not just to those who can’t afford or refuse to pay bribes. Another hotel owner would like to see the practice of harvesting of juvenile lobster and conch eliminated once the park is active. She also does not want to see the use of jet skis in the park area. The third hotel owner was under the impression that no diving will be permitted in the grouper spawning area, but that fishing will be permitted; and that no snorkeling will be allowed after 4:00 p.m. These impressions are false, and reveal the lack of communication between local constituents and government agencies. This final hotel owner wants the use of fishing traps to be prohibited. The mayor of Xcalak agreed with the prohibition of traps as well as fishing with nets and spear guns.

4. FEASIBILITY OF COOPERATIVE MANAGEMENT

I next questioned whether or not respondents believed that the local community could participate in the management of the park and if so, how they could participate. Only two respondents, representatives of UQROO and SEDUMA, believed that it would be very difficult for the community to participate directly. Everyone else agreed that they could participate at some level. Suggestions as to how they could participate included:

- Participation in meetings

- Co-enforcement of park regulations through the use of community enforcers and incentive mechanisms
- Representation on a technical advisory council³
- A management concession granted to the community.

Both respondents from ASK agreed that in order to participate in the management the locals need to enhance their skills by taking courses and obtaining experience in issues related to marine resource management. Many respondents felt that participation of the community in the management process will be essential to the success of the area. The representative of SEDUE noted that the community has already begun to manage the area. They have defined tourism use zone where no fishing is permitted, and have imposed fines and other penalties on those who have ignored this decision.

5. REQUIREMENTS FOR SUCCESS

Also discussed in the interview sessions were the requirements for the success of Arrecifes de Xcalak in its goal to conserve reef resources yet permit economic development at the same time. The following requirements were identified by interviewed representatives:

- Resources
- Community participation
- In-depth knowledge of the area and its resources
- A good relationship with the local community
- Effective administration of the management plan
- A union of all involved interests.

³ All Mexican protected natural areas can have a technical advisory council, which serves as a multi-stakeholder advisory board to the director.

6. FUNDING

There have been no federal funds allocated for the management of AXC as of yet. Possible sources of funding were discussed in some of the interviews. The representative of SEMARNAT informed me that federal law establishes charges for visitors to protected areas. Parks are obliged to cover a fee for each individual entering the park. This money was originally intended to go directly to the park for enforcement, monitoring, boats, equipment, and environmental education. Now the funds are channeled through federal offices in Mexico City, and park managers see only a small fraction of what was originally collected. The spokesperson for the CRC mentioned that funding from the World Bank for the Mesoamerican Reef System initiative (SAM) is available and may help with the initial implementation of the management plan. She also pointed out that voluntary management initiatives within the community must be strengthened, and that voluntary monitoring must be promoted. One hotel owner supported the idea of contributing to a fund established by all investors in the area that would support enforcement initiatives such as the employment of park guards. She added that this would not be feasible until there is more tourism in the area.

7. DEVELOPMENT PREFERENCES

All respondents supported a relatively “low –impact” development of the area, and no one is interested in the “sun and sand” tourism of Cancun and northern coastal Quintana Roo. SEDETUR emphasized their focus on “alternative tourism”, which was further explained as ecotourism. The respondent from SEDUE stated that the local population should remain and that those who wish should be able to continue their fishing tradition. He also said that Xcalak should be divided into areas of concentrated development in places where the land can support it, with other areas of low development. SEMARNAT hopes that the Xcalakeños will be satisfied with

their decision to establish a park, and that the park will create economic opportunities for the community. A representative of ASK expressed that he would like to see an Xcalak similar to Caye Caulker, a small island in Belize. This island has dirt roads, wooden houses and small hotels. He would also like to see a focus on ecotourism activities and for the local community to be the major beneficiary of development in the area. Hotel owners would like to see small restaurants and shops selling local crafts in town.

8. POTENTIAL FOR CONFLICT: AXC MANAGEMENT PLAN VS. DEVELOPMENT

Almost all of the interviewees foresee little chance of conflict between development plans and conservation efforts in the area. All respondents from the government sector asserted that the OET and the park management plan will contain clearly stated regulations that define what can and cannot be done in the Xcalak area. It is this extensive pre-development planning that will prevent conflicts like those that were observed during the development of Isla Mujeres, a small island just east of Cancun. There was no planning for the island, and as a result many problems surfaced when development activities were initiated. The respondent representing SEMARNAT was more skeptical of the probability that future development efforts will always comply with OET and park regulations. He stated that developers may attempt to “pass over the management plan.” He also predicted that problems will arise if the local population is excluded from the benefits of development. The mayor of Xcalak fears that the intense development in Majahual will creep down the peninsula towards Xcalak.

The respondents from UQROO were also wary of future conflict possibilities. One UQROO representative claimed that conflicts between development and conservation in the area already exist. The OET, supposedly a conservation tool, permitted the construction of the Costa Maya cruise ship pier. He observed that, “The state developers speak of low impact

development, yet a cruise ship pier is the greatest impact possible”. One respondent who participated in the formation of the OET pointed out that the development standards laid out in the plan are unclear and that development and conservation areas are not precisely delineated allowing for convenient self-interpretation by developers. The representative of the CRC predicts future issues related to water quality and quantity and the density of development. She explained that the park was developed on a federal/local track while the OET was produced on a federal/state track, and as a result conflicts between the different goals of each of these plans may arise. She also believes that the development densities that were established in the OET do not consider the marine park, and that there is little integration of these two conservation mechanisms. The respondent from Amigos del Manati added that the migrant labor force that moves into the Xcalak area as tourism grows will bring with it a slew of social problems and environmental impacts.

9. POTENTIAL FOR CONFLICT BETWEEN THE OET AND AXC MANAGEMENT PLAN

Opinions in this area differed, seemingly based on familiarity with the OET. Many respondents believe that the OET focuses on land only, and therefore can't possibly conflict with the park management plan which addresses only those activities which take place in the reef area and coastal lagoons. Upon review of the OET, one sees that marine areas are included and that the different activities which are to be permitted or restricted in each area are clearly defined. Also, in reviewing the comments made by the respondent from the CRC above we see that development densities within the OET may not reflect especially sensitive areas that were outlined in the park, such as the grouper spawning area and La Poza. A respondent from SEDUMA claimed that the OET and the park compliment each other, because the OET defines an area and the park plan will define the activities that can take place in the area. This statement

is not supported by the actual OET document. Both tourism agencies involved in the promotion and development of the Xcalak area, SEDETUR and Fidecaribe, were asked how they can support the enforcement and appropriate application of the OET regulations when working with developers in the area. The representatives from both of these agencies responded that this was not their role, “Vigilance of the OET is not Fidecaribe’s job”.

We must also reconsider the comments of the OET’s authors regarding the lack of clarity of its conservation areas. “The maps and document are very beautiful but it is very difficult to locate where you are on the map, difficult to know if you are in a conservation or a protected area.” He goes on to add that, “I think that it is very difficult to follow the OET 100% because the same developers have questions, ‘Where am I?’.” He also mentions that the authorities who will be granting permits to develop different areas need capacity building in the areas of natural resources management and cartography. “The OET is a very advanced tool and not all of the authorities are capable of using it effectively.” All of these issues will most likely create conflict situations as development increases in intensity.

10. NEEDS OF THE COMMUNITY

There was an overwhelmingly unanimous response to this subject matter among the interviewees. Everyone agrees that in order for the local population to both participate in the management of the park and fully benefit from development and tourism expansion they must improve their skills. Workshops and courses in reef monitoring techniques and conservation and natural resource management issues would greatly improve the local capacity to both fully understand and participate in management efforts. Courses in conversational English, interpretation and guiding skills, local ecology and natural history and specialty tours such as fly-fishing, SCUBA diving and bird-watching would help them to capture the ecotourism market.

Courses in marketing, and how to begin and run a small business would help them to compete with larger hotels, restaurants and shops. SEDETUR has already offered courses in fly-fishing. ASK has given courses in English and bird-watching, and has allowed a few members of the community to participate in reef monitoring studies. Eight members of the community participated in intensive nature guide training courses. More courses like these need to be offered in order to prepare the community for the imminent growth in tourism. Amigos del Manati said that they would like to be involved in these education efforts. The SEDUE representative also suggested that they would be willing to offer workshops on how different land uses are authorized, and to give the locals information on how to establish businesses.

B. FOCUS GROUPS

During the three focus groups that were held in the community of Xcalak (fishermen, tour guides, local business owners) the following themes were addressed:

- Level of support for the marine park
- Pros and cons of the park
- Interests in cooperative management
- Regulatory preferences
- Local environmental problems
- Development preferences
- Local needs.

1. LEVEL OF SUPPORT FOR ARRECIFES DE XCALAK

Both the tour guide and fishermen groups expressed strong support for the marine park, and hope that it will bring economic prosperity to the community in the forms of enhanced fisheries and tourism development. One of the tour guide respondents stated that, “To be able to conserve this (the Xcalak area) for 20 to 30 years more we must have a conservative spirit. If there was a large-scale tourism, our reefs, corals and sponges would be finished off. We have seen in the northern part of the state, near Cancun, the effects. There is no coral... We can prevent this... Investors only come to break regulations. The area is not important to them, they just exploit it. When the area is finished they sell out and they leave and the population suffers. We want to prevent this from happening here, that is why we wanted the park.” All six respondents from the tour guide group and all five from the fishermen group stated that they support the park.

The local business owners were not as receptive to the idea of the park. They worry that very strict regulations will both hamper current development and deter new developers from investing in the area. Even though the respondents in this group had some concerns about the park, three out of the seven participants responded that they want the park in Xcalak, and two claimed that they support the park as long as it does not harm the community. One respondent does not want the park to be located in front of the community but would like to see it somewhere else. The final participant in the discussion had no comment regarding this matter.

2. PROS AND CONS OF ARRECIFES DE XCALAK

The tour guide group identified only benefits of the park and no negative aspects. They claimed that fishermen who want to work as guides will benefit from the park, and that the park

will bring more tourism and therefore more customers for local businesses. One guide responded that, “The park will be a fountain of jobs for everyone in town. Fishing is coming to an end.”

The fishermen believe that current benefits from the park are few because there is not enough tourism to support everyone and fishing has become more restricted in the area. They also claimed that one of the tourism use areas that was closed to fishing in the park zoning plan, the shallow reef area known as Doña Nica, is an important area for the harvest of lobster. They did support the closure of La Poza, claiming that “La Poza is famous, people will come to see it.” They believe that when there is more tourism the entire town will benefit from the park, and that it will give the community some control over the ecotourism market.

A spokesman within the business owners group explained that tourism is Xcalak’s only opportunity for economic growth. He is under the impression that the park will prevent this from happening. He also constantly referred to the park as a reserve and compared it to the Sian Ka’an Biosphere reserve located just north of Majahual. This reserve has very different goals and therefore much stricter and prolific regulations than the multi-use marine park, AXC. This misunderstanding illustrates the lack of communication between stakeholder groups. Another representative of this group said that the park will bring both benefits and harms because it will not only attract people and their money it will also attract their environmental problems. A third respondent claimed that the park will bring more benefits than problems.

3. INTEREST IN COOPERATIVE MANAGEMENT

All interviewed groups hope to participate in the management of the park area in some way. The tour guides expressed the view that they want to have a voice and a vote in decision-making processes. They agreed that the park director cannot be someone from the community, because no one has the proper skills and experience. The fishermen want to participate but

believe that they are currently not prepared to do so. One business owner claimed that he would like the park to be 100% managed by the community, but he knows this is not possible because of the way the federal government has structured protected areas. A second business owner reaffirmed the opinion that those who wish to be involved in the management of the area must prepare themselves and understand the issues that the park will be addressing.

4. REGULATORY PREFERENCES

When asked what types of regulations the local population would like to see enforced in the park area the following responses were offered:

- A gradual decline in the use of nets and traps as fishing methods
- Prohibition of spear gun use in the park area
- Prohibition of nets and traps in the Poza area only
- Areas where no tourist entry is permitted that are to be used exclusively by fishermen
- The enforcement of cooperative concessions.

The business owners expressed that they would not like to see prohibitions on motor sizes and dredging activities along the coastline. These respondents would like to see some of turtle grass bed areas dredged up to allow for easy access to bathing areas. Many respondents fear that if the use of traps and nets are outlawed immediately that people will not be able to support their families due to the current low level of tourism in the area. One tour guide expressed that traps and nets must be outlawed at some point, "Everyday the fishing traps are more and more costly. If we know the use of nets and traps is damaging we should not allow their use to threaten tourism. Why would a tourist come here if we are killing the fish they want

to see?” The fishermen also expressed that all regulations should be applied uniformly and that no one should receive special privileges to use traps or nets.

