

Prepared by the BRASS / El Pilar Program  
Mesoamerican Research Center,  
University of California Santa Barbara, 93106  
Office +1-805-893-8191, FAX +1-805-893-5677  
e-mail [ford@marc.ucsb.edu](mailto:ford@marc.ucsb.edu)

# Adaptive Management in the Maya Forest:

## *The Contiguous Parks at El Pilar*



MESOAMERICAN  
BIOLOGICAL  
CORRIDOR  
HELP FOR  
PROGRESS



*Copyright Exploring Solutions Past: The Maya Forest Alliance*  
©2002

*ADAPTIVE MANAGEMENT IN THE MAYA FOREST  
THE CONTIGUOUS PARKS AT EL PILAR*

*~Table of Contents~*

<i>Executive Summary .....</i>	<i>v</i>
<i>Under the Canopy .....</i>	<i>1</i>
<i>Towards Formal Protection .....</i>	<i>2</i>
<i>An Expanding Network .....</i>	<i>4</i>
<i>Parallel Paths in the Maya Forest:</i>	
<i>Connecting Communities to Conservation .....</i>	<i>7</i>
<i>Creating El Pilar .....</i>	<i>14</i>
<i>The El Pilar Experience and Tourism Potential .....</i>	<i>15</i>
<i>Investments at El Pilar .....</i>	<i>17</i>
<i>What Lies Ahead: Resilience with Challenges .....</i>	<i>19</i>
 <i>Acknowledgements .....</i>	 <i>22</i>
 <i>Appendix I: Draft El Pilar Management Plan .....</i>	 <i>23</i>
<i>Appendix II: CoCEP Members .....</i>	<i>40</i>
<i>Appendix III: Ten Years Asset Building of El Pilar .....</i>	<i>44</i>
<i>Appendix IV: Collaborative Team Organization .....</i>	<i>45</i>
<i>Appendix V: Timelines of El Pilar .....</i>	<i>46</i>
<i>Appendix VI: A History of the Reserve Development .....</i>	<i>47</i>
<i>Appendix VII: Acronyms .....</i>	<i>56</i>
<i>Appendix VIII: Statutory Instrument for El Pilar .....</i>	<i>57</i>
 <i>Bibliography .....</i>	 <i>58</i>



# *ADAPTIVE MANAGEMENT IN THE MAYA FOREST*

## *THE CONTIGUOUS PARKS AT EL PILAR*

**Prepared by the BRASS/El Pilar Program June 2002**

### *Executive Summary*

The world's population growth has taken on threatening proportions where conservation has become a major concern of local, national, regional as well as international agencies. The Maya forest, once home to the ancient Maya civilization, is now the focus of intense management scrutiny and pressures of growing local land use needs. Adapting to the changing conditions and managing with more flexible designs is a crucial requirement to meet both short-term and long-term development objectives. To accomplish both resource conservation and human development, innovative management planning with strategic and dynamic designs need to be encouraged. This is precisely what the El Pilar Program has been promoting.

Over the past ten years, the innovations of the El Pilar Program have constructed an interdisciplinary progressive strategy for the El Pilar Archaeological Reserve for Maya Flora and Fauna. The program has impacts in almost every ministry of government and has regular interaction with most. Initiated as a collaborative research project in archaeology and operating with permit with the Department of Archaeology, El Pilar was destined as a tourism destination. Its location at the border with the Petén of Guatemala brought in Foreign Affairs. Support from other ministries, such as Agriculture and Natural Resources, relate to the investigations into traditional forest gardening. And there are other links with the rural focus of community participation and capacity building: Rural, Human, and Economic Development, as well as Education and Civil Society. There are few areas that the program does not touch upon, and inclusion is the watchword.

The El Pilar Program acknowledges the honor and the opportunity to promote new and innovative management designs. Developed from experiences from many distinct fields and professions, with contributions of time, knowledge and funds, the results of the first decade of the El Pilar vision is heartening. Challenges in the development of the protected area have strengthened the process and obstacles have been adapted to with resilience and spirit. The success of the planning process has revealed new opportunities in tourism for rural communities, for tourism, and for regional relations. The growth and evolution of opportunities are central to the El Pilar philosophy, impacting the education in communities, reform local-level resource management, and inform conservation designs for the Maya Forest.

MesoAmerican Research Center, University of California, Santa Barbara CA 93106 Office +1-805-893-8191, FAX +1-805-893-5677 email: [ford@marc.ucsb.edu](mailto:ford@marc.ucsb.edu)

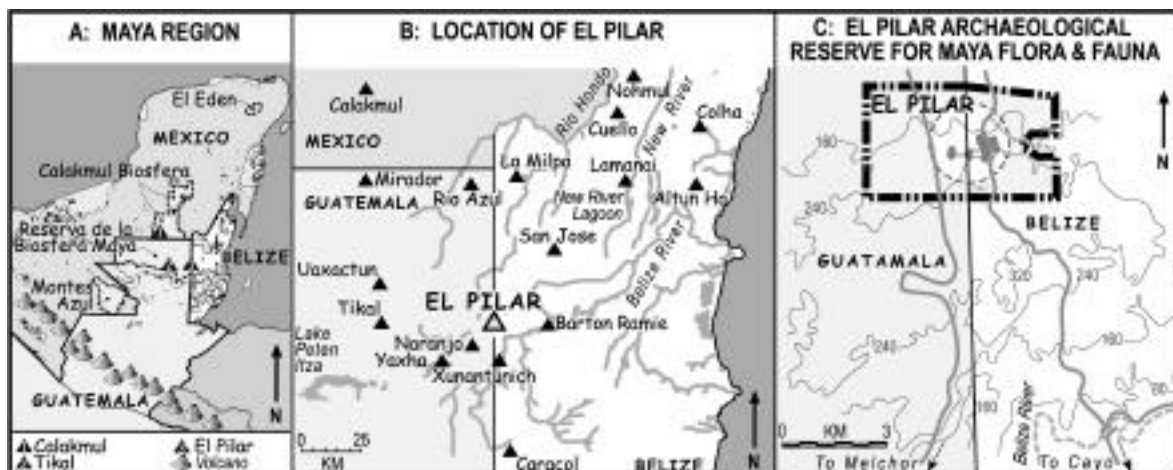
# ADAPTIVE MANAGEMENT IN THE MAYA FOREST

## THE CONTIGUOUS PARKS AT EL PILAR

### *Under the Canopy*

Beneath the lush canopy of the Maya forest, the Maya Center of El Pilar prospered for 1,700 years, reaching its zenith around the year AD 700. Over the course of centuries, since as early as 700 B.C., the center flourished and gradually grew to become the primary administrative center in the Belize River area, replete with sweeping plazas and temples.

As the Maya at El Pilar evolved, so did the forest that sustained them. To meet the needs of their growing population, Maya households cultivated the forest's abundant plant life suitable for human use. Indeed, current research shows that today up to 90% of the forest's botanicals are valuable to humans. Cultivating these resources, the ancient Maya of El Pilar supported a population that far exceeded today's figures. Studies reveal that the population density 11 centuries ago, during the Maya Classic Period, was from three to nine-times the region's current level. Today, the Maya forest stands as an enduring monument to the resourcefulness of the Maya.



Regional, local, and site-specific areas of concentration in the Maya forest

Although it withstood millennia of Maya occupation, today the Maya forest is at risk. Contemporary agricultural strategies, population movements, and human development schemes that lack environmental consideration now threaten the rich, biodiverse forest that the Maya cultivated a millennium ago. Today, the Maya forest is ranked second of 25 resources at risk by Conservation International, an internationally known non-profit organization. Contemporary political lines cut the landscape: new roads slice through the forest, paving the way for human migration into the world's last terrestrial frontier, and political boundaries overlay ancient monuments. The forest around El Pilar stretches before the eye unbroken, yet the international border between Belize and Guatemala invisibly divides El Pilar's monuments between the two nations.

Without formal protection, the ancient Maya monuments themselves are at risk. Looter's trenches scar many of the monuments at El Pilar. While Maya monuments enhance the burgeoning tourist industry and foster interest in Belize's past, exposure and excavation can lead to the accelerated deterioration of these valuable resources. The short-term need for site development and promotion can be balanced with a long-term goal of resource conservation. Priority should be given to methods that will preserve the monuments for the enjoyment of generations to come.

In this respect, El Pilar serves as a model. In order to formally protect the natural and cultural resources at El Pilar, a path of conservation was embarked upon nearly ten years ago. The *El Pilar Archaeological Reserve for Maya Flora and Fauna* in Belize and the protected *Monumento Cultural El Pilar para la Flora y Fauna Mayas* in Guatemala were established to safeguard the shared resources at El Pilar. Along with research and education on ancient Maya land use, the innovative, cross-border, participatory management planning process designed by the El Pilar Program promises to build a lasting and effective base for the conservation of the Maya Forest.

## *Towards Formal Protection*

In 1992, Anabel Ford, an archaeologist from the University of California Santa Barbara (UCSB) began meeting with government officials in Belize to introduce a new vision for the

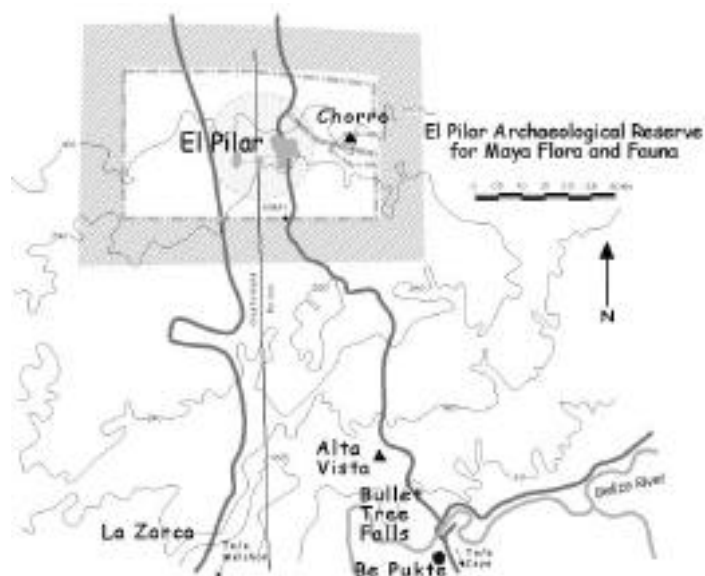
Maya forest: a protected reserve at the little-known Maya center of El Pilar. Ford had a history at the site. She had made her first visit to El Pilar with John Morris and Jaime Awe of the Belize Department of Archaeology (DoA) in 1982. By that time, the site had already been officially recorded in the DoA. But El Pilar's true size remained unknown - and promised to be significant. As director of UCSB's BRASS project (Belize River Archaeological Settlement Survey), Ford was interested in investigating Maya settlement patterns. She incorporated the El Pilar site into the BRASS project and began the initial survey and map of the site in 1984.

Ford's work captured the attention of officials in Belize. Daniel Silva, who would later become the Cayo area representative, and Elias Awe, now director of the Belizean Non-Government Organization (NGO) Help for Progress, noted her work after attending a presentation to the Cayo Jr. Chamber of Commerce (Jacees). During the following years, visits to El Pilar became more frequent as work at the site gained momentum. In 1992, Cayo Area Representative Daniel Silva, together with Department of Archaeology, contracted a team of local workers under the direction of Ford to clear El Pilar's main plazas, opening them to the view of the general public for the first time. With the full support of the Belize Government, Ford planned a full-scale investigation at El Pilar during the 1993 field season. The BRASS/El Pilar Program was set in motion.

During these initial years of investigation at El Pilar, it had become apparent that the site needed formal protection. In Belize, lands were periodically cleared of high bush for farming and in Guatemala trees were being illegally logged. Furthermore, the DoA could do little to stop looters without establishing full-time surveillance at the site. Numerous illegal excavations had damaged the ancient monuments at

El Pilar, threatening their structural integrity. As a protective measure, the BRASS/El Pilar Program provided funds for a local caretaker, Teo Williams, to be on-site in 1992.

Meanwhile, boundary proposals for a protected reserve at El Pilar had been submitted and circulated within Belize Ministries.



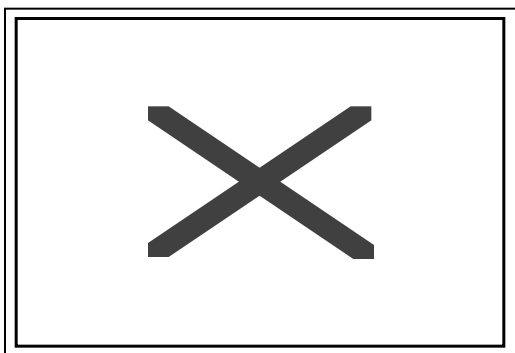


Two sets of boundaries were submitted for the consideration of the government. One set of proposed boundaries delineated an area of a kilometer and 1/2 around the El Pilar site; another covered 3x3 kilometers, or roughly 2000 acres of land. The DoA chose to move ahead with the latter. As the BRASS/El Pilar program worked toward the official establishment of these boundaries, a network of alliances evolved reflecting the growth of the El Pilar vision, inevitably touching two nations and upwards of 60,000 Belizeans and Guatemalans living in zones adjacent to the reserve.

## *An Expanding Network*

From the outset, the BRASS/El Pilar Program, along with the Government of Belize, was concerned that the developments at El Pilar translate into real opportunities for surrounding communities such as Bullet Tree Falls. Early official visits with Manuel Rodriguez of Lands and Earl Green of Forestry helped to frame objectives. Convinced that local stewardship is the key to effective conservation efforts in the Maya forest, Ford met with villages at community centers regarding the creation of a local organization related to the development of El Pilar as a protected reserve. In 1993, a broad-based community organization called *Amigos de El Pilar* (AdEP) formed to advocate the collective efforts at El Pilar, sustainable development in the community, and local education geared towards the conservation of cultural and natural resources. With the initiative of Fred Prost, AdEP member and owner of the Parrot's Nest, the group was officially registered as a NGO in 1994.

