

Volume 1

ECOTOURISM: The Potentials and Pitfalls



WWF

World Wildlife Fund

Elizabeth Boo

PN-ABF-329

**Ecotourism:
The Potentials and Pitfalls**

Volume 1

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Ecotourism: The Potentials and Pitfalls

Volume 1

by Elizabeth Boo



**World Wildlife Fund
Washington, D.C.**

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Cover design by Supon Design Group, Washington, D.C.
Printed by Wickersham Printing Company, Inc., Lancaster, Pennsylvania

Book orders should be directed to World Wildlife Fund, P.O. Box 4866, Hampden Post Office, Baltimore, Maryland 21211. Telephone: (301) 338-6951.

Library of Congress Cataloging-in-Publication Data

Boo, Elizabeth.

Ecotourism: the potentials and pitfalls / by Elizabeth Boo.

p. cm.

Vol. 2 has also special title: Country case studies.

Includes bibliographical references.

ISBN 0-942635-14-0 (v. 1). — ISBN 0-942635-15-9 (v. 2).

1. Tourist trade—Environmental aspects. I. World Wildlife Fund.

II. Title.

G155.A1B6 1990

338.4'791—dc20

89-70735

CIP

-4-

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Foreword

In developing countries around the world, tourism to natural areas, sometimes called ecotourism or nature tourism, is becoming increasingly popular, as both domestic and international visitors flock to these special places. To conservationists, this growth is a cause for both enthusiasm and concern. Ecotourism can generate badly needed revenue for local and regional economies, heightened local awareness of the importance of conservation, and new incentives for governments and the dwellers in and around appealing natural areas to preserve them. At the same time, however, the demands placed on ecosystems and natural resources from increased tourism can destroy the very attractions that draw people. Developing ecotourism wisely therefore poses an enormous challenge.

To obtain a better understanding of ecotourism and its long-term implications, World Wildlife Fund, with financial support from the U.S. Agency for International Development, undertook an investigation of the current status of ecotourism, including an evaluation of its economic and environmental impacts. While we chose to focus specifically on Latin America and the Caribbean, with case studies in Belize, Costa Rica, Dominica, Ecuador, and Mexico, we knew that the analysis undoubtedly would have broader applicability.

This report, *Ecotourism: The Potentials and Pitfalls*, is the resulting product. The author, WWF Latin America specialist Elizabeth Boo, presents a wealth of information ranging from analyses of ecotourism trends in Latin America and the Caribbean to specific evaluations of park sites. The report confirms a growing demand for

ecotourism based on visitor counts at park sites, interviews with tour operators, and WWF-conducted surveys. In analyzing the consequences of ecotourism, it concludes that the potential benefits of ecotourism, both economic and environmental, are yet to be realized. For the most part, parks in developing countries have been established fairly recently, and they do not yet have the structures in place to support ecotourism. They do not have adequate means to receive money from visitors to the park or for visitors to learn about natural resource conservation. Parks frequently lack trained guides, interpretive information, and basic infrastructure, such as visitor centers. Food and lodging often are not locally available. As a result, significant opportunities to bring money into a park and to provide employment for local populations are missed.

Nor have the potential economic and environmental costs of ecotourism been fully understood or monitored. Because most international travel agents and tour operators have yet to establish relations with local counterparts, there is no way to ensure that any portion of the financial gains from ecotourism stays in the area around a park. Mechanisms are not in place to evaluate the environmental impacts of tourism, and few studies have been done to determine carrying capacities for parks. Yet this information is critical for planning and managing parks for tourism.

At WWF, we recognized from the start that we were ambitious in our hopes for this study. What we did not anticipate was the overwhelming public interest in ecotourism that has grown both domestically and internationally in the last two

years. We hope that our report will serve as a springboard for further in-depth studies on the subject.

Ecotourism is an exciting new venture that combines the pleasures of discovering and understanding spectacular flora and fauna with an opportunity to contribute to their protection. As the potential gains of ecotourism are explored, it is

imperative that we consider and address the pitfalls as well, so that the promotion of ecotourism does not destroy the natural resources upon which its success depends.

Kathryn S. Fuller
President

Executive Summary

Background

The protected natural areas of Latin America and the Caribbean are becoming increasingly popular vacation destinations with both international and domestic travelers. Their growth in popularity is accompanied by an urgent need to generate funding and human resources to maintain the ecological integrity of these areas. At the same time, park managers and conservationists have come to recognize the importance of managing protected areas in ways that meet the needs of local rural populations. This provides a clear opportunity to link tourism and conservation for the benefit of both people and parks.

Very little information is available about the phenomenon of ecotourism, also known as nature tourism, or its impacts on protected areas, and there have been few efforts to date to promote ecologically sound tourism in Latin America or the Caribbean. This study seeks to encourage such efforts by documenting the status and impacts of nature tourism in five representative countries in the region. It also evaluates economic and environmental impacts of tourism in two protected areas in each of the five countries. Based on these findings, the study highlights critical issues in the development of ecotourism. In conclusion, the study recommends tourism-oriented measures to improve protected area planning and management throughout the region.

An additional objective in undertaking this study was to provide training opportunities for people involved in ecotourism in Latin America and the Caribbean. To that end, Latin American

and Caribbean consultants were retained to coordinate data collection within each country.

The five case study countries selected were Belize, Costa Rica, Dominica, Ecuador, and Mexico. These countries were chosen as representative of the region's diverse ecological attributes, its climatic zones, and its varied socioeconomic development. They also illustrate different private and governmental approaches to nature tourism in the region.

The study, prepared by World Wildlife Fund staff and several tourism consultants, was undertaken with a grant from the Latin American and Caribbean Bureau of the U.S. Agency for International Development (U.S.A.I.D.).

Study Methods

The study involved five major tasks. First, a tourism specialist was retained to design a work plan. Then, field consultants in each of the five countries were hired to collect data on national tourism policies and trends, tourist preferences, and impacts of tourism on two specific protected areas. As part of their efforts, the consultants each conducted surveys at an international airport and two park sites during heavy and light tourism seasons. They also interviewed government officials and private citizens active in the ecotourism industry, and reviewed existing information from tourist bureaus, national park services, hotels and airlines, and local tour operators. The third step was synthesizing of the survey data, for which another consultant was hired. Next, WWF convened a small workshop to evaluate the results

and make recommendations on tourism planning and management. Separate sets of recommendations were targeted toward tour operators, park managers, national parks and tourism agencies, conservation organizations, and international funding agencies.

Fifth and finally, WWF staff prepared this tourism report on the basis of consultant findings. The report is divided into two volumes. Volume 1 outlines the objectives of the study, describes the status of nature tourism in each of the countries, highlights critical issues emerging in nature tourism, and offers recommendations for tourism planning and management. Volume 2 presents separate country case studies for Belize, Costa Rica, Dominica, Ecuador, and Mexico.

Tourism to Protected Areas

Ecotourism is defined as "traveling to relatively undisturbed or uncontaminated natural areas with the specific objective 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..." (Ceballos-Lascurain, 1987). This kind of tourism, ranging from a casual walk through undisturbed forest to exploration and study of unique natural features in remote areas, has rapidly evolved from a pastime for a select few to an activity pursued by many. People involved in the travel industry are noting an increasing demand for nature tours and other types of "specialty" travel to unusual destinations, as part of an overall rise in international and national tourism.

While Africa's parks and preserves have attracted international visitors for decades, protected areas in Latin America have generally just begun to be viewed as resources with important tourism potential. In some countries such as Ecuador and Costa Rica, national parks, reserves, and wildlife refuges are drawing growing tourist attention for their educational, recreational, and aesthetic values. There is little information, however, concerning the impacts of nature tourism on the region's protected areas. Nor is the economic potential of that particular market well documented. Such analyses will be critical to park managers, government officials, and tour operators throughout Latin America who seek to

capitalize on its potential without jeopardizing the special features of natural areas.

The Impacts of Ecotourism at the National Level

Existing studies show several benefits at the national level from ecotourism. From a conservation standpoint, nature tourism can provide an economic justification for conservation of areas that might not otherwise receive protection. In East Africa, for instance, preservation of native wildlife for tourist viewing has proved a successful economic argument for conservation. In Rwanda, where the Parc des Volcans not only protects mountain gorilla populations but also prevents deforestation of the local watershed and safeguards agricultural production, tourism to the park has become the country's third largest source of foreign exchange.

Tourism development in general offers opportunities for expanding an economy at relatively little cost. Pearce identifies three ways that tourism can benefit economies: (1) it is a growth industry and therefore is highly desirable for the economic development of countries or regions; (2) the tourist market comes to the producer and is relatively unprotected; and (3) tourism helps diversify the economy (Pearce, 1981). Protected area tourism may offer a fourth point of opportunity: Many conservationists have noted that, since tourism to protected areas tends to occur in peripheral and nonindustrialized regions, it may stimulate economic activity and growth in isolated, rural areas.

Negative aspects of nature tourism are also apparent. In general, tourism is an unstable source of income, greatly influenced by uncontrollable factors such as political instability, weather, and international currency fluctuations. Success can also prove "too much of a good thing," especially for nature tourism, if a region's popularity causes overcrowding and environmental degradation. A 1980 report by the Organization for Economic Cooperation and Development supports the assertion that "tourism destroys tourism" in certain regions (OECD, 1980).

The net economic benefits of tourism to developing countries may be overrated because such enterprises often involve substantial

"leakages" of income out of the country. For instance, tourism development may require imports of costly items such as oil and consumer goods, repatriation of profits made by foreign investors, substantial investments for infrastructure, and the need for promotional expenses abroad. Large-scale international tourism development is far less beneficial to developing countries than has been claimed. The World Bank estimates that 55 percent of gross tourism revenues to the developing world actually leak back to developed countries (Frueh, 1988).

Another drawback to tourism is its seasonal nature. It is inefficient and costly to have capital equipment and labor idle during parts of the year. In rural areas, nature tourism that coincides with peak harvest times or other important activities can also cause labor shortages.

The Impact of Ecotourism on Individual Protected Areas

The concept of visitor "carrying capacity" has long been used in evaluating and controlling the impacts of tourism on protected areas. For recreational sites, carrying capacity is defined as the maximum level of visitor use an area can accommodate with high levels of satisfaction for visitors and few negative impacts on resources. Since carrying capacity relies on maximum use estimates, many planners have switched to an approach that relies on "tolerable levels" of visitation. Tolerable levels can be sustained over time.

Either carrying capacity or tolerable-level estimates must be measured in both ecological and aesthetic terms. Ecologically, carrying capacity can be determined by human-induced symptoms such as changed animal behavior, reduced numbers of species, erosion, changes in water quality, and reduction of firewood. It is difficult to identify measurable aesthetic parameters, though assessment of an area's wilderness value to tourists is one example. These measures are used to develop management guidelines and visitor limits, including the design and expansion of tourist activities in a park.

In the parks studied, there was a general lack of certainty about how many people should be allowed to enter. Basic statistical tools and information to assess carrying capacity, such as frequency

of site visits, group size, and activity patterns, were nonexistent in most cases.

Ecotourism potentially could increase revenues for protected areas. Park entry fees and other use charges might support ecological studies, implementation of management plans, and interpretive activities. However, none of the protected areas studied generated sufficient revenues to be self-sustaining, with the exception of Ecuador's Galapagos Islands National Park. Publicly operated protected areas generally charged little or no fee for admission, and revenues were small.

Charging of admission to parks is a controversial issue in Mexico, Costa Rica, and other Latin American countries. Many believe that nationals should not have to pay to see their country's natural heritage. One solution to this question is to maintain different fee structures for national and international visitors. Galapagos Islands National Park, for instance, charges international visitors higher fees than Ecuadorean citizens and does not charge local residents at all. Mexico has a similar dual fee system for its archaeological monuments.

It is possible that nature tourists are less demanding in terms of lodging than other types of tourists and thus do not need accommodations, food, or nightlife that meet luxurious standards. The nature traveler seems more willing to accept and appreciate local conditions, customs, and foods. However, basic services and infrastructure are still required to make ecotourism a significant economic force and a sought-after activity.

A Comparison of Tourism in Belize, Costa Rica, Dominica, Ecuador, and Mexico

Among the five countries studied, Mexico is by far the most popular international tourist destination, with 5 million international visitors per year. Costa Rica and Ecuador each receive some 260,000 annually. Visitors to Belize number about 55,000, and Dominica receives approximately 30,000 per year.

Survey research provides some insights into tourism in each of the five countries. The data are not representative of groups other than the actual tourists surveyed, and should not be used to ex-

trapolate to a broader population. Yet trends among the tourists surveyed are discernible and potentially of interest. For example, airport surveys indicate that few of the tourists who visited Mexico were nature-oriented tourists. Only 11 percent gave "natural history" as an important motivating factor for choosing a Mexican destination. However, approximately 40 percent of those polled indicated that protected areas were "important" or "very important" in their decision.

While these results are only indicative for the group surveyed, they support the view that there may be significant potential for expansion of Mexico's ecotourism industry. Mexico has a number of impressive protected areas, such as a monarch butterfly reserve in Michoacan that is the overwintering site for millions of butterflies from eastern North America. This site and others could potentially lure visitors who visit for reasons other than nature tourism to incorporate some nature-oriented activities into their trip.

Ecuador's tourism industry is more nature-oriented, primarily as a result of the popularity of the Galapagos Islands. Natural history was an important motivating factor for 76 percent of the international visitors surveyed at Ecuador's airports. Nearly the same percentage of tourists visited a protected area, usually the Galapagos Islands, during their stay. Tour operators in Ecuador are now trying to expand nature tours to other parks on the mainland, especially parks in the Andes Mountains and the Amazon River Basin.

Private tour operators in Costa Rica have endeavored to make their country an internationally acclaimed nature tourism attraction, capitalizing on a park system with a well-developed infrastructure and the fact that travelers can visit a rich variety of Costa Rican wilderness ecosystems in a short time. The national government has formally given ecotourism high priority in promotion and planning and in 1986 passed the "Law of Tourism Incentives" to demonstrate commitment to the industry.

Airport surveys attest to Costa Rica's wilderness appeal. Nearly 30 percent of travelers surveyed said that natural history was an important factor in deciding to visit the country. Over 50 percent visited a protected area during their stay, with many visiting not just one but several parks.

Dominica's ecotourism industry is in a nascent stage. Having recently decided to promote the nature tourism business, the government has begun publicizing the country as the "Nature Island of the Caribbean." At this point, however, the natural protected areas in Dominica have very little tourism infrastructure. Only 20 percent of tourists polled in the airport survey gave natural history as a reason for visiting the country. However, 41 percent visited a protected area during their stay.

Nature tourism is fast becoming a very important industry in Belize. Belize's barrier reef has been popular with divers for some time, but the other protected wildlands are now gaining national and international attention. The present Belize administration fully supports the growth of tourism in the country and is taking actions to develop it. Current efforts to establish a park service should greatly help the management of ecotourism.

Airport survey results indicated strong interest in Belize's undisturbed natural environment. Of those surveyed, 51 percent considered natural history an important factor in their decision to visit, and 63 percent actually toured a protected area during their stay.

Government Policies toward Nature Tourism

In the five countries studied, national tourism policies generally focus on traditional approaches. This situation seems to be changing in all countries, with great increases in demand for tourism to protected areas. Most governments have recently passed laws to encourage investment in ecotourism infrastructure. Costa Rica includes nature tourism as a national priority but has taken few concrete steps to encourage it. Belize is currently working on its first national tourism plan. Dominica has stated that it wants to attract tourists who appreciate its natural setting and small size. In Mexico, nature-oriented tourism has not been a priority of the Ministry of Tourism in the past. However, this form of tourism is now gaining national recognition in Mexico.

Promotion of Ecotourism

The countries studied have done virtually no promotion of tourism to their protected areas, with

the exceptions of Ecuador (for the Galapagos Islands) and the private tour industry in Costa Rica. Mexico is the only country with an aggressive marketing campaign for tourism in general. Tourism agencies and ministries in the study countries attribute this situation to lack of adequate funds for promotion and marketing. Most countries have only recently turned their attention to the potential of the ecotourism industry.

Measurement of Ecotourism

Few of the countries studied collect adequate statistics to determine the size of their ecotourism industries. Dominica collects general tourism statistics, but not for visitation to park sites. Belize's data collecting is inconsistent for most parks. Mexico collects data on tourism, but not on its nature-related aspects. Entry statistics are collected for several parks in Mexico, such as Palenque and Tulum, but are virtually nonexistent in most other national parks. Ecuador collects statistics on park visitation, although some sources contend that official numbers are low; in one year, official figures showed 32,000 visitors to the Galapagos Islands, but 49,000 was the unofficial count. Costa Rican statistics are generally good and are improving each year. Some Costa Rican parks receive more than 200,000 visitors per year, with highest visitation counts recorded at Volcán Poas, Volcán Irazú, Manuel Antonio, and Cahuita.

Data inadequacy makes it difficult to measure the economic impacts of tourism to protected areas. If countries are going to promote nature-oriented tourism, they will have to create a reliable, accurate data base from which to measure and analyze demand.

Privately Operated Protected Areas

Privately operated protected areas in the five countries surveyed show significant promise for development of nature tourism. The Community Baboon Sanctuary in Belize, Trafalgar Falls in Dominica, and Monteverde Reserve in Costa Rica demonstrate this potential.

In sharp contrast to the chronically low or nonexistent fees at public areas, the private protected areas seem to charge adequate entry or user fees. Most of the private protected areas studied are managed by people who are highly

conscious of environmental impacts and aware of the importance of maintaining the natural environment to attract tourists. Tourist developments are small-scale, with accommodations ranging from tents to small hotels. Many goods and services are purchased locally, minimizing monetary leakage abroad. Local participation in these private efforts is often higher than in public protected area developments.

Monteverde Reserve in Costa Rica is an excellent example of a private park that generates enough revenue from entry fees to cover maintenance costs. Monteverde also illustrates how a park can provide direct economic benefits to surrounding residents. A cooperative of local women sells homemade souvenirs to Monteverde tourists, grossing about \$50,000 per year. While there is much debate over the desirable level of visitation to Monteverde, there have been clear economic benefits from tourism.

Environmental Impacts on Individual Parks

The case studies did not uncover any major, tourist-caused negative environmental impacts on specific parks. However park personnel and local people voiced concern about increasing the flow of tourists to several areas, notably to the Galapagos Islands and Monteverde. Problems that were reported include litter, water pollution, and trail erosion. However, methods to quantify the exact level of environmental impacts have not yet been developed at any park.

In some countries, there are ongoing debates about the environmental impacts of locating tourist accommodations inside parks. Opponents believe that it is important to maintain parks free from permanent human settlement. More importantly, they believe that it is better to locate facilities in the small communities that surround parks. These communities then receive greater benefits to offset losses from their inability to use the park and its resources.

The study found several examples of small-scale, low-impact lodging facilities constructed inside protected areas. These included cabins at Cockscomb Jaguar Preserve in Belize and at Iztapalapa National Park in Mexico.

Park Management and Tourism

The majority of the parks studied lack adequate personnel and other management resources. Park personnel are often underpaid, and are were seldom enough park guards to manage tourists effectively. In Galapagos Islands National Park, this imbalance has created antagonism between park staff and tourism developers. While the parks studied generally had management plans, few of them had been implemented, and of these many have failed to address tourism development.

Tourism Infrastructure

Infrastructure and tourist facilities at most of the national parks studied were rudimentary or nonexistent. Only Galapagos Islands National Park in Ecuador, Poas Park and Monteverde in Costa Rica, and, to a lesser degree Izta-Popo Park in Mexico possess fair infrastructures. In general, transportation systems are excellent only for parks within 100 kilometers of a capital city.

Despite all obstacles, Latin American and Caribbean's parks and reserves seem to have a strong appeal to tourists. Over 80 percent of surveyed visitors to protected areas expressed satisfaction with their visit. When asked what could be improved, a majority mentioned educational or interpretive materials, such as guide books, technical information, maps, promotional materials, and signs.

The Role of Tour Operators

Relatively few tour operators have made significant contributions to conservation of the natural areas to which they offer tours. Park managers surveyed during this study often complained that private operators took protected areas for granted.

There are some exceptions. In Costa Rica, for example, several tour operators contribute to the park system. Also, some private international tour organizations donate a portion of trip fees to conservation groups. Paradoxically, smaller companies appear to contribute more generously than larger companies.

Tour participants sometimes become so enthusiastic about their experience that they contribute personally to park conservation. Such contributions generally come from tours that are con-

servation-oriented or that have guides who specifically point out the benefits of donations.

Nature tour operators have strong incentives to maintain the integrity of protected areas they utilize. Operators contacted during the study seemed responsive to the need to support conservation of those areas. In general, however, the potential role of tour operators in conservation efforts is still largely unexplored.

Conclusions and Recommendations for Developing Tourism to Protected Areas

The research undertaken in each of the five countries provides information about the characteristics, activities, and impacts of tourists, both nature tourists and others, who visited each country.

It is difficult to define an "ecotourist" or "nature tourist." People who go to protected areas choose these locations for a variety of reasons, and their interaction with the natural setting ranges from casual observation to intensive research.

Of the 436 tourists surveyed at airports, nearly half reported that protected areas were the "main reason" or "very important" in their decision to visit the country. In addition, many of these tourists, even some whose primary reason for travel was not to go to protected areas, visited parks and reserves. Of the total surveyed, more than half went to at least one park during their stay.

While there was minimal environmental degradation due to tourism at the park sites studied, comprehensive scientific studies of environmental impacts from tourism have yet to be conducted. Such studies are critical for tourism development. Furthermore, many of the park sites included in the present study were not adequately protected or managed, and most lack funds for these activities. Simply put, ecotourism is based on nature and will succeed only if nature remains in a relatively pristine state.

No protected area in the study can be considered a "model" nature tourism site. The development and management of ecotourism will not be the same for all protected areas. The level of economic activity that can be generated, the fragility of the resources, the consequent environ-

mental impact of tourism, and the opportunities for environmental education will vary from one area to another. Ecotourism should be promoted in a particular area if there is a margin of benefit to be gained with increased tourism while costs are minimized.

Each country must design a nature tourism development strategy that identifies where tourism should be promoted and where it should be discouraged. In the report conclusions, an outline is

presented for creating a strategy that involves government officials, tour operators, wildland managers, and international funding and conservation organizations. Recommendations are made for the participation of each group at various steps in the strategy. In addition, a "checklist" is provided for each group, noting issues and activities to be considered in the development and management of the ecotourism industry.

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Preparation of this study has been supported by a grant to World Wildlife Fund by U.S. Agency for International Development.

CHAPTER 1

THE LINK BETWEEN TOURISM AND PROTECTED NATURAL AREAS

Introduction

Two distinct global trends, occurring simultaneously, are becoming increasingly interlinked. One of these is a rapid expansion of the tourism industry, with a growing demand for "specialized" tourism and, in particular, tourism to protected natural areas. The second trend is a shift in strategies for protected areas management. Conservationists and park managers have begun to recognize the importance of integrating natural resource preservation with the needs of rural populations surrounding protected areas, and are moving away from strictly "protectionist" activities to "integrated development" activities. Therefore, efforts are increasingly focused on creative natural resource management plans that promote the economic viability of parks and reserves. The growing demand for tourism to protected areas, combined with the need to sustain the supply of protected areas through economic activities, provides a significant opportunity to link the two trends in a beneficial way.

The Trend of Tourism Expansion

1. The Growth of the Tourism Industry

Over the last few decades, tourism has been one of the most consistent growth industries, and global tourism has had tremendous economic impacts. With every prospect for continued growth, many countries are seeking a better understanding of tourism's role in their own societies and economies so that they might actively direct its future expansion.

In 1988, there will be some 400 million international tourist arrivals worldwide. Tourism revenues rank third among all export industries accounting for nearly 6% of total world exports and representing 25% of international trade in services. Spending for both domestic and international travel combined contribute to approximately 10-12% of the world gross product or about U.S. \$2 trillion in current dollars (D'Amore, 1988).

Today, the economic importance of tourism in the Caribbean is indisputable. In 1986, the region attracted some 8.4 million stayover tourists (22 percent more than in 1980) and 5 million cruise ship visitors, who together spent around \$5.6 billion in the region providing employment

(directly and indirectly) for an estimated 300,000 persons. (Caribbean Tourism Research and Development Centre, 1987).

The first global conference on tourism, "Tourism--a Vital Force for Peace," was held in Vancouver, Canada, in October 1988. As stated in the conference proceedings, the objective of the conference was to "identify, discuss, and propose new initiatives through which the diverse sectors of world tourism and other concerned groups can facilitate and contribute to the goal of 'global peace through tourism.' These initiatives will relate to promoting mutual understanding, trust, and goodwill; improving the quality of the environment, both built and natural; and contributing to the world conservation strategy of sustainable development and general international harmony."

People involved with promoting the tourism industry--travel agents and tour operators, airline and hotel employees, tourism bureau officials--are noting not only an increase in the numbers of national and international travelers, but also a change in demand for the kind of tourism many travelers seek. In some cases, travelers are moving away from traditional trips to well-known vacation spots and are exploring new, "off-the-beaten-path" destinations. Many of these destinations are in remote areas that have little tourist infrastructure, but offer beautiful natural settings.

2. The Growth of Tourism to Protected Areas

Tourism to protected areas of outstanding natural beauty, extraordinary ecological interest, and pristine wilderness has been greatly increasing over the past two decades. Tourism to protected areas, also referred to as nature tourism or ecotourism, has rapidly evolved from a pastime of a select few, to a range of activities that encompasses many people pursuing a wide variety of interests in nature.

Nature tourism can be defined as "tourism that consists in traveling to relatively undisturbed or uncontaminated natural areas with the specific objective 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. In these terms, nature-oriented tourism implies a scientific, aesthetic or philosophical approach to travel, although the ecological tourist need not be a professional scientist, artist or philosopher. The main point is that the person who practices ecotourism has the opportunity of immersing himself/herself in nature in a manner generally not available in the urban environment" (Ceballos-Lascurain, 1987).

For the United States alone, a U.S. Fish and Wildlife Service survey (1982) indicates that a total of 29 million U.S. citizens interested in "non-consumptive wildlife use" participated in approximately 310 million nature trips away from their homes in 1980. These figures include 1,031,000 people who made 4,067,000 trips, with predominantly ecological interests, to foreign countries.

Another way to evaluate the increasing demand for tourism to protected areas is through the activities and trends of tour operators. The owner of Journeys International, based in Seattle, Washington, organizes tours to Africa, Asia, and Latin America. He recently claimed that his business for Costa Rican park tours has increased by 50 percent from the 1987-88 season to the 1988-89 season. Journeys International offers many tours to threatened protected areas, emphasizes the conservation issues of the areas, and uses local guides. The owner claims that these features of his tours are becoming more popular, and that people say they are using his tour services because of their environmental education and conservation orientation.

The Trend to Integrate Conservation with Development

In the face of increasing pressure from development activities on and near protected natural areas, conservationists and park managers are broadening their strategies to include the active participation of rural people in natural resource management and development schemes. Conservationists have realized that "the future of the earth's biological diversity is inextricably linked to improving the quality and security of life of rural populations so they are not forced to deplete their resources to survive" (Wildlands and Human Needs Report, 1988). Therefore, biological diversity of natural resources can be preserved only if populations who are dependent on these resources for their livelihood are offered viable alternatives to use the resources in sustainable ways.

One alternative proposed as a means to link economic incentives with natural resources preservation is the promotion of nature tourism. With increased tourism to parks and reserves, which are often located in rural areas, the populations surrounding the protected areas can find employment through small-scale tourism enterprises. Greater levels of nature tourism can also have a substantial economic multiplier effect for the rest of the country. Therefore, tourism to protected areas demonstrates the value of natural resources to tourists, rural populations, park managers, government officials and tour operators.

The Need to Study Tourism to Protected Areas

While the demand for natural area tourism is rising worldwide, and the need for conservationists to find economic alternatives to manage natural resources is growing, little information has been collected to support these two trends. Few statistics exist on the numbers and profiles of people who travel to protected areas, or on which protected areas receive the most visitors and why. Only a few studies have examined the economic activity generated by nature tourism at the local, national, and international levels. Even less is known about environmental impacts of tourism that could threaten the viability of the resource base. Yet, despite the fact that this information is scarce and not well consolidated, it is vital as a basis for planning and developing tourism that will be advantageous and sustainable in protected areas.

While protected areas in other regions, particularly in Africa, have attracted nature tourists for some time, the majority of protected areas in Latin America are only recently gaining attention as resources with potential for tourism development. Tourists appear to be drawn by a diverse array of educational, recreational, and aesthetic experiences provided by the national parks, reserves, and wildlife refuges in such countries as Costa Rica and Ecuador. There is a growing impression, though little reliable data, that the number of these nature tourists is increasing and that the economic potential of this market is substantial. How to capitalize on the tourism potential of protected sites while conserving their special features is of central concern for park managers, government officials, and tour operators throughout Latin America.

This new interest in nature tourism in Latin America can be seen in many ways. The Fourth International Seminar on Natural Areas and Tourism was held in Argentina in September 1988, with the objective of discussing management of natural areas that receive high levels of visitors. Participants were from national and international institutions related to travel and tourism, environmental studies, or conservation.

Another international workshop, "Ecctourism and the Yucatan: Developing Cooperative International Relationships," was held in April, 1989. The workshop attracted a diversity of participants from government agencies, tour groups, environmental groups, and international funding organizations from Mexico, Belize, Guatemala, and the U.S. The Ministers of Tourism of both Mexico and Belize were present and endorsed the growth of ecotourism in their countries.

Yet, despite rising expectations regarding the value of nature tourism among people in many fields of expertise, there

are great gaps in the information necessary to manage the nature tourism industry.

The Objective of This Study

This study presents basic data concerning protected area tourism, both international and national, in five countries in Latin America and the Caribbean that are known to have a significant level of nature tourism: Belize, Costa Rica, Dominica, Ecuador, and Mexico. The objectives of the study are to document the status of nature tourism in each country at the national level (how nature tourism fits into the general tourism framework, numbers, and trends of people visiting protected areas); and to evaluate the economic and environmental impacts of tourism at two specific parks or natural areas within each country. Based on these findings, the study highlights critical issues emerging in the development of nature tourism and makes recommendations for planning and managing natural areas for tourism in an environmentally sound way.

The five countries chosen represent a range of ecological profiles and natural features, including mountainous terrain, tropical forests, arid habitats, and coral reefs, and are situated in almost all of the climatic zones of the region. In addition, these countries represent the region's array of socioeconomic development as well as differences in financial investment and government policy for nature tourism.

Latin American and Caribbean consultants were retained to coordinate data collection in each country. The range of expertise among these consultants illustrates the variety of fields involved in nature tourism development. Consultants included a nature tour guide in Ecuador, a journalist who publishes nature tourism articles in Costa Rica, the president of the Belize Audubon Society, the owner of a tour agency specializing in ecotourism in Mexico, and the Director of the Tourism Board in Dominica. An ancillary objective of this study was to provide training opportunities for these people to further investigate the tourism industry in their own regions.

Study Concept and Methods

This study began with the development in September-December 1987 of an action plan by a tourism specialist. The plan was submitted to USAID for approval. In January 1988, the tourism

specialist traveled to each participating country to meet with the main field consultant to explain the study methods and to select the two park case studies for each country. The field researchers collected information between February and June 1988 and sent information to the tourism specialist. Another tourism specialist was hired to assist in evaluating the data. In addition, two professors with specialties in tourism were contracted as advisors.

All of the field consultants, the two tourism specialists and the two advisors met with WWF staff for a workshop in August 1988. Participants were given a draft copy of research results before the meeting. The purpose of the workshop was to bring everyone involved with the study together to discuss the report and make changes. In addition, the group formulated recommendations for managing tourism targeted at specific audiences, including park managers, tour operators, government officials, conservation organizations, and international funding agencies. The tourism specialists synthesized the data and submitted a report to WWF. Based on these findings, WWF staff prepared this final nature tourism study.

Research for this study primarily involved secondary sources such as bureaus of tourism, national park services, tour operators, hotels, and airlines, as well as people involved with tourism at the local level. In addition, surveys were conducted at international airports and at case study park sites. They were conducted twice in each country, at peak tourist season and at low tourist season. The survey sampling methodologically does not meet the requirements necessary to draw inferences from the findings for all nature tourists. Yet they do provide statistically valid measures of the population of tourists studied.

This study report is divided into two volumes. Volume 1 has four chapters; it provides an overview of the status and impacts of tourism in protected areas of Latin America and makes recommendations for the environmentally sound development of the tourism industry. Volume 2 has five chapters, each an individual country report for Belize, Costa Rica, Dominica, Ecuador, and Mexico. Several appendices follow, with a review of nature tourism literature, a glossary, maps, and copies of the surveys conducted.

