COMMUNITY RESIDENTS' PERCEPTIONS OF ECOTOURISM IMPACTS AND CONSERVATION ISSUES IN RURAL CREOLE BELIZE: A CASE STUDY OF CROOKED TREE WILDLIFE SANCTUARY

By

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A THESIS PRESENTED TO THE GRADUATE SCHOOL
OF THE UNIVERSITY OF FLORIDA IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS FOR THE DEGREE OF
MASTER OF SCIENCE

UNIVERSITY OF FLORIDA

2005

I dedicate this thesis to the people of Crooked Tree. In all the confusion and complexity of life, they helped me to understand its true simplicity. For this reason, they will always have a place in my heart.

ACKNOWLEDGMENTS

I would like to begin by acknowledging the Tropical Conservation and Development (TCD) program for funding my thesis research. Their financial support made my study possible. The TCD program fostered my academic and professional growth. I greatly appreciate the contacts and friends I made through the program. I would like to thank my supervisory committee chair, Rick Stepp, for giving me the freedom to make my own decisions and guide my own research. Without him, I would not be where I am today. I would like to thank my other committee members, Brijesh Thapa and Taylor Stein, for their guidance and suggestions. In particular, Brijesh, was always available to meet with me and never let me leave his office without something to read. In addition, although Melissa Johnson is not an official member of my committee, I consider her an honorary member. Her dissertation and knowledge of Crooked Tree guided my research. I appreciate her willingness to share her experiences in Crooked Tree. Also, I want to thank Kent Vliet for giving me a chance and providing me with a job to pay my way through graduate school.

I would like to thank all the family and friends who supported me. My family, through their financial and emotional support, made it possible for me to follow my dreams. My father, David Haddle, raised me to ask questions and always have an open mind. My mother, Patricia Walczak, taught me to be considerate and always treat others as I would want to be treated myself. My grandmother, Dorothy Haddle, taught me the value of independence and is an inspiration to us all. She is the glue that binds our

family. I never left for school without something homemade from Grandma's kitchen. My friends were always there to help me party my stress away or to give me advice when I needed it most. Kari MacLaughlin has been my closest friend in Gainesville. I only wish I had known her sooner. Pio and Jennie Saqui helped me immensely with filling in the blanks regarding my thesis research. They are my resident experts on Belize. Edda Wilkinson gave me loads of valuable feedback and encouraged me to experience life to its fullest. Chuck Wilson, my boyfriend and best friend, has always believed in me. He listened patiently when I cried about some assignment, complained about some professor, or gushed about some accomplishment. Even when I was 2000 miles away, Chuck was there for me.

Lastly, I would like to acknowledge the many people in Belize who made my field work just a little bit easier. The Belize Audubon Society (BAS) helped me to get situated in Crooked Tree and provided valuable information for my thesis. Although I have only been in contact with her a short time, Anna D. Hoare gave me with useful feedback regarding my thesis. Also, Dirk Francisco kept in touch with me after my field work was finished. Osmany Salas, though no longer with BAS, was kind enough to offer to facilitate my contact with them. I would like to give a special thank you to the wardens of Crooked Tree Wildlife Sanctuary who were always available to talk with me. Steve Tillett, Rennie Jones, and especially Derick Hendy kept me laughing nonstop. Two families in particular that made my stay in Crooked Tree seem far too short. Pastor Owen and Miss Maggie Rhaburn provided me with my first home in Crooked Tree. I spent many hours in the hammock on their top floor verandah relaxing from a long day of interviewing. Despite her painful arthritis, Miss Maggie always had breakfast ready for

me in the morning. I love the Rhaburns as if they were my own grandparents. The Tilletts provided me with my second home in Crooked Tree. The Tillett family never failed to give me hours upon hours of entertainment. Their home was always open to me. I would especially like to thank Judy Tillett, for her friendship and awesome gourmet Belizean cooking; and Bruce Tillett, for teaching me to ride a horse and always finding a way to make me smile.

Producing this thesis has been the best and most challenging experience of my life. I remember as a little girl looking at my grandfather's master's thesis in awe and thinking, "I could never write something like that!" Despite the hours of stress and worry, I have finally written what at one time I would have thought was impossible. However, my thesis was written with the help of all the people I acknowledged above. I would like to thank everyone one more time for actually making my thesis possible.

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August 2005

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Ecotourism is a type of small-scale tourism development centered on natural areas that should, ideally, promote conservation of the area and provide financial benefits and empowerment to local communities. In the last decade, ecotourism has become a popular type of Integrated Conservation and Development project among International Non-Governmental Organizations (INGOs) and governments worldwide. Consequently, it has become crucial to assess impacts perceived by residents in local communities involved in ecotourism, especially those in developing countries.

Over the last two decades, Belize created a series of protected areas throughout the country and adopted ecotourism as a main economic-development strategy. As a consequence, Crooked Tree Wildlife Sanctuary (CTWS) was established in 1984 by the government of Belize in conjunction with the Belize Audubon Society (BAS). Located within the sanctuary is Crooked Tree Village, a 300-year-old Creole community made up

of approximately 150 households. The purpose of my study was to characterize the impacts of ecotourism and the issues surrounding conservation in Crooked Tree Wildlife Sanctuary (CTWS) as perceived by members of the local community. My three specific objectives were to 1) assess the environmental, economic, and social impacts of ecotourism based on villagers' perceptions and my own observations; 2) identify villagers' perceptions of the wildlife sanctuary and their understanding and views of conservation; and 3) evaluate the relationship between Belize Audubon Society and the community to improve management practice in CTWS. I conducted 43 semistructured household interviews over 3 months during the summer of 2004. In addition, I used key informant interviews and participant observation to supplement household interviews.

In Crooked Tree, ecotourism has contributed to economic and infrastructural development in the community. Although benefits from ecotourism are not spread equally among community members, it has created jobs and increased the flow of money through Crooked Tree. The most apparent negative impact is regulation of traditional subsistence strategies such as fishing, hunting, and livestock raising by the government and BAS. These regulations have caused resentment toward the wildlife sanctuary and the BAS among some community members. Additionally, instability within the BAS administration, poor communication, and a lack of transparency and accountability have resulted in a breakdown of the partnership between the community and BAS. By reaching out to all community members, not just elites, the BAS may succeed in improving their relationship with the community of Crooked Tree; and in response, ecotourism and conservation practices may be more successful.

PREFACE

As I drove into Crooked Tree for the first time, I sensed that there was something special, almost magical, about the area. Already, I could understand why ecotourists would be drawn to the village and its surrounding wildlife sanctuary. I was certainly not the only American to be infatuated with Crooked Tree. A good friend told me, "After my first visit to Crooked Tree, though short, I knew that I would return. It is one of those places." And, indeed, he did return to spend a few months designing and building an educational display for the wildlife sanctuary's visitors center. An American tourist, who spent a few days in Crooked Tree, was so taken with the community that he was ready to bring his entire family back to spend a few weeks in the village. The charm of village life and the diversity of wildlife surrounding it will immediately sweep any visitors off their feet. Life is a little slower, a little more relaxed, and always a little more interesting in Crooked Tree.

For the first couple miles, the access road into Crooked Tree is engulfed by semi-swampy bush. The only signs of habitation are snack wrappers and glass bottles intermittently scattered along the roadside. I half expected a jaguar to lazily stroll into our path and challenge our 4X4 Toyota, but the bush during the day is eerily still. The only movement that I could detect was a few spiny-tailed iguanas and various water fowl scrambling for cover, as they were startled out of silence by our passing. As we neared the village, the bush abruptly came to an end; and a large lagoon stretched out in front of us, cut in half by the access road. Scattered through the lagoon were wood storks,

jacanas, green herons, little blue herons, and endangered Jabiru storks. At once, I understood why this area is considered the most ecologically important wetland in Belize.

On the opposite side of the lagoon, the shore was decorated with many multiple story concrete buildings, some dories (canoes), and even a couple of run-down shacks. A fisherman and his child were hauling their morning catch onto the shore. The small catch would probably be sold to villagers for their evening tea. Further into the village, I was greeted by the blank stares of cattle as they roamed freely through the village, barely budging an inch even when threatened by our moving vehicle. On our right, we passed the school, a run-down police station, and the Nazarene church before cutting through the middle of a children's cricket field to find the road that would take me to my new summer home. The house was a quaint two-story with a verandah and a hammock. Cashew, mango, and crabble trees dotted the yard. As I hopped out of the truck, I was greeted with my first whiff of ripe and rotting cashew fruit…a sweetly intoxicating scent unique to Crooked Tree.

I was home. My initial impressions of the village made me feel that ecotourism could certainly thrive in this environment. Outwardly, all the aspects were there, a distinctive community and abundant flora and fauna. However, what was the real story in Crooked Tree? Was ecotourism flourishing and had it actually helped the community? Had Crooked Tree Wildlife Sanctuary been successful in its conservation mission, and how was the community affected by the imposition of the conservation philosophy on their traditional way of life? I had come to Crooked Tree to answer these questions. However, I knew that by the end of my stay in Belize, I would have the answers to my questions and also a new understanding of life. No outsider who visits Crooked Tree

remains untouched by its beauty. For this reason, Crooked Tree became an ecotourism destination; but will it remain one?

CHAPTER 1
INTRODUCTION

Ecotourism as a tool of conservation and sustainable development has been widely questioned and criticized in recent years (Duim and Caalders 2002, Honey 1999, Lindberg et al. 1996, Wall 1997). Ideally, the development of ecotourism brings together local communities, tourists, suppliers, and managers to promote conservation of natural areas and economic growth in impoverished communities (Ross and Wall 1999). Potential benefits of ecotourism are numerous (Koch 1997), but realizing these benefits has been problematic (Ross and Wall 1999). The lack of proper planning for impacts and the lack of standardized methods to gauge progress have caused numerous ecotourism ventures to experience negative environmental, social, and economic impacts. These include but are not limited to resource alienation, increased local resentments toward ecotourism, little or no income generation for conservation, and disruption of normal feeding and breeding habits among wildlife (Belsky 1999, Ghimire 1997, Wallace 1993).

To alleviate some of the negative impacts, there has been an effort to include local communities in many recent ecotourism developments. A community-based approach to ecotourism focuses on empowering local communities with the responsibility to manage all aspects of the operation (Scheyvens 1999). In theory, local participation in ecotourism seems an ideal situation: the people benefit economically, while the environment is protected. Nonetheless, local politics can limit co-management opportunities and impair equitable distribution of income from ecotourism, causing a lack of support for the operation across the community (Belsky 1999, Koch 1997). Further, a

lack of proper training can exacerbate potential impacts (Drumm 1993, Farrell and Marion 2001).

Despite problems, ecotourism has become a popular option as an Integrated Conservation and Development Project (ICDP) among conservation organizations. In the 1990s, International Non-Governmental Organizations such as Conservation International, World Wildlife Fund, and the Nature Conservancy focused on ecotourism as a conservation and development strategy. This is largely a result of the movement to include communities in the planning of protected areas and to find alternative subsistence strategies for them (Brandon and Wells 1992, Negi and Nautiyal 2003). However, it is questionable whether ecotourism can replace the traditional subsistence strategies that are restricted in protected areas. Nonetheless, many developing countries are turning to ecotourism to promote conservation and economic development in local communities (Honey 1999).

One example is Belize (22,966 km^2), a tiny country located just south of Mexico and the Yucatan Peninsula (Belize Central Statistical Office 2000). Despite its size, Belize contains a multitude of ecosystems and cultures. Perhaps its size is what makes it such a popular tourist attraction. In a few hours, one can travel from a tropical island with stretches of sandy white beach and sparkling sapphire water to a Mayan ruin surrounded by lush rainforest (Figure 1-1). In the span of 5 minutes, one can overhear conversation in English, Spanish, Creole, and Garifuna. The abundance of environmental and cultural diversity in Belize has made it an ideal country for the development of ecotourism (Cutlack 1993).

Figure 1-1. Tourist Destinations in Belize. A) Half Moon Caye National Monument. B) Mayan ruin, Lamanai.

In many parts of Belize, ecotourism has developed as a byproduct of the creation of parks and protected areas. Good examples of this include Cockscomb Basin Wildlife Sanctuary, Half Moon Caye National Monument, and Crooked Tree Wildlife Sanctuary (Johnson 1998, Lindberg et al. 1996). In an effort to provide economic growth while simultaneously protecting the environment, the government of Belize has promoted and fostered ecotourism. According to the Belize Tourism Board,

> The strength of tourism in Belize lies with the diversity of natural and cultural attractions. The tourism strategy plan for Belize has been prepared with the expectation of stimulating economic growth, while protecting the country's environmental and heritage resources, and ensuring benefits to the local people.[1]

Ecotourism has flourished in Belize. From 1985 to 2003, tourist arrivals have almost tripled from 87,843 to 220,574 per year.[2] However, tourist numbers alone cannot reflect whether ecotourism has been a successful conservation and development strategy for Belize. Studies that analyze the impacts of ecotourism on local communities are needed (Wall 1997). Also, it is necessary to investigate the success of ecotourism as an ICDP by

[1] Quote obtained from the Belize Tourism Board webpage at www.belizetourism.org.

[2] Unless otherwise noted, all tourism statistics for Belize were obtained from the Belize Tourism Board webpage during October 2004.

conducting research to understand how communities perceive the protected areas surrounding them.

My study focused on the case of Crooked Tree Wildlife Sanctuary located in the Belize district of Belize. Crooked Tree is one of the oldest ecotourism ventures in Belize and is managed by the Belize Audubon Society to protect the Jabiru stork (*Mycteria mycteria*). The sanctuary encompasses a traditional Creole village that has been significantly affected by the development of community-based ecotourism and the wildlife sanctuary.

Statement of Purpose

I began my study to help refine the process of incorporating ecotourism into conservation and development goals within communities. Every new case study has the potential to help form a framework that can guide future development projects. However, they must investigate how communities view ecotourism and examine the conflicts that arise from trying to implement it within the borders of protected areas. Many studies look at the impacts of ecotourism without critically examining how those impacts may affect communities' views toward conservation and protected areas (Farrell and Marion 2001, Lindberg et al. 1996, Walpole and Goodwin 2000). Without this understanding, it may be difficult to evaluate whether the conservation goals of ecotourism are being met. Furthermore, by mediating the conflicts that arise between communities and protected areas management and understanding how these are connected to ecotourism, we can foster empowerment in local communities. The role of communities in conservation and ecotourism development is extremely important (Akama 1996, Brown 2002, Sheyvens 1999). Communities directly impact the protected areas that surround them and can either hinder or advance conservation goals (Brown

2002). In addition, communities are directly impacted by the restrictions on using natural resources in protected areas. To benefit from ecotourism as an alternative income generator, communities must have some control over ecotourism development (Scheyvens 1999). Therefore, my main incentive for undertaking my study is to contribute to improving practice in the field of community-based conservation and development, especially where it pertains to ecotourism and collaborative management of protected areas.

Study Objectives

The purpose of my study was to characterize the impacts of ecotourism and the issues surrounding conservation in Crooked Tree Wildlife Sanctuary (CTWS) as perceived by residents of the local community. Specific objectives were as follows.

- **Specific objective 1**: assess the environmental, economic, and social impacts of ecotourism based on villagers' perceptions and my own observations.
- **Specific objective 2**: identify villagers' perceptions of the wildlife sanctuary and their understanding and views of conservation.
- **Specific objective 3**: evaluate the relationship between BAS and the community to improve management practice in CTWS.

The success of ecotourism depends both on the acceptance of ecotourism as a valid income generator and the stability of the relationship between wildlife sanctuary management and the villagers of Crooked Tree.

Contribution to Interdisciplinary Ecology

Interdisciplinary Ecology as a field of academic study is relatively new and has grown out of the need to understand how human interactions with the environment can affect the overall ecology of our world. Even the smallest political decision within a country can affect the environment of countries thousands of miles across the ocean.

Interdisciplinary Ecology tries to make sense of these links, so that past environmental mistakes will not become future environmental mistakes. Necessarily, it encompasses many fields within the social and life sciences. Further, its creation is an attempt to find a balance between theory and practice in environmental studies.

My study focused on the human side of Interdisciplinary Ecology. My hope was that by understanding how to successfully integrate communities into conservation and development, the integrity of exceptional ecosystems could be upheld for future generations. The wetlands of CTWS are an extremely important ecosystem for the country of Belize. The lagoons provide habitat for numerous endangered species, such as the Jabiru stork and the green iguana, relief for flooded rivers during the rainy season, and food for the village of Crooked Tree. The preservation of this area is vital not just for the people of Crooked Tree but for the whole of Belize. However, the fate of the wetlands lies in the decisions of many peoples, most importantly, the community of Crooked Tree and the BAS. Ecotourism has been a strategy for utilizing the area without depleting its resources, but it has not stopped conflicts from arising between the community and the management of CTWS. Therefore, my study attempts to understand this human dimension so that the wetlands in Crooked Tree will continue to function in a healthy manner. This is just as necessary as understanding the nesting habits of the Jabiru stork or the affects of agricultural run-off on water quality in the lagoons. However, all of these studies combine to form a holistic picture of ecology in Crooked Tree and each contributes in a different way to Interdisciplinary Ecology.

Study Limitations

Although I feel that my study is an accurate representation of the situation in Crooked Tree, I was working under a few limitations. My time in Crooked Tree was

limited to 3 months. The short study time may have inhibited my ability to gain complete trust of the community. Therefore, wary residents may have chosen not to reveal certain information pertinent to my study. Due to time constraints, I reduced my sample size from 100 to 60 households. Out of the 60, only 43 households agreed to participate. In addition, a couple key employees of BAS declined interviews. Lastly, I was unable to sample more isolated areas of the village due a lack of transportation and time. More isolated villagers may have different views regarding ecotourism and conservation in Crooked Tree. Despite these limitations, my study is a beginning to understanding how communities in Belize perceive ecotourism development. For the most part, the villagers that I came in contact with were open and friendly, and despite initial shyness regarding interviews, most residents warmed up to the interviews and were answering questions freely after a few minutes.

Perhaps one of the largest limitations of my study is its focus on one community in one country at one snapshot in time. Although case studies are necessary to understand what strategies are successful in developing ecotourism and promoting conservation in developing countries, they do not represent all cases in the world. Instead, my study should be analyzed with other studies to begin to understand the impacts of ecotourism on Belize and other countries throughout the world. How does it reflect and contradict other ecotourism developments, and what lessons can be learned from mistakes made in Crooked Tree?

Thesis Overview

The remainder of this thesis will explore in more depth the issues surrounding ecotourism and protected areas, specifically as they apply to Crooked Tree, Belize. Chapter 2 is a summary of literature as it pertains to ecotourism, communities, and

protected areas. It explores the theory of ecotourism, issues surrounding communities and protected areas, the connection between ecotourism and protected areas, and problems with developing ecotourism destinations. Chapter 3 gives background on the development of ecotourism in Belize and its connection to the international conservation movement. It also explores my study site, Crooked Tree, Belize. I address the nature, history, and culture of Crooked Tree with particular emphasis on how these are vital to the development of ecotourism in the village. Chapter 4 discusses the methodology used in my study. I collected a mix of qualitative and quantitative data by using a triangulated approach. Chapter 5 relates the major findings of my study in terms of the development of ecotourism, impacts from it, views of conservation as defined by the community, impacts of the wildlife sanctuary, the community's perception of the wildlife sanctuary, and their relationship with BAS. Chapter 6 evaluates whether the goals of ecotourism have been met in Crooked Tree and whether the community has indeed been empowered by the development of ecotourism. Moreover, recommendations are given for improving the relationship between the community and Belize Audubon Society. Overall, my thesis will take a critical look at the issues that surround ecotourism and its implications for conservation and community development. Although the situation in Crooked Tree cannot supply all the answers, it does provide an interesting case for exploring solutions to the complex problem of unifying the goals conservation and development.

CHAPTER 2
LITERATURE REVIEW

Ecotourism: A Description

Ecotourism is a buzzword that has been discussed within the conservation and development community for a few decades. One of the first definitions is credited to Ceballos-Lascurain (1987) and describes ecotourism as "traveling to relatively undisturbed or uncontaminated natural areas with the specific objectives of studying, admiring, and enjoying the scenery and its wild plants and animals, as well as any existing cultural manifestations (both past and present) found in these areas" (Blamey 2001, p. 5). Another definition from the International Ecotourism Society[1] defines it as "responsible travel to natural areas that conserves the environment and improves the well-being of local people". The commonality running through both of these definitions is that ecotourism focuses in some way on the natural environment. However, the International Ecotourism Society's definition includes a sense of social and moral responsibility to the communities that provide ecotourism as a service.

Often, ecotourism is used interchangeably with the concept of sustainable tourism, but Ceballos-Lascurain (1998) argues that in actuality it is a branch of sustainable tourism. Sustainable tourism does not distinguish between mass tourism and small-scale tourism. Sustainable tourism is an umbrella term that includes all types of tourism that meet the definition of sustainability. Sustainability usually includes

[1]Quote obtained from the webpage of The International Ecotourism Society at www.ecotourism.org during January 2005.

characteristics that allow for long-term use of natural resources, minimal environmental impact, and provisions that satisfy human political, social, and economic needs (World Commission on Environment and Development 1987). The World Commission on Environment and Development (1987) defined sustainable development as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (p. 43). So, under the umbrella of sustainable tourism, ecotourism is considered a nature-based subset of small-scale tourism (Cater and Lowman 1994). In addition, nature-based tourism, even though it centers on the natural environment, is distinguished from ecotourism in that it tends to be on a much larger scale and focuses less on benefiting local communities (Blamey 2001).