An expanding network of collaborators connected AdEP and the El Pilar Program to the tourist world. In 1994, Godsman Ellis, president of the Cayo Belize Tourism Industry



**Caretaker facility construction 1995**

Association (BTIA), approached Ford about joining forces with AdEP and BRASS/El Pilar in a collaborative project that would bring El Pilar into the growing fold of eco-tourism with funds from the Natural Resource Management and Protection Program (NARMAP), under the United States Agency for International Development (USAID). With the NARMAP resources and matching funds from the BRASS/El Pilar Program,

Ford's research endeavor at El Pilar grew into a much larger undertaking that required the collaboration of non-governmental agencies within and outside of Belize and with government agencies such as the Department of Lands, the Ministry of Natural Resources, and ultimately the Ministry of Foreign Affairs as Guatemala was drawn into the El Pilar vision.

Funds were directed towards a number of new initiatives that materialized over the following years. In 1994, the Belize government guaranteed that permanent funds be allotted for the maintenance of a caretaker at El Pilar. This was the first official step toward the protection of the site, and came along with other developments. The BRASS/El Pilar Program continued to provide for two additional caretakers to maintain the grounds, and began the construction of a caretaker's facility that would ensure full-time surveillance of the site. With the Amigos de El Pilar, the BRASS/El Pilar Program created a network of trails that incorporated the site's various ecological zones and Maya monuments, providing the infrastructure for visitors as tourists began to hear of El Pilar's charms and make their way to the site. To develop tourism at El Pilar, the program also began training local guides to work at the site.

As El Pilar began to feature more prominently in the tourist world, Amigos de El Pilar and the BRASS/El Pilar Program inaugurated an annual *Fiesta El Pilar* that highlights local culture and Maya history and draws thousands of visitors every year. Publishers of major tourist guidebooks were also notified of the development of El Pilar and began to feature the site and local communities in their travel publications. The Program also developed an El Pilar web page that brought international attention to the site. These early efforts increased interest in El Pilar as an attractive travel destination.

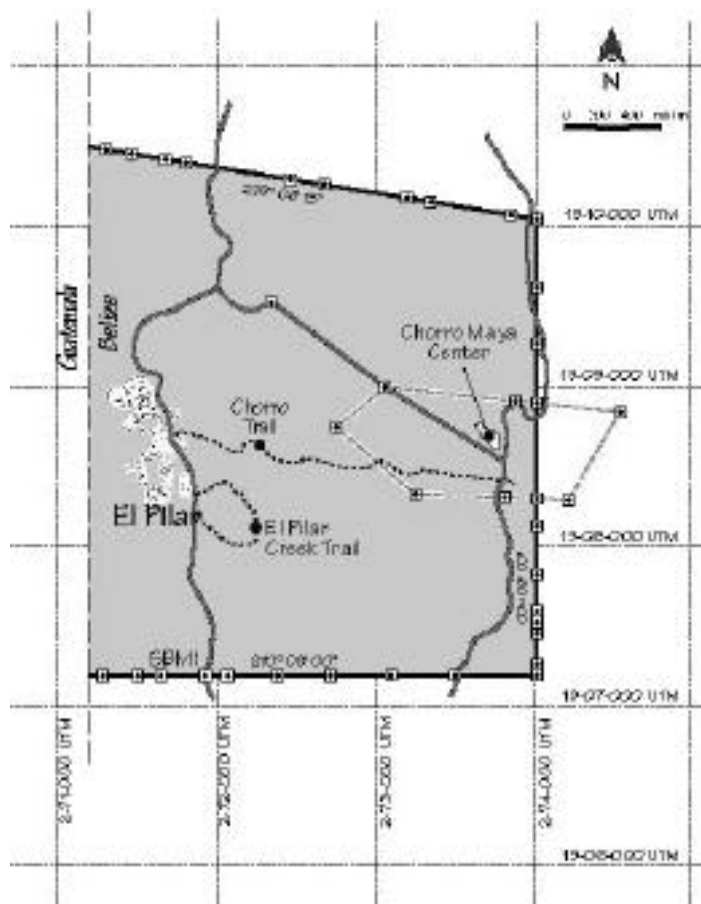
At the start of 1994, an impressive delegation of government officials, including Manuel



**Completed caretakers facility 1996**

Rodriguez and Earl Green, visited El Pilar through the Ministry of Natural Resources to assess the lands situation and the establishment locations of the reserve boundaries. Now working more closely with ministry officials such as Lindsey Belilse, the Permanent Secretary (PS) of the Ministry of Natural Resources, and Dr. Victor Gonzales, the PS of the Ministry of Tourism and the Environment, it was clear the government strongly supported the reserve. With the

collaboration of ministry officials, it was decided that the park should be an archaeological reserve under the administration of the DoA. This strategy avoided the bureaucratic complexity of creating both an archaeological and a natural reserve that would have spanned multiple ministries. Though El Pilar would officially be an archaeological reserve, a name was chosen that incorporated the environmental emphasis of the reserve - the *El Pilar Archaeological Reserve for Maya Flora and Fauna*.



**The boundaries of the El Pilar Archaeological Reserve for Maya flora and Fauna embraces 1,997 acres in the north of the Belize River area where no other reserves are present. The Statutory Instrument registering the reserve is No. 54 of 1998, gazetted on the 23<sup>rd</sup> of May 1998.**

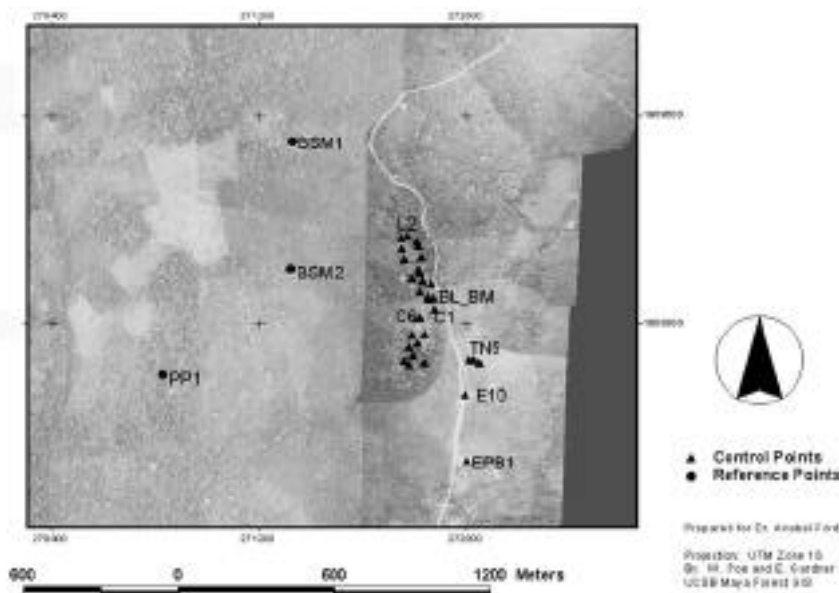
At the end of the 1994 BRASS/El Pilar field season, a lands survey was commenced to determine the official boundaries of the reserve. In 1995, José Depaz, head of the Cayo Department of Lands and Survey, coordinated the establishment of the boundaries of the reserve with his team of surveyors. The BRASS/El Pilar team provided logistical support for the process. Once the boundaries were established it was up to the Department of Lands to develop a compensation scheme for farmers who had been using lands now within the bounds of the new

reserve. The Cayo Lands Officer, Rolando Villas, developed final assessments and resolutions. His attention to details included participation in a conservation flight sponsored by the Great Britain's 25 Flight, where he saw first hand the lands issues. This was an essential basis for confidence building between the community and the local Lands Department, and example of the participatory collaboration of conservation.

## *Parallel Paths in the Maya Forest: Connecting Communities to Conservation*

As it is presently known, the El Pilar site is divided into three primary sectors. In Belize, Xaman Pilar (North) and Nohol Pilar (South) are connected to Pilar Poniente (West) in the Petén of Guatemala via an ancient causeway that is bisected by the international border between Belize and Guatemala. Though the two nations have been historically divided by a contentious past, the BRASS/El Pilar Program blazed a path of conservation and research that united managers in Belize and Guatemala around the protection and management of the shared natural and cultural resources of El Pilar.

### **El Pilar Control and Reference Point Network**



Conservation efforts in Guatemala began in May 1994 at the USAID meeting on community development. Dr. Archie Carr III of the Wildlife Conservation Society arranged for



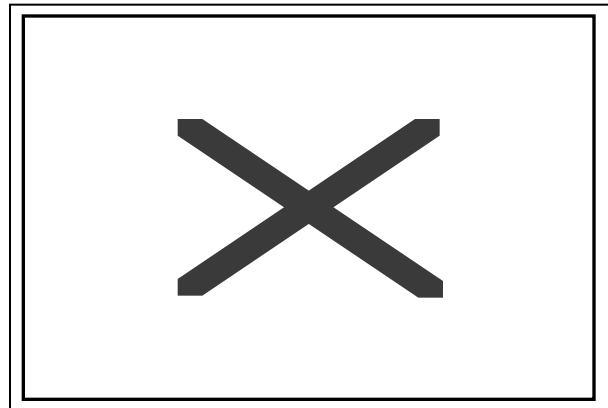
**Miguel Orrego maps  
Pilar Poniente in 1994**

the participation of Ford, who made a presentation on the initial progress of the fledgling community organization, AdEP. The presentation introduced Guatemalan circles to the BRASS/El Pilar Program's vision for community inclusive management of shared resources at El Pilar. During that trip, Ford also met with the head of Prehispanic Monuments at the Instituto de Antropología e Historia (IDAEH), Erik Ponciano, to introduce him to the work at El Pilar and to ask permission to map Pilar Poniente. Ponciano was enthusiastic about the possibility of a contiguous reserve and permits to map the area were issued in record time.

No time was lost in the mapping of Pilar Poniente.

Guatemalan archaeologist Miguel Orrego of IDEAH and José Sanchez of Consejo Nacional de Areas Protegidas (CONAP) spent a week mapping the area and submitted an initial report to IDAEH and Consejo Tecnico de Arqueología by July 1994. In September of that year, Ford was invited to meet with the Guatemalan Ministry of Culture to present her vision of a contiguous reserve at El Pilar. By 1995, El Pilar was launched as a concept park in Guatemala and the official boundaries of the El Pilar Archaeological Reserve for Maya Flora and Fauna were established in Belize.

To bring together representatives from Belize and Guatemala to discuss the future of El Pilar and outline preliminary plans for the reserves in Belize and Guatemala, the BRASS/ El Pilar Program organized a binational workshop called the "Encuentro El Pilar." Sponsored through the Department of Tourism and the Environment in Belize by the Comisión Centroamericana de Ambiente y Desarrollo (CCAD) directed by Jorge Cabrera, representatives from Guatemala included Juan Antonio Valdes, director of IDAEH, and Erik Ponciano of Monumentos Prehispanicos. José Antonio Montes from the



**Participants of the Encuentro El Pilar**

Top: Jan Meerman, Anabel Ford, John Morris, Hilda Rivera, Juan Antonio Valdes; Bottom: Mario Zetina, Jose Antonio Montes, Miguel Orrego, Erik Ponciano, Rudy Larios

Institute for Environmental Rights and Sustainable Development also attended. Montes would later become an important component of the El Pilar Program as a regional policy advisor. Representatives from Belize included Brian Woodye and John Morris of the Department of Archaeology, Rafael Manzanero from Forestry, Michael Bejos of the Ministry of Foreign Affairs, and the Amigos de El Pilar. All participants had the opportunity to visit El Pilar to assess its possibilities.

The “Encuentro” El Pilar, covered by Belize News 5 and major radio and newspapers, led to solid commitments on the part of Belize and Guatemala. Participants outlined short and long-term steps towards formal protection of El Pilar. Representatives from Guatemala developed a timetable for the establishment of a Cultural Monument at Pilar Poniente, which falls in the Maya Biosphere Reserve (RBM) in Guatemala’s Petén. The Government of Belize committed to signing into law the Statutory Instrument to make El Pilar a legal national reserve and pledged continuing support to the El Pilar Program, directed by Ford. Jointly, participants agreed to develop parallel management schemes for the administration of El Pilar, delegating management to include local communities.

Along with lawyers in Belize and Guatemala, Thomas Ankerson of the Mesoamerican Law Center of the University of Florida carried out a studied evaluation of the legal implications of a cross-border park. Osmany Salas and Dolores Balderamos-Garcia prepared a source document for Belize and José Antonio Montes prepared a similar document in Guatemala.

These important documents detailed the institutional basis for moving forward with the vision of contiguous parks in Belize and Guatemala and set the stage for the Mesa Redonda El Pilar, held in Mexico City in 1997. With funds from the Ford and the Macarthur Foundations, the El Pilar Program organized the Mesa Redonda El



**Encuentro El Pilar Site Visit:**

Mario Zetina, Jose Antonio Montes, Anabel Ford, Dolores Balderamos-Garcia, and Miguel Orrego

Pilar, bringing together 28 professionals from Belize, Guatemala, Mexico, and the United States representing archaeology, ecology, law, and government to develop a vision for the future management of the contiguous reserves at El Pilar. The Mesa Redonda's end result was a comprehensive set of values and guidelines to shape the focus of development at El Pilar. The innovative plan, collectively devised by experts at the Mesa Redonda, recognizes that a critical component for the preservation of cultural and natural resources is the incorporation of local communities in management design and implementation.