CHAPTER 2

THE IMPACTS OF NATURE TOURISM

Introduction

The challenge facing countries with attractive natural resources is how to plan for the development of those resources without degrading them in the process. Tourism requires various levels of infrastructure, can bring in thousands of people who have little awareness of their own impact on the resources, and can induce changes in the local, regional, or national economies that may range from very favorable to detrimental. Countries that seek to use nature tourism as a major source of economic growth, will need to orient their national development plans in a way that will protect and enhance their natural attributes while promoting economic growth.

Costa Rica provides an example of a country that is giving strong attention to patterns of growth and development that will be compatible with the requirements for large-scale nature tourism. Yet even in countries with relatively few nature tourists, nature tourism may be an important force within a particular region or locality. In Ecuador, for instance, tourism revenues from the Galapagos Islands provides an important source of income for that region as well as supplements the budgets of other mainland parks that generate little income.

At each level (national, regional/local, intra-park), the impacts of nature tourism in economic, ecological, and social terms will differ significantly based on its scale. Yet there is a delicate relationship that must be maintained for nature tourism to have a positive impact within a community, within a park or nature preserve, within a region, and within a country.

The ways in which a particular region is used for nature tourism, or the style of nature tourism is also an important consideration. High densities of vehicles for game viewing may be part of nature tourism, as can a solitary hike in a wild area. Both the ecology of the area and the types of tourism developed will determine what is a sustainable level of tourism.

Yellowstone National Park in the United States is an example familiar to many. The state of Montana (analogous to a country from this perspective) benefits greatly from the influx of tourists who come primarily to visit Yellowstone. Once in the state, tourists make use of other recreational facilities as well as basic services (restaurants, gas stations, hotels). In the towns surrounding the park, however, tourism grew so rapidly that the lives of many residents were seriously disrupted. Although these residents participate in the general benefits of increased

wealth in Montana, they also have had to endure serious traffic and congestion, road construction, noise pollution, overcrowding, and rapid changes in land values, etc. Within the park, crowds reached such high levels that the "nature experience" sought by many who traveled there became unavailable, and the natural ecology was threatened.

Yellowstone is an example of the need for better planning and management of growth. Such growth clearly has a wide variety of both positive and negative impacts, and impact interpretation can differ depending on one's level of analysis. This chapter summarizes what is known about nature tourism, the benefits and liabilities, at each of several geographic and socioeconomic levels. Because information is scarce, examples are used from both developed and developing countries throughout the world.

National and International Impacts of Nature Tourism

A 1987 publication of the World Commission on Environment and Development entitled "Our Common Future" was largely responsible for focusing major international attention on the concept of sustainable development. At about the same time, warnings of global warming and the "greenhouse effect" put a new level of urgency into slowing the rapid pace of global deforestation. Such thinking, which had long been popular outside the mainstream of development thought, became broadly accepted when the World Bank and other development agencies began to seriously consider it.

One consequence has been that the development and conservation of parks and protected areas have ceased to be seen as "luxury" expenditures that debt-ridden countries could no longer afford. Instead, countries such as Costa Rica, which anticipated this trend many years ago, suddenly found themselves viewed as leaders in attempting to reconcile apparently disparate development objectives such as environmental management and economic growth.

A reliance on narrow economic criteria is no longer necessary as justification for preserving parks and protected areas. Instead, broader social, environmental, and developmental benefits and costs are considered as well. For example, economists should factor these previously ignored benefits, such as the value of watershed protection, into their calculations. But even when the benefits of conservation are recognized, the precarious economic situation of many developing countries means that they lack the capacity to protect and safeguard these areas. As the available land for agriculture and forests diminishes, countries will increasingly be forced to guard their resources.

In recent years, debt-ridden countries have sought new ways to improve their economies. Countries or regions lacking in other natural resources came to regard a favorable climate, beaches, and other tourist attractions as a different type of natural resource base for development (Frueh, 1986). Since many of these countries had already established parks and protected areas, promoting tourism seemed an easy way for them to benefit. According to the International Union for the Conservation of Nature and Natural Resources (IUCN), national parks in the tropics--approximately 1,420 individual areas covering over 175 million hectares--now play an important role in promoting tourism in almost all tropical countries (McNeely and Thorsell, 1987).

While developing countries can benefit significantly from tourism, dependence on international tourism to promote national development is a risky strategy. Tourism is not a predictable business, and countries that have depended on it for a major share of their earnings have sometimes been disappointed. On the other hand, a number of countries have found international tourism to be one of their major sources of internal growth. This section reviews some recent studies of the benefits and problems associated with tourism in general, and nature tourism in particular, for national economies.

1. Benefits of Nature Tourism at the National Level

The World Conservation Strategy formulated by the IUCN, World Wildlife Fund (WWF), United Nations Environment Programme (UNEP) and others, emphasized the interrelationship of natural resources and tourism in hopes of illustrating the necessity of safeguarding or conserving nature as a critically important asset for economic benefits (IUCN, 1980; Tisdell 1983, 1984).

The magnitude of benefits that countries receive from nature tourism depends in large part on the scale of the tourism, the size of the country, and the complexity of the country's economy. A relatively small volume of nature tourists made an enormous difference in the economy of Rwanda; the same would be true for Dominica. However, the volumes of tourists that either of those nations could sustainably manage would not make a dent on the Mexican economy, and would be relatively minor to both Costa Rica and Ecuador. Therefore, it is important to understand that nationally significant volumes of tourism in one country may be overwhelming or trivial in another.

In some countries, one of the major benefits of nature tourism is that it provides economic justification for protection of areas that might not be guarded otherwise. At the dawn of independence in several African nations, conservationists feared for the survival of the countries' natural areas in light of conflicting social and economic pressures (Myers, 1972; Pollock,

1971). Conservationists were persuasive in arguing that "it pays" to conserve nature as an essential base for a successful tourism industry. The preservation of the scenery and tropical atmosphere in the "South Seas" or the wildlife in East Africa became vital economic considerations for these countries (Mascarenhas, 1971).

Nature tourism has encouraged the establishment of some protected areas. Properly promoted, nature tourism can help safeguard protected areas in several ways. At the local level, revenues (if retained locally) give communities an incentive to respect the protected area. National governments, while also interested in these revenues, can increase the benefits the country receives from actions such as protecting a watershed by making the area available for nature tourism.

Nature tourism can also make significant contributions to the national economy and vital resources. The mountain gorilla preserve in the Virunga Mountains provides another similar example. The Parc des Volcans in Rwanda was initially created at the instigation of Dian Fossey to protect the endangered gorillas from poachers as well as local farmers. The scarcity of farmland in Rwanda meant that farmers were increasingly forced to clear higher and higher up the hillsides of the volcano, destroying the habitat of the gorillas and ruining the watershed that they themselves rely upon for agriculture. The creation of the park saved the gorillas, protected the watershed, and safeguarded agricultural production. Now an international attraction, Parc des Volcans has also become the third largest source of foreign exchange for Rwanda.

The national parks of East Africa exemplify natural areas developed almost exclusively for their ability to attract international tourists and thereby contribute to the foreign exchange earnings of the country (Dasmann, Miller, and Freeman, 1973). Kenya receives more than 600,000 visitors annually who travel to its 15 national parks and its 19 game parks and marine reserves. Even the United States experiences such benefits; a number of U.S. parks (i.e., Yosemite, Grand Canyon) are prime destination points for foreign visitors (Manning, 1980). Foreign exchange earnings of U.S. parks for 1986 have been estimated at over U.S. \$3.2 billion (Heyman, 1988).

Another potentially important aspect of nature tourism is that it may be a good "add-on" feature for visitors. For example, tourists who primarily want a "sun and surf" vacation may extend their visits for two to three days for nature tourism. Business travelers may also be willing to add days to their trips for a unique vacation. The Yucatan has tremendous potential to lure people from the beaches to archeological ruins and rainforests. Costa Rica offers good opportunities for visitors to go to Poas and Irazú, two national parks on volcanoes. The

economic value of two to three additional days per tourist, per trip, could be significant in many countries.

In its contributions to national economies, tourism is thought to be beneficial in several ways, especially: increasing foreign exchange earnings and subsequently improving the balance of payments, expanding the service sector and subsequently generating employment over a wide range of skill levels, and attracting investment capital for infrastructure development.

Strong management plans have helped to ensure sustainable volumes of tourism to Serengeti National Park and others in Kenya. The sustainability of tourism to Kenya has made it possible for the government to obtain financing for its game parks on the same basis as for any other economically viable development project (Davis, 1987).

According to Pearce (1981), the development of tourism offers three opportunities for expanding an economy at relatively little cost: (1) tourism is a growth industry and therefore is highly desirable for the economic development of any country or region; (2) the tourist market comes to the producer and is relatively unprotected; (3) tourism can represent a diversification of the economy. In the case of protected areas, we can add a fourth point to this list: (4) since tourism to protected areas tends to occur in peripheral and non-industrialized regions, it may stimulate economic activity and growth in such isolated rural areas.

2. Drawbacks of Nature Tourism at the National Level

Nature tourism shares many of the negative characteristics of traditional tourism.¹ Most significant among these is that tourism is an unstable source of income, influenced by a variety of factors beyond the control of the country. These "external" factors increase in importance as tourism absorbs a larger market share of the economy. The most potentially damaging

¹ One important caveat, however, is that there are few statistics available in many developing countries regarding tourism; data on nature tourism are even scarcer. Although many of the characteristics of tourism and nature tourism may be similar, significant differences may exist as well. This discussion highlights significant hypothesized differences between the two.

external factors are political instability, bad weather, and international currency fluctuations.

Political stability within and around a country is an important factor in influencing travel to the region although it may influence people differently. Tourists considering a destination such as Costa Rica may be reluctant to travel there because of political problems in Nicaragua and Panama. On the other hand, tourists may seek a place like Costa Rica as a peaceful country in the midst of a troubled region. In either case, political stability may greatly affect tourism flows.

Healy (1988) shows that tourism to Guatemala dropped off during the early 1980s, when guerilla activities and military repression were pervasive. Since Guatemala's return to civilian rule in 1986 and the subsequent reduction in political violence, tourism has again increased.

Weather can greatly affect tourism, especially nature tourism. Three of the countries studied--Costa Rica, Dominica, and Mexico--have suffered ravaging hurricanes during the last decade. On the other hand, poor weather in the tourist's place of origin may make travel to other countries more likely. Whenever winters get particularly harsh in the northeastern United States, higher numbers of tourists flock to the warmth of the Caribbean.

Finally, as with many other activities that involve "trade" of one form or another, tourism can falter when exchange rates fluctuate. How the dollar stands up to the yen or deutschmark or British pound or Mexican peso can dramatically affect the purchasing power of consumers, and hence what type of foreign vacation they "purchase." If the dollar is weak against the pound but strong related to the peso, the tourism industry is quick to channel summer trips away from Britain and into Mexico. Latin American destinations are generally "good" values relative to the dollar, yet are still highly subject to fluctuations.

Success can quickly become too much of a good thing, especially with nature tourists. Since enjoyment of the travel experience may depend largely on the tourist's feeling "away from it all," destinations where many people are visiting without sufficient "space" can see a downturn in business. This can also happen if the environment becomes degraded as a result of tourism. A report by the Organization for Economic Cooperation and Development (OECD, 1980) concluded that there is enough evidence to support the assertion that "tourism destroys tourism" in certain regions.

Although tourism does bring in foreign exchange, large expenditures for imports may be necessary as well, especially for amenities such as oil for the transportation needs of tourists.

A variety of expenditures may be necessary to support tourism: the repatriation of profits made by foreign companies investing into hotels, restaurants, etc.; costs and interest on infrastructure investments; imports of consumer goods, food, beverages, costs of promotion and advertisement abroad, etc. Thus, while valuable foreign exchange may be brought in, much may leave the country as well. These costs are known as "leakages"-money that leaks out of the country.

Nature tourists are generally more accepting of conditions different from home than are other types of tourists. In many cases, nature tourists do not expect accommodations, food, or nightlife that meet the standards of comfort or luxury held by other groups of tourists. For many nature tourists, living with the local conditions, customs, and food may even "enrich" their vacation experience. For these reasons, nature tourism may result in fewer leakages than traditional tourism. However, while nature tourists are less demanding in terms of accommodation standards, they are more demanding in seeking information sources about their destinations. Nature tourists want to read material and learn from tour guides about the flora and fauna of the area.

Large-scale international tourism development has been found to be far less economically beneficial than generally has been claimed, although good statistics are still lacking. World Bank estimates are that 55 percent of gross tourism revenues to the developing world leak back out (Frueh, 1988). Estimates for countries with a weak natural resource base are even bleaker, at 80 to 90 percent leakage. The less developed the local economy is (i.e., the fewer goods there are to purchase locally), the greater the leakage (Mathieson and Wall, 1982).

Encouraging high-volume international tourism requires adequate coordination at the national level. Both general tourism and nature tourism require investment in and maintenance of infrastructure: airports, ground transportation, lodging, communications, and the bureaucracy to maintain these facilities. Investments in water and sanitation are often necessary to ensure the health and well-being of tourists. While nature tourists make greater use of rural or outlying facilities, they need the same basic infrastructure that other tourists need prior to their departure for such areas.

Many of these investments represent significant expenditures for governments; on the other hand, these are precisely the projects often pursued by Latin American countries during the 1970s prior to the debt crisis. However, large-scale investments to attract people can be a risky use of foreign exchange.

While many countries receive high revenues from tourism, few countries derive a significant proportion of the national income

from nature tourism. "Outdoor" tourism is important to many countries such as Mexico and Portugal, and islands ranging from the Caribbean to the Seychells. Yet most of this tourism is beach tourism rather than nature tourism. While countries like Kenya, Rwanda, Tanzania, South Africa, and Ecuador have received significant economic benefits from tourism to parks, they are exceptions to the general pattern of non-integration of parks into the national economies of tropical countries (Sournia, 1986).

One drawback of tourism is that it may be highly seasonal, resulting in problems paying for capital investments (hotels, cars, etc.) made to support it. Seasonal Tourism also means that much of the labor force will be only seasonally employed. Depending on what other opportunities are available for employment, this may or may not be desirable. In rural areas, for example, nature tourism that coincides with peak harvest times could cause a labor shortage. However, if tourism is a complement to agriculture, and peaks primarily in the off-season, then it can be extremely beneficial. Fluctuations in employment are more of a problem in urban areas where stable employment throughout the year may be almost as important a consideration as actual earnings from the job.

It is inefficient and costly to have equipment lying idle during parts of the year, just as it is economically wasteful to have high vacancy rates for hotel rooms, unused cars at rental agencies, and other unused capital equipment that supports tourism.

3. Conclusions

At the national level, there are two ways in which countries can encourage the expansion of nature tourism. The first is to begin a campaign to lure tourists to the country specifically for nature tourism. The second strategy, which is less risky, is better for countries that already have higher levels of tourism. These countries can promote nature tourism as an "add-on." Promoting nature tourism activities to tourists who venture to countries for other reasons may be easier than developing a completely new market.

Although nature tourism can make a significant contribution to national economies, planning is necessary to ensure that the majority of impacts are positive. It may be easier to minimize economic leakages with nature tourism than with other types of tourism. It is also important for countries to manage the resource base for nature tourism carefully; too much growth can lead to diminishing social and economic returns.

Regional and Local Impacts of Nature Tourism

Regional or local level tourism is tourism that is not of a scale to affect national budgets, but that is of large enough volume to have a significant impact on the surrounding area. Tourism at this scale may be important to a country as part of a regional development scheme, but it is not indicative of a country-wide emphasis on nature tourism.

One example of regional tourism is the development of the Yucatan Peninsula in Mexico. The Mexican government made a strategic decision to develop the infrastructure for, and promote tourism throughout, the region. Although the type of tourism initially targeted was focused on beaches, shopping, and nightclubs, there has been an increasing emphasis on developing the Mayan ruins and wild areas for tourists, especially since these are easy day trips from the major hotel areas.

An example of local-level tourism i.e., tourism that affects the local economy, land use patterns, and employment--is that of Hol Chan Marine Reserve in Belize, which is having a tremendous impact on the nearby city of San Pedro.

The impact of any type of tourism on an area is the result of the scale of the tourism and the existing activities in that area. As with tourism at the national level, regional impacts in some areas may be more significant than what would be considered "national" level impact in another. Many of the benefits and negative impacts resulting from tourism and nature tourism at the regional and local levels are similar to those that occur at the national level. However, in many cases, local economies may become very closely tied to the fluctuations in tourism. Whereas a national economy generally is more diversified, people at the local and regional levels may have few other options. Traditional rural activities, such as agriculture, logging, and hunting, may be limited precisely because of park or protected area development.

Although creation of these areas may be justifiable from economic and ecological perspectives, they often conflict with the immediate needs of local populations, who suddenly witness the closing off of areas and activities to which they have traditionally had access. Despite this, there are both benefits and drawbacks from tourism at the local and regional levels.

1. Economic Studies of Regional and Local Impacts

A wide variety of studies have been undertaken to justify the value of a specific park or protected area to the regional or local economy. While few of these studies have been conducted in Latin America, the majority to date suggest that parks are

economically viable. It is important to point out that the parks that tend to be studied are those with a sufficient volume of tourism to attract attention. This section reviews some of these studies and draws parallels to the Latin American experience.

Several methodologies have been developed to study parks with wildlife in order to justify their existence from an economic viewpoint. These have demonstrated that wildlife "can pay wildlife," meaning that wildlife, when preserved, may have even greater economic value than when actively consumed.

An economic model developed for Amboseli National Park in Kenya estimated values for living animals in the park (Western, 1982). Each lion's gross monetary value was given at U.S. \$27,000 per year in tourism revenues, while the entire elephant herd was estimated to be worth about U.S. \$610,000 per year. It should be understood that both estimates were projected solely as a valuation of non-consumptive viewing activities and did not include any hunting or other utilization of the animals. The author extrapolated this economic comparison a step further, contrasting the park's estimated net value for wildlife viewing (U.S. \$40 per hectare) with potential agricultural activities, which, using the most optimistic results, would yield only U.S. \$0.80 per hectare.

Another study of Amboseli wildlife resources in 1972 calculated that the park's wildlife, being the main attraction for tourists, could produce an annual income 18 times greater than if the park were used for the production of beef, assuming optimal development and commercialization of both industries (Western and Henry, 1979; Western, 1984).

These studies are for parks with "big game" or "spectacular species." The attraction of many parks in East Africa is the extensive number of large and well-known animals, such as lion, cheetah, elephant, and rhinoceros. In contrast, few of the parks in Latin America have fauna that are as well known. Several parks in Belize have jaguar, but the species is elusive and not likely to be seen by tourists.

Most parks in Latin America can be experienced only by becoming part of them, walking through them, to observe the overwhelming diversity of plant and insect life, or to enjoy rare sights such as the eeriness of a cloud forest. In contrast, most East African parks require that visitors remain inside of vehicles for their own safety.

Economic studies with less of an emphasis on wildlife have been done as well. A cost/benefit analysis by the Virgin Islands National Park (VINP), done by the Island Resources Foundation (1981), developed a different analytical tool. Costs included direct costs, specifically operation and maintenance, and

indirect costs, including interest on federal investment in VINP properties and taxes lost on property removed from local government rolls. Parameters of direct benefits were the outlays of VINP and its concessionaires in the local economy. Indirect benefit parameters were the imputed benefits from VINP impact on tourism, imputed benefits from VINP on the boat industry, and imputed benefits of increased land values on St. John as indicators of increased economic growth. The total benefit/cost ratio based on all direct and indirect costs of VINP was calculated at 11.1 to 1.

In general, reliable socioeconomic data on parks and protected areas are simply not available. National tourism statistics, national park service data, and data banks operated by IUCN's Conservation Monitoring Center, the Man in the Biosphere Program, and the Nature Conservancy International, include very little economic information on protected area tourism.

One recent study warns against excessive emphasis on the economic value of parks, arguing that this would lead to the belief among decision-makers that parks exist primarily for economic profit (Sayer, 1981); if tourism to a park then does not fulfill economic expectations, tourist activities could be replaced by other economic activities, often not advantageous for conservation, such as agriculture or cattle ranching.

2. Benefits of Nature Tourism at the Regional and Local Levels

The international conservation community has increasingly come to view conservation and preservation as politically defensible, particularly if protected areas can provide economic assets for the local people (Cohen, 1978). Tourism can be a viable economic alternative for rural populations in dire need of income and can slow the depletion of forest resources due to firewood collection and short-lived agricultural development.

A study by Monfort and Monfort (1984) uses an opportunity cost approach to justify the creation or maintenance of protected areas based on the fact that any other land use or wildlife use would not be economical for that region, thus putting a qualitative label on the park's "right" to exist. The study found that, for the Aakagera region in Rwanda: (1) poor soils and unpredictable small-scale climatic variations (parts of the park receive only 400-500 mm of rain per year) would not adequately support agriculture for the human population; (2) tourism generates revenues and employment; and (3) conservation is necessary for the preservation of natural resources. The authors believe that qualitative approaches can show the value of

preservation and that elaborate economic models using hard-to-quantify data may be unnecessary.

Studies by the Organization of American States (OAS) of marine parks in Jamaica, St. Vincent, and the Grenadines indicate that these parks are economically viable (O'Callaghan et al., 1987, Heyman et al., 1988).

Just as there can be "leakages" from the national economy, regions can also lose money if too many of their resources are devoted to importing tourism supplies. Tourism best aids the economic development of a region through use of as many local materials, products, and people as possible. Saglio (1979) describes a unique tourism development project in West Africa that emphasizes simple accommodations built of traditional materials and managed by local people. This highly successful project not only required little capital investment, but also attempted to include the local economy in all tourism activities, such as the provision of canoes for transportation and the preparation of meals planned around local products and traditional cuisine.

A similar approach was used in the Kuna Wildlands Investigation Project in Panama, designed by Centro Agronomo Tropical de Investigación Enseñaza (CATIE) and supported by several binational and multinational funds (Houseal et al., 1985). The multidisciplinary project included a tourism component and used local architecture and materials, with emphasis on energy self-sufficiency and sustainable resources use. Kuna Indians guide and educate visitors about the tropical forest and about their own relationship to the land. They receive revenue from the sale of handicrafts to tourists. The project is hoped to serve as a model to demonstrate the benefits of natural resource management.

Both of these examples illustrate the practical application of the World Conservation Strategy mentioned earlier (IUCN, 1981; Tisdell, 1983, 1984). This strategy emphasizes that, in addition to economic benefits at the national level, local communities need to share any gains from these conservation measures to ensure their success.

3. Drawbacks of Nature Tourism at the Regional or Local Levels

Sayer (1981) describes the paradox surrounding the relation between national parks and tourism. His study on national parks in Benin demonstrated that, although tourism was expected to provide income for the park and the local population, it failed to do so because its current impacts on the local economy are too small and revenues inadequate to pay for managing and protecting the area. For every park that functions as a profitable tourist attraction, there are hundreds that do not because they are either too remote, not truly protected and managed, and/or have little infrastructure that would encourage visitors to spend money on the local economy.

In several countries, large regional areas combine unique opportunities for tourism with protected or managed area status. There are several such areas in Nepal, notably the Annapurna National Park and the Sagarmatha (Mt. Everest) National Park. Tourism to Nepal has increased to unexpected levels during the last few years. The annual increase in trekking alone in Nepal is about 17%. Until 1965 annual tourist arrivals in the whole of Nepal remained below 10,000. Since then, the number has risen rapidly to more than 110,000 in 1978, and to 240,080 in 1987.

In both Annapurna and Sagarmatha, trekkers are utilizing the natural resources available in an unsustainable way. Tree cutting for firewood has caused serious environmental problems. The deforestation problem was aggravated by the fact that sale of firewood had become a lucrative business for the local population (Jeffries, 1982; Hinrichsen and Lucas, 1983). In the Annapurna Range, the new demand for fuel and timber by lodge operators and trekking groups has raised the tree line several hundred feet. Few trees are left within the Annapurna Sanctuary itself, only shrubs and stumps. The grove of moss-hung birches, which has long shaded the entrance to the sanctuary, is getting smaller each trekking season.

Unplanned development of facilities has created problems as well. In Annapurna, at elevations of 6,000 to 10,000 feet, entire ridges which only five years ago were cloaked in rhododendron (Nepal's national flower), are barren. Large areas, especially along the lower gorge trail, have been clear-cut to build and fuel lodges.

Trekking off of trails (off-trailing) causes deterioration of the vegetation. With more tourists hiking in both regions, this has increasingly become a problem in certain areas. A visible problem is the litter left by

trekkers, in part a result of the large volumes of canned and packaged goods used by trekkers and climbing expeditions. Another problem is the total lack of toilet facilities along the trails. In this environment the soil is too shallow for burying waste; many bottles and cans are not biodegradable, so the refuse will persist. There is an urgent need to regulate the disposal of trash.

Wildlife in certain areas of Nepal has fared no better than forest. Hunting pressure has been increased by the appeal of the new profits to be made selling game to lodges. Populations of the most popular game animals--goral, tahr, pheasant, and hog deer--are declining. Deforestation is destroying the remaining habitat of the musk deer and the rare Himalayan red panda and snow leopard (Stevens, 1988).

Tourism may result in extensive detrimental impacts such as loss of habitats, killing of wildlife, over-fishing, water pollution, obliteration of geological and marine life features, and other ecological problems. These effects can occur in parks or protected areas, yet they can frequently spill over into the surrounding community. This is demonstrated in a 1971 study that focused on the Great Barrier Reef on Green Island in Australia, where the life of the reef has been damaged by the impacts of excessive numbers of visitors (approximately 80,000 per year) and the souvenir industry (Clare, 1971).

As a resort's attractiveness declines, frequently as a direct result of tourism, tourists move on to new sites, sometimes leaving behind polluted beaches, a disillusioned local population, and a devastated local economy. In the case of a protected area, this situation can also imply the end of the protected ecosystem.

Increasingly, the need to integrate planning for parks or protected area activities into the larger development plans for a region is being understood. In areas where new parks or protected areas are being developed, local residents frequently are cut off from access to resources upon which they have depended for their livelihood. Even worse, people who are entitled to use the facilities are national or international residents who have the time and means to be tourists. If local people do not receive some benefits from tourism, there is often conflict with local park officials.

Western (1976, 1982a) suggests the integration of people, wildlife, and land as a solution to conflicts threatening the national parks of Amboseli. He proposes a 15-year program of multiple-use management that includes inputs from landowners surrounding the park. Management plans include establishment of the park's headquarters

outside the protected area, and a community center for both park employees and local farmers.

4. Conclusions

Proper planning is necessary to achieve maximum benefits at the regional and local level and to mitigate the detrimental environmental and sociocultural impacts in various parks. Gorio (1978) considers competition for resources to be at the root of most conflicts that arise between local people and conservationists when a park is being created. Using a case study in Papua New Guinea, he explains that such conflicts can be avoided when the local people play an integral role in selecting and managing protected areas.

It is easier for nature tourism to operate successfully at the local and regional levels. Because the scale of operations is smaller than at the national level, parks can become a source of local or regional pride, employment, and revenue for rural economies. However, these positive impacts rarely materialize without careful management.

Impacts of Nature Tourism at the Park Level

For purposes of the discussion here, park level impacts refer to those that occur within the boundaries of the park. Typically, one important benefit is ecosystem preservation, with the concomitant protection of wildlife. In many cases, at the regional and local levels, nature tourism will have both positive and negative park-level impacts.

1. Benefits of Nature Tourism at the Park Level

Nature tourism to a park can have a number of positive influences. Generally, parks with a moderate to high volume of tourists will have more revenue than parks with a low volume of visitors. This higher level of funding may be used to undertake basic ecological studies and to develop and implement park management plans. There is likely to be a greater emphasis on interpretive activities as well, both for nature tourists and for the local communities.

Parks with a higher level of tourism, although subject to increased stress by tourists, may benefit from the improved management and protection they receive. The presence of tourists in parks is equally important. Tourists in some cases may act as "informal rangers" providing useful

information to park managers concerning encroachment into the park, poaching of wildlife or collection of flora, deforestation, or changing ecological conditions, such as fires.

There are increasing numbers of nature tourists who enjoy participating in some aspect of park improvement during their stay. This may involve helping with trail repair, litter collection, censusing of animals, etc. Parks with many visitors are likely to have better information on the diversity of species and the habits of these species.

Certain groups of tourists may become "attached" to a particular park. For example, research on tourism in the Third World by U.S. tour operators describes birding tourism as a specialized form of travel with a well-targeted clientele. Most tour operators interviewed for this study frequently visit parks and preserved areas during their excursions. The study found that many U.S. tour operators offering birdwatching tours contribute funds to the conservation and maintenance of natural areas in the developing countries (Takahashi, 1987).

Parks with a higher volume of visitors are also more likely to offer a greater variety of occupations to park staff, particularly in wildlife management and human resource development. This generally enhances opportunities for training and increases long-term career incentives for park staff.

2. Drawbacks of Nature Tourism at the Park Level

The negative aspects of nature tourism within parks are better known and more obvious than the benefits. Within a park, what is successful financially may lead to ecological stress. It may sometimes be difficult to maintain a sustainable number of visitors and satisfy the economic needs of national governments, local populations, the parks department, and tour operators.

A recurrent theme in park management studies is the establishment of a carrying capacity parameter. For recreational sites, carrying capacity is best defined as "the estimated level of visitor use an area can accommodate with high levels of satisfaction for visitors and few negative impacts on resources" (McNeely and Thorsell, 1987). It must be evaluated in both ecological and aesthetic terms.

Ecologically, carrying capacity has been reached or exceeded when changes occur in animal behavior (e.g., outmigration, changing nesting patterns); when the number of

animals is reduced, sometimes up to species extinction; and when there is erosion of paths, degrading of water quality, and low availability of firewood. The reaching of carrying capacity may be perceived by visitors as an aesthetics problem: too many visitors destroy an area's image as "wilderness" and thus make it less attractive to nature tourists; visible environmental deterioration triggers a similar reaction.

The difficulty in establishing a carrying capacity for a protected area lies in the fact that it is simply not possible to determine an absolute empirical optimum and that it cannot be gauged by the point of marginal returns. Once the carrying capacity has been reached, it may already be too late for the ecosystem. Hence, most current approaches--such as that used in the Galapagos Islands--estimate or anticipate tolerable levels of visitation, which are then used as controlled management guidelines (Wolbrink and Associates, 1973). The parks are then managed (Ehrlich and Veccaro, 1972) to restrict uncontrolled growth of tourism.

Ecological impact studies on Amboseli National Park in Kenya found the main problem to be crowding and concentration of visitors in a small area at specific times. This resulted in severe stress on the cheetah and lion populations, unnecessary habitat destruction, and deteriorating visitor satisfaction (Kumpumunta, 1979; Western, 1984). To correct this problem, the carrying capacity for Amboseli, for instance, was established on the basis of an estimate of the park's vehicle capacity, since vehicles constituted the principal mode of transportation for tourists. The estimate, which was based on park size, desired level of vehicle density, and assumptions about visitor behavior and preferences (Henry, 1980), gave a possible capacity of 95,000 vehicles per year (Western and Thresher, 1973).

The visitor carrying capacity of a park can be increased through a number of management procedures, such as encouraging wet or off-season use; increasing the durability of heavily used resources such as surfacing materials; providing adequate information and interpretation services; and designing viewing tracks, trails, boardwalks, etc. (McNeely and Thorsell, 1987). Studies to document the needs of visitors to an area are also essential in planning for the future.

A tourist trekking survey was used as the basis for an alternative approach to park planning in Sagarmatha National Park, Nepal (Bjonness, 1980). The survey gave information on trekkers' movement patterns, composition of tour groups, length of treks, spending patterns, and employment

generation; to these data were added information on firewood consumption, sociocultural impacts, and environmental impacts.

The results of this survey led to a recommendation to include Sherpas in park decision-making, as well as in park administration and management. It was proposed that they would be able to contribute to the development and management of plans that would restore the ecological balance and ensure self-reliance and self-sufficiency of the local communities in terms of food and income.

A subsequent management plan had as its short-term objectives (1) defining the carrying capacity for tourists within the park, and (2) control of the tourists' impact on the natural environment. It also included the implementation of various small-scale projects such as cottage industries to ensure the maximum economic participation of the local population.

Table 1 shows the potential environmental impacts of tourism to protected natural areas:

Table 1.