Most researchers agree that when broken down ecotourism should encompass certain principles. Honey (1999) provides seven characteristics that ecotourism should include: involves travel to natural destinations, minimizes impact, builds environmental awareness, provides direct financial benefits for conservation, provides financial benefits and empowerment for local people, respects local culture, and supports human rights and democratic movements. All of these points are common throughout most definitions of ecotourism (Butler 1992, Ceballos-Lascurain 1996, Ross and Wall 1999) except the point that ecotourism should support human rights and democratic movements. Honey (1999) is alone in including this as a requirement for responsible ecotourism. Although she makes a strong case for including it, this paper will focus on the first six characteristics of ecotourism.

According to Ross and Wall (1999), the application of ecotourism should lead to the realization of a sustainable conservation and development program (Figure 2-1).

Ecotourism seeks to utilize the natural environment without permanently damaging it, and though change is inevitable, ecotourism strives to sustain valuable natural areas to facilitate the enjoyment of tourists and local communities alike. It is unrealistic to expect the natural environment and local communities to remain static in time, but development strategies such as ecotourism can facilitate change in a manner that is healthy and beneficial to both. Additionally, if implemented successfully, ecotourism can aid in sustaining an improved quality of life and economic development in communities.

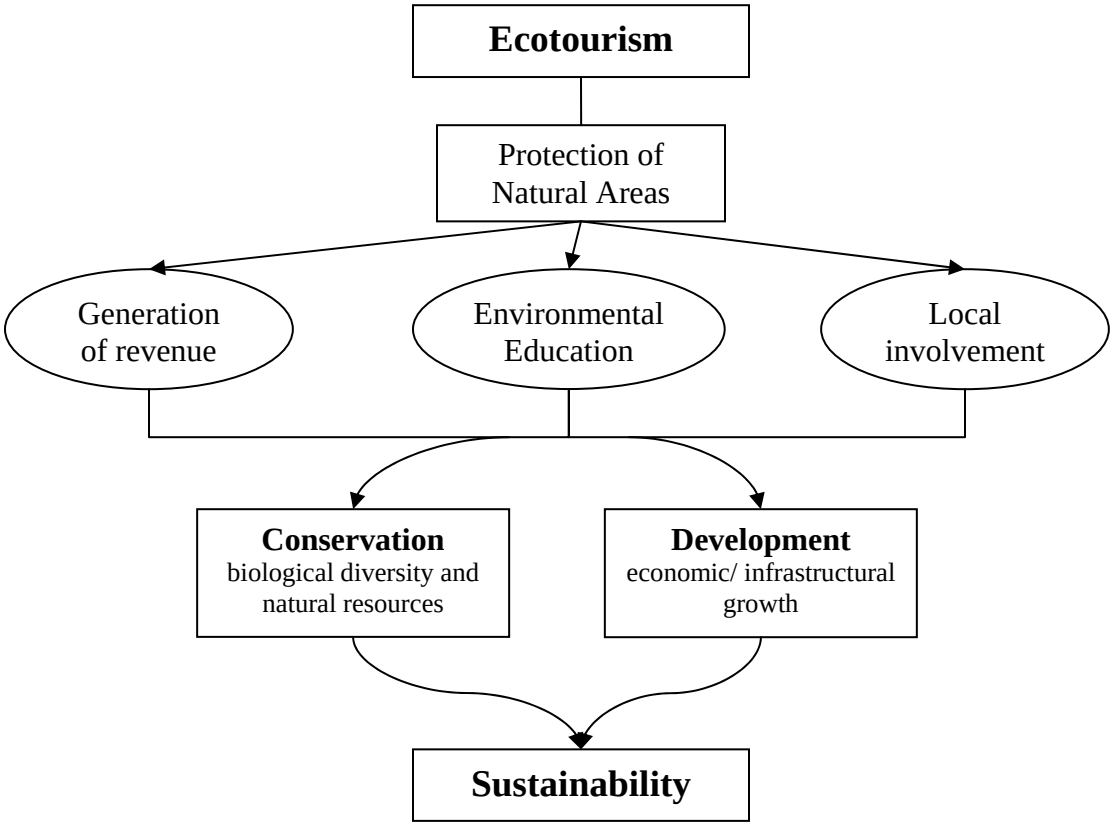

Figure 2-1. Framework for Ecotourism.[2]

Implementating ecotourism can be challenging, and some researchers call into question whether ecotourism in its purest form is even possible (Wall 1997). Ecotourism

[2] Adapted from Ross and Wall (1999).

contains more core principles that must be adhered to in order for it to be considered successful and meeting all of the objectives can be difficult. One of the more recent approaches to implementing ecotourism aims to give local communities a high level of control in management. The goal of community-based ecotourism is to attempt to give local communities some incentive for changing their practices by giving them a high degree of control over the activities taking place (Akama 1996, Brandon and Wells 1992). In turn, a significant proportion of benefits will be invested back into the community instead of being distributed to outside operators or the government (Akama 1996, Ceballos-Lascurain 1996). Scheyvens (1999) suggests that economic, psychological, social, and political empowerment of communities is needed (Table 2-1).

Importance of Ecotourism Research

A vast majority of ecotourism projects are connected to protected areas. Often, ecotourism is offered up as a substitute for traditional subsistence strategies practiced by communities within or adjacent to protected areas, because the local community's activities have been deemed to be in conflict with conservation goals (Brandon and Wells 1992). Conflicts between communities and protect areas' management are evident globally, but ecotourism has played a role in providing an alternative for communities.

People and Protected Areas

As defined by the International Union for the Conservation of Nature (IUCN), "A protected area is an area of land and/or sea especially dedicated to the protection of biological diversity, and of natural and associated cultural resources, and managed through legal or other effective means" (McNeely 1993). The IUCN identifies six management categories:

- **Category I: Strict Nature Reserve/Wilderness Area**. Protected area managed mainly for science or wilderness protection.
- **Category II: National Park**. Protected area managed mainly for ecosystem protection and recreation.
- **Category III: Natural Monument/Natural Landmark**. Protected area managed mainly for conservation of a specific natural feature.
- **Category IV: Habitat and Species Management Area**. Protected area mainly for conservation through management intervention.
- **Category V: Protected Landscape/Seascape**. Protected area managed mainly for Landscape/Seascape protection and recreation.
- **Category VI: Managed Resource Protected Area**. Protected area managed mainly for the sustainable use of natural resources.

Only Category VI allows for any type of resource use other than recreation. Most protected areas are first and foremost dedicated to conservation and only if the activities of local communities do not interfere with conservation goals are they allowed to continue traditional resource use (Ghimire and Pimbert 1997). Therefore, historically, many residents located within areas deemed as protected areas have been displaced or cut off from the use of their traditional resources in the name of conservation (Ghimire and Pimbert 1997, Gurung 1995, Nepal & Weber 1995).

Impacts from this type of exclusion are numerous. Often times, local communities are completely cut off from their resources without viable income alternatives, or they are restricted from such activities as the harvest of medicinal plants, grazing, fishing, hunting, and the collection of wood or other products from the forest (Ghimire 1994, West and Brechin 1991). Local communities may not only be forced to find other means of subsistence or be considered poachers on their own land, but traditional ethnobiological knowledge may slowly erode. Traditional natural resource management systems that have evolved over centuries may be lost and cause a disincentive for local

communities to conserve their resources (Ghimire and Pimbert 1997). In some cases, the exclusion of local communities from resource management has been linked to a steady decline in biological diversity and ecosystem function (Wood 1995). Although not all communities are necessarily conserving biodiversity, many communities may already have their own social institutions in place for promoting conservation of resources.

Table 2-1. Signs of Community Empowerment.[3]

	Signs of empowerment	Signs of disempowerment
Economic empowerment	• Cash earned by many households. • Infrastructure improvements. • Other visible economic improvements.	• Small, spasmodic cash gains. • Profits to local elites, outside operators, government agencies, etc. • Some excluded from economic benefits due to lack capital and/or capacity.
Psychological empowerment	• Self-esteem of many community members is enhanced. • Increasing confidence of community members raises capacity. • Increase in status for traditionally low-status sectors.	• Hardships due to reduced access to the resources of a protected area. • Some are confused, frustrated, disinterested or disillusioned with the initiative.
Social empowerment	• Community's equilibrium maintained. • Community cohesion is improved. • Funds for community development.	• Disharmony and social decay. • Loss of respect for traditional culture. • Competition instead of cooperation. • Resentment and jealousy are commonplace.
Political empowerment	• Community's political structure provides a forum to raise questions regarding ecotourism. • Opinions of community taken into account. • Community members on decision-making bodies.	• The community has self-interested leadership. • Community members treated as passive beneficiaries. • Community has little or no control of ecotourism venture.

[3] Adapted from Sheyvens (1999).

For these reasons, protected areas have been and in some cases continue to be major sources of rural tension in developing countries. In part, this is due to a lack of communication with communities at the time of establishment. There are very few instances where communities are consulted before creation of a protected area or fully-involved in the decision-making process. Ghimire and Pimbert (1997) contend that "from the outset, the definition of what constitutes a protected area, how it should be managed, and for whom, needs to be based on interactive dialogue to understand both how local livelihoods are constructed and people's own definitions of well-being" (p. 36). In the absence of this initial dialogue, it may be difficult to develop any trust between communities and protected areas management (Porkony et al. 2004), and as a result, many countries have experienced social conflict connected to the establishment of protected areas (Akama 1996, McNeely 1989, Negi & Nautiyal 2003, Weladji & Tchamba 2003).

Negi and Nautiyal (2003) offer a framework for helping to resolve some of the conflicts between communities and protected areas management. First and foremost, the problem should be acknowledged and the rights of local communities to own and manage their own territories should be respected in developing a conservation plan. Some other strategies are as follows.

- Local communities' involvement in planning from inception.
- The recognition of indigenous representative institutions.
- The evolution of mechanisms of marginal sectors in ways that do not undermine traditional decision-making.
- The development of an unambiguous contract to establish mutual obligations.
- Cross-cultural training to sensitize all those involved.

- Provide subsidies to locals for the retention and conservation of natural areas.
- The payment of royalties on the use of genetic material conserved by a country or locality.
- The utilization of the conserved living resources for non-consumptive purposes with a view to earning income (i.e. ecotourism).
- Permit the use of natural areas for economic activities that do not threaten biodiversity and in some circumstances may be favorable to its maintenance (i.e. non-timber forest products).
- The funding or provision of finance on concessionary terms for development projects outside of nature reserves, thereby raising the incomes of locals and reducing the economic pressure to exploit nature reserves.

Perhaps one of the most common strategies for attempting to resolve the conflicts that arise due to the differing objectives of communities and conservation organizations is Integrated Conservation and Development Projects (ICDPs).

Role of Ecotourism in Protected Areas

ICDPs attempt to link conservation in protected areas with the social and economic development of communities that surround those protected areas. Instead of isolating local communities from their resources, ICDPs try to introduce sustainable activities to allow continued access to resources or try to provide alternative strategies for income. Key strategies of ICDPs include improving park management and buffer zones, compensation and substitution, and local social and economic development (Brandon and Wells 1992). Effectively, ecotourism is an ICDP. Many ecotourism projects attempt to operationalize the last two strategies, and some ecotourism ventures are connected to protected areas and park management.

The idea for ICDPs grew out of an increasing disillusionment with the traditional protected areas approach. In the 1970s, the United Nations Educational, Scientific, and Cultural Organization (UNESCO) founded the Man and Biosphere program, a project

integrating conservation and community development (Batisse 1982). Conservation discourse in the 1980s continued to focus on the finding ways to integrate communities into conservation programs. In particular, it was argued that environmental protection programs could not succeed without focusing on poverty alleviation in developing countries (Leonard 1989). Consequently, in the mid-1980s, these various ideas culminated into the creation of ICDPs, and by the 1990s, community-based conservation and development had become the leading paradigm among conservation organizations.

Today, many governments, NGOs (Non-Governmental Organizations), and INGOs (International Non-Governmental Organizations) are attracted to ICDPs and have adopted ecotourism as a major conservation and development strategy. For example, in 1986, legislation was passed in Nepal to create the Annapurna Conservation Area, a multiple-use area allowing hunting, the collection of forest products, the use of visitors' fees for local development, and the delegation of management authority to the village level. The main focus of the legislation was to improve tourist development while protecting the environment. A local NGO, King Mahendra Trust for Nature Conservation, was put in charge of the project. Training courses for lodge owners were offered, and lodges were required to use kerosene in order to limit the amount of fuelwood collection to subsistence levels. According to Brandon and Wells (1992), the project has been successful at motivating communities to take natural resource management into their own hands.

Not only are governments in developing nations jumping on the ecotourism bandwagon, but a large number of INGO's have adopted ecotourism as a key conservation and development strategy. Some of these INGOs include the National

Audubon Society, World Wildlife Fund (WWF), the Earthwatch Institute, the Sierra Club, the Nature Conservancy (TNC), and Conservation International (CI). CI has ecotourism projects in more than 20 Latin American, African, and Asian countries. Some examples are Madidi National Park in Bolivia, Kakum National Park in Ghana, and the Maya Biosphere Reserve in Guatemala. CI claims that through these projects they have reinforced the idea that people able to earn a living from ecotourism will in turn be stewards of the environment and support future conservation efforts.[4]

However, some recent literature looking at three large INGOs (WWF, CI, TNC) indicates that they may be moving away from incorporating local communities into their conservation plans due to failure of their ICDP projects. Chapin (2004) indicates that the attempts at ICDPs tended to be paternalistic, lacking in expertise, and biased toward the knowledge of conservationists with little input from locals. Additionally, the different agendas of conservationists and communities resulted in conflicts. The conservationists were focused on conserving biodiversity, but local communities wanted legal rights to their land and to find ways to utilize their resources without destroying them. INGOs have also become increasingly dependent on large amounts of money from the very corporations and governments that are encroaching on valuable ecosystems and the lands of indigenous people (Chapin 2004). Perhaps now, more than ever, we need to understand the factors that make ICDPs, specifically ecotourism as an ICDP, successful so that communities can continue to be included in conservation and development plans. It is crucial to take a more critical look at ecotourism's goals and the possible environmental, social, and economic impacts that it can have on communities (Wall

[4] Information obtained from the Conservation International website at www.conservation.org during October 2004.

1997). According to Honey (1999), "there are, in fact, pressing issues surrounding ecotourism that are crying out for deeper investigation" (p. 83). Therefore, a closer look at some of the negative impacts is necessary.

Environmental Impacts of Ecotourism

One of the main goals of ecotourism is to protect and conserve valuable ecosystems (Honey 1999). However, visitation to these sometimes fragile natural areas can cause significant environmental impacts. Although ecotourists attempt to minimize their impact, many of these places are so sensitive that it is difficult not to leave some footprint. Impacts such as overcrowding, pollution, and wildlife disturbance can be amplified in such ecosystems (Page and Dowling 2002). Additionally, Wall (1997) points out that visitation may take place at sensitive times, such as breeding seasons or during predator-prey interactions. The relationship between the amount of use and associated impacts on an ecotourism site is most likely curvilinear or step-like, and even the smallest numbers of tourists still have an impact (Cole 1989). Another point of consideration is that even though on-site impacts may be minimal, there is still a substantial en route impact. Ecotourists tend to travel long distances to reach their destinations consuming larger amounts of energy per capita than the average mass tourists (Wall 1997).

Many studies have identified possible negative environmental impacts. For instance, tourists visiting Point Peele National Park in Ontario, Canada disrupted birds during their spring migration. Despite being warned against it, tourists strayed from designated paths to photograph the birds in their natural setting (Deming 1996). In Belize and Costa Rica, Farrell and Marion (2001) observed significant trail degradation and tour guides feeding howler monkeys to allow tourists a closer look. A lack of

training and resources contributed to these negative impacts. In Nepal, deforestation has increased due to a higher demand for firewood and timber for cooking and building tourist lodges. Further, ecotourism areas in Nepal have seen an increase in litter and inadequate sanitation and solid waste disposal (Nyaupane and Thapa 2004).

Social Impacts of Ecotourism

Ecotourism can also have a significant impact on local communities. During the development of ecotourism, communities should be consulted in order to obtain their approval and cooperation. Without this, the development may be heading toward an unsustainable future (Ghimire and Pimbert 1997). In Thailand, many protests by local communities have been provoked due to the expulsion of locals and the development of hotels, bungalows, golf courses and resorts to support tourism (Handley 1994). Further, hostile actions toward parks have been seen in South Africa, Namibia, Zimbabwe, Uganda, Kenya, and other West and Central African countries as well as many countries in Central and South America (Koch 1997). Clearly, these types of situations are unhealthy for the development of a successful ecotourism operation.

Studies assessing socio-cultural impacts of ecotourism have also shown that resource disputes and commodification of the host community are widely reported (King and Stewart 1996, Vandergeest 1996, Wall 1997). In Thailand, conflict between local people and managers of protected areas over property rights and resources has hindered conservation goals (Vandergeest 1996). A similar example can be found in China's Wolong reserve where local people were either removed or severely restricted from traditional resource extraction causing uncertainty for local livelihoods (Ghimire 1997). Further, commodification of host culture and environment is a widely reported social impact of ecotourism that can aggravate pre-existing power differentials between local

people and other groups (King and Stewart 1996). For example, park managers for Negril and Montego Bay in Jamaica were forced to create an area that would appeal to ecotourists. Although fishing was allowed within the park boundaries, pressure was put on the park managers to keep the area clear of fishermen in order to fulfill the tourist ideal of who and what activities should be allowed on the park waters (West and Carrier 2004). Additionally, in Nepal, some residents along the Annapurna Sanctuary Trail reported an increase of crime in the area due to tourism (Nyaupane and Thapa 2004). Clearly, these types of social impacts are undesirable and must be considered in the development of an ecotourism operation.

Economic Impacts of Ecotourism

The generation of income for local communities is cited as one of the key benefits of ecotourism. New jobs are created and the economy is diversified allowing for greater entrepreneurial activity. However, some costs can be associated with ecotourism development, as well. Residents may find themselves relying too heavily on income from ecotourism as opposed to diversifying their economic activities. Often, ecotourism is a seasonal activity, and locals may find themselves struggling to make ends meet during the off-season. Land prices may increase, and commonly, there are large leakages of tourism expenditures from the local economy (Lindberg 2001, Page and Dowling 2002). In Nepal, inflation of land, houses, goods and services, and cost of labor were less likely to occur in small-scale community-owned ecotourism developments. However, residents in areas with smaller ecotourism developments perceived that more jobs were open to outsiders than to community members (Nyaupane & Thapa 2004).

Many studies have evaluated the economic sustainability of ecotourism. Studies have shown an increase of income over time from ecotourism in most local communities

(Alderman 1994, Brennan and Allen 2001, Kangas et al. 1995, Lindberg et al. 1996). In South Africa, the number of tourists and the amount of money that ecotourism contributes to the local economy increased annually from 1990 to 1998 (Brennan and Allen 2001). Alderman (1994) showed that private nature reserves catering to ecotourism generated substantial local employment. Specifically in Belize, studies indicated that the number of tourists and the economic benefits to certain local communities have grown with time but have generated little income for conservation (Kangas et al. 1995, Lindberg et al. 1996). All of these cases indicate that ecotourism is generating money for local communities. However, this increase of income does not necessarily translate into sustainable ecotourism. First, if little money is generated for conservation, ecotourism ventures in protected areas and parks may not be generating the resources to cover operating costs. Second, competing interests within communities can lead to disputes over equitable distribution of income and a lack of participation by some community members (Belsky 1999, Brennan and Allen 2001). In Belize, Belsky (1999) concludes that attention to interests and identities within a rural community and their relationships with outside players are extremely important to understanding social challenges facing ecotourism. A study in South Africa further supports this point by calling for models of ecotourism based on notions of self-interest and diversity within communities (Brennan and Allen 2001).

Summary

Ecotourism focuses on tourism to natural areas that protects the environment and provides empowerment opportunities to local communities. Ideally, sustainability is achieved by simultaneously providing financial benefits and environmental education to communities. As a result, communities will be empowered to take on stewardship of

their own natural resources. Due to the increasing interest in incorporating communities into conservation initiatives, many governments and NGOs have adopted ecotourism as an ICDP option. The popularity of ecotourism has amplified the need for research of how communities are being impacted by its development, especially in communities where ecotourism is connected to a protected area. By studying ecotourism destinations, protected areas, and the communities within them, researchers can identify problem areas and begin to develop solutions to make ecotourism a stronger and more viable ICDP option.

CHAPTER 3
RESEARCH CONTEXT AND STUDY SITE

Ecotourism in Belize

> "Belize's vision is to develop the tourism sector as a national priority, with a primary focus on responsible tourism, aimed at marine activities, natural history, and adventure markets. Development and promotion of the industry will be carried out to encourage a strong "eco-ethic" to ensure environmental and socio-cultural sustainability, to promote equitable distribution of economic benefits, and to develop a strong, positive image for Belize. As a lead sector of our economy, a competitive tourism industry will be a major force with respect to the future economic development efforts of the Government of Belize."
>
> Belize Tourism Board (BTB)

The above policy clearly indicates that tourism is a high priority for economic development in Belize. In fact, although the policy does not specifically mention ecotourism, many of its goals correspond with those of ecotourism. Why has Belize chosen ecotourism as a development route? Belize is a small Central American country (Figure 3-1) with a population of approximately 238,500 people (Belize Central Statistical Office 2000). Partly due to its low population density of 10 persons per km^2 (Belize Central Statistical Office 2000), many ecosystems in Belize, marine and terrestrial, are maintained in a relatively undisturbed state (Lindberg et al. 1996). About 70% of the total area in Belize consists of forest cover, and close to 50% of the land in Belize is under some form of protected status such as forest reserves, national parks, wildlife sanctuaries, marine reserves, etc (Belize Central Statistical Office 2000). Belize's natural beauty as well as its unique blend of ethnic groups contributes to its popularity as an ecotourism destination.