5. ENVIRONMENTAL PROBLEMS IN XCALAK

All of the groups responded unanimously to this question. They agree that waste management is Xcalak’s greatest environmental problem. They talked about the following problems:

- The lack of a dump
- Plastics that wash up on the beach from the greater Caribbean region
- Sailboats that dump their waste nearby
- Oil and gasoline residues from boat motors
- Bottomless septic tanks and the resultant contamination of the water table
- The undeveloped lands and abandoned houses that are used as makeshift dump sites and are not maintained by their owners.

Overfishing was not readily offered as an environmental problem, but when asked whether or not they thought it was an issue all respondents claimed that it was. Fishermen stated that the conch and lobster populations have definitely declined. They talked about poachers coming in from the capital city of Chetumal and other states in Mexico and harvesting lobster and conch. The cooperative members adhere to strict regulations that prevent the harvesting of juveniles and females with eggs and believe that the poachers do not honor these conservation measures.

6. DEVELOPMENT PREFERENCES

When asked how they would like to see Xcalak developed in the future the following opinions were offered:

- A clean, ecological town that attracts tourists
- Nothing like Cancun and much smaller than San Pedro, Belize
- Small and tranquil
- No big hotels, only small cabañas
- Ecotourism
- A development that has contact with nature
- Healthy mangroves and lagoons
- Bathing areas along the beach
- Small shops and restaurants.

7. NEEDS OF THE COMMUNITY

The final topic of discussion in each focus group concentrated on what the community of Xcalak needs in order to fully benefit from the development of the area. The main responses included skills, training, organization and resources. They are interested in training that will make them more competitive as ecotourism guides such as SCUBA certification, fly-fishing, bird-watching, and English. One guide expressed that if all of the local guides unite that they will be able to compete with foreign investors who build their own dive shops. They also need the resources to make their boats suitable for tourists and buy equipment.

C. AREAS OF AGREEMENT

There were four areas upon which all stakeholder groups represented in the interviews and focus groups agreed. These were that:

- 1) Tourism will benefit the community of Xcalak.
- 2) A low-impact development is preferred.
- 3) The community should participate in the management of AXC.
- 4) The local community must improve their skills and build capacity if they hope to both participate in the management and share in the benefits of development.

D. POINTS OF CONTENTION

Several points of contention surfaced during the implementation of this project. If these issues are not addressed publicly they could result in serious conflict which would impede both development and conservation efforts in Xcalak. These were:

- Immediate restrictions on fishing gear use
- How cooperative management will occur
- What definitions of “low-impact” are being used by each group
- Exclusive tourism concessions
- The presence of two different regulatory mechanisms which attempt to manage the same area (the OET and the AXC management plan).

If the use of traps and nets as fishing methods are outlawed immediately there will be problems getting many fishermen to comply. Everyone claims that the community should participate in management efforts but when the different respondents were asked to elaborate on

how the community could participate the proposals ranged from a community concession to the management of the area (i.e. they would manage the park independent of SEMARNAT) to obeying the regulations and bolstering public support for management efforts. “Low-impact” appears to have many definitions among the different stakeholder groups. SEDETUR and Fidecaribe, which plan to develop “alternative tourism” throughout the whole southern region of Quintana Roo, have participated in the construction of a large cruise ship pier in Majahual. Locals want to see small cabañas and dirt roads. These different images of “low-impact” may very well collide with each other when actual development efforts begin. The newly established tourism cooperative in Xcalak wants an exclusive concession to all tourist activities in the park. Where would this leave the foreign investors who have been living in the Xcalak area for over ten years? And finally both the OET and the park plan to regulate development and activities in the area. Whether or not they are compatible with one another has yet to be seen. All of these conflict situations are exacerbated by a lack of communication between the different stakeholder groups.

VIII. PROPOSAL: COOPERATIVE MANAGEMENT OF ARRECIFES DE XCALAK

A. COOPERATIVE MANAGEMENT

The World-Wide Fund for Nature (WWF) defines a marine protected area as, “Any area of intertidal or subtidal terrain, together with its overlying water and associated flora, fauna, historical and cultural features, which has been reserved by law or other effective means to protect part or all of the enclosed environment” (Wells 1998). This very general definition allows for a broad interpretation of how exactly an MPA should be structured and managed, resulting in a wide array of priority goals and organizational strategies among existing protected areas.

One issue, which has developed into a “hot” topic in the world of coastal environmental management, is the degree of local participation in the management of MPAs. Local participation has been defined as “empowering people to mobilize their own capacities, be social actors rather than passive subjects, manage the resources, make decisions, and control the activities that affect their lives” (Cemea, 1985). Many argue that science and government are key players in the effort to design, establish and effectively operate MPAs but that the involvement of local communities is essential to the success of any MPA. When describing the goals of coastal management, Stephen Olsen and Patrick Christie assert that, “It is a process that unites government and the community, science and management, sectoral and public interests in preparing and implementing an integrated plan for the protection and development of coastal ecosystems and resources” (Olsen and Christie 2000). They later add that, “For progress toward the goal of coastal management to occur, there must therefore be empowerment at the local level” (Olsen and Christie 2000).

In “Parks and Progress: Protected Areas and Economic Development in Latin America and the Caribbean”, Valeri Barzetti summarizes the opinions offered by the 1,800 experts who attended the IVth World Congress on National Parks and Protected Areas in Caracas, Venezuela in 1992. With regard to the issue of community participation as presented at the Congress, Barzetti notes:

“The Congress marked an important change in the way that we are thinking about protected areas. In the old days, managing protected areas was essentially a policing task, and local people were seen as a management problem. Then we recognized how important science was to our profession, and nature was often seen as the management challenge. The Caracas Congress made it clear that the park guard and

park naturalist are now being joined by the park community affairs officer, and earning the support of local people is being seen as a management opportunity, as well as a challenge” (Barzetti, 1993).

Cooperative management or co-management regimes are those which aim to incorporate multiple interests in management processes such as decision-making, enforcement and monitoring. They are “collaborative strategies that incorporate institutional mechanisms to share the responsibility for management of the coastal resources between the government and the communities, resource users and various other stakeholders involved” (Viridin, 2000).

Researchers have observed that forcing local communities to comply with regulations developed in conventional, top-down management schemes can provoke conflicts among resource users and deter local support for MPAs (Elliott, 2001). This often results in non-compliance with regulations and as a result reduces the effectiveness of an MPA.

The problem is exacerbated in lesser-developed countries where financial resources for enforcement and monitoring programs within MPAs are scarce, making it even more difficult to enforce local compliance with MPA regulations (Elliott, 2001). In such cases local support for the MPA is fundamental. In order to gain such support, user groups must view the decision making processes as well as the enforcement and monitoring methods as legitimate. Perceptions of greater legitimacy are achieved through greater involvement of user groups in the aforementioned processes (Noble, 2000; Sandersen, 2000).

It would therefore follow that by increasing local involvement in the planning and management processes, the likelihood for success of MPA management schemes is enhanced (Agardy, 1997). If resource users are able to develop a sense of ownership of MPA regulations

they may contribute to the protection of resources through surveillance and monitoring (Sandersen, 2000). In fact, the success of MPAs within the past decade, including those within the U.S.'s National Marine Sanctuary system, has been attributed to increased public involvement in the management process (Morin, 2001). Cooperative management strategies for MPA management are currently being developed and implemented in such nations as Indonesia, Fiji and several Caribbean nations (Brown, 1999; Elliot, 2001; Sandersen, 2000; Viridin, 2000).

Two models of cooperative management have emerged in the Caribbean region (Brown, 1999). The "St. Lucia Model" focuses on a participatory approach to the decision-making process and entails the establishment of a local resource management body representing all stakeholder groups. The second model is known as the "Fisher Organization Model" and prioritizes the formation and/or strengthening of existing fishermen organizations. This model stresses community awareness and capacity building programs that permit fishermen to participate in management.

B. PROPOSAL: AN ARRECIFES DE XCALAK ADVISORY COUNCIL

In order to avoid future conflicts and open the doors to communication between stakeholder groups a cooperative management structure for AXC must be developed and implemented. As described previously, the definition of cooperative management is broad and there are various organizational structures that could be applied in this situation. There are two alternative cooperative management forums that would prove effective in addressing these conflict issues in Xcalak. The first alternative is broad representation on the park's Technical Advisory Council. As mentioned earlier, all protected areas can have a technical advisory council. The second is the formation of an independent advisory council. The main difference

between these two management alternatives is that the Technical Advisory Council would fall under the direct authority of SEMARNAT and would have to adhere to guidelines defined in Mexican federal law. Mexican environmental law clearly defines the role and structure of Technical Advisory Councils (SEMARNAT, 2002). An independent council could establish new guidelines specifically relevant to issues in Xcalak and would not be limited by pre-established structural constraints. There are benefits to this freedom to create a new advisory body, but there are also drawbacks. Defining the structure and function of this new council may be a long and painstaking process. It would definitely be quicker and easier to adhere to the pre-existing guidelines. The most critical factor to consider in these management structures is that the forums must consist of a multi-stakeholder body thoroughly representing the many interests in the management of the marine park. The formation of such a council will provide a formal structure that will ensure local participation in the management process.

C. MODEL: FLORIDA KEYS NATIONAL MARINE SANCTUARY

The responsibilities of this council would be similar to those of the existent advisory councils within the U.S. National Marine Sanctuary system. Eight of the sanctuaries in this system have sanctuary advisory councils (SACs) that are involved in the management of those sites. These are: Channel Islands, Florida Keys, Gray's Reef, Hawaiian Islands Humpback Whale, Monterey Bay, Olympic Coast, Stellwagen Bank and Thunder Bay (NOAA, 2001). Of these eight sanctuaries the Florida Keys National Marine Sanctuary (FKNMS) protects an ecosystem that is most similar to that in Xcalak, a coral reef system. The FKNMS was established in 1990 and soon after a sanctuary advisory council (SAC) was formed. Council coordinators have identified several main roles that the SAC should fulfill (NOAA, 2001):

- 1) Serves as a liaison between the Sanctuary and the local community, disseminating information about the Sanctuary and bringing the concerns of the public to the Sanctuary managers
- 2) Assists in identifying groups with whom the Sanctuary should be working
- 3) Helps identify and resolve problems and conflicts
- 4) Creates annual work plans
- 5) Reviews and comments on Sanctuary plans, proposals, and projects
- 6) Provides technical and background information on issues facing the Sanctuary
- 7) Validates the accuracy and quality of information that the Sanctuary utilizes for decision-making purposes
- 8) Prepares a concise annual report that summarizes the SAC's accomplishments and any difficulties encountered.

Members of the council representing a government agency should be appointed by that agency. Non-governmental members are selected through a competitive, public process. The Sanctuary manager selects council members from the top three candidates for each seat as well as an alternate. The seats should represent a balance between “protection” aspects and “use” aspects. There are between 15 and 20 seats on all SACs. Although the FKNMS SAC is an “advisory” body only, and the Sanctuary manager has final say regarding all management decisions, managers are more receptive to recommendations that have been formed by the SAC through a consensus building process. In fact the current manager of the FKNMS, Mr. Billy Causey has accepted and implemented over 95% of the SAC's recommendations (Causey, 2002).

D. AXC ADVISORY COUNCIL DEFINED

A similar council for AXC would facilitate communication between the many different stakeholder groups involved in the area and provide a forum for conflict resolution and consensus-based decision-making. The main responsibilities of this council would be:

- To advise the park director regarding management decisions
- To form an annual action strategy for the park and evaluate its success
- To offer recommendations to both state and municipal development efforts that are likely to affect the marine park
- To disseminate information regarding management decisions and heighten public awareness of park issues.

Again, this council can take the form of a technical advisory council that has already been established within Mexican environmental law. Conservation, development and local interests should be equally represented on the council.

Based on the stakeholder groups that have interest in the management of the park and development in the Xcalak area, I propose the following structure for the AXC advisory council which will consist of 18 members:

- Fishing cooperative president
- Independent fisherman
- Tourism cooperative president
- Hotel owners (2)
- General population (2)
- UQROO (1 from ICRM program, 1 from OET)
- ECOSUR (1)

- Amigos de Sian Ka'an (1)
- Amigos del Manati (1)
- SEDUMA (1)
- SEDETUR (1)
- Fidecaribe (1)
- Director of Chetumal Bay Manatee Sanctuary
- SEDUE (1)
- Mayor of Xcalak.

These council members would be represented by a council president who would report directly to the park director of AXC regarding council decisions and recommendations. The director would also communicate to the council members via the president. Other possible staff positions to be filled by council members could be:

- An outreach coordinator responsible for public education
- A treasurer to manage any council funds
- A secretary to record the minutes of all meetings and compose reports.