**EXAMPLES OF NEGATIVE ENVIRONMENTAL IMPACTS
OF TOURISM TO PROTECTED NATURAL AREAS**

FACTOR INVOLVED	IMPACT ON ENVIRONMENT	CONSEQUENCE	EXAMPLE
Overcrowding	Environmental stress, changes in animal behavior	Reduction in quality, trail erosion	Amboseli (Kenya) Contoy (Mexico) Galapagos (Ecuador)
Noise	Disturbance of natural sounds	Irritation to wildlife and other visitors	Poas (Costa Rica)
Powerboats	Disturbance of wildlife, noise pollution	Vulnerability during nesting seasons	Rio Dulce (Guatemala)
	Discharge of oil/grease	Contribution to contamination	
Litter	Impairment of natural scene	Aesthetic and health hazard	
Careless use of fire	Forest fires	Scarring of landscape, erosion	Sumidero (Mexico)
Firewood collection	Small wildlife mortality, habitat destruction, deforestation	Ecological changes, erosion	Sagarmatha (Nepal)
Feeding of animals	Behavioral changes of animals	Dependence on steady food supply	Galapagos (Ecuador)
Souvenir collection	Removal of natural attraction, disruption of natural process	Depletion, death of reef	Great Barrier Reef (Australia)
Untreated sewage discharge	Change in water acidity, groundwater pollution	Eutrophication, odor, increased oxygen level	Bojorquez Lagoon, Poas (Costa Rica)
Roads and murrum pits	Habitat loss, natural scars	Aesthetic scars	
Drainage	Mangrove destruction		Bojorquez Lagoon

Source: Partially adapted from Thorsett, 1982

Chapter Summary

The literature on nature tourism indicates that there is a wide variety of potential impacts at several different levels. Impacts, both positive and negative, from nature tourism can occur at the national, regional, or local levels. Studies indicate that the secret to minimizing negative impacts is sound management and planning for the growth of these areas and for the potential impacts incurred by nature tourism.

CHAPTER 3

A COMPARISON OF THE STATUS OF NATURE TOURISM IN BELIZE, COSTA RICA, DOMINICA, ECUADOR, AND MEXICO

Nature Tourism at the National Level

Each of the five countries selected for this study has designated substantial amounts of land as protected areas. The extent and importance of nature tourism to these areas, however, has received little systematic attention. Throughout the course of the present study, it became clear that the countries differ greatly in their international recognition, the participation of tourists in tourism to their protected areas, the government's support of tourism, and the overall status of development.

Mexico is by far the best known international tourist destination of the five for tourists in general, with 5 million tourist arrivals per year. On the other hand, Belize and Dominica, which are still in their infancy regarding tourism, receive slightly over 55,000 and 30,000 tourists per year, respectively. Costa Rica and Ecuador both show annual visitor arrivals over 260,000.

Although Mexico certainly is the "giant" of the five in international tourism, most of its tourism is not nature-oriented. This indicates that there may be significant potential for Mexico to expand its tourism industry in two ways. It can become better known for some of its remarkable nature sites (e.g. Monarch Butterfly Reserve) and attempt to attract more nature tourists, and/or it can induce more "general" tourists to lengthen their trips by adding a nature tourism dimension.

Ecuador is much better known as a nature-oriented destination, primarily because of the Galapagos Islands. The leaders in Ecuador's tourism industry have decided to focus less in the future on promoting the Galapagos Islands, since they virtually "sell themselves." Both government and private sector will aggressively promote the much less known interior of the country, the Andean mountains, and the Amazon Basin, especially as an "add-on" to nature tourists destined to the Galapagos.

Costa Rica does not have a "magnet park" or attraction, but offers good infrastructure to visit a variety of ecosystems in a short period of time. Costa Rica's effort to become internationally known as a tourist attraction is fairly recent and was initiated in the country's private sector by tour operators. By the late 1980s, however, it was a well-accepted fact that nature-oriented tourism would receive high priority,

in both promotion and planning, from the government as well. However, concrete governmental actions, such as eliminating legal obstacles, offering more tax incentives for the nature-oriented tourism sector, and coordinating efforts of the National Park Service and the Costa Rica Tourism Institute, still must be taken.

Of the five countries studied, Belize and Dominica have the least developed tourism industries. Although many natural areas in these countries are used by residents, they have not been "discovered" by international tourists. This may change. Cruise ships do stop in Dominica, and Belize is becoming well known among scuba divers. Both the public and private sectors in Dominica have decided to capitalize on their country's nature potential, and Belize is also turning in this direction. In Belize and Dominica, there has been relatively little interest in establishing legal protection for natural areas and parks, although this situation seems to be rapidly changing.

In addition to international tourism to protected areas, internal tourism within Mexico, Costa Rica, and Ecuador is increasing. Visits to national parks by the upper and middle classes is especially common on national holiday weekends or as a "picnic" type of outing. This kind of tourism may not be significant on a national scale but may have a major impact at the local or regional level.

Informal airport surveys conducted as part of this study provided some preliminary evidence on the importance to tourists of natural areas and activities. These surveys were conducted during both the high and low tourist season in each country. Although they do not provide a statistically significant sample that can be used to generalize to all tourists visiting those countries, they do provide specific information about the opinions and activities of those surveyed.

In order to determine the importance protected areas have in attracting tourists to each country, tourists were asked to define how important the country's protected areas were in their decision to visit.

The results indicate that all countries have clear divisions among tourists who may visit because of the protected areas and tourists who have other reasons for visiting. However, it is important to remember that even among tourists who may say that protected areas did not influence their decision to visit the country--business travelers, for example, or those visiting relatives--protected areas may still be an aspect they value and enjoy when visiting the country.

With the exception of Dominica, over 40 percent of those interviewed in each country declared that protected areas were

"main reason" or "important" when they made their decisions (Belize, 46 percent; Costa Rica, 41 percent; Dominica, 25 percent; Ecuador, 65 percent; and Mexico, 42 percent as shown in Table 2.)

Table 2.

IMPORTANCE OF PROTECTED AREAS FOR INTERNATIONAL VISITORS WHEN CHOOSING THE COUNTRY AS A DESTINATION					
	PRIMARY	IMPORTANT	SOMEWHAT	NOT	N.R.
	%	%	%	%	%
Belize	8	36	29	23	4
Costa Rica	14	27	17	36	6
Dominica	13	12	25	35	15
Ecuador	52	13	14	17	4
Mexico	24	18	18	38	2

Source: WWF Airport Surveys, 1988

The Costa Rica, Dominica, and Mexico surveys indicate that protected areas are unimportant to nearly 40 percent of visitors. Most of these respondents were family visitors, business visitors, or "sun and beach" tourists. Nevertheless, the fact that over 60 percent of all respondents gave some degree of importance to national parks shows the appeal protected areas have for tourism.

Tourists were also asked their reason for choosing the country. Multiple responses were permissible so the percentages shown in Table 3 for all categories do not equal 100 percent.

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Table 3.

REASONS FOR SELECTING THE COUNTRY
AS A TRAVEL DESTINATION

REASON	TOTAL N (N=436)	PERCENT
Natural history	167	38.3
Sightseeing	161	36.9
Visiting friends and/or relatives	132	30.3
Sun, beaches, entertainment	130	29.8
Cultural/native history	102	23.4
Business/convention	87	20.0
Archeology	63	14.4

Source: WWF Airport Surveys, 1988

Although tourists may have had multiple reasons for choosing the destination, natural history was, overall, the most frequently cited determinant of tourism to a country. For individual countries, it was the highest ranked factor in Belize and Ecuador, and tied for second place with the sun/beaches/entertainment category in Costa Rica. In Dominica and Mexico, it received low (5 and 7) rankings.

Mexico is less known for its natural attractions than for its historical, cultural, and beach attractions. Although Dominica bills itself as a "nature island," many tourists primarily come to visit family and friends. This table clearly indicates the importance of focusing promotional activities and tour offers on natural history.

For the five countries surveyed, 58 percent of the tourists could name one park or protected area that they had visited. Of that group, 28 percent had visited two parks and 13 percent had visited three. These numbers indicate that a high percentage of international tourists, no matter what reason they give for visiting the country, visit parks. For the individual countries, the visitation rate to parks is shown below.

Table 4.

INTERNATIONAL TOURISTS WHO VISITED PROTECTED AREAS		
COUNTRY	NUMBER SURVEYED	PERCENTAGE OF TOURISTS WHO VISITED PROTECTED AREAS
Belize	99	64
Costa Rica	104	54
Dominica	83	41
Ecuador	79	75
Mexico	71	55

Source: WWF Airport Surveys, 1988

Of the 75 percent of tourists who visited parks in Ecuador, most (90 percent) visited the Galapagos Islands but did not visit other parks. This illustrates the magnetic attraction of the Galapagos as well as the relatively unrealized potential of the rest of the Ecuadorean park system. In Costa Rica, many respondents visited not just one but several parks. In Dominica, Belize, and Mexico, many widely varying parks and protected areas were visited.

The survey result for Mexico has a strong bias, since over 46.2 percent visited Mexico City's park, Chapultepec. The remainder visited historical protected areas such as Teotihuacan, Chichen Itza, Tulum, and Uxmal.

In summary, the airport survey suggests that nature-oriented tourism is an important factor in the decision of some tourists to visit the particular countries. Tourists to Belize, Ecuador, and Costa Rica are most likely to have nature tourism as one of their priorities in choosing a travel destination.

1. Government Policies and Management of Nature Tourism

Despite the importance of parks and reserves for tourism, many countries are only now beginning to explicitly promote policies or projects that encourage nature tourism to protected areas. National tourism plans and policies, in general, focus on traditional tourism. The importance of nature-oriented tourism is however, becoming apparent, and countries are beginning to respond.

Costa Rica is now including this type of tourism as one of its priorities, although few definite steps have been taken. In

both Costa Rica and Ecuador, the various groups interested in nature tourism (government, tour operators, hotel owners, etc.) are each waiting for the other to act and develop specific plans. What is needed is an interagency committee on tourism to protected areas that includes all facets of nature-oriented tourism. Such tourism certainly cannot be solely developed by the ministry or agency of tourism or by the national park service. Action also needs to be coordinated with other government ministries, such as those for planning and statistics.

Belize, currently working on its first national tourism plan, will definitely focus on its natural attractions. Implementation could be difficult, though, since the country lacks a national park service and its protected areas are currently administered by the Belize Audubon Society.

The government of Dominica has specifically stated that it wants to attract the nature-oriented tourist who appreciates the nature and the smallness of the island and who does not seek nightlife, casinos, and international hotel chains. However, better coordination will be necessary before the volume of international nature tourism can be increased. For example, national park service personnel and their presence in the parks will have to be increased.

Nature-oriented tourism in Mexico has not been a high priority of that country's Ministry of Tourism. The country has been highly successful as a cultural and sun and beach destination, and it would be a matter of product diversification for the Mexican tourism industry to promote its natural attractions. Again, cooperation at the level of the various ministries and secretariats is lacking.

In addition to more aggressive promotion, improved internal management and financial incentives are needed in Mexico, Costa Rica, and Belize. In each country, the Ministry of Treasury takes control of the revenues collected by the parks and protected areas. Treasury department administrators then decide on how much money should go back to the park system, which in turn channels the funds back into each park. This system does little to encourage local park personnel to participate in tourism development since their park "pays" for national financial needs and for other parks but may receive few of the benefits.

2. Marketing and Promotion of Nature Tourism

Promotional activities for tourism to protected areas are not well advertised, with the exception of travel advertisements in natural history magazines. In the promotion of nature

tourism, with the exceptions of the Galapagos Islands and recent efforts by tour operators in Costa Rica, the countries have generally failed to attract the attention of the international travel market. Ecuador has been unable to capitalize on the attention given to the Galapagos and expand its mainland tourism.

In most of the countries, there is a lack of tourism promotion in general or of nature tourism in particular. Mexico is the exception. It has virtually monopolized the North American tourist market and has received widespread attention from travel organizers, magazines, and newspapers.

There are several possible explanations why these countries have been overlooked. The major factor is clearly their own failure to promote aggressive marketing tactics. Yet there are other reasons that have less to do with the countries than with potential tourists. Among these is geographic illiteracy. For example, many people in the United States still have difficulties spelling the word "Ecuador," (Laarman, 1987) and few could find it on a map. The general public in both Europe and the United States does not know that countries named Belize and Dominica exist, while Costa Rica is sometimes associated with the Central American political turmoil, which negatively impacts tourism.

Tourism agencies and ministries in the countries surveyed complain about the lack of adequate funds for promotion and marketing. Most current contacts and advertisement are done through the connections of private operators who have their counterpart agencies in the United States or Europe. Interviews in each of the countries indicate that the lack of promotion is recognized by all five countries as a hindrance to selling its tourism "product" (Frueh, 1988).

Dominica is now developing postcards and promotional tourism material. Belize is currently evaluating the type of tourism it wants and will need a strong promotional campaign. Ecuadorean tour operators are increasingly promoting mainland Ecuador internationally, trying to persuade Galapagos tourists to spend one or two additional weeks in the Andes or in the Ecuadorean Amazon.

3. Measuring the Levels of Nature Tourism

Few of the countries in the study collect adequate statistics to monitor nature tourism at the national, regional, or park level. This indicates a lack of both commitment and organization to expand or improve nature tourism, since basic data on tourists is essential for promotion, marketing, and planning for improvement or expansion of facilities and services. Comprehensive, reliable nature tourism statistics are needed in

all countries so that clear information is available about the actual impact of nature tourism on their economies.

Dominica, the least developed nature tourism destination, has no statistics at all. Its parks do not have entry gates or park guards to monitor visitors. Only one visitor survey has been performed by the Caribbean Tourism Research and Development Center. While the survey found that over 90 percent of all tourists marked "tropical setting" as a motivating factor, the survey failed to explain what "tropical setting" means.

In Belize, visitation statistics are a recent innovation and have been kept at Crooked Tree Sanctuary and Cockscomb Jaguar Preserve for the past three years, although no analysis of these records has been done.

Mexico's general tourism statistics are thorough, but fail as well to ask about nature-related tourism. For parks and protected areas the information is sporadic and depends on the administration of the individual park. While statistics are good for parks like Palenque and Tulum (this is attributable to the sale of entry tickets), and have recently been improved at Sumidero Canyon, they are virtually nonexistent for most other national parks. In the case of Izta-Popo, visitation statistics were kept only until 1975.

Statistics gathering in Costa Rica and Ecuador (mainly Galapagos) has been good, although several sources doubted their actual figures. For example, unofficial figures for the Galapagos Islands for 1986 report 49,000 visitors instead of the officially counted 32,000.

In Costa Rica, the national park system receives over 200,000 visitors annually, two-thirds by Costa Ricans and one-third by internationals. Four destinations absorb the majority of visitors: Volcán Poas, Volcán Irazú, Manuel Antonio, and Cahuita. Although visitors to parks are supposedly counted, one source reported having visited Irazu several times without ever registering. Since 1986, Costa Rica government surveys have been specifically asking visitors if they consider themselves ecotourists, and if nature was a factor in their decision to visit Costa Rica.

Without adequate statistics it is difficult, if not impossible, to measure the impact of tourism to protected areas at the macroeconomic level. In addition to lacking statistics at the local level, most national statistics do not reflect nature-related tourism. Hence the amount of interest and impact of nature-related tourism to protected areas is a matter for speculation. If countries intend to promote nature-oriented tourism, they will need to create a good data base in order to analyze demand and plan for the future.

4. The Economic Impacts of Nature Tourism

Reliable information regarding the economic impacts of tourism to protected areas is virtually nonexistent. Our airport surveys, however, have illustrated that nature-oriented tourists spend more money in the country than tourists that are not nature-oriented. Table 5 compares trip duration and expenditures for those who said that they chose the country primarily due to its parks and protected areas and those who did not. This is a good proxy for "nature tourists."

Table 5.

**COMPARISON OF TOTAL TRIP EXPENDITURES* AND
LENGTH OF STAY BY IMPORTANCE OF PARKS AND PROTECTED AREAS
IN THE SELECTION OF THE COUNTRY AS A DESTINATION**

	MAIN REASON	VERY IMPORTANT	NOT IMPORTANT
Total U.S.\$ expenditure	\$2,588	\$1,638	\$1,531
Average stay (days)	13.0	13.8	14.7
Average daily expenditure	\$264	\$209	\$173
Number	87	93	206

*Including international airfare

Source: WWF Airport Surveys, 1988

In our survey, nature tourists spend less time in countries but spend more money. People who said that the country's natural areas were the main criterion in selecting the destination spent more money than any other group. For these people, it is likely that they did "special" things on their trip and were intrigued by visiting somewhere or doing something unusual. Travel to the Galapagos Islands is a good example of this.

Tourists who said parks and protected areas were very important in their travel decisions spent more time than those who said parks were their main reason, but they spent less money overall. The group that spent the least but stayed the longest were those tourists who said that parks and protected areas were unimportant to their decision to visit the country. Included in this latter group might be a higher percentage of people who stayed with friends or family, hence lowering their total expenditures.

Although this evidence is preliminary, it does suggest that nature tourists are willing to spend more money than other tourists. The extent to which these funds remain in the country, however, depends on how tourism to the country is organized. More money might be spent on airfare or for tours that may not contribute much revenue to the national economy. Nevertheless, the critical conclusion from the table is that they do have a willingness to spend more money.

Nature Tourism at the Regional or Local Levels

Although tourism can have strong positive and negative impacts in regions and communities, there was very little attention to these impacts in the countries studied at the national level or by the park managers themselves. To the extent that there was a recognition of issues, it was generally because conflicts existed over the use of resources, or because resources were extracted from the region without being replaced.

In the Galapagos Islands, and in Costa Rica's Monteverde and La Selva, where tourism obviously has a local economic impact, people felt that the profits go into the pockets of a few, who are often from the capital or abroad. The main benefits in the Galapagos Islands thus far have been from income generation through employment. Only recently has the local economy been reaping more economic benefits from tourism.

While local people on the Galapagos Islands in general would like to see an increase in tourism, the population of Monteverde in Costa Rica expressed mixed feelings. The community is currently debating the proposed pavement of the access road to the reserve. Many fear that this would bring more tourists than the reserve is capable of managing.

In none of the cases has the local population been involved to the extent possible, and people in most communities did not feel that profits remained in the local community. The exclusion of the local community from tourism

development has resulted in both aggression and frustration.

Even those areas that are unlikely to have a high volume of tourists do have an impact on the local economy. As a result, it appears that threats to national parks do not come as much from tourism as from other sources, such as gold mining (Corcovado, Costa Rica), shifting cultivation, firewood collection (Montebello, Mexico), or oil exploration (Yasuni, Ecuador). Most threats are related to the needs of the local population to use the reserve resources to make ends meet.

Several parks in Mexico (Montebello) and Costa Rica (Corcovado) face the problem of encroachment without being able to offer alternative sources of income. The parks themselves or the area surrounding them can only be used if the forests are cleared. For example, in Ecuador, the problem for some parks is a conflict against multinational companies and certain national interest groups. These groups wish to exploit the petroleum resources (Yasuni), plant oil palms, and clear the forest for agricultural purposes.

Costa Rica and Ecuador have a fairly good base of trained tour guides, many of whom have studied biology or the natural sciences. An increase in the flow of nature-oriented tourism in these countries could lead to guide training programs and new jobs in the tourism sector. Countries, however, should be careful not to simply train and license highly educated individuals, but to also establish auxiliary guide training programs in the local communities. One condition to visiting tour groups could be that in addition to the main guide, who most likely lives in the capital, groups of over ten visitors must employ one local auxiliary guide.

Nature Tourism at the Park Level

At the park level, the impact of nature tourism depends primarily on the level of control exerted over tourism within the park. If tourism is carefully planned and regulated, the parks are better able to benefit from the activity and simultaneously minimize negative impacts.

Described below are several key issues that park managers are currently facing. These issues are generally not confined to the park level and highlight the need for collaboration among individuals and groups at the national and regional levels as well as the local level.

1. Development of Park Infrastructure for Nature Tourism

Planning for tourism at the park level should be addressed in a management plan for the park. However, such plans are costly and were found only in parks such as Poás and Galapagos, where international funds had been made available to create them. Several other parks were found to have plans, but these were infrequently updated, and thus failed to address necessary changes due to the tourism itself or to other local conditions.

For parks where it is intended to concentrate on tourism, an adequate management plan will consider all aspects of tourism development within the park, such as facilities, park personnel, trail development, educational programs for visitors, etc. It also needs to contemplate the exact physical locations of tourist facilities. Finally, it needs to identify and incorporate the needs of local communities and work with them to develop a strategy for growth.

Although concerns were raised during the present five-country study regarding the environmental impacts from tourism, to protected areas, major problems were not detected in our case studies. Still, in several protected areas, like Ecuador's Galapagos National Park and Costa Rica's Monteverde, concern was voiced by park personnel as well as some locals about increasing the flow of tourism. In the Galapagos Islands, scientific studies to date have not proven damaging environmental impact from tourism. However, it is a well-known fact in the local community that some animals, specifically the sea lion and the albatross have been undergoing changes of behavior since rates of tourism there have dramatically increased.

Whether or not to locate tourist accommodation facilities within or outside of the park seems to be an ongoing debate in all five countries. This issue is best resolved at the park level. In general, it seems preferable to locate these facilities outside the park in a so-called buffer-zone, so as to avoid disturbance of the park's flora and fauna. Also, locating tourist facilities outside the park but within the nearest community can bring economic benefits to the local people. Some parks, however, are so large that it may be difficult or unappealing to house tourists far away from the center of attraction.

Parks such as Iguazu in Argentina, where an international hotel has been placed in the middle of the park, certainly have lost in attractiveness to certain visitors, although the location appeals to others. If lodging facilities are to be located within a park, they

should be designed to provide easy access to the park, yet be constructed in a low-impact, small-scale manner. Examples are the mountain cabins at Izta-Popo park in Mexico, or the cabins at Cockscomb Jaguar Preserve in Belize.

Infrastructure and facilities at most national parks in the five countries are rudimentary or nonexistent. Only Galapagos (Ecuador) and Poas (Costa Rica) have substantial park infrastructures, and to a lesser extent Cotopaxi (Ecuador), Izta-Popo (Mexico). In general it was observed that infrastructure is very good wherever the parks are within a radius of 100 kilometers of the nation's capital. The further the distance from the capital, the more primitive the infrastructure becomes. This proved to be the case for transportation, lodging, food, and communications.

International funds have been used to develop a basic but good infrastructure within the Cockscomb Jaguar Reserve (Belize) during the past three years. Access remains the major problem since the park is only reachable by a strenuous ride in a four-wheel-drive vehicle over unpaved and potholed roads.

Improvements in infrastructure (mainly paths) have also been undertaken at Emerald Pool and Trafalgar Falls (Dominica), but in the case of the former, early decay is already noticeable since the facilities are not being maintained.

2. Changing Needs of Park Management and Park Personnel

While park management and operational plans are increasingly common, few are actually implemented, and in those cases where a park management plan is in operation, it often fails to reflect adequately the actual and potential tourism development.

In all cases studied, the parks were lacking in adequate resources and personnel. Additionally, park personnel were often underpaid, making the job unattractive. Although parks like the Galapagos Islands and Poas have higher numbers of park guards than most other parks, their numbers are still inadequate to effectively manage tourism. This situation has created antagonism between National Park Service staff and tourism developers; the Galapagos National Park manager disclaimed any positive benefits from tourism for the Galapagos Islands.

In several cases--Sumidero Canyon in Mexico; Poas in Costa Rica and Cotopaxi in Ecuador--park personnel complained about the low level of environmental consciousness of the

nationals, whose carelessness results in forest fires, litter, uprooting of bushes and trees, and general deterioration of facilities. While many parks lack the infrastructure, money, and trained guides to offer environmental education, several park projects have specifically addressed this issue in Mexico, Ecuador, and Costa Rica. Several park managers in Costa Rica mentioned environmental education programs as one of the primary goals for their park. However, many park personnel need training themselves in order to accomplish this task.

3. Inadequate Entrance Fees

The vast majority of parks are also economically undervalued. With the exception of Galapagos, inadequate entrance fees are charged at almost all parks. Higher entrance fees need to be instituted if parks are to generate their own income and become economically autonomous. Because parks are often seen as a public good and as part of the country's natural heritage, the charging of entrance fees often creates controversy. For example, in both Mexico and Costa Rica there have been complaints about charging user fees to the public.

One workable solution may be dual entry fees for residents and non-residents of a country. The Galapagos has a different fee structure for national and international visitors, and no fees at all for local residents. Mexico has also adopted this scheme at its archeological monuments.

4. Role of Tour Operators

While more tour operators are recognizing the potential of tourism to protected areas, few have contributed to the conservation of their tour destinations. During the course of the study, park managers often complained that tour operators reap many of the benefits of the parks and take for granted the work of park personnel.

One exception is Victor Emmanuel, who heads an organization with the same name and leads primarily birdwatching trips. On one tour to Costa Rica, Emmanuel donated \$US 500 per tourist to help buy threatened rainforest. He also posted a notice in his agency's newsletter, which has a circulation of 10,000, for people to make a certain pledge for every bird seen on a particular trip. He raised about \$US 16,000 in that campaign (Kutay, 1989). Several other tour operators in Costa Rica have made voluntary contributions to the park system.

Paradoxically, small companies appear to be contributing more than the large ones. On the international level, there are some tour operators who make donations to conservation groups, such as International Expeditions, and Journeys. Tourists with these groups seem to be especially satisfied that a certain percentage of their tour cost is being donated to conservation. Some conservation groups also offer "active conservation tours," on which the tourist can actually participate in a conservation project in the host country.

In several cases, like the Galapagos Islands and some Costa Rican parks, tour participants are so enthusiastic about the flora and fauna that they are making voluntary contributions for the conservation of those parks. Such contributions come mainly from participants in conservation-oriented tour groups, or from tour groups whose guides specifically point out that even a small donation can help.

Many promoters of nature-oriented tourism have hypothesized that nature-oriented tourists are highly desirable tourists to attract. Park questionnaires revealed that over 80 percent of visitors to all the parks were satisfied with their experience, despite the lack of infrastructure for nature-oriented tourists and the absence of interpretive materials or overnight accommodations. This suggests that nature-oriented tourists are happy with basic to primitive conditions since they expect not international glamour but rather intact wilderness.

5. Carrying Capacity of Protected Areas

Baseline studies of carrying capacity are necessary before expansion of tourism activities in parks occurs. There is a general level of insecurity about how many people should actually be allowed to enter a park. At Pasachoa in Ecuador, for instance, the park is closed for one month each year to let nature recuperate. Carrying capacity on the Galapagos Islands has been a long-standing issue disputed by conservationists and tourism developers.

Unfortunately, there is no simple way to measure carrying capacity, and current approaches have not been completely satisfactory. Basic statistical tools and information to assess carrying capacity--such as frequency of site visits, size of groups, length of stay, activity patterns, normal animal behavior, etc.--are nonexistent for most parks.

6. Tourism to Private Protected Areas

An important phenomenon that deserves more attention is the emergence of private protected areas for tourism. Examples of this are the Community Baboon Sanctuary in Belize, Trafalgar Falls in Dominica, Monteverde, La Selva Biological Station, Marenco in Costa Rica, and Tinalandia in Ecuador.

In most cases, private protected areas are organized by people who are highly conscious of environmental impacts and of the need to preserve an area in its natural state in order to attract tourists. Such developments are small-scale, with accommodations ranging from tents to cabins, pensions, and small hotels. Locals work in the guest houses, as tour guides, as cooks, and as park guards. Many goods and services are purchased locally so that economic leakage is fairly small. In all examples observed during the study, local participation in this type of tourism development was greater than in many public protected areas.

In Costa Rica, for example, the emphasis on nature tourism by the government has led to the development of a variety of private sector initiatives, such as hotel or lodge developments, guide services, etc. Nature-oriented tourism is also promoted by private protected areas such as Monteverde (Tropical Science Center) and La Selva Biological Station, The Organization for Tropical Studies (OTS), and Marenco, a privately operated area outside of Corcovado National Park. A wide variety of tour operators conduct fishing, rafting, boating, and birding expeditions within the country as well.

Profile, Activities and Suggestions of Nature Tourists from WWF Surveys

Surveys were conducted at airports in each of the countries during the "high" and "low" tourist seasons. Although the sample size is too small to provide statistically significant results, the survey results provide useful information on the population of tourists actually studied.

There is no clear definition of a nature tourist. Many people who visit parks and protected areas travel to the country for business or to visit relatives. Although they engage in "nature tourism," that does not constitute the primary purpose of their visit. Therefore, for purposes of the study, the tourists surveyed were classified into three groups depending on how influential they said protected areas

were in their decision to visit the country. The classification scheme was as follows: HIGH--those who said protected areas were the main reason for their travel decision; MEDIUM--those who said protected areas were very important in their decision; LOW--those who said protected areas were somewhat or not important.

These categories (HIGH, MEDIUM, LOW) were used to sort information about the tourists who were surveyed (see Table 6, below). The sample size for each category varied depending on the question; in the survey results in Table 5, N, which represents sample size, is reported in parentheses.

In the WWF survey, nature tourists were slightly older (43.9 vs. 40.8) than those in other groups, which may indicate that they have more leisure time available and/or more money saved. Tourists in the "High" category were more evenly split along gender lines than the other groups. Also, it was the first visit to the country for the majority, as opposed to other groups, in which there was a higher percentage who had visited the country before. Fewer nature tourists traveled alone; more traveled in tour groups.

Table 6.

BACKGROUND INFORMATION COLLECTED IN WWF AIRPORT SURVEYS, 1988 ACCORDING TO HIGH, MEDIUM, AND LOW PRIORITY CATEGORIES			
	HIGH	MEDIUM	LOW
Average age	43.9(72)	41.8(76)	40.8(187)
Gender			
Male	51%(45)	55%(52)	63%(219)
Female	49%(49)	45%(42)	81%(37)
First visit to country	73%(91)	63%(95)	51%(220)
Travel with:			
Alone	21%	31%	32%
Family	36%	36%	33%
Friends/ Colleagues	23%	18%	27%
Tour	20%	15%	8%
(N)	(91)	(95)	(221)

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All tourists were asked for the reasons they chose the country they visited. Multiple responses were permissible. The reasons for choosing a particular country are cited below by percentage of the number of overall responses. Those who said that the presence of parks and protected areas was the main reason or was very important in choosing the country were also much more likely to say that "natural history" was one of their reasons for choosing the country as well. They were also more likely to enjoy cultural history and archeology than the "LOW" group. Relatively few conducted business while on vacation.

REASONS FOR CHOOSING COUNTRY	HIGH	MEDIUM	LOW
Visit friends/family	16%	24%	37%
Business/convention	7%	17%	26%
Sun/beaches/recreation	16%	39%	31%
Sightseeing	41%	46%	33%
Archeology	20%	26%	8%
Cultural history	33%	40%	15%
Natural history	69%	56%	18%

ACTIVITIES	HIGH	MEDIUM	LOW
Jungle excursions	23%	42%	20%
Mountaineering	22%	15%	10%
Birdwatching	58%	44%	23%
Wildlife observing	55%	51%	22%
Botany	31%	18%	11%
Hunting/fishing	4%	15%	8%
Camping	4%	9%	3%
Hiking/trekking	28%	24%	16%
Local cultures	25%	31%	24%
Boat trips	42%	42%	27%

The most popular activities for the nature tourists were birdwatching and wildlife observing. Boat trips were also extremely popular. The most common activities for the second group--those who said that parks and protected areas were very important--also were wildlife observing and birdwatching, jungle excursions were also popular with this group. It is impressive that over half of the tourists in both groups enjoyed birdwatching. Although natural areas was of little importance in selecting the destination for the third group, many participated in a wide variety of nature-based activities. Over 20 percent went on jungle excursions, birdwatching, wildlife observing, or on boat trips.

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Most tourists in all three groups were satisfied with their experience:

	<u>HIGH</u>	<u>MEDIUM</u>	<u>LOW</u>
Very satisfied	67%	75%	52%
Satisfied	21%	22%	39%
Not very satisfied	4%	1%	1%
Disappointed	-0-	-0-	-0-
No response	8%	2%	8%

When asked what could be improved, a majority of tourists in all parks mentioned technical information, guide books, promotional material, maps, transportation, and signs. Even inadequate access roads, as in the case of Monteverde in Costa Rica, do not seem to deter tourists. This stresses the importance of parks as sources of technical information and as centers for outreach in environmental education. It also shows that, while nature tourists may be less demanding about accommodations, they are eager to learn about the area, and are demanding in terms of educational materials.

Although it seems that tourists will keep visiting, even without such improvements, the educational and economic aspects need examination. From an educational viewpoint, a park without technical material and signs somewhat fails in its task of educating both national and international visitors about nature. From an economic viewpoint, many of these improvements (such as interpretive materials) could actually be sold in the park and the profit used for general park improvements or as additional income for park personnel or locals. Thereby, both visitor experience and economic impact could be strengthened.

Chapter Summary

The key to increased tourism to protected areas in all five countries--once the facilities and infrastructure are available--is adequate control and management as well as national and international promotion. The need for good planning of tourism activities in protected areas was widely evident in the study. Airport survey results suggest that nature tourists are likely to spend more money than other tourists, but countries must have coordinated plans in order to limit economic "leakage" and to capture as many of the economic benefits as possible. For example, a country that offers tour packages, uses national tour guides, and uses a nationally owned airline will receive greater benefits.

To spread the benefits more evenly, nationally owned hotels can be emphasized. The use of many different lodge-type hotels may enhance the natural experience for many tourists and benefit rural areas within the country, providing a base for development and growth.