Figure 3-1. Map of Belize.[1]

Belize has a wide variety of marine and terrestrial ecosystems. The main tourist attractions are its cayes, offshore atolls, and the barrier reef. At 185 miles long, the barrier reef is the longest in the Western Hemisphere and the second largest in the world. The mangrove cayes offer excellent habitat for birds, fish, shellfish, and other marine

[1] Map courtesy of the University of Texas.

organisms. The island cayes and atolls are the basis for resort development to serve tourists interested in SCUBA diving, snorkeling, fishing, boating, sailing, sailboarding, and sea kayaking. The northern half of the mainland supports scrub vegetation and dense hardwood rainforests. The coast is swampy with a mix of mangroves and grasses bordered by tussock grasses, cypress, and sycamore. Central Belize is characterized by large grasslands that rise into the Mountain Pine Ridge Area and the Maya Mountains. With abundant rainfall, the southern half of Belize is a true tropical rain forest rich in ferns, palms, lianas, and tropical hardwoods (Cutlack 1993).

Belize has a subtropical climate with a minimum mean annual temperature of 23.7˚C and a maximum of 30.7˚C. The rainy season ranges from June to August, and the dry season ranges from February to May. Annual rainfall is variable depending on elevation and geology and ranges from 1,500 mm in the North to 3,500 mm in the South (Belize Central Statistical Office 2000).

The culture and people of Belize reflect a long history. The most prominent ethnic group, the Creoles, represents 30% of the population in Belize. The Creoles are descended from British settlers and African slaves. Yucatec, Mopan and Q'eqchi Mayans as well as Mestizos of Spanish and Mayan descent make up 52% of the population. The Garifuna represent 7% of the people of Belize and are descended from African slaves, Carib, and Arawak Indians. The rest of the population consists of East Indians, Chinese, Mennonites, and other ethnic groups (Belize Central Statistical Office 1999).

Tourism in Belize: Early Beginnings

The development of tourism did not take off in Belize until a few years following independence in the late 1980s (Pattullo 1996). During the years before independence,

tourist numbers were relatively low and reflected a poorly developed tourism industry (Himan 1970). However, early studies indicated that the potential for tourism development was extremely high (Collar and Collar 1972, Himan 1970). During the 1970s, the largest draws for tourists were for recreational activities such as fishing, diving, and sport hunting. For instance, according to Collar and Collar (1972), "Hunting, much to the displeasure of a few conservationists, goes on with few restrictions. Jaguar is the main attraction and, for such an exotic animal, they would have to be described as plentiful" (p. 35). However, the tourism dynamic began to change after Belizean independence, as international interests and conservationists put pressure on the new government to heed the growing global interest in the environment and conservation (Johnson 1998). Tourism development in Belize is inextricably tied to the conservation movement.

Conservation Initiatives in Belize

The two earliest pieces of legislation regarding conservation were the Crown Lands Ordinance of 1924 and the Forest Ordinance of 1926. According to Johnson (1998), the basis for this legislation came from a report issued by Hummel, Belize's first colonial forester. They also formed the basis for a more extensive forest conservation effort in 1958 with the passing of the Forest Act (McCalla 1995). The Forest Act provided authority for the establishment of forest reserves and the regulation of forest resources. Still, the Forest Act was aimed at regulating industry, not just as a conservation effort. Other conservation legislation enacted before independence was also aimed at industry regulation. For example, Section 13 of the Fisheries Act gives the Minister power to regulate the fishing industry in such ways as restricting the size of nets used or the size of fish that were allowed to be caught.

In the 1960s and 1970s, the possibility of creating national parks was explored as a way to bolster tourism development. The Belizean government was further encouraged to create national parks by the United Nations and a team of tourism consultants from New York in the mid-1960s. Also arriving on the scene at this time was Dora Weyer, a U.S tropical biologist. Besides being a major contributor to the founding of the Belize Audubon Society (the country's first conservation NGO), she further worked to revise the wildlife legislation in the 1970s and 1980s.

In 1981, immediately following independence and largely due to efforts by Weyer (Johnson 1998), Belize passed two key pieces of legislation, the Wildlife Protection Act and the National Parks System Act (McCalla 1995). Most notably, the National Parks System Act paved the way for the establishment of the first protected areas that were to become prominent ecotourism destinations, such as Half Moon Caye National Monument (1982), Cockscomb Basin Wildlife Sanctuary (1984), and Crooked Tree Wildlife Sanctuary (1984) (Lindberg et al. 1996). In an unprecedented step, the government of Belize handed management of many protected areas over to NGOs like Belize Audubon Society (BAS). Although this gave the BAS control over a large portion of land in Belize, it freed the government from the responsibility of funding the development of national parks. This rare situation still exists today, and the BAS has managed to fund research and education efforts in eight protected areas for over 20 years.

Following 1981, major steps were taken by the Belizean government to continue promoting a conservation ethic. In 1992, the Environmental Protection Act was passed to establish the Department of the Environment (McCalla 1995). The Department of the Environment was given the power to oversee environmental protection, management of

natural resources, and environmental impact assessments. Moreover, the Government of Belize took another key step toward conservation by establishing the Protected Areas Conservation Trust (PACT)[2] in 1995. PACT is a fund set up to raise revenues that will then be redistributed to support "the management and sustainable development of the different protected areas in Belize." The three chief sources of revenue for PACT are a conservation fee collected from every departing visitor, 20% of all concession fees, recreation related license fees, cruise ship passenger fees, permit fees collected in conjunction with the public protected areas of Belize, and donations. PACT provides funding for projects such as eco-cultural tourism development, improvements at archaeological sites, and community participation in conservation and is crucial support for NGO's and other local organizations working on these projects.

Ecotourism in Belize

Major development of the tourism industry in Belize began after independence. However, by 1982, the government was in an economic crisis as an international recession and Belize's narrow export base contributed to the decline of the economy (Enriquez 1993). Based on previous recommendations by the United Nations and U.S tourism consultants, Belizean officials felt that tourism would be a feasible diversification option, and accordingly, policy was formulated to focus on modernizing and expanding the tourism industry. In the late 1980s, Belize's economy experienced rapid growth and tourist arrivals increased substantially (Figure 3-2). Tourism became the fastest growing industry and was second to agriculture as a foreign exchange earner.

[2] Information on PACT was obtained from the PACT website at www.pactbelize.org during January 2005.

The 1980s saw a shift in the tourist market from mass packaged holidays to ecotourism and archaeo-tourism (Belsky 1999). Tourists were looking for a more "authentic" experience; one that was more environmentally and culturally sensitive (Belsky 1999). This shift in tourist demand coincided with the expansion of protected areas in Belize and the move toward increased tourism development for economic diversification. Belize fit into this new niche and offered up its biological and cultural diversity.

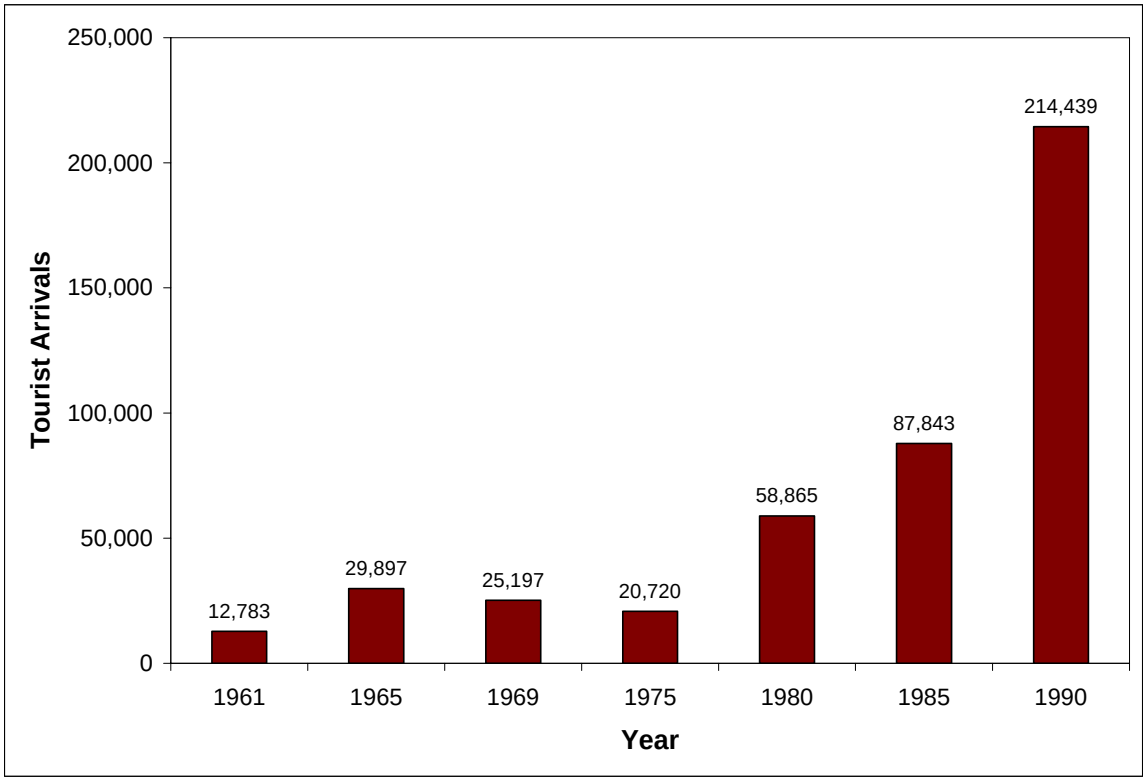

Figure 3-2. Tourist Arrivals in Belize, 1961-1990.[3]

Ecotourism continued to develop and gain prominence in the 1990s with the help of foreign and national NGOs. These NGOs helped to encourage international tourists to

[3] Arrivals in the 1960s indicate total arrivals, not just tourist arrivals. Residents would be recounted each time they reentered their home country. Tourist statistics from 1961-1969 were obtained from Himan (1970). Tourist statistics for 1975-1990 were obtained from the Belize Tourism Board.

experience the inland tropical forests, wildlife, archaeological ruins, and Creole, Garifuna, and Maya communities. The idea was that tourists would contribute to the local economy and less tourist dollars would be lost through leakages to foreign tour operators. Thus, community-based ecotourism gained prominence in Belize as a conservation and development strategy.

Today, tourism is the leading industry in Belize. Since the construction of Belize International Airport in 1989, tourist numbers have remained fairly steady (Figure 3-3). The government of Belize is still focused on promoting ecotourism, as indicated by Mark Espat, the former Minister of Tourism and the Environment:

> Belize's commitment to ecotourism is a joint effort of the public and private sector. Much of Belize is untouched by man, as it has been for the last thousand years – more than one-fifth of its total land mass is dedicated to nature reserves. Myriad public programs, including the recently launched PACT are forming a national infrastructure that fosters preservation and management of Belize's unique natural and cultural resources.[4]

Belize Tourist Board's slogan, Belize is "mother nature's best kept secret" continues to attract tourists searching for unique ecosystems and cultures. However, another aspect of tourism, cruise tourism, has also gained prominence.

Cruise Ship Tourism

Until recently, Belize was focused on ecotourism as their major tourism strategy. Nevertheless, in 2001, the government of Belize signed a contract with Carnival Corporation to allow cruise ships to anchor offshore and ferry mass amounts of tourists into Belize City. Since the introduction of major cruise lines onto Belize's shores, the number of cruise tourist arrivals has increased exponentially from 14,183 in 1998 to

[4] Quote obtained from the Belize Tourism Board during October 2004.

575,196 in 2003 (Belize Tourism Board 2004). It is projected that in 2004 this number will increase to 813,782 (CZMIA 2004; Figure 3-4).

In 2003, an agreement was reached between Belize Ports Limited and Carnival Corporation to begin construction of a new cruise tourism terminal facility. The project will include a pier that can accommodate two cruise ships and a welcome center. A transportation hub will be built to accommodate hundreds of buses and taxis simultaneously. In the agreement, Carnival committed to regular ship calls for a 25 year period, which is likely to contribute to a positive growth trend over the next few years.

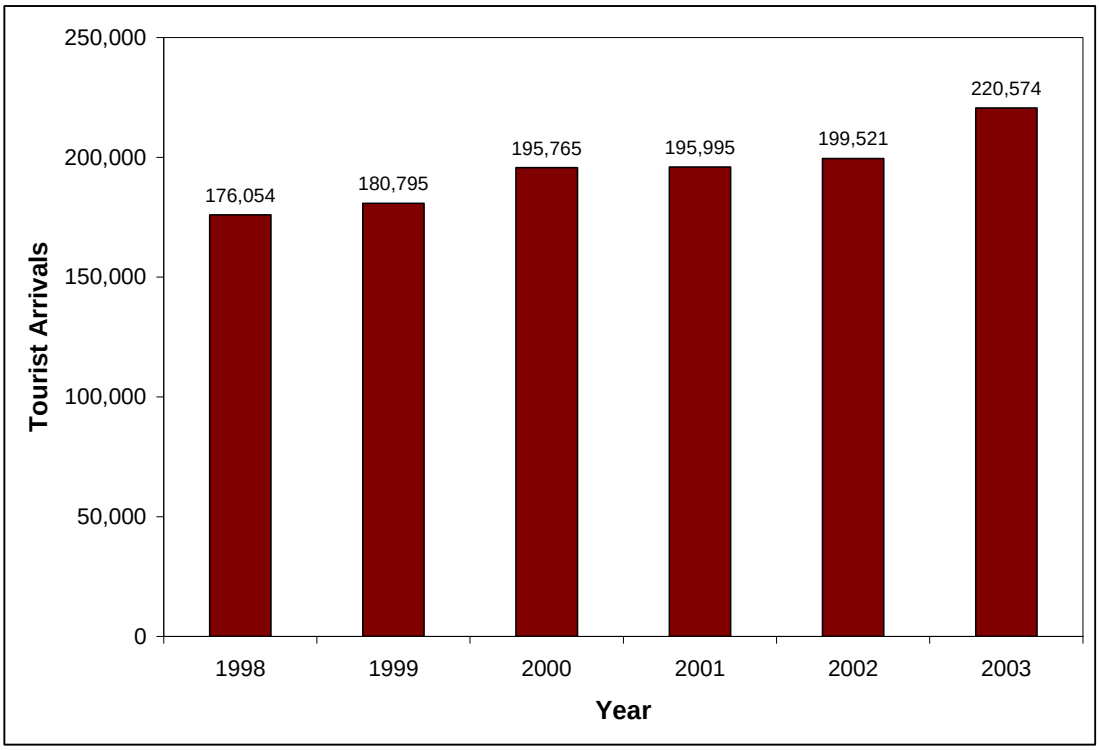

Figure 3-3. Tourist Arrivals in Belize, 1998-2003.[5]

Currently, key tourist attractions in Belize are experiencing increasing pressure from cruise tourist visitation. For instance, Altun Ha, the closest Mayan ruin to Belize

[5] These numbers do not include cruise ship arrivals.

City and easily accessible by bus, has seen a 450% increase in tourist arrivals since 1998 (Belize Tourism Board 2004). Lamanai, a much more remote Mayan ruin, is also beginning to see an increase in tourists from cruise ships. Indian Church, the community located adjacent to Lamanai, is just now receiving electricity and barely has the infrastructure to support large amounts of tourists. Nonetheless, with continued improvement of infrastructure, cruise tourists will be able to access more remote areas of Belize that have traditionally been ecotourism destinations. Certainly, the change in tourism types and the sharp increase in tourist numbers in such a short period of time could cause substantial positive and negative economic, social, and environmental impacts on Belizean communities. My study, however, does not directly address these issues, but only introduces the issue as it may, in the near future, pertain to tourism development in my study site, Crooked Tree, Belize.

Study Site: Crooked Tree, Belize

Crooked Tree is located about 33 miles northwest of the capital, Belize City, along the Northern Highway (Figure 3-5). The wetlands surrounding Crooked Tree are approximately 16,400 acres comprised of waterways, logwood swamps, and lagoons. However, only about 4,500 acres of the wetland area is under the protection of Crooked Tree Wildlife Sanctuary which was established in 1984. The area was only accessible by boat until a three mile causeway was constructed across the Northern Lagoon. The causeway connected Crooked Tree to the Northern Highway and allowed for greater infrastructure and tourism development.

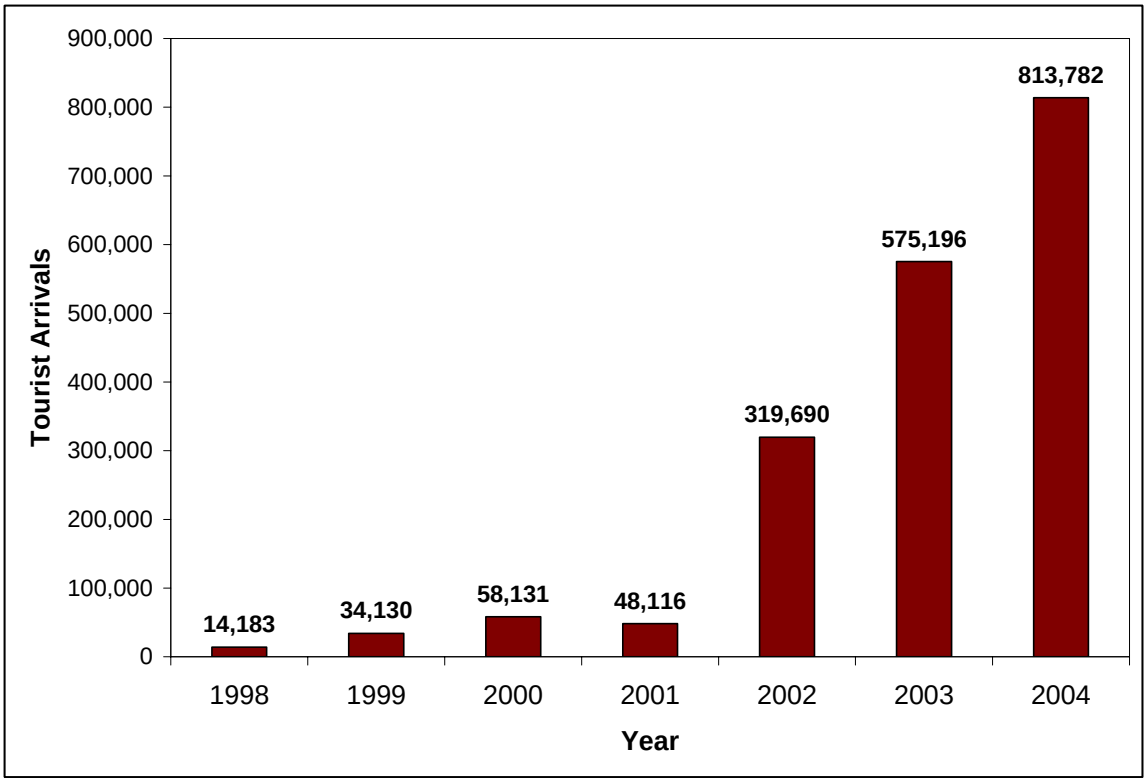

Figure 3-4. Cruise Tourist Arrivals in Belize, 1998-2004.[6]

Crooked Tree: Physical Environment

Crooked Tree, a subtropical moist environment, is classified as a Tropical Humid Forest Biome in the Campechean Province. Elevation in Crooked Tree is about three to fourteen meters above sea level. The climate in Crooked Tree has distinct wet and dry seasons. During the rainy season (June to December), Crooked Tree receives the majority of its annual rainfall (1200-2000 mm). The dry season usually falls between January and May with an extra dry period occurring in August. The temperature is mild with a range of 16˚C to 28˚C during the winter and 24˚C to 33˚C during the summer (Mackler and Salas 1994).

[6] The figure for arrivals in 2004 is a projected number.

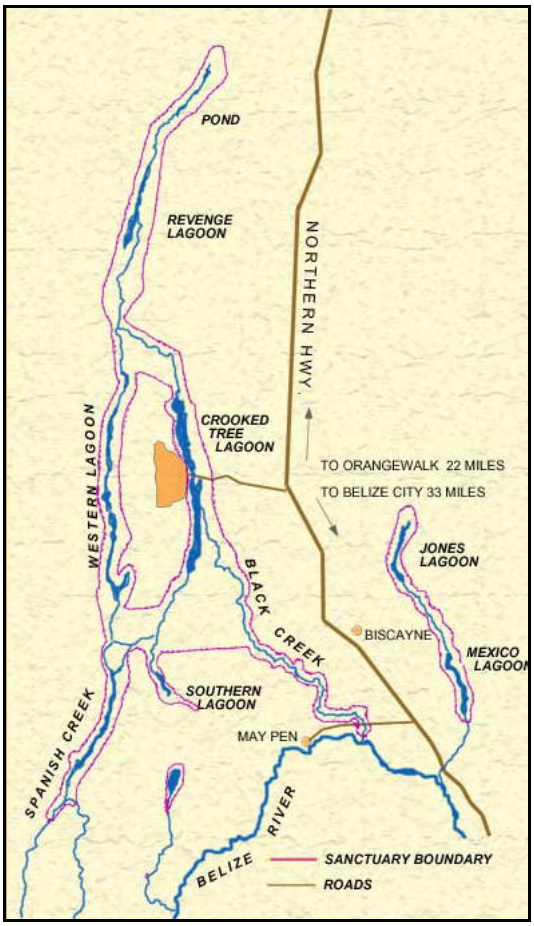

Figure 3-5. Crooked Tree, Belize.[7]

Seasonality in Crooked Tree is an extremely important factor in maintaining the biodiversity of the wetland. During the wet season, the flow of water is continuous, and the lagoons receive water from all sides. Black Creek flows from south to north to relieve the flooded Belize River and fills the Northern and Southern Crooked Tree Lagoons to levels that can get as high as 9 feet. During unusually high flood events, the flow may drain into the New River through swamp and marsh areas to the northwest of the wetland system. Dry season results in the reversed flow of Black Creek from north to south as the lagoons drain into the Belize River (Figure 3-5). During the dry season,

[7] Map courtesy of Belize District Maps at www.belizedistrict.com/maps.

much of the wetland becomes dry and brittle providing habitat for numerous migratory birds. As the lagoon shrinks, food resources become abundant and more easily obtainable. Most wading birds and fish spend the dry season in Spanish Creek, Northern Lagoon, Southern Lagoon, and Black Creek (Saqui and Boles 2003).