When considering the formation of such a council it is important to investigate whether or not the legal mandates governing the management process of the protected area will permit such a structure. The Mexican General Law for Environmental Equilibrium and Protection of the Environment (LGEEPA) supports cooperative regimes for the management of protected areas. Article 47 of this federal law proclaims that, "In the establishment, administration, and management of protected natural areas...the secretary promotes the participation of its inhabitants, landowners, local governments, indigenous populations and other social

organizations...with the objective of supporting the integrated development of the community and ensuring the protection and preservation of the ecosystems and their biodiversity”

(SEMARNAT, 2001). Article 17 of the LGEEPA Regulations on Protected Natural Areas establishes the role of advisory councils, “For the management and administration of natural protected areas, the Secretary (SEMARNAT) can construct Advisory Councils, that have the objective of consulting and assisting the directors of protected areas” (SEMARNAT, 2000).

IX. RECOMMENDATIONS

Apart from the need for a cooperative approach to marine resource management in Xcalak, I have several recommendations that will make Arrecifes de Xcalak a more effective marine protected area and increase the chances that the local population will benefit from the sustainable development of the area. All stakeholder groups interviewed believed that the people of Xcalak lack the necessary skills to fully participate in the management and development of the area. There have been several efforts attempting to build capacity in the village but much more is needed. Although many members of the community attended previous courses in conversational English, the large majority of the population never participated in these courses or failed to complete them. As a result very few people in Xcalak can actually converse in English. This will hinder many residents from starting their own businesses in the tourism industry or obtaining well paid positions in hotels, restaurants and with ecotourism operators. The lack of participation in these courses may have been due to the currently low level of tourism in the area and the resultant absence of a pressure to learn and compete. According to the town mayor (Batun, 2001) Xcalak will probably have 24-hour electricity by the end of this year. Cement posts which will carry power lines from the main generator in Chetumal have already been erected along the majority of the new highway which runs down the Xcalak peninsula. Upon completion of this

installation, landowners who have been waiting for the opportunity to utilize beachfront parcels along the coast of the Xcalak peninsula will most probably begin development. When this happens, and the number of visitors to Xcalak increases, the local community will most likely become more interested in working to obtain the skills they need to successfully gain employment in newly established businesses. They will need these skills even more if they decide to open their own businesses and compete with outside investors who have a greater level of training and experience in the tourism industry.

Amigos de Sian Ka'an should consider contracting another English teacher for the community when such interest is expressed. They should also consider offering more capacity building in ecotourism such as SCUBA certification courses, basic coral reef ecology, local natural history, bird-watching, and interpretive guiding skills. Amigos del Manati expressed an interest in participating in education efforts within the community as well and should therefore be incorporated into these efforts.

The municipal Secretary of Urban Development and Ecology has offered to provide information to the community on the establishment of small businesses and development permitting processes. The mayor of Xcalak should actively pursue these services and inform interested community members of their availability.

Environmental education should be included as a component in the local school curriculum. If the school system administrators are not receptive to this idea, environmental education classes could be offered as an after school activity. The local school day is over in the early afternoon. Local children have been very receptive to after school environmental activities in the past, participating in bird-watching excursions and weekend snorkeling trips. If we are to ensure the continued stewardship of the area's natural resources by the local community we must

continue to instill a conservation ethic in its younger generations. They should be introduced to appropriate waste management practices and informed of the effects of over-fishing on coral reef ecosystems. Hopefully, the children will bring some of these messages home with them and influence the behavior of their parents and older siblings. Environmental education activities and information dissemination programs should also be offered to the adults in the community.

Residents who are interested in participating in the management of AXC should be offered workshops and courses in natural resource management and stewardship. They know their reefs better than any outsider. If they are given basic coastal management training and are taught some of the fundamental concepts of marine ecology and coastal dynamics they may prove excellent managers and stewards of the reef system.

Reef monitoring studies which incorporate local residents have been initiated by Amigos de Sian Ka'an. This initiative should be expanded to include more community members so that it can eventually be handed over to the community. Results from these studies should be presented to the new park director so that he will be more receptive to the idea of community based monitoring of the park. Local volunteer monitoring allows residents to witness first hand the result of conservation efforts on their natural resources and enhances community support for resource management efforts.

Finally, Arrecifes de Xcalak will never become an effective protected area if appropriate funds are not allocated for its management. Until federal funding is provided, alternative funding sources must be identified. As tourism grows and the number of visitors to Xcalak increases, park entrance fees should be charged by the director that would contribute to a management fund. These monies could be used to hire park guards and support monitoring programs and should go directly to the park managers and not through government offices in Mexico City. A

small tax could be tacked onto hotel room rentals that would also go directly to the park. Amigos de Sian Ka'an and Amigos del Manati should seek more funding from international conservation organizations and funding agencies, such as the World Bank, that would support the proposed capacity building efforts and volunteer monitoring programs.

X. CONCLUSION

The community of Xcalak has taken great measures to protect their extraordinary coastal resource system. In order to ensure that these efforts were not made in vain, a management framework must be established that will protect the area's marine and coastal resources from future development activities. The formation of a cooperative management strategy such as the council presented above would incorporate all stakeholders and user groups in the decision-making processes that will govern the future of Xcalak. This attempt at cooperative management will only be successfully achieved "through a continual process of confidence building; transparent open dialogue; exchange; and commitment" (Sandersen, 2000). This is not an easy task. As fisheries management researcher Svein Jentoft so accurately states, "Communities are not always ready, competent, and/or willing to handle co-management responsibilities. However, a management system that invests in the community, would search out opportunities to overcome these barriers" (2000).

This document describes a community effort to manage their natural resources through the formation of a marine protected area and offers some recommendations as to how to effectively manage the area. It is important to realize that an MPA cannot possibly address all of the factors that influence marine and coastal resources in an area, and that a larger integrated coastal zone management strategy should be developed for and applied to the Xcalak peninsula.

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APPENDICES

APPENDIX A: INTERVIEW AND FOCUS GROUP GUIDES

INTERVIEW GUIDE

- 1) What is the role of (agency) in the state of Quintana Roo, in the southern zone of the state, and specifically in Xcalak?
- 2) Do you support the formation of the park, Arrecifes de Xcalak?
- 3) What is (agency's) vision for the southern zone of Quintana Roo? for Xcalak?
- 4) In your opinion what are the benefits of AXC? Of development?
- 5) Do you foresee conflict between the AXC management plan and development plans?
- 6) Between AXC management plan and the OET?
- 7) How can (agency) help to enforce these management tools in the area?
- 8) Why do you think the people of Xcalak decided to establish an MPA?
- 9) Do you think that the people of Xcalak can participate in the management of AXC? If no, why? If yes, how?
- 10) What do you think necessary for the success of AXC?
- 11) Funding possibilities.

FOCUS GROUP GUIDE

- 1) Pros and cons of AXC.
- 2) Community participation in the management of AXC.
- 3) Role of government in AXC.
- 4) Regulatory preferences.
- 5) Participation in AXC establishment process.
- 6) Why a marine park?
- 7) Level of support for AXC.
- 8) Environmental problems of Xcalak.
- 9) Development preferences.
- 10) What do the people of Xcalak need to benefit from development?
- 11) How will the park affect you?

APPENDIX B- INTERVIEW TRANSCRIPTS**HOTEL OWNERS**

1) HOTEL OWNER #1

Pros and cons of having a marine park?

Nobody knows who's going to run the park. We were told that from now on none of our boats would be able to enter the park. All boats that leave our dock will have to be owned by someone in the co-op. We have spent 5 yrs. trying to get in the fly-fishing business and from now on we won't be able to do fly-fishing either because our boats have to pass through the park to get to the Bay of Chetumal. I think the park is a great thing but no one knows what's going to happen with it or where it is going. We were also told that we will only be able to put 10-15 people per hotel per day into the park. No one knows what's going on.

How many local people are working for you?

We've trained about 14 people in this town.

How would you like to participate in the management of the park?

I can't even manage my own business here. How could I ever go into town and try to manage there? It's impossible.

Advisory council to the park?

They don't want the gringos down there. They want to control that whole thing. Don't you see that?

What about participating in efforts to support the employment of park guards with other hotel owners in the area until government funding comes through?

That just turns around on you. It's too small a place, no one gets along. The hotel owners get along worse than the locals.

What types of regulations would you like to see here, in the park?

Everything that everyone has proposed over the years all have good reasons. I don't think anything will be cut in stone for some years. Hopefully they are going to try things out. Who makes those decisions, students from universities? People from Cancun? The people here don't have a clue. I've been here for 13 years now and still the town has half the resources now than it had 13 years ago (ice plant, water, electricity). Everybody is selling out and moving on, just a few diehards have remained. The bureaucracy of Mexico has put a damper on anything that anyone is trying to do: any kind of expansion, fixing the road, getting the road off your property. They have fined Maya Ha but people who pay them 200,000 pesos get no fines at all. We're persecuted for being gringos and being here in business. If you're in business here you must be a multi-millionaire. The bureaucratic bullshit that goes with living here, and the park will just make it more complicated. They'll have 400 things that you can't read because you can't understand them and they're not really law. They're just law that day if you're involved.

How did you participate in the effort to establish the park?

For about 3 years anytime anyone needed a boat I took them out in my boat. I took them to the river. I put them up in rooms. I discounted prices for people for probably 5 years and then they quit staying here and moved down into town. and quit using my boat and used Tom's. And then after Tom now they're using Suzanne. I had all of Sian Ka'an reserve. 20 people here I night, and they ended up stealing two of my lamps and 5 towels. And that was a freebee so excuse me but get out of here. I don't need it anymore.

Why do you think that the local community worked to establish the park?

I don't think anybody locally other than Adolfo (past delegado) ever did anything to establish it. People from URI had enough money to come in and start it and kept coming back and pushing and pushing it. At that time Adolfo was delegado and had some juice and now it's kind of rolling on its own because of that. It's nothing that Mexico did and nothing that Sian Ka'an did for 5 years. Now they obviously are involved and they've got the ball and they've got Vidal working for them and they can get stuff pushed through and signed off by him, but it wasn't UQROO that did anything.

Why do you think the local people latched on to the idea and were really interested in having a park?

Because they are so desperate to get something going. They're dying. They're kids are moving and going off to school from the eighth grade on and never coming back. They're dying for something down here. Anybody from 18 years old on that wants to make some money has moved up to Maya Ha.

What do you think are some of the main environmental problems existing here?

Septic tanks 5 feet away from wells, I think that's a big environmental problem that's been going on. That's been checked and the Mexican government as far as I know 8 yrs. ago came around and tested every well in town and there were only 2 clean wells in town. They all had raw sewage in the water. They bathe in and drink from this water. That's a big, big problem.

Anything else?

Their city water is running through an asbestos line. There are only 200 or so people, how much damage can they do?

Do you think overfishing has been a problem?

I don't think anymore so here than anywhere else in the Caribbean. There's just too many people.

What types of environmental programs or campaigns would you like to see developed here in this area?

I'd just like to see the laws that they already have enforced. When we were going strong in fly-fishing four years ago we had 3 or 4 different people netting in all of our fishing areas and destroying all of the bonefish up on the beach. We took pictures of four different piles of fish with at least 200 per pile that had died recently, and were just thrown on the beach. The same guy had about 2 tons of black coral. that's what made everybody mad, but he had a permit that

he bought for \$200. Our big thank you for trying to stop that was a complete audit on our business for about three years by the Mexican government, which cost about \$1000 to get out of. There's no doing anything.

There will eventually be more development here. What would you like to see here. What would your ideal Xcalak be as a tourism destination?

I'd like to see them stick to the one to two story hotels. There is no way to make a living with 12 rooms on a hectare of property which costs a quarter of a million dollars on this coast. There's no way you could even pay the interest on that money and make a living. They say they don't want big corporations in here but they are setting up so it will have to go that way. Individuals won't be able to market a place at \$300/ day.

Why did you decide to build a business here?

I never really came down here to do this business. I just kind of fell into it. I was just going to build a house for myself. I had a nice aquaculture thing going on in Missouri and I could get out a couple months a year but that wasn't enough for me.

How do you think the development of this area will affect your business here? How will you change your business with the development and would you ever consider picking up and hauling out?

Oh, I think about that once a month but it's really hard at 51 to go somewhere else and start anew. I've got a lot of blood sweat and tears in this place and as far as expanding we've doubled the size of our restaurant in the past 3 years, we've put in an internet system. I went through several people to get this system in. It was a group effort. We're putting in more workers' quarters this year, we just built them a new kitchen that is double the size of our kitchen. Food supplies are still a problem, we do a couple of trips to Chetumal a week now, but now we can buy food in case lots instead of paying 400% more for it in Xcalak.

How do you think that this park will eventually affect your business here?