Indeed, local communities are the ultimate managers of cultural and natural resources, so their involvement is critical. The Maya forest will not be effectively managed until communities are incorporated in conservation efforts. At El Pilar, communities have shown that they play an important role as guardians of the forest. For example, when a group of displaced farmers threatened to burn land in the reserve in 1996, AdEP gathered the signatures of over 100 community members who sought the protection of El Pilar. AdEP then went to Belmopan to meet with government leaders and vent their concerns. Through this effort, and the subsequent action of the DoA, the government acted with AdEP to stop the destruction of the reserve. In this case, the community acted as a government advocate to ensure that national regulations be enforced at El Pilar.

Apart from recognizing the need for community support, participants of the Mesa Redonda noted that the development of El Pilar as an archaeological reserve would undoubtedly draw more tourists to the area. Although Belize had a successful track record with tourism, the tourist industry was still dominated by large hotels, cruise packages, and tours that bypass local villages. John Morris of the DoA emphatically stated that, "the development of infrastructure for tourism needs to take priority. Emphasis on small scale enterprises, local arts and crafts, village and community cooperation can help." Participants of the Mesa Redonda El Pilar stressed that community-based eco-tourism is the most appropriate path of development for El Pilar.

The El Pilar Program and the community organization Amigos de El Pilar stand committed



**The El Pilar Caretaker house and garden**

to develop the type of tourist venture that does not overlook local residents. AdEP President Marcos Garcia described the work ahead for AdEP and the local community in a statement to fellow participants: “People of the village do not have a clear idea of what eco-tourism is all about...we need to be trained so that the impact of eco-tourism will be positive and not negative. This is one of the alternatives we think should work in conjunction with Amigos de El Pilar, reaffirming that we have a future with eco-tourism.” To offset these obstacles, the participants of the Mesa Redonda El Pilar urged the governments of Belize, Guatemala, and national and international organizations to work with local communities to forge a model for cooperative cultural and natural resource management.

Through the initiative of the BRASS/El Pilar Program and AdEP, local communities are gaining awareness of El Pilar and the opportunities it presents for local development. AdEP sponsored events such as local workshops, BBQ’s, an essay contest, the Fiesta El Pilar, and community outreach have integrated people into efforts surrounding El Pilar.

To increase the effectiveness of the El Pilar Program and AdEP and to advance their goals within the community, Help for Progress (HfP), a Belizean NGO committed to improving rural life in the Maya Forest, was enlisted by the BRASS/ El Pilar Program to work with AdEP in 1998. In respect to reserve management, regional program advocates were formally incorporated into the El Pilar Program as well. In Belize, Anselmo Castaneda, a conservationist with an agronomy background, focuses on local and regional environmental issues. In Guatemala, José Antonio Montes, an international attorney, concentrates on legal and political processes. These bodies constitute an important element of the El Pilar institutional framework.



**MRH visit to the Tzunu’un Forest Garden**

The official development of contiguous reserves at El Pilar was the highlight of the 1998. In Belize, Statutory Instrument #54 of 1998 was signed into law by Minister Henry Young of the Ministry of Tourism and the Environment, officially protecting the El Pilar Archaeological Reserve for Maya Flora. In Guatemala, the *Monumento Cultural El Pilar* was declared as a protected area within the Reserva de la Biosfera Maya by Consejo Nacional de Areas Protegidas (CONAP), the government agency that



oversees the Maya Biosphere Reserve and El Pilar. The cross-border aspect of the El Pilar archaeological reserves is unique in the region. Now that both the governments of Belize and Guatemala recognize El Pilar as two contiguous areas protecting one cultural resource in two countries, the next step would be to develop a strategy for managing the reserves.

To work out this point, The BRASS/ El Pilar Program organized a second Mesa Redonda El Pilar (MRII). Held in Placencia, Stann Creek, Belize in 1998, the MRII brought together the growing network to further the unique program of research and development at El Pilar. The MRII provided government counterparts in cultural and natural resources with a forum in which they could work together proactively. This is typified by resource managers Oswaldo Sabido (Belize) and Milton Cabrera (Guatemala), who enthusiastically developed collaborative projects around El Pilar.

With reserves officially established on both sides of the border, the El Pilar Program was now in a position to bring broad goals introduced by the first Mesa Redonda into a design for concrete action. Participants drafted a management plan for El Pilar that included short and long-term goals related to law, community participation, and tourism.

A gratifying number of locals from villages in Belize and Guatemala participated in the proceedings of the MRII. The clear accord between AdEP and the government representatives at the MRII was underscored by the latter's approval of the community's role in reserve management planning, a role that they suggested would be enhanced by university level training aimed at building local management capacity. Not only was AdEP an effective participant in the MRII, endorsing the drafted management plan, they relayed the results of the proceedings to the residents of surrounding communities. The inclusion of the community – the group that has the greatest stake in the future of the El Pilar Archaeological Reserve – augmented the viability and the credibility of the management planning process at the MRII.



**The Mesa Redonda III Working Group:**  
Elias Awe, John Morris, Rudy Larios, and Miguel Pereira

The development of the contiguous reserve, the remarkable achievement of the BRASS/El Pilar Program in 1998, was matched in 1999 by the endorsement of parallel management plans that were developed at the MRII. The Protected Areas Technical Evaluation Committee El Pilar (PATEC-EP) was formed and held six meetings to finalize the draft management plan for El Pilar. The committee was made up of prominent policy makers including John Morris, Joseph Palacio, Elias Awe, Eugene Ariola, Rafael Manzanero, Eugenio Ah, Natalie Rosado, Evarista Avella, Paul Francisco, and Anselmo Castañeda. The group reaffirmed the importance of ensuring that local communities receive direct and long-term benefits from El Pilar, describing in the PATEC-EP notes that, “in order to promote the advantages that can be derived from El Pilar’s location, an alliance has been formed between the Amigos de El Pilar and the site, the El Pilar Program, and internationally.” The PATEC committee finalized and endorsed the innovative management plan, the first of its kind for the DoA, serving as an example for the management plans for archaeology yet to be developed in the region (Appendix I).

A similar finalization process was undertaken in Guatemala that led to CONAP’s endorsement of the management plan. These proceedings culminated in November 1999 at the “Día del Sombrero Verde” workshop in Yaxha. There, governmental and non-governmental agencies from both Belize and Guatemala drafted a letter of intent for cooperative management of El Pilar. This significant document recognizes the importance of surrounding communities as local caretakers and those most impacted by development at El Pilar.



**The Mesa Redonda III : A Collective Planning Group**

The first two Mesa Redondas produced a comprehensive plan to guide the management of El Pilar. A third Mesa Redonda El Pilar (MRIII) was held in June 2000 in Remate, Petén, Guatemala. The objective of the MRIII was to formalize the institutional arrangements for the administration of El Pilar in Belize and Guatemala in legal terms. Initiated by



**Meeting of CoCEP 2001 at the Galleria of El Pilar**

the legal research of Montes and Ankerson, the MRIII resulted in the creation of a technical advisory group called the Consultative Council for El Pilar (CoCEP) to support management entities in both countries and coordinate tourism development. CoCEP membership is made up of representatives from all involved management bodies: AdEP Lakin of Belize, AdEP Chikin of Guatemala, Help for Progress, Canaan Kaax, the DoA, IDEAH, the Belize Department of Forestry,

CONAP, Mesoamerican Biological Corridors, BRASS/El Pilar, Instituto Guatemalteco de Turismo (INGUAT), and the Belize Tourism Bureau. In June of 2001, the first formal meetings of CoCEP convened (Appendix II), and a strategic plan for El Pilar that unifies the interests enshrined in drafts of both Belize's and Guatemala's management plans was approved. The Council promises to secure cooperative management, prepare delegation agreements and statutory instruments, and to develop a sustainable, long-term funding base for the operation of the contiguous reserves. CoCEP has the potential to strengthen the participation of communities adjacent to EPAR and to forge tourism links that are so fundamental to the immediate needs of the community and the long-term goal of conservation in the Maya forest.

## *Creating El Pilar*

Ten years ago, one could only visualize El Pilar as a world-renowned park with established boundaries, basic infrastructure, and innovative trails. A decade of hard work, the incorporation of local protagonists, the promotion of collaborations, and the evolution of design have resulted in a new destination unimagined only a decade ago. Developed by professionals who saw the potential and were drawn to the evolving El Pilar vision, plans and developments slowly accrued so that today --with the help of volunteer investment and grant funding-- the cumulative resources at El Pilar are now a major asset for the region. The fixed property of the El Pilar Archaeological Reserve for Maya Flora and Fauna represents the collective results of

many individuals from Belize, the Maya forest region, and the international community. Grant funding developed by the El Pilar Program has engendered a support base from international donors, private foundations, national agencies, and a rich tapestry of scientists and professionals.

These fiscal and human resources have developed, enhanced, and sustained the current values of the park for visitors totaling more than 6,000 per year. Many of these assets are regularly enjoyed and appreciated by the local community, primary and secondary students, as well as international visitors. These include the unique interlocked trail system and appropriate comfort stations. Other assets were developed to meet the requirements for housing caretaking staff and maintaining the facilities at the site. Still others, not obvious to the casual visitor, are evident in the interpretive system at the site, in the support materials for the visitor, and in the inclusive participatory management planning process. Every aspect of the puzzle has played an essential role in the creation of El Pilar.

There was no El Pilar on any archaeological maps, let alone within the tourist venue, before the Program was launched; now it is a recognized destination featured in all the major guide books. Comments in the site guest-book demonstrate the great appreciation of the visitors. El Pilar is now known for the alternatives that it offers. Comments range from the marvel of seeing Maya houses, the great bird watching, the mysterious windows into the monuments, and to the wandering nature trails making them feel like Indiana Jones. There is admiration for the knowledge imparted by the caretakers with the enjoyment of Teo William's tales of the Duende and Marcos Garcia's knowledge of the animal haunts. Workshops with tour guides underscore the variety of values already promoted for El Pilar from respect for the monuments in their natural setting to a welcoming park for secluded picnics. All these are the myriad of treasures that are part of El Pilar and all are equally important to the whole. It is clear that the potentials of the reserve are yet to be reached.

### *The El Pilar Experience and Tourism Potential*

The El Pilar model has focused on aspects at the site rarely displayed within the realm of the Mundo Maya and in so doing has created a new niche for those looking for a genuine Maya forest experience off the beaten track. Tours of the Maya monuments have drawn increasingly more visitors and have always focused on aspects that provide the best examples of a facet of the



**The main Plaza Copal of El Pilar ~**

**Left: View to the eastern temple Xikna viewed under the canopy shade ...**

**Below: Imagined for the future with the architecture partially revealed .....**



ancient Maya life. Tikal is popular for its massive size, Palenque for its abundance of inscriptions, Copan for its elegance. When it comes to sites that offer a view of monuments in the natural surroundings of the Maya forest, El Pilar

is in a class by itself. Just getting there is part of the adventure, traversing through the range of environments present in the Maya forest along the El Pilar road. Starting from the valley farmland of Bullet Tree Falls, the adventurer rises uphill through a patchwork of dense jungle, limestone cliffs, and freshly cleared farmland before finally encountering the site. The caretaker house and its cheerful flower garden welcome visitors.

El Pilar recreates the experience of the first archaeologists who explored and mapped the site. For the most part, the monuments have been left shrouded under the protective carpet of nature. Trees have been allowed to shade the main plazas, providing a cool refuge in the otherwise hot and sunny tropics. This emphasis on the ecosystem creates a magical atmosphere of a lost city in the jungle, full of exotic flora and fauna that are fast becoming scarce.

A special attraction of El Pilar is the Tzunu'un Forest Garden, a restoration of an original Late Classic era Maya home. Visitors are given an opportunity to explore the many useful plants in the nearby house garden, with the Tzunu'un Forest Garden Trail Guide, and view the thatched-roofed sleeping areas that offer a glimpse of the Maya life that once existed outside of the world of temples and palaces. The Community Creek Trail, with the interpretive history guide, presents a unique view of the varied land uses and recoveries, topics rarely mentioned in

contemporary trail guides. There are three archaeological trails and two forest trails that lead through El Pilar's numerous plazas and verdant wildlife areas, where some of the best bird watching in the region can be experienced. These are detailed for the visiting explorer in the comprehensive trail guide of El Pilar. All these wonderful visitor materials are available locally in Cayo and at the Be Pukte Cultural Center operated by Amigos de El Pilar in Bullet Tree Falls.

## *Investments at El Pilar*

These assets at the site are of great value to the local community, to the regional tourism industry, and to the future development opportunities that are both sensitive to the needs of the local area as well as to the worldwide concern of resource conservation. The estimated monetary values assigned to the site reflect the current value of the investments if they were to be designed, created, and developed today (more than \$4.8 million US). They reflect the proportional investments of time, energy, and funding that were fashioned for the foundation and support of the El Pilar Archaeological Reserve for Maya Flora and Fauna. The funds for the development of El Pilar came from a diversity of sources, largely from the United States. Additionally, there is a considerable contribution of professional time in all facets of the work. Funds were combined with volunteer professionals and students who dedicated valuable time and effort to see the unique qualities of El Pilar showcased for visitors.



**Ford Foundation visits the Tzunu'un house of El Pilar**

The value of the site itself has been conservatively estimated by independent evaluations (Appendix III). Areas of estimated value include the reconstructions, trails, and interpretative components, and the cultural assets derived from the results of the excavations. All major temples, pyramids, and plazas at El Pilar have been subject to investigation, excavation, consolidation, and interpretation. The evidence on the plan map, the architectural

elevations, and the chronological history are based entirely on results of the research components of the Program. These are essential base operations for the development of the site and provide historically accurate interpretations for scientific inquiry and general appreciation.

Trails are designed to cover the dimensions of El Pilar: the public ceremonial plazas, the private regal quarters, and the surrounding residential architecture. In addition to the existing assets at the park, there is a well-developed management plan that details the potential views and exposures that would make the experience complete.