Table 3-1. Dominant vegetative covers found in Crooked Tree and the surrounding wetlands.[8]

Forest Type	**Characteristics and Dominant Species**
Broadleaf Forests or High Ridge Forests	Limestone soils of higher elevation. Typical species do not tolerate extensive root inundation: Sapodilla (*Manilkara zapota*) Cedar (*Cedrela mexicana*) Allspice (*Pimenta dioica*) Mahogany (*Swietenia macrophylla*).
Pine Savanna or Pine Ridge	Well-drained, acidic sandy soils. Relatively low tree diversity and more open canopies. Species include: Caribbean pine (*Pinus caribea*) Palmetto palms (*Acoelorrhaphe wrightii*) Cocoplum (*Chrysobalanus icaco*) Pimenta palm (*Paurotis wrightii*) Craboo (*Byrsonima crassifolia*) Cashew (*Anacardium occidentale*) Understory species are dominated by grasses and sedges. Fire prone vegetation cover. Heavily exploited for many years for lumber (pine), charcoal (oak), fence posts and crab pots (palmetto and pimenta).
Rush/Sedge Lands or Savanna	Primarily herbaceous. Lacking most of the woody species typical of Pine Savanna. Usually inundated by water for about six months out of the year.
Cohune Palm Forest or Cohune Ridge	Along creek and lagoon banks where soils are rich and well drained. Species include: Cohune palm (*Orbigyna cohune*) Guanacaste or Tubroos (*Enterolobium cyclocarpum*) Gumbo-limbo (*Bursera simaruba*)
Freshwater Swamp Forests	Along the littoral zones of lagoons and ponds and along the edges of creeks. Flooded during the wet season. Dominated by those trees that can tolerate cycles of exposure and inundation. Species include: Logwood (*Haemotoxylon campechianum*) Bribri (*Inga edulis*) Cohune palm (*Orbigyna cohune*) Guanacaste (*Enterolobium cyclocarpum*) Figs (*Ficus spp*.) Pokenoboy (*Bactris sp*.)

[8] Adapted from Saqui and Boles (2003).

Water quality in the Northern Lagoon appears to be at acceptable levels, as the water is alkaline with a high measure of hardness and dissolved oxygen content (Mackler and Salas 1994, Saqui and Boles 2003). However, over the past decade, villagers have expressed concerns about agricultural pollution originating from a closed agribusiness development northeast of the lagoon, but empirical studies have not been conducted to validate this claim. Other sources of pollution such as pesticide use, washing of vehicles in the lagoon, deep-pit outhouses and garbage dumps have become more of an issue with the growth of human population in Crooked Tree. In addition, the construction of the causeway served to impound water in the northern half of Crooked Tree Lagoon and has resulted in negative impacts such as murky water and the backup of dead vegetation. However, in 1992, the Government of Belize constructed two culverts to restore natural drainage of the lagoon during the dry season (Johnson 1998). Vegetation cover in Crooked Tree consists of five main types: Broadleaf Forests (High Ridge Forests), Pine Savanna (Pine Ridge), Rush/Sedge Lands (Savanna), Cohune Palm Forest (Cohune Ridge), and Freshwater Swamp Forests (Table 3-1). Crooked Tree island is dominated mostly by Pine Savanna interspersed with stands of wild cashew trees. The most agriculturally productive soils are located on the Cohune Palm Forest, which is also utilized as cattle pastures. In addition, the thickest stands of logwood are found in the Freshwater Swamp Forests.

The variety of habitat in Crooked Tree leads to an abundance of wildlife. CTWS was originally created with the impetus to protect birds in the area (Table 3-2), especially the endangered Jabiru stork (*Mycteria mycteria*) and their nesting sites. However, besides Jabiru storks, 406 bird species have been documented in CTWS (Saqui and Boles

2003). Among these are a variety of migratory birds that flock to the lagoons during the dry season in search of food. Fish are much easier to catch when the lagoons are low, and the littoral zones offer wading birds easy access to aquatic insects, small fishes, frogs, snails, clams and aquatic plants (Johnson 1998).

Table 3-2. Common species of birds found in Crooked Tree.

Common Name	**Scientific Name**
Snowy egrets	*Egretta thula*
Great egrets	*Egretta alba*
Tricolored herons	*Hydranasa tricolor*
Black crowned night herons	*Nycticorax sp.*
Limpkins	*Aramus guaraauna*
Bare-throated tiger herons	*Tigrisoma mexicanum*
Boat-billed herons	*Cochclearius cochclearius*
Green herons	*Butorides striatus*
Snail kites	*Rostrhamus sociabilis*
Roseate spoonbills	*Ajaja ajaja*
Wood stork	*Mycteria Americana*
Red-lored parrot	*Amazonia autumnalis*
Osprey	*Pandion haliaetus*
Northern jacana	*Jacana spinosa*
Belted kingfisher	*Megaceryle alcyon*
Currasow	*Crax rubra*
Crested guan	*Penelope purpurascens*
Fulvous tree-duck	*Dendrocygma bicolor*

Besides bird life, Crooked Tree harbors a wide variety of other animal life (Table 3-3), some of it listed as endangered by CITES (Conference on International Trade in Endangered Species). Among the endangered animals are the tapir (*Tapirus bairdii*), jaguar (*Panthera onca*), Morelet's crocodile (*Crocodylus moreleti*), green iguana (*Iguana iguana*), and Central American River Turtle (*Dermtemys mawii*). In addition, some animals are important food sources for the residents of Crooked Tree. These include the collared peccary (*Tayassu tajacu*), white-tailed deer (*Odocileus virginianus*), paca (*Agouti paca*), armadillo (*Dasypus novemcinctus*), and ornate terrapin (*Trachymys scripta*). Fish are also important to the residents, as food and as a source of income. The dominant species of fish are "crana" (*Cichlisoma urpothalmus*), "bay snook" (*Petenia*

splendida), "tuba" (*Cichlisoma friedrichsthali*), and "baca" (*Ictalurus furcatus*). In 1996 and 1997, two new species, *Tilapia mussambicus* and *Tilapia niloticus*, escaped from a nearby aquaculture pond into the Crooked Tree lagoon system. Tilapia are an aggressive fish species, and villagers and fish experts in Belize worry that they may begin to replace the other dominant fish species in the lagoon.

Table 3-3. Common animal species found in Crooked Tree.

Common name	**Scientific Name**
Mountain lion	*Felis concolor*
Ocelot	*Felis pardalis*
Margay	*Felis wiedi*
Jaguarundi	*Felis yagouaroundi*
Gray fox	*Urocyon cinereoargenteus*
White-lipped peccary	*Tayassu pecari*
Brocket deer	*Mazama americana*
Howler monkey	*Alouatta pigra*
Spider monkey	*Ateles geoffroyi sspp.*
Agouti	*Dasyprocta punctata*
Coatimundi	*Nasua narica*
Raccoon	*Procyon lotor*
Skunk	*Mephitis mephitis*
Kinkajou	*Poto flavus*
Tamandua	*Tamandua mexicana*
Tayra	*Eira Barbara*
Squirrel	*Sciurus yucatensis*
Fer-de-lance	*Bothrops asper*
Coral snakes	*Micurus diastoma*
Rattlesnakes	*Crotalus durissus*
Boas	*Boa constrictor*
Loggerhead	*Stauriotypus triporcatus*

Crooked Tree Village: History

The first settlers of Crooked Tree were probably the Maya. Ruins such as Altun Ha and Lamanai attest to the existence of large networks of Maya settlements throughout the region surrounding Crooked Tree. Located near the village is a ruin named "Indian Hill" by villagers and Chau Hiix by archaeologists (Enriquez 1993). The landscape surrounding the pyramid-shaped structures of Chau Hiix indicates that some agricultural activity with the use of irrigation canals may have been conducted in the area. Much of

the ruins are found in the Western Lagoon, but pottery shards have been found in the area of the village. This evidence indicates that the wetland in Crooked Tree has probably been utilized by humans since at least 1200 BC (Saqui and Boles 2003).

The British began to settle in Belize in the mid-twentieth century. Their initial motivation was to hide in the cayes off-shore and raid Spanish ships carrying logwood and other merchandise bound for Europe. With the growth of the logwood industry around 1650, they developed interest in harvesting logwood and marketing it to the textile businesses in Great Britain. The waterways of Crooked Tree were ideally suited for establishing logging settlements and became one of the most important logwood sites in Belize. Crooked Tree Village was established as a British logging camp and formally became a village around 1750 (Saqui and Boles 2003). According to oral history, the first settlers in the area were people of Scottish/English decent and their slaves. Common surnames still include Tillett, Gillett, Cadles, Jones, Rhaburn, and Crawford (Enriquez 1993).

Logwood was an important commodity on the British market due to its heavy, dense wood and red heartwood that was used to make aniline dyes. Logwood is located in heavy swamp areas where its roots can be flooded in the summer and left dry and exposed during the winter. During the dry season, settlers would penetrate into swamp areas that were unreachable in the summer and make camps to cut logwood. The logs would then be floated down trenches, into the lagoon, and to the Belize River during the rainy season (Saqui and Boles 2003). At this time, the logwood business was extremely profitable, and logwood cutters would utilize slaves to help with the harvest. However, in the late 1700s, synthetic dyes were invented and the need for logwood was no longer

there. Prices plummeted. Crooked Tree did not have large stands of mahogany that replaced logwood as a principal forestry export, and it is conjectured that the wealthier settlers moved on leaving behind free coloreds, free blacks, and poor, disenfranchised whites. The remoteness of the area and the abundant fish, game, and fruit made an ideal location for these people. By 1841, twenty households were established in Crooked Tree (Johnson 1998). Over the next 150 years, Crooked Tree continued to develop slowly. Small quantities of logwood were still harvested for cash income, but for the most part, villagers relied on farming, fishing, and hunting.

In the 1940s, the government built a school and a police station in the village. Also around this time, an expanding market for crocodile and large cat skins in the United States added to the income of Crooked Tree hunters. For instance, a U.S. investor established a lodge in the Revenge area (west of Crooked Tree) for trophy hunters interested in hunting jaguar. Men from Crooked Tree were hired to provide guide services (Johnson 1998). The villagers began to petition the government for an access road to connect Crooked Tree with the Northern Highway in 1951. They continued to petition, and in 1984, the causeway was built across Crooked Tree lagoon. The causeway was a project of the Ministry of Works and funded in part by the World Bank and the United States Agency for International Development (USAID) (Saqui and Boles 2003). Before the causeway, the chief means to access the village was by crossing the lagoon in a dory (canoe). This limited the amount of goods that could be brought into Crooked Tree and left the village fairly isolated from the rest of Belize.

The causeway changed life in Crooked Tree considerably. It allowed for much easier access to and from the village resulting in much-appreciated benefits to residents.

The most apparent benefit of the causeway was the increase in commerce and transportation across the lagoon, whereby different types of food were introduced into the village. The result was less dependency on subsistence farming, hunting, and fishing. Additionally, building supplies such as steel, sand, gravel, and cement were also brought in to aid in housing construction. Consistent electricity provided light at night, fans for comfort from the heat and biting flies, refrigeration for storage of food, and television. Also, villagers were able to hold jobs outside of Crooked Tree and return home each day. In addition, tourism has increased since the construction of the causeway (Saqui and Boles 2003). The added development and prosperity in Crooked Tree allowed many villagers to immigrate to the United States and send money back to the village. Early immigrates have since retired from work in the U.S. and returned to build homes and invest in businesses in Crooked Tree (Johnson 1998).

Crooked Tree Village: Today

The 19.3 mi^2 island is home to approximately 650 residents making up 144 households (Johnson 1998).The center of Crooked Tree Village makes up about 2.5 mi^2, with some households scattered on the outskirts (Saqui and Boles 2003). Most villagers are of Creole descent (West African, Scottish), with a few Garifuna and immigrants from other areas in Central America. There is a strong kinship network within the village, and most residents are related, by blood and/or marriage. Religion is extremely important as the village houses seven churches, the most prominent being Baptist, Nazarene, Wesleyan, and Seventh Day Adventist. The Village Council, which is composed of seven elected councilors and headed up by the Village Chairman, is the governing body in Crooked Tree. Council members deal with community development and any other issues that affect the entire community.

The inhabitants of Crooked Tree practice a wide variety of subsistence strategies, such as farming, fishing, construction, cattle, charcoal production, etc. Cattle and horses within the village are free-range and can be found in residents' yards as well as in the surrounding savannas. Very few households have only once source of income or even a steady source of income. For instance, one household may rent rooms to tourists, own some cattle, sell cashews, and have a small garden, or a pastor might supplement his income by running a small grocery shop. Some men support their families by working temporary jobs in construction or with Belize Electric Limited, and for them, income is not always consistent. Some families have relatives in the United States and Europe who send money home.

Cashews are central to the culture of Crooked Tree and a noticeable draw for tourists. Cashew trees grow naturally in the Crooked Tree area (Figure 3-6). At the end of April and beginning of May, the cashew harvest begins and often lasts through the end of summer (Figure 3-7). In May, the community gathers for its annual Cashew Festival where many tourists, especially Belizeans, come to enjoy a celebration filled with dancing and sampling of cashew products, such as wine and jam (Figure 3-8).

Fishing is another central subsistence and commercial activity. The principal methods utilized for fishing are hand lines, rods, long seines, and cast nets. Rod fishing is the method used by most fishermen, but seine nets can yield large numbers of fish. During the dry season, fishermen are allowed to fish more intensively to reduce the amount of dead fish due to drying of the lagoon. For each net haul, the fishermen are expected to pay US$10.00 to the Belize Audubon Society. The harvested fish are consumed locally or sold to markets in Belize City or Orange Walk. The most preferred

fish for the market are “bay snook” and “tuba,” but tilapia is becoming more marketable. Filleted tilapia can be sold for about US$2.00 to US$3.00 per pound (Saqui and Boles 2003).

Figure 3-6. Ripe Cashew Fruit. This fruit is hanging from a cashew tree located in the yard of a Crooked Tree resident.

Crooked Tree Village offers a unique blend of natural and cultural resources which has attracted tourists. Tourism has remained steady and offers financial opportunities to village residents. However, without the wildlife sanctuary, tourism may not have been as successful as it is today.

Crooked Tree Wildlife Sanctuary: Establishment

The establishment of Crooked Tree Wildlife Sanctuary spanned a decade from the mid-1970s to the mid-1980s. During the early 1970s, Dora Weyer led small groups of birders, Belizean and American, on tours of the lagoon (Johnson 1998). She partnered with John Jex, a Crooked Tree resident, who received tourists in his boat (pre-causeway)

and took them on birding tours of the Crooked Tree lagoon. The partnership was ideal as John Jex had knowledge of the area while Dora Weyer was a birding specialist. As a central founder of Belize Audubon Society, Weyer appreciated Crooked Tree for its biodiversity, especially waterfowl, and initiated funding mechanisms to create the wildlife sanctuary.

Figure 3-7. Local Family Harvesting Cashew Fruits. Harvest involves picking the ripe fruits from the tree and ground and then separating the nut from the fruit for further processing.

From the perspective of BAS, the early meetings with villagers about the wildlife sanctuary were well-attended and positive. The villagers welcomed the establishment of a wildlife sanctuary to protect waterfowl and wanted plans to be drawn up quickly. It was made clear to villagers early on that CTWS would only regulate the hunting of waterfowl and not put restrictions on the commercial fishing activities. As cited from Johnson (1998), a document prepared by a wildlife management specialist in Belize stated:

> It is recommended that the area should be established as a National Reserve to be managed as a bird sanctuary with provision to permit THE CONTINUANCE OF THE ESTABLISHED COMMERCIAL FISHING PRACTICE (Deshler 1978, his emphases).

Therefore, the village seemed favorable to the idea of the sanctuary with the provision that fishing would not be regulated or interrupted. However, villagers' perceptions of these meetings reflected a different type of dialogue. The village chairman at that time recounts that meetings were confrontational, and he was forced to convince other community members that the wildlife sanctuary would be beneficial (Johnson 1998). He worked hard to show how the sanctuary would promote tourism and generate foreign exchange. However, many residents of Crooked Tree do not specifically recall these meetings (Johnson 1998).

Figure 3-8. Cashew Wine Production in Crooked Tree. The residents above are squeezing juice from the cashew fruit in preparation for fermentation.

The funds to create the sanctuary were procured from the international conservation organization known as Wild Wings. The Crooked Tree Wildlife Sanctuary was officially

established in 1984 by the Minister of Natural Resources as Statutory Instrument No. 95 under the National Parks Systems Act of 1981 (Johnson 1998). Management of the sanctuary was given to Belize Audubon Society (BAS) due to limited government staffing, funding, and trained personnel in the government sector (Enriquez 1993). The BAS is responsible for raising funds for maintenance and development and for enforcement of the rules and regulations of the sanctuary. To date, most funds for operational costs have been procured from international conservation agencies (Dada 2000).

Under the Act, it is illegal to hunt, kill, or remove any wild animal within the boundaries of the wildlife sanctuary. Initially, fishing was prohibited, but limited fishing by residents of Crooked Tree was permitted as it is not considered destructive to the sanctuary or its values. Plant collection and any destruction of natural or cultural resources are also prohibited by the Act. Penalties ranging from BZ$200 to BZ$500 or up to six months in prison can be levied if caught conducting any of the above activities (Enriquez 1993). Such regulations have large impacts on villagers who are dependent on the natural resources for subsistence and cash. However, for villagers, there is very little enforcement of hunting regulations. Fishing, to some extent, is regulated and for that reason, is a concern for the villagers who base their livelihood on commercial fishing. Issues over fishing have been a thorn in the relationship between the village and the BAS since the establishment of CTWS (Johnson 1998). However, CTWS spurred the growth of ecotourism as an alternative source of income for some Crooked Tree residents.

Ecotourism in Crooked Tree Wildlife Sanctuary

Ecotourism in Crooked Tree was at a small scale before the wildlife sanctuary was created. Only avid birders or dedicated students too the long trek and dory ride

across the lagoon. As was mentioned above, Dora Weyer began bringing tourists for tours of the lagoon in the early 1970s. Since John Jex was already involved in providing transportation across the lagoon, he was the natural choice to conduct lagoon tours, which were the first guided wildlife tours.

In terms of lodging, one villager explained, "we (he and his wife) were the first people in the village that people began to come and stay with." His first guests were students studying sociology. They contacted a local church in order to find homestays. After his first guests, he was inspired to invest in renovating his home to make room for tourists and students who were interested in visiting Crooked Tree. One of his old guest books contains entries dating back to 1975. Certainly, ecotourism developed before CTWS, but with the construction of the causeway and the establishment of a protected area, ecotourism was given momentum to grow and expand in the community.

Tourist numbers were recorded in Crooked Tree with the establishment of CTWS and the construction of a visitors center. Some early numbers indicate that ecotourism steadily grew from the late 1980s until the early 1990s (Figure 3-9). Recently, the number of visitors to CTWS has leveled out. According to local sources, the tourism industry in Belize was negatively affected during the first Gulf War and post September 11, 2001. Current statistics indicate that visitor arrivals in Crooked Tree have declined slightly compared to those of the early 1990s (Figure 3-9). However, it is necessary to note that in many cases tourists do not sign the guest book at the visitors center, and this leads to undercounts. Furthermore, as local lodge owners have expanded their businesses, they have invested in their own transportation for bringing tourists in from the Belize City Airport. Often times, these tourists bypass the CTWS Visitors Center and are

not officially recorded as visitors to the sanctuary. In 1993, Enriquez (1993) estimated that close to three for every ten foreign visitors did not sign the book. This number may be even higher now.

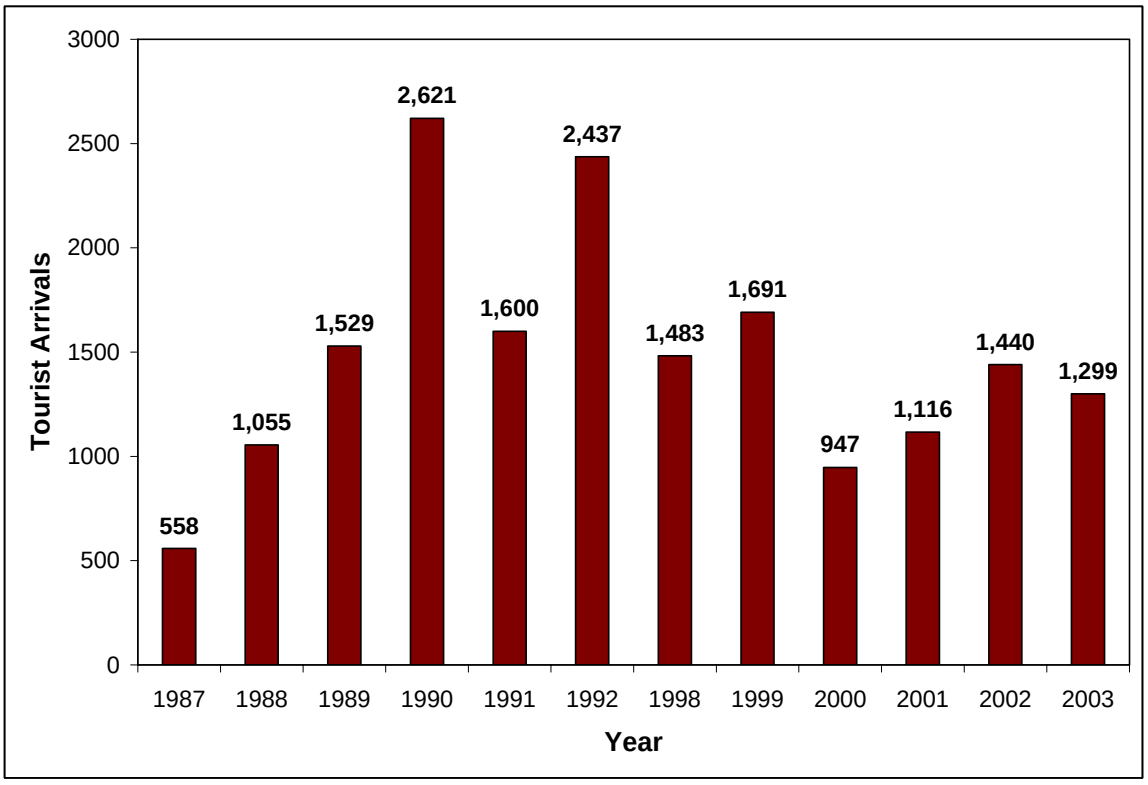

Figure 3-9. Tourist Arrivals to CTWS, 1987-2003.[9]

Why do tourists visit Crooked Tree and what do they do while they are there? Tourists learn about Crooked Tree and the wildlife sanctuary by reading Belize guide books and sometimes from the recommendations of local Belizeans. The majority of visitors come to view wildlife or specifically to bird watch. Some are interested in learning about the local culture and interacting with community members. Crooked Tree offers a diverse array of activities such as lagoon boat tours, walks along the lagoon boardwalk (Figure 3-10) and community trail, or horseback rides through the community

[9] Tourist statistics from Enriquez (1993) and the Belize Tourist Board.

and to the Western Lagoon. However, for some low budget tourists, boat tours are not feasible as they cost around US$75.00.