Costa Rica and Ecuador have aggressively promoted such planning. In Belize, Dominica, and Mexico the potential for nature-oriented tourism to the parks is tremendous. What is needed is specific action, planning, and investment in the necessary basic infrastructure and facilities.

CHAPTER 4

CONCLUSIONS, RECOMMENDATIONS, AND NATURE TOURISM DEVELOPMENT STRATEGY

Conclusions of the Nature Tourism Study

From the airport surveys conducted as part of this study and other sources of available information, the following facts, trends, and probabilities emerge regarding tourists who visit protected areas:

1) It is difficult to define a "nature tourist" since such a wide range of activities fits the "nature" category. Nature tourists can be people casually walking through an undisturbed forest, or scuba divers admiring coral formations, or birdwatchers adding birds to their lists.

The study classified tourists into three groups--those who listed protected areas as their "main reason," those who said it was "important," and those who said it was "somewhat or not important" in their decision to travel to a particular country. Generally, people who responded with "main reason" or "important" were considered to be nature tourists. Of course, there was a small percentage of this group who did not visit any protected area during their trip, just as there were several people who listed protected areas as "somewhat or not important" but actually visited protected areas.

2) Of all the people surveyed at airports (436), almost half (46 percent) said that protected areas were the "main reason" or "important" in their decision to visit the country. Given this large percentage, it is critical from both an environmental and a socioeconomic standpoint that protected areas be prepared to handle tourists and to profit from this exchange.

3) Many people are visiting parks and reserves. Of the total number surveyed at airports (436), more than half (57.6 percent) went to at least one park. Of these park visitors, half of this group went to at least 2 parks (28.4 percent of the total surveyed) and slightly over one-fifth went to at least three parks (13.3 percent of the total surveyed).

4) Some tourists do not travel with the intention of visiting protected areas, but can be enticed to visit a park. Therefore, in some cases, business travelers and other non-protected area tourists constitute a potential market for "add-on" nature tourism business.

5) Tourists who listed protected areas as the "main reason" for visiting a country spent more money on a daily basis than other tourists and spent more overall than other tourists.

6) Environmental problems were reported as minimal at all park case study sites. However, no comprehensive scientific studies have been done to date at any of these parks. In order to evaluate the short- and long-term environmental impacts of tourists, scientific studies must be conducted and park carrying capacities established.

7) The success of nature tourism depends on nature. Many parks in Latin America and the Caribbean are threatened and need better management. It is critical for all involved with the nature tourism industry to realize that intact natural resources are the basis of the industry.

8) In the majority of parks at present, tourists are not given enough opportunities to spend money. Most protected areas in the five countries studied charge nominal or no entrance fees. In addition, tourism infrastructure is very limited. Therefore, tourists are not encouraged to spend money. In many cases, an additional visitor center, gift shop, snack bar, or lodge would provide opportunities for tourists to leave more money at the park.

9) In most of the parks studied, opportunity is missed to provide environmental education. Tourists to a park are a valuable audience for environmental education. Whether they are "hard-core" nature tourists or "new" visitors with little background in natural history, all tourists can enhance their appreciation of the area through informative brochures, exhibits and guides.

10) No nature tourism model exists to describe the ideal level of visitation and infrastructure for a park. Each park is distinct in its economic potential, its potential to support environmental education, and the degree to which its resources are threatened by tourists. Therefore, every park must be evaluated separately to determine a level of tourism development that will maximize benefits and minimize the negative impacts.

11) Parks that receive high levels of visitation or have that potential, need to be prepared. Park management plans must include tourism sections, and park personnel need to be trained in tourism management skills.

12) Better nature tourism statistics must be collected at park sites so that this information can be used to generate appropriate nature tourism policies.

13) Sociocultural issues were not a focus of this study; however, it is critical that this area be studied further in relation to nature tourism development so that benefits to local cultures can be maximized and costs can be minimized.

14) While it appears that nature tourism can be a tool for conservation and rural development, the only way that this will materialize is if a concerted effort is made to incorporate local populations into the tourism industry. Involvement with local people and consequent rural development will not happen automatically. In some cases, tourism to protected areas is not benefitting the surrounding population because they are not involved. Nature tourism will not contribute to rural development unless rural people are brought into the planning and development of the industry.

15) In almost every park case studied, with the exception of the Galapagos and parks outside of main cities, there is a need for increased marketing and promotion of the park at both the national and international levels.

16) National tourism to protected areas is relatively new in many countries and has not received the emphasis or attention that international tourism has. However, this situation is rapidly changing in almost every country as people are gaining more appreciation of their own natural resources.

17) Opportunities are emerging for new relationships between conservationists trying to protect areas and tour operators trying to bring more people to these areas. Traditionally, these groups have not only not worked together but also have often been in direct opposition. However, as more tourists come to parks and reserves, tour operators must become more actively involved with the conservation of these areas through education for their clientele and donations to park management.

Recommendations for the Planning, Development, and Management of Tourism to Protected Areas

During the course of this study, several lessons were learned that are useful for the development and management of tourism to protected areas.

1) There are many different benefits and drawbacks of tourism to protected areas. In each case, there is great variation among the individuals and groups that gain or do not gain in nature tourism development. Given the variety of potential benefits and drawbacks, a thorough assessment of the unique economic and environmental impacts of tourism must be made for each natural area where tourism exists or may be developed.

2) ~~Based on this analysis, a nature tourism development strategy needs to be created for each country to identify where tourism should be promoted or discouraged. This strategy is based on~~

evaluations of carrying capacity for each area, income generation possibilities, and opportunities for environmental education. It is important to emphasize that not every protected area will be a big "money-maker" and that this should not be the sole criterion for judging its value as a nature tourism destination.

3) In many protected areas, the potential economic and environmental benefits of tourism that can be achieved with few negative impacts have yet to be realized. In some cases, much more income could be generated through park entrance fees or small-scale infrastructure that would greatly enhance the viability of the area. In addition, much more could be offered at some protected areas to advance environmental education and conservation awareness. Countries must pursue ways to gain this margin of benefit while minimizing negative impacts.

The Nature Tourism Development Strategy

1) Evaluate the role of nature tourism in the national conservation and economic growth strategy.

At the initial stage, representatives from various government ministries (Planning/Public Works, Finance/Budget, Tourism, Forestry/Parks/Environment, Education) meet to discuss how nature tourism fits into the national development goals. This judgment is based on an assessment of the country's nature tourism product (attractiveness/special features and carrying capacity of existing or potential parks and reserves) and the market of existing or potential national and international tourists.

If the government representatives agree that nature tourism should be included as a component of the national development plan, a thorough investigation of key natural areas and promotional techniques begins.

2) Create a National Nature Tourism Board.

Government representatives form a National Nature Tourism Board to further investigate the status and potential of nature tourism and to create a National Nature Tourism Development Strategy. The Board will consist of members from government, park managers, tour operators, the private sector, and local conservation organizations and members of local communities. International development and conservation organizations may be invited to provide financial and technical assistance.

Recommendations for Ministries: Coordinate the creation of the National Nature Tourism Board. Allocate a certain portion of each ministry's budget for nature tourism development. Create tax and import exemptions to encourage private sector involvement. Working with park managers, create a data base of resources for each natural area.

Recommendations for Park Managers: Coordinate full inventory of each protected area or site proposed for tourism. Inventory should include biological information about natural resources, statistics on the current level of tourism, the present level of infrastructure development, the level of interaction between local residents and park facilities, the fragility of the ecosystem, and the ecological constraints to tourism development.

Recommendations for Tour Operators/Private Sector: Determine the current and potential tourism market through surveys. Begin creating promotional schemes.

Recommendations for Local Conservation Organizations: Actively participate in creation of National Nature Tourism Board and represent views of local populations.

3) Develop sites for nature tourism.

Recommendations for Ministries: The education ministry should assist in development of environmental education programs to be centered at park sites. Other ministries can set up mechanisms to charge entrance fees at many parks and to rechannel funds back to the maintenance of parks. Include nature tourism in legislation for protected areas.

Recommendations for Park Managers: Include nature tourism in park operational plans. Assist in development of infrastructure to ensure that it is environmentally sound. Create effective interpretive programs for the parks. Include the local population in the development of the park for tourism. Local conservation organizations may be especially effective in coordinating activities with surrounding communities. Use local products and labor when possible.

Recommendations for Tour Operators/Private Sector: Fund development of tourism. Use local products and labor when possible. Develop promotional literature for nature tourists.

Recommendations for Local Conservation Organizations: Work with local communities to ensure their input in the selection and development of nature tourism sites.

Recommendations for International Development and Conservation Organizations: Facilitate public and private cooperation in

developing tourism infrastructure as needed. Provide assistance for training programs for guides, park managers, environmental educators, etc. Develop a roster of international nature tourism consultants with expertise in wildland management, sociocultural issues, ecological architecture, etc. Fund and support inventory studies in parks.

4) Manage sites for nature tourism

Recommendations for Ministries: The education and park service ministries should give ongoing training programs for park personnel on environmental education and tourism management. Education ministry can conduct environmental education in schools to encourage local tourists. The park service can monitor park sites with high tourist concentrations. Finance and budget ministry should develop tourism investment programs geared toward small-scale tourism development.

Recommendations for Park Managers: Monitor tourism at sites to see that tourists comply with park guidelines. Conduct periodic environmental impact studies. Ensure that mechanisms are put into place which will guarantee that the parks do, in fact, profit from tourism.

Recommendations for Tour Operators/Private Sector: Actively participate in environmental education of tourists and training programs for guides. Become more involved with conservation of tourism sites. Work with park managers to find ways to decentralize tourists during peak seasons.

Recommendations for Local Conservation Organizations: Keep contact with local communities and make sure that they are benefitting from nature tourism. Be a liason between local communities and others involved with nature tourism.

Recommendations for International Funding Agencies: Support seminars on creative financing. Continue to fund case studies of individual park sites to develop a collection of case studies.

Checklist for Participants in Nature Tourism Development

The nature tourism development strategy is a model to outline the steps involved in creating and managing nature tourism sites. At each step, activities are identified for the public and private sector groups involved with nature tourism: tour operators, government officials, park managers, local conservation organizations, and international funding and conservation organizations. In the following sections, a

checklist is presented for each group. The checklists are devised to highlight the same critical issues for each group to consider as it becomes involved with nature tourism management.

1. Checklist for Government Officials

Tourism Ministry/Board of Tourism

- Include aspects of nature tourism in national tourism policy.
- Carry out marketing program for nature tourism, including product identification, inventory of nature tourism attractions, and visitor surveys to determine demand.
- Design a mechanism, with the park service, for collecting entrance fees.
- Change tourism laws as needed to include environmental protection clauses for natural areas.
- Develop mechanisms to record statistical information about nature tourists.
- Work with private sector and international funding agencies to develop adequate tourism infrastructure at each site, not only to accommodate tourists but also to provide opportunities for tourists to spend money.
- Create training programs, with the park service and tour operators, for all park personnel and tour guides. Training should include natural resource education and tourism management skills.
- Develop mechanisms to channel a portion of tourism revenue back into maintenance and protection of the park.
- Monitor the quality of nature tourism services and facilities.

Ministry of Planning/Public Works

- Identify role of nature tourism in national economic development plan.
- Make sure environmental impact studies are part of development projects dealing with natural areas.

Ministry of Environment/Agriculture/Forestry

- In national protected area system plan, identify wildland units where nature tourism will be developed.
- Change legislation of protected areas to include nature tourism requirements.
- Ensure conduct of environmental impact studies and carrying capacity studies to the extent possible, for all nature tourism sites.
- Create management plans for each protected area, highlighting tourism needs for those with substantial visitation.
- Provide adequate park personnel to maintain parks and reserves and to control tourists.
- Work with the Ministry of Education to provide environmental education at park sites and schools.

Ministry of Budget and Finance

- Increase the budgets for those protected areas that are attracting tourists, to perform additional tasks of managing and providing for visitors.
- Develop self-financing mechanisms for parks and reserves based on tourism revenues.
- Participate in revising the entrance fee collection scheme.

Ministry of Education

- Participate in creating a guide training program.
- Give high priority to environmental education in general education curriculum.
- Participate/fund the design and distribution of environmental education materials for schools.

2. Checklist for Tour Operators

- Work with public sector to make sure that nature tourist services meet international standards.

- Select local guides and use local products in all nature tourism services.
- Conduct environmental education programs for tourists and participate in training of guides.
- Work with park managers to decentralize tourism during peak times and in areas with high levels of visitation through marketing and promotion schemes.
- Contribute a portion of tourism profits to the management of protected areas visited.

3. Checklist for Wildlands Managers

- Include nature tourism plans in operational, management, or master plans for individual protected areas. Ensure that nature tourism plans comply with park management objectives, guidelines, and zoning.
- Carrying capacity studies should be conducted at key nature tourism sites.
- With regional and national park and tourism officials, develop mechanisms for charging appropriate admission fees to park visitors, perhaps with different rates for nationals and foreigners, and for rechannelling money back to the park.
- Provide tourists with interpretive materials about the park's natural resources.
- Collect extensive visitor statistics to understand Characteristics, motives, and activities of park visitors.
- Collect baseline data on natural and cultural resources before and during promotion of tourism.
- Closely monitor sites of concentrated tourism activities and evaluate tourism impacts.
- Give preference to local residents in hiring of park personnel and concessions within the park.
- In conjunction with tour operators and the Tourism Ministry, provide training for park employees in tourism management.

4. Checklist for Local Conservation Organizations

- Solicit financial and technical assistance from international conservation and funding organizations for tourism development and management as necessary.
- Assist in coordinating activities between international conservation and funding groups and park managers.
- Solicit the participation of local communities surrounding natural areas where tourism will be promoted in the planning and implementation of tourism development in these areas. Represent their views in larger forums where ecotourism policy for these areas is discussed.
- Ensure that the local population is offered employment opportunities in ecotourism, such as guides, handicraft makers and park guards. Make sure that proper training for these jobs is offered.

5. Checklist for International Development and Conservation Organizations

- Fund/support technical assistance for parks that will be developed for tourism. Such efforts may include studies of carrying capacity, zoning and land use plans, revision or elaboration of park management plans to integrate tourism needs, or elaboration of adequate control and monitor mechanisms.
- Fund/support studies of socio-cultural impacts and considerations in nature tourism development.
- Develop a roster of consultants with expertise in various aspects of nature tourism, such as ecologically-oriented architecture, to be available for park planners.
- Fund/support seminars on creative financing and policy forums for nature tourism.
- Fund further case studies of protected areas that receive or could receive high levels of visitation. From these, more lessons can be learned and models created for future development.

Marketing and Promotion

A recurring theme throughout this study was the lack of marketing and promotion for nature tourism. While each country and park must be analyzed separately to identify its marketing

needs and promotion strategies, some general guidelines for marketing and promotion at national, regional, local, and park levels are suggested:

- The tourism market, both national and international, for each nature tourism site must be identified. In some cases this will be "main reason nature tourists," and in other cases, travelers who come for other reasons and become "add-on nature tourists."
- The special attractions of the nature tourism product must be identified. Unique features of each natural protected area must be distinguished.
- Tourism planners and promoters must create tourism packages that include a variety of natural resource attractions. These packages could be for groups or individuals. In addition to providing a service for tourists, these packages could help decentralize tourism during peak seasons and to promote sites with low levels of visitation.
- The range of communication channels for publicizing nature tourism sites and activities can be increased. Currently, advertising and articles about nature tourism are limited, but this is changing rapidly. New travel magazines, such as European Travel Guide, Travel Today, Traveler, and Trips; specialty periodicals, such as Adventure Travel, and Specialty Travel Index; or periodicals such as Adventure Vacation Catalogue or the Adventure Book would be possible outlets for increased publicity.
- Further specialization of some travel agencies and tour operators to nature-oriented travel will enhance the range and quality of service they provide to nature tourists.
- Increased partnership between private and public sectors will expand the marketing and promotion potential of nature tourism travel.
- Nature tourism policy issues must be identified and discussed for the marketing and promotion effort to succeed. On-going discussions about carrying capacity, tourist infrastructure development, park personnel and tour guide training, reduction of economic leakage, environmental protection, and others must be maintained throughout all stages of tourism development. An international nature tourism policy conference would be a good forum to highlight critical marketing and promotion issues.

APPENDIX A

REVIEW OF NATURE TOURISM LITERATURE

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WWF

World Wildlife Fund
ISBN 0-942635-14-0

Volume 2

ECOTOURISM: The Potentials and Pitfalls



WWF

World Wildlife Fund

Elizabeth Boo

PN-ABF-329

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Ecotourism: The Potentials and Pitfalls

Volume 2—Country Case Studies

by Elizabeth Boo



**World Wildlife Fund
Washington, D.C.**

-94'

**Ecotourism: The Potentials and Pitfalls
Volume 2—Country Case Studies**

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Cover design by Supon Design Group, Washington, D.C.
Printed by Wickersham Printing Company, Inc., Lancaster, Pennsylvania

Book orders should be directed to World Wildlife Fund, P.O. Box 4866, Hampden Post Office, Baltimore, Maryland 21211. Telephone: (301) 338-6951.

Library of Congress Cataloging-in-Publication Data

Boo, Elizabeth.

Ecotourism: the potentials and pitfalls / by Elizabeth Boo.

p. cm.

Vol. 2 has also special title: Country case studies.

Includes bibliographical references.

ISBN 0-942635-14-0 (v. 1). — ISBN 0-942635-15-9 (v. 2).

1. Tourist trade—Environmental aspects. I. World Wildlife Fund.

II. Title.

G155.A1B6 1990

338.4'791—dc20

89-70735

CIP

- 95

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Acknowledgments

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Preparation of this study has been supported by a grant to World Wildlife Fund by U.S. Agency for International Development.

CHAPTER 1

BELIZE

I. Status of Tourism Industry

A. History and Growth

The tourism industry is rapidly changing in Belize in terms of demand and supply. Not only is the number of tourists greatly expanding, but also, the government has recently started a campaign to improve tourism infrastructure and to develop the industry. Tourist arrivals increased by 55 percent between 1980 to 1987 from 63,735 to 99,266. The contribution of tourism to foreign exchange earnings grew from U.S. \$41.0 million to an estimated \$47.3 million in 1987 (Miller, 1988). Forecasts for the next three years estimate that tourist spending will increase approximately 7 percent annually (Tourism Report II).

According to 1986 World Tourism Organization (WTO) statistics, over 40 percent of visitors came from the United States that year, and almost 5 percent came from Canada. European visitors made up almost 20 percent of the visitors, with roughly half of these from England. (One reason for the high number from England is that Belize was formerly British Honduras until it became independent in 1981.) The remaining 35 percent of the visitors in 1986 is the combined figure for all other countries. (WTO, 1988).

WTO figures for seasonality patterns indicate that January through April is the high season, with monthly tourist arrivals in those five months comprising about 10 percent of annual arrivals. September through November is the low season, with average monthly arrivals at about 6 percent of the annual total.

Recent employment statistics for Belize indicate that in 1987 almost 9,000 people worked directly or indirectly in the tourism sector. Compared to the two previous years for which statistics exist, direct and indirect employment has been increasing at 6 to 8 percent per year. There have been increases in several service areas, such as dive boats. One operator recorded an increase of about 40 percent in tour boats between 1980 and 1987. (Tourism Report II).

Table 1.

TOURISM DIRECT AND INDIRECT EMPLOYMENT INCREASE			
YEAR	DIRECT NO. OF EMPLOYEES ACCOMMODATION SECTOR	INDIRECT NO. OF EMPLOYEES OTHER SECTORS	TOTAL NO. OF EMPLOYEES
1985	2,590	5,180	7,770
1986	2,740	5,480	8,220
1987	2,980	5,960	8,940

Source: Tourism Report II, 1988

B. Major Tourism Attractions

Belize has a spectacular combination of natural and cultural resources. Natural resources include marine and coastal areas as well as wildlands in the interior. Cultural richness can be seen in the variety of native peoples that live in Belize as well as its many archeological sites.

The majority of Belize's environment is intact. Among its chief water resources is the second-largest barrier reef in the world (after the Great Barrier Reef in Australia). The reef runs more or less parallel to the entire length of the Belizean coastline for 115 kilometers (185 miles). Also, three of the four atolls found in the Atlantic Ocean are in the territorial waters of Belize. An atoll is a ring-shaped coral island surrounding a lagoon; the Belizean atolls are Lighthouse Reef, Turneffe Reef, and Glover's Reef. On Lighthouse Reef is Half Moon Caye Natural Monument, the oldest reserve in Belize.

Included in these waters is the famous "Blue Hole" explored by Jacques Cousteau during the 1970's. The "Blue Hole" is a mysterious underwater shaft more than 122 meters (400 ft) deep, featuring magnificent underwater stalactite formations. In addition, Belize has about 200 cayes off its shoreline. All of these water resources offer an abundant diversity of fish and coral. There are also many scenic sandy beaches along the southern shores.

Much of the tourism in Belize has developed around its marine ecosystems, and these resources continue to be the biggest attraction for tourists. The most visited marine area is San Pedro, Ambergris Caye, where scuba diving and snorkeling have

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been popular activities for many years. Hol Chan Marine Reserve, a 12-square-kilometer (4.5-square-mile) area at the south end of Ambergris Caye, was recently established as a park and is receiving many divers.

Sport fishing is also very popular in the marine areas. The great abundance of habitat throughout the mangrove and reef system produces an ideal environment for the sport fisherman. Tarpon, grouper, snapper, permit, bonefish, barracuda, and other tropical species abound on the reef and in the flats. Billfish, tuna, wahoo, mackerel, and other deep-sea fish thrive outside the reef in the deep waters.

In the interior, Belize has a diverse flora and fauna, with a large variety of bird and wildlife species from both the northern and southern hemispheres, many of which are rare or extinct in other parts of the earth. For example, the world's only jaguar sanctuary is in Belize. In addition, there are extensive jungles and pine forests.

Some of the most visited wildland areas include Mountain Pine Ridge, a 24,290-hectare (60,000-acre) reserve in the central and southern portion of Belize. The Cockscomb Jaguar Sanctuary is in the Maya Mountains of the Stann Creek District and protects prime jaguar habitat. The Crooked Tree Sanctuary, located 53.2 kilometers (33 miles) outside of Belize City, consists of a network of inland lagoons, swamps, and waterways; it is key to the protection of resident and migrant birds.

Another important wildlife attraction is the Belize Zoo, just outside of Belize City. Established in 1982, the zoo has a theme: "walk through Belize." Visitors walk down a forest path through four major habitat areas and observe the animals in their natural environments. The zoo has played a significant role in environmental education in Belize.

In terms of cultural resources, there are indigenous groups concentrated throughout Belize. These include the Mayas, occupying Toledo, the southernmost district of Belize. Both the Mopan and the Kekchi still live in their own communities. There is also the Garifuna community in Stann Creek District, which still maintains many African traditions.

Belize was an integral part of the Mayan world in the Classical period and was a major trading center for the area. More than 600 Mayan archeological sites have been excavated in Belize. Some of the most visited are Altun Ha, a major ceremonial center of the Mayan Classical period, located 30 miles north of Belize City. The jades from Altun Ha (Stone Water) are among the largest and most beautifully carved ever discovered. Xunantucich, which is west of Belize City and

Belmopan, near the Guatemalan border, is the most extensively and systematically excavated site in Belize.

The modern town of Corozal is built over the ancient Maya Center of Santa Rita. Archaeological investigations have shown Santa Rita to be in the ancient province of Chetumal, where a large part of the Post Classic civilization once thrived. Lamanai is one of Belize's largest ceremonial centers. In addition to its display of the more exotic features of the ancient Maya in art and architecture, Lamanai also has one of the longest continuous occupation spans, dating from 1500 B.C. to the 19th century. The largest ceremonial center, Caracol, sits on a low plateau in the Chiquibil Forest Reserve in primary rain forest jungle. Uxbenka is a site noted for its more than 20 stelae, at least seven of which are carved.

In terms of city attractions, Belize City receives the most visitors. Although deposed as the capital when it was almost destroyed by Hurricane Hattie in 1961, Belize City remains the heart of the country as its commercial and entertainment center.

C. Tourism Policy, Management, and Promotion

Until the recent advent of government support, tourism development in Belize was almost entirely self-propelled. Most tourism developed around San Pedro on Ambergris Caye, where considerable capital investments were made to attract the international scuba-diving community. Much of this tourism development was controlled by various factions of small entrepreneurs. These entrepreneurs include locals, foreigners, residents, and absentee owners, each following their own motives and business practices (BNTMP, 1988).

The administration previous to the present one listed tourism as its fourth priority for economic growth (New Belize, 1984) and it was not until the election of 1984 that the new government made tourism the second priority in its strategy for growth. Since this new recognition of tourism's importance, it is estimated that total direct revenue from tourism increased from U.S. \$549,900 in 1985 to \$762,300 in 1987 (see Table 2). Despite the increase in revenue, government tourist bureau employees claim that the hotel tax is to a large extent undercollected. It is estimated that the government could receive 50 percent more if all revenues were received. (Tourism Report, II).

Table 2.

DIRECT GOVERNMENT REVENUE FROM TOURISM (U.S.\$)

<u>YEAR</u>	<u>HOTEL TAX</u>	<u>LICENSES</u>	<u>PARK FEES</u>	<u>AIRPORT TAX</u>	<u>TOTAL</u>
1985	117,500.00	1,400.00	2,000.00	429,000.00	549,900.00
1986	159,300.00	1,300.00	2,100.00	431,000.00	593,700.00
1987	206,700.00	1,400.00	2,200.00	552,000.00	762,300.00

Source: Tourism Report 11, 1988

In 1988, the government issued its "Integrated Tourism Policy and Strategy Statement." This statement outlines the benefits and drawbacks of tourism development, the objectives of tourism development, and the players and methods to achieve these objectives. In terms of the economic and social benefits of tourism, the government notes that the gross, and in particular the net, foreign exchange receipts are very high in tourism compared to other sectors. It also recognizes that the tourism industry is labor-intensive and thus creates many jobs. The government estimates that each job directly related to tourism generates or supports two indirect jobs. It also states that government income from direct and indirect taxes may exceed 40 percent of revenues from stayover visitors.

The objectives of the government's tourism policy are to increase the number of stay-over visitors, maximize visitor expenditures, create a suitable investment climate including appropriate legislation to attract developers, provide capital for the expansion of tourism infrastructure and services, and to establish a tourism administration to coordinate tourism activities in the country.

Among potential drawbacks of tourism development, the government cites disadvantages to local investors who have difficulty competing with foreign investors. Also mentioned are foreign exchange leakages as well as over-reliance on the tourism sector at the cost of the growth of other subsistence sectors.

The government realizes that to develop the tourism industry, it must establish the means to generate reliable

statistics about tourism. To date there have been difficulties in determining critical information regarding tourism, such as precise figures for visitors, direct and indirect employment figures, and gross and net foreign exchange receipts and their contribution to government revenues.

In its strategy statement, the government identifies some specific projects it intends to undertake to develop tourism. Projects include the extension and improvement of the Philip Goldson International Airport in Belize City as well as the construction and improvement of airport facilities near San Ignacio and Placencia; development of nature and adventure trails and access roads to other natural areas; development of water, electricity, sewage, and telecommunications facilities; custom and immigration services at the country's air, sea, and road entry points; medical facilities in the major tourism areas, including at least one decompression chamber; and improvement of security measures throughout the country.

The government has also declared that it will grant numerous Import Duty Concessions to developers in the tourism sector, mostly in the accommodation sector. It will increase the percentage of import duty waiver from between 50 to 100 percent for improvements of Belizean-owned hotels and related services.

In terms of transportation, the government is also considering a three-year moratorium for transportation operators of import duty on specified types of transportation. The government also wants to expand the number of international airlines that offer service to Belize.

In laying out its tourism policy, the government gives special attention to the importance of natural resources in tourism development. The policy notes that Belize's natural areas are often referred to as a well-kept secret. However, the government points out, many of the country's scenic sites have to be prepared for tourism use and need to be better protected than they are at present. Thus, greater emphasis will be given to the Mayan ruins and caves; the Cockscomb and other forest areas that are still intact; the reefs, rivers, and lagoons; and the construction of an Anthropology-Natural History-Archeology Museum in Belmopan.

The government also identifies who will participate in tourism development. The Ministry of Tourism is the governmental office that will take the lead. In addition, the government plans to appoint an interministerial Tourism Development Committee of permanent secretaries from the Ministry of Tourism, the Ministry of Economic Development, the Ministry of Natural Resources, and the Ministry of Agriculture.

The government is trying to decentralize the mechanisms it uses to achieve its objectives. It has established the Belize National Tourism Council (BNTC), which comprises key government ministers and an equal number of individuals from the private sector of tourism. BNTC operates as an advisory body to the Ministry of Tourism, with its main emphasis on policy matters, and will soon be upgraded to a statutory board. The Belize Export Investment and Promotion Unit (BEIPU) is a private sector institution that has non-voting government representatives on its board. The BEIPU is involved with marketing and investment promotions in the tourism industry. Further, the government hopes to expand its marketing efforts through the establishment of the Belize Tourist Bureau (BTB).

The Belize Tourism Industry Association (BTIA) represents the private sector and works with the government on tourism development. BTIA has successfully revitalized connections among tour operators. The BTIA produces a monthly newsletter on tourism and brings together hoteliers, travel agencies, tour operators, and conservation groups. BTIA is investigating the possibility of offering off-season package deals for Belizeans so that they will be able to report from firsthand experience to tourists about Belize's tourism attractions.

The government statement highlights the need to integrate public and private sector efforts in tourism's growth. It also states the importance of diversification of the tourism product.

The main concentrations of tourist accommodations are found in Belize City (572 rooms), Ambergris Caye (278 rooms), and other cayes (198 rooms). In addition, some 160 rooms are located in the northern district, for a national total of 1,471 rooms. Current accommodation figures reflect a significant increase since the early 1980s, a change that tourism analysts attribute to increasing demand for nature tourism (Tourism Report II).

A local hotel manager claims that about 30 percent of his hotel guests visit Belize because of their interest in the flora and fauna of the country. All sites such as San Pedro, which is primarily visited by divers and fishermen, or Cha Creek Lodge in the mountains of western Belize, almost all the visitors come because of the natural environment.

Much of Belize's tourism infrastructure has been financed with foreign assistance or by foreign investors. The Belizean government is currently seeking more funds for tourism infrastructure. A recent agreement was made with the United Nations Development Programme (UNDP) and the World Tourism Organization (WTO) to formulate a model master development and zoning plan for Ambergris Caye. This would include plans for further infrastructure development, taking into account the need to determine saturation points and to decentralize around San

Pedro. It would also include plans for environmental protection. This model is considered the forerunner of 1) a general caye and reef development plan, and 2) district master development and zoning plans for Corozal, Cayo, and the southern mainland.

As part of its effort to promote the tourism industry, the government collaborated with the Caribbean Tourism Research and Development Center (CTRC) to conduct a survey in the winter of 1986. The Visitor Expenditure and Motivation Survey included over 2,300 persons. The purpose of the survey was to determine visitor profiles, purpose of visit, and expenditure patterns. (Miller, 1988)

Survey results indicated that about 72 percent of the tourists came to Belize for vacation, 19 percent for business purposes, and 9 percent for "other reasons," including visits to friends and relatives. Forty-one percent of the respondents reported that they had visited Belize previously, while 59 percent were on their first visit. The proportion of people on their first trip was higher among vacationers (65 percent) than among business travelers (42 percent).

On average, tourists spent 10.63 nights in Belize, with tourists from Canada and the United Kingdom staying longer than people from other countries. Three-quarters of the tourists stayed in paid accommodations (hotels, guest houses, motels).

About one-fifth of the tourists were traveling on an inclusive tour package, most of these from the United States. The tourists spent an average of U.S. \$64.88 per person per day during their stay in Belize, or about U.S. \$690 per person per visit based on the average length of stay of 10.63 nights. Of these expenditures, about half were for accommodations including room, food, and drinks purchased at the hotel. An additional 16 percent were spent on food and drinks outside the hotel, and the remainder went for other expenses.

The respondents were given a list of possible selected reasons for visiting Belize and asked to indicate which were "important" and which were "not important." The cayes/barrier reef was listed as "important" by the largest majority of people (37 percent), the climate was cited by 35 percent, the tropical setting by 35 percent and the "peace and quiet" by 31 percent. Surprisingly, the Mayan ruins were listed as "not important" by over 80 percent of the respondents (Visitor and Motivation Survey, 1986, as cited in Miller, 1988).