**The Mirador rest stop at the H'emena at El Pilar**

Assets at El Pilar include the main building facilities related to the caretaking operations on-site that have a current value of more than \$76,000 US. Support equipment is another important part of site maintenance and care, and includes water pumps, generators, the trimmer mower, radios and other material. This equipment has allowed the small, dedicated, and enthusiastic caretaking staff to maintain the dispersed trails ranging more than 5 kilometers

around the site, the interpretive areas (such as the Tzunu'un Maya house and forest-garden), and large plazas (Copal, Duende, and Faisan) in a condition that invites the visitors into the scenes.

The six major trails that link key natural and cultural areas of the site have a collective value of more than \$1,000,000 US. These trails have been sited and developed as a means to navigate the various sections of the site and to create a base for the magical qualities of discovery that are usually limited to the archaeologist. Assets include constructions, rest stops, interpretation, excavation, and conservator measures instituted in reconsolidation of various structures.

The current site map is based on fundamental archaeological investigations, updated with evidence from target annual investigations, such as the discoveries at Jobo. Major interpretive materials have been developed for site promotion. Flyer maps available on-site and at the Be Pukte Cultural Center, the web site ([www.marc.ucsb.edu](http://www.marc.ucsb.edu)), trails guides sold through the AdEP group and El Pilar Program base, as well as the postcards and posters sold at the Be Pukte.

These instructive and educational materials have been circulated to major publishers of travel books to gain wider visibility for the vision of El Pilar.

El Pilar has generated visibility that has reached such institutions as the World Monument Watch, where the site was listed among such well known monuments as the Taj Mahal. Other international institutions, such as Rolex, are continuing promotion efforts for El Pilar via the Rolex Award for Enterprise network. The value of these global



**Construction of Galeria at El Pilar in Plaza Duende**

connections is immeasurable, as they provide El Pilar with open-ended sources of visibility. Global recognition and connectivity enhances the unique part that El Pilar can play within the variety of cultural and natural destinations of Belize and the Maya forest.

The local concern for community development, the regional recognition of conservation needs for the Maya forest, and the growing specialty of expedition and adventure travel call for the evolution of new travel niches to fulfill distinct parts of the travel mosaic. Local community investment in their own valuable resources is enhanced with such a development vision as experienced at El Pilar. Cayo today offers an array of destinations in culture and nature. Among the distinct opportunities, El Pilar provides one of the facets that make the area so attractive to the adventure traveler.

### *What Lies Ahead: Resilience with Challenges*

The Mesa Redonda process provided El Pilar with a visionary management plan. Organizational structures have emerged in the process. Now, with CoCEP's establishment, the organizational infrastructure for the contiguous reserves at El Pilar is operational.

This threshold has arrived at a critical moment. Visitation to El Pilar has increased from 20 to 30 tourists in 1992 to 6,000 tourists a year in 2000, with considerable increase in tourist visitations expected in the near future. We are rapidly approaching the moment that John Morris



warned of at the first Mesa Redonda nearly 5 years ago when large hotels, and arranged tours threaten to overpass local communities.

The progress that has been made at El Pilar is remarkable, but how it will operate in the future remains uncertain. While the government of Belize has endorsed the El Pilar management plan, there has been no formal adoption. This final step of the management planning process is crucial to ensure that local communities remain the primary beneficiaries at El Pilar. Until the management plan has been formally adopted, relations between the managers and the community will remain tentative and ambiguous.

Current problems within the reserve attest to the need for critical linkages between management bodies. Recently, illegal incursions impacting the culture and nature of El Pilar have taken place within the reserve. This is largely due to variable enforcement of park boundaries and lack of communication between critical departments, such as Archaeology, Lands, and Forestry.

Early strides of forging links among governmental agencies and those agencies and the AdEP community group have not been reinforced. This relates to the slow process of management planning implementation.

At El Pilar, all necessary institutional structures are in place: government authority, community caretakers, NGO support, and research projects. Each of these bodies, however, have their own set of objectives. The advisory board, CoCEP, is designed to integrate and coordinate these objectives. There is, nevertheless, uncertainty about CoCEP's mission. Defining the group's mandate and strengthening the actual links between its members will give the body direction.

To envision the El Pilar Program design in the future, it is useful to look at how far the program has come in the past 10 years. Fortunately, thanks to the foresight of the government of Belize, non-governmental organizations, and the El Pilar Program, a true path of community led conservation has been embraced at El Pilar. With the support of many institutions we have preserved the archaeological site and, little by little, we have created an awareness of its potentials. The Fiesta El Pilar has become an annual fixture, attracting thousands of visitors from around the world. Six trails have been developed in the reserve for visiting tourists along with comfort stations, picnic area, and lookout points. Trail guides are available to inform tourists of the important work being done at the site. The development of contiguous parks and

parallel management plans have been applauded worldwide and hailed as a major accomplishment. Finally and most importantly, the local community has been involved in the process. “I think this is a good beginning,” reflected AdEP forest-gardener Heriberto Cocom at the first Mesa Redonda, “what we are trying to do to renew.” Indeed, with the community, the

Belizean and Guatemalan governments, and the El Pilar Program; the culture and nature at El Pilar we are witnessing a renewal of the cultural and natural resources at El Pilar.



**AdEP President and forest-gardener, Heriberto Cocom, at the Tzunu'un Maya house and forest garden of El Pilar**

## *Acknowledgements*

The development of El Pilar owes much to the people of the region and the governments of Belize and Guatemala who have supported the vision to explore an innovative management scheme. They have explicitly given the El Pilar Program the privilege to demonstrate different views of the ancient Maya that include not only the mysterious monuments, but also life beyond the temples. We have sought to achieve convergent objectives that are worthy of experiment, and create a new niche in conservation and tourism: the eco-archaeological experience. In the case of El Pilar, we have something that has, at once, challenged the tradition, yet at the same time opened many doors. To imagine the Maya forest as one region, to appreciate El Pilar as one resource, and to collaborate with a hope has given us a dimension to include El Pilar among the novel destinations of the Mundo Maya. We dedicate our first ten years to all those who know they are a part of this history and to all those who inevitably will be.....

BRASS/El Pilar Program  
May 2002

## *Appendix 1: Draft Management Plan*

### **Signatures Across the Landscape**

The El Pilar Program has attracted an international, multidisciplinary team with the momentum to evolve a unique plan. This plan incorporates local community understanding, a government conservation and development agenda, and international environmental concerns through an integrated research program that informs a model development plan centered around the history and prehistory of El Pilar.

This management plan for El Pilar is the result of a long process and involves the participation of many individuals. The idea springs from the BRASS/El Pilar Program, but has been brought to fruition from participants in the first Mesa Redonda (1997) and the Mesa Redonda II. These key events set the stage for creating an innovative plan promoting a model interdisciplinary research and community development project that will serve as a model for conservation in the Maya forest.

### **The Past Informs the Future**

The core of the El Pilar vision comes from archaeological research on the evolution of the ancient Maya landscape. The essence of this program acknowledges that clues to sustaining the complex habitats of today's Maya forest environment are embedded in Maya prehistory. Ancient Maya settlement and local community patterns provide material evidence for the evolution of sustainable economies in one of the planet's last frontiers: the tropics.

The goals of the multidisciplinary research and development program are to demonstrate the critical relevance of basic research to promotion of conservation and development around the world today. The outcome will influence the application of a reserve management plan that will conserve environmental diversity and preserve the irreplaceable cultural heritage of both the ancient and contemporary populations in the region.

### **The Forest as a Garden**

The ecological structure of the Maya forest is a relic of the dynamic relationship in which humans have played an integral part. This relationship extends back more than four millennia to the agricultural pioneers of the Maya forest region and the ancestors of the ancient Maya civilization – the heritage of contemporary farmers. The large contiguous stands of forest are a testimony to the efficacy of ancient Maya practices. While the Classic Maya collapse affected the human populations, plants and animals survived only to be threatened with extinction today. Therein lies the ecological lesson that must be perceived to build a sound basis for conservation in the future.

Traditional agricultural systems in the tropics world-wide are as complex as the environment within which they developed. Mimicking the forest structure, a poly-cultivation system evolved to minimize instability, prevent degradation and integrate both intensive and extensive labor techniques that maximize production. Heterogeneous and bio-diverse, the forest gardens constituted the strength of the Maya community in the past, as they do today, by relying on the traditional knowledge of local farming households.

Combining research designs of agronomists with those of traditional farmers from the area, this forest garden can form a model of ancient Maya land use that will provide an ongoing source of

innovation for the community. Such a design that uses ancient Maya settlement patterns and agricultural knowledge can foster resource conservation that aligns with, rather than opposes, the natural regenerative processes of the tropical forest.

### **Community Links**

To accomplish the goal of improving living standards and self-sufficiency of the regional communities, the immediate and short-term needs of families must be incorporated into the long-term agenda of sustainability. No reserve exists within a vacuum and to thrive the local population must assume an active role in conservation or the cultural aims may not be achieved.

A cooperative association has been established with Amigos de El Pilar. Their goal is to develop community enterprises in tourism and agriculture that increase villagers' economic stake in the reserve. Through education and participation, the links between the community and the reserve will strengthen local investments in conservation and develop administrative responsibility. The leadership role the villagers are assuming and the self-determination they are gaining in the process is the foundation upon which the future success of the El Pilar model depends.

### **Discovering El Pilar**

The El Pilar Program has set the stage for ecotourism where the visitor can explore and discover the beautiful Maya architecture beneath the luxuriant forest canopy.

The program has promoted education and training workshops, given lectures and tours, and encouraged participation in the archaeological research. Further, the program has hosted events, such as the Fiesta El Pilar, that has elevated the visibility of El Pilar on the global front, to provide a springboard for tourism development.

### **Taking the Challenge**

Park management is fundamental to the long-term research and development plan as well as to the reserve's future. Informed designs are based on cultural and ecological research. Further, identification of stakeholders, incorporation of public interests, articulation of the mission, and a clear set of objectives for the sustainable management of the reserve is essential. Finally, the extent of conservation goals, issues of access and education, and the long-term funding needs must be developed.

The El Pilar vision must include the concerns and desires for both resource conservation and economic development. Short-term strategies for community involvement and long-term concerns for conservation of the ancient architecture and the environment are vital. Educational and interpretive strategy for the park and surrounding landscape are also important. These facets are all dependent upon the results of integrated, collaborative, and multidisciplinary research program and are crucial to establishing the reserve on a lasting base.

The management plan also takes into account the location of El Pilar between Cayo, Belize, and El Petén, Guatemala. This unusual setting impacts every aspect of research activities at El Pilar. The research projects and resource management designs for El Pilar must consider the contiguous sections of Belize and Guatemala as a whole, as resources shared between two countries. The natural environment, cultural resources, adjacent contemporary peoples, and access for tourism all figure prominently in the master research and development plan as well the ultimate product: The El Pilar Archaeological Reserve for Maya Flora and Fauna. The reward will be an understanding of the ancient and contemporary dimensions of the Maya forest

## **II Management Considerations/Consideraciones de manejo**

### **A. Vision Statement**

#### ***El Pilar Maya Landscape: Gateway Between Two Nations***

El Pilar Archaeological Reserve represents an innovative example of cultural resource conservation in relationship to the natural environment and to contemporary peoples.

As the largest Maya archaeological site in the Belize River area, El Pilar is unique in its presentation of ancient daily life through household structures and forest gardens, located in the shadows of monumental Maya architecture.

This shared resource serves as a symbol of cooperation between Belize and Guatemala, and as a model of collaboration between the reserve and local communities and between the cultural and natural resource researchers and conservators.

Involvement in reserve planning and management links the communities to their cultural heritage, encourages their social and economic development.

Documentation and evaluation of this holistic approach to resource conservation will allow El Pilar to serve as a model for other important sites of world heritage.

#### **Paisaje El Pilar: Puerta Entre Dos Naciones**

El parque arqueológico El Pilar representa una nueva estrategia de conservación del patrimonio cultural y natural y su relación con la población.

El sitio arqueológico más grande en el área del Río Belice, El Pilar es único en su presentación de la antigua vida cotidiana a través de estructuras domésticas y la huerta agro-forestal, bajo la sombra de la arquitectura Maya monumental.

Este patrimonio compartido sirve como símbolo de cooperación entre Belice y Guatemala y como ejemplo de colaboración entre el parque y las comunidades locales y los investigadores y conservadores del patrimonio cultural y natural.

El involucramiento de la comunidad en el planeamiento y manejo del reserva lo relacionará con su herencia cultural y estimulará el desarrollo socio-económico actual.

La documentación y evaluación de este acercamiento a la conservación del patrimonio permitirá que El Pilar sirva como modelo para otros sitios de importancia del herencia mundial.