Figure 3-10. CTWS Boardwalk. A) The boardwalk extends through swampy areas located to the northwest of Crooked Tree island. B) The observatory tower at the end of the boardwalk provides views of the Western Lagoon.

Many tourists visit Crooked Tree as a part of a group. During the Belize school year, local high schools conduct field trips to CTWS and participate in environmental education programs with wardens. During the summer, many school groups visit Crooked Tree on summer study-abroad opportunities. Most lodge owners have regular groups that return to Crooked Tree each year.

Tourism in CTWS is marked by a distinct seasonality. Most visitors, especially those interested in bird watching visit during the peak of the dry season (December to May). Tourist numbers are low during the summer months due largely to the rain and heat (Figure 3-11). Most visitors to Crooked Tree are foreigners and are largely from the United States. The second largest group of visitors to CTWS from July 2003 to June 2004 was Belizean (Figure 3-12). This is largely due to high school groups traveling to CTWS for environmental education field trips.

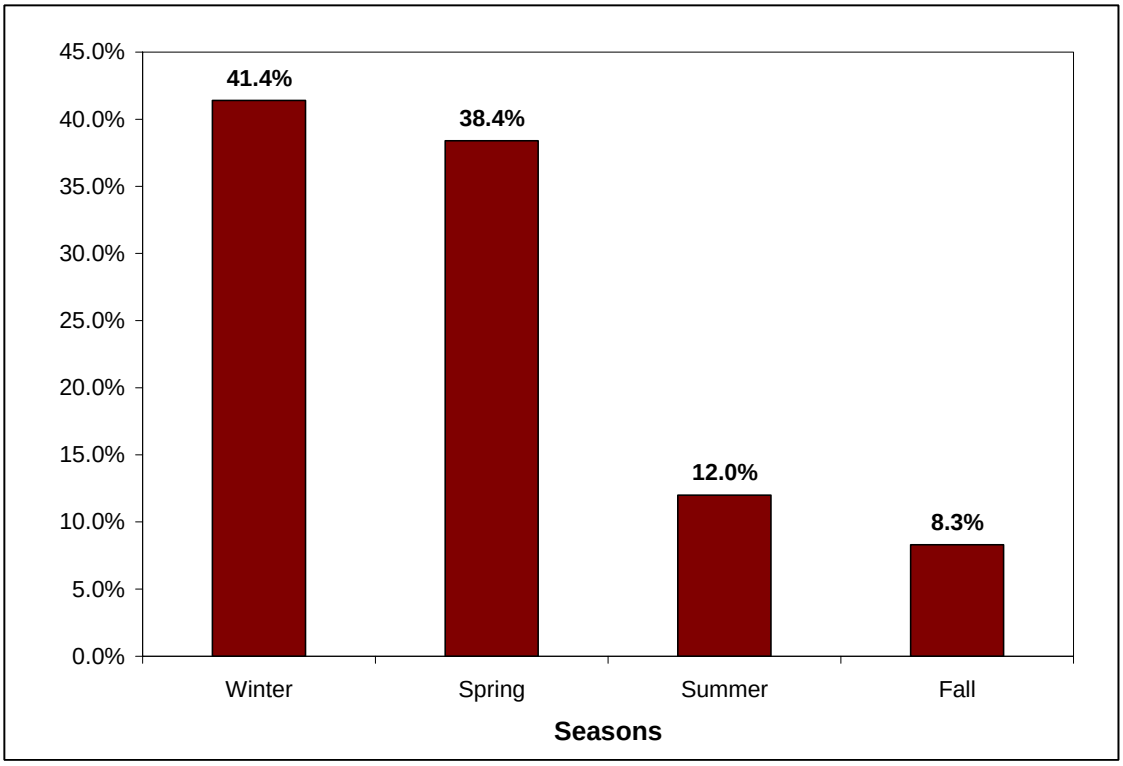

Figure 3-11. Tourist Arrivals by Season (n=1,280), July 2003 to June 2004.

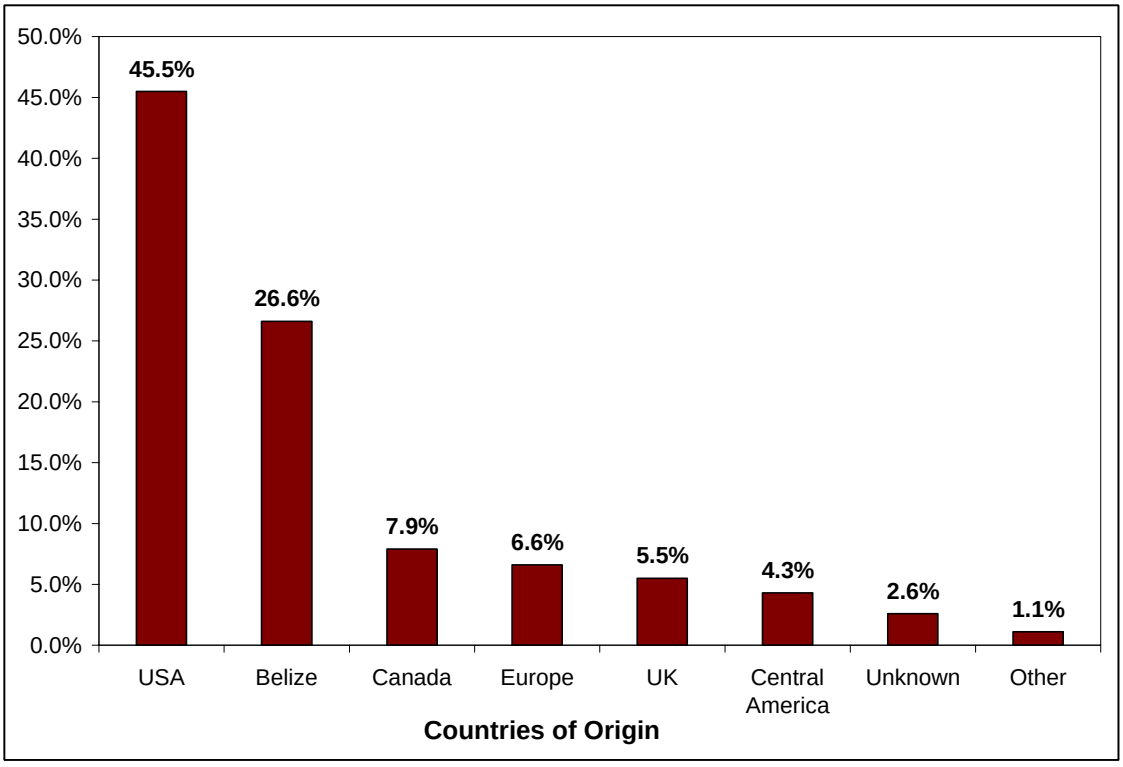

Figure 3-12. Tourist Arrivals by Nationality (n=1280), July 2003 to June 2004.

When tourists visit Crooked Tree for overnight stays, they have a choice among three larger lodges offering guide operations and a few small bed and breakfasts. The bed and breakfasts are targeted toward low-budget students and backpackers. The lodges are equipped for larger groups and offer guiding services. The lodges, Bird's Eye View, Sam Tillett's Hotel, and Paradise Inn, were all established in the 1990s and are relatively new (Figure 3-13). A couple of the lodges offer guided trips to areas outside of Crooked Tree. For example, Sam Tillett's Hotel offers day trips to the Mayan ruins of Lamanai or cave tubing and overnight trips to the ruins of Tikal in Guatemala. Costs for rooms in larger lodges are around US$50 per night, and bed and breakfast accommodations are US$20 per night.

Figure 3-13. Lodges in Crooked Tree. A) Bird's Eye View Lodge. B) Dining Room at Paradise Inn.

Upon entering CTWS, tourists are required to sign in at the CTWS Visitor's Center (though this does not always happen) and pay a park fee of US$1.00 for nationals and US$4.00 for non-nationals (Figure 3-14). The visitors center offers an interpretive display of the wildlife and culture that can be found in Crooked Tree. In addition, the wardens are available to answer questions and help tourists locate a place to stay or eat. They provide CTWS brochures and a map of the community with information about the

various lodges, bed and breakfasts, and the three restaurants within the community, Trees and Vees, Three J's, and Nor's Restaurant (Appendix A).

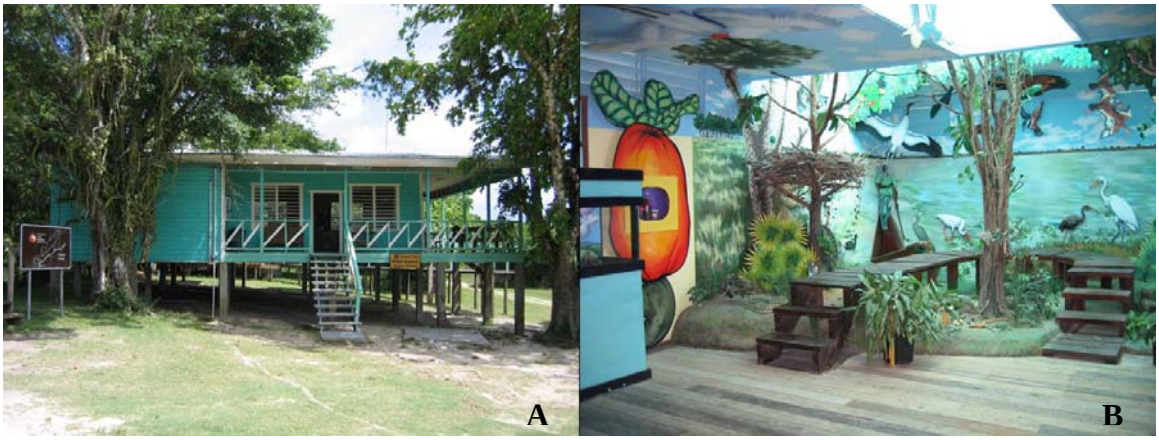

Figure 3-14. Crooked Tree Wildlife Sanctuary Visitors Center. A) The Center is located at the entrance of the wildlife sanctuary. B)The interpretive display of wildlife and culture is located inside the CTWS Visitors Center.

From the description above, it is evident that ecotourism is established in Crooked Tree, and many residents actively participate in it. The creation of Crooked Tree Wildlife Sanctuary may have helped to spur the growth of ecotourism and may be viewed in a more positive light by residents earning income from ecotourism. Nonetheless, the nature, history, and culture of Crooked Tree presented above demonstrate that ecotourism may not be enough to convince villagers of the importance of CTWS. The community is still struggling with the introduction of conservation ideas and even ecotourism cannot replace traditional subsistence strategies. Many communities globally are confronted with the same struggle as Crooked Tree (conservation organizations vs. residents), and each new case study helps to shed light on innovative strategies to ease this struggle.

CHAPTER 4
METHODOLOGY

The overall methodology of my study was to collect a mixture of qualitative and quantitative data. The qualitative data was used to supplement and help explain the quantitative data. Further, a triangulated approach was employed. Triangulation allows for comparisons among different methods to correct for biases inherent in specific methods of data collection (Sobo and Munck 1998). In my study, I used participant observation and key informant interviews to check the validity and reliability of answers given by community members during semistructured interviews.

Semistructured Household Interviews

The main method used in my study was a semistructured household interview including four sections designed to elicit information regarding villagers' involvement in ecotourism and their perceptions of the impact of ecotourism in their area, to understand feelings residents hold toward conservation, the wildlife sanctuary and Belize Audubon Society, to discover how residents feel about the future of ecotourism in their community and how they would like to see it changed or improved, and to gather relevant demographic information.

Sampling Procedures

I chose participants for household interviews based on stratified random sampling. This ensured that hotel owners, restaurant owners, and other residents involved as well as members of the community not involved in tourism were represented. Since there was no list or map of households available for the community, I made note of households

involved and not involved in tourism during my initial community walks. I used a trail map provided by the CTWS Visitors Center as a guide to the roads in Crooked Tree (Appendix A). I chose a stratified random sample of 60 households from a population of approximately 150 households allowing me to conduct one interview per day for two months.

Response Rate

Of the 60 households included in the stratified sample, I was able to conduct interviews with 43 households. The response rate was 72%. Only one household outright refused to be included in the interview. The other households subtly indicated that they were not interested in being interviewed. After repeated follow-up visits where either no one was home or I was asked me to come back at another time, I moved onto another household in the sample.

For most interviews, there was a general sense of openness. However, some residents expressed that they did not know anything about ecotourism or the wildlife sanctuary. Their answers were short and direct with very little elaboration. Some residents were very interested in being interviewed and spent a large amount of time with me. They were thorough in answering questions, and some discussion was conducted after the interview was completed.

Interview Instrument

The interview included a mixture of 39 closed-ended and open-ended questions (Appendix B). Closed-ended questions were used to get an idea of demographic characteristics of each interviewee and also to determine their involvement in ecotourism. Open-ended questions included some free-listing and were aimed at eliciting further explanation of ecotourism activities and perceptions of ecotourism impacts, conservation,

the wildlife sanctuary, and the BAS. Questions were adapted from previous ecotourism studies (Enriquez 1993, O'Donnell Sills 1998). Enriquez (1993) conducted similar research in Crooked Tree, and I adapted a selection of questions pertinent to my study from his structured interview to fit a semistructured format. Some questions were also adapted from O'Donnell Sills (1998) since her study analyzed the success of ecotourism as an ICDP option in developing countries.

Guttman Scaling

In order to more accurately describe household wealth in Crooked Tree, I employed Guttman scaling in interviews and observation. Guttman scaling is used in wealth analysis by assigning a series of items that households might own to a level of wealth. The level of wealth is determined by which items the household owns. For example, in a community even the least wealthy households will always own shoes, but the wealthiest will own shoes, a well, a gas stove, a TV, and a car. Other households within the community will fall somewhere in between owning shoes and all the objects in the Guttman scale. This technique is especially helpful in areas where income is not documented and wage labor is uncommon (Guest 2000). In Crooked Tree, residents are not usually solely dependent on one activity for income, but instead, for example, they may use tourism, cashews, and farming as income generators (Johnson 1998).

The scale for Crooked Tree was established based on observation of wealth within the community during my introductory community walks. The scale I constructed is based on six items (1 – least wealthy, 6 – most wealthy):

1 – shoes
2 – and running water (pump for well)
3 – and a washing machine
4 – and a concrete house
5 – and a car
6 – and a hotel

I did not ask direct questions regarding wealth but used observation during interviews to establish how the household ranked on the scale.

Interview Procedure

Interviews were administered face-to-face with either the head of the household or the member of the household most willing to participate in the interview. All interviews were conducted by me. The first few interviews were conducted with a paper copy of the interview protocol, and a digital recorder was used to record all interviews with the permission of residents. I discovered that the paper copy of interview questions tended to make villagers feel more formal and less comfortable with the interview. Therefore, I memorized the interview and conducted all other interviews without the hindrance of paper copies. The interviews were always recorded and transcribed immediately following the interview. After being transcribed, all recorded interviews were erased. If questions were not understood, I attempted to rephrase questions in a manner that remained neutral but helped residents to understand the meaning of the question. For the most part, language was not a problem, since residents were proficient in standard English.

Interview Schedule and Constraints

All interviews were conducted in Crooked Tree from May 2004 to August 2004. During my first two weeks in Crooked Tree, I spent the majority of time conducting community walks and introducing myself to residents. I felt that it was important to

become oriented in Crooked Tree before beginning interviews. The interviews lasted from 15 minutes to 1 ½ hours depending on the resident and their knowledge on the subjects addressed in the interview.

At first approach, residents were noticeably wary of participating in the study. Many times residents rescheduled for a time when it would be more convenient for them to participate in an interview. However, even after rescheduling, sometimes residents were not home or were still not interested in participating in the interview. Most interviews were only conducted after consistently revisiting a household. Due to the sprawl of the village, I spent a majority of my time walking from household to household to solicit interviews. Further, with only two months to complete interviews, these constraints interfered with my ability to obtain the desired sample size of 60 households.

The wariness of villagers may have been due to the large amount of past researchers offering little in return. Additionally, the fear of being negatively affected by giving controversial answers to questions may have caused residents to decline giving interviews. For example, one resident expressed his concern that researchers come to Crooked Tree and take information but do not leave anything for the community. Another resident maintained that other researchers had unknowingly caused trouble for some villagers by reporting interview responses to certain authorities. Before conducting interviews, I reassured residents that the interview was entirely confidential and that I would not share names or specific comments from the interviews with any other person. Further, I plan to conduct a follow-up visit with the community in the summer of 2005 to report my results and conclusions and leave a copy of my thesis with the Village Council.

Participant Observation

Participant observation was used to supplement quantitative and qualitative data gathered from other methods (Bernard 2002, de Munck 1998, Russell and Harshbarger 2003). Participant observation has three distinct advantages: "1) It allows access to backstage culture; 2) It allows for a thick description of a society or group; and 3) It provides opportunities and a means to report on unscheduled sorts of behaviors and events" (de Munck 1998, p.43).

As a resident of Crooked Tree during the summer of 2004, I was able to meet and interact with residents on a daily basis. Most interactions with villagers were informal, and I was able to observe routine activities and interactions. Further, as my proficiency in Creole increased, I was able to understand conversations that were pertinent to ecotourism and conservation issues in the wildlife sanctuary. By using conversation analysis, I discovered opinions from villagers that were not picked up in formal interviews or contradicted views expressed during interviews. In addition, I participated in informal discussions with tourists regarding their reasons for visiting Crooked Tree, their experiences in the wildlife sanctuary, and their overall impressions. I did not conduct participant observation in any systematic manner, but I remained open to participating in activities that could supplement my interviews as they occurred within the village.

There were many other situations where the use of participant observation was especially helpful. Observation of interactions between community members and tourists was possible. I participated in many events where tourists experienced the ecotourism services provided by villagers. For example, I was often invited by a lodge owner to eat dinner with a group of tourists, and I accompanied a school group on a night trip in

search of crocodiles. In addition, I was also able to observe situations where service could be improved by villagers to increase tourist satisfaction. On one occasion, I observed an American couple step off the bus and look around in bewilderment for a few minutes before they were directed to their lodge. The lodge employees were busy shelling cashews and were in no hurry to help the couple. Another example was my participation in other conservation and development activities managed by the Belize Audubon Society (BAS). I was invited to help BAS in a clean-up of Half Moon Caye National Monument. During the trip, I was able to observe interactions between office management staff and field staff and how other protected areas are managed as compared with Crooked Tree Wildlife Sanctuary. Lastly, I was able to sit in on some small community meetings that involved tourism planning activities and environmental education activities. In this way, I was able to see how some community members cooperate with each other to contribute to the success of community sponsored initiatives.

Notes were taken as needed during participant observation activities and were written up daily as field notes. Field notes were coded to allow for organization of observations and easy access when information regarding particular activities was needed. The coding procedures also contributed to a framework that enabled me to organize and critically think about the data (Sobo and de Munck 1998).

Key Informant Interviews

Key informant interviews were conducted, because a good relationship with a key informant can yield vital information regarding the local community and provide clarity on issues that contribute to the success of a study (Russell and Harshbarger 2003). Upon entering the community, a key informant was chosen based on knowledge of the

community's culture and political situation, ecotourism, and the wildlife sanctuary. Other significant characteristics of the key informant were their ability to communicate ideas, their level of mutual respect and understanding with me, and their neutrality in community politics (Bernard 2002). My key informant was identified during my preliminary walks in the community through informal conversations. Key informant interviews were conducted periodically as clarification on issues and advice regarding approaching community members was needed. All key informant interviews were unstructured and incorporated into field notes.

Interviews with Belize Audubon Society

Two interviews were conducted with Belize Audubon Society representatives. For the first interview, I formed a few initial questions based on research conducted before entering the field, but the overall format of these interviews was unstructured to allow for a free flow of information and to build rapport with Crooked Tree Wildlife Sanctuary management staff. The first interview was conducted with the advocacy officer and was conducted prior to entering the community. The manager of Crooked Tree was not available for an interview at this time. However, this interview was able to serve as a method of introduction to the key issues in Crooked Tree from a managerial perspective. For instance, the advocacy officer was able to provide me with information regarding tourism workshops conducted in the community, tourism leaders in the community, and the current political situation of Crooked Tree. The second short interview was conducted by phone following the completion of research in the community with the manager of Crooked Tree Wildlife Sanctuary. In this interview, the future management plan for Crooked Tree Wildlife Sanctuary was discussed, and a few

preliminary results and impressions were shared with the Belize Audubon Society. Due to time constraints, she was unable to meet before my departure from Belize.