II. Status of Tourism to Protected Areas

A. Demand for Tourism to Protected Areas

There are several indicators of expanding demand for tourism to protected areas in Belize. One is the increasing numbers of tour operators who are focusing more of their tours in natural areas. Secondly, there has been a tremendous growth in small, often one or two person, tour services that have emerged for the sole purpose of offering tours to parks and reserves. These tour operators include: Adventure Belize Tours, Aracari Outings, Caribbean Charter Services Unlimited, Explore Belize Tours, Ltd., Personalized Services, Tiki Tours, and S&L Guided Tours, all located in Belize. Operating outside Belize are Belize American Trading Company, Belize Connection, International Expeditions, International Zoological Expeditions and Triton Tours, and Massachusetts Audubon.

Increased visitation has also been noted by hotel owners and other travelers to Belize. In January, 1989, the manager of the Pelican Beach Hotel in Dangriga said that this was the busiest season ever in its history. The hotel had been filled to capacity solidly for the previous six weeks. A recent visitor claimed that he went to San Pedro and could not find a hotel room.

To evaluate the demand for nature tourism, World Wildlife Fund conducted surveys of tourists at the airport and at a Belizean hotel. Tourists were asked to characterize the degree to which natural protected areas influenced their travel plans and activities. First, socio-demographic information was collected from those surveyed. Then visitors were asked how important protected areas were in their decision to visit the country, how many protected areas they visited, and what kinds of nature-oriented activities they participated in during the trip.

WWF Airport Survey Results

Socio-demographic Information

Average age: 40.5 years, with the youngest tourist being 18 years old and the oldest, 73 years old (N=80).

Average nights: 13.2 nights stayed. Shortest visit was 2 nights, longest was 99+ nights. (N=96).

Family members: Thirty four (34 percent) of the 99 tourists interviewed were traveling with family members. Family groups averaged between two and three people (2.6). The minimum was with one other person (probably a spouse), and the largest group was one family of 10.

Expenditures: The average for total trip-related expenditures was \$1,490 (N=89), or an average expenditure of \$157 per day. Of the 89 respondents to this question, 48 reported an average expenditure of \$483 for international airfare. People who did not respond may have had airfare included in the price of a tour or were unsure of the cost.

Income: The average family income range was between U.S. \$30,000 and \$40,000.

Gender: 58 percent men, 40 percent women, 2 percent no response.

Nationality: The nationality distribution of the survey respondents (N=99) was as follows: 81.8 percent North American, 11.1 percent European, 2.0 percent Dominican Republic, 2.0 percent Australian, and 3.1 percent all other.

Protected Areas and Nature-oriented Tourism

When asked how important parks and protected areas were in their decision to visit, the majority indicated that it was important or very important to them and was an influence on their decision to travel to Belize. Responses given were as follows:

Main reason	8%
Important, influenced decision	36%
Somewhat important	29%
Not important	23%
No response	4%

This was the first trip to Belize for 72 percent of the visitors; for 28 percent it was a repeat visit. Most tourists had more than one reason to visit; the top five reasons given were:

Natural history	52%
Sightseeing	48%
Sun/beaches/recreation	47%
Archeology	44%
Cultural history	37%

Tourists to Belize engaged in a high proportion of recreational activities. Although 44 percent said that the parks and protected areas influenced their travel to Belize, many more tourists enjoyed nature-based activities. Over half of all tourists to Belize took a boat trip, watched birds, or went on a jungle excursion. Other nature activities had a high participation rate as well:

Boat trips	60%
Birdwatching	57%
Jungle excursions	56%
Wildlife observing	49%
Local cultures	34%
Hiking/trekking	30%
Mountaineering	22%
Botany	20%
Hunting/fishing	14%
Camping	5%

From the survey, 46 of the 99 visitors responded that what they liked most about Belize was the "friendliness of the people." Twenty-eight visitors listed the natural features and beauty of Belize. The most frequently listed dislike, indicated by 34 of the 99 visitors surveyed, was the "pollution, noise, and litter" in the country. Another commonly listed dislike recorded by visitors was the "road systems and the lack of signs" (23 visitors), and 16 visitors mentioned "crime."

B. The Supply of Protected Areas

1. Development and Management of Park System

The management of protected areas in Belize is unique in that there is currently no national park service, and the protected areas are managed by a nongovernmental organization. The Department of Forestry, the government agency in charge of the parks, has delegated management responsibilities for most areas to the Belize Audubon Society (BAS) until a park service is established, which is currently in process.

Before Belize became independent in 1981, the previous colonial government had created several reserves. In 1928, Half Moon Caye was established to protect the habitat of Belize's famous nesting colony of the Red-footed Booby. In 1977, the colonial government established seven tiny mangrove cayes to protect other sea-bird rookeries. In addition, 15 forest reserves, covering almost 20 percent of Belize, were created. The purpose of the reserves, however, was not wildlife conservation but timber exploitation.

The National Parks System Act, passed in 1981, is the legal foundation for establishing national parks, natural monuments, and wildlife reserves. Since this time, six additional parks have been declared.

2. Examples of protected areas:

Guanacaste Park

Guanacaste Park was established in 1973 and centers around a large guanacaste tree that supports an epiphyte colony of about 35 species of orchids, bromeliads, ferns, cacti, strangler figs and others. Given the park's small size of 21 hectares (52 acres), Guanacaste does not meet international size specifications for national parks.

Cockscomb Jaguar Sanctuary

The Cockscomb Jaguar Sanctuary is a 1,417-hectare (3,500-acre) site located within the Cockscomb Basin Forest Reserve protecting prime jaguar habitat and healthy populations of other wildlife species such as ocelot, margay, peccary, and deer. The sanctuary has a visitor center, cabins, an administrative

building and many marked trails. At the entrance of the sanctuary in Maya Center, a gift shop was recently completed and is flourishing.

Bermudian Landing Howler Monkey Reserve

The Bermudian Landing Howler Monkey Reserve is a community-operated wildlife refuge that is primarily on private land. The reserve was established when it was discovered that a 25-kilometer (15.5-mile) stretch of riparian habitat near Belize City contained an extremely high population of howler monkeys (at least 800). Because most of this land is privately owned and some of it actually lies within a rural community, a mechanism was created whereby landowners voluntarily complied with a management plan drawn up by a biologist studying the monkeys. The community has developed a visitor center and is developing a bed and breakfast facility.

Hol Chan Marine Reserve

The Hol Chan Marine Reserve is a 5 square-kilometer (1.9 square-mile) transect that protects mangrove, reef, and deep water habitats. Established in 1987, it is a very popular area for fishing, diving, and snorkeling. The nearby town of San Pedro has an administrative office with an aquarium, marine exhibits, and interpretive materials.

Crooked Tree Wildlife Sanctuary

Crooked Tree Wildlife Sanctuary is located about 56 kilometers (35 miles) northwest of Belize City. It is 3.2 kilometers (2 miles) off the main highway and can be reached by a causeway that crosses an inland lagoon to the sanctuary. Established in 1984 for the protection of resident and migrant birds, the sanctuary consists of a network of inland lagoons, swamps, and waterways. During the dry season, thousands of birds congregate at Crooked Tree to take advantage of the food resources and to find a nesting spot on their spring migration north. Wildlife found within the sanctuary include the boat-billed heron, the chestnut-bellied heron, black-collared hawks, black howler monkeys, and morelet's crocodiles. There is a visitor center and marked trails.

Shipstern Wildlife Sanctuary

Shipstern Wildlife Sanctuary and Butterfly Farm is a privately owned protected area established in 1987 in the northeastern part of Belize. It encompasses 77 square-kilometers

(29.7 square-miles) of tropical forest, savanna, mangrove, and lagoon coastline. A major activity at the reserve is the breeding of butterflies. The concept behind the breeding program is to eventually export the pupae of several species of butterflies to England. The funds generated from the sale of these butterflies will be used for conservation of the reserve.

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III. Impacts of Tourism to Protected Areas

A. Economic Activities Related to Nature Tourism

The economic impacts of tourism to protected areas can be seen in the number and growth of tour operators who focus on natural areas. Belize Travel Haus in Ambergris Caye has traditionally offered cultural history tours and is now starting to offer birdwatching and manatee-watching tours. Mountain Equestrian Trails is offering horseback riding excursions to the "wilds of the Mountain Pine Ridge Forest Reserve." S&L Guided Tours offers several nature tours including half-day, full-day and overnight excursions. Ricardo's is a small enterprise offering two- and three-day trips to an island along the barrier reef. Visitors stay in small guest cabins built over the water.

Economic activity can also be seen at individual protected area sites. For example, at Cockscomb Jaguar Preserve, no entrance fee is charged, but a small fee is charged to stay overnight in the rustic cabins. There are currently no eating facilities on site, so all food is brought into the preserve. The bigger economic impact is seen in the local community of Maya Center. The women have recently formed a cooperative gift shop to sell handicrafts to tourists. Since June they have sold U.S. \$3,500 in handicrafts. Also, increasing numbers of guides from the village are being trained as tourist guides.

Economic impacts of tourism can also be seen at the Crooked Tree Wildlife Sanctuary. Nearby residents have traditionally had little interaction with tourists to the sanctuary. However, they are starting to offer some tourist services, including room and board for visitors. Early rising birdwatchers are taking advantage of this service. Horse owners have begun renting horses for riding, and boat owners are giving boat trips.

There has also been a substantial economic impact from tourism at the Bermudian Landing Howler Reserve. With the completion of the visitor center, and the guide service provided there, the residents are receiving income from tourists. With construction of the anticipated bed and breakfast, tourism is expected to become an even bigger source of local income.

B. Environmental Impacts of Nature Tourism

1. Conservation Activities and Environmental Education

Many benefits have resulted from increased tourism in Belize, some by an indirect route. One notable example is the

Hol Chan Marine Reserve, which was recently established to control diving and fishing in order to sustain the area's resources. Hol Chan was established when local residents solicited the support of the Belizean government and the international conservation community to protect part of the barrier reef that was being destroyed because of uncontrolled tourism. The declaration of this protected area and the consequent conservation of the marine resources, will allow the area to support a sustainable tourism industry.

Other impacts of the nature tourism business on conservation efforts can be seen in the large number of naturalists and conservationists who are involved with nature tourism accommodations or guide services. For example, some board members and employees of the BAS also own hotels or tour operator services. Also, in addition, the head of the Cockscomb Jaguar Sanctuary Committee is also the manager of the nearby Pelican Beach Hotel.

Nature tourists have also raised the level of environmental awareness in the country. International tourists coming to see the natural resources of Belize have given a new value to these resources for nationals. Also, the Belize Zoo has been conducting an extensive environmental education program for visitors to the zoo as well as for local communities.

2. Negative Environmental Impacts

To date, environmental problems due to tourism have been minimal. There have been some reports of tourists destroying coral formations at Hol Chan, and reports of litter in other areas. If these problems are not monitored, they will become more serious; however, they are at present under control. In giving a status report on environmental impacts, it is important to note that thorough scientific studies of environmental carrying capacities have yet to be conducted for any protected area in Belize.

C. Sociocultural Considerations

Sociocultural issues were not a focal point for this study, and therefore no conclusions are presented. However, sociocultural considerations are essential when developing and managing protected areas for tourism.

IV. Obstacles and Opportunities for Growth of Nature Tourism

A. Obstacles for Growth

One constraint to the growth of nature tourism in Belize is the lack of or poor condition of infrastructure for tourists. Many of the roads in the interior of Belize are rough, and some are impassable during rainy season. Until recently, most accommodations were concentrated in Belize City (35 percent) and the Cayes (31 percent), requiring most ventures into interior protected areas to be just one-day trips. Several small lodges near protected areas--such as the Chaa Creek Cottages and the Rio Bravo development--have just been completed.

Another constraint to tourism expansion is inadequate international and national promotion. Aside from some scuba-diving areas that have been promoted by private investors, many of Belize's protected areas remain largely unknown. Promotion efforts are increasing, but many people still know very little about the country.

The lack of a park service in Belize has also constrained tourism to protected area resources. Although protected areas are being managed, there has been no single agency with the responsibility for developing park management plans and actually monitoring and promoting the parks and reserves.

B. Opportunities for Growth

Belize is in a good position to develop its nature tourism industry. First of all, its natural environment is virtually intact and there is relatively little destruction in its resources. Secondly, the present administration is very interested in promoting tourism to protected areas and will lend support to the industry. Thirdly, Belize is close to two big markets for nature tourists, the United States and Canada. Finally, as an English-speaking country in Central America, Belize attracts English-speaking people who do not want to confront a foreign language. These are all important factors that can contribute to the success of the nature tourism industry and make the development of this industry a timely endeavor now.

V. Cockscomb Basin Wildlife Sanctuary (Case Study #1)

A. General Description and Infrastructure

In 1986, the Belizean government set aside a portion of the Cockscomb Forest Reserve as a sanctuary to protect prime jaguar habitat. The Cockscomb Jaguar Sanctuary is a 1,417 hectare (3,500-acre) site that hosts not only jaguars, but also populations of wildlife species such as the endangered ocelot, margay, baird's tapir (the national animal), white-lipped and collared peccary, scarlet macaw, tayra, otter, coati, kinkajou, brocket deer, agouti, paca, anteater, and armadillo. Additionally, the sanctuary is very popular with birdwatchers. Species to be found there include the toucan, the king vulture, and the curassow.

Cockscomb Basin Wildlife Sanctuary is 11.3 kilometers (7 miles) off the Southern Highway on an unpaved road. Even in dry season, a four-wheel-drive vehicle is recommended for traveling the road. During rainy season, the road is subject to flooding and visits to the sanctuary are problematic if not impossible.

Cockscomb is managed by the Belize Audubon Society. In the last few years, BAS has overseen the rapid development of basic infrastructure. The sanctuary now has simple accommodations consisting of two cabins with room for 10 people, and latrines. Recently, a potable water system has been finished. Overnight visitors pay a minimal fee, and differential rates are charged for foreigners, nationals, and children.

Additional infrastructure includes a visitor center, a picnic area, and several marked routes and jungle trails. A large map of the park is available, as are interpretive brochures with descriptions about the park's flora and fauna.

Funding for Cockscomb's infrastructure development comes mainly from international funding organizations. However, revenues from tourism are increasing and are expected to make a bigger contribution to park maintenance in the future.

B. Visitor Information to Date

Visitation statistics have been recorded only since November of 1986 and show the following monthly distribution:

Table 3.

VISITORS TO COCKSCOMB BASIN WILDLIFE SANCTUARY 1986-1988			
MONTH	1986	1987	1988
January		63	102
February		79	49
March		96	48
April		117	168
May		131	179
June		152	186
July		107	45
August		62	n/a
September		41	n/a
October		49	n/a
November	42	88	n/a
December	48	113	n/a
Total	90	1,098	777

(incomplete)

Source: Cockscomb Sanctuary visitor book, August 1988

Based on these available statistics, it is difficult to establish a trend. However April, May, and June of 1988 did show an increase in visitors over the same months in 1987.

C. WWF Park Survey Results

1. Visitor Profile

Further data on visitor patterns and profiles were obtained during our two survey weeks¹, when 42 international visitors were interviewed. With the exception of one (Japanese), all visitors were North American. The majority were male (67 percent) and came with friends or colleagues (57 percent) or with relatives (19 percent). About 19 percent indicated that they came with a tour group. In most cases (75 percent), the excursion to Cockscomb had been planned beforehand; the remaining visitors (25 percent) had spontaneously followed local advice.

¹One week in February (high season), and one week in May (low season)

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It should be noted that there are many Europeans who visit Cockscomb, and this survey is not necessarily representative of all visitors.

Among the list of motivations to visit the park, the most frequently cited reasons were its fauna (81 percent), and to a lesser extent, adventure (21 percent).

Visitors arrived by automobile (71 percent), or by bus (26 percent). About one-fourth of all visitors indicated that they had spent the night in one of the preserve's two lodges. Over 50 percent said they had spent the night in a good quality local hotel or a pension outside of the preserve, most likely in Dangriga. The mean number of nights spent in or near the park was 1.9.

2. Visitor Impressions

Visitors' impressions of the sanctuary as a tourist attraction were also obtained in the WWF park survey. Over 84 percent of interviewed tourists described their park experience as excellent or good. While a majority (78 percent) considered the park's infrastructure and installations to be excellent or good, about 20 percent described them as mediocre.

Visitors enjoyed Cockscomb's natural features, especially its flora, and praised the park guards and manager. Many expressed displeasure with the access roads, the price of lodging, the lack of an interpretive center, and the lack of food at the sanctuary.

Asked for suggestions how to improve the park experience, visitors recommended road improvements, technical information on the area, more maps of the area, and improved toilet facilities.

D. Economic Impacts of Tourism at Cockscomb Sanctuary

Local economic impacts have thus far been small because of the location of the preserve and low annual visitation figures. However, some interesting developments in the local community, Maya Center, have occurred. When tourists began coming to the preserve, the local women recognized the demand for souvenirs. They began selling beads at the entry gate and recently have joined in a cooperative gift shop. Although the shop has been open for only a few months, it has already achieved satisfactory financial gains. Several young people are being trained as tour guides. These activities have brought some economic returns to the villagers. At present, no one locally has expressed an interest in establishing hotel facilities since the Belize

Audubon Society already has built the two cabins inside the preserve. Many park visitors stay in the nearest town, Dangriga. One of the hotels in this town offers day trips to the sanctuary.

E. Environmental Impacts

Environmental impacts thus far have been minimal. The small-scale economic activity derived from tourism apparently has positively encouraged the local population to "protect" the park. It has also been reported by the Cockscomb staff that some larger mammals have shown an increased presence in the sanctuary.

VI. Crooked Tree Wildlife Sanctuary (Case Study #2)

A. General Description and Infrastructure

Crooked Tree is located about 35 miles northwest of Belize City. It is 2 miles off the main highway and can be reached by a causeway, completed two years ago, that crosses an inland lagoon to the sanctuary. Established in 1984 for the protection of resident and migrant birds, the sanctuary consists of a network of inland lagoons, swamps, and waterways. During the dry season, thousands of birds congregate at Crooked Tree to take advantage of the food resources and find a nesting spot on their spring migration back to the north. Animals found within the Sanctuary include the boat-billed heron, chestnut-bellied heron, black-collared hawks, black howler monkeys, and the morelet's crocodiles.

There is a modest but informative visitor center at the sanctuary. The area's flora and fauna are displayed in the center, and brochures are available about the sanctuary. The sanctuary has three employees: one Peace Corps volunteer and two park wardens.

The village of Crooked Tree, next to the sanctuary, has thus far had little interaction with tourists. The village was established during the logwood era in Belizean history. The main economic activities of the village population are agriculture--specifically, cashew and mango--and fishing. With the recent opening of the causeway, many residents are finding employment outside of the village.

B. Visitor Information to Date

Visitation statistics are available only since October of 1986, but they clearly demonstrate the increase of tourism to the park:

Table 4.

**VISITATION AT CROOKED TREE WILDLIFE SANCTUARY
1986 - 1988**

MONTH	1986	1987	1988
January		33	133
February		69	177
March		51	127
April		49	80
May		19	24
June		37	45
July		21	n/a
August		38	n/a
September		8	n/a
October	9	40	n/a
November	10	64	n/a
December		129	n/a
Total	19	558	586 (incomplete)

Source: Crooked Tree Visitors Book, 1987/88

C. WWF Park Survey Results

1. Visitor Profile

Specific information on visitor patterns and profiles was obtained during our two survey weeks, when a total of 39 international visitors were interviewed.² With the exception of two (Europeans), all interviewed visitors were North Americans. Over half of the visitors were male, the mean age being 49.1. The mean income of visitors was close to U.S. \$40,000 per year. Most visitors came with relatives to the park (49 percent) or were accompanied by friends and colleagues (33 percent). About 28 percent stated that they came with a tour group. In most cases, the excursion to the sanctuary had been planned before arriving in Belize. However, about one-third decided during their stay in Belize to visit the sanctuary, mainly based upon recommendations from friends or from brochures in the country.

²one week in high season (February)
one week in low season (May)

The main motivation to visit Crooked Tree is its fauna (59 percent) and recreation (28 percent). While in the sanctuary, primary tourist activities were birdwatching and wildlife observation.

Visitors arrived by automobile (62 percent) or bus (33 percent). No visitor spent the night in the sanctuary, but over one-third indicated that they stayed overnight in a good quality hotel outside of sanctuary. The mean number of nights spent near Crooked Tree was 1.5.

2. Visitor Impressions

Visitors' impressions of Crooked Tree as a tourist attraction can be obtained from the WWF park survey. All visitors described their excursion to the sanctuary as either good (64 percent) or excellent (36 percent), and an overwhelming majority was equally satisfied with the sanctuary's infrastructure and installations.

Visitors enjoyed the sanctuary's natural features and birdwatching opportunities. They praised the sanctuary guards and managers. Few mentioned dislikes, but the ones mentioned included difficulties in reaching the sanctuary, guide services, lack of food, water quality, and the interpretive center.

When asked for improvements needed to enhance the experience of visiting the sanctuary, visitors suggested guidebooks, technical information, an improved road system, and improved guide services.

D. Economic Impacts of Tourism to Crooked Tree

The increase of tourists to Crooked Tree is starting to expand the economic opportunities of the local population. Some families are providing room and food for visitors staying for a few days; horse owners rent horses for horseback riding; boat owners rent boats for trips up and down the lagoons; the sale of beverages to visitors has been increasing; and local women are selling needlework to visitors.

E. Environmental Impacts of Tourism to Crooked Tree

Environmental impacts have thus far not been reported, however, comprehensive environmental studies have yet to be conducted.

CHAPTER 2

COSTA RICA

I. Status of Tourism Industry

A. History and Growth

Costa Rica has recognized the importance of tourism to its economy for many years, but it is only recently that the country has become a well-known tourist destination. With the establishment of an outstanding system of parks and reserves, the natural resources of Costa Rica are receiving worldwide attention, and the tourism industry is now increasing its efforts to promote nature tourism.

Costa Rica's first national tourist board, the Junta Nacional de Turismo, was set up in 1931. The board was replaced by the Costa Rican Tourist Board (ICT) in 1955. Foreign tourism grew most rapidly in the 1970s, when growth averaged 11.2 percent annually. (*The Economist*, 1987). At this time, tourism became the third largest source of income, behind banana and coffee export, in Costa Rica (Table 1). Tourism has not only maintained its position as third leading earner, but also has had the largest percentage increase among all other foreign exchange earners in the last decade. In 1986, tourism represented 16 percent of the country's total foreign exchange.

Table 1.

	VALUE OF COSTA RICAN EXPORTS 1979 - 1986							
	1979	1980	1981	1982	1983	1984	1985	1986
Coffee	315.4	257.9	240.0	236.9	229.9	264.6	308.9	371.8
Bananas	190.5	207.5	244.8	228.1	240.3	229.4	201.4	228.2
Tourism	72.7	84.4	93.6	131.1	130.6	117.3	118.3	132.7
Meat	82.5	71.8	76.5	53.1	31.9	46.9	52.5	66.2
Sugar	17.5	40.7	42.0	16.6	23.8	29.2	10.5	18.5
Fertilizers	9.3	10.0	15.6	7.9	5.5	5.6	7.6	4.7
Cocoa	9.7	4.2	2.7	2.4	0.9	1.0	...	...

Source: Chaverri, 1988

For many years, Costa Rica has been known for peace and democracy, a high level of education and health care, and stable, pleasant weather. Traditionally, tourism has been concentrated around San Jose, the capital, in the central highlands. However, tour operators soon realized that the city could not compete with other capital cities that offered more museums, commercial areas, entertainment and nightlife. Therefore, tour operators began promoting what is unique in Costa Rica--a network of natural protected areas that hold an immense diversity of wildlife and wildlands.

Tourist statistics in Costa Rica show that the number of visitor arrivals has alternately risen and fallen during the last decade. There were 299,039 visitor arrivals in 1976, with steady increases to a peak of 340,442 in 1978. The 1979 revolution in neighboring Nicaragua affected Costa Rica's tourism and brought arrivals down to 317,724. Numbers began to rise again, reaching 371,582 in 1982. The main reason for this second peak year was the increase in Central American visitors, primarily Panamanians, perhaps because of a favorable exchange rate. Then, with further trouble in the region, numbers fell to 326,142 in 1983, then to 273,901 in 1984; they continued to decline for the next couple of years.

Traditionally, most of Costa Rica's tourists were from other Central American countries, particularly Nicaragua, which accounted for 36.7 percent of all international tourist arrivals in 1978. However, the percentage of Central American visitors has fallen in the last decade overall. The European and North American portion of the market has varied somewhat, but has been rising overall in the same time period.

Political and economic difficulties in Central America have affected tourism in Costa Rica in various ways. Certainly they have contributed to the decline in the number of Central Americans who travel to Costa Rica for vacation, but the impact of these difficulties on tourism by other international visitors is less clear. For people outside Central America, changes in tourism patterns can be attributed to variances in perception of how closely Costa Rica is tied to danger in Central America or to what extent Costa Rica is seen as a distinct and peaceful country in the midst of violence.

Visitor expenditures have risen consistently in the last decade, with only one exception in 1984-85. Expenditures have risen from U.S. \$57,062,105 in 1976 to \$132,700,000 in 1986. Of the total for 1986, North Americans accounted for 44 percent, Central Americans for 29 percent, Europeans for 12 percent, South Americans for 9 percent, Caribbeans for 1% and all others for about 5 percent. It is estimated that the economic multiplier of tourism income in Costa Rica is between 3.2 and 5.5 (Chaverri, 1988).

B. Major Tourism Attractions

Costa Rica is a small country, roughly 52,000 square kilometers. Despite its small size, however, Costa Rica comprises an enormous variety of topography, climate, and plant and animal life. The temperature changes with altitude, and rainfall and humidity vary greatly with distance from the oceans or the mountains. Geographically, the country is a bridge between two continents, with species migration between North and South America that has produced a spectacularly diverse wildlife.

The country has four mountain ranges, two of which are of volcanic origin. It contains large tracts of tropical rain forest and other endangered ecosystems. Costa Rica has dry tropical forests, cloud forests, mountain paramos, mangroves, white and black sand beaches, coral reefs, volcanoes, and a number of other natural attractions that are playing an increasingly important role in the development of tourism in Costa Rica.

Many of these natural attractions are under some form of protection. The Costa Rican Parks System covers nearly 20 percent of the country, with 19 national parks and reserves and several other private parks. The Parks System encompasses representative samples of nearly all habitats and most of the 1,500 distinct species of trees, 850 birds, and over 6,000 kinds of flowering plants in Costa Rica, including 1,500 varieties of orchids. The most visited parks are Poás Volcano National Park, Cahuita, Manuel Antonio, Irazú Volcano, Santa Rosa, Tortuguero, Corcovado, and Carara.

The beach resorts of Costa Rica, almost all on the Pacific shore, are not as fully developed as the beach resorts of the Caribbean or of Mexico. With few exceptions, Costa Rican beach resorts are small and do not draw as many tourists as those of other countries in the region.

Tourists are also attracted to visit San Jose, the capital of Costa Rica, with its modern airport, good hotels, restaurants, and tourist information centers. Other attractions include the National Museum, with its displays of the country's flora, fauna, and history; the National Insurance Institute, which houses a large exhibit of jade and ceramics; the Metropolitan Cathedral; the Museum of Costa Rican Art, and the National Artisan Market. The city has no national convention center, although many conventions are held at hotels.

C. Tourism Policy, Management, and Promotion

During the 1970s and early 1980s, tourism was not regarded as a priority sector by the government, and the tourism board (ICT) did not receive much attention or funding. While the manufacturing sector had been receiving preferential interest rates, tourism development was minimal. However, in the 1980s, manufacturing investment began to stagnate, and the tourist industry to decline. With this situation, the government decided that tourism should become a national priority; it allocated more funds for the tourism board and also declared preferential interest rates for tourism. In 1986, the government passed the "Law of Tourism Incentives" to demonstrate its commitment to developing the tourism industry.

The current government, which took power in 1986, is also focusing a great deal of attention on tourism and is reorganizing the tourism board. In 1986, the government continued the practice initiated in 1985 of increasing the tourism board's budget from central funds and also increased the tax on airfares from 5 percent to 8 percent to increase the board's funding. This airfare tax and a 3 percent tax on hotel accommodation are intended to fund the board totally (The Economist, 1987). Also, the government would like to add 2,000 new hotel rooms by the 1990s.

As indicated in the Tourism Development Strategy for 1984-90, the trend in tourism policy in Costa Rica is toward specialized tourism. The ITC has identified four areas to be developed in the tourism sector over the next five years. These are: nature and adventure tourism, sun and beach tourism, cruise ship tourism, and convention or business tourism.

As outlined in the strategy, one of the primary efforts of tourism promotion will be to encourage "soft" nature tourism through day trips to parks. Also identified in the strategy are infrastructure priorities, such as improvements in domestic air services and completion of the roads from San Jose to the Caribbean and Pacific coasts.

The ITC conducted visitor surveys in 1985, 1986, and 1987 to determine main visitor motivation factors. The term "ecotourism" did not appear on the 1985 survey, but was introduced in 1986. The fact that about 36 percent of the visitors included "ecotourism" among their main reasons for visiting Costa Rica is no doubt significant (Table 2).

Table 2.

MAJOR/MAIN MOTIVATIONS FOR TOURIST TRAVEL TO COSTA RICA				
	1985		1986	1987
Weather	23.0%	Natural	87.0%	72.3%
Beaches	23.0%	beauty		
Nature	9.5%	Culture	78.1%	66.8%
Democracy		Fishing		
and peace	9.0%	and sports	16.7%	13.9%
Cheap country	6.0%	Ecotourism	35.9%	36.1%
People	5.5%	Other	21.4%	
Other	24.0%			

Source: Costa Rican Board of Tourism Survey 1985, 1986, 1987

Within the country, there are two major vehicles for promotion of Costa Rica as a tourist destination. In addition to the ICT, there is also an annual trade fair. Started in 1985, Expotur, is financed by the country's trade associations. The most active tourism associations are Canatur, the national tourism chamber to which all sectors of industry and regional tourism chambers belong, and ACRPROT, the travel agencies association.

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II. Status of Tourism to Protected Areas

A. Demand for Tourism to Protected Areas

The increasing demand for nature tourism in Costa Rica is reflected in the increasing number of tour operators who are offering tours to protected areas. Of the approximately 30 travel agencies in Costa Rica, one-third are called "ecotourism agencies." Examples of these agencies are Costa Rica Expeditions, founded in 1979, Tikal (1983), Horizontes (1984), Geotour (1985), Interviajes (1985), and Cosmos (1986).

Other travel groups that do not specialize in "ecotourism travel" also offer trips to protected areas. For example, Blanco and Swiss travel agencies sporadically arrange natural history tours. Mawamba offers tours specifically to Tortuguero Park. Marengo is a private reserve with its own travel agency. The Organization for Tropical States brings visitors to its three biological stations (La Selva, Palo Verde, and Wilson Gardens). The Tropical Science Center coordinates tours to Monteverde Reserve.

Demand for tourism to protected areas can also be seen in the following table of the number of foreign visitors to national parks between 1981 and 1986.

Table 3.

**NUMBER OF FOREIGN VISITORS TO NATIONAL PARKS AND RESERVES
IN COSTA RICA, 1981 - 1986**

NATIONAL PARK	1981	1982	1983	1984	1986	TOTAL	PERCENT
Volcan Poas	10,898	17,934	22,593	23,380	24,640	98,445	31.1
Volcan Irazu	17,094	26,321	19,162	20,839	18,597	102,013	32.5
Manuel Antonio	7,790	13,690	12,435	11,027	16,234	61,176	19.5
Cahuita	2,657	4,369	3,559	5,270	8,383	24,238	7.7
Monteverde	2,127	2,827	4,539	4,090		13,583	4.3
Santa Rosa	851	1,255	1,347	1,343	1,161	5,957	1.9
Guayabo	494	471	314	403	464	2,146	0.7
Sraulio Carrillo	103	64	77	255		499	0.2
Tortuguero	296	448	139	843	1,032	2,758	0.9
Chirripo	76	179	53	118	166	592	0.2
Barra Honda	30	75	25	103	57	290	0.1
Corcovado	357	265	415	261	59	1,357	0.4
Rincon de la Vieja	124	114	147	114	164	663	0.2
Santa Ana	242	193				435	0.2
Cabo Blanco					99	99	0.0
Total	43,109	68,130	64,780	67,943	69,999	313,961	100

Source: National Park Service (NPS)

Surveys were conducted at the airport in San Jose to determine the degree to which natural protected areas influenced tourists' travel plans and activities. First, socio-demographic information was collected, and then visitors were asked how important protected areas were in their decision to visit the country, how many protected areas they visited, and what kinds of nature-oriented activities they participated in during their trip.