I think it will do nothing but good for it. We'll get some worldwide publicity and hopefully a lot more business down here. As we know the Caribbean is getting picked over very rapidly. It's getting overfished and the coral is dying. Everybody down here that is developing is putting in really good sewage systems and I think that's going to protect this reef a lot.

Anything you want to add?

People here are frustrated because they have tried to do everything, because they grew up in the U.S. and there are laws that say building permits go this way and boat permits go this way and insurance coverage goes this way... That does not pertain here at all. There is scamming, you are forced to function totally illegally because you can.

2) HOTEL OWNER #2

What are the pros and cons of having a marine park here?

Pros- we will have more marine life. There will be more conservation. Development is a pro and con but hopefully we will get a few more people here. The park will be an attraction. On the other hand, anytime you make a change that has a long-range benefit some people get hurt by it. And that's generally local people. An analogy in the U.S. is "Why don't they just ban tobacco growing?". Well there are a few states whose entire economy depends on that. Local people are going to have to make shifts in how they earn their living. Some people will do that more easily, some will always resent it.

How do you hope to participate in the management of the park? How do you hope to be involved if at all?

Any kind of direct involvement would be hard to say.

Would you participate in an advisory council represented by different sectors of the community?

Good idea. I wouldn't be the best person. Someone like Bob would be better who is involved in fishing and diving. I certainly would support someone being involved in that.

Would you participate with local hotels to fund the hiring of park guards to enforce the regulations of the park?

In theory but we will have to have a lot more business here before we will have any money to contribute. We need the people to come. That is a good idea for the future. I can't tell you at what point that would be feasible. We see people out there poaching. I'm not gonna go out there and yell at someone. There's nothing we can do to get people to stop dumping trash along the road. That will take a more organized community effort.

What types of regulations would you like to see in the park?

To stop the taking of lobster and conch before they have grown to adulthood and can reproduce.

Why do you think that the local people decided that they wanted a park here?

I don't know. I would like to think for the same reasons but I don't really know the history.

Do you support the park?

Yes.

What do you think are some of the major environmental problems in Xcalak?

Trash. I don't really know. But with what the town has to work with I don't know how much better individuals can really do. I'm amazed that people are as clean as they are with the resources that they have. No running water, no trash pick up.

What types of environmental programs or campaigns would you like to see in this area?

More planned development than a lot of other places have had. I don't want it overdeveloped, high rise hotels. I sure don't want jet skis out there.

Can you compare the ideal Xcalak to another destination?

No. I can't compare it to a place and say it should be like that. People mostly like places the way they were when they found them. I'd like to see this road improved.

What resources and skills do you think that the people of Xcalak need so that they can benefit from the development that happens in Xcalak?

Some organized effort to help people get into the service economy for tourism. There used to be 5 restaurants in town, now there is one. Why is no one else coming? Tourists come here and are willing to buy things. They need to help people figure out how they could do something that would make them money. I'm surprised at how little English they teach in the schools.

Why did you decide to come to Xcalak?

Initially, because Bob always wanted to dive Chinchorro. We bought this land within a month after the first time we were here. It just always felt right. I'm no gambler, but this just felt right.

How do you think that the development of the area is going to affect your business?

We hope it will enable us to stay open.

How do you think the park is going to affect you?

If there is more marine life out there, there will be more people coming here to dive.

3) HOTEL OWNER #3

What are some of the pros and cons of the marine park?

I'm not really familiar with what the marine park is. We want a marine park. There will be more fish for people to look at when you are fishing and snorkeling. We'd like a marine park like the one on Ambergris Key (Hol Chen). We were under the impression that that is the way they were going to do this whole thing. I don't understand fully what it all means because I can't read the Spanish. They say you can fish in the grouper reproduction area but you can't dive there. Said you could only snorkel until 4:00 in the afternoon. Would be hard to enforce that. No negative aspects of the park as long as our guests can do catch and release fishing (bonefish).

As a part of the Xcalak community, how would you like to be involved if at all?

I don't know how we could be more involved that we are right now. If we see people breaking laws we will report it. We tell our guests not to touch or stand on the coral. Informing our guests is part of the participation.

Would you participate on an advisory council?

We could be interested in becoming involved.

Financial support for park guards until government steps in?

No need for enforcement right now. I don't see anything illegal going on. Fish traps are down (but this is seasonal). Vidal is threatening to confiscate nets. The local people here are doing their jobs to report illegal things right now. I think it would be better if we each took the responsibility of reporting it rather than having to hire someone.

What types of regulations would you like to see?

No fishing traps, they take everything, stingrays, turtles, pelicans (pelicans slit their throats when they pull fish from the nets). Illegal fishing is not a big problem right now, I haven't seen anyone buying or selling any conch out of season but we don't get into Xcalak very often.

How were you involved in the effort to establish the park?

We went to meetings and tried to give our input and did interviews like this.

Why do you think this community initiated an effort to establish a park?

I think they want to keep it pristine. There are a lot of gringos coming in now and we want to keep it as natural as we can. We don't want great, big hotels coming in like in Majahual where they are clearing out all of the seagrass beds.

Do you think locals feel the same way?

I don't really know. We feel that the seagrass is protection for us. We have clammers come up here I buy clams from them and serve them to my guests.

So you support the park?

Yes.

What are Xcalak's environmental problems, if any?

In town- I don't know of any. I think the whole area is pretty environmentally sound. No one fished a lot out here. Most go to Chinchorro. That's their livelihood, they need to fish. I don't see any fishing inside the reef lagoon. *Garbage?* It's a lot better. We don't get garbage on the beach like we used to get. 75% better.

What environmental programs and efforts would you like to see?

Everyone has good septic systems. We haul our garbage to the dump. It would be nice to have garbage pick up. Our taxes pay for garbage hauling in Chetumal. Our biggest problem is the road. Conflict with road, they paid to have road moved behind their property (currently through it) but government stopped it.

What is your ideal Xcalak of the future?

Wanted to put in a marina but heard that no one in Xcalak wanted it. I think that would be a big boost for the town. I'd like to see some shops that sell t-shirts and things. Until that road is fixed nothing is going to go in. We can't do business in town until the road is fixed. Like Ambergris Key where there are small shops with crafts, small restaurants.

What prevents Xcalak from becoming a place like that?

The people have to want it.

What resources/ skills do they need?

It would take a lot of manpower to fix up their places and open shops. It wouldn't take a lot of money. I really don't know what skills are in town.

Why did you decide to invest here?

In 1991 we bought land 10 miles north of here. We almost bought land in Ambergris Key. We planned to retire here. We traded this lot for that lot to be closer to town and we liked the beach better. we liked the people in town and there were good restaurants there at the time. We are SCUBA divers and instructors and Chinchorro is close and the diving out front here is great. We've taught a lot of SCUBA classes. We can also drive here from the states.

How do you think the development of this area will affect you and if it becomes super developed would you consider leaving?

We're staying here. We like it. 90% of the 57 owners in this mile will be building retirement homes here. Conflicts between hotel owners – Bruce messed up a plot of land by taking some sand. Prices have tripled since they came. 20/80m lots going for \$60-80,000.

Effects of park?

Positive only. Bring more business.

ACADEMIA**4) UQROO REPRESENTATIVE # 1***What is UQROO's role in the MIRC project?*

URI works with ASK and UQROO on the MIRC project. UQROO works exclusively with the communities surrounding the Bay of Chetumal (Laguna Guerrero). ASK works in Xcalak. UQROO participated in the meetings about the management zones in AXC. UQROO also worked on the OET in Xcalak.

How do the OET and AXC management plan work together? Will there be conflict between the two management tools?

There shouldn't be conflicts. When the OET was written it respected AXC. The park is federal, the OET is at the state level. When they are writing the management plan it should agree with the OET. The OET includes Punta Herrero to Xcalak it does not include the marine system, only the land. The park only manages water.

What is UQROO's opinion of the park establishment process? Why does UQROO think that the people of Xcalak want the park?

Clearly, they are worried for their natural resources.

Many people think that "ASK" convinced the community that they want this park. Do you agree?

There always has to be someone who provides assistance to the community. Both the community and the organization wanted the park. Of course the community did not work with ASK every step of the way, that would be utopia. Independently of who initiated the effort, the results are due to both the community and ASK.

Is co-management possible?

It's rare but I don't want it to remain rare. In Puerto Morelos the community also has a park and they want to participate in the management. It should be the same in Xcalak.

How?

Participation also consists of obeying the regulations and being aware of what those regulations are. Collaboration with the management plan .attending meetings and offering their opinion.

Will the federal government accept a management plan proposed by the community?

They have to. They know that this park was created by the community. The government has begun to give management concessions for the management of protected areas. This is rare but possible. They could give the management concession to ASK, the community, or to a consortium.

Is future conflict between state development plans and park management plans a possibility?

The conflicts already exist. They began when the government started to sell land in the southern zone for hotels. There are many contradictions, we have a park and an OET yet a large cruise ship pier was just constructed in Majahual. The state developers speak of low impact development, yet a cruise ship pier is the greatest impact possible. This is an enormous foolishness. There is nothing for tourists to do. There is no infrastructure in Majahual.

5) UQROO REPRESENTATIVE #2*What is the function of the OET in the Costa Maya?*

Initially, I participated in the OET as the head of GIS. Later I coordinated the final elaboration of the OET. The OET initiated in 1985-86 in Quintana Roo. For the Costa Maya in '96. It ended in 2000. We worked to define policies and uses. We had an intense job of coordinating with various municipal, state and federal offices. We also had several presentations within the communities.

What is the difference between an OET and an EIS?

They are very different. The OET is based on the premise of determining the best use of land in a relatively large area/ region. The OET works on a regional scale. EISs focus on smaller areas, single projects. OETs involves a large amount of impact statements.

How is UQROO involved in the management of natural resources in the southern zone?

The university is involved through many distinct programs and projects. They have participated in all recent development initiatives in the southern zone. OET, management plan for the manatee sanctuary, and a new larger state level ordinamiento project looking at all "fragile" or "critical" areas in the state and their management plans- PEOT (Programa Estatal de Ordinamiento Territorial). The goal is to increase communication between all regions to see what role each region plays within the state.

What were the problems with the 1st OET, what were the changes?

Fortunately the OET permits the participation of all sectors who can agree or disagree. The first version of an OET is usually the subject of much discussion. Developers want to see more

development, the conservationists less. It is important to have a 1st version for discussion. There was a series of meetings with people who are familiar with the zone. We used the precautionary principle with regards to development. An development introduced into an area full of wetlands, dunes and the 2nd largest barrier reef system in the world must be planned very cautiously. After the 1st version the number of rooms that were to be permitted were reduced drastically. At the end there were about 13,000 – 15,000 rooms, very small compared to the 1st version. We tried to create a win-win situation where all interests benefit. In very fragile areas the possibility of development is prohibited. I feel that everyone is content with the final version of the OET. I worry about a few aspects, like the implementation of the OET. The maps and document are very beautiful but it is very difficult to locate where you are on the map, difficult to know if you are in a conservation or a protected area. We must create some practical strategies, we have to orient the people to show those that are in protected areas.

How are you ensuring that new development projects are following the OET?

The problem is graver than we thought. The OET is a good planning tool, it permits us to know what we have, how we can benefit from it, and how much we can take advantage of it. The management of the territory is based on 2 premises: concepts and processes. Both are generally intangible and only form abstractions in our minds. The way to achieve this is education, respect for local cultures, and a continuous understanding of what is happening in the environment. I think that it is very difficult to follow the OET 100% because the same developers have questions, “Where am I?”. Difficult without a GPS to know where your land is within the OET. Also there is the interpretation by the authorities who give permissions to construct the development projects. They need capacitation in cartography and natural resources management. The OET is a very advance tool and not all of the authorities are capable of using it effectively.

Why do you think the people of Xcalak want the park?

Difficult to answer, but I think that there are 2 important elements in the community of Xcalak: 1) A well-rooted community, they have lived for a very long time in that place and therefore care for it very much.

2) They are immersed in the growth process of Xcalak. They are worried about what will happen to them when tourism development begins. They don't want to be isolated nor excluded.

Do you think the park will help to bring more development or that it will present conflicts for development?

I don't think that the park presents conflicts for development. The marine park is only in the reef, reef lagoon and a few small coastal lagoons. The OET and the park are complimentary. The park will regulate uses within the marine zone. I also don't think it will be an immediate tourism attraction. They need some good promotion.

Is co-mgmt possible?

Yes. Very important that they are involved. Right now local communities are not involved in decision-making processes within protected areas, it is complicated, difficult, costly; but this is the only appropriate way to manage the resources. If the community is not consciously involved the management plans will fail. This participation is indispensable.

Will the management plans for AXC and the marine area of the OET come into conflict?