Secondary Data

Secondary data was used to supplement information gathered from field methods and provide essential baseline information for my study. The Belize Audubon Society was crucial in providing unpublished information regarding tourism workshops conducted in Crooked Tree. Also, the wardens at the visitor center provided me with brochures, maps, and information made available to tourists. I was allowed to peruse the visitors center logbook and record data regarding the numbers and origin of tourists visiting Crooked Tree Wildlife Sanctuary from July 2003 to June 2004. Other secondary data used were newspaper articles and tourist magazines.

Data Analysis

Field Notes and Semistructured Household Interviews

I entered field notes and transcribed household interviews into Microsoft Office Word 2003 (Microsoft Corporation 2003). In order to code them, I copied and pasted notes for each day and answers to each question into separate database created in CDC EZText Version 3.06c (Carey et al. 1997). For each interview question, I printed a list of answers from all interviewees. I was then able to visually look for similarities in answers and code based on these similarities. For example, if a resident responded that the community benefited from tourism through the creation of jobs, I gave the answer the code “JOB.” The codes were then entered into database for both field notes and interviews. For interviews, I counted the occurrence of codes for each question and created bar graphs in Microsoft Excel based on frequencies of answers. In addition, I used field notes to help explain frequencies by searching in CDC EXText for codes

corresponding to a specific question or answer. For instance, if I wanted to see what I had observed of villagers' opinions of the BAS in informal conversations, I searched for the code "BAS."

Secondary Data

I entered information on tourist arrivals from the CTWS Guest Book into Microsoft Office Excel 2003 (Microsoft Corporation 2003). I calculated numbers of tourist arrivals by season and country of origin and converted them to percentages. Then, I graphed these percentages as bar graphs in Microsoft Excel.

CHAPTER 5
RESULTS

The situation in Crooked Tree is not necessarily unique in that there are many communities around the world located within the boundaries of protected areas and are struggling to maintain control over their resources (Ghimire and Pimbert 1997). Crooked Tree is an interesting case study considering the relative isolation that the community lived in before 1984. Since the development of ecotourism has occurred rapidly in Crooked Tree, it is crucial to consider its impacts on the community and how it affects their views of conservation and their relationship with Belize Audubon Society (BAS). Perhaps understanding Crooked Tree's challenges and successes can contribute to other conservation and development projects in Belize and the world.

In this chapter, I will cover the major results collected from my field work in Crooked Tree. I begin with a description of the demographics of my sample and move through a discussion of the beginnings of resident involvement in ecotourism and its impacts, the villagers' perceptions of conservation and the wildlife sanctuary, and their relationship with Belize Audubon Society (BAS). The last section will tie together ecotourism, the wildlife sanctuary, and BAS.

Demographic Profile of Residents

Due to stratification, the sample was divided almost evenly between residents involved (47%) and not involved (53%) in ecotourism (Table 5-1). However, in reality there are a smaller percentage of residents that are directly involved in ecotourism. Since I was specifically targeting hotel and restaurant workers to get a clearer picture of

ecotourism in Crooked Tree, the sample is biased toward households involved in ecotourism.

Table 5-1. Summary of Demographic Profile of Respondents (n=43).

Demographics	N	Percent
Ecotourism Involvement		
Involved	20	47%
Not involved	23	53%
Age		
Under 30	2	5%
30-39	14	33%
40-49	10	23%
50-59	7	16%
Over 60	10	23%
Gender		
Male	20	47%
Female	23	53%
Birthplace		
Crooked Tree	34	79%
Other	9	21%
Education		
Primary School	43	100%
High School	17	40%
Post High School	12	30%
University	4	9%
Post University	1	2%
Wealth		
1 shoes	1	2%
2 running water	3	7%
3 washing machine	11	26%
4 concrete house	19	44%
5 car	6	14%
6 hotel	3	7%

The majority of those interviewed were between the ages of 30 and 49 and comprised 56% of the sample, while 39% were older than 50 years of age. Only 5% of those surveyed were under the age of 30 (Table 5-1). There were two reasons for the lack of younger participants. First, my sample unit was the household, and on approaching households, the heads of the household were more likely to be the individuals that volunteered to answer questions. Second, younger residents were less likely to take an interview seriously and felt they did not know enough about my research topic to be able to answer the questions. Therefore, my sample is skewed toward older individuals and heads of households.

The sample was split almost evenly between males and females with the majority of individuals interviewed being females at 54% (Table 5-1). In my interviews, women were less likely to elaborate on issues and discuss more controversial topics in depth, but a few women were very sharp and opinionated. Most men were more informed than women, or they were more willing to share their views.

Seventy-nine percent of individuals interviewed were born in Crooked Tree, and 58% have lived in the community their entire lives (Table 5-1). Although there are divisions within the community, most people either stay settled in Crooked Tree or, for those that move away, come back and retire in the community. Eighteen percent of the sample had lived away from Crooked Tree for at least 5 years and had come back to the community to build a permanent home.

All of the individuals interviewed attended primary school. Forty percent graduated from high school; 28% obtained some sort of continuing education after high school (i.e. teachers, nurses, and pastors); 9% graduated from a university; and 2%

obtained some form of continuing education after university (Table 5-1). The distribution of education in the sample is an artifact of the age distribution of the sample. Since most of the sample contains individuals over thirty, all were able to attend primary school in Crooked Tree, but a limited number had the opportunity to go on to high school. However, with continued development, the number of residents graduating from high school and university may be much higher in the future.

The mean measure of wealth was 3.81 (Table 5-1). Over half the sample had enough income to afford to replace older wood houses with concrete homes. Most had some form of running water such as a motorized pump for their wells. Many households had running water inside of their houses. All households were able to provide shoes and clothing for family members, but those with less income did not have the luxury of running water and either had to haul it from a well or collect from a pump located centrally in the village. Households with the most wealth owned at least one car and sometimes more than two, and those that owned hotels were able to earn a much higher income, especially during the peak of the tourist season. The sample could be biased toward wealthier households. Households with a higher income were clustered toward the center of Crooked Tree, and households with less income were more likely to be found on the outskirts of the community. Therefore, I was limited by the distance to households and my knowledge of the community.

Residents' Involvement in Ecotourism: Early Beginnings

Each household has a different story for their early involvement in ecotourism. However, a few themes emerged among the households. Fifty percent of those interviewed were convinced by friends or family members to either invest in ecotourism or become directly involved. For example, one lodge owner was inspired because his son

was involved in ecotourism as a wildlife guide. Although it is likely that the residents involved in ecotourism were motivated by the prospect of extra money, only 28% of those interviewed expressed wanting more income as their primary reason for participating in ecotourism. Twenty-eight percent of residents interviewed became involved with ecotourism because of their knowledge of the birds, wildlife, and the jungle around Crooked Tree (Figure 5-1). Other reasons for involvement included going to school for tourism and the desire to stay close to home. Although not all are involved in ecotourism, some have invested in it and have been very successful. Sam Tillet, the owner and founder of Sam Tillett's Hotel, is an example of a success story (Box 5-1).

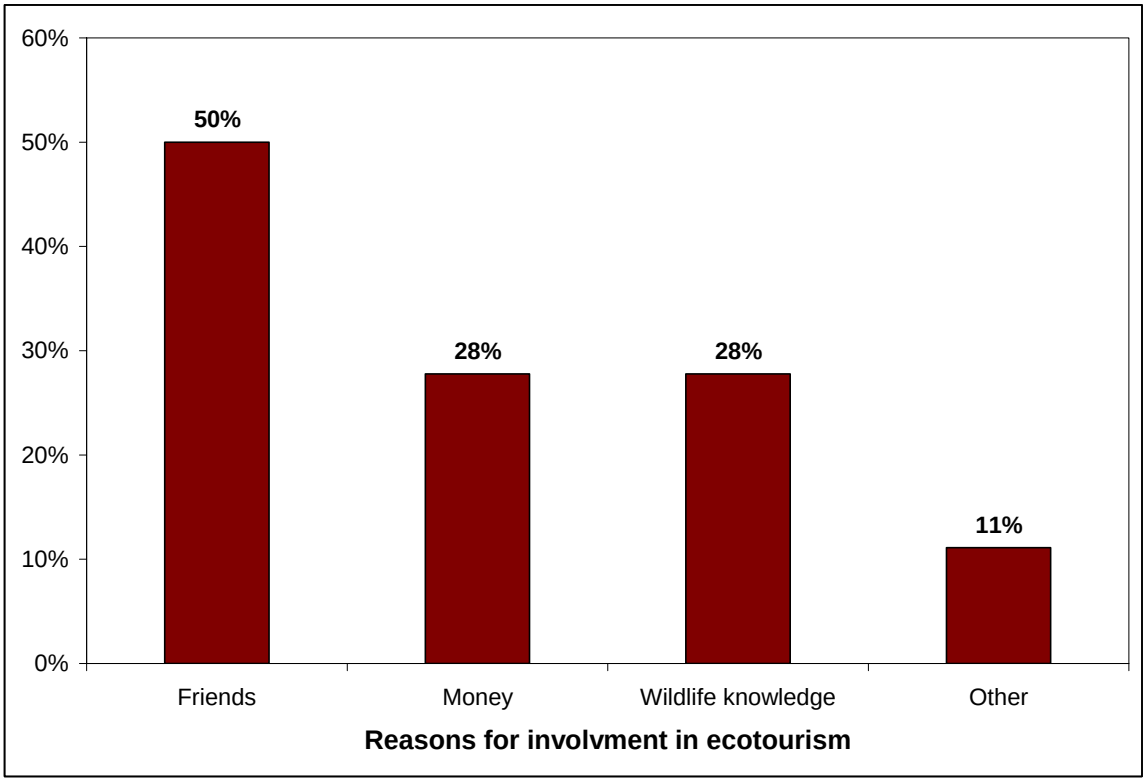

Figure 5-1. Reasons for Crooked Tree residents Becoming Involved in Ecotourism (n=43).

So, based on this description of tourism in Crooked Tree, can it be considered ecotourism? Tourism in Crooked Tree is small-scale and centered around the Crooked

Tree Wildlife Sanctuary. Most tourists come specifically to watch birds and enjoy a wetland ecosystem teeming with life. There are three lodges equipped with guides that are locally-owned by community members of Crooked Tree. The CTWS Visitors Center collects a park fee to help support sanctuary projects and provides an interpretive display for environmental education. From the outside, Crooked Tree demonstrates a good example of ecotourism. But, are the goals of ecotourism being met in Crooked Tree?

Box 5-1. The Story of Sam Tillett's Hotel

In the beginning, Sam Tillett had no intention of becoming involved in tourism. In 1989, he was working for the government of Belize mapping the country as a member of the British Survey Team. Sam was 27 years old. Then, one day, when he was visiting Caye Caulker, he met an American girl, Nancy. She was involved in tourism and asked Sam if he might like to do some birding for her with tourists. Sam responded, "Are you kidding?!" But, Nancy was persistent. She pointed out that Crooked Tree was home to a large variety of birds that tourists wanted to view. Sam thought to himself, "Well, yes, we do have lots of birds, but all I know is how to shoot them and eat them…And, that's all I really want to know." Nancy continued to insist on bringing tourists, and Sam finally caved. He started in a dugout canoe. He paddled the guests to the back lagoon and pointed out the birds as he saw them. At that time, Sam only knew the local Creole names for the wildlife. After that first tour, Sam joined with five other Crooked Tree residents and built the first real lodge, Crooked Tree Resort, along the shoreline of the Northern Lagoon. The land for the lodge was Sam's, but although he had lots of land, he had no money. Risky though it was, Sam took a loan from the bank to build the resort. Crooked Tree Resort's first year in business was a success. Sam loved it. But, the next year, a flood came and closed the resort down. The next year was the same, a flood six feet over the causeway. The floods continued for a few years until finally the bank repossessed Crooked Tree Resort. Sam was reoffered his job with the government, but he turned it down. He wanted to continue with tourism. All Sam had was a little brown car that he loaned to his brother-in-law, and to add to Sam's bad luck, the car was wrecked. But, Sam received BZ$5000 to compensate for the loss, and in the middle of the night, Sam had an idea. He would build his own hotel with the money! And, the next day, he started building…everyone thought he was crazy, but this time, Sam did not build on the lagoon shore. Instead, he began building in his front yard. Sam started selling rooms before it was finished. With his pay from his first guests, Sam bought a wheelbarrow to haul the engine for his boat down to the lagoon to take tourists on boat tours. Despite more floods, Sam continued to build his business. He added a cabana for a restaurant with a porch and hammocks. Now, Sam has nine rooms, a Trooper for tours, and a van to pick tourists up from the airport. He is doing extremely well and is known as one of the best naturalists and birding guides in Belize.

Impacts from Ecotourism

Positive Impacts

Of the 88% of households that believed that they benefit directly from ecotourism, 87% cited money as a benefit, 29% noted the flow of money through the community, 13% noted making new friends, 6% indicated a better education, and 3% cited conservation (Figure 5-2). These results indicate that ecotourism has definitely resulted in positive economic impacts and, to a lesser extent, positive social impacts. Not surprisingly, the villagers seem most interested in the financial aspects of ecotourism. Therefore, those not involved in ecotourism may not perceive benefits, because they do not receive direct income. In fact, 70% of the residents interviewed felt that the lodge owners benefited the most from ecotourism. However, a few villagers expressed an understanding that they benefit indirectly from ecotourism as tourist expenditures circulate through the local economy and help to create new employment opportunities. One community member explained, "We benefit because it causes more money to flow in the village. The people who actually directly interact with tourists (i.e. lodge owners, tour guides), they get the money, and then, they give it to other people."

Additionally, 98% of households believed that the community as a whole has benefited from ecotourism. Community benefits include money and jobs (69%), infrastructure and roads (26%), education (12%), proceeds from the park fee (7%), and international recognition (7%) (Figure 5-3). Once again, ecotourism is recognized to have financially benefited the community by bringing in more money and creating new jobs. Examples of jobs that have been created to support ecotourism are lodge owners, tour guides, lodge employees (cooks, cleaners, drivers, and receptionists), and restaurant owners and employees. Additionally, since the construction of the causeway in 1984 and

subsequently an increase in ecotourism, the community has received electricity, phone service (land lines and cellular), and a much improved system of roads through the community. Therefore, the community may partly connect the construction of the causeway to ecotourism. Even though community leaders had been petitioning for a road joining the Northern Highway since 1951, the government was most likely motivated to finally construct the causeway as a result of the creation of Crooked Tree Wildlife Sanctuary (CTWS) and the hope that tourism would grow in the region.

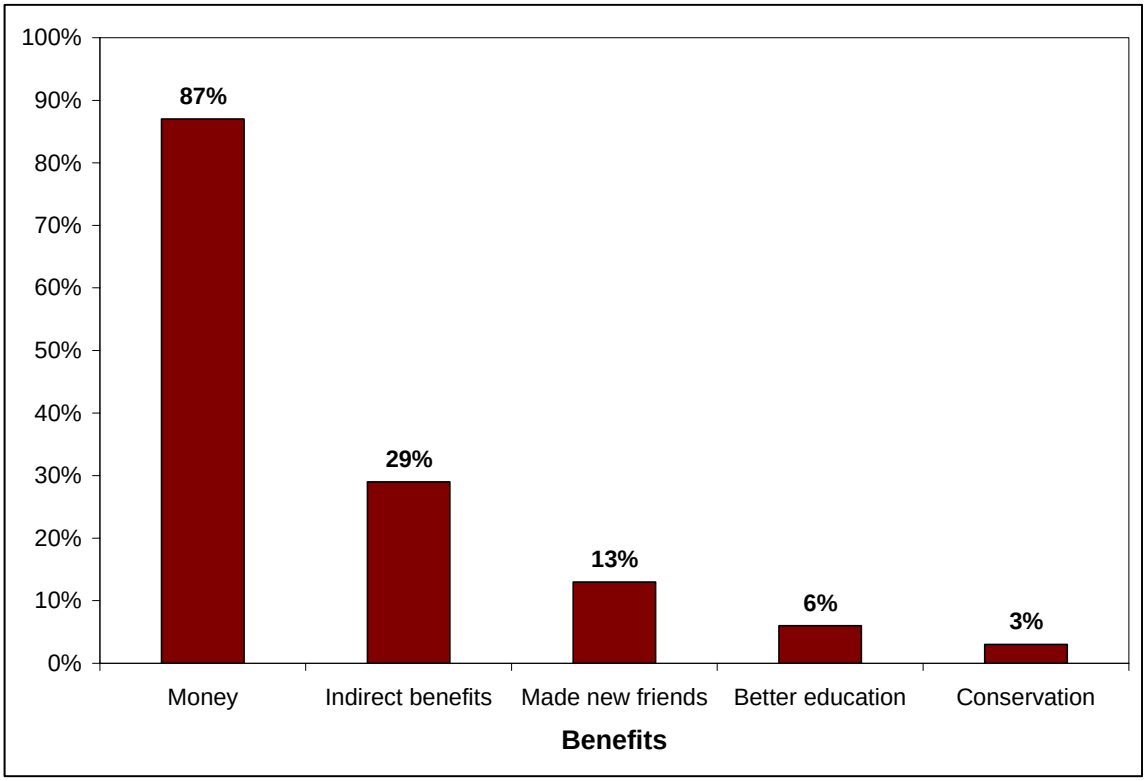

Figure 5-2. Ecotourism Benefits to Households as Perceived by Residents (n=35).

Negative Impacts

Overall, households did not perceive negative impacts from ecotourism. Only 26% believed that the community had been negatively impacted. A couple of households cited unequal distribution of income and too much reliance on ecotourism for income as

negative impacts, but the most commonly cited negative impact (83%) was the interruption of traditional subsistence strategies such as fishing, hunting, and livestock raising (Figure 5-4). However, the regulations on fishing and hunting do not arise directly from ecotourism but are incorporated into the wildlife sanctuary. For example, one villager clarified that, "he feels that the Belize Audubon Society is connected to tourism. And, that because of tourism, people that used to make a living from fishing and hunting are no longer able to do that." However, in my observations, it was clear that most Crooked Tree residents still participated in fishing and hunting, and there is very little enforcement of regulations. The perception that traditional subsistence strategies are being affected may stem from the few examples where fishing regulations have been enforced. For example, one villager explained to me that he had been falsely arrested for using an illegal net. Although he was cleared of charges, such instances may breed resentment and distrust of BAS in the community and, by extension, some resentment of ecotourism activities.

One resident cited the concern that some villagers were becoming too dependent on ecotourism as an economic activity and were not prepared for the inherent variability in tourism. For example, tourism declined world-wide after the events of September 11, 2001. Additionally, it is necessary to note that based on recorded tourist arrivals an average of four tourists a day visit Crooked Tree. Certainly, during the peak tourist season, there are many more visitors per day, and some lodge owners indicated that on some days they were so busy that they directed business to other lodges in the community. However, the seasonality of ecotourism in Crooked Tree forces those

directly involved to save for off-peak times or to invest in other economic activities, such as cattle ranching.

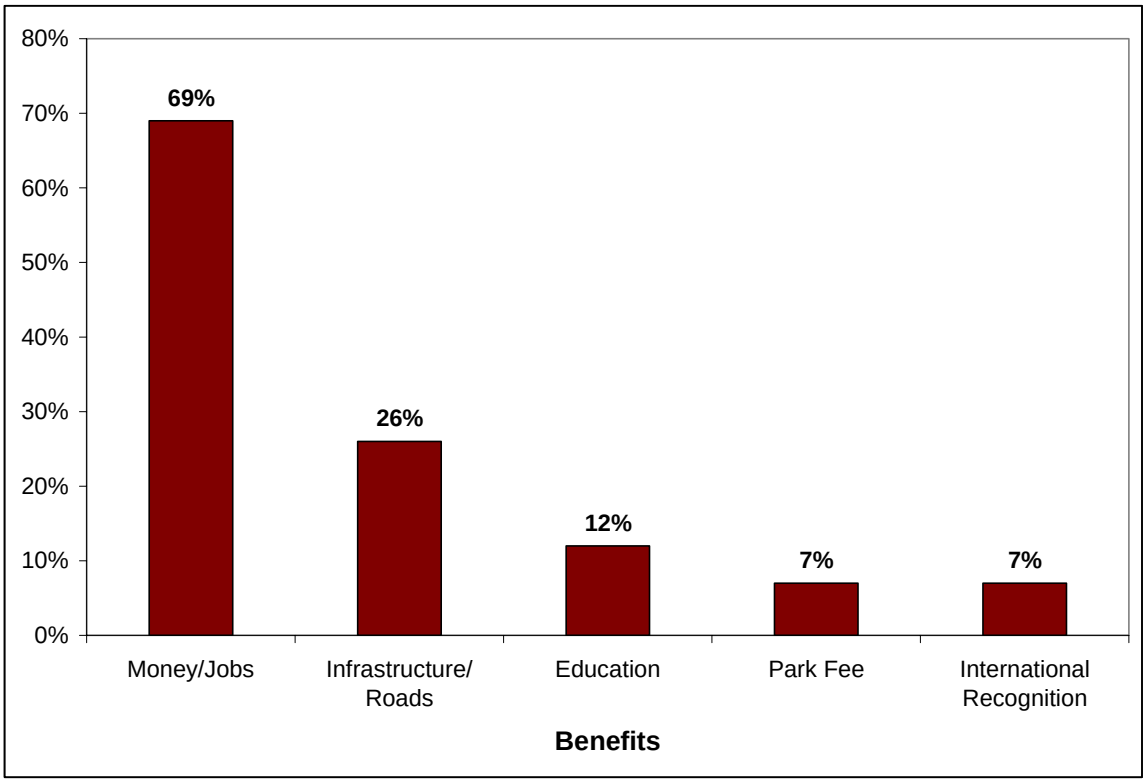

Figure 5-3. Ecotourism Benefits to Community as Perceived by Residents (n=42).