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WWF Airport Survey Results

Socio-demographic Information

- Average age:** 39.5 years, youngest 21, oldest 75 years old (N=82).
- Average nights:** Average number of nights was 15.6; shortest stay was overnight, longest was 99+ (N=96).
- Family members:** Of the 104 tourists surveyed, 30 (29 percent) came with family members. Average was 2.8 people, or closer to three total family members. The largest family had eight members.
- Expenditures:** Average total trip expenditures in Costa Rica were \$1,311 (N=96), for an average daily expenditure of \$131 per day. The highest total expenditure for any tourist was over \$9,999 and the cheapest vacation cost \$40. Of the 96 people responding to this question, 48 people reported an average expenditure of \$782 for airfare.
- Income:** The average family income range was between \$30,000 and \$40,000.
- Gender:** 66 percent of respondents were men, 31 percent were women, and 3 percent gave no response concerning gender.
- Nationality:** The nationality distribution of the survey respondents (N=104) was as follows: 51.0 percent North American, 28.8 percent European, 2.9 percent Panamanian, 2.9 percent Colombian, and 14.4 percent all other.

Protected Area and Nature-oriented Tourism

Parks and protected areas were important in the tourists' decisions to visit Costa Rica:

Main reason	14%
Important, influenced decision	27%
Somewhat important	17%
Not important	36%

No response

6%

Many of the tourists to Costa Rica had been there before; 41 percent had previously visited the country, while for 57 percent it was their first trip (2 percent gave no response). The top five reasons given to visit Costa Rica were:

Visit friends or family	35%
Natural history	30%
Sun/beaches/recreation	30%
Sightseeing	28%
Business	24%

The activities most commonly enjoyed by all tourists interviewed were nature based activities. Although tourists expressed multiple responses, it is important that a high percentage, no matter what their reason for travel to the country, participated in nature-based activities:

Wildlife observing	37%
Jungle excursions	33%
Birdwatching	31%
Boat trips	25%
Botany	18%
Hiking/trekking	16%
Local cultures	14%
Hunting/fishing	12%
Camping	10%
Mountaineering	9%

When asked to list what they liked most about Costa Rica, 45 of 104 surveyed listed the "friendliness of the people." Both the "climate" and Costa Rica's "natural features and beauty" were highlighted by 26 visitors. Also mentioned were the country's "parks and protected areas," listed by 17 visitors; 11 visitors listed the "food and restaurants" of Costa Rica. The most frequently listed dislike, 27 out of 104, was the country's "pollution, noise, and litter." Twelve visitors listed the "downtown area of San Jose" as a dislike.

B. Supply of Protected Areas

1. Development and Management of Park System

The park system in Costa Rica developed primarily through the efforts of biologists and other conservationists concerned about depletion of the forests. The country had extensive tropical forests until the late 1940s. Within 30 years, many of these forests were lost. In the late 1960s, a small movement began to protect what was left of Costa Rica's natural heritage. This led to creation of the National Parks Service in 1970, under the direction of the Ministry of Agriculture and Livestock.

Costa Rica had just a few parks and reserves in 1970. However, by 1987, the nation had over 55 protected units, such as national parks, national forests, wildlife refuges, and Indian reserves. These areas cover about 18 percent (926,000 hectares) of the national territory.

The wildlands of Costa Rica provide shelter for most of the 12,000 species of plants, 237 species of mammals, 848 species of birds, and 361 species of amphibians and reptiles that have been identified in the country. They also conserve almost all the existing natural habitat types, such as deciduous forests, mangrove swamps, rain forests, marshes, paramos, cloud forests, coral reefs, riparian forests, and swamp forests (Boza, 1986).

The National Park Service is the agency that has been in charge of managing the majority of the protected units. It employs approximately 350 individuals. Employees all receive some level of training, ranging from week-long workshops to full-length graduate programs. The National Forest Service and the Department of Wildlife and Fisheries have also managed some areas.

In 1989, the protected area system was reorganized under a new umbrella agency that will manage all national parks, national forests, national wildlife refuges, and Indian reserves. Under this new system, nine protected area units have been designed, each containing numerous parks and reserves, for a new management scheme.

2. Examples of Protected Areas

Santa Rosa National Park

Santa Rosa, a national park of 21,913 hectares, is important for two reasons. Historically, it was the scene of the Battle of Santa Rosa in 1856, one of the major heroic feats in the national history of Costa Rica. Ecologically, it is an integral area in the protection of the climatic zone known as the "Dry Pacific." For this reason, and because of its great biological variety--603 types of plant species, 75 species of mammals, 260 bird species, and an extraordinary number of insect species--Santa Rosa has become an important international research center for ecological studies of dry tropical forests.

Carara Biological Reserve

A transition zone between a dry region to the north and a more humid region to the south, Carara, a biological reserve of 4,700 hectares, is considered a veritable oasis due to its great variety of plant life as well as its many different aquatic habitats, including swamps, several streams, and a lagoon with floating vegetation. Additionally, the reserve offers an archeological site (a cemetery) in Lomas Carara.

Manuel Antonio Natural Park

Renowned for its beauty, Manuel Antonio Natural Park's main attractions are its two white-sand beaches, which are rimmed by tall evergreen forests and slope gently down to transparent blue water. Twelve islands lie just off the coast of the park, providing refuge for sea birds as well as an important nesting ground for the brown booby. Terrestrial wildlife is varied--109 species of mammals and 184 species of birds--but the marine flora and fauna are particularly diverse. Most notably, 10 species of sponges, 19 of coral, 24 of crustaceans, 17 of seaweed, and 78 of fish have been identified in the six main sea habitats. The park, which is 690 hectares in size, also offers three geological attractions: a sand bar, a blow-hole, and sea caves along Serrucho Point.

Corcovado National Park

Located in one of the rainiest regions of the country, Corcovado's 41,788 hectares host about 500 species of trees, some of which are giants reaching heights of 50 meters. An extraordinarily diverse wildlife includes 300 species of birds, 139 of mammals, and 116 of amphibians and reptiles identified to

date. It is estimated that 5,000 to 10,000 species of insects are to be found within the boundaries of the park alone. Corcovado protects the largest population of scarlet macaw in Costa Rica, as well as endangered species such as the jaguar, crocodile, and tapir. Because of its geographic location and impressive diversity of wildlife, the park has become an important international center for tropical rain forest research.

Braulio Carrillo National Park

Braulio Carrillo's drastic topographic variations, consisting of high mountains, deep canyons, and rushing rivers, combined with high precipitation levels, result in an infinite number of waterfalls in the park. Other impressive geographic features within its 31,401 hectares include two extinct volcanoes and several lakes. The park enjoys an abundance of flora and fauna, notably 6,000 plant species and 400 species of birds. A modern highway crosses this park.

Poás Volcano National Park

The most developed and visited park in Costa Rica, Poás is widely considered to hold one of the most spectacular active volcanoes in the country--its enormous mouth measures 1.5 kilometers in diameter and 300 meters deep. Eruptions of the volcano spew immense columns of muddy water and steam, sometimes to heights of 200 meters. Such eruptions have earned Poás the distinction of being the largest geyser in the world. The park covers 5,317 hectares and contains little wildlife, although many birds can be found, particularly hummingbirds and sooty robins.

Irazú Volcano National Park

Known as "the deadly powder keg of nature," Irazú is an active volcano with a long history of eruptions of burning rock and ash. Present activity, however, has been reduced to moderate emissions of gases and vapors. The violence of Irazú's past eruptions is nevertheless reflected in the park's sparse and twisted vegetation and scarcity of wildlife over its 2,398 hectares. On clear days it is possible to see both oceans from Irazú's summit.

Tortuguero National Park

Tortuguero, one of the rainiest regions in the country, is also considered to be one of the most ecological diverse wildlands. Because of the dense vegetation and swampy terrain, however, the park's rich wildlife is difficult to observe. The

park is 18,946 hectares in size, and as indicated by its name, is known for the species of sea turtles that come to nest there, most notably the green turtle, leatherback turtle, and hawksbill turtle. Part of Tortuguero's scenic beauty is the natural system of lakes and navigable canals crossing the park, which form the habitat for two endangered species--the crocodile and the West Indian manatee.

Cahuita National Park

The beauty of Cahuita is best seen in its long white beaches, crystal clear water, and coral reef covering an expanse of 600 hectares. The only well-preserved reef along the Costa Rican Caribbean coast, it holds 35 species of coral, 140 of mollusks, 44 of crustaceans, 128 of seaweed, and 500 of fish. Wildlife in this park is varied--it is common to see crabs, howler monkeys, racoons, and several species of swamp forest birds--and habitats range from dry mixed forest, mangrove swamp, and littoral woodland covering an area of 1,067 hectares. One unique attraction to Cahuita is the ruins of a shipwreck just off the coast, dating from the 18th century.

III. Impacts of Tourism to Protected Areas

A. Economic Activities Related to Nature Tourism

While there are no comprehensive statistics on the economic impact of nature tourism as a subsector of tourism, there are several means to measure the economic activities related to nature tourism. One way is to quantify the activities of tour operators to protected areas who are directly involved with the industry. Another way is to look at specific protected area sites and quantify the extent of economic activity related to tourists.

Monteverde Cloud Forest Reserve

Monteverde is a private reserve that is experiencing a boom in tourism in recent years. The number of tourists increased from about 300 in 1973 to nearly 13,000 in 1987. The economic impact of this expansion has been substantial.

One important source of tourist income has been entrance fees. Entrance fees at Monteverde are higher than at most other public parks in Costa Rica (roughly U.S. \$2.75 vs. \$.65). This income has covered maintenance costs of the park in the last few years. Table 4 shows park expenses and entrance fee income for 1983-87. In 1987, 68 percent of total expenses was for personnel, 13 percent for maintenance, 15 percent for services, and 4 percent for tax and other purposes.

Table 4.

ANNUAL INCOME AND EXPENSES MONTEVERDE CLOUD FOREST RESERVE 1983 - 1987		
YEAR	EXPENSES (in colones)	INCOME (in colones)
1983	850,000	1,000,000
1984	950,000	1,250,000
1985	1,399,000	1,335,707
1986	1,375,364	2,181,025
1987	2,676,393	2,740,629
TOTAL	7,250,757	8,507,362

Source: Monteverde Cloud Forest Reserve, 1988

Tourism has also had an enormous economic impact within the community surrounding the reserve. Tourism earnings are the second largest source of income for local residents after dairy production. Much infrastructure has been developed for tourists, which has consequently increased the number of people employed in tourist-related activities. Today there are two hotels, two pensions, a souvenir and crafts store, horse rentals, and the most recent additions, a disco-bar and a cantina.

The four lodging places have a total of 48 rooms, with a daily capacity of 152 guests. Occupancy at all places is very seasonal. Permanent employment at the accommodation facilities is low. In addition to the owners, who often work at the hotels, the Hotel de Montana has nine employees, Quetzal has three, Flor Mar has two, and Belmar has three. However, during high tourist season, employment rates grow to 14 at Hotel de Montaña, 6 at Quetzal, 5 at Flor Mar and 9 at Belmar. Salaries in these facilities are higher than the regional average. (Frueh, 1988)

The souvenir and crafts shop is a very profitable enterprise, with annual sales recently reaching U.S. \$50,000. The shop was founded in 1982 by eight women as a cooperative venture. With the increasing numbers of tourists and the demand for souvenirs from the area, the founders established a Coop called CASEM (Cooperative de Artesanos de Santa Elena y Monteverde). CASEM now has 70 members, primarily women. The members produce and sell embroidered shirts and dresses, painted shirts and hats, ceramic and wood-carved souvenirs, and other items. Sales doubled between 1987 and 1988 (Frueh, 1988).

Tourism has also increased the demand for guides. While some guides come in with tour groups from San Jose, many local residents also have become independent guides. Two residents make their primary income as nature guides. In addition, a few locals have been hired directly by travel agencies that bring groups to Monteverde.

In terms of indirect economic benefits, local agriculturalists have not experienced a great increase in demand for their products because of tourism. Aside from local dairy products, which are of very high quality and are used widely at tourist facilities, most other agricultural goods are not produced in the area and are brought in from nearby large towns, such as Puntarenas and Canas.

Currently there is much debate among Monteverde residents about the economic impact of tourism. While it is clearly a significant and growing source of income for the area, there are concerns about such impact. Residents want to ensure that tourism remains small-scale and that benefits are not concentrated in too few hands. Residents are also concerned

that increasing recognition of their area is driving up land prices. Escalating real estate costs have put land around Monteverde among the highest costs per hectare in Costa Rica, and these costs are straining agricultural expansion. The tourism boom in this area is thus seen as a mixed blessing.

Volcan Poas National Park

Volcan Poas is located 60 kilometers from San Jose. As with many parks that are located close to a large city, the economic impact of tourism to Poas is minimal to the nearby surrounding residents. Despite high visitation figures, there is little demand for overnight facilities at Poas. The only overnight facility is a designated camping area that receives few campers.

On the road to Poas are a few restaurants and cafes, totalling just over 300 seats. There are three pensions and one souvenir store. Employment at the restaurants is about 16 people during the week and double that number on weekends. On weekends, there are also a number of street vendors, most of them selling strawberries. For the majority of people involved with these enterprises, tourism revenue is not their primary source of income.

At the park itself, income generation is even less than on the road to the park. A small entrance fee is collected that covers some of the park maintenance costs. There is a small visitor center, but no other tourism infrastructure, such as a snack bar or souvenir shop. Therefore, the revenue generated at the park is very limited.

B. Positive and Negative Environmental Impacts

1. Conservation Activities and Environmental Education

Nature tourism has had many positive impacts in Costa Rica. The recent creation of several parks can be attributed, at least partially, to the need to create more tourism opportunities in the country. Manuel Antonio and Cahuita Parks are examples of this. Nature tourism in general has given conservationists an "economic" argument for protecting resources.

In some cases, increased funding for Costa Rican conservation activities and for park management results directly from tourists who have visited and been impressed by protected areas. The Monteverde Conservation League has received approximately 50 percent of its funds from tourists who have

visited Monteverde Reserve and wanted to make a contribution to its protection.

Environmental education has also received a boost from nature tourists. Many visitors centers have been built at parks and reserves with interpretive displays of the local natural resources. Poas has one of the better known visitor centers, with many informative exhibits about the wildlife and wildlands of the region.

2. Negative Environmental Impacts

While there have been few serious environmental problems recorded to date, there have not yet been any comprehensive scientific studies of the environmental impacts of nature tourism. Therefore, the only available information is through observation. People have reported some environmental problems at Monteverde and Poas. At Monteverde, there are reports of trail erosion, especially during rainy season, due to tourists. At Poas, many people have noted extensive litter, especially on the weekends.

C. Sociocultural Considerations

Sociocultural issues were not a focus of this study, and therefore, a complete analysis is not presented. However, sociocultural considerations are an essential component of nature tourism development and need to be further studied.

The importance of sociocultural considerations in tourism development can be seen in the example of the Monteverde community. Facing increasing tourism, local residents have been concerned with maintaining control over the tourism so that it does not disrupt their community life. They are concerned that the benefits of tourism may become concentrated in the hands of too few people and negatively affect the structure of their society.

Another case in which sociocultural considerations have already emerged is Carara Reserve. Resentment has been building among the residents of nearby Tarcoles and Bijagual since the recent establishment of the reserve. The reserve has limited their access to a zone in which they traditionally habitually hunted or searched for indigenous artifacts. Tension has been rising between the community and park personnel, and could affect tourism to the park. (Frueh, 1988)

IV. Obstacles and Opportunities for Growth in Nature Tourism

A. Obstacles for Growth

At this time, the primary obstacle to the growth of tourism in Costa Rica is inadequate infrastructure in some parks and reserves. One problem that may be contributing to the lack of infrastructure is that parks do not currently generate enough money from tourism for park maintenance. National parks charge a nominal entrance fee that does not cover maintenance costs. Eventually, poor maintenance of the parks will have a negative effect on the number of visitors to the park.

B. Opportunities for Growth

Costa Rica has many factors in its favor to develop the nature tourism industry. The national park system offers many distinctive areas within close range making it possible for tourists to see a diversity of wildlife within a short period. Tourism circuits can be created to encompass a variety of the country's natural resources. Another asset for the nature tourism industry is that there is already a great deal of national and international promotion of the parks, and Costa Rica is relatively well known as a nature tourism destination.

V. Monteverde Cloud Forest Reserve (Case Study #1)

A. General Description and Infrastructure

Monteverde is a private conservation unit of 10,000 hectares, located between 800 and 1,860 meters above sea level, in the Tilaran Mountains of Northern Costa Rica, 157 kilometers from the capital city of San Jose. The reserve is owned and managed by the Tropical Science Center, a non-profit Costa Rican association. Monteverde is best known for its wealth of wildlife and its lush green forests. It is also the habitat of the endemic golden toad. The presence of these toads, and many other forest dwellers, have made the reserve one of Costa Rica's main tourist attractions.

During the early 1950s, Monteverde was practically virgin land, surrounded by untouched primary forest. Cultivated land ended at the foot of the mountains. With land reform laws that favored agricultural expansion, and a natural growth in population, the agricultural frontier moved up the slopes.

In the late 1950's a small community of North American Quakers, seeking peace and a nonviolent society, came to settle in the peaceful, isolated Costa Rican mountains. The Quakers bought 1,400 hectares, divided it among themselves, and set aside 554 hectares for watershed conservation. The newcomers turned their parcels of forest into pastures and dairy farms. They started a small cheese factory. Business began to thrive, and the factory grew. New settlers came from other regions of Costa Rica looking for land. They founded Santa Elena, and, further down the mountain, San Luis, Canitas, and Cabeceras. They also began to produce milk for sale to the factory. Dairy farming was the foundation of the region's economy and has remained so to this day.

In the 1960s, biologists and students began arriving to study the area. The rich cloud forest, still quite unaltered, was very attractive to these students, most of them U.S. biologists. The Organization for Tropical Studies, an international consortium of universities, often brought groups of students and scientists to the area. The Tropical Science Center, also formed during the 1960s, began to take researchers to Monteverde.

The studies of biologists led to the description of many rare species found in the area and also to the discovery of the golden toad. This species' entire range lies within a few acres of Monteverde's cloud forest.

Interest in preserving a representative sample of this biological wealth began to grow. At the same time, the Quaker

settlers were working on expanding the protected watershed area. Bosque Eterno, the Monteverde-based conservationists, and the Tropical Science Center of San Jose-based scientists, discovered they had common goals. In 1972, they reached an agreement and the Monteverde Cloud Forest Reserve was founded.

Scientists came in growing numbers to this misty land, to study the habits of bell-birds or photograph umbrella-birds. Macaws, quetzals, tinamous, agoutis, and kinkajous were common sights. Jaguars and ocelots have been reported. Palms, ferns, mosses, bromeliads, immense oaks, and tiny mushrooms were studied. The accounts of these scientists began to attract more visitors to the reserve. Films, new articles, and more stories increased the number of visitors from 300 in 1973 to nearly 13,000 in 1987.

The reserve grew as well, from an original 2,000 hectares to 10,000 hectares. The new lands have been bought with donations, collected mostly by the Monteverde Conservation League, a local nongovernmental organization formed in 1987. This is a very active local association, working for the conservation of the reserve, environmental education of neighbor communities, and careful regulation of the growing visitation.

B. Visitor Information to Date

Since 1980, Monteverde has become an increasingly popular destination for nature-oriented tourists. As can be seen from Table 5, visitation more than tripled in six years.

Table 5.

VISITOR DAYS TO MONTEVERDE CLOUD FOREST RESERVE
1980 - 1985

YEAR	VISITOR DAYS
1980	3,257
1981	6,498
1982	5,924
1983	6,786
1984	8,985
1985	11,762
TOTAL	43,212

Source: Monteverde Cloud Forest Reserve, 1988

C. WWF Park Survey Results

1. Visitor Profile

Specific data on visitor patterns and profiles were obtained during our two survey weeks,¹ when a total of 84 international visitors and 26 national visitors² were interviewed.

Over two-thirds of all visitors were North Americans (74 percent), and another 20 percent were Europeans. A majority of visitors were male (57 percent) with a mean age of 36.9. Visitors tend to arrive at Monteverde by bus (60 percent) or by automobile (39 percent) and are generally accompanied by friends or colleagues (38 percent) or relatives (27 percent). About 15 percent indicated that they came with a tour group. An overwhelming majority had planned their excursion to Monteverde before coming to Costa Rica (90 percent), while the remainder decided to visit the reserve based upon recommendations from friends or relatives, advice from local people, or other sources.

The most commonly listed reasons for visiting Monteverde were its flora (mentioned by 62 percent), fauna (56 percent), rare species (36 percent), adventure (26 percent), and geology (25 percent). Nature-related activities of visitors included birdwatching (74 percent), wildlife observation (67 percent), hiking (55 percent), botany (41 percent), and rain forest excursions (47 percent).

About 16 percent of the visitors indicated that they had spent at least one night within the reserve, while the majority spent at least one night outside the reserve (82 percent) while visiting Monteverde. The mean number of nights spent in or near the reserve was 7.6.

2. Visitor Impressions

An impressive majority of international visitors described their excursion experience as excellent (42 percent) or good (53 percent). Satisfaction with the reserve's lodge facility was equally high (95 percent). Visitors enjoyed the reserve's natural features, the birdwatching, nature trails and flora, but

¹One week in February (high season), and one week in May (low season)

²Due to the small number surveyed, results from nationals are not included.

disliked nature trails that were difficult, the lack of restaurants, the lack of roads/transport to the park, and the lack of technical information and checklists.

When asked how their visit to the reserve could be improved, visitors recommended improving guide books, technical information, and maps; and improving tourist services in general. Future problems foreseen by visitors were tourism's increased effect on the wildlife and environment, erosion, and the overuse of nature trails.

D. Economic Impact of Tourism at Monteverde

An important source of tourist income at Monteverde has been entrance fees. The entrance fees are higher than at most other, public parks in Costa Rica (roughly U.S. \$2.75 vs. \$.65). This income has covered maintenance costs of the park in the last few years. Table 6 shows park expenses and entrance fee income for 1983-87. In 1987, 68 percent of total expenses was for personnel, 13 percent for maintenance, 15 percent for services, and 4 percent for tax and others.

Table 6.

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1987	2,676,393	2,740,629
TOTAL	7,250,757	8,507,362

Source: Monteverde Rainforest Reserve, 1988

Tourism has also had an enormous economic impact within the community that surrounds the reserve. Tourism earnings are the second largest source of income for local residents after dairy production. Much infrastructure has developed for tourists, which has consequently increased the number of people employed in tourist-related activities. Today there are two hotels, two

pensions, a souvenir and crafts store, horse rentals, and the most recent additions, a disco-bar and a cantina.

The four lodging places have a total of 48 rooms, with a daily capacity of 152 guests. Occupancy at all places is highly seasonal. Permanent employment at the accommodation facilities is low. In addition to the owners, who often work at the hotels, the Hotel de Montaña has nine employees, Quetzal has three, Flor Mar has two, and Belmar has three. However, during high tourist season, employment rates grow to 14 at Hotel de Montaña, 6 at Quetzal, five at Flor Mar and nine at Belmar. Salaries in these facilities are higher than the regional average. (Frueh, 1988)

The souvenir and crafts shop is a very profitable enterprise and annual sales recently reached US \$50,000. The shop was founded in 1982 by eight women as a cooperative venture. With the increasing numbers of tourists and the demand for souvenirs from the area, the founders established a coop called CASEM (Cooperative de Artesanos de Santa Elena y Monteverde). CASEM now has 70 members, primarily women with a few men. The members of CASEM produce and sell embroidered shirts and dresses, painted shirts and hats, ceramic and wood-carved souvenirs and other items. Sales doubled between 1987 and 1988 (Frueh, 1988).

Tourism has also increased the demand for guides. While some guides come with tour groups from San Jose, many local residents have become independent guides. Two residents make their primary income as nature guides. In addition, a few locals have been hired directly by travel agencies that bring groups to Monteverde.

In terms of indirect economic benefits, local agriculturalists have not had a great increase in demand for their products because of tourism. Aside from local dairy products, which are of very high quality and used widely among tourist facilities, most other agricultural produce is not produced in the area and is brought in from nearby large towns, such as Puntarenas and Canas.

There is currently much debate among Monteverde residents about the economic impact of tourism. While it is clearly a significant and growing source of income for the area, there are some concerns about this impact. Residents want to ensure that tourism remains small-scale and that benefits are not concentrated in too few hands. Residents are also concerned about that increasing recognition of their area is driving up land prices. Escalating real estate costs have put land around Monteverde among the highest costs per hectare in Costa Rica, and these costs are straining agricultural expansion. The tourism boom is thus seen as a mixed blessing.

E. Environmental Impact of Tourism to Monteverde

The greater visitor numbers have caused some noticeable ecological impacts. New trails have been built inside the reserve, some of which are used mainly for tourism, and others for research. On the tourists' trails, erosion is a serious problem. During the rainy season, the tree roots that border the trails are trampled by visitors. Locals report that the habits of the animals have changed and that some can be seen near the tourist trails only after the high season. On the other hand, visitors bring substantial donations to Monteverde. These have been used to buy new lands and help maintain the reserve.

VI. Volcán Poás National Park (Case Study #2)

A. General Description and Infrastructure

Few active volcanoes in the world are so easily accessible and so well equipped to host visitors as the 3,000-meter-high Volcán Poás. To reach Poás, three different routes can be taken from San Jose. All three routes have spectacular views and traverse some of the most fertile lands in the country. This is perhaps what has made Poás one of Costa Rica's most visited parks.

Poás, located 60 kilometers away from San Jose, is a composite basaltic volcano, with active fumaroles and sporadic geyser-like eruptions. The crater is an enormous depression of 15 meters width and 300 meters depth. The volcano has a long history of eruptions. At irregular intervals, it shoots up columns of steam and muddy water, sometimes as high as 200 meters. From the inner cone of the crater, the hot fumaroles can reach temperatures up to 1,000 degrees Celsius.

A short walk from the active crater, along a trail bordered by dwarf plants, lies an extinct crater. Now rimmed with thick vegetation, the crater has become filled by rain and is called the "Laguna Botos."

In 1955, Poás was declared a "national park." Under the existing legislation, it was the Tourism Institute's responsibility to "manage and protect all lands within a two kilometer radius of all volcanic craters in the country." In 1969, with the creation of the National Parks Department, jurisdiction of Poás was transferred to this department. In 1971, an area of 490 hectares was declared "Poás Volcano National Park." The designated park area has grown since then and now includes 5,317 hectares.

Until 10 years ago, the road to Poás was a muddy trail, and many visitors gave up their attempts to see the crater. It was only in 1979 that the road was finally paved, and Poás became a favorite day excursion. The National Parks Service planned to turn Poas into a "model national park," to show that recreation and conservation could be combined and at the same time, benefits could be provided to neighboring populations.

A master plan for the park's management was designed and large investments were made to build trails, a visitor center, picnic areas, and other facilities. In Costa Rica, no other National Park has such developed infrastructure and facilities, and no other park has such high visitation rates.

B. Visitor Information to Date

Visitation to Poás is concentrated on weekends. On a clear Sunday, it is common for the park to receive 3,000 visitors. They come mostly in large groups that rent an excursion bus and bring food, pets, radios, soccer balls and alcohol. High season months for Poás are December, March, July, and August. In winter, most of the visitors are students in organized groups.

The share of international tourists has fluctuated between 18 percent and almost 30 percent between 1981 and 1985. The number of tourists has increased from 10,898 in 1981 to 23,640 in 1986 (National Park Survey).

C. WWF Park Survey Results

1. Visitor Profile

Data on visitor patterns and profiles were obtained during our two survey weeks³, when 71 international and 29 national tourists⁴ were interviewed.

Main countries or regions of origin were North America (65 percent), Europe (14 percent), Colombia (6 percent), and Panama (4 percent). The majority of international visitors (69 percent) were male; visitors had a mean age of 44.2 and had a mean annual income close to U.S. \$40,000. Most visitors were accompanied by relatives (41 percent; mean number: 1.7) or friends and colleagues (34 percent). About 15.5 percent came with a tour group.

The main motivation for visiting Poás was its geology (41 percent), recreation (30 percent), the short distance to San Jose (25 percent), and the park's flora (24 percent). Nature-related activities at Poás included hiking (72 percent), birdwatching (33 percent), wildlife observation (21 percent), botany (21 percent), and jungle excursions (10 percent).

In most cases (69 percent), visitors had planned their excursions to Poás before coming to Costa Rica; the remainder (31 percent) included Poás in their itinerary after they arrived as a result of recommendations from friends and family, brochures, or local residents. Visitors reach the park by

³One week in February (high season), one week in May (low season).

⁴Due to the relatively small number of national visitors, results from nationals surveyed are not included here.

automobile (53 percent) or bus (43 percent). The mean number of nights spent in or near the park was one.

2. Visitor Impressions

The overwhelming majority of international visitors described their visit as excellent (49 percent) or good (46 percent). The park's infrastructure was evaluated as good (46 percent) or, by some (28 percent) as excellent.

Visitors liked the park's natural features, its nature trails, its flora, and the availability of technical information. Many visitors complained about loud radios brought into the park and about the language barrier (i.e., the existing signs are in Spanish only). When asked how their park visit could be improved, visitors suggested improving guide books, maps, and technical information; improving guide services; better maintenance of toilet facilities; and opening a restaurant.

Few visitors seemed to perceive future problems from tourism, though some mentioned possible effects of tourism on wildlife and the environment and the lack of protection of the environment.

D. Economic Impact of Tourism at Poás

Volcán Poás is located 60 kilometers from San Jose. As with many parks that are located close to a large city, the economic impact of tourism to Poás is minimal to surrounding residents. Despite high visitation figures, there is little demand for overnight facilities at Poás. The only overnight facility is a designated camping area which receive few campers.

On the road to Poás, there are a few restaurants and cafes, totalling just over 300 seats. There are three pensions and one souvenir store. Employment generation at the restaurants is about 16 people during the week and double that number on the weekend. On weekends, there are also a number of street vendors, most of them selling strawberries. For the majority of the people involved with these enterprises, tourism revenue is not their primary source of income.

At the park itself, income generation is even less than on the road to the park. A small entrance fee is collected which covers some of the park maintenance costs. There is a small visitors center but there is no other tourism infrastructure, such as a snack bar or souvenir shop, to sell things to visitors. Therefore the money generated at the park is very limited.

E. Environmental Impacts of Tourism to Poás

Park personnel are scarce, and the park's resources are limited. Normally, only three or four rangers are stationed at the park. This means that they are collecting entrance fees, assisting visitors, presenting the daily slide show, maintaining trails, and making sure regulations are followed. Because of the small staff, most of these functions cannot be performed efficiently on weekends. Litter is common along the paths after the hectic weekends.

However, the park's education program is an important tool in increasing the environmental consciousness of visitors. The visitor center is very informative about the resources of the area. The only difficulty is that most of the signs are in Spanish, which means that there is a missed environmental education opportunity among all non-Spanish speakers.

CHAPTER 3

DOMINICA

I. Status of Tourism Industry

A. History and Growth

Dominica is the largest of the Windward Islands in the Caribbean. It is unique in the region in terms of its tourism "product" and its consequent market and strategy for tourism development. Unlike most other Caribbean islands, Dominica has few white sand beaches and therefore attracts few beach tourists. However, the island does have many valuable natural resources. Still 60 percent covered with forests, Dominica has beautiful, rugged, and lush mountainous terrain and has earned the nickname "nature island." Recognizing the tourist potential in its unique resources, the Dominican government is actively trying to develop the tourism industry through the promotion of nature tourism.

Tourist arrivals for the past 12 years have been recorded by the Caribbean Tourism Research Center (CTRC). In these statistics, visitors to Dominica have been divided into two groups. "Excursionists" are visitors who stay less than one day, primarily cruise-ship passengers. "Stay-over visitors" are those who stay more than one day. Total visitor arrivals increased from 22,018 in 1976 to 36,400 in 1986, which is a 65 percent increase.¹ There was a distinct decrease in 1979 and 1980 due to widespread and devastating effects of Hurricanes David and Allen.

¹There are some discrepancies among statistics sources concerning Dominican tourism figures; these discrepancies are reflected throughout the text of this section.

Table 1.

TOURIST ARRIVALS IN DOMINICA 1976-1986											
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986
Total visitor arrivals	22,018	23,547	27,944	20,305	24,900		22,900		27,000	28,600	36,400
Stay-over visitors	16,981	18,919	20,111	15,485	14,000	15,213	19,000	19,500	22,200	21,500	24,400
Cruise ship passengers	1,908	7,500	7,635	7,770	7,400	5,806	2,400	5,359	3,200	6,600	11,500
Other excursionists	4,900	3,966	6,767	4,847	3,100		1,500		1,600	500	500

Source: Esmond Devas WTO/CTRC, Statistical Division, CDB, Gersch 1986

According to a 1986 CTRC survey, Dominica's main tourist markets are the Caribbean, United States, Europe, and Canada. Forty-three percent of all tourists came from other Caribbean islands, about half of these from the neighboring French islands of Guadeloupe and Martinique. The United States and Europe each contributed just over 20 percent, 6 percent were Canadian, and the remaining 9 percent were from other countries. (1986 Visitor Expenditure and Motivation Survey, Dominica, CTRC).