### **B. Goals**

1. Overall Reserve Goals
  - (a) To preserve in perpetuity the EP reserve to maintain cultural and natural setting
  - (b) To conserve and maintain the integrity of the EP reserve in a manner that benefits local communities through tourism and education
  - (c) To promote sustainable models for using the Maya forest at the EP reserve
  - (d) To provide visitor access, research and education opportunities for national and international visitors in a manner compatible with the cultural/natural environment
2. El Pilar International Management Goals:
  - (a) To develop the reserve in a regional context
  - (b) To establish a Technical Advisory Team (TAT)
  - (c) To promote joint cooperation between TATs
  - (d) Periodic monitoring of joint efforts
  - (e) Foster Inter-agency management possibilities within and between countries

### **C. Significant Management Issues**

1. Administration
  - (a) Cross-border issues
  - (b) Lands resolutions
  - (c) Extraction activities
  - (d) Boundary management
  - (e) Site maintenance
  - (f) Regulation enforcement
2. Infrastructure
  - (a) External access roads
  - (b) Park administrative buildings (caretaker's house, etc)
  - (c) Visitor center
  - (d) Internal concessions
3. Management Guidelines
  - (a) Community participation
    - (i) institutional capacity building
    - (ii) Consolidation of adjacent areas into reserve (Chorro site, Yaloch, Manantial, wetlands)
  - (b) Presentation of Maya landscape past, present and future
  - (c) Carrying capacity for visitors at reserve
  - (d) Adoption and evaluation of integrated cultural and natural resource management plan process
4. Funding
  - (a) Funding mechanisms
    - (i) develop finance program
    - (ii) seed monies
    - (iii) departmental commitments
    - (iv) others – innovative
  - (b) National sources (e.g. PACT in Belize, ID sources in Guatemala)
  - (c) External sources
    - (i) donor from private sector (e.g. Ford, Getty, MacArthur, local and regional foundations)
    - (ii) international agencies (e.g. USAID, EU, GTZ, UK, UNESCO, UNDP/GEF, WB, IDB)
  - (d) Government revenues generated through visitation

### **D. Communication Plan for El Pilar Archaeological Reserve for Maya Flora & Fauna (EPAR)**

1. Definitions
  - (a) "Communication" is:
    - (i) Public/community relations
    - (ii) Site identity materials (e.g. design elements, consistency of information content, etc.)
    - (iii) Interaction with news media (especially with respect to responsiveness to inquiries)
    - (iv) Interaction with professional communities
  - (b) "Public Relations" is communicating your story as you want it to be communicated
2. Objectives

To develop, implement, evaluate and maintain an effective communication plan which will

  - (a) Achieve a uniform identity in all communications products to market the EP reserve as a unique eco-tourist destination and research
  - (b) Maintenance of positive relations with educational outreach, government, media, the tourist industry, local communities and external organizations
  - (c) Ensure continuity of public/community relations
3. Activities
  - (a) Short Term
    - (i) Design a communications plan
      - determine overall message desired to be sent

- identify key audiences locally, regionally and internationally
    - local communities and schools
    - government administrators
    - tourism officials
    - visitors to site
    - interested scientists and academia
    - news media
  - identify supplemental audience(s)
  - tailor messages to the needs, interests and knowledge-level of audience(s)
  - determine methods to be used to communicate messages
    - brochures
    - posters
    - signs
    - corporate identity materials (logos, etc.)
    - newsletter
    - video
    - world-wide web
    - fact sheets
    - open houses
    - events (fiestas, fundraisers, Mesa Redonda)
    - publications library
    - internet list-serves
    - reports and research summaries (perhaps an annual report of site activities, aimed at the interested public)
    - media and trade tours
    - speakers' bureau
    - press releases, newspaper articles
  - identify key internal communicators/spokespeople for specific topics and external community leaders, government officials, tourism professionals, etc. through whom messages and information may be disseminated or reinforced
  - develop an action plan for crises and conflict management
    - accommodate news media in times of adverse events (natural disasters, thefts, cultural resources, international tensions, crime, funding emergencies)
    - determine spokespersons (the EP reserve administration, EP Program, tourism industry)
  - determine methods of receiving or eliciting information from targeted audiences (evaluation methods, surveys, informal elicitation of comment)
  - evaluate feedback and determine how that information will be analyzed and incorporated (or responded to)
  - amend communication plan as appropriate/necessary
- (ii) Implement the communications plan
- (b) Medium Term
- (i) Maintain the communications plan
  - (ii) Further evaluate the communications plan
  - (iii) Determine further/future potential audiences
  - (iv) Amend plan as appropriate/necessary
- (c) Long Term
- (i) Maintain the communications plan
  - (ii) Further evaluate the communications plan
  - (iii) Determine further/future potential markets
  - (iv) Amend plan as appropriate/necessary



### **III Management program**

#### **A. Resource Management and Protection, Maintenance and Sustainability (re-evaluation based on updated research)**

1. Benchmark indicators for monitoring
  - (a) Identify key features for monitoring
  - (b) Design plan for information loop
2. Conflict management strategy
  - (a) Determine communication needs
  - (b) Design action plan for crises
3. Cultural aspects with nature
  - (a) Objectives
    - To celebrate the past, for the present, to build a future
    - To connect the history of El Pilar to the community
    - To present a unique view of ancient Maya daily life
  - (b) Activities
    - (i) Short Term
      - establish inventory of all archaeological remains
      - develop feature house and forest garden at Tzunu'un
    - (ii) Medium Term
      - to develop the El Pilar chronology from prehistoric, into the historic, and to the present
      - excavate houses in other environmental zones
      - develop feature houses in other environmental zones
      - initiate maintenance regime for cultural resources (prehistoric, historic)
    - (iii) Long Term
      - complete feature house sites in key environmental zones
      - complete feature house sites in key human use zones
      - promote the model of culture with nature and the entwined relationship of humans and the environmental
      - establish maintenance strategy for managing the houses and forest garden in key environmental zone
4. Natural aspects with culture
  - (a) Objectives
    - To enforce the recuperation and regeneration of the renewable natural resources
    - To establish actual situation of natural resources
    - To determine management and sustainable use models of flora and fauna according to contemporary/comparative knowledge of the Maya forest
  - (b) Activities
    - (i) Short Term
      - establish a monitoring program
        - examine the dynamics of the natural resources at EP
        - initiate studies to establish standards to manage uses of natural resources at EP
    - (ii) Medium Term
      - establish a program for the management of human uses of wildlife at EP
      - establish different forest gardens along interpretative trails which incorporate wildlife management at EP
      - establish a program for habitat recuperation/restoration at EP
      - Strengthen /extend the biological corridors with mutual reliance with EP
    - (iii) Long Term
      - promote a standard monitoring program for EP
      - maintain data control standards for EP
      - promote a sustainable wildlife management program in conjunction with the forest garden
      - periodic evaluations of habitat program and corridor connections

5. Integrate Culture and Nature
  - (a) Objectives
    - To recognize the irreplaceable quality of cultural resources
    - To acknowledge the nexus of nature and culture
    - To determine management and sustainable use models that accentuate the interrelationships of culture and nature in the Maya forest past, present, and future
  - (b) Activities
    - (i) Short Term
      - establish a monitoring program that set values for irreplaceable cultural resources and the conservation of natural resources
        - examine the dynamics at the nexus of culture and nature at EP
        - initiate studies to establish standards to manage uses of integrated resources at EP
    - (ii) Medium Term
      - establish a program for the implementing the forest and a garden at EP
      - establish different interpretative trails which incorporate interrelationships at EP
      - establish a program for educating communities about human environmental impacts at EP
      - Strengthen links to biological corridors ~ human gaps within the around EP
    - (iii) Long Term
      - promote a standard monitoring program for EP
      - maintain data control standards for EP
      - promote a sustainable integrative management program
      - periodic evaluations of activities

## **B. Human Use Program**

1. Education
  - (a) Objectives
    - (i) School Programs and Curriculum Development
      - take local children on field trips to EP (implement rules and regulations for educational visits: carrying capacity, student teacher ration –25:1—and permit monitoring strategy)
      - create a teaching program between children and BRASS/ EP researchers (mentoring possibilities)
      - develop school curriculum to increase knowledge and awareness of cultural and natural resources
      - increase knowledge and awareness of values within the community (important objects or areas to protect, maintain agricultural character, protect the river)
    - (ii) Building Capacity of Local Community
      - courses/workshops for guides (archaeology, natural resources, environment and contemporary culture)
      - workshop for small enterprise initiation and management (restaurants, arts and handicrafts, guest houses)
      - workshop for developing livelihood alternatives using forest garden concepts for the reserve (extraction of corozo, allspice, fruits, etc.) and the promotion of innovative and traditional subsistence activities outside the reserve
      - workshop on grant writing/fundraising
      - evaluate and prioritize land use areas/zones (control access along main road, consider commercial and civic zones, determine housing densities, promote historic, environmental, and public areas, establish waste management policy)
    - (iii) Inform area residents of proposed management plan for El Pilar
      - organize committee meetings
      - design informational posters about the EP reserve

2. Community Participation in El Pilar  
Belize/AdEP

<u>Community</u>	<u>NGO</u>	<u>Promotion</u>	<u>Government</u>
Bullet Tree Falls	National	Tourism Marketing	DOA
Santa Familia	HfP, BEST, PACT	Conservation Education	MTE
Calla Creek	International		VC
Cayo	UNDP		Others

Guatemala – Counterpart AdEP

<u>Community</u>	<u>NGO</u>	<u>Promotion</u>	<u>Government</u>
Melchor	National	Evaluation of Municipal	CONAP
Santa Teresa La Zarca	Canan Kaax	Potentials	IDA EH
Santa Rosa	International	Conservation Education	Municipalidad
Suchitan		Tourism Marketing	

(a) Objectives

- (i) To promote participation of government and non-governmental organizations in the EP reserve
- (ii) To create a symbol of cooperation between the EP reserve and local communities
- (iii) To document and evaluate methods of community participation

(b) Activities

- (i) Short Term
  - expand community-based organization participation in Belize and Guatemala
  - forge communication channels between community and the EP reserve
  - develop methods for community conflict management through education and alternatives
  - Documentation of the process of community participation
  - begin to collect interpretative material from the community (traditional stories, poems, dances, photographs)
- (ii) Medium Term
  - establish memorandum of agreement for interaction between the EP reserve and communities
  - local participation in TAT and other pertinent groups
  - assemble community interpretative material for exhibition
- (iii) Long Term
  - continue to strengthen community based organization (CBO) membership
  - participate in conflict management
  - maintain communication between NGOs/CBOs and communities
  - document education strategies in cultural/natural resources
  - publish community interpretative material

(3) Interpretation

(a) Objectives

- (i) to develop interpretive materials to orient visitors to the cultural and natural qualities of the reserve and the local communities
- (ii) to underscore the importance of the reserve's resources and their protection
- (iii) to emphasize the need to support the reserve goals to conserve cultural/natural resources

(b) Activities

- (i) Short Term
  - design a brochure/website
  - build a visitors' center at the EP reserve
  - organize target features for local tours
  - maintain and upgrade self-interpretative trail system
  - design and maintain appropriate signage for features at the EP reserve
- (ii) Medium Term
  - create interpretative scenes of visitors' center

- incorporate demonstration forest garden models inside and outside the reserve
  - (iii) Long Term
    - maintain trail system
    - create interpretative scenes of visitors' center
    - promote integrative livelihood models at El Pilar
- 4. Tourism
  - (a) Objectives
    - (i) To conserve cultural and environmental integrity of the local area
    - (ii) To develop positive and negative impacts tourism
    - (iii) To promote eco-archaeology tourism for the community
    - (iv) To encourage sustainable business activities through maintaining the community character
    - (iv) To give priority to local community in the granting of concessions in the reserve
  - (b) Activities
    - (i) Short Term
      - promote craft, food and beverage sales in the community
      - form committee to address rules for tourism impacts within the community and within the reserve
      - formulate a community committee to address concession policy in the EP reserve
    - (ii) Medium Term
      - contact travel wholesalers and travel writers
      - develop guest rooms, excursions (horses, canoes, hiking, forest garden walks), and concessions at the EP reserve
      - design field trips and exchange programs to other community-based tourism sites to evaluate the pros and cons
    - (iii) Long Term
      - maintain tourism infrastructure between communities and reserve
      - promote established community tourism sites
- 5. Community Development
  - (a) Objectives
    - (i) to encourage comprehensive planning of growth related to the reserve (goods, services, waste management, preservation)
    - (ii) to support the economic activities of community in nearby communities to improve the quality of life and achieve a sustainable use of cultural and natural resources
    - (iii) to give priority to local community, wherever possible, in the creation of permanent/temporary jobs related to the EP reserve
    - (iv) to plan economic development in manner consistent with the cultural and environmental qualities at El Pilar
  - (b) Activities
    - (i) Short Term
      - promote seminars/workshops by the EP reserve staff in the local communities on sustainable development
      - identify economic resources and opportunities at ElPilar to help local community groups
    - (ii) Medium Term
      - collaboration of the EP reserve administration to develop proposals for community development
      - Encourage education on sustainable uses of renewable resources
      - Develop livelihood models at El Pilar for the conservation of Maya forest resources
      - Promote the EPAR model as a conservation strategy for the Maya forest
    - (iii) Long Term
      - EP reserve administration ensures profits from concessions in the reserve include the community
      - EP reserve administration encourages the development of artistry from natural resources found at the EP reserve (e.g. Corozo)
      - Realize the EPAR model as a conservation strategy for the Maya forest

### **C. Research and Monitoring Program**

#### **1. General Objectives: Research, Education, Protection**

- (a) To focus on nexus of culture and nature
  - (i) promote sustainable extraction strategies for plants/animals (e.g. Corozo)
  - (ii) education of community to participation in long term management of El Pilar
  - (iii) encourage dissemination and publication of preliminary results
- (b) To promote solicited science and independent science that creatively considers culture and nature
  - (i) standardized data collection methods to facilitate comparisons
  - (ii) UTM grid location of data sites
  - (iii) comparable recording techniques
  - (iv) maintain highest standards of scientific research
- (c) To develop a comprehensive Geographic Information System (GIS) (include all scientific data within the reserve boundaries)
- (d) To organize a research committee made up of research scientists working in the area
  - (i) to establish peer review process to evaluate research
  - (ii) to develop “handbook” for systematic and vicarious information gathered within the reserve and to encourage dissemination to the community
  - (iii) to promote centralized database of information (all information available, preliminary field reports of research/observations)
  - (iv) to track and coordinate access to preliminary reports and other grey literature
  - (v) to promote and facilitate research and permit process at El Pilar
  - (vi) to facilitate scientific enterprise and communications between scientists and between the committee and governments
  - (vii) to promote periodic scientific roundtables
  - (viii) to attract more research projects

#### **2. General Activities:**

- (a) Short Term
  - (i) develop teachers packages (audio/visual kits) for schools
  - (ii) contribute illustrative information to the Be Pukte and other community repositories
  - (iii) incorporate new data into the trail guide for the EP reserve
  - (iv) document the EP reserve research and development process
  - (v) issues to address
    - permit-processing
    - areas of investigation
    - research advisory committee
- (b) Medium Term
  - (i) Visitor Center and associated educational presentations on research programs
  - (ii) Promotion of the forest-as-a-Garden model for El Pilar
- (c) Long Term
  - (i) Promote model for interdisciplinary research
  - (ii) Realize the conceptual integration of culture and nature