Community Support of Ecotourism and Future Directions

Despite the view that to some degree ecotourism impedes traditional lifestyles, 86% of households believed that the community as a whole supports ecotourism, and 98% of households wanted to see more tourism in Crooked Tree. All households had various ideas for increasing ecotourism in Crooked Tree. The most commonly cited strategies were more advertising by the BAS and Belize Tourist Board (BTB), attraction development by BAS and community members, such as a park with a covered picnic area or a coffee shop, clean-up of the village, and the removal of cows to fenced areas (Figure 5-5).

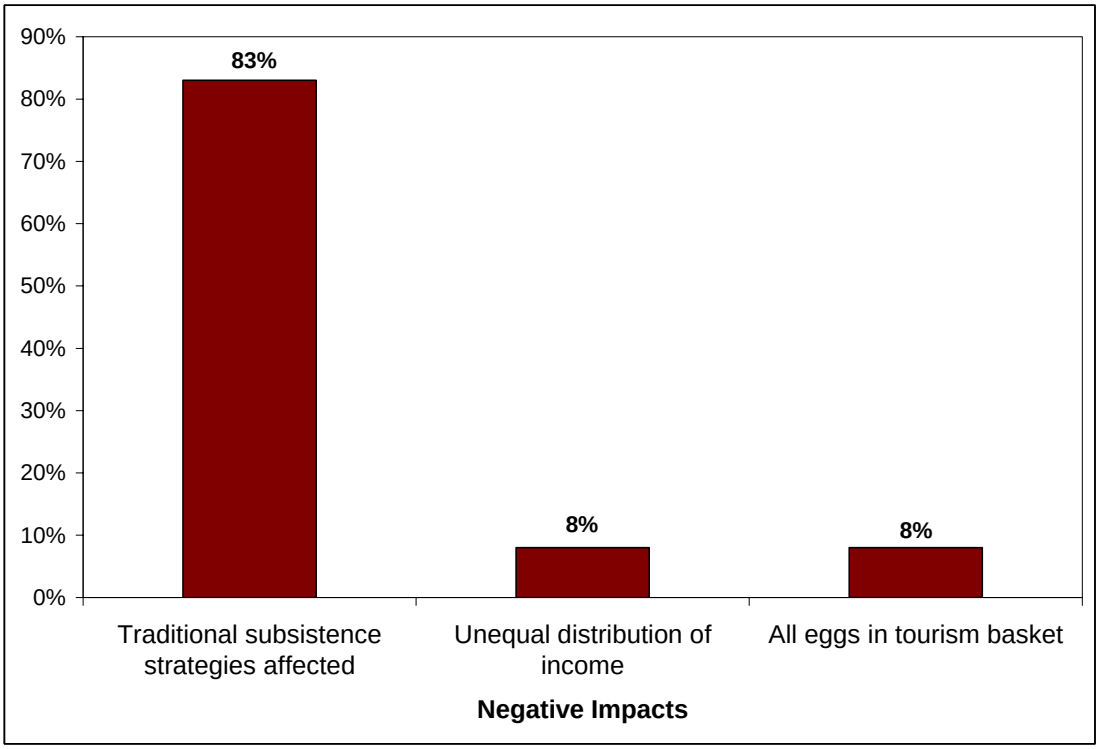

Figure 5-4. Negative Impacts from Ecotourism to Community as Perceived by Residents (n=11).

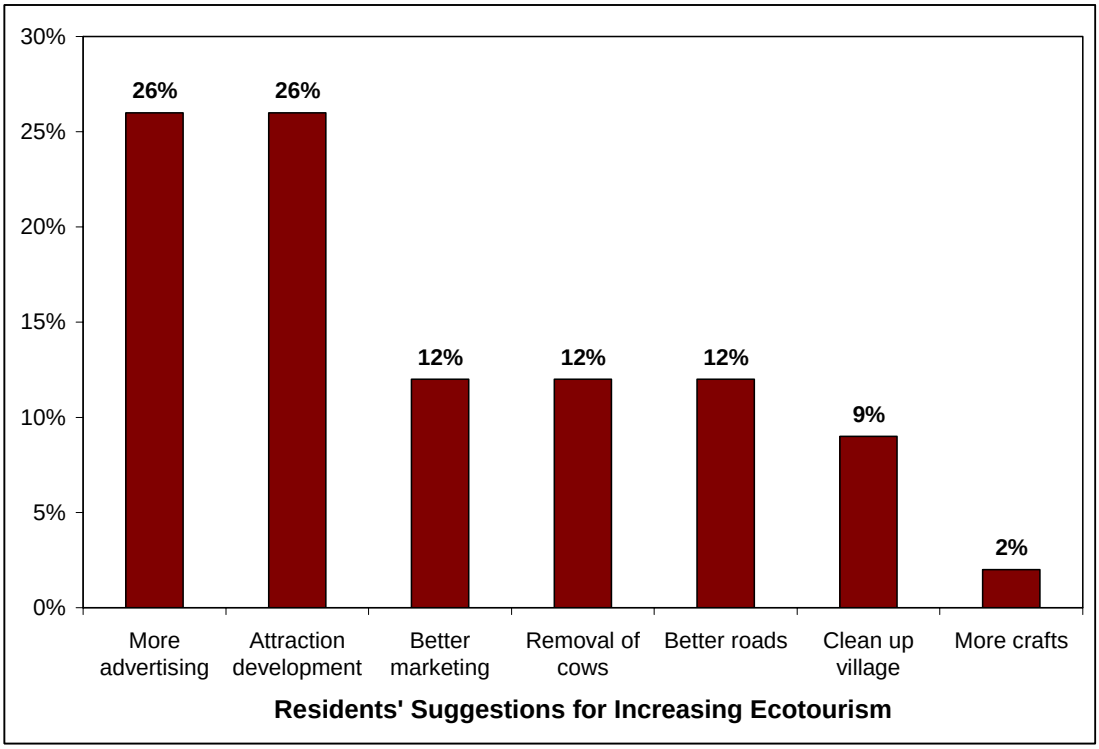

Figure 5-5. Residents' Suggesting for Improving Ecotourism in Crooked Tree (n=43).

One of the most ambitious suggestions for improving ecotourism in Crooked Tree was the construction of a road connecting Crooked Tree to the Maya ruin, Lamanai. This strategy was mentioned by a couple villagers in informal conversations. Lamanai is seven miles west of Crooked Tree. However, in order for tourists to travel to Lamanai now, they must travel 20 miles north of Crooked Tree up the Northern Highway to Orange Walk and then come back down south on a rough dirt road. The travel time is close to three hours. If a connector was constructed between Crooked Tree and Lamanai, the travel time would be cut in half and both destinations would undoubtedly receive increased tourism. However, an impact assessment would be an imperative first step to implementing such a large-scale project.

Another possibility for increasing tourism in the community is to bus in cruise tourists. Cruise tourism in Belize was first introduced in 2001. Only 25% of households interviewed indicated that they had seen an increase in tourists due to cruise ships. The majority of households indicated that they either did not know or had not seen an increase in tourism. I did not observe any tourists from cruise ships in Crooked Tree during my stay. However, I heard a rumor among some residents that the Belize Tourist Board was considering developing cruise tourism in the community. Eighty-one percent of residents interviewed indicated that they feel cruise ship tourism would benefit the community and would like to see Crooked Tree promoted to cruise tourists. However, a few members (12%) of the community were adamantly opposed to the idea. One resident vehemently stated, “I don’t want them!” Another, “The cruise owners benefit, but not the people of Crooked Tree.” Currently, cruise tourists still are not visiting Crooked Tree, and whether they will in the future is unknown. However, the development of cruise tourism may not

be as beneficial to the community as ecotourism. Though a larger number of tourists will visit the community, they will not stay overnight and will not have enough time to shop in the community. It is likely that only a few would receive direct benefits from cruise tourism. Therefore, before developing cruise tourism, the community may want to weigh the long-term negative impacts against the benefits.

Conservation Awareness and the Wildlife Sanctuary

Perceptions of Conservation

When asked to define conservation, 33% of the villagers did not know or chose not to answer. However, there seemed to be a consensus among those that did answer. Their definition included two concepts: to protect the environment (50%) and to preserve natural resources for the future (67%). One villager defined conservation as "not hunting," but for the most part, those interviewed had a good understanding of the goals of conservation. In addition, the interviews reflect that the village supports protecting the forest (95%) and wildlife (98%), but 26% only wanted to protect some wildlife. Jaguars and crocodiles were cited as animals that should not be given protection. From my experience, there seemed to be a deep rooted fear of these animals, especially jaguars, among the people of Crooked Tree. According to Johnson (1998), the fear of the jaguar is used to prevent children from wandering too far from home. This fear does not diminish with age, and most villagers would not hesitate to shoot a jaguar on sight. Further, many villagers raided the nests of yellow-head parrots to keep them as pets. The yellow-head parrot is endangered, and it is illegal to keep them as pets or trade them (Figure 5-6).

Although the community seems interested in conservation and may have their own social institutions in place to achieve this goal, their interests do not necessarily align

with those of Western conservationists or the BAS. In fact, one resident indicated that, "they (residents) have always been protecting the land." He went on to explain that as children, if they were caught destroying bird nests, they were punished. I witnessed a couple of incidences where children destroyed bird nests and the eggs or chicks in them and were lightly punished.

Figure 5-6. Two Parrots Kept as Pets by a Crooked Tree Resident.

Impacts of the Wildlife Sanctuary

Interestingly, all the households that felt they had benefited from the wildlife sanctuary (56%) cited conservation as a benefit. Other perceived benefits include the attraction of tourists (42%), creation of jobs (21%), education (12%), and the park fee (8%) (Figure 5-7). Seventy-nine percent of households interviewed claimed to support the sanctuary, and 60% believed that the community as a whole supported the sanctuary. However, 35% thought that the community did not support the sanctuary. In my observations, the villagers, especially fisherman, who do not support the sanctuary are extremely vocal about their disapproval and portray the impression that a larger than

actual proportion of the village is against it. Another possibility may be that some households were not comfortable vocalizing their problems with the sanctuary to me, and therefore, my results could be skewed toward a more favorable view of it. Households that declined interviews may be less supportive of the sanctuary, and for that reason, they may not have been comfortable speaking with me. In my conversations with some villagers, they expressed a distrust of researchers and cited occasions where researchers had unintentionally caused trouble for individuals by sharing answers with authorities. Certainly, if the community viewed me as being connected with BAS, they might be less inclined to share controversial views.

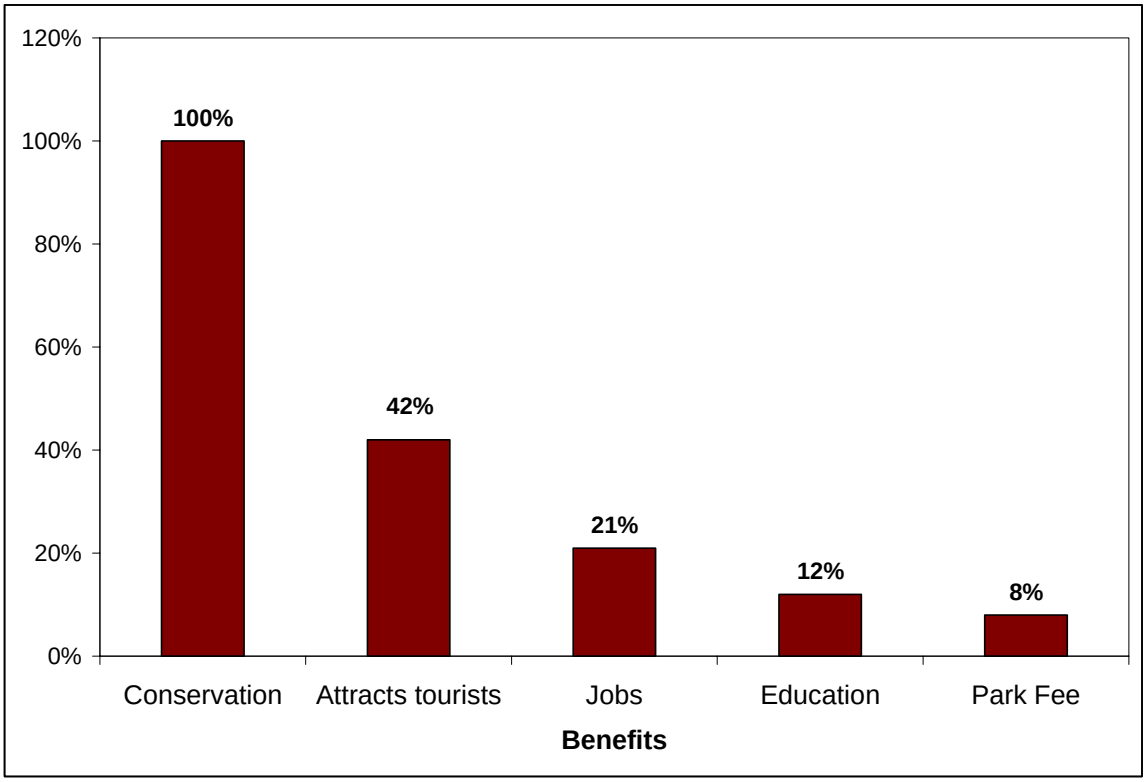

Figure 5-7. Wildlife Sanctuary Benefits as Perceived by Residents (n=24).

Belize Audubon Society (BAS) and the Community

Of the households interviewed 72% claimed to support the Belize Audubon Society (BAS), and 63% believed that the village harbored at least some support for the BAS. However, in my observations and daily conversations, I detected a frustration with the management practices of the BAS. This may be due to a few of the following reasons or a combination of these reasons. First, as managers of the wildlife sanctuary, the BAS is often seen as synonymous with the sanctuary. Many villagers seem to be under the misimpression that BAS is responsible for creating wildlife regulations, but the government created the sanctuary and the regulations and gave the BAS authority to enforce these regulations. In addition, this confusion may have been fueled by the CTWS director serving a term as the Village Council Chairman. During his stint as chairman, the director enacted a system by which fisherman would have to pay a set fee to take fish out of the lagoon. The actual amount of this fee is unknown as those interviewed stated conflicting figures, but it was approximately US$10. There was also confusion as to whether the fee went to the BAS or the Village Council. Some felt the BAS was enacting more regulations and pocketing the fee for personal use. As one villager expressed, “You can’t play two sides.” The role of the CTWS director as Village Chairman was confusing to villagers and opened him and BAS up to more suspicion and scrutiny. Furthermore, during my stay in Crooked Tree, the BAS was without an executive director and undergoing reorganization. There have been at least four different executive directors in the last 10 years. Some villagers indicated that every change in executive directors causes an interruption in communication. Policies and administration differ from one executive director to another and can contribute to confusion among the community. Lastly, there may still be some lingering resentment from the original founding of the

wildlife sanctuary. Considering that 30% of those interviewed do not know why the sanctuary was founded, it is possible that a lack of knowledge is creating suspicion toward the BAS. In summary, there is a long history of conflict between Crooked Tree and the BAS (Johnson 1998). In 1993, Johnson perceived "a nervous village and a nervous Audubon Society." My research and observations reflect that, over 10 years later, this may still be the case.

The villagers expressed a need for improved communication from the BAS. One villager explained, "I would like to see meetings with the villagers. They need a little newspaper that they drop off at shops, schools, and churches with what they are doing for the community or what their agenda is for the community and the wildlife sanctuary. Things happen here that we don't even know." Two examples illustrate this point. First, in 2002, BAS held a sustainable tourism workshop for Crooked Tree and other communities surrounding Crooked Tree Wildlife Sanctuary. The only villagers with knowledge of and that participated in the workshop were lodge owners. No other community members were aware of a tourism workshop. Second, a recent project of the BAS was to create a tilapia farm in Crooked Tree. The goals of the fish farm were to address the needs of the people, especially fishermen, and to relieve pressure on the fish population in the lagoon (Dada 2000). Certainly, this is a good effort by the BAS to provide the community with alternatives, but according to villagers, there was no consultation with the community before beginning the project. In the words of one villager, "I am a paying member of Audubon…I didn't even know." Furthermore, because the site of the fish ponds was located on heavy swamp, it was assumed that plenty of water would be available for the farm. No outside consultation was conducted

to determine whether the water table would be sufficient to fill the ponds. Now, the ponds have been dug but sit empty of water and fish (Figure 5-8). However, according to BAS, they have been in contact with the Village Council during the entire process and have also consulted with the fishermen of Crooked Tree. There was a series of meetings with the Village Council in February 2005 to finalize the details of the fish farm, so perhaps, it will soon become a reality.

Figure 5-8. Belize Audubon Society's Proposed Fish Farm Project. This is an effort by BAS to provide an alternative to fishing in the lagoon for the people of Crooked Tree.

Tying Together Ecotourism, the Wildlife Sanctuary, and BAS

One of the major goals of ecotourism is to provide funds for conservation (Blamey 2001, Honey 1999, Ross and Wall 1999). Usually, this goal is achieved by charging visitors a fee to enter the protected area. The BAS charges US$4.00 for non-nationals and US$1.00 for nationals to enter Crooked Tree Wildlife Sanctuary (CTWS) (BAS 2005). Based on visitor numbers in 2003, CTWS made approximately US$5,046 on park

fees. However, the estimated cost of operations for 2003 was US$72,309.14 (Dada 2000). The majority of money to cover operational costs has come from international donations which are supplemented by the Belizean government. However, funds from the Belizean government were expected to decline, and at this point, may be non-existent due to an economic decline in Belize. The BAS also figured in a large portion of support coming from the Crooked Tree community in the form of volunteer labor (Figure 5-9). It is important to note that the volunteer labor was more than likely included as a justification for funding from international donor organizations. Further, international donations and government support were expected to decrease while income from park fees and community support were expected to increase. Still, visitor numbers have not increased substantially, and from my observation and with the exception of the park wardens who are residents of Crooked Tree, there is almost no involvement from the community members in daily operations of the wildlife sanctuary. However, the wardens are paid a salary and cannot be considered volunteer labor.

The success of ecotourism in Crooked Tree is directly related to the success of CTWS. Tourists are attracted to the wildlife sanctuary, and it is likely that tourist arrivals would drop without its existence. Despite efforts of the BAS, the CTWS is facing serious funding problems. BAS may need to consider strategies for increasing revenues from park fees and for cutting costs in the daily operations of CTWS. Currently, the BAS is developing a new management plan that may address some of these problems. However, it is not the BAS that attracts tourists but the wildlife sanctuary, and in my observations, I detected an undercurrent among some villagers that indicates they may want to see BAS out of CTWS and take over management of the sanctuary themselves. At this point, I am

unsure as to how feasible such a move would be for the village, but with the right amount of motivation and a good advertising program it may be an option to consider for the future. Furthermore, as ecotourism has developed in Crooked Tree a growing number of tourists are attracted to Crooked Tree not because of the sanctuary but because of good advertising by some villagers and word of mouth. During informal conversations with tourists, most expressed that they enjoyed their stay in Crooked Tree and planned to visit again in the future. Therefore, tourists have the motivation to describe Crooked Tree in a favorable light, and word of mouth may bring in as many tourists or more than the wildlife sanctuary. The villagers have shown that they are capable of attracting and entertaining tourists without the help of BAS, but perhaps they are not aware of the responsibilities that assuming management of the wildlife sanctuary would entail. This issue will be explored deeper in the following chapter.

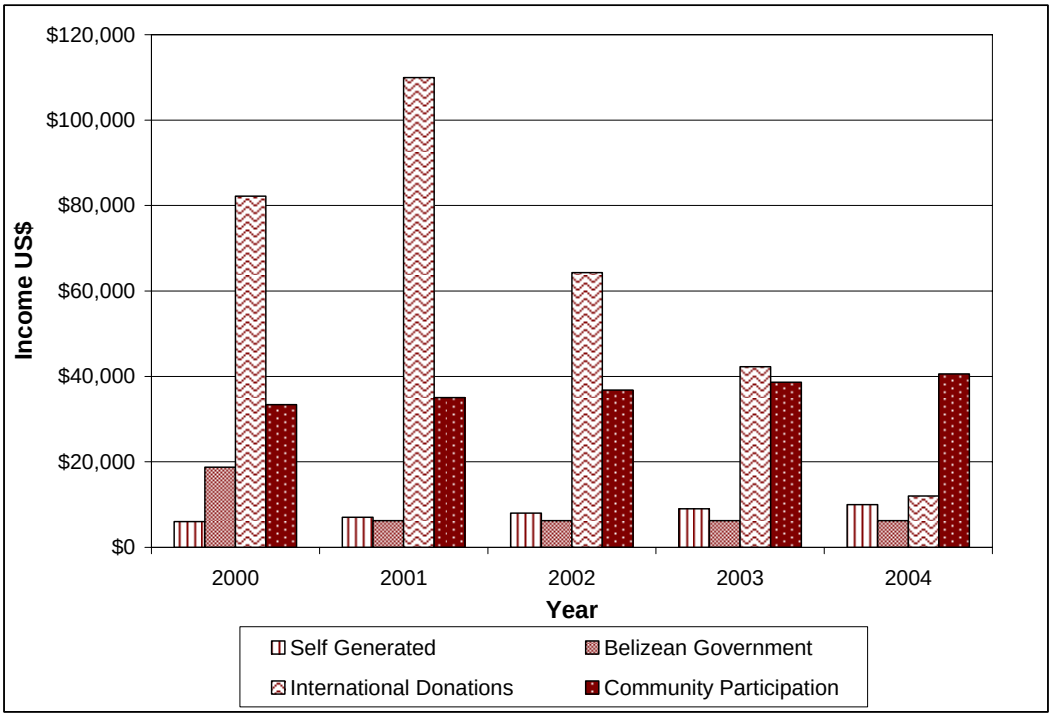

Figure 5-9. Nature of Income for Crooked Tree Wildlife Sanctuary. This income is necessary to cover the operating costs of the wildlife sanctuary (Dada 2000).