The origins of visitors have also been recorded by the Statistical Division in Dominica. Trends of visitors by country can be seen in Table 2.

Table 2.

VISITOR ARRIVALS BY COUNTRY OF USUAL RESIDENCE										
COUNTRY OF USUAL RESIDENCE	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
U.S.A.	3,594	2,212	2,336	2,409	3,767	4,148	4,231	3,999	5,104	4,968
French West Indies	---	3,162	3,162	2,814	3,013	4,441	4,796	4,552	5,285	6,165
U.K.	3,253	1,377	1,464	625	1,922	1,755	1,976	1,789	2,346	2,824
Canada	2,878	788	827	781	982	1,094	1,257	1,130	1,540	1,541
O.E.C.S. countries	5,082	1,567	1,628	1,738	2,119	2,339	2,680	2,988	2,930	3,292
Other CARICOM countries	3,090	1,760	1,568	1,715	2,217	2,352	2,620	2,539	2,637	2,585
Rest of Americas	95	2,546	1,752	2,206	2,482	1,965	2,246	2,325	1,971	2,770
France	---	3,652	2,227	887	1,581	2,293	1,579	922	526	817
Other Europe	---	3,035	2,240	4,006	1,908	1,738	1,972	1,359	2,287	2,843
Other countries	9,952	59	104	158	159	224	419	359	252	349
Not stated	---	147	97	99	256	1	50	---	---	---
Total	27,944	20,305	17,405	17,438	20,406	22,350	23,826	21,962	24,878	28,154

Source: Quarterly Bulletin of Tourism Statistics, prepared and published by the Statistical Division

The Tourism Statistical Division in Dominica has devised a table (Table 3) to show numbers of visitors by purpose of visit. It is interesting to note the large numbers of business travelers as well as "private visitors" who stay with friends and family.

Table 3.

VISITOR ARRIVALS BY PURPOSE OF VISIT									
PURPOSE OF VISIT	1979	1980	1981	1982	1983	1984	1985	1986	1987
Hotel visitor	5,297	7,258	7,058	8,523	8,068	9,287	7,213	6,125	6,567
Private visitor	6,667	2,985	3,857	4,897	5,546	6,798	9,035	12,675	14,250
Business visitor	2,589	4,009	3,617	5,350	5,808	6,084	5,084	5,443	160
Excursionists	4,720	3,085	2,297	1,463	2,693	1,619	509	446	1,441
Students	8	1	79	114	200	--	65	103	5,629
Other	1	7	4	--	4	--	16	64	107
Not stated	1,023	60	526	59	31	38	40	--	--
Total	20,305	17,405	17,430	20,406	22,350	23,826	21,962	24,856	28,154

Source: Quarterly Bulletin of Tourism Statistics, prepared and published by the Statistical Division

There are few statistics on the foreign exchange earnings from tourism. Recent calculations show that tourism's contribution to Dominica's gross national product was 25.6 percent, or just over U.S. \$10 million for 1986 (CTRC, 1986). Income from cruise ship tourism has steadily increased over the years, from U.S. \$80,000 in 1977 to U.S. \$190,000 in 1986, and will undoubtedly continue to grow.

The government receives both direct and indirect revenue from tourism. Direct sources include: hotel occupancy taxes, embarkation taxes, landing charges, port dues, liquor and entertainment taxes, work permits, and stamp sales. Indirect sources include: import duties on tourism-related goods, income taxes on tourism-related employment, and profit taxes on tourism enterprises.

While firm figures are not available for all of these revenue sources, the Dominica Income Tax Division did calculate the value added of the hotel and restaurant sectors to the GDP for the last six years. These are shown in Table 4.

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Table 4.

GOVERNMENT RECEIPTS FROM HOTEL OCCUPANCY AND BAR SALES

	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>
All hotels	124,095	186,576	198,576	197,410	221,617	245,060

Source: Reference Income Tax Division, Dominica, as cited by Edwards, 1988

A visitor expenditure survey was conducted in 1982 to determine how visitor revenue contributed to each sector involved with tourism. The results of the survey can be seen in Table 5.

Table 5.

VISITOR EXPENDITURE BY CATEGORY
(U.S.\$m)

<u>CATEGORY</u>	<u>U.S.\$m</u>
Accommodations	1.56
Excursionists	.10
Food and beverage	2.15
Others	.56
Total	4.37

Source: Visitor Expenditure Survey - Dominica CTCRC, 1982; Luther Gordon, Miller, February 1984, as cited by Edwards, 1988

Visitor expenditures have also been estimated by other sources. Grersch (1986) estimates that visitor expenditures increased from

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U.S. \$2.9 million in 1980, to \$4.6 million in 1982, to \$5.9 million in 1984, and to \$7.1 million in 1986.

The Caribbean Tourism Research Center has estimated the breakdown of expenditures by category of visitor. Again, there are discrepancies in the tourism statistics among these sources.

Table 6.

ESTIMATED TOTAL VISITOR EXPENDITURE BY CATEGORY (U.S.\$m)						
ITEM	1977	1978	1979	1980	1981	1982
Business visitors	0.81	1.05	0.52	0.67	0.98	0.51
Vacationers	0.72	0.59	0.72	0.88	1.10	1.20
Visitors, friends and relatives	0.34	0.41	0.82	0.33	0.65	0.79
Day visitors	0.10	0.20	0.17	0.10	0.09	0.66
Cruise ship passengers	0.08	0.08	0.09	0.08	0.09	0.04
Total	2.05	2.33	2.32	2.06	2.91	3.60

Source: Tourism development Strategy, CDB - 1980; WTO/CTRC, 1980; CTRC, 1986, as cited by Edwards, 1988

Employment generation related to tourism has been minimal thus far in Dominica. In 1978, it was estimated that about 250 persons were employed in tourist accommodation facilities, including staff employed to lead tours. An additional 250 persons were estimated to be employed indirectly through tourism, specifically in transportation and services (Edwards, 1988).

A recent estimate shows that in 1987, at least 1,000 jobs were created in tourism-related businesses, including hotels, restaurants, entertainment, handicrafts and taxis. (Greish, EEC Tourism Advisor, 1987).

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B. Major Tourism Attractions

Most of the tourism attractions in Dominica are natural areas. The island has two national parks, Morne Trois Pitons and Cabrits, and two forest reserves, Northern and Central. These large protected areas have several important smaller areas within their borders.

Another major attraction is the Carib Indian Reservation which is located in the northeastern part of the island. The Carib Indians were the first inhabitants of Dominica. They live on the reservation, where they maintain their own Carib chief. Currently, there are many visitors to the reservation (no statistics available). There are few specific tourist attractions on the reserve to date, except for a few small gift shops with excellent Carib handicrafts, including baskets, placemats, etc. However, a negative environmental impact is that the plant materials to make these crafts are decreasing. The natives are also planning to develop other means to demonstrate their lifestyle to visitors.

C. Tourism Policy, Management, and Promotion

The Ministry of Tourism and the Tourism Board are the administrative agencies in charge of the development and promotion of tourism. The Ministry of Tourism controls and directs tourism and produces guidelines on policies and strategies. The Tourism Board is a statutory body financed by the Ministry of Tourism; it advises the Ministry and implements its tourism policies.

The Board consists of a director, support staff, and appointed members from private and public sector organizations that have a direct relation to the tourist trade. The Board recently merged with the Industrial Development Corporation, the agency that promotes investment in the country. The two organizations form the National Development Corporation.

The government has taken legal steps to encourage tourism development. Under the Hotel Aids Ordinance Act, all articles of hotel equipment and building material for hotel construction is free from import duty. In addition, all shareholders of a hotel are exempted from income tax on dividends distributed during the first 12 years of operation.

A tourism policy was recently developed. In very broad terms, the government committed itself to provide the basic conditions necessary for lasting tourism growth so as to optimize the sector's contribution to the national economy in terms of net value added. The development of tourism is to be based on the full participation of the people of Dominica and is to be

developed in order to improve the quality of life in Dominica, create employment and foreign exchange, and enhance and preserve the cultural and natural resources of the country.

The government wants to attract tourists who like what Dominica already has (Okey, 1987). Dominicans do not want to become another "Caribbean beach resort," but want to target their tourism market to visitors who come to enjoy undisturbed natural resources. Dominicans are promoting their country as the "Nature Island of the Caribbean."

The government has recently stated its intentions to improve the tourism infrastructure. Improvements thus far include resurfacing over 18.6 miles (30 km) of roads, the renovation of the Canefield airstrip in Roseau, a new terminal at Canefield, and a feasibility study for a new airport. It has also been observed that in addition to more space at the airport, the airline service is better. A three-year program was launched in 1988 to upgrade tourism facilities. Twelve natural area tourism sites have been chosen. Picnic and restroom areas as well as directional signs will be improved or developed in these areas to encourage more visitors.

Average nights: Average number of nights was 14.5; shortest stay was overnight, longest was 70 (N=75).

Family members: Of the 83 tourists surveyed, 28 (34 percent) came with family members. Average was between three and four total family members. The largest family group had six people.

Expenditures: Seventy-one of the 83 people surveyed reported an average total expenditure of \$,1429, with \$211 being the average daily expenditure (N=66). The highest cost vacation was more than \$9,999, and the cheapest vacation cost \$75. Of the 83 respondents, 35 people reported an average expenditure of \$844 for airfare.

Income: The average family income was between \$20,000 and \$30,000, although most people surveyed reported incomes over \$30,000.

Gender: 53 percent of respondents were men, 47 percent were women.

Nationality: The nationality distribution of the survey respondents (N=83) was as follows: 33.7 percent North American, 30.1 percent European, 21.7 percent Guyanese, 6 percent Dominican, and 8.4 percent all other.

Protected Areas and Nature-oriented Tourism

Although Dominica's nickname is "The Nature Island," tourism that results strictly from a desire to enjoy the parks and protected areas is still relatively small-scale. However, this may indicate a great deal of growth potential to specifically target and promote certain types of outdoor activities. In the survey, respondents gave their reasons for visiting in terms of how important natural areas were in their decisions to travel to Dominica. The responses follow:

Main reason	13%
Important, influenced decision	12%
Somewhat important	25%
Not important	35%
No response	15%

The majority (61 percent) of people visiting Dominica had been there before, while 39 percent were first-time visitors to the island. The top five reasons given for visiting were:

Visit friends or family	58%
Sun/beaches/recreation	28%
Business	27%
Sightseeing	23%
Natural history	21%

Once in Dominica, the activities most commonly enjoyed by all tourists were nature-based. Although tourists gave multiple responses, it is important that a very high percentage, no matter what their reason for travel to the country, participated in nature-based activities:

Local cultures	25%
Hiking/trekking	18%
Mountaineering	17%
Jungle excursions	16%
Wildlife observing	15%
Birdwatching	13%
Botany	12%
Boat trips	8%
Hunting/fishing	2%

Visitors surveyed were asked to list what they most liked and disliked about their stay in Dominica. The "friendliness of the people" was listed most frequently, by 39 of 83 visitors surveyed, as what they liked most. Dominica's "natural resources, natural features and beauty" was recorded by 28 visitors, and the country's "local festival" was highlighted in 13 surveys. Of the 83 visitors surveyed, 14 commented on the country's "airport facilities and services" as what they disliked most about their visit. Another dislike, listed by 8 visitors, was the "road system, and lack of road signs."

B. Supply of Protected Areas

As mentioned earlier in the report, there are four main protected areas in Dominica that contain several natural areas within their boundaries.

Morne Trois Pitons National Park

This national park was created as a result of the National Park and Protected Areas Act (1975). The 17,000-acre (6883 ha) park is located in the south central interior of the island. The objectives for establishing the park were to protect the natural resources and ecology of the area; to provide the local people with a natural setting for recreational purposes; to serve as a natural laboratory for education and research; and to stimulate industries capable of boosting the island's economy, specifically the tourism industry.

The park encompasses four mountain peaks, the Morne Trois Pitons (4,537 ft/1,383 m), Morne Macaque (3,674 ft/1,120 m), Morne Watt (3,953 ft/1,205 m), and Morne Anglais (3,996 ft/1,218 m). Water resources play an important role in the park and are a big tourist attraction. In addition to numerous rivers and streams, the park contains several waterfalls. The two largest inland basins on Dominica are located in the park. These crater lakes, the Freshwater Lake (2,500 ft) and the Boeri Lake (2,800 ft) were formed between the volcanic dome of the Morne Micotrin and its partially buried crater.

One of the biggest attractions of Morne Trois Pitons is its rich tropical vegetation. Untouched Caribbean forest can be found within four types of vegetation zones. The high altitudes provide wet, windy climates ideal for ferns, mosses, and lichens that create a low ground cover vegetation known as Elfin Woodland or Cloud Forest. Rain forests make up the lower levels, with a rich vegetation comprising a complex variety of trees, vines, shrubs, and undergrowth. The rivers and coastal areas of the park are still other sources for vegetation types, allowing for a widely varying range of plant and bird life.

From Roseau, there are three major access routes to the park: Laudat, Trafalgar Falls (one of the case studies in this report), and Wotten Waven. During the 1970s, a system of trails and picnic areas was developed within the park, but the 1979 hurricane destroyed the infrastructure. At present, 12 sites within the park are being upgraded.

One of the most visited sites within the park is Emerald Pool. Located at the northernmost tip of the park, its main attractions are a large tract of rain forest, a waterfall, and a

large pool. Many Dominicans frequent the pool on weekends to bathe.

Two other significant areas in the park are the Boiling Lake and the Valley of Desolation. The Boiling Lake is the second largest in the world and is located at 2,500 feet (762 m.) The Valley of Desolation lies adjacent to the lake and contains numerous fumaroles. Because of the hot sulfur fumes from the lake, the valley has a distinct vegetation. Currently, access to both these areas is extremely difficult. One must travel by rough trail, with a guide, for approximately three hours each way. Therefore, few people make the trek each year. There are discussions now in Dominica about developing an infrastructure to facilitate accessibility to Boiling Lake and the Valley of Desolation.

It has been difficult to maintain Morne Trois Pitons for a variety of reasons. The Forestry and Parks Service, under whose aegis the park falls, does not have an budget for overall maintenance. Also, the topography makes maintenance difficult. The vegetation grows very rapidly and thus constant trail maintenance is required. The high rainfall in the areas also takes a toll on the trails.

Cabrits Historical and National Park

This park was recently established through an Act of Parliament in 1987. It is located approximately a mile (1.6 km) north from Dominica's second largest city, Portsmouth, and about 20 miles (32.3 km) from Roseau. The original park concept included Cabrits Historical Monument and Marine Park. However, to date, the National Park Act has not been amended to make allowances for the protection of marine areas within Dominica's territorial waters.

The park consists of four major zones: a) Cabrits Peninsula; b) the swamps, containing important nesting areas for local and migratory birds; c) the beach front; and d) the marine areas and associated coral community. All four components provide unique features important for historical, recreational, and scientific purposes. Two vegetation types are represented within this area. The hills are covered by a dry scrub forest, a result of the relatively low precipitation. The adjoining lands are wetlands, which consist mainly of a marsh that is inundated for several months each year.

The park is accessible by trail or by road up to 40 feet (12.2 m) from the gate. The access road is being repaired at present. There is a small museum at the park and the area is becoming a focal point for both national and international tourism and historical education.

Forest Reserves

There are two forest reserves, both in the north central part of the island. The Central Forest Reserve contains 1,103 acres (410 ha), and the Northern Forest Reserve 21,771 acres (8,814 ha). The Northern Forest Reserve provides habitat to two endemic and endangered parrot species, the Sisserou and Red-necked Parrots, which are major tourist attractions. Recently, threats to the parrots' habitat have resulted from uncontrolled logging as well as the conversion of some land for agriculture use. Controlled logging is permitted in the reserve.

III. Impacts of Tourism to Protected Areas

A. Economic Activities Related to Nature Tourism

It is difficult to calculate the exact contribution of economic activities related to nature tourism. However, indicators of economic activities related to nature tourism in Dominica can be seen in trends among tour operators and in the kinds of services they offer. Information about economic impacts can also be ascertained by analyzing the job opportunities emerging from tourist demand at specific sites.

Dominica has seven local tour operators. They are Dominica Tours, Rainbow Rovers, Emerald Safari Tours, Wilderness Tours, Whitechurch Travel Agency, Tony Burnette Biscombe, and Mally Reltier. All seven agencies offer nature tours and are finding increasing demand for this type of tourism. Much of the demand is for taxi service to visit the natural areas.

Another way to analyze economic impact is to look at individual sites. At Trafalgar Falls, there is a guest house at the base of the falls called Papillote. In addition to providing accommodations, Papillote offers a restaurant and a craft shop. Several village residents work at the guest house as well as make handicrafts for the gift shop. The owner of the guest house claims that her business has a sizable impact on the local community. She pays over U.S. \$22,000 in salaries to her staff per year. To retain tour operators for her guests, she pays almost U.S. \$200 per week, and for local produce she pays U.S. \$150 per week.

Trafalgar Falls has no permanent park staff. The Forestry Department is in charge of park maintenance, but no one is stationed onsite on a daily basis.

Less economic activity surrounds Emerald Pool because there are no facilities in the park where people can spend money. The Emerald Pool Guest House is located close to the park; however, its occupancy rate is very low, partly due to its lack of telephone service. The owner of the guest house also indicated that it was problematic to recruit people to work in the guest house because it is not in the capital city where people prefer to work.

An interesting tourism debate in Dominica is the economic benefits vs. the environmental and social costs imposed by cruise ship passengers. The number of cruise ship passengers has increased from 770 in 1979 to 12,080 in 1987. (Central Statistical Office, 1988). It is argued by some that this increase is a good source of revenue for Dominica, especially for some tour operators. Others argue that cruise ship passengers

actually spend very little on the island because they do not stay overnight and since all their meals are furnished on the ship, they also spend little on food and beverage.

At the same time, cruise ship passengers arrive in great numbers and can have an overwhelming impact on natural areas that are not set up to receive so many visitors. Further, they are generally not the type of "nature tourist" that the island is trying to attract. There is discussion of developing a harbor commercial area to "contain" cruise ship passengers. For the present, the question of how to balance the positive and negative impacts of these tourists is a challenging one.

B. Positive and Negative Environmental Impacts

1. Conservation Activities and Environmental Education

RARE Center for Tropical Bird Conservation and ICBP are currently working with the Dominican government to protect an area of prime parrot habitat. An education campaign is now underway, and an informational visitor center is also planned.

2. Negative Environmental Impacts

No thorough scientific studies on the negative impacts of tourism have been completed to date. However, through discussions with park personnel, tour operators, and local residents, the following negative impacts have been informally documented. In many of the natural areas, there is a litter problem, often due to the lack of garbage disposal facilities. Cruise ships also dump garbage that invariably sweeps ashore and pollutes beach areas. This has caused widespread concern among the local population who use these areas for recreation and fishing.

Another environmental problem is the use of soap in rivers and natural pools. It has also been observed that flowers and other plants are often collected in protected areas. While the National Parks Act theoretically provides protection against such activity, a lack of personnel prevents monitoring on a daily basis.

Many people involved with the nature tourism industry point to cruise ship passengers as the biggest offenders in these environmental problems. Because cruise ship passengers are generally not nature-oriented tourists and because they come in such large numbers at one time, their overall impact is usually more destructive than that of other tourists who visit natural areas.

C. Sociocultural Considerations

While sociocultural issues were not a focus of this study, it is essential that such considerations be a component of nature tourism development. Many Dominicans expressed the importance of keeping their culture intact as tourism expands. They do not want to become another Caribbean island that is completely dependent on tourism. Therefore, great efforts will be made on the island to ensure that local customs and traditions are maintained as tourism increases.

IV. Obstacles and Opportunities for Growth of Nature Tourism

A. Obstacles for Growth

In Dominica, there are four major obstacles to growth of the nature tourism industry. The first is inadequate funding for park maintenance. Secondly, there is a lack of tourism infrastructure in the park; thirdly, there is a lack of trained guides to give nature tours; and finally, international promotion is lacking for tourism to Dominica.

B. Opportunities for Growth

Dominica has many factors in its favor as it develops its nature tourism industry. Its environment is very rich and virtually intact. Dominica also has many citizens who are interested in promoting nature tourism and some seeking to make investments or find investors for tourism infrastructure.

V. Emerald Pool (Case Study #1)

A. General Description and Infrastructure

Emerald Pool is located at the northern-most tip of the Morne Trois Pitons National Park. The most accessible point in Morne Trois Pitons National Park, Emerald Pool can be reached from the main road along a short trail. It is about 5 acres (2.02 ha) in size. The area's attractions are the waterfall, with a pool at its base, and large tracts of rain forest. Emerald Pool was the first component of the national park that received basic tourism infrastructure.

The park² has a well-developed trail system and several lookout points. However, it lacks interpretive signs, a visitor center, and monitoring and control of visitor arrivals. The park has a designated exit and entrance, yet no facilities or manpower for assessing visitors. One brochure is available that describes the area and identifies the flora and the bird life found within the park. Emerald Pool is about 8 miles (13 km) from the nearest community, the Castle Bruce Community. However, there is a guest house within 1 mile (1.6 km)--the Emerald Pool Guest House.

Emerald Pool is managed by the Forestry and Park Service but apart from general administration, the park receives only sporadic care from park personnel. There is no specific budget for Emerald Pool, and it is maintained under the general park maintenance budget.

Prior to Hurricane David in 1979, there were picnic tables, toilet facilities, and a forest ranger assigned to the park for distribution of information material to visitors. To date, this service has not been restored, although construction is planned to place trails, picnic facilities, and directional signs.

B. Visitor Information to Date

No mechanism has been put into place to monitor visitation to the park. However, Emerald Pool is commonly cited as one of the focal areas of visitation of the Dominican park system. All cruise ship visitors visit the area during the cruise ship season, which lasts from October to April. Most visitors engage in sightseeing, photography, and swimming. Some are interested in the botanical species of the area. However, without a

²Emerald Pool is called a "park" throughout this report although it is only a small fraction of Morne Trois Pitons National Park.

regular guide service, most visitors do not have a means to learn about the resources of the area.

C. WWF Park Survey Results

1. Visitor Profile

Data on visitor patterns and profiles were obtained during two survey weeks,³ when 83 international visitors were interviewed.

Over 81 percent of all international visitors came from North America, and another 16 percent came from Europe. The majority of visitors were male (60 percent); their average age was 47, and their mean annual incomes between U.S. \$30,000 and \$39,999.

The vast majority of visitors were accompanied by relatives (91 percent). A smaller percentage (24 percent) were accompanied by friends and colleagues or a tour group (14 percent). The main means of transportation used to get to the Park were automobile (38 percent), bus (38 percent), or boat (16 percent).

The main reasons cited for visiting Emerald Pool were its flora (24 percent), the short distance from Roseau (19 percent), its geology (17 percent), and adventure (16 percent). Nature-related activities included hiking, jungle excursion, botany, and wildlife observation.

2. Visitor Impressions

Visitors' impressions of Emerald Pool as a tourist destination were obtained from the WWF park survey. All visitors described their visit to the park as either excellent (55 percent) or good (45 percent). Eighty-eight percent were satisfied with the park's infrastructure, while 10 percent described the infrastructure as mediocre.

Visitors enjoyed the park's natural features and resources, its flora, the guides, and the waterfalls. Some visitors disliked the difficulty of the nature trails, and the lack of interpretive and technical information.

Asked for suggestions on how to improve the park, visitors recommended improving maps, technical information, and

³One week in February (high season), and one week in May (low season).

guidebooks on the area as well as improving the quality of nature trails.

Some visitors expressed concerns about increased future tourism effects on the wildlife and environment, and saw potential problems with the hazardous nature trail and overlooks.

D. Economic Impact

Cruise ship tour operators benefit to a considerable extent from tourism to Dominica. In addition to this, taxi drivers take visitors on tours to Emerald Pool at a rate of U.S. \$15 an hour for an average duration of three hours. Other tourists rent cars to go to the park at rates of U.S. \$20-40 per day.

The Emerald Pool Guest House located close to the park provides accommodation for people who wish to stay overnight, but, as mentioned previously, the lack of telephone service and the difficulty of recruiting local people as employees keep the occupancy rate very low. Two local business people have indicated interest in constructing hotels near the park, because of the park's potential importance for international tourism.

E. Environmental Impact

There are no obvious environmental impacts from tourism, except for litter left behind by visitors, mainly due to the fact that there are inadequate garbage disposal facilities. There have been some complaints about the use of detergent soap in the pool.

A common complaint concerning visual pollution has been that some visitors inscribe their names on the rocks surrounding the pool.

VI. Trafalgar Falls (Case Study #2)

A. General Description and Infrastructure

Trafalgar Falls is a privately protected area 5 miles (8.1 km) from Roseau and is located at an elevation of 1,200 feet (366 m). The area has a mean temperature of 72 degrees Fahrenheit and gets about 250 inches (6.4 m) of rain annually. Trafalgar Falls consists of two large waterfalls flowing into the Roseau River Valley. The height of the falls is approximately 150 feet (46 m), and during heavy rains, a third very narrow fall is noticeable. The falls are surrounded by lush tropical vegetation, mainly secondary forest.

The Falls are not part of the Dominican Park System, but they receive a certain amount of protection and attention from the government, and the area is officially managed by the Forestry Division. Once again there is no specific budget for the area, and funds come from the general park maintenance budget. All maintenance to the area is done by the Forestry Division and to a certain extent by the Dominica Electricity Services, which has a power plant close to the falls and utilizes some of the water for hydroelectric purposes.

At present there is an unpaved road leading up to a short trail to the falls. The trail is maintained as well by the Forestry Division and leads through secondary rain forest to a viewing platform. From there, one can view the twin waterfalls. Many visitors take a bath in the pool and cascades formed by the falls.

Trafalgar Falls has no permanent staff. Apart from the general administrative personnel at the Forestry Division, no staff is allocated to the park. No informational material is available on the falls to visitors who go there, nor are there interpretive signs in the park.

B. Visitor Information to Date

The park's visitation patterns are very similar to those of the Emerald Pool.⁴ All cruise ship visitors who go on tours are brought to Trafalgar Falls as one of the island's most important natural attractions. Trafalgar Falls is more popular than Emerald Pool since it is close to Roseau and has a restaurant and

⁴The Trafalgar Falls Park Survey results were unrepresentative and deemed as not being a random sample since only 13 people responded to the survey during one week in high season (February).

guesthouse nearby. Tourists engage in sightseeing, photography, and river bathing.

C. WWF Park Survey Results

The WWF study intended to include survey information from this park, however difficulty in interviewing people at this location precluded the collection of sufficient representative data.

D. Economic Impact

The main economic impact of tourism to Trafalgar Falls is felt at the guesthouse, managed by an American/Dominican couple. The guesthouse provides accommodations for guests and incorporates a restaurant and a craft shop. Several village residents are employed in the restaurant and guest house, and tour guides who live in the village are retained to take visitors on tours. The owner of the guest house claims that her business alone has a sizable economic impact on the local community.

E. Environmental Impact

Large numbers of cruise ship visitors visit the Trafalgar Falls area and, although there has been concern about the impact, particularly erosion, there has been no evidence thus far to justify this fear. The owner of the restaurant, also maintains a private botanical garden, has noted that some visitors steal plants and flowers.

CHAPTER 4

ECUADOR

I. Status of Tourism Industry

A. History and Growth

Until the late 1960s, the tourism industry in Ecuador was very small and limited to a few adventure travelers from North America and Europe, as well as some border tourism from Colombia and Peru. In 1969, the cruise ship "Lina A" began to offer tours to the Galapagos Islands, and a new tourist boom began.

International and national tour operators such as Ecuadorian Tours, Metropolitan Touring, and Turismundial all began to focus on trips to the islands. Tourist arrivals to Ecuador increased over 200 percent between 1973 (117,684 visitors) and 1980 (244,485 visitors), with the Galapagos as the primary tourist attraction.

In the 1980's tourism in Ecuador has been variable overall. It continued to expand in 1981 (271,171), then declined for the next three years--with 231,909 in 1982, 197,200 in 1983, and 203,644 in 1984--and then began another upward swing to 233,652 in 1985 and reaching 266,761 in 1986. (General Directorate of Civil Aviation, 1988).

The two principal sources for figures on tourist arrivals are the National Tourism Board, DITURIS, and the National Statistics Institute, INEC. Both extract their data from the arrival forms collected by the immigration department. Although the two groups vary sometimes in their statistics, the trends are uniform: the main sources of tourists are Colombia, North America, and Europe, in particular West Germany and Spain. Arrivals from Europe have been declining in recent years. Arrivals from North America have fluctuated, often as a result of economic conditions (The Economist, 1987).

Despite the rises and falls in numbers of tourist arrivals, tourism has maintained a significant position in the Ecuadorean economy over the last 15 years. It has become the second most important earner of foreign exchange after petroleum products. In 1985, tourism brought about U.S. \$260 million to the economy (The Economist, 1987).

For 1982, DITURIS estimates that trip expenditures for foreign arrivals by air were slightly over U.S. \$900 for an average length of stay of 17.3 days. During this same period, overland arrivals (mostly from Colombia and Peru) spent an

average of U.S. \$260 in Ecuador, with an average length of stay of 20.6 days (DITURIS, 1982). Consequently, average daily expenditures for foreign arrivals by air were approximately U.S. \$52 and for terrestrial arrivals, U.S. \$12.

The National Institute of Statistics and Census estimate that about 2.4 percent of the Ecuadorean labor force was directly employed in the tourism industry in 1986. A total of 4,919 tourist service establishments (hotels, restaurants, bars, and discotheques only) employed 10,979 people.

B. Major Tourism Attractions

Tourism in Ecuador combines culture and folklore with nature and adventure. In addition to the Galapagos, another important tourist attraction is Quito, the capital. Like the Galapagos, Quito is a UNESCO World Heritage Site. Tours in Quito take visitors to colonial churches and monasteries, museums, and galleries, and to a site not far from the city that marks the equator. At least ten small and medium-sized cities of the Andean highlands feature Indian markets. The most popular craft items include Indian weaving, Panama hats, silver jewelry, wood carvings, and leather goods.

In addition to Quito, there is also significant tourism activity along the Pacific coast, which offers deep sea fishing and a limited amount of beach tourism.

In 1982, DITURIS coordinated an inventory of tourism attractions in Ecuador. The inventory was funded by the United Nations Development Programme (UNDP). Including the mountains, lakes, beaches, natural reserves, archaeological ruins, native people resources, and major cities, UNDP identified 877 tourism attractions. These attractions included 510 natural sites, 136 folklore events, 130 cultural events, 57 programmed events, and 44 technical, scientific, or artistic achievements. This inventory is currently being updated (The Economist, 1987).

C. Tourism Policy, Management, and Promotion

Although it was the private sector that gave tourism its first big push in the late 1960s, the government formed the National Tourism Board in 1974 to develop the tourism industry. At the same time, the government also passed the Tourism Development law to regulate activities in the tourism sector (travel agencies and hotels, for example) and to provide incentives for investment in tourism.

Under the administration of the Ministry of Industry, Commerce and Integration, the role of DITURIS is to coordinate the tourism

industry, specifically integrating the public and private sectors. DITURIS has three main departments--promotion, technical operations, and administration. The functions of these departments include: regulating restaurant and hotel prices, approving licenses for tourism enterprises and for duty-free imports of capital equipment for tourism businesses, evaluating tourism projects and providing technical assistance, gathering and disseminating statistical information, preparing and distributing promotional material, working with international and domestic airlines to promote tourism to and within Ecuador, training, and encouraging private investment for tourism projects as needed (Coe and Gee, 1986).

In 1984, a Master Development Program for Tourism was drafted. The plan outlined priorities for tourism development as well as constraints. Among the priorities identified were the development of beaches in each of the coastal provinces, the provision of basic services--drinking water, sewers, electric light--and the improvement of statistics and tourist information, such as handbooks. The primary constraint listed was inadequate promotion and lack of high-quality accommodations (The Economist, 1987).

By 1987, however, the supply of hotel rooms remained limited. That year 1,077 hotels with 23,531 hotel rooms were registered with DITURIS. But the majority were of second- or third-class category, with only a small percentage of five-star or first-class hotels (Frueh, 1988).

II. Status of Tourism to Protected Areas

A. Demand for Tourism to Protected Areas

Although statistics have not been consistently kept at all protected areas in Ecuador, parks where they have been recorded generally show upward trends in visitation. For example, at Galapagos, tourism has risen from 17,123 in 1982 to 32,595 in 1987. (The 1987 figure is the official government figure, but other estimates put the visitation level at 49,000). Pasocha Protection Forest, which is owned by the state and managed under contract by Fundacion Natura, is located outside of Quito. This protected area received 8,107 visitors in 1986 and 17,749 in 1987 (Fundacion Natura, pers. comm.). Limoncocha Biological Reserve had 1,835 visitors in 1986 and 2,676 in 1987 (Metropolitan Touring). Cotopaxi National Park has seen a decrease in visitation from 51,228 visitors in 1982 to 33,196 in 1987.