#### **3. Cultural Resources Objectives**

- (a) To adhere to the conservation principles:
  - the Athens Charter 1931, the Venice Charter 1964, and the Burra Charter 1966
- (b) To understand the prehistory, history, and contemporary development of El Pilar (archaeological, survey, excavation, archives, library)
- (c) To promote a coherent archaeological conservation program for all of El Pilar
- (d) To develop a conservation monitoring program to maintain El Pilar
- (e) To adopt the theme of *Travel Through Time* and *View Everyday Life* –past, present, future

#### **4. Cultural Resources Activities**

- (a) Short Term
  - (i) inventory of cultural remains to establish a research and monitoring baseline
  - (ii) investigate the construction sequence of Nohol and Xaman Pilar using the tunneling method focused at Copal (EP7) and the Hemena (EP20)
  - (iii) continue development of the Forest Garden to show aspects of everyday life

- (iv) complete the excavation, exposition, and consolidation at 1) Tzunu'un, 2) EP7 stairs of Copal, 3) EP25 of Plaza Lec
    - (v) initiate monitoring system for consolidation program and institute improvements
    - (vi) develop cultural conservation program
  - (b) Medium Term
    - (i) include Pilar Poniente in trail system
    - (ii) complete the excavation, exposition, and consolidation at key locations of
      - Copal
      - Gumbolimbo
      - Ixim
      - Subin
    - (iii) expand the Forest Garden developments at El Pilar to include the mosaic of land use areas, particularly in the western Guatemala section of the reserve where a swamp zones are reported
    - (iv) continue to monitor conservation strategies for revisions and improvements
  - (c) Long Term
    - (i) analyze, publish results of research and conservation programs
    - (ii) promote conservation program
    - (iii) establish the varied aspects of the model mosaic of ancient Maya life ways in the different identified natural life zone systems within the reserve
5. Natural Resources Objectives
- (a) To understand the natural history of El Pilar
  - (b) To promote an appreciation of the human interface with the natural environment at El Pilar, past and present
  - (c) To focus on the dynamics of the forest through research on succession, edge effects, and examination of equilibrium
  - (d) To determine indicator species for monitoring program
  - (e) To demonstrate the necessity of wildlife corridors in the viability of small reserves like El Pilar and document the contribution of small reserves like El Pilar to the maintenance of bio-diversity and refuges for plants and animals
6. Natural Resources Activities
- (a) Short Term
    - (i) inventory of species and communities of plants and animals for baseline
    - (ii) establish permanent monitoring plots and transects for research and monitoring programs
    - (iii) determine baseline soils, species, light for milpas and other stages of forest within the reserve
    - (iv) determine protocol for monitoring within the reserve boundaries
    - (v) establish air photography base and ground proofing
  - (b) Medium Term
    - (i) periodic monitoring of permanent plots and transects (as needed, at least every 5 yrs)
    - (ii) measure dynamics of forest
  - (c) Long Term
    - (i) analyze, publish results of research and conservation programs
    - (ii) promote conservation program
    - (iii) continue periodic monitoring of permanent plots and transects (as needed, at least every 5 yrs)
    - (iv) continue to measure dynamics of forest
7. Integrated monitoring and management concerns
- (i) maintain natural environment in public areas
  - (ii) manage natural environment on monuments
  - (iii) determine impact standards on natural and cultural resources in public areas
  - (iv) incorporate community monitors to increase local investment
  - (v) incorporate tourism trails into resource monitoring agenda
  - (vi) promote an integrated management strategy between management entities (Archaeology, Forestry, Lands etc.)
  - (vii) propagate model for the regional conservation of cultural and natural resources

## **D. Zoning, Land Use, Access**

### **1. Objectives: The El Pilar Archaeological Reserve for Maya Flora and Fauna (EPAR)**

To protect the cultural and natural resources present in the Reserve and determine proper usage. All extractive processes (looting, hunting, timber , etc.) should be prohibited within the Reserve boundaries to facilitate and monitor the recuperation in the Reserve while gathering scientific info on succession and reforestation. A one kilometer zone surrounding the entirety of the Reserve should be created for the purposes of limited and sustainable extraction and education.

- (a) To create a comprehensive plan for research, education, protection of resources at the EP reserve
  - (i) based on available research data
  - (ii) consider impact on culture & nature
- (b) To develop environment to benefit visitors and community
  - (i) facilities
  - (ii) concessions
  - (iii) trails
  - (iv) roads
- (c) To manage relationship inside/outside the EP reserve
  - (i) promote a conservation zone of influence around the EP reserve
  - (ii) develop camping facilities outside the EP reserve
  - (iii) manage road access (close to through traffic in phase, monitor rerouted roads)
  - (iv) encourage alternative agricultural practices based of the forest garden model
- (d) to create zones which protect the cultural and natural resources of the Reserve while involving and considering the local communities and their needs.

### **2. Activities**

- (a) Culture/Nature Zone
  - (i) research – inform management/capacity in the EP reserve
  - (ii) protection – establish a continuum of access based on recuperation and succession, research projects, and interpretation exhibits (from tourist trails to forbidden zones)
  - (iii) interpretation – use research data for interpretative trails and information
  - (iv) extraction – develop data base to serve a model of sustainable extractive uses and education that would include a buffer zone of influence around the reserve
- (b) Development Zone
  - (i) concessions – involve community participation
  - (ii) infrastructure – develop funding priorities
    - construct facilities related to the reserve (Caretakers base, visitors centers for exhibits, control points to inhibit through traffic, research base to assist in field work)
    - develop roads in reserve to facilitate access and monitoring with control access points developed in 2 phases
    - expand trail system for interpretive exhibits on culture and nature (demonstrate diversity of culture and nature, minimize impact on resources, unified and well-designed system including all aspects of the EP reserve)
  - (iv) maintenance of park developments
- (c) Zone of Influence surrounding the EP reserve (Belize – SDA; Guatemala – ZUM)
  - (i) access
    - improve roads to reserve to allow community access beyond reserve and control within reserve with diversions around culture core developed over 2 phases that includes improving visual approaches
    - insure access around reserve and monitoring of boundaries along roads
    - trails from communities to reserve for hiking, observation, and horseback
  - (ii) communities
    - promote camping facilities in zone of influence for visitors

- create 40 meter forested buffer along access road to limit views of agriculture/pasture zones
- (d) Resources or areas of special interest (Culture/Nature)
- (i) identify within the EP reserve for research, protection, education
  - (ii) recognize outside the EP reserve for research, protection, education
- IV. Administration – Formal/International Relations**
- A. General**
1. Objectives
    - (a) To establish an administrative/management presence at the EP reserve
      - (i) to establish an administrative framework for implementation of the Management Plan in Belize and Guatemala
      - (ii) to establish a coordination mechanism between Belize and Guatemala to implement the Management Plan
  2. Options for Management Entity
 

<u>Belize</u> Department of Archaeology NGO (ID) Consortium
--
  3. Delegation of Authority
 

<u>Belize</u> By agreement (Belize Audubon Soc. Model) Design for Dept. of Archaeology
--
  4. Non-Delegable Authority
 

<u>Belize and Guatemala</u>
(a) Enforcement (b) Research Approvals (c) Review and Application of Master Plan and Amendments
  5. Duration
 

<u>Belize</u> (a) 5 years (b) 2-1/2 year review (Belize Audubon Soc. Model) (c) Annual Operating Plan
--
  6. Procedure for Plan Approval
 

<u>Belize</u> (Belize Audubon Soc. Model) NGO Drafts Dept. of Archaeology
---
  7. Technical Advisory Team  
 Description of TAT:
 

Knowledge of the resources of the EP reserve  
 Commitment to resource management and conservation  
 Liaison between management and community

<u>Belize</u> Advisory Team (a) Composition Village Council member AdEP member EP Program member DOA member BTB/BTIA member EPAR member Required TAT Meetings Ad hoc Informal Liaisons	<u>Guatemala</u> Advisory Committee (a) Composition Municipality member Community member NGO member IDAEH member CONAP member EP reserve member Required TAT Meetings Ad hoc Informal Liaisons
--	--



8. Management Entity

Belize and Guatemala

Must consult with the Advisory Team BUT the recommendations of the Advisory Team are not binding

9. International Coordination (2 levels)

Belize and Guatemala

(a) High

(i) Formal Agreement for cultural exchange

- UNESCO as a facilitator
- Embassies as a facilitator

(b) Low

(i) Memoranda of Agreement/Understanding

<u>Belize</u>	<u>Guatemala</u>
Forestry	CONAP
Dept. of Archaeology	IDAEH

10. Responsibilities of Joint Technical Advisory Team

- (a) Review Progress of the Management and Operating Plan
- (b) Develop and implement common standards for management (e.g. research, administration, tourism, community, etc.)

11. General Administration Issues for the EPAR

- (a) Create annual operation plan
- (b) Create annual budget
- (c) Register visitors and maintain visitor data
- (d) Request/acquire necessary material/equipment
- (e) Produce list of training needs and implement training program
- (f) Manage reserve accounts
- (g) Plan/regulate personnel requirements
- (h) Explore legal/financial opportunities for long term sustainability of reserve

11. Issues of Concern

- (a) Resolution of outstanding land issues within the reserve (Belize /Guatemala)
- (b) Develop education programs for Belize/Guatemala in management of resources at the EP reserve
- (c) Utilization of the Reserve as a contiguous park
- (d) Identify funding sources and alternative combinations
  - (i) external sources
  - (ii) internal sources

12. Laws and International Agreements/Conventions Affecting the EPAR

BELIZE

- (i) Ancient Monuments and Antiquities Act
- (ii) National Parks System Act
- (iii) Lands Utilization Act
- (iv) Special Development Areas
- (v) CCAD Agreement
- (vi) CCAB/AP
- (vii) CITES
- (viii) Convenio Centroamericano de Biodiversidad y Proteccion de Areas Silvestres Prioritarias en America central
- (ix) Alianza Centroamericana para el Desarrollo Sosotenible (ALIDES)
- (x) UNESCO: World Heritage Site Convention
- (xi) Environmental Protection Act, 1992.
- (xii) Environmental Impact Assessment Regulations, 1995

## **B. International Coordination**

1. Objectives  
To develop appropriate mechanisms to coordinate, manage, research and other activities at El Pilar between Belize and Guatemala
2. Activities
  - (a) Short Term
    - (i) informal technical exchange as basis for TAT – plan Mesa Redonda III and other exchanges
    - (ii) secure a Carta de Intención for general cooperation between the relevant government agencies  
CONAP – Department of Forestry  
Department of Archaeology – IDAEH
  - (b) Medium Term
    - (i) pursuant the Carta de Intención, establish a joint Technical Advisory Team under the jurisdiction of each management entity
    - (ii) develop and implement joint management strategy
  - (c) Long Term
    - (i) formal agreement for cultural exchange (UNESCO, Embassies)
    - (ii) prepare appropriate delegation agreement and, if necessary, statutory instrument
    - (xiii) promote standing joint Technical Advisory Team for cooperative management at EP
3. International Relations
  - (a) BELIZE
    - (i) The Government, via the Ministry of Foreign Affairs, is the only governmental entity that may sign agreements at the national or political level.
    - (ii) The Department of Archaeology, Ministry of Tourism, through the Commissioner of Archaeology is the entity that may sign agreements between institutions with regional or international objectives
    - (iii) Protected areas alone may sign letters of understanding with other protected areas at the international level
  - (b) GUATEMALA (see Laguna del Tigre example pp 66)

## **C. Financial**

1. Objectives  
To develop a sustainable funding basis for the EP reserve (Belize/Guatemala)
2. Activities
  - (a) Short Term
    - (i) develop the EP reserve as a eco-tourist destination for immediate community benefits in marketing
  - (b) Medium Term
    - (i) accounts for direct economic development, social benefits and environmental conservation
      - longer stays in Cayo
      - concessions in the EP reserve
      - visitor receipts at the EP reserve
      - access to community facilities (Be Pukte, stores, restaurants, etc.)
      - conservation at the EP reserve
      - education in cultural/natural resources
  - (c) Long Term
    - (i) evaluate economic and conservation benefits at the local, regional and global levels

## **D. Facilities Maintenance**

1. Objectives  
To develop and maintain physical infrastructure within the reserve
2. Activities
  - (a) Short Term

- (i) develop and implement a regular maintenance program for basic trails, informal facilities, improve restrooms
  - (b) Medium Term
    - (i) develop and maintain visitor way stations along trails and basic visitor center
  - (c) Long Term
    - (i) develop and maintain appropriate developed tourist facilities, bathrooms, visitors' centers with appropriate materials
- E. Conflict Management and Enforcement**
  - 1. Objective
    - To be able to manage conflicts within the reserve administration between the reserve and the communities and between the two nations
  - 2. Activity
    - Create a protocol for conflict resolution
- F. Community Participation**
  - Formally part of administrative structure for short, medium and long term activities
- G. Co-Management issues**
  - Joint Belize/Guatemala or Government/NGO
- V. Implementation Schedule**
- A. Objectives**
  - 1. To follow a schedule and sequence for implementing a management plan
  - 2. To stage and prioritize plan for maximum management flexibility
  - 3. To jointly implement the development, monitoring and communication channels for the EP reserve in Belize and Guatemala
  - 4. To develop the EP reserve within the regional context of the Mundo Maya
    - (a) EPAR cultural destination in the context of nature in Belize
    - (b) EPAR natural destination in the context of culture in Guatemala
    - (c) Educate visitors in protecting the monuments and conserving the environment
- B. Activities**
  - 1. Short Term
    - (a) Establish schedule
      - (i) Short Term: years 1 to 2; urgent requisites
      - (ii) Medium Term: years 3-4; necessary requisites
      - (iii) Long Term: years 5+; feasible activities
    - (b) Implement schedule for protection, resource management, education, tourism, interpretation, community participation, research, monitoring, administration, maintenance
    - (c) Maintain trails in culture destination
    - (d) Evaluate trail system for nature destination
  - 2. Medium Term
    - (a) Maintain schedule
    - (a) Establish trail for nature destination
    - (b) Maintain trail system to culture/nature areas
  - 3. Long Term
    - (a) Re-evaluate schedule
    - (a) Evaluate trail systems
    - (b) Maintain trail systems to culture/nature areas
- C. Monitoring Issues**
  - Objectives
    - To jointly establish periodic monitoring strategies