No. Absolutely not, because we planned it together with ASK and the CCX previously. We took into account the zonification that CCX had proposed. On paper anyway, there is no conflict.

The majority of the OET area is under protection. Activities cannot have a significant effect on the environment, in this area. You can't construct in this area. UMA (unidad de manejo ambiental).

UGA (unidad de gestion ambiental). All coastal lagoons are protected. Zones have not been delineated precisely with a GPS- open to self-interpretation. Has many doubts that the OET will be used properly by authorities to manage development of the area. This is not the final OET, eventually the lines will be more precise. Some lines will not change, ex. the lagoons.

Enforcement is another problem, especially in the area that pertains to the manatee sanctuary. OET does not include western portion of the Xcalak peninsula, this falls within the management plan of the sanctuary.

6) UQROO REPRESENTATIVE #3

What are the objectives of UQROO's MIRC project and how are they being met?

To assure that the communities surrounding the bay play an active role in the management of the area. Involved: URI, U. of Florida (student interchange program), coalition of local NGOs.

Why do you think that the people of Xcalak want a protected area?

This is a very interesting case that should be documented. ASK has been a cohesive force, always working to keep the community involved and motivated.

Is co-management possible?

Difficult that they have a say in management decisions. They can form committees that offer advice to the director, but have no say in final decisions. The park will be managed by the federal government which still has some old and conservative ideas. There are no provisions for community-based management of protected areas in the law.

Do you foresee future conflict between the park management plan and the OET?

There shouldn't be. The OET is stronger even though it is a state document. The federal government uses it to make regulatory decisions in the Costa Maya. Those who are writing the management plan for the park should take the OET into account. If there is disagreement there has to be a change made in the OET. OET includes marine habitat. Other conflicts may arise due to flaws in the OET: mangrove areas were never delineated with GPS. UMAs and UGAs not delineated, allows for misinterpretation or self-interpretation for convenience.

How does the state ensure that new development efforts comply with the OET?

SEMARNAT manages development in beach and marine zones. The state and municipal governments manage development on land. Any developer must seek permission with the proper authority, that authority uses the OET to decide if a project is appropriate for the proposed area.

Conflicts possible between development efforts and AXC?

Of course, because of the fuzzy aspects of the OET, development areas are not well defined. There will be conflicts with management because the community has been in charge up until now. It will be difficult for them to hand over responsibility for the area to SEMARNAT.

7) CRC REPRESENTATIVE*What is CRC's role in Southern Q. Roo?*

To facilitate the capacity building of local organizations to promote ICM (UQROO, ASK), the formation of a ICRM net. The key is facilitation- not going in and doing the technical work.

In your opinion what are the benefits of the newly established marine park, AXC? What are the benefits for the people of Xcalak?

Fisheries management tool to allow for sustainable catches. Will protect reef resources and provide a place for low-impact tourism. Will provide a second source of income to Xcalak.

Do you foresee conflict between park management efforts and future development efforts?

Yes. Water quality and quantity issues (ground water as potable water, not looking at the value of ground water, saltwater intrusion, sewage put back into system). Numbers of people and the density of development. Unclear how density issues in OET deal with the marine park. No overlap with the marine park on land. Park developed on a federal/ local track, OET federal/ state track. Possible conflict in goals. Should have gotten state more involved in park establishment process.

What do you think is the best method of both addressing and avoiding these conflicts?

- 1) A technical advisory committee for Xcalak as well as the entire Costa Maya. Different management instruments represented on committees. Data should be consistent among all groups. Model- San Francisco Bay design commission.
- 2) Define the vision of coastal management for Xcalak and the Costa Maya. Everyone has a different vision. Is a cruise ship pier low impact tourism? Maybe, it gets the tourists in and out quickly.

The community of Xcalak has expressed an interest in becoming involved in the management of the park. Do you think this is possible? If no, why? If yes, how?

Yes. Not as director. Co-enforcement- incentive mechanisms as well as community enforcers. On the technical advisory committee- more than just advisory, appropriate representation on the committee. Look at national estuaries program and national sanctuaries program,. Can't be too big for efficiency's sake.

How do you think the OET and the park management plan will work together? Will they complement/ conflict each other? How?

OET deals mostly with land. The question is enforceability. Looks good on paper but did they do nutrient equations? How much nutrients can run off and still allow for a viable coral reef? Park deals with water only.

There is no federal funding for the park at the current time. How is it going to be anything but a paper park?

World Bank funding for SAM. Local can maintain current agreements (no fishing in the Poza) and work to gain consensus and concern about continued management. We must promote and strengthen voluntary management initiatives. The community needs to visit other places to figure out why a park is important to them. Must promote citizen's monitoring.

What role does AXC play in furthering the CRC's ICRM strategy in Xcalak?

It was the primary motivational tool and if it is implemented well it is a means of achieving a goal of resource protection and increased economy. The park is a toll for coastal management in Xcalak.

What is the CRC's vision for the future of the Xcalak area and what is CRC's role in natural resource management of the Xcalak of the future?

Vision- An effective marine park management mechanism linked with community and government participation. Want to identify sustainable funding. The goal is to get out. We won't be there in 10 years. Goal is to build capacity of local institutions. We have to transition out and hand the work over to the locals. We may get involved in other levels of governance (state – OET, federal – national regulations) and move to other areas. We started in Xcalak to both understand Mexican systems and see what a marine park can do.

What steps must be taken to further integrate coastal resource management in Xcalak?

The management plan. Other elements within Xcalak: community development (linking the municipal plan with the OET and the marine park). Will deal with the urban plan next; funding for infrastructure within the community and for capacity and leadership building. We need more than a few leaders.

GOVERNMENT

8) SEDUE REPRESENTATIVE

What is the role of the SEDUE in the municipality of Othon P. Blanco?

To apply environmental legislation within the municipality, uphold the conditions established in ordinamientos ecologicos (like Costa Maya), and participate in the technical councils of protected natural areas (national parks and biosphere reserves).

Are you involved in the development of the management plan for AXC?

Involved in the development of Xcalak's urban plan. Work to make sure these plans are in agreement with the park.

How are you involved with the implementation of the OET (development regulations) and the park management plan?

Directly involved with development plans in Xcalak. Manage the use of land and solid waste treatment. With regards to aquatic activities in the marine zone, not much involvement. Cover development taxes.

If an investor wants to begin a new development project in the area do they have to come here to get their plans approved?

Yes. Sometimes we are the first application that developers refer to. We are involved directly in what their plans are how big their land is and where it is located and what they plan to do with it. We get a general idea of what type of development they plan to do (hotel, house). We analyze the situation and inform them whether or not the project is possible on their land. If possible we give them authorization to continue with the project and to obtain the other permissions that they need (EIS from the state – gives license for construction). Both state and municipal governments continue supervision of the project to ensure that the project remains the same and that the construction doesn't negatively affect plant and animal species in this area.

It seems that there are many plans for development in the "zona sur". What type of development would you like to see?

Any kind, but it must have services (collection of solid waste and management of residual wastes). The problem is that this is a very narrow strip of usable land that is for the most part dune and mangrove. The area should be divided into sites of concentrated impact (on land types that can support the development) and other areas of low development. The local population has its own dynamic and should not be altered by development. Locals should be able to remain fishermen and any tourism should respect this. In the OET there are zones where there is to be no fishing, only tourism (and the fishermen are in agreement) and zones where there will be no tourism, only fishing.

The case of Xcalak is a rare one, where the local population wishes to protect their natural resources. Why do you think that the people of Xcalak want the protected area?

To distance any development. Want exclusive use of the area. When Chinchorro became a reserve it gave exclusive fishing rights to local peoples. They think that it will give an advantage to the local fishermen. The fishermen are concerned about protecting their fish resources. 5 years ago the cooperatives of Chinchorro stopped fishing conch for 2 yrs. (2 yr. Moratorium in '96) so that the population would have a chance to recuperate. The CCX wants an area to preserve the zone which permits them to continue fishing.

The people of Xcalak have expressed that they want to be involved in the management of the park. Do you think this is possible?

Yes. The local people know every stretch of the reef, every place where you can fish certain species. They know how conditions change during certain times of year. They are very important

for the management of the area- technical management, enforcement, and the continuation of projects on the area.

Do you think that the government is going to give them opportunity to participate with the establishment of regulations in the area?

The CCX is way ahead of this. Although the government has stopped working on the park since its declaration (no director, no management plan, no money). The CCX has continued working. They have already designated tourism areas and no-fishing zones and have developed the "zonification" for the park.

What do you think is necessary for the park to be a success?

What is a success? Many guards? Many boats? A large office? I think that a success would be if the people accept the park and are collaborating with the park management. 1 director, 3 guards, an office with communications, boats ... whatever, but the people must participate.

Do you foresee possible conflicts between the park and plans for development?

Little conflict. The Costa Maya plan is compatible with the park. We must change our development plans for Xcalak. It doesn't consider the Manatee Sanctuary, AXC or Costa Maya. We must work with the plan so that there are no conflicts and there is adequate use of the land. There are conflicts when there is a lot of pressure for development and there is no plan), no plan ordinamiento, or no park. There was a difficult conflict on Isla Mujeres- there was no plan. There are well-defined laws and developers, no matter how much money they have, they must follow the plans. Ex. it is not possible to put a 5-story hotel on the Costa Maya.

How can you and your people help ensure that it will be the people of Xcalak who benefit from the park and from tourism?

Not our role. Has to do with NGO's and civil organizations. We can give them the information that they need to establish businesses, help them with their transactions, provide workshops on how land uses are authorized, and open a "transactions window" on Costa Maya to provide quick service. Garbage collection should begin next year.

9) MAYOR OF XCALAK

What are the pros and cons of AXC?

Benefits for the community- will generate jobs (guides), will regulate construction but allow the development of marinas. The whole community is more or less in agreement with the park.

How do you think the community can participate in the management of the park?

That they consider us, take us into consideration.

What do you think about the possibility of establishing a council that advises the director?

That would be good. I would participate.

What should the government's role be here in Xcalak regarding the park?

To help us like they have in other protected areas, vigilance etc...

What types of regulations would you like to see?

Zonification like Hol Chen (tourism zones, nucleus zones...), prohibition of traps and nets, spear fishing for tourists and fishermen.

How did you participate in the effort to establish the park?

After the RARE course and the trip to San Pedro the idea of the park interested me very much.

Why do you think that the people of Xcalak want the park?

They took the example of San Pedro and saw all of the benefits of the park to the people. Hol Chen brought tourism to San Pedro.

What are the biggest environmental problems in Xcalak?

Garbage (that washes up on the beach and that people produce and dump). Solutions: collaboration (letters to the government asking for help) we can't do it alone, we don't have the resources.

Is overfishing a problem here?

Yes, for many years.

What type of environmental programs/campaigns would you like to see here?

Environmental education for children and adults.

How do you think the park can help conserve the natural resources of Xcalak?

Areas designated for tourism only and fish reproduction will be conserved.

In the next few years there will be more development here, more tourism. Describe the ideal Xcalak in 5 yrs.?

The same. Not too developed. I want a low impact development, nothing like that of northern Quintana Roo.

Can you compare it to another place?

No. Not like Cancun. not like Puerto Morelos. not like San Pedro. Less.

What do you think the people of Xcalak need to benefit from development and tourism here?

Capacity building in order to provide adequate tourist services.

Does not have land in Xcalak. When he does (trying to buy some in his wife's name) he might consider selling it if there is no work here.

How will the park affect you?

It won't. If it brings more tourism I'll work there. Expresses worry about being excluded from the park if Bahia Blanca takes over. Would like to work as a park guard.

Which areas within the park boundaries are most important for tourism?

Snorkeling areas - Doña Nica, La Cordillera de Portias, El Jardin de Coral.

Why did you stop being a fishermen?

I started to earn more money working with tourists.

As the mayor, how are you involved in the park?

I represent the community.

Do you think there will be conflicts between the park and the government development plan?

It's probable. The state's plan is for a large development like Majahual. The people of Xcalak don't want that.

10) SEDUMA REPRESENTATIVE #1

How do you think AXC park will affect the Manatee Sanctuary? Will there be benefits, conflicts...?

I don't think there will be any conflicts. On the contrary, there will be benefits. A full protection of natural resources. We are working with the tourist co-op, "Bahia Blanca" to regulate all activities within the sanctuary. This is a good step that they are taking and it will continue in the park.

Bahia Blanca want exclusive rights to tourism activities, is this possible within the sanctuary?

Offering exclusive rights is not our role. What we want to work with all ecotourism operations. SEMARNAT is the authority over the "federal zone" and all activities that go on there. We can't give one operator a concession. Our goal is to find out who is working in the area and what activities they are realizing.

What affects the park affects the bay, so do you plan on working more closely with the park management in the future?