CHAPTER 6
DISCUSSION

The objectives of my study were to characterize the impacts of ecotourism and the issues surrounding conservation in Crooked Tree Wildlife Sanctuary as perceived by the local community residents. My specific objectives were as follows.

- **Specific objective 1**: assess the environmental, economic, and social impacts of ecotourism based on villagers' perceptions and my own observations.
- **Specific objective 2**: identify villagers' perceptions of the wildlife sanctuary and their understanding and views of conservation.
- **Specific objective 3**: evaluate the relationship between BAS and the community to improve management practice in CTWS.

Chapter 6 related the results as they applied to these objectives. In this chapter, I will delve deeper into the implications of my results. Specifically, I will discuss whether ecotourism is meeting its goals in Crooked Tree and whether it can be considered a feasible Integrated Conservation and Development Project (ICDP) option for conservation and development organizations. I will also address empowerment issues in more depth. One of ecotourism's main goals is to empower communities, and I will contend that the wildlife sanctuary should serve as a tool to empower the community as well. Lastly, I will give some recommendations for increasing ecotourism and improving the relationship between BAS and the community and close with some lessons learned and suggestions for further research.

Are the Goals of Ecotourism Being Met in Crooked Tree?

To return to the original question, are the goals of ecotourism being met in Crooked Tree? To answer this question, we will first revisit the characteristics of ecotourism (Honey 1999).

- Involves travel to natural destinations
- Minimizes negative impacts
- Builds environmental awareness
- Provides direct financial benefits for conservation
- Provides financial benefits and empowerment for local people
- Respects culture

First, ecotourism in Crooked Tree involves travel to a natural area. Many tourists visit Crooked Tree to view wildlife, and most participate in outdoor activities, such as hiking and boat tours, during their visit. Second, although residents perceive that there have been some negative impacts to fisherman, hunters, and cattle owners, for the most part, negative impacts are minimal. Tourist numbers are still relatively small, and impacts to the wetland surrounding Crooked Tree are not evident from observation. Third, conservation is important to residents in Crooked Tree, and many animals such as the Jabiru are flourishing. The wetland is protected, but animals such as the jaguar are still threatened and may require different strategies. Furthermore, environmental education is well-established in Crooked Tree. Tourists and the community residents have access to the CTWS Visitors Center, and the wardens actively promote environmental education in the local school. Fourth, ecotourism has allowed many community members to develop new income earning strategies. Some community members earn income directly from ecotourism, and through multiplier effects, the rest of the community indirectly receives income from ecotourism. Since all businesses are locally owned, the money is more likely to stay in the community.

However, there is still a need for more political empowerment. The community needs to feel they can make a difference in order to want to participate in the wildlife sanctuary. In addition, the park is not generating a significant amount of income to help cover operating costs of the wildlife sanctuary. Lastly, ecotourism does not directly interfere with local culture and customs, but as was mentioned above, the wildlife sanctuary has imposed some measure of restraint on traditional subsistence strategies causing dissent in the community. Therefore, a majority of the goals of ecotourism are successfully being met, and it has garnered much support from the community of Crooked Tree. Overall, I would claim that ecotourism has been successfully developed in Crooked Tree and will continue to grow.

Nonetheless, the success of ecotourism is not sufficient to replace all subsistence strategies that have been perceived as inhibited by the creation of CTWS. Most households interviewed believed that lodge owners were benefiting the most from ecotourism, and although more money may be circulating through the community, it is not enough to replace income from commercial fishing or cattle. Therefore, from the example of Crooked Tree, as an Integrated Conservation and Development option, ecotourism can be viable, but it is necessary to understand that it cannot replace all forms of subsistence. It may be better to view ecotourism as a way to relieve pressure on natural resources while still allowing traditional activities to continue in communities in and around protected areas.

Empowerment Issues

Scheyvens (1999) framework for four types of empowerment (economic, psychological, social, and political) offers a foundation to assess ecotourism in Crooked

Tree. I examine whether ecotourism and the wildlife sanctuary have either enhanced or detracted from achieving such levels of empowerment in Crooked Tree.

Economic Empowerment

Ecotourism has definitely contributed to economic empowerment in the community. Examples such as Sam Tillett (Box 5-1) demonstrate that some residents of Crooked Tree have benefited immensely from ecotourism. They have moved from depending on wages from outside jobs to being their own boss. Many residents have been able to build better homes and invest more money into their children's future. This not only applies to lodge owners but to tour guides, restaurant owners, and employees of lodges. Additionally, empowerment has come in the form of rapid infrastructural improvements. Development of ecotourism and the establishment of CTWS hastened the creation of the causeway allowing for improved trade, easy access to cities, increased tourist numbers, and more chances for children to attend high school. Electricity, telephones, and improved roads contributed to a higher standard of living in Crooked Tree.

Not all residents experienced economic empowerment. I would argue that the creation of the wildlife sanctuary and some of its regulations resulted in economic disempowerment of some residents, especially fishermen and hunters. Some of these residents have been able to work in the ecotourism industry, but others have not been so successful. For instance, one fisherman opened a restaurant with his wife. The couple has supplemented their income through the restaurant. But, other fishermen are still struggling to earn enough money to support their families. In some ways they might benefit from the circulation of money through Crooked Tree, but this benefit is fairly small. Further, with the regulations on fishing, these people must worry about being

fined while they are trying to earn a living. Perhaps with the creation of the tilapia farm, some fishermen will have a chance to improve their lifestyle, but I have doubts that fishermen will use the farm for commercial fishing. There is a better market for native fish in Belize, and native fish can only be found in the lagoons.

Psychological Empowerment

Ecotourism has given community members a certain level of pride in their community. Residents recognized that ecotourism and CTWS "put Crooked Tree on the map." People all over the world have heard of Crooked Tree, and the area has received international recognition, most notably in being named the only RAMSAR site in Belize. Furthermore, women and low income residents have been able to improve their status through fairly steady jobs as cooks, guides, etc. Women, especially, are now able to support themselves independently and help provide for their families. However, fishermen and hunters may be suffering from a certain level of psychological disempowerment due to restrictions on their subsistence strategies related to the wildlife sanctuary. Most fishermen find it difficult to make ends meet, and some are heavy drinkers or drug users. These fishermen are less respected within the community, and unfortunately, they do not have the capacity to diversify their subsistence strategies.

Social Empowerment

Often times, residents work together to accommodate tourists, and lodge owners usually hire residents as employees. One lodge owner indicated that if one lodge was full, then that owner would direct extra guests to other lodges within the community. For the most part, residents are working closely with each other. This type of cooperation indicates a level of social empowerment. Ecotourism seems to have brought the community closer rather than dividing it. Even though there is still an undercurrent of

resentment and jealously toward those that have been more successful at developing ecotourism ventures, it is not enough to cause divisions in Crooked Tree. Any disputes and divisions within the community are attributed by residents to long held grudges, family disputes, and religious differences. Additionally, with more contact to Western ideas, many of the younger generation are less interested in Crooked Tree's traditional culture. They are not interested in continuing with the traditions of hunting, fishing, cattle, or cashews. However, this is certainly not universal and many children still spend time in the bush or help their parents process cashews.

Political Empowerment

I would argue that there has been very little political empowerment within the community. Few members of the village are active in the Village Council, and the Village Council has little to do with improving ecotourism in the community. Some residents commented that they stopped going to Village Council meetings because community members not on the Council were discouraged from giving opinions. With the change of power to a new Chairman in April 2004, the dynamic between the community and the Village Council may change for the better. In addition, the wildlife sanctuary has the potential to be a chance at improved political empowerment. Many in Belize and internationally have interest in CTWS. If the people of Crooked Tree were able to secure the responsibility of management, they would certainly gain more political clout in Belize. The community would also have more confidence in themselves and the Village Council. However, this is a goal that will not be accomplished immediately. The BAS would have to be willing to give over management, and the people of Crooked Tree would have to prove their competency to take on the responsibility. But, for now, it may

be more beneficial to look at ways to improve the relationship between BAS and the community.

Recommendations for BAS and the Community

My study uncovered two major concerns of community members in Crooked Tree:

1. The community wants to see increased ecotourism in order to facilitate continued economic growth in Crooked Tree.
2. The community wants to see more communication of goals for Crooked Tree by BAS.

In looking at the first concern, residents expressed that they would like to see an increase in tourist numbers. Community members believe that more tourists equal more money. For example, residents thought that bussing cruise tourists into Crooked Tree would improve tourism. However, perhaps what the community should focus on is how to increase income from ecotourism. Strategies like cruise tourism could detract from Crooked Tree's current ecotourism market. Some community members suggested more advertising and better marketing. Certainly, these can help, but there is enormous competition for ecotourism in Belize. The community should focus on what makes their ecotourism unique from other places in Belize. Some examples are cashews, the Jabiru stork and other wetland birds, the lagoons, and Chau Hiix. Then, they can create attractions that revolve around these assets in Crooked Tree. In order to meet these goals, I would suggest creating an ecotourism committee as part of the Village Council. The committee could be responsible for helping to increase capacity among community members for creating ways to utilize and market these attractions. In addition, the committee may help to increase political empowerment within the community by bringing ecotourism concerns into the political arena. Furthermore, the community may

be able to cooperate with BAS to help create some attractions. However, this suggestion hinges on the success of addressing the communities' second concern.

The BAS needs to work on improving communication with and accountability to the villagers of Crooked Tree. When I observed members from the central office in Crooked Tree, they were in and out. I never saw an employee from the offices of Belize City interact with villagers on an informal basis. Communication with the village seems mostly limited to the chairman of the Village Council and other leaders in the village. This may marginalize underrepresented and less vocal members of the community. In addition, much of the time, I observed the wardens of CTWS at the Visitors Center. Perhaps it would be beneficial to create a community outreach officer position that could be assigned to one warden. He would be responsible for communicating BAS goals to all community members, especially marginalized sectors. In addition, he would be responsible for liaising between the community and the BAS and would spend more time out in the community. Visibility in the community might facilitate communication. Improved leadership may also be helpful. It seems important to separate leadership of the wildlife sanctuary from leadership of the community. A separate representative for each side can facilitate discussion and avoid confusion of BAS policies versus Village Council policies. Additionally, the community will not become involved in the sanctuary if they do not perceive any benefits to their involvement. The BAS should consider becoming active in providing incentives for community involvement and in showing why the wildlife sanctuary is for the community not just the tourists.

In addition to communication from BAS, the community could work on conveying their concerns to management. If the BAS is unaware of problems, they cannot respond

to them. With the creation of a community outreach officer, this may be easier for residents. The community needs to be open to listening to the BAS in order to facilitate a dialogue that may result in better understanding. And, lastly, the village of Crooked Tree will need to motivate themselves. Many villagers expressed concerns about tourism and the BAS but seem unwilling to take action. According to Johnson (1998), this stems from a deeper sense that community institutions, such as the Village Council, are unable to affect change. With this perception, it is understandable that community members would rather invest time in activities that ensure a more direct benefit. However, an increase in tourist numbers and a resolution to their problems with the BAS will not materialize without some commitment to action.

Lessons Learned from Crooked Tree

Three concepts are crucial to the success of collaboration between outside organizations and communities: stability, communication, and transparency (Berkes 2004, Porkony et al. 2004). Stability is important in facilitating communication. As was indicated in Chapter 6, the BAS has employed four executive directors in the last ten years. Every new executive director must become oriented to management of the eight protected areas under the charge of BAS, and for this reason, meeting communication goals with communities can be extremely difficult. Trust is unlikely to be established if new faces are constantly being introduced into management. A key lesson that can be taken from Crooked Tree is that stability in management will contribute to the sustainability of a conservation and development project in the long run. Many communication problems may have been solved by just having an executive director who was familiar with the history and past problems of its protected areas. Ideally, leadership should be as consistent as possible.

According to Porkony et al. (2004), incomplete articulation between partners from the beginning can reduce the viability of conservation and development projects. The consequences of poor communication during the initial stages of projects are very evident in Crooked Tree. There is still a lingering amount of suspicion as to the motivations behind establishing Crooked Tree Wildlife Sanctuary. I contend that few residents would cite that CTWS was created for them. Even 20 years after its establishment, most residents do not understand the reasons for CTWS or the role of BAS in managing CTWS. Another extremely valuable lesson to be taken from experiences in Crooked Tree is the need to involve community members in formulating goals for conservation and development projects from day one. This means soliciting opinions and ideas from the entire community, not just the political leaders and elites.

Another necessary component of building a working partnership between communities and managers is transparency and accountability. According to Berkes (2004), in the light that information is never perfect, there needs to be close cooperation and risk-sharing between partners to facilitate a learning environment that builds on experiences and mistakes. As can be seen from Crooked Tree, this lack of transparency and accountability can continue to foster suspicion and lack of trust between partners. For instance, community members in Crooked Tree do not know how much money comes into CTWS from park fees or how much of that is reinvested back into the community, if any at all. Further, BAS has no record of the amount of fish being taken from the lagoons or the types of animals being hunted by community members. The last lesson to be learned is without transparency, there can be no trust or collaboration. First, the community must be informed of management activities, and management must gain

community's trust. Then, perhaps, the community will be willing to share their valuable ecological knowledge.

Future Research

Specifically, in Crooked Tree, I think there are a few research opportunities that would be valuable to investigate. Assessments of the fish population in the lagoons surrounding Crooked Tree are needed. The BAS would benefit by knowing if the fish population is under pressure from over fishing in order to formulate policy, and how pressure from tilapia is affecting native fish. In addition, following-up on the community reaction to the tilapia farm may help any future projects initiated by BAS. Lastly, the relationship between the community and BAS should be continually monitored and reevaluated so as to facilitate collaboration. This research could be initiated by the community outreach officer. For example, he could be responsible for a log that tracks his interactions with villagers, especially whether they were positive or negative, and their concerns.

On a larger scale, cross-country comparisons of how other ecotourism developments connected to protected areas have either succeeded or failed is needed. What aspects do cases across countries have in common? In those where conflict has arisen, is it for the same reasons? Are the underlying causes behind failure and success universal? If not, at what level should development projects be focused, the regional, country, or community level? These are important questions. Finding the answers to them may help conservation and development organizations meet their goals. Research on ecotourism should continue to focus on finding ways to incorporate communities into conservation and ecotourism development.

To conclude, the future is always uncertain, including the future of Crooked Tree Wildlife Sanctuary. However, Crooked Tree's natural and cultural resources combine to make a truly charming and unique community. Ecotourism can demonstrate to tourists and community members alike the importance of conservation of places like Crooked Tree. Collectively, the community of Crooked Tree and the Belize Audubon Society can implement changes that will sustain ecotourism and the wildlife sanctuary in order to preserve Crooked Tree for future generations to come.

APPENDIX A
MAP OF CROOKED TREE

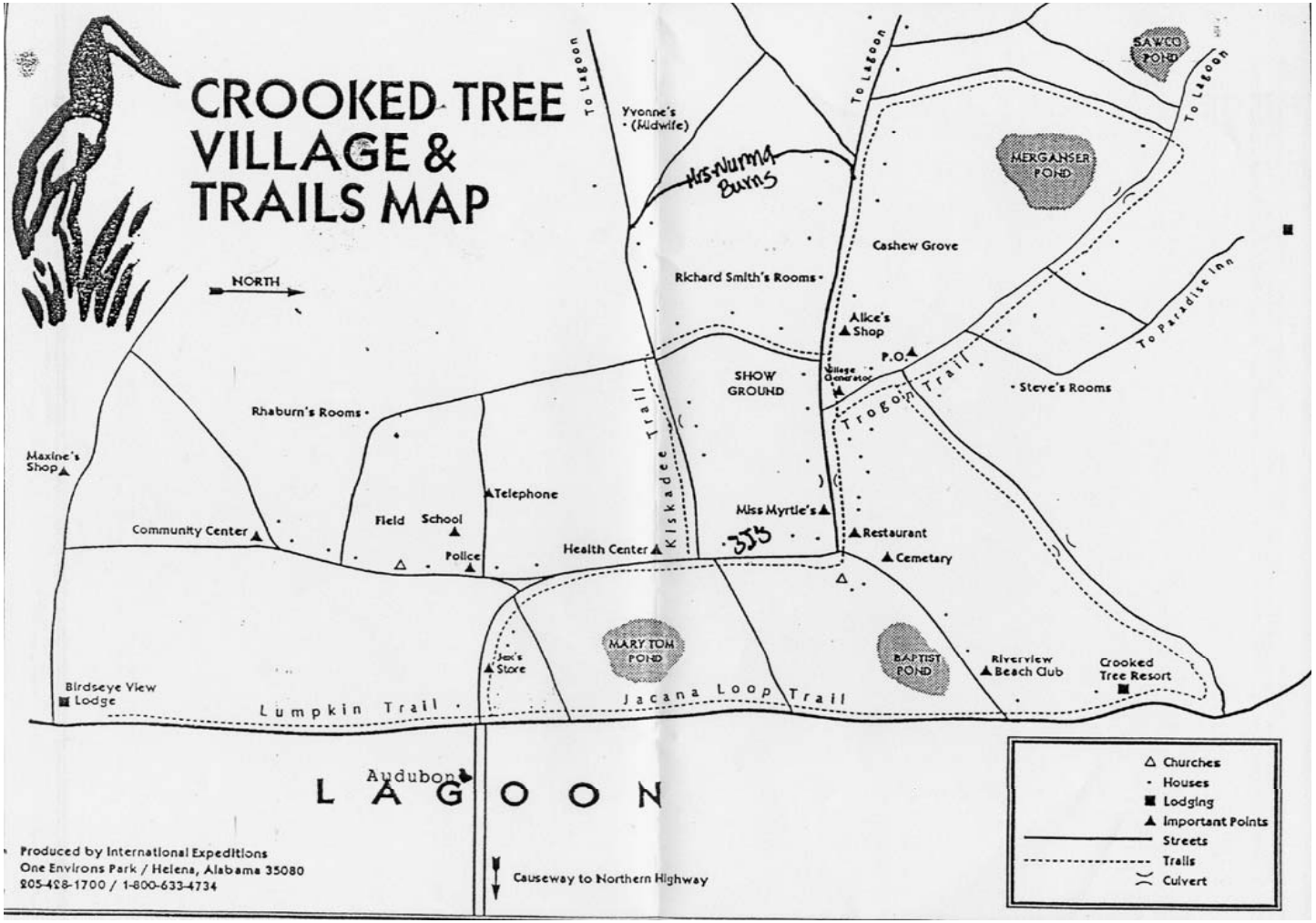

Figure A-1. Trails Map of Crooked Tree Village.

APPENDIX B
HOUSEHOLD INTERVIEW PROTOCOL

Tourism: General Questions

Are you involved in tourism?
If so, how are you involved in tourism?
Do you enjoy interacting with tourists? Why or why not?
Is tourism your primary source of income? If not, what is your primary source of income?
Besides tourism, what other ways do you earn money?
Do you participate in agriculture?
How are you involved in agriculture?
Why did you decide to become involved tourism (or not)?
How would you like to be involved?

Have you benefited from tourism, to what extent?
Has the community benefited from tourism, to what extent?
Who benefits the most from tourism?
Name some good changes that have occurred because of tourism.
Have you been negatively affected by tourism, to what extent?
Has the community been negatively affected by tourism, to what extent?
Who has experienced the most negative affects from tourism?
Name some bad changes that have occurred because of tourism.
Overall, do you think the community is supportive of tourism?

What kinds of jobs have been created in the community because of tourism?
Has community unity changed in any way since tourism started here?
Have you seen an increase in tourists since cruise ships were allowed to dock in Belize?
Do you feel that tourists from cruise ships will benefit the community?

The Wildlife Sanctuary, Conservation, and BAS

Why was the wildlife sanctuary created?
Does the community benefit from the wildlife sanctuary?
Name some things you like about the wildlife sanctuary.
Name some things you don't like about the wildlife sanctuary.
Do you support the wildlife sanctuary?
Does the community support the wildlife sanctuary?

What is conservation?
Do you think conservation is important?
Do you feel it is important to protect the wildlife within the wildlife sanctuary?

Do you feel it is important to protect the forest within the wildlife sanctuary?
Are there more or less birds in Crooked Tree than there were before the wildlife sanctuary? Why?

Do you support the activities of the Belize Audubon Society in Crooked Tree?
Does the community support the Belize Audubon Society?
How would you like the Belize Audubon Society to be involved in the community?
Did you participate in the sustainable tourism training that the Belize Audubon Society conducted in Crooked Tree?
If so, do you feel it benefited you?

Future of Ecotourism

Are you happy with the current levels of tourism or would you like more or less?
How do you think the tourism business could improve?
Do you feel optimistic about the future of tourism here?
What changes would you like to see for the future?

Demographics

How old are you?
Gender:
What is your position in household?
How long have you lived in Crooked Tree?
If not born in Crooked Tree, where are you from?
What is your occupation?
How many years of education have you had?

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BIOGRAPHICAL SKETCH

I was born and raised in Marietta, Georgia. I graduated with high honors from Marietta High School in 1997. For my first 2 years of undergraduate work, I attended Oxford College of Emory University in Oxford, Georgia. From Oxford, I transferred to the University of Georgia, Athens where I graduated in 2001 with a B.A. in anthropology. I joined the Peace Corps in July 2001 and became an environment volunteer in Morocco. I lived and worked in the small village of Hassi Labiad located at the edge of the Sahara. My main assignment was to design an environmental education program to be implemented in the local school. In August 2003, I entered the M.S. program in interdisciplinary ecology at the University of Florida, Gainesville. My focus is on conservation and development, and earned a concentration in Tropical Conservation and Development. After graduation, I plan to continue to develop my career in conservation and development by working for a Non-Governmental Organization (NGO). One day, I plan to continue my education and earn a Ph.D. in ecology.