#### Activities

- Short Term
  - Coordinate the Joint TAT
  - Establish joint efforts (boundary maintenance, cross-border visitation, international research)
- Medium Term
  - Establish a periodic schedule of joint monitoring efforts
  - Promote cooperative TAT meetings
- Long Term
  - Continue to coordinate joint TAT meetings
  - Enforce periodic joint monitoring tasks

#### **VI. BUDGET**

1. Protection/enforcement (patrols, guards, signs, caretakers' base)
2. Resource management (access zones, extraction zones)
3. Education (school visits, curriculum development, rules and regulations)
4. Tourism (information dissemination, visitors' center, visitor way stations)
5. Interpretation (trails, signage, exhibits)
6. Community participation (labor, AdEP, concessions, projects)
7. Research (inventory, protocol, documentation, dissemination)
8. Monitoring (wildlife transects, review of monuments, assessment of conservation)
9. Administration (annual operating plan/budget, visitor data, materials & equipment, training, accounts, personnel)
10. Maintenance (develop program, solid waste management program, equipment inventory)

#### **VII. Protected area technical evaluation committee ~ El Pilar**

John Morris ~ Department of Archaeology, Chair  
Anselmo Casteñada ~ Mesoamerican Biological Corridors  
Eugene Ariola ~ Coastal Zone Management  
Eugenio Ah~ Belize Audubon  
Elias Awe ~ Help for Progress  
Joseph Palacio ~ University of West Indies  
Rafael Manzanero~ RARE International  
Natalie Rosado~ Department of Forestry  
Evaristo Avella~ Friends of Conservation and Development

## *CONSULTATIVE COUNCIL EL PILAR*



**Lakin ~ Chikin**

**One Initiative for El Pilar in the Maya forest**

*International Coordination – Consultative Council El Pilar*

*Carta de Intención Para el Establecimiento del Consejo Consultivo El Pilar*

*Letter of Intent Establishing the Consultative Council El Pilar*

**Considerando:**

Que El Pilar es un sitio del Maya Ancestral que representa un recurso cultural y natural compartido entre dos naciones contemporáneas,

**Considering:**

That the ancient Maya Center of El Pilar represents a single cultural and natural resource shared by two modern nations,

**Considerando:**

Que las comunidades que rodean a El Pilar, son los custodios de este recurso cultural y natural y desean preservarlo y a la vez disfrutar de un desarrollo económico sostenible,

**Considering:**

That the communities around El Pilar are custodians of this natural and cultural resource and wish to preserve El Pilar and its rich cultural heritage while enjoying sustainable economic development,

**Acuerdan/It is therefore agreed:**

**Artículo 1. Objeto.** Establecer el Consejo Consultivo El Pilar con el objeto de apoyar la administración desde Belice y Guatemala con el desarrollo de un plan estratégico, establecer mecanismos para la resolución de diferencias, dar ejemplos estandarizados armonizados, realizar estudios compartidos.

**Article 1. Objective.** To establish the Consultative Council El Pilar in order to assist the administrators from Belize and Guatemala with the development and implementation of the strategic plan for El Pilar, develop mechanisms for the resolution of differences, provide examples of harmonized standards and carry out joint studies.

**Artículo 2. Atribuciones.** El Consejo Consultivo El Pilar tendrá las siguientes atribuciones:

**Article 2. Duties.** The Consultative Council El Pilar will have the following duties:

1. Contribuir y asesorar sobre los planes estratégicos de El Pilar.
1. Contribute to and provide advice concerning the strategic plans for El Pilar.
2. Coordinar y velar por la implementación de un sistema conjunto de monitoreo y evaluación.
2. Coordinate and support the implementation of a joint system of monitoring and evaluation.
3. Apoyar la estandarización, dentro del marco legal e institucional de cada país, de las investigaciones, el monitoreo y la administración en El Pilar.
3. In accordance with the legal and institutional framework of each country, support the standardization of research, monitoring and administration in El Pilar.
4. Promover proyectos de desarrollo sostenible conjuntos.
4. Promote projects of joint sustainable development projects.
5. Búsqueda de recursos financieros y logísticos para proyectos conjuntos.
5. Look for financial and logistical resources for joint projects.
6. Apoyar la resolución de diferencias técnico-administrativas en El Pilar.
6. Support the resolution of technical/administrative differences in El Pilar.
7. Promover la capacitación de técnicos y comunitarios.
7. Promote training for technicians and representatives from the community.
8. Convocar a una Mesa Redonda cada dos años.
8. Convene a mesa redonda every two years.
9. Participar en eventos afines a las atribuciones de este Consejo.
9. Participate in events in support of the duties of this Council.

**Artículo 3. Integración del Consejo Consultivo.** Se invita a las siguientes instituciones a integrar el Consejo Consultivo El Pilar, debiendo designar un representante.

**Article 3. Composition of the Consultative Council.** The following institutions are invited to become members of the Consultative Council El Pilar through the designation of a representative:

**Por Guatemala/ By Guatemala:**

1. Consejo Nacional de Areas Protegidas, CONAP
2. Instituto de Antropología e Historia de Guatemala, IDAEH
3. Organización No Gubernamental (coadministrador del area protegida).
4. Municipalidad de Melchor de Mencos
5. Asociación de Amigos de El Pilar ~ Lakin, Guatemala

**Por Belice/ By Belize:**

1. Departament of Archaeology
2. Departament of Forestry
3. Non Governmental Organization (Co-administrator of the Protected Area).

4. Representative of Bullet Tree Falls Village/Town Board Cayo
5. Amigos de El Pilar ~ Chikin, Belize

Asi también se podrá invitar a la Comisión Centroamericana de Ambiente y Desarrollo, CCAD. The Central American Commission of Environment and Development (CCAD) is invited to participate in the meetings and activities of the Council.

**Artículo 4. Presidente y Secretario.** Al tener su primera reunión el Consejo Consultivo El Pilar elegirá entre sus miembros un presidente y un secretario, quienes desempeñarán sus cargos ad-honorem y por un período de dos años, pudiendo ser reelectos.

**Article 4. President and Secretary.** Upon convening its first reunion the Consultative Council for El Pilar will elect among its members a president and a secretary who will serve without remuneration for a period of two years, and who can be reelected.

**Artículo 5. Reuniones.** El Consejo Consultivo se reunirá por lo menos una vez cada semestre, alternando en cada país. Sus decisiones serán tomadas por consenso y se considera que habrá quorum con la presencia de la mitad más uno de sus miembros.

**Article 5. Meetings.** The Consultative Council will meet at least once each six months, alternating the location each year. The Council's decisions will be taken by consensus and a quorum will be considered present upon the attendance of half of the members of the Council plus one.

**Artículo 6. Asesores.** El Consejo Consultivo El Pilar, cuando lo considere conveniente, podrá hacerse asesorar de consultores y especialistas según la materia requerida.

**Article 6. Advisors.** The Consultative Council for El Pilar, when it considers it to be necessary, can retain advisors, consultants and specialists in accordance with the expertise it may require.

**Artículo 7. Transitorio.** Cuando ambos países nombren a sus administradores para cada sector, éstos pasarán a integrar el Consejo Consultivo El Pilar.

**Article 7. Procedure for Establishing the Consultative Council.** When both countries have named administrators for each sector, these entities will establish the Consultative Council.

Firmamos el presente documento, en dos originales de igual tenor y validez, redactados en inglés y español, en Remate el día 22 del mes Julio del año 2001.

Signed in two equally identical originals, redacted this 22nd day of July 2001.

Administrator de El Pilar – Guatemala

Administrator of El Pilar – Belize

List of Attendants at the 1<sup>st</sup> meeting of the Consultative Council of El Pilar CoCEP held at the San Ignacio Resort Hotel on June 14, 2001

<b>Name</b>	<b>Organization/Group</b>
<b>Dr. Anabel Ford</b>	<b>MARC/UCSB Santa Barbara Ca. 93106 USA</b>
<b>Julia Flores de Ortiz</b>	<b>Ciudad Flores Petén Guatemala</b>
<b>Mario Mancilla</b>	<b>Canan Kaax Petén Guatemala</b>
<b>Paul J. Francisco</b>	<b>Department of Archaeology Belmopan Belize</b>
<b>M. Joyce Tun</b>	<b>Department of Archaeology Belmopan Belize</b>
<b>C. Rudy Larios V.</b>	<b>4. Calle 13-62 Zona Villa de Mixco, Guatemala. C.A .</b>
<b>Eduardo Gonzales Vassaux</b>	<b>3 Ave “A” 3-51 Zona 1 Guatemala. C.A.</b>
<b>Henry Atherley</b>	<b>Belize Tourism Board Central Bank Building Level 2, Belize City, Belize CA Tel:02-31913</b>
<b>Ambassador James S. Murphy</b>	<b>Ministry of Foreign Affairs P.O Box 174 Belmopan, Belize Tel: 501-8-22167 and 501-8-22322</b>
<b>Enrique Morfin G</b>	<b>ADEP Melchor 9265413</b>
<b>Orlando Pulido</b>	<b>HFP-BRASS</b>
<b>Heriberto Cocom</b>	<b>ADEP Lakin,</b>
<b>Miguel Pereira</b>	<b>Canan Kaax</b>
<b>Elias A. Awe</b>	<b>Help for Progress</b>
<b>Rick August</b>	<b>Help for Progress</b>
<b>Oswaldo Sabido</b>	<b>Min. Natural Resources, Environment and Industry</b>
<b>Anselmo Castaneda</b>	<b>Meso American Biological Corridors Project</b>
<b>Cecilia Neal</b>	<b>Cayo Adventure Tours Cayo Belize</b>
<b>Dr. John Morris</b>	<b>National Institute of Culture and History Belize</b>
<b>George Thompson</b>	<b>Department of Archaeology</b>
<b>Dr. Joseph Palacio</b>	<b>University of the West Indies</b>
<b>Fr. Richard Walz</b>	<b>Santa Familia Monastery</b>
<b>Ninni Berger</b>	<b>CI, Guatemala City</b>



*Appendix III: Ten Years Asset Building*  
*Supported by the El Pilar Program*  
*at the El Pilar Archaeological Reserve for Maya Flora and Fauna*

Items		Value UD \$	Total Value US \$
<b><u>Fixed Assets</u></b>			
Caretaker House	35,000		
Generator housing	4,000		
1 Diesel Generator 11kw	9,000		
Solar plant and wiring	2,000		
2-m Radio system	1,500		
2 VIP Comfort stations	9,000		
6 roofed rest stops	7,800		
1 picnic galleria	6,200		
Container	2,300		
Subtotal		76,800	
Nature Trails:			
Community Creek	26,000		
Chorro Trail	12,000		
Culture Trails			
Lakin Trail	13,000		
Xaman Trial	17,000		
Nohol Trail	19,000		
Chikin Trail	11,500		
Interpretations for trails	910,600		
Subtotal		1,009,100	
Consolidation of Structures And Interpretation			
Tzunu'un house complex	529,000		
Zotz Na Corbelled Arch	152,000		
Xamanaj at Lec	83,000		
Jobo	191,000		
Axcanan	42,000		
Looter's Trenches	475,000		
General support	353,000		
Subtotal		1,825,000	
Explorations and discovery –10 yrs			
Mapping and topog	205,000		
Monuments detail	333,000		
Chronology development	585,000		
Access evaluation	182,000		
Ecological interpretations	493,000		
Subtotal		1,798,000	
<b><u>Support Equipment</u></b>			
Water pump	700		
2 Portable Gas Generator 5 HP	1050		
Trimmer Mower	700		
Weeder	50		
Archaeological			
Archaeological Equipment	2,600		
Subtotal		5,100	
<b><u>Interpretive&amp; Educational Materials</u></b>			
Maps and flyers of El Pilar	5,500		
Web site ( <a href="http://www.marc.ucsb.edu">www.marc.ucsb.edu</a> )	34,000		
Trial Guides	3,600		
Teo's Way	7,000		
Posters and Postcard	16,000		
Community Creek Trail book	11,000		
Tzunu'un Forest Garden Guide	19,000		
El Pilar Trial Guide	32,000		
Subtotal		128,100	
<b>GRAND TOTAL</b>		<b>4,842,100</b>	

## *Appendix IV: Collaborative Organization*

### *El Pilar Team*

#### El Pilar Team Organization:

##### El Pilar Program

~ UCSB Main Office: Anabel Ford Director

1. Coordinate interdisciplinary research projects as well as activities, agendas and meetings for El Pilar
2. Assist in and manage team research, development, and coordination for El Pilar and the Maya forest internationally.

~ Belize Advocate: Anselmo Castañeda Regional Environment

1. Presentation of the El Pilar conservation model in the context of the analyses of Mesoamerican biological corridors.
2. Promotion of the El Pilar model among key government and NGO officials involved in culture and nature.

~ Guatemala Advocate: José Antonio Montes International Law

1. Regional and international analyses of legal and political structure for management of shared cultural and natural resources.
2. Research and drafting of legal position papers for regional distribution and formal documents for agreements.