As of yet we have not met to discuss how the management of these areas affect one another. SEMARNAT is considering joining Banco Chinchorro and AXC with the Sanctuary.

Why do you think the people of Xcalak want the ANP?

The people have noticed that the resources are diminishing (lobster, conch, reef fish). NGOs began to work in the community and teach them that if they don't do something soon in 20-30 years there will be nothing left. The government now works with communities to protect natural resources and allow them to continue their daily livelihood (under certain controls) at the same time. Management plans now take these activities into account.

What is SEDUMA's role in Xcalak?

Not sure. Part of the "committee" (doesn't know which) which is looking at the legislation in the area.

As the director of a sanctuary, do you think it possible for local people to be involved in the management of a protected area?

Clearly, they can form a consultative council with representatives from the industrial sector, the social sector, the 3 levels of government and the NGO's.

What do think necessary for a park such as AXC to be a success?

First of all you must know what is going on within the area and have a good relationship with the people that live in the area. But you can't do anything with good intentions, you need resources.

Do you think the state's development plans will present a conflict with plans to preserve the park area?

No, the management plans don't allow conflict. They must be respected.

Are you familiar with the OET?

I know what it is but I don't have anything to do with that.

1 1) SEDUMA REPRESENTATIVE #2

What is SEDUMA's role in AXC?

We will participate in the technical committee, we consult, and we help with all efforts in the area.

Why do you think the people of Xcalak want a park?

Pressure from ASK, they proposed the park and taught the community about the advantages of a protected area.

Do you think co-management is possible?

It is important for them to participate but it is not within their abilities to direct the park. They can't participate directly in the management. They need more skills to do this.

What do you think necessary of for the park to be a success?

Effective administration of the management plan and participation of the local community.

Conflict with tourism development?

No development plans should comply with the OET and park management plan.

It is in the government's interest to protect.

Conflict between OET and management. plan?

There shouldn't be. They should complement each other. OET doesn't define activities within an area, it only defines the area.

1 2) SEDETUR REPRESENTATIVE

What is the role of SEDETUR here in Quintana Roo and specifically in the zona sur?

Quintana Roo is divided into tourism zones: north= Cancun, Isla Mujeres, Holbox, Cozumel; South- plan is to promote "alternative tourism" very different from the "sun and sand" tourism of the north. We are looking to take advantage of our natural resources in Southern Quintana Roo in a sustainable manner with participation from the communities. The northern zone is a very

different concept. We're not just talking about the beach down here, we're talking about forested areas, archeological zones, adventure zones for repelling, kayaking... It will be different from conventional tourism. We are trying to attract a different type of tourist. We are also trying to incorporate the Mayan zone in cultural activities. We want to utilize the interesting history of this area as a tourist attraction "cradle of the mestizos".

Are you in agreement with the formation of AXC?

Yes, SEDETUR is in agreement with all protected natural areas in the state of Quintana Roo. We are currently working with these areas because they have management plans which allow us to implement tourism activities. AXC has a diversity of corals and sponges. The management implements regulations for tourists. Ex. for divers, what they can do on the reef, for flyfishers, what they can catch, and catch and release methods. The communities benefit from tourism during periods when fisheries are closed. You have to provide them with alternatives. SEDETUR will comply with the management plans. SEDETUR was never in disagreement with AXC, but there were different understandings of what the park was.

What is SEDETUR's vision for the zona sur and how does Xcalak enter in these plans?

Will be very different than the north. Xcalak- ecotourism, tours of marine flora and fauna, snorkeling/ diving tours, sport-fishing, bird-watching. We have projects which will improve the quality of life for the locals: Bird watching/observation towers, courses in tourism, workshops with ASK for the cooperatives. We also help with promotion so that people know what is there in the area.

Do you help ASK?

No, but we are in contact with them.

What are the benefits of this ANP?

The community benefits. The Federal Secretary Of Tourism has an environmental policy of implementing ecotourism to help the communities, to improve their quality of life.

Do you think that AXC could come into conflict with the plans for development of tourism?

No. Because we have worked with those involved in the park and those who live in Xcalak. Our activities will agree with the management plan for the area.

How can SEDETUR help with the effort to protect natural resources in Xcalak?

By implementing alternative tourism. We cannot participate until the park director is designated and forms a technical committee. We are about to offer a fly-fishing course in Xcalak for the community.

How can SEDETUR ensure that new development projects in the zona sur will agree with the OET and the management plan?

Our role is promotion of tourism. SEMARNAP manages development. We are promoters not regulators. We are looking for investors to invest in the zona sur. Fidecaribe sells the land for tourism development

1 3) FIDECARIBE REPRESENTATIVE

What is Fidecaribe's role?

We are dedicated to the commercialization of tourism and are a trust of the state government. In the southern zone our goal is to commercialize lands to aid tourism. By accident when the patrimonial lands of Fidecaribe were decreed, Xcalak was left out. Fidecaribe is not involved in the sale of land in Xcalak , private property owners will manage their own land. In Majahual the government owns the land and the government sells it thru Fidecaribe. Fidecaribe is a federal commission, a separate entity which owns and sells the land. The federal government gave an area of land to the state, the state gave it to Fidecaribe. Private, titled properties are excluded from this area.

If a foreigner arrives to your office here and says "I want land in Xcalak" How could they get it?

If land is not titled it is national land. The foreigner would have to buy the land from a Mexican who in turn purchased the land from the government.

What is Fidecaribe's vision for the southern zone of Quintana Roo?

We would like a sustainable development of low impact tourism. We don't want a new Cancun. The OET stipulates what type of development can occur.

Are you familiar with the declaration of AXC?

Yes.

Do you think that this park presents a conflict for tourism development?

It depends on how they manage it.

What if the management plan says that there can be no development in the coastal lagoon and mangroves cannot be cut?

Yes that would affect development.

Do you see any benefits of the park apart from ecological benefits?

There can be a benefit if there is an opportunity to take advantage of the area. They shouldn't put restrictions that prohibit development. Very strict management plans hinder development

What types of regulations do you not want to see in Xcalak?

Prohibition of diving in the area.

What are the benefits of tourism development?

Generation of employment for the zone. There are no jobs in the southern zone right now. There is no economic activity.

Do you think the people of Xcalak will benefit?

Yes, if there is capacity building.

Is Fidecaribe helping to patronize capacitation effort?

Right now, no. They have participated in courses in the past with UQROO and URI in ecotourism workshops.

How can Fidecaribe help to ensure that all new developments in the southern zone comply with the OET and management plan?

Vigilance of the OET is not Fidecaribe's job.

When someone is going to buy land from Fidecaribe do they have to present their development plans/ project?

Yes. Fidecaribe doesn't sell land so that the buyer can sell it again. There has to be a promise that they will develop the land.

When you see development plans no one here check to see if they are in agreement with the OET?

Other authorities do that like SEDUMA, and the municipality.

Do you (as a representative of Fidecaribe) support the establishment of AXC?

No comment.

14) SEMARNAT REPRESENTATIVE

What is SEMARNAT's role with regards to AXC (apart from the declaration of the area)?

There is a National Commission of protected natural areas in SEMARNAT that makes all decisions. We facilitate processes, do research, and management. When they need us we're there. All regulations are made in D.F (Mexico City). We do environmental impact assessments.

Who deals with questions of enforcement and programs?

The director of the protected area. We do environmental impact studies in coordination with the director for any projects that will take place in the area.

If Tomas Camarena (director of Chinchorro Banks Biosphere Reserve) is designated director of AXC, will that be permanent? Will AXC ever have its own director?

AXC is a distinct area and should therefore have its own director eventually. It will have a technical committee and a development plan. Happened in 1.5 yrs. on Chinchorro.

Why do you think the people of Xcalak want the park?

The area has a greater chance of success because of the local support. I have not seen this before in Mexico. They want the park because they are people who depend on their natural resources. They understand that abuse to the reefs will directly affect them. They understand that development occurs very rapidly in this state (ex. Play del Carmen is growing by 16% annually). Quintana Roo is special because we work and fight with problems that prevent success. They are many poor states with poor resources in this country. Quintana Roo doesn't have this problem; it has success in all its projects (tourism). I suppose that the people of Xcalak realize that growth is related to the maintenance of their way of life as a fishing village. They also see the park as an opportunity to attract tourists.

What is SEMARNAT's vision for the future of Xcalak?

An area with a management plan that is working, a co-management of the area, that the people are satisfied with their decision to create the park, a protected area that provides benefits for the local people, improves their quality of life and creates economic possibilities for the people. Hopefully when the tourism explosion comes within 10 yrs. the people will have skills: English, know how to work with tourists.

Co-management possible? How?

In the technical council, SEMARNAT acts as a facilitator for problems with the community. The government will respect their proposal for zoning; they know the area better than anyone.

Do you think development plans and management plans will come into conflict with each other?

Yes and no. It all depends on how everything is approached. If the planning of the tourism project tries to pass over the management plan, yes. But this is a great opportunity for environmental investigation between promoters of tourism as well as the people. The ANP can be a point of opportunity for integration between the different sectors. Problems will arise if locals are excluded from the benefits.

Funding?

Federal law establishes charges for uses of protected areas. The park is obligated to cover for each individual that enters the park (about \$6.50/ per person). Not being covered in areas such as Cozumel. Before this money went through a trust (tour operators paid a per tourist fee to directly to the bank), it went directly to the protected area for enforcement, monitoring, boats, equipment, and environmental education.... Now, this money is going to D.F. and a very small percentage gets back to the park.

Exclusive rights for cooperatives in Xcalak?

Yes as long as more than one co-op is involved. One co-op would be a monopoly, which is against federal law. The guides need to improve the quality of their service (boats, etc...).

NGOs**15) AMIGOS DE SIAN KA'AN REPRESENTATIVE #1***What is ASK's role in Xcalak?*

Advisor/ consultant. In 1995, the community contacted Juan Bezaury, then the director of ASK, to ask for assistance in their effort to create a protected area. The initiative was lead by the town delegado as well as the president of the fishing co-op. The fishing co-op had sent a letter to the governor of the state asking for the protected area which would develop ecotourism as an alternative to fishing. ASK was also interested in becoming involved. They had started working with coastal communities at that time (Punta Allen) and wanted to continue in the southern zone. USAID was interested in this project and wanted to do it with ASK and an American institution. URI was chosen to participate. The goal was to involve the local community in making decisions about how to manage their natural resources. The community wanted the protected area because they saw what Hol Chen did for San Pedro.

Wusinich

Why have you had problems involving more of the community in this project?

Initially when we began this project we identified a group of people, made of different leaders within the community, and began to work with them. Many people in Xcalak do not want to invite the federal government into their community because they feel that the government has forgotten them in the past: electricity, quality of schools, potable water, medical services... They have also been talking about growing tourism in Xcalak since the 80s and they haven't seen anything. We have worked to gain the community's confidence. They asked for English courses, 3-4 months later we hired an English teacher to work in Xcalak. Like this we've earned their confidence bit by bit. We've sponsored 8 RARE students from Xcalak. ASK has also had internal problems and several changes in staffing that may have impacted the momentum of the project in Xcalak.

What are ASK's goals for Xcalak for the next year?

Finish the management plan, have the community managing their own protected area, managing AXC.

Is this possible?

I think so. The LEEGPA allows management concessions to be given to a community, a civil association or an NGO. I would like to propose a co-mgmt. mechanism where the community has a voice and a vote in all decisions. In order to do this we realize that they need capacity building and more skills. That is why we are realizing workshops like coral reef monitoring. For me there are 2 components of monitoring: where the community participates and they see how tourism affects the reef, and the participation of the academic community.

Do you think the new director will permit this co-management?

I think so. This is what we have on the table right now. The local community is definitely requesting this. This is a very important component of integrated coastal resource management. My fear is what will happen if the government doesn't respond to the community immediately. I'm not saying that all of the people in Xcalak want the park and to be actively involved in the park management, that would be a utopia. But at least 30-50% support the effort.

In your opinion, what would the ideal Xcalak as a tourism destination/ model of coastal resource conservation be like? What is your vision for Xcalak?

To have a low impact development. For the reef structure remains intact. For the local community to be the major beneficiary of development in the area. That the community is organized and no resorts come as the large fish and eat the small fish. We have a great opportunity here to practice integrated management. The head of the municipal office of urban development and ecology, Vidal Russi, has plans to realize a low impact development in Xcalak. We should worry about areas like Majahual where the development will be much more intense. I would like to see Xcalak like Caye Caulker with small hotels. Not like San Pedro, which has many problems. Dirt streets, wooden houses, Mexican/Caribbean style. Ecotourism activities. We want development, just a different kind than Mexico has done in the past. I see three lines of work to be done in Xcalak in the next several years: 1) finish the management plan with the highest level of agreement and local participation possible, 2) apply the management plan and

work with the fishermen about fishing issues, incorporate the fishermen in the process. 3) refine tourism products to promote Xcalak, marketing, to work with the fishing and tourism cooperatives, and help them manage their finances.

Why do you want to help the fishing co-op?

Xcalak must continue fishing at the same time that they develop tourism. I would like the fishing co-op to continue. Food provided for tourists should be caught locally. Would like to be involved in similar efforts in other Central American countries.

What is needed to motivate the community of Xcalak once again, to have the committee involved and working again?

No one from the community was invited to the announcement of the declaration of AXC on June 5th in Cozumel. The decree wasn't official until November. There have been 4 or 5 meetings to discuss the management plan and many people participated. How to reinvolve them more: meeting with the federal and state governments and the fishermen where everything is announced. We need to show them results.

16) AMIGOS DE SIAN KA'AN REPRESENTATIVE #2

Why did ASK get involved in Xcalak?

In 1995 the community decided that they wanted to establish a protected area. They wanted a multiple use area. The park was their idea before they contacted ASK.

What are the goals of ASK's MIRC program?

To achieve the integration of all involved sectors in the management of the areas natural resources in order to realize a sustainable development. To make interactions between communities, investors and the different levels of government.

What exactly is ASK's role in Xcalak?

Advisor/ consultant in natural resource management since 1996.

In your opinion, what are the benefits of the park?

It's an interesting case because normally it's the politicians and scientists who decide to create a protected area. In Xcalak it was the local community that solicited this protection. This is rare. The advantages of the park: allows resources to be managed, and to be used rationally.

Why do you think the community wants the park?

I think that Xcalak is a well rooted community. They think of it as their own and have strong customs. They don't want to be displaced by tourism and development like communities in the north. They want to benefit from development too.

Co-management possible? How?

We are trying to build capacity so that they can participate. Courses in administration, naturalist guide courses, English, birds, reefs, fly-fishing. They know that they need to improve their skills in order to participate in the management.

The idea of forming an advisory council has surfaced during my focus groups in Xcalak, different from CCX, represented by different sectors of the community that would serve as a link between the community and the director and to give them a voice and a vote in all that passes in the park. Do you think it possible that the government would accept this?

We are looking for the mechanism for the community to have this voice and vote in decision-making processes. The government is aware that all of this was a community proposal. If the community is organized they can achieve this role of decision-maker.

Vision of ASK within 5 years for Xcalak?

The idea has always been that Xcalak is similar to San Pedro, which was also a fishing community. Now 90-95% of the people now dedicate themselves to tourism activities. Xcalak wants the same. With a group of landscape architecture students from SUNY- Syracuse, the community developed an urban development plan. In this plan the community remains rustic yet attractive to tourists. ASK is not against the development in tourism in Xcalak. We want a low impact tourism that provided benefits to the local community while protecting natural resources at the same time.

Do you think that the park may present a conflict with the state's development plans?

Our goal is to allow for development and conservation at the same time and to avoid such conflict.

What are ASK's long-term plans for Xcalak? Will you remain involved in some manner?

As the community begins to take over leadership of the management, ASK will pull out and work with other communities such as Majahual and Punta Herrero.

What is ASK doing in Xcalak right now?

We are working to help in the process of forming the management plan, and trying to build the capacity of the tourism co-op as much as possible. We are about to begin to work with the fishing co-op to try and strengthen them (Andres Quintana Roo was the 1st co-op in the area yet they are the weakest and poorest. We don't know why they have not been able to succeed. We want to help them with administrative and organizational matters.) We also want to help in negotiation matters between the government and the community.

What type of relationship does ASK have with UQROO because both are working on the same project with URI?

We are working on the same project in different communities. They are working with communities around the Chetumal Bay while we are working with communities on the Caribbean coast.

What types of regulations would you like to see enforced immediately in the park?

To stop fishing in the designated tourism zones. There are still people who fish in these areas. We need an enforcement process. Also, there are conflicts between the hotel owners and the fishermen who put up traps and nets near their hotels. We should resolve these problems as soon as possible.

What in your opinion are the most pressing environmental problems in Xcalak?

Solid waste management- there is no dump, people throw garbage in the mangroves. Fecal contamination of the water table. Contamination of water with oils and gasoline.

Overfishing as well?

Yes. It's a problem.

17) AMIGOS DEL MANATI REPRESENTATIVE

How has the NGO Amigos del Manati been involved in Xcalak?

We are not directly involved in the protected area issue. We have participated in the management plan document.

What is the mission and the goals of AM?

To protect the manatees in the Bay of Chetumal and the conservation of biodiversity in the southern zone of Quintana Roo, specifically in the Manatee Sanctuary and its areas of impact. The peninsula of Xcalak forms part of the sanctuary, the ecological processes of the peninsula, the Caribbean side and the Bay are related. This is why we are interested in what happens in Xcalak.

Are you directly involved in the management of the Manatee Sanctuary?

We form part of an advisory council that works directly with the director in different work groups.

Is there enforcement of sanctuary regulations?

There was just an agreement between PROFEPA and the Secretaria Marina and they will enforce together. As of now there are no sanctuary guards.

What about dealing with traps and nets?

They are starting to press charges against people who set traps for small terrestrial mammals. The management plan looks beautiful on paper. This year they just started implementing some provisions of the plan.

Do you think that the implementation of the park in Xcalak could affect your efforts in the Bay?

It will serve as a compliment to the sanctuary.

Why do you think the people of Xcalak wanted this park? Why would they want to limit their utilization of natural resources?

They noticed that their fishing resources were decreasing in size and that people from outside the community were coming in with spearguns and nets and using up their resources. They saw the need to regulate these resources and a protected area was the most practical way to do that and allow tourism development at the same time. There are some people in Xcalak that support conservation and others who wish to see large-scale development. She did her own ordinance for the Xcalak area. ASK arrived in 95/96 and were not interested in using her study. They did all of their own and only worked with the part of the community that was in favor of conservation. ASK presented the idea that they need a protected area for various reasons.

What do you think is the best option for Xcalak?

I agree with the park. The best option is to have a protected area in which the community is involved in the management. They shouldn't bring in a director from outside, but give them the skills to manage the area.

Do you think that the government would ever allow this?

Originally the state government claimed that the park could not happen because it was contrary to the government's interests. The community was shocked. ASK told the community to wait until there were changes in the government.

Why did they eventually accept it?

Changes in the government.

How is it that SEDUMA is against the park when they are the state environmental authority?

People like Cedrela Medina (director of ecology for SEDUMA) have tried to stop efforts like the one in Xcalak statewide. The director of the sanctuary is under Cedrela Medina and she prevents him from doing many things, there is no other explanation for why the sanctuary is being implemented so slowly when supposedly all of the involved sectors have participated in extensive working group discussions are in agreement. They write constant letters to SEDUMA and decisions and actions are constantly put off. So should we as an ONG continue to play this game or should we get to work with the local communities.

Why is it that the state secretary of the environment is more interested in development than in the protection of the natural environment?

I think that they have personal economic interests. SEDUMA is the authority of EISs more so than the municipal authorities. They have the last word regarding what development projects will be permitted and which won't. They permit the construction of large hotels in areas which have supposedly been set aside for conservation purposes. They allowed the Explorea hotel to fill in mangroves. Accuses SEDUMA of slowing the OET process down so that the hotel would be constructed before the OET was implemented.

What do you think necessary for the park in Xcalak to be a success?

The community won't be able to do it alone. A union of all involved interests is necessary.

How would AM like to be involved?

Environmental education as well as technical assistance. Many members of AM that have different specialties (scientific investigation, community development...) that can help out. We could also create a network of the communities and NGOs in the state. One NGO can't do it alone. 15-20 NGOs are already involved in the "Social Net of Chetumal".

Conflicts between preservation efforts (OET, AXC) and tourism development plans?

Yes. There is a problem right now with the dredging of the Zaragosa Canal. This is going to impact the Poza and the fly-fishing areas behind the peninsula and is not bringing any benefits to the people of Xcalak. This type of conflict is going to multiply when tourism development

begins. People from outside are going to come to find work in Xcalak with all of their social problems. They will impact the natural resources as well.

Between the OET and the park management plan?

I don't think so. When they did the OET there was already a rough draft of the AXC management plan. All of the zones were already designated. The OET respected these zones. There is no counter-proposal.

APPENDIX C – FOCUS GROUP TRANSCRIPTS

FOCUS GROUP #1 – LOCAL TOUR GUIDES

Pros and cons of the park? Benefits, if any?

Guide #1 - we haven't seen results yet because there is no tourism yet. But eventually when tourism increases we'll have something to show people if we take care of the reefs. The reefs here are very far from the coast so it is easier to take care of them. 50% of fishermen, who are trying to be guides, will benefit from the park.

Guide #2 – I think that the park will benefit the town. I have been working for 7 months in a diveshop now. Tourism is a good option for the people of Xcalak. This will help the fishermen who are trying to become guides and the stores and restaurants in town. *So you think the park will bring more tourism?* I think so. And there are some cons of increasing tourism: more drugs, banditry. We hope that the government helps to provide more security for the town.

Guide #3 – The park will be a fountain of jobs for everyone in town. Fishing is coming to an end. Now we have tourism and we have to take advantage of that because if we don't we won't do anything.

How do you all think that the community can participate in the management of the park?

Guide #4- we need to strengthen the committee (CCX). It has lost its strength. I think we need to reorganize the tourism sector, the fishing sector, the population, investors, research centers, associations (organizations). We want them to take the community into consideration when making management decisions. We want to participate. Tourism is an alternative to fishing. But, we have to organized, especially to fight for the territory. What we saw in the working groups with the government is that the investors are always against us. They want development. We want conservation. Xcalak is still in its natural state. To be able to conserve this for 20-30 years more we must have a conservative spirit. If there was a large-scale tourism our reefs, corals and sponges would be finished off. We have seen in the northern part of the state near Cancun the effects. There is no coral. The oils finished off the marine resources. We can prevent this. This is why we are interested in the park. We need to study, to train. One thing is to be familiar with the area, it is another to study it. I think that if we train we will grow. Before, the town was very closed, possibly because of the ways of communication, lack of a highway. But now we have a much more rapid method of access. We need to organize ourselves.

Are you hoping that if the CCX reorganizes it can serve as a council to the director of the park?

Guide #4 - This is a thought that must be unified between everyone. We want to have power, voice and vote. We know that this is a federal park and that it will not be managed by the town population nor by a director from town. It has to be someone from outside. But there are technical councils. The committee should have a say in the management. The investor population is growing. We will be a small percentage of the total population soon. If this happens the community will not have a voice.

What would be some good regulations for the park in your opinions?

Guide #1 - In the past fishing nets were normal; but now we see that they are harmful. Not everyone right now can support their families by tourism. Bit by bit we can stop using the nets but to stop tomorrow is impossible. Once tourism is more common here we can regulate everything but we have to wait for this to happen before we can make people discontinue the use of nets and traps.

Guide #5 - But we can't just stop some people from doing it and not others. What will people who survive from the nets live on? How will they live? You all come and say, you can't fish now. Until tourism comes no one will be able to live without fishing especially those who know nothing but fishing.

Guide #4 - We must take into account that development brings many benefits. Fishermen are now changing their way of thinking because there are many alternatives. When speaking of fishing restrictions for the park we are only talking about nets, traps and diving. Between snorkeling, fly-fishing, sport-fishing, diving and bird-watching there are many alternatives. We need to look for these alternatives and the functions that we can perform. Investors will come that will need these things done. Every day the fishing traps are more and more costly. If we know the use of nets and traps is damaging we should not allow their use to threaten tourism. Why would a tourist come here if you are killing the fish they want to see? If we want to develop tourism here we need to get rid of these activities. We will still be able to fish in the park. There are areas for fishing and others for tourism. We need to regulate where nets and traps can be used.

Why do you think that the people of Xcalak want a park?

Guide #2 - We wanted to form a committee to make sure that if a protected area was formed that part would be for tourism and part for fishing. We wanted to avoid what happened in places like Hol Box where the government comes in and makes all of the rules.

Guide #4- This effort was born in the fishing cooperative. The co-op was noticing that the fishermen were having an impact on the marine species. Production within the co-op decreased. Adolfo was the delegado and he sent a letter to INE asking for a protected area. We wanted to control the area. We were looking for a way to preserve the coast. We have to keep fighting for the site that we want even though there is conflict with the government. It is very important to protect Laguna Huache as a nucleus zone. Investors only come to break regulations. The area is not important to them, they just exploit it. When the area is finished off they sell out and they leave and the population suffers. We want to prevent this from happening here, that is why we

wanted the park. If Laguna Huache is a nucleus zone only local people with groups of tourists, and study groups will be able to enter and be able to provide services there, none of the investors nor anyone else.