#### Community Participation

~ Amigos de El Pilar: Lakin/Chikin (Belize/Guatemala)

1. Community based organization promoting local participation in the management and benefits related to the conservation of resources at El Pilar.
2. Actively involved in expanding participation in conservation, especially the youth
3. Maintain cross-border community projects at El Pilar.

#### Community Accompaniment

NGO Program Partners: Community and Conservation Management

~ Help for Progress/Belize: Elias Awe, Rick August, Melanie Santiago

1. Asset building for rural community development in the Maya forest.
2. Social and environmental advocacy for community programs.
3. Linkage empowerment between rural communities and local government as well as local and international NGOs

~ Canan K'aax/ Guatemala: Mario Mancilla, Ramon Zetina

1. Resource conservation management and environmental research in coordination with community participation.
2. Environmental research inventory, monitoring.
3. Management linkage for communities and resource conservation.

## *Appendix V: Timeline for El Pilar*

### **El Pilar and the Maya World**

#### **700 BC ~ Middle Pre-Classic Period**

The first public monuments established at El Pilar and earliest occupation of Tzunu'un Maya House with the forest garden

#### **250 BC ~ Late Pre-Classic Period**

Plaza Copal completed around same time of public monuments at Tikal  
Major occupation in the El Pilar area  
Development of Plaza Axcanan

#### **250 AD ~ Early Classic Period**

Construction at Plaza Jobo  
Tikal emerges as a major power in 292AD

#### **600 AD ~ Late Classic Period**

Major construction at Xikna Pyramid

#### **900 AD ~ Terminal Classic Period**

Continued construction at El Pilar

#### **1000 AD ~ Early Postclassic Period**

Abandonment of El Pilar

#### **1250 AD ~ Late Postclassic Period**

Occupation in the River Valley

#### **1550 AD ~ European Contact**

Cortez crosses the Petén

### **Life Returns to the Forest**

- ❖ **1972** El Pilar recorded by the Dept. of Archaeology
- ❖ **1983** Dept. of Archaeology formally visit El Pilar
- ❖ **1984** Belize River Archeological Settlement Survey initial mapping of the site
- ❖ **1993** BRASS/El Pilar Program begins excavations with full time caretaker
- ❖ **1994** Master map of the site core completed w/ Pilar Poiniente in Guate
- ❖ **1995** Official boundaries of El Pilar established in Belize
- ❖ **1995** Model Maya House created at Tzunu'un and El Pilar is listed in 100 Sites in Peril ~ World Monument Watch
- ❖ **1996** Excavation and careful consolidation at Jobo and Tzunu'un
- ❖ **1997** El Pilar certified as a Monumento Cultural in Guatemala and family shrine discovered at Tzunu'un
- ❖ **1998** Tzunu'un is consolidated for public access and the El Pilar mapping expanded
- ❖ **1999** Outreach education developed as part of BRASS/El Pilar Program
- ❖ **2000** Rolex Award for Enterprise
- ❖ **2001** Tzunu'un Trail Guide published showcasing the Forest Garden
- ❖ **2002** Publication of El Pilar Trail Guide ~ Educational collaboration and Tourism Workshops

## *Appendix VI: History of Reserve Development*

The development of El Pilar and the cross-border aspect is unique in the Maya forest and in Central America. El Pilar is now two contiguous areas protecting one cultural resource in two countries. There has been a process that has focused on community and management. The outline of the major events over the past ten years is presented in the following table. The research process enveloped the management developments with the community participation at each step.

[History of El Pilar Table](#) for Appendix VI

[http://www.marc.ucsb.edu/elpilar/10year\\_management/history\\_elpilar.pdf](http://www.marc.ucsb.edu/elpilar/10year_management/history_elpilar.pdf)

## *Appendix VII: Acronyms used in the Text*

ACOFOP Association de Comunidades Forestales  
AdEP Amigos de El Pilar  
BRASS Belize River Archaeological Settlement Survey  
BEST Belize Enterprise for Sustainable Technology  
BTF Bullet Tree Falls  
BTIA Belize Tourism Industry Association  
CCAD Comision Centroamericana de Ambiente y Dearrollo  
CoCEP Consultative Council for El Pilar  
CONAP Consejo Nacional de Areas Protegidas  
DoA Department of Archaeology  
EPAR El Pilar Archaeological Reserve for Mata Flora and Fauna  
FCD Friends for Conservation and Development  
FNR University of Belize Faculty of Natural Resources  
HfP Help for Progress  
IDAEH Instituto de Antropologia e Historia (Guatemala)  
IDB InterAmerican Development Bank  
IDEADS Instituto de Derecho Ambiental y Desarrollo Sustentable  
INGUAT Instituto Guatemalteco de Turismo  
MCEP Monumento Cultural para Flora y Fauna Mayas  
MR Mesa Redonda(s)  
NARMAP Natural Resources Management and Protection Project  
NGO Non-Governmental Organization  
PACT Protected Areas Conservation Trust  
PACTEC-EP Protected Areas Technical Evaluation Committee – El Pilar  
RBM Reserva de la Biosfera Maya  
SHJC Sacred Heart Junior College  
SIGAP Sistema de Areas Protegidas  
UCSB University of California, Santa Barbara  
UF University of Florida  
USAID United States Agency for International Development  
WMF World Monument Fund

# Appendix VII: The Statutory Instrument for El Pilar

No. 54]	Ancient Monuments and Antiquities	1
BELIZE:		
	<p><b>STATUTORY INSTRUMENT</b></p> <p>No. 54 of 1998</p> <p><i>ORDER made by the Minister responsible for ancient monuments and antiquities in exercise of the powers conferred upon him by section 28 of the Ancient Monuments and Antiquities Act, Chapter 259 of the Laws of Belize, Revised Edition 1980-1990, and all other powers thereto him enabling.</i></p> <p>(Gazetted 23rd May, 1998.)</p>	
	<p>1. This Order may be cited as the</p> <p><b>ANCIENT MONUMENTS AND ANTIQUITIES (EL PILAR ARCHAEOLOGICAL RESERVE FOR MAYA FLORA AND FAUNA) ORDER, 1998.</b></p>	Short title.
	<p>2. The area of unalienated National Land situate in the Cayo District which is described in the Schedule hereto and known as El Pilar is hereby declared to be an Archaeological Reserve.</p> <p>MADE by the Minister responsible for ancient monuments and antiquities this 12th day of May, 1998.</p> <p>(HENRY V. YOUNG) Minister of Tourism and the Environment, Minister responsible for Ancient Monuments and Antiquities</p>	Declaration of Reserve. Schedule.
		Printed in Belize by the Government Printer

2	Ancient Monuments and Antiquities	[No. 54]
	<p><b>SCHEDULE (Paragraph 2)</b></p> <p>All that piece or parcel of land known as El Pilar Archaeological Reserve for Maya Flora and Fauna containing ±808 ha (1,997 acres) that is situated in the area of Fowler's Work in the vicinity of Pilar Camp, which is between 6 and 8.5 miles North from Bullies Tree Falls along the Pilar Road. The parcel being now National Lands, vide plan of location, lodged in the office of the Commissioner of Lands and Surveys, Belmopan, and being more particularly described as follows:</p> <p>Commencing at the western border of Belize near UTM Co-ordinate 19-07-180N/2-71-190E, being the southwest corner of the herein described parcel, thence along grid bearing 27° 08' 00" ±120 m to concrete pillar AF4 thence for 630.29 m to El Pilar Reserve South Boundary Marker SBM1, having UTM Co-ordinate 19-07-180N/2-71-933E<sup>1</sup>, adjacent to the south celba tree, thence following the same UTM grid line 19-07-180N across the Pilar Rd. 2,090.25 m to the southeast corner concrete pillar 222 at UTM Co-ordinate 2-74-023E/19-07-180N, thence on a grid bearing of 00° 08' 00" for a distance of 2,454.04 m to another concrete pillar GP7 being the northeast corner at UTM Co-ordinate 2-74-023E/19-10-034N, thence on a grid bearing 279° 08' 15" for a distance of 2711.73 m towards the north celba tree, across the Pilar Rd to another concrete pillar GC5 and continuing along the same bearing ±140 m to the northwest corner at the western border of Belize, thence along the western border of Belize south ±3,300 m back to the point of commencement.</p> <p><b>EXCLUDING</b> the following portion of land containing ±62 ha ±154 acres: Commencing at concrete pillar C13<sup>2</sup> having the UTM Co-ordinate 2-74-023E/19-08-316N along the eastern boundary of the El Pilar Archaeological Reserve for Maya Flora and Fauna, thence along that portion of the Stratton Lease (No. 1879/86)<sup>3</sup> to concrete pillars 9, 12, 12D, as shown on entry n°, 1952 Reg. 1, to concrete pillar C15<sup>4</sup>, having the UTM Co-ordinate 2-74-023E/19-08-881N, being another concrete pillar along the east boundary of the El Pilar Archaeological Reserve for Maya Flora and Fauna, thence south 180° 08' 00" back to the point of commencement.</p> <p>1. UTM grid co-ordinate determined by Cayo Survey Department traverse and solar observation on 24 February 1995.</p> <p>2. Stratton Lease N° 1879/86 was approved 3 March 1994 and registered under entry N0 1952.</p>	

## *Bibliography*

- Ageton, C. (2000). Breaking new ground: Community development at El Pilar, Belize.
- Atran, S. (1990). Cognitive Foundations of Natural History., Cambridge University Press.
- Atran, S. (1993). "Itza Maya Tropical Agro-Forestry." Current Anthropology **34**(5): 633-700.
- Amigos de El Pilar Web Site (2002) [www.interconnection.org](http://www.interconnection.org)
- Awe, E. A. (2000). Regional Community Action and the El Pilar Archaeological Reserve for Maya Flora and Fauna. Belmopan, Help for Progress.
- Awe, E. A. (2001). Progress Report: Creating a Livelihood at the Nexus of Culture and Nature, Help for Progress.
- Balick, M. J. (1994). Ethnobotany, Drug Development, and Biodiversity Conservation-Exploring the Linkages. Ethnobotany and the Search for New Drugs. D. S. C. a. J. Marsh, John Wiley and Sons: 4-24.
- Barrera Vásquez, A. (1995). Diccionario Maya. México, D.F., Editorial Porrúa.
- Bray, F. (1994). "Agriculture for Developing Nations." Scientific American **271**(1): 18-25.
- Campbell, D. G. (1994). Scale and patterns of community structure in Amazonian forests. Large-Scale Ecology and Conservation Biology. P. E. a. R. May. Oxford, Blackwell: 181-199.
- Campbell, D. G. (1998). Signature of the Classic Maya on the Tropical Forests of Belize. American Anthropological Association, Philadelphia.
- Campbell, D. G., J. Walker, et al. (1995). The Signature of the Classic Maya Empire on Belizean Tropical Forests. American Association for the Advancement of Science, Atlanta.
- Deacon, R. T. (1999). "Deforestation and Ownership." Land Economics **75**(3): 341-359.
- El Pilar Web Site (2002) [www.marc.uceb.edu](http://www.marc.uceb.edu)
- Ford, A., Ed. (1998). The Future of El Pilar: The Integrated Research & Development Plan for the El Pilar Archaeological Reserve for Maya Flora and Fauna, Belize-Guatemala. United States Man and the Biosphere Program. Washington, D.C., Bureau of Oceans and International Environmental and Scientific Affairs.
- Ford, A. and J. A. Montes (1999). "Environment, Land Use, and Sustainability: Implementation of the El Pilar Archaeological Reserve for Maya Flora and Fauna, Belize-Guatemala." Mesoamérica **37**(June): 31-50.

- Gomez-Pompa, A. and A. Kaus (1998). "Taming the wilderness myth; environmental policy and education are currently based on Western beliefs about nature rather than on reality." BioScience **42**(4): 271-279.
- Gómez-Pompa, A. a. K., A (1990). Traditional management of tropical forests in Mexico. Alternatives to Deforestation: Steps toward sustainable use of the Amazon rain forest. A. B. Anderson. N.Y., Columbia University Press: 45-64.
- Gunderson, L. H. and C.S. Holling (2002) Panarchy: Understanding transformations in human and natural systems. Island Press, Washington.
- Hammond, N. (1982). Ancient Maya civilization. New Brunswick, N.J., Rutgers University Press.
- Henderson, J. S. (1997). The world of the ancient Maya. Ithaca, Cornell University Press.
- Mittermeier, R. A., N. Myers, et al. (2000). Hotspots: Earth's Biologically Richest and Most Endangered Terrestrial Ecoregions. Mexico, CEMEX.
- Mollison, B. C. (1988). Permaculture : a designer's manual. Tyalgum, Australia :, Tagari Publications.
- Moran, E. F. (1993). Ecologia humana das populações da Amazônia. English. Through Amazonian eyes : the human ecology of Amazonian populations. Iowa City, University of Iowa Press.
- Nigh, R. (1995). "Animal agriculture and the reforestation of degraded tropical rainforests. Culture and Agriculture. (Bulletin of the Culture and Agriculture Group)." American Anthropological Association Spring/Summer(51/52): 2-6.
- Nigh, R. (1997). "Organic Agriculture and Globalization: a Maya associative corporation in Chiapas, Mexico." Human Organization **56**(4): 427-36.
- Roys, R. (1952). "Conquest Sites and Subsequent Destruction of Maya Architecture in the Interior of Northern Yucatan." American Anthropology and History **54**(CIW).
- Resilience Alliance Web Site (2002) [www.resalliance.org](http://www.resalliance.org)
- Simon, H. (1996). The Sciences of the Artificial. Cambridge, MIT Press.
- Tzul, A. (2001). 1st Meeting of Farming Communities in the Maya Forest for the Design of an Agroforestry Model - El Pilar: Retrieving Old Traditions. Belmopan, Belize, Help for Progress.
- Veach, K. (1998). Final Report for the El Pilar/UF Community Participation Project. Sarasota, University of Florida.