Guide #1- I don't understand how the tourism co-op will work. 15 days ago I went to a meeting of investors in Chetumal. They have joined in groups with Mexicans who have equipment and will provide services. Can there be other associations different than the cooperative that can work in the area?

Guide #4 – If we had had the money Xcalak would have been developed many years ago. The power of money does many things, it buys authorities. We need to fight as a population right now. This community did not begin to organize itself until the government expressed interest in developing the area. These investors who want to come in now should have invested in Xcalak long ago. Investors invite other investors they don't involve us in their meetings. All that they are doing is hidden behind a desk. ASK has helped this town. I don't think that the investors should be involved in the management because they will hire other people and push us to the side, we don't have the skills yet. They are looking for manpower.

Environmental problems in Xcalak?

Garbage – from boats that dump oil in the sea (sailboats)

Guide #5- it takes a hurricane for people to get together and clean up around here, no hurricane no cleaning in Xcalak

The streets are dirty, many people have land that don't live here and they are forgotten, not maintained, overgrown...

Septic tanks

Guide #4- the community is growing, we need closed septic tanks, all of the wells here are contaminated. The water is also a problem for the community and the tourism.

Solutions?

The port captain has to deal with waste from boats.

The AXC management plan will protect the park.

There are also "marine dumps" in the ocean where large amounts of plastics are dumped. The government has to deal with this. I think it is strange how investors talk about ecotourism on such dirty beaches. The entire Caribbean is a dump.

This will stop when Xcalak is developed and the hotels have workers that will clean the beaches everyday. It is impossible to stop it from coming in.

We need an international agreement in this case between governments.

Ideal Xcalak of the future?

Guide #5 - An clean, ecological town that attracts tourists and where there is work for everyone. We don't want a Cancun here nor a San Pedro. Something smaller and more tranquil. Low impact tourism: no big hotels, only small cabañas, vigilance in the streets, police. Where everyone can work.

Guide #4- I want to see ecotourism. A development that has contact with nature. The north is sun and sand tourism. We want to conserve our mangroves and lagoons. They are important parts. If we don't keep these places we have nothing for tourism. We can't rely on the Poza only we need to displace tourism and develop other activities. The Poza has a carrying capacity.

What do you need to ensure that it is the people of Xcalak that benefit from development?

Guide #4 - Unity. If we unite as guides we will be able to compete with foreign investors who will build their own diveshops. If we don't unite people from outside will come and displace us. We need to organize and come to some agreement to be able to compete.

Guide #2 – more skills and training. English classes, we have taken bird-watching and fly-fishing courses, making flies for fly-fishing, dive courses

For those of you that own land in Xcalak, if one day an investor offers to buy your land will you sell?

Guide #2 - depends on the offer.

Guide #4 – half of Xcalak is already sold. If we want to stay in the development and we want to compete we can't sell our land. I would rent but not sell mine. San Pedro is owned by the gringos.

Guide #1 – no

Guide #6 - no

How will this park affect you as guides?

We need to make it clear that no one owns this park.

Closing the Poza will not hurt anyone.

The park will help me, we will have a place to fish and a place to bring tourists. The park will bring tourists, investors and work for us.

Where are the most important tourist spots (from Playa Escondida to Bacalar Chico)?

Snorkeling – Playa Escondida (above Rio Huache)

The cenotes in the jungle.

The historical sites – cannons.

The bird island and the road that runs north of town for bird watching.

What places would you like to see closed to fishing?

The Chimney. The Poceta. Poza Rica. Doña Nica.

Why did you all decide to leave fishing and become tour guides?

Money. You earn more, the work is easier and you have an opportunity to develop an alternative for yourself. Fishing is only fishing. With tourism you have a chance to learn, study, meet people.

When there are other opportunities in Xcalak will you still want to work as guides?

Maybe I'll put up a small store. When I'm old I won't be able to be a guide forever. You can get sick of guiding too. You need other alternatives.

FOCUS GROUP #2 – FISHERMEN*Pros and cons?*

Benefits for tourists.

Right now there is no tourism so the benefits are few and they are just taking our fishing areas away from us. They took away the Poza, and other reef areas. There are lobsters in these places. Benefits- will bring tourists but no benefits besides this.

Are you in agreement with Doña Nica and La Poza being no fishing areas?

Say that the Poza isn't very important for fishing but that Doña Nica is. There are many lobster there.

Where are the most important fishing areas in Xcalak?

Everywhere is important. (but in agreement with the Poza being closed). The Poza is famous, people will come to see it.

How can you participate in the management of the park?

We should participate in making the management plan. We are not prepared to participate.

What should the government's role be?

To work with the committee.

What types of regulations would you like to / not like to see?

I want them to prohibit the use of nets in the Poza. Outside is o.k..

Traps aren't harmful.

Tourists should also respect the limits of the park and not go in our area.

If something is prohibited in the park it has to be illegal for everyone. People shouldn't receive special treatment. (One man in Manatee Sanctuary has permission to fish).

Why do the people of Xcalak want a park?

To control the area before outside investors can come in. When there is more tourism it is the town that will benefit. No good when people come in and bring their own employees, guides and equipment and don't use anyone from here. The hotel owners here bring people here and take them out on tours and give no business to the town.

Do you support the park?

Yes - will bring more work in the future. Bit by bit the fish are disappearing.

Yes - but only if it is managed by the community.

Yes - it will benefit us.

Yes – I want to work with tourists. We have to take care of the reef or there will be no tourism.

Yes – but only parts, not all.

Environmental problems in Xcalak?

Garbage – we need to put up garbage cans. This is not good for tourism.

Abandoned lands are treated as dumps and weeds aren't maintained.

The owners of these lands aren't here and they don't maintain their property.

Overfishing – as of now not a problem, but the poachers that come from Chetumal don't pay attention to fishing regulations (closed seasons, fish juveniles and females with eggs).

Cooperative has rules – conch has to weigh 250g, lobster has have tail that is 3.5 -14cm long

The poachers don't respect these rules.

What campaigns/ programs would you like?

To clean the beach, government assistance for cleaning up the garbage.

Ideal Xcalak in 5 years?

Like San Pedro – but there are many problems there, it's ruined.

Tourism is beneficial but also negative. Brings many people that don't respect the community.

Would like to see areas where people can bathe.

What do you think the people of Xcalak need to get ready for tourism?

Training so we can attend the tourists well.

Classes in English, fly-fishing, diving

Money to buy boats suitable for tourists.

Do you want to work with tourists? What do you need to do this?

Yes. Want to make my boat better.

Boats have to be well equipped for tourists.

All answered positively.

English.

Equipment.

How will the park affect your life?

It won't as long as it is managed by the community.

Most important fisher species?

Conch, lobster, red snapper, Nassau grouper, snapper, barracuda, and yellow-tail snapper.

More \$\$\$ from – Nassau grouper, snapper, red snapper, Black grouper and Jewfish (very few, but not prohibited here, 25 years ago you could catch 8 to 10 large ones, 120-130kg, per day).

Have you seen the fish species decrease in number?

There used to be much more lobster and conch here.

Have there always been closed seasons for conch?

More than 15 years.

Do you support that?

Yes because they are disappearing. It's the poachers that wipe out the conch not the co-op. They sell it in Honduras.

Do you think that now that Chinchorro has a director that will help control the poaching?

They always say they will stop it but never do anything. There is no enforcement. They say they have no resources but who knows if that is true. There are only 4 guards (2 boats) for all of Chinchorro. Once stopped Yayo from walking on Cayo Lobos.

FOCUS GROUP #3 – LOCAL BUSINESS OWNERS

Pros and cons of the marine park?

Owner#1 – Xcalak was a very different place before Hurricane Janet. The coconut palms grew like grass. The soil was destroyed after the hurricane. If it weren't for this we would still be living from coconut production. Fishing was the quickest option but it has never done anything to improve the community. Now we have tourism, it's the only thing we can do here. Now that they have tried to put in a new highway and develop this place SEMARNAT and other groups come in and I have no idea what's going on. These people don't know what a reserve is. The reserve is good but it will harm the population because we need to live from tourism. If we don't help development along Xcalak will die. We have to make the park so it doesn't harm the community. You can make a reserve but it doesn't have to be so big. Don't put it in front of town, put it up near Rio Huache and Punta Herradura where no one lives. Investors who come and try to put up piers and do other things and then have many problems because of the park will leave. The people never thought about what this park will bring.

Owner#2- It brings benefits and harms. It will bring many people and all of their problems. Gray water, people will affect the reef, difficult to control many people, the park will bring many people. The park will also bring jobs.

Owner#3 – Will bring more benefits than harm. If we take care of it and observe it, it will bring benefits.

How do you think the people of Xcalak can participate in the management, what will your role be?

Owner#3 - The people who want to be involved in the management have to prepare themselves. They have to take courses so that they can explain to people how they should treat the reef.

Owner#2 – I would prefer that the park be 100% managed by the people of Xcalak, but I know how Mexico is. Because of its constitution we can't. The only role we can play is to inform those who come what you can and can't do in the park.

Would you participate on an advisory council?

Yes. If that is possible, yes. The town has to participate. The director and the community have to agree.

What types of regulations do you want/ not want to see?

Don't want - prohibitions on motors, prohibitions on dredging, prohibitions on traps

Owner#2- now we can't live without the traps but someday when there is more tourism there will be other options and maybe we will be o.k. without traps, we can live off of the tourism. We will change our behavior as effect are discovered.

How did you participate in the process to establish the park (if at all) and why?

Owner#4 – I wasn't invited to the meetings, they weren't very organized.

Owner#1 – I went to the meetings from the beginning. Wants the park in a different place. We don't want millionaire tourists just ones who pay. Not those who come with their backpacks and buy their bread and eat it on the beach. We need tourists to eat in the restaurants, drink in the bars and stay in the hotels.

Owner#2 – we want an appropriate town with electricity, where you can bathe, stores with cold drinks because there if electricity 24 hrs. a day, where you can stay in a hotel and have a fan on all night long. I went to the meetings and gave my opinion. I don't know if they took them into account.

Owner#5 – I don't even know when they made this park.

Owner#3 – I went to several meetings when they invited everyone. There was opportunity to participate in the committee but I didn't go.

Owner#6 – not at all. I'm not going to leave my business to get involved in this.

Owner#7 – There was opportunity to participate. I went to 2 or 3 meetings.

Why do you think the people of Xcalak wanted a park?

Adolfo started all of this. He was friends with ASK and when he was delegado he started all of this. Now he is working with tourism. The people don't know what a park is because they have never seen one. They should ask the people in Sian Ka'an how they are living. Now they can only dredge 100 meters because Xcalak is a reserve. See the problems this causes? There are going to be problems.

Do you want the park here?

Owner#2-Yes

Owner #3- Yes

Owner#1 - Not here in front of town

Owner#4 – As long as it does not harm the town

Owner#5 – I don't know. As long as it does not harm the town.

Owner#7 – Yes

Owner#6 – no comment

Environmental problems of Xcalak?

There are no big problems here. They are minimal.

Garbage is not a problem right now. There will be a problem when the population grows because there is nowhere to put it.

The people here are lazy. They aren't conscious of the problems. They walk by garbage on the streets and don't pick it up.

I don't believe that garbage thrown in the woods causes problems. Plastic is biodegradable in 6 months. It looks ugly but it doesn't affect the environment.

The garbage is embarrassing.

Solutions?

A garbage truck, trash cans.

The problem is not the truck it's that no one wants to pay for the service. They send their kids to throw it in the woods.

We need to work with the children because the mentality of the adults is horrible.

Do you think that overfishing is a problem?

No because there is none left. (Owner#3)

There are too many cooperatives working the same area – the decreasing fish populations are the government's fault.

Ideal Xcalak?

An Xcalak with tourists.

Something tranquil.

Small stores.

More or less like San Pedro, no bigger than that.

But San Pedro has problems too.

Xcalak was once better than San Pedro. Everyone had jobs. It was precious. I would like to see it like it was but with tourism.

What resources do the people of Xcalak need in order to benefit from the development that arrives?

Bathing areas in the ocean.

Jobs.

A clean beach. We have no beach. You can't swim unless you go out in a boat.

The people here will have a minimal benefit from the development because they don't work.

They don't want to prepare and take courses.

What do you need to be able to compete with businesses from outside?

I'm going to sell my business and live where it is peaceful.

Do you plan to keep your businesses when development comes?

Yes but you have to make it better and change with the needs that exist.

Do you plan to sell your land?

Owner#1 – Money talks. *later...* I couldn't leave.

Owner#7 - I will stay here until I die. Maybe I'll rent.

Owner#3 – No, I can't sell. Where will I go? I won't sell my land here.