Table 1.

COTOPAXI NATIONAL PARK NATIONAL AND INTERNATIONAL VISITORS 1977 - 1987					
YEAR	NATIONALS	%	INTERNATIONALS	%	TOTAL
1977	23,044	90.7	2,375	9.3	25,419
1978	25,345	87.7	3,574	12.4	28,919
1979	36,487	85.7	6,114	14.4	42,600
1980	39,504	88.4	5,208	11.6	44,712
1981	n.a.	n.a.	n.a.	n.a.	49,743
1982	n.a.	n.a.	n.a.	n.a.	51,158
1983	n.a.	n.a.	n.a.	n.a.	46,248
1984	n.a.	n.a.	n.a.	n.a.	43,453
1985	n.a.	n.a.	n.a.	n.a.	47,279
1986	n.a.	n.a.	n.a.	n.a.	41,316
1987	28,166	84.8	5,030	15.2	33,196

Source: Visitor Registration, Cotopaxi National Park, 1988

Table 2.

VISITOR REGISTRATION FOR ECUADOR'S NATURAL AREAS

Natural Areas/(Creation)	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Cotopaxi National Park (Aug-75)	25,419	28,919	42,600	44,661	49,743	51,158	46,248	43,453	47,279	41,316	33,196	15,750
Galapagos National Park (May-36)	7,788	12,299	11,692	17,539	16,323	17,124	17,766	18,859	17,850	26,023	33,196	18,880
Machalilla National Park (July-79)	—	—	—	517	820	1,420	2,530	2,250	8,897	—	2,983	4,097
Podocarpus National Park (Dec-82)	—	—	—	—	—	—	52	80	150	133	175	103
Sangay National Park (June-75)	—	—	—	—	483	776	945	1,796	652	—	1,438	336
Limoncocha Biol. Res. (Sept- 85)	—	—	—	—	—	—	—	—	3,127	2,974	2,676	—
Cayambe-Coca Ecological Reserve (Nov-70)	—	—	—	1,512	3,520	10,112	9,715	6,398	2,450	—	9,056	1,053
Cotacachi-Cayapas Ecological Reserve (Aug-68)	—	—	—	—	5,235	17,629	29,116	53,185	84,393	—	95,077	45,539
Pululahua Geobotanical Reserve (Jan-66)	—	—	—	—	—	1,188	2,773	4,036	5,325	3,245	3,380	1,401
Cuyabeno Wildlife Production Reserve (July-79)	—	—	—	—	—	40	12	141	155	365	185	60
Boliche Recreation Area (July-79)	—	—	—	35,063	43,416	43,904	43,416	40,181	34,869	—	40,932	17,164
Cajas Recreation Area (June-77)	—	16,000	16,640	17,000	19,200	22,400	25,100	32,000	40,240	48,000	53,800	—

(June-77) Source: M.A.G. - Direccion Nacional Forestal

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WWF's airport survey at Quito's international airport was conducted to determine the degree to which natural protected areas influenced tourists' travel plans and activities. After socio-demographic data were collected, visitors were asked how important protected areas were in their decision to visit the country, how many protected areas they visited, and what kinds of nature-oriented activities they engaged in during their trip.

WWF Airport Survey Results

Socio-demographic Information

Average age: 50.0 years, youngest 7, oldest 80 years old (N=63).

Average nights: Average number of nights was 11.4; shortest stay was two nights, longest was 35 (N=77).

Family members: Of the 79 tourists surveyed, 34 (43 percent) came with family members. Average was 2.4 total family members. The largest family was six people.

Expenditures: Of the 79 tourists surveyed, 57 reported an average total expenditure of \$3,131. The average daily expenditure was \$304 (N=55). The highest was more than \$9,999, and the cheapest vacation cost \$250. Of the respondents to this question, 37 people reported an average expenditure of \$1,072 for airfare.

Income: The average family income was over U.S. \$40,000.

Gender: 56 percent of respondents were men, 44 percent were women.

Nationality: The nationality distribution of the survey respondents (N=79) was as follows: 62.0 percent North American, 22.8 percent European, 6.3 percent Colombian, 2.5 percent Honduran, 2.5 percent Jamaican, and 3.8 percent all other.

Protected Area and Nature-oriented Information

Parks and protected areas were the most important reason given by tourists for their visit to Ecuador:

Main reason	52%
Important, influenced decision	13%
Somewhat important	14%
Not important	17%
No response	4%

Few of the tourists to Ecuador had been there before- 84 percent were first-time visitors, while 16 percent were repeat tourists. The principal reasons that visitors came to Ecuador this trip were:

Natural history	76%
Sightseeing	49%
Cultural history	38%
Business	8%

Other reasons for travel, such as visiting friends and family and enjoying the sun/beaches/recreation, each got a 5 percent response. The high number of people who cite natural history as their principal reason for traveling to Ecuador reflects the dominance of travel to the Galapagos, and may reflect the way tours and activities there are "packaged."

The most common activities tourists enjoyed in Ecuador were nature-based, reflecting the importance of nature tourism to the country:

Birdwatching	65%
Wildlife observing	60%
Boat trips	48%
Botany	30%
Hiking/trekking	22%
Local cultures	22%
Jungle excursions	10%
Mountaineering	9%
Camping	3%
Hunting/fishing	1%

When asked to list what they liked most about their visit to Ecuador, 26 of 79 visitors surveyed highlighted the country's "islands." The "friendliness of the people" was listed in 18 surveys, and 17 visitors commented on Ecuador's "natural resources, features and beauty." Also mentioned by 14 visitors was the country's "wildlife." Of 79 visitors surveyed, no dislike was repeated by more than 6 visitors; these included: "pollution, noise and litter," "crime," and the "airport facilities and services."

B. Supply of Natural Protected Areas

Geographically, Ecuador is a small but highly biologically diverse country divided into four distinct zones: the Sierra Highlands, the Amazon Basin (or Oriente), the Pacific Coast Highlands, and the Galapagos Islands. Across these four regions is a wide variety of protected natural ecosystems.

Yasuni National Park

Yasuni National Park is located in the Napo Province in Northeastern Ecuador. It is Ecuador's largest protected area, 679,000 hectares, that remains in a mostly pristine state. Sizable populations of the endangered jaguar can still be found in the park. The greatest threat to this protected area is oil exploration.

Sangay National Park

Encompassing 370,000 hectares, Sangay National Park is located on the eastern slopes of the Eastern Andean Range and is one of the largest protected areas in Ecuador. Its unique geological and natural features make this park one of the most interesting for research. It also contains important archeological Inca ruins that enhance its cultural importance. Spontaneous colonization is a major threat to this area.

Cuyabeno Wildlife Reserve

This reserve is located in the Napo Province of the Northeastern Amazon and encompasses an area of 254,760 hectares. It contains a wealth of plant and animal species with great economic potential. With mostly lowland rain forests and numerous oxbow lakes, the reserve has great potential for nature tourism. Native groups in the area traditionally practice subsistence hunting. Threats to the reserve come from spontaneous colonization and oil exploration.

Machalilla National Park

Machalilla National Park spans an area of 40,259 hectares in Northwestern Ecuador in the province of Manabí. This park features the most important sample of Pacific dry forest remaining in Ecuador. The park is home to 119 species of birds, and it includes an important marine area with two main islands, La Plata and Salango. Machalilla also preserves part of Ecuador's cultural heritage in Agua Blanca, one of the major pre-Columbian archeological remains in coastal Ecuador. Among the

many threats to the park are unplanned human encroachment, fires during the dry season, forest cutting for fuelwood and charcoal, overgrazing by goats and cattle, and desertification.

Podocarpus National Park

Podocarpus National Park is found in the provinces of Loja and Zamora-Chinchiipe on the eastern slopes of the southern Andes, and encompasses an area of 146,280 hectares. Podocarpus is named after the only coniferous tree native to the Andes. While poorly known, the park's wildlife includes the rare spectacled bear and the elusive mountain tapir. High plant endemism makes this area a very high conservation priority. Poaching and illegal forest cutting threaten this park.

Cayambe-Coca Ecological Reserve

Situated on the eastern slopes of the Andes in northern Ecuador, this ecological reserve covers 403,103 hectares. It encompasses an incredible diversity of ecosystems, ranging from the paramo highlands to lowland rain forest. With over 317 species of reptiles and amphibians, it is one of the most diverse areas on earth. Although the area remains largely unexplored, spontaneous colonization is a major threat.

Cotachachi-Cayapas Ecological Reserve

This reserve covers an area of 204,420 hectares on the western slopes of the Andes in northern Ecuador. Because of its isolation from the Amazon region, this is a biogeographically unique area containing the Colombian-Pacific assemblage of plant and animal species that characterize the western slopes of the Andes. The reserve probably has very high levels of endemism. Agroindustrial activities and human encroachment threaten this ecological reserve.

The Ecuadorean Park Service and Fundación Natura are working on a new national conservation strategy for protected areas. This should guide new, innovative conservation and sustainable development programs in Ecuadorean parks. Roughly one half of Ecuador's protected areas have management plans, but official funds are insufficient to implement them.

In terms of personnel, Galapagos has the highest number of employees (65), followed by Sangay (23), Cayambe-Coca (17), Cotopaxi (16), Machalilla (15), Cotacachi-Cayapas (14).

Tourist infrastructure varies among the park sites, as can be seen in the following table:

Table 3.

INFRASTRUCTURE WITHIN NATIONAL PARKS AND RESERVES ECUADOR, 1987						
	ACCESS ROADS	VISITOR CENTER	CABINS	NATURE TRAILS	CAMPING AREAS	PICNIC AREAS
El Poliche	X	X	-	X	-	X
Cajas	X	X	-	-	-	-
Cayambe-Coca	-	-	-	-	-	-
Churute	-	-	-	-	-	-
Cotacachi-Caya	X	X	2	X	-	-
Cotopaxi	X	X	2	X	X	X
Cuyabeno	X*	-	1	X	-	-
Galapagos Isl.	X**	X	X	X	-	-
Machalilla	X	-	-	X	-	-
Pasochoa	X	X	-	X	-	X
Pichincha	X	-	-	X	-	-
Podocarpus	X	-	-	-	-	-
Pululahua	X	-	-	X	-	-
Sangay	X	-	-	X	X	-
Yasuni	X*	-	X	X	-	-

* River access (dugout canoe travel)

** Daily cruises and yacht cruises

Source: Wilson, 1987, p. 29

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III. Impacts of Tourism to Protected Areas

A. Economic Activities Related to Nature Tourism

Few studies have been completed to calculate the economic impact of nature tourism. Economic activities can be evaluated, however, by looking at the nature tour industry as well as examining jobs directly and indirectly created at a few specific sites.

Ecuador has several travel agencies that offer nature tours. The largest of these, Metropolitan Touring, has been a catalyst in the nature tourism industry for promoting the Galapagos Islands since the early 1970s. They continue to offer tours to the Galapagos as well as other special interest tours. Among these tours are trips to the Amazon Basin area, birdwatching excursions, and Indian culture tours. All tours include top-notch naturalist guides and high-quality accommodations when possible.

Etnotur and Nuevo Mundo are travel agencies that promote Ecuador worldwide through their main international affiliations. Their itineraries of adventure and nature tourism include mountaineering, jungle excursions, and train travel to Pacific northwestern Ecuador. Etnotur also offer tours to the Galapagos and recently built a new hotel on San Cristobal, one of the islands. These agencies also use experienced guides who receive thorough training.

Hotel Crespo is a travel agency located in the colonial city of Cuenca, in the province of Canar, and is the only established agency in that region offering nature-oriented tourism. Crespo offers excursions to Cajas National Park; jungle tours to the province of Morona-Santiago, including river travel in dugout canoes and visits to the Shuar Indians; trips to Ingapirca; and mountain lodging and trekking at Albergue de Montana. The manager of the hotel generally accompanies the tours. He acquired his natural history information from visiting scientists and national park studies.

There are several nature-oriented establishments such as the Hotel Anaconda, a rustic jungle cabin-type hotel that offers excursions to the rain forest. The Flotel Francisco de Orellana, located on the Napo River in the Napo province, is a flat-bottomed floating hotel operated by Metropolitan Touring.

In terms of economic impact at each natural protected area, each area is distinct in the extent and kind of economic activity that tourism generates. Below are examples of economic activities at several of the protected areas.

Galapagos National Park

A great deal of economic activity is directly and indirectly related to tourism at the Galapagos. This activity can be seen on the international, national, and local levels. At the international level, not only is there extensive international air travel in and out of the Galapagos, but also, many of the tours are arranged by foreign travel agencies. Some of the guides are also from other countries.

At the national level, income is generated for the national park system through entrance fees to the Galapagos. Foreign tourists pay a much greater amount than nationals to visit the islands. This income goes to the national park service to be distributed among all Ecuadorean parks. Galapagos receives the biggest portion of this income, about 50 percent of the total fee income. Roughly 25 percent of the funds for Galapagos go to finance its tourism program, including operational costs for ticket sales, park guards, and three patrol boat operators.

As a result of nature tourism, the Gross National Product of the Galapagos Islands province is the highest in Ecuador. Income at the national level is also generated through the many Ecuadorean travel agencies that offer trips to the Galapagos. Many guides are also drawn from the mainland to work on the islands.

Local economic impacts of tourism include residents who work as guides or as crew on boats, or who own restaurants, snack bars, or souvenir shops. A few years ago, it was noted that, while fishing has traditionally been the main economic activity of the Galapagos, many former fishing boats have been remodeled into day-tour boats (Garces y Ortiz, 1984).

Cotopaxi National Park

The economic impact of Cotopaxi is minimal in both direct and indirect terms. The park's small entrance fee is inadequate for park maintenance. There is no economic activity within the park, and the nearest human settlements are at a distance of several kilometers along the main road. A few restaurants along this road and a couple of small food stands benefit to varying degrees from the tourism.

The restaurant closest to Cotopaxi is "Los Pinos," where tourists are the main customers and source of income. The owner believes that about 35 to 40 percent of the clientele who stop at his restaurant have visited the park. The Cienega Restaurant and Hotel also receives some business from tourists to the park. In fact, the owner has made arrangements with some of the tour

operators who bring visitors to the volcano to stop at his establishment.

Cuyabeno Reserve

Cuyabeno is one of nine wildland areas designated for immediate attention by the Ecuadorean Department of National Parks (Estrategia Nacional de Conservacion, 1976). This Amazonian reserve covers an area of 254,760 hectares of humid tropical forest and swamp forest and harbors significant populations of manatees, freshwater dolphins, tapirs, caimans, giant armadillos, and several of the spotted cats and other species listed as rare or endangered. In addition, the reserve surrounds a legally recognized tribal reserve of several hundred Siona-Secoya Indians. A multitude of serious threats to the reserve, such as oil exploration, the advancing agricultural "front" made up of thousands of colonists, African oil palm plantations, and illegal hunting threaten the integrity of the unit.

Despite insufficient infrastructure, various tour companies are presently operating in the reserve, and Indians are becoming involved with the business. Nuevo Mundo conducts a five-day/four-night trip in which participants spend three nights on the Laguna Grande within the reserve and the fourth night in the Hotel Cofán in Lago Agrio. Etnotur operates a similar five-day/four-night tour as well as an eight-day tour that travels down the Río Aguarico and up the Río Cuyabeno, thus showing participants a great deal more of the Cuyabeno Reserve. For the shorter tours, Nuevo Mundo charges U.S. \$450 per person, and the tourists sleep in tents. Etnotur charges U.S. \$300 for the same tour, but the tourists must sleep in hammocks.

Two small houses and one larger house that have been built in the reserve are being used by the Universidad Católica as a research station. These houses are situated on a small parcel of land surrounded by ponds where the Siona Indians have traditionally hunted and fished.

The area near the Laguna Grande is considered one of the ideal locations within the reserve for expanding tourism infrastructure. Lodging for tourists is being constructed here by residents of the community of Siona de Puerto Bolívar. Two buildings will be constructed; the framework for one is already completed. Administrative headquarters will be located here as well as basic tourist services such as latrines, garbage disposals/incinerators, water wells, and reserve maps and signs. Guard posts will be established at six locations in the reserve to help maintain adequate control.

B. Positive and Negative Impacts of Nature Tourism

1. Conservation Activities and Environmental Education

Many protected areas provide important opportunities to expand environmental awareness among foreigners and nationals. An example is Paschoa Protection Forest Reserve, operated by Fundacion Natura and located near Quito. The park's purpose is to strengthen environmental education and all visitors receive educational materials and guided services. Eighty percent of the visitors are nationals and 20 percent are foreigners. The majority of the visitors during the week are children, who often bring their parents back on the weekend (Yolanda Kakabadse, pers. comm.)

2. Negative Impacts

Litter, pollution and trail erosion seem to be the most frequently reported problems at most natural protected areas in Ecuador. Other problems, such as illegal hunting and fishing at Cotopaxi, are also reported.

On the Galapagos, although there are no comprehensive scientific studies have been conducted to date, specific environmental impacts from tourism have been noted by longtime residents as well as naturalist guides. It has been noted that the albatross at Punta Suarez, while formerly nesting right beside tourist paths, have lately been moving away from the paths. Sea lions on Isla Lobos seem to become increasingly nervous and aggressive towards tourists. Some "chase" after tourists who get too close taking pictures.

In addition, trail erosion has been reported on Bartolome, Caleta Tagus, Santa Fe, Plaza Sur, and Seymour Norte islands. Although forbidden, tourists often leave litter on the islands; this can be fatal to marine turtles, which have been reported to mistake plastic bags for jellyfish, one of their food sources, and to die when the bags block their digestive tracts. Black coral is also illegally collected and sold at local souvenir stores.

C. Sociocultural Considerations

Although sociocultural aspects are an important topic for tourism development and management, they were not a focal point of this study and were not thoroughly analyzed. However, a few sociocultural observations were made in the course of obtaining information on the economic and environmental impacts of tourism.

For example, in Ecuador, tourism and its promises for a higher standard of living have lured many mainland Ecuadoreans to the islands. This has created many problems. The population has been growing at an uncontrollably fast pace--about 12 percent annually. Local residents resent newcomers taking jobs on the islands. With this new influx as well as increased numbers of tourists, there are often shortages of basic foods at local shops. The influx of tourism money into the area has raised prices in the Galapagos, making it difficult for locals, especially those not involved in tourism.

IV. Obstacles and Opportunities for Growth

A. Obstacles for Growth

One constraint to the growth of nature tourism in Ecuador is a lack of infrastructure at some parks and reserves. Inadequate infrastructure is partly due to limited park budgets and partly due to the lack of publicity to draw other funding sources to these parks for infrastructure development. There is an overall lack in the promotion of most of the parks on mainland Ecuador. The Galapagos Islands receive a great deal of national and international attention, and many of Ecuador's other parks remain unknown.

B. Opportunities for Growth

Ecuador is already well known for the Galapagos, and tourism could be expanded to the mainland by links with Galapagos tourism. Tourism packages could be created that include a few days at the Galapagos and a few days at other Ecuadorean parks readily accessible from cities like Quito, Guayaquil, Riobamba, and Cuenca.

V. Cotopaxi National Park (Case Study #1)

A. General Description and Infrastructure

Cotopaxi National Park, created in 1975, is located in the Andes about 90 kilometers south of Quito. From Quito, the park is an easy one-hour drive on good roads. The park's main attraction is the Cotopaxi volcano (5,897 m), often described as one of the most beautiful volcanoes in the world. Apart from the volcano, the park's flora and fauna include excellent examples of paramo (tropical high-altitude tundra), the Andean condor, hawks, caracaras, Andean lapwings, and many others. Rabbits, deer, Andean foxes, and pumas are among the park's most common mammals.

The park has a visitor center that provides maps and information on the flora and fauna of the area. A basic natural history museum contains an exhibition of animals to be found in the park. Cotopaxi has basic cabins but no food or fuel supplies. Two A-frame cabins are available for park personnel, visiting researchers, and scientists. Cotopaxi National Park also includes nature trails and areas for camping and picnicking. As Table 3 indicates, the park has one of the most complete sets of infrastructure of the Ecuadorean park system; however, most of the infrastructure is basic.

B. Visitor Information to Date

Due to the park's close proximity to Quito and its easy accessibility, it is a well-liked weekend destination for many Quito families to have picnics and recreation. During the week, it is mostly visited by foreigners.

Peak season for national visitors is May through August, and for international visitors, January through April, with a smaller season in July and August.

According to the visitor register at Cotopaxi, (Table 4), visitation statistics show a decline in visitors over the past few years. Visitation has been declining by over 35 percent from 51,158 visitors in 1982 to 33,196 visitors in 1987. Data on the share of national versus international visitors are scarce, but the available figures show a moderate overall decrease for international visitors when comparing 1980 and 1987 figures. A considerable decrease in national visitors is therefore the main reason for declining numbers of visitors. While 39,504 Ecuadorean visitors came to see Cotopaxi National Park in 1980, the park attracted only 28,166 national visitors in 1987, or 32 percent less than in 1980.

Table 4.

**COTOPAXI NATIONAL PARK
NATIONAL AND INTERNATIONAL VISITORS
1977 - 1987**

YEAR	NATIONALS	%	INTERNATIONALS	%	TOTAL
1977	23,044	90.7	2,375	9.3	25,419
1978	25,345	87.7	3,574	12.4	28,919
1979	36,487	85.7	6,114	14.4	42,600
1980	39,504	88.4	5,208	11.6	44,712
1981	n.a.	n.a.	n.a.	n.a.	49,743
1982	n.a.	n.a.	n.a.	n.a.	51,158
1983	n.a.	n.a.	n.a.	n.a.	46,248
1984	n.a.	n.a.	n.a.	n.a.	43,453
1985	n.a.	n.a.	n.a.	n.a.	47,279
1986	n.a.	n.a.	n.a.	n.a.	41,316
1987	28,166	84.8	5,030	15.2	33,196

Source: Visitor Registration, Cotopaxi National Park, 1988

C. Economic Impact

The economic impact of Cotopaxi is minimal in both direct and indirect terms. The park's small entrance fee is inadequate for park maintenance. There is no economic activity within the park, and the nearest human settlements are at a distance of several kilometers along the main road to the park. A few restaurants along this road and a couple of small food stands benefit to varying degrees from the tourism.

The restaurant closest to Cotopaxi is "Los Pinos," where tourists are a main income. The owner believes that about 35 to 40 percent of the clientele that stop at his restaurant have visited the park. The Cienega Restaurant and Hotel also receives some business from tourists to the park. In fact, the owner has made arrangements with several tour operators who bring visitors to the volcano to stop at his establishment.

D. Environmental Impact

As for negative environmental impacts of tourism, litter seems to be the main problem. Since the amount of litter, especially after weekends, consumes the park guards' time in cleanup, it detracts from their efforts being oriented to other

activities such as control of visitors or information. Some drivers are reported to drive off of the park road, causing damage to the park's flora. Illegal hunting and fishing are the most difficult problems to control. These "unofficial" visitors to the park cause more damage than anyone else. The park's transportation and communication equipment is not sufficient to gain control over this situation.

VI. Galapagos National Park (Case Study #2)

A. General Description and Infrastructure

Galapagos National Park, created in 1959, is the oldest and best protected park of the Ecuadorean park system. The park consists of 11 large islands and numerous tiny islands. The islands can be reached only by boat or airplane, and the majority of tourists arrive via air to the island of Baltra or to the island of San Cristóbal. From there they transfer to waiting cruise ships or buses and travel to the islands' capital, Puerto Ayora.

Airlines flying to the two airports are the military airline TAME (Baltra) that has daily flights with a passenger capacity of about 125 passengers, and the private airline SAN (San Cristobal). Baltra has a simple but well-constructed airport. Once arriving at Baltra, passengers take a bumpy three-hour bus ride to Puerto Ayora, the focal point for hotels and daily tours. The road to Puerto Ayora is often a difficult passage, dusty in the dry season and dangerous in the rainy season.

Several small hotels or pensions are found in Puerto Ayora and Puerto Baquerizo (San Cristobal Island). Most of them are geared towards national tourism. With the explosive increase of national visitors, small hotels and pensions have been burgeoning.

Table 5.

SUPPLY OF HOTEL ROOMS IN PUERTO AYORA PUERTO BAQUERIZO MORENO 1981 AND 1987					
	CATEGORY	HOTELS		ROOMS	
		1981	1987	1981	1987
PUERTO AYORA	1	2	4	31	52
	2	4	7	92	99
	3	6	3	42	25
Subtotal		12	14	165	176
PUERTO BAQUERIZO	1	0	1	0	10
	2	2	7	2	59
	3	1	3	9	32
Subtotal		3	11	11	101
TOTAL		15	25	176	277

Source: Garcés y Ortiz, 1984; Moore, 1987.

Most tourists to the Galapagos, especially foreign tourists, do not stay in one of the local hotels but immediately transfer to a cruise ship after arriving in Baltra. These cruise ship tours last from three days to two weeks and generally visit between five and 11 islands.

Various small tour companies offer day tours to one or two islands on boats that accommodate up to 12 people. All these tours are accompanied by a local auxiliary guide. In total, 57 boats are operating in the Galapagos with a permit from the National Forestry Administration (DINA). There are three large cruise ships with capacities of 90 passengers; the remainder have capacity for two to 20 passengers. The three cruise ships actually monopolize over 50 percent of total annual passenger capacity (Moore, 1987). Total passenger capacity, based upon boat availability from January through June 1987, was given at 42,298 passengers; 39.3 percent of this capacity, or 16,603 passengers, actually used the boats.

In 1975, along with the park's management plan, an exemplary formal training system for tour guides was designed. The training is divided into two categories: naturalist guides and auxiliary guides. Naturalist guides need to have completed three years of university training or its equivalent in natural sciences, and be fluent in English. To obtain permission to work as a naturalist guide on the Galapagos Islands, guides have to participate in and pass an intensive one-month training course, held every year in September.

The course is organized by the park in cooperation with the Charles Darwin Research Station and contains over 30 lectures on the natural history of the islands, the theory behind national parks, and park organization and history. The course also includes group discussion and mandatory reading (Moore, 1981). Naturalist guides are permitted to lead groups of between 12 and 90 visitors. Auxiliary guides are permitted to lead groups up to 12 people.

The town has several basic restaurants and at least three grocery stores. Several souvenir shops sell post cards, tee-shirts, black coral, and other tourist items. A tourism information office is located in the center of town.

Set apart from the town is the Charles Darwin Research Center and the main building of the National Park Service. Within the Charles Darwin Research Center is a museum and a small zoo.

B. Visitor Information to Date

Traditionally, the Galapagos Islands have had more international than national visitors. As shown in Table 6, however, the share of national visitors has been gaining consistently over the past 20 years, with only one setback in 1985. Recently there has been a dramatic surge in national visitors; between 1985 and 1986, national arrivals almost doubled from 6,279 to 12,126. In contrast, international arrivals have been fairly stagnant since 1980. In 1987, for the first time, more national visitors were registered in the Galapagos National Park than international visitors.

Tourism influx to the Galapagos Islands has increased by over 335 percent from 7,500 visitors (1974) to 32,595 (1987). This increase has not been continuous, but rather has shown minor setbacks in 1976, 1979, 1981, and 1985. The considerable decrease experienced in 1976 might be related to the international economic crisis and a general lull in the international travel market. Tourism seems to have grown in leaps in 1978, 1980, and 1986, when figures jumped by about 50 percent in relation to the previous year. (Moore, 1987)

Many of these new arrivals, especially the nationals, can be attributed to the opening of a new airport on San Cristobal Island. Almost 6,000 additional visitors arrived at this airport in 1986 alone.

Table 6.

ANNUAL FLOW OF VISITORS GALAPAGOS NATIONAL PARK 1974 - 1987						
YEAR	NATIONAL	%	FOREIGN	%	TOTAL	% CHANGE
1974					7,500	
1975					7,000	- 6.7
1976	863	13.8	5,432	86.2	6,300	-10.0
1977	1,349	17.3	6,439	82.7	7,788	23.6
1978	1,606	13.1	10,693	86.9	12,299	57.9
1979	2,226	18.9	9,539	81.1	11,765	- 4.3
1980	3,980	22.8	13,465	77.2	17,445	48.3
1981	4,036	24.8	12,229	75.2	16,265	- 6.8
1982	6,067	35.4	11,056	64.6	17,123	5.3
1983	7,254	41.1	10,402	58.9	17,656	3.2
1984	7,627	40.4	11,231	59.6	18,858	6.8
1985	6,279	35.2	11,561	64.8	17,840	- 5.4
1986	12,126	46.6	13,897	53.4	26,023	45.9
1987	18,000	55.2	14,500	44.5	32,595	25.3

Source: Moore, 1987, p.10, Galapagos National Park Service.

It is necessary to note that the accuracy of official statistics has been questioned. Unofficial statistics indicate that in 1986, when the San Cristobal airport was opened, the islands were flooded by almost 50,000 visitors, far beyond the officially established carrying capacity limit of 25,000 visitors.

Table 7.

**SALE OF NATIONAL PARK ENTRY TICKETS
SAN CRISTOBAL ISLAND
1986 - 1987**

<u>YEAR</u>	<u>NATIONALS</u>	<u>%</u>	<u>FOREIGNERS</u>	<u>%</u>	<u>TOTAL</u>
1986*	4,162	71.5	1,655	28.5	5,817
1987**	5,139	68.4	2,369	31.6	7,508

* Not including January
 ** Only January-September
 Source: Moore, 1987, p.14.

Seasonality patterns can be deducted from Table 8, with high season for national tourism in the months of April, May, August, and September. As for international visitors, they tend to concentrate January and August, and to a lesser extent in July and March. Absolute low season for international visitors is the month of September.

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Table 8.

AVERAGE NUMBER OF NATIONAL, INTERNATIONAL, AND TOTAL MONTHLY VISITORS TO GALAPAGOS NATIONAL PARK FROM 1979-1986

	AVG. NATIONAL	AVG. INTERNATIONAL	AVG. TOTAL
Jan	319.25	1424.38	871.81
Feb	394.63	952.00	673.31
Mar	476.75	1022.63	749.69
Apr	645.25	995.88	820.56
May	589.38	820.25	704.81
June	481.25	788.75	635.00
July	462.50	1098.88	778.19
Aug	761.63	1259.25	1010.44
Sept	778.38	630.00	704.19
Oct	525.13	854.13	689.63
Nov	387.13	972.75	679.94
Dec	378.13	858.63	618.38

Source: Moore, 1987

An analysis of total arrivals between July of 1986 and June of 1987 reveals a dominance of U.S. visitors (28.7 percent) among foreign visitors. Other significant groups include Germans (6.8 percent), Swiss (3.2 percent), Italians (3.1 percent), and Canadians (2.7 percent). Surprisingly, visitors from other Latin American countries total only 2.1 percent of arrivals (Tourism Report II).

Most tourists to the Galapagos Islands, especially foreign tourists, do not stay in one of the local hotels but immediately transfer to a cruise ship after arriving at Baltra. These cruise ship tours last from three days to two weeks and, depending on itinerary, visit between five and 11 islands.

A study of visitor use by Moore (1987) comparing the visitor use data of 1986-87 with 1979-80 visitor use information came to the following interesting conclusions (see Table 9):

1. The increased use of Seymour Norte and Playa Las Bachas (Baltra Island) as tour destinations can be deduced from the increase in day tours and the increased use of Baltra Harbor to meet and leave cruise ship tourists.

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2. There is a notable change in site visits to locations close to Puerto Baquerizo Moreno on the island of San Cristobal. In 1979-80, only 26 tourists visited Isla Lobos. During 1986-87, over 3,095 people or 2.2 percent of all visits were made to Isla Lobos. The reason for this was increased day tour tourism made possible by the new San Cristobal airport.

3. Frequent site visits are congruent with proximity to visitor arrival points, especially those to Seymour Norte, Plaza Sur, Bartolomé, Santa Fe, Rábida, Playa Las Bachas, and Isla Lobos.

Table 9.

**VISITORS TO VARIOUS SITES: GALAPAGOS NATIONAL PARK
A COMPARISON**

	TOTAL VISITORS 1979-80	% OF THE TOTAL SITES	TOTAL VISITORS 1986-87	% OF THE TOTAL SITES	% CHANGE
Pta. Suarez	9,399	7.7	9,576	6.7	1.9
Bahia Gardner	1,615	1.3	2,527	1.8	56.4
Isla Lobos	26	0.0	3,095	2.2	11,803.8
Pto. Grande	8	0.0	511	0.4	6,287.5
Sta. Fe	6,057	5.0	8,933	6.3	47.5
Plaza Sur	14,326	11.8	15,870	11.1	10.8
B. Conway	56	0.0	243	0.2	333.9
Playa Las Bachas	2,013	1.7	5,405	3.8	1,685.0
Caleta Tortuga	2,690	2.2	4,768	3.3	77.2
I. Mosquera	1,235	1.0	875	0.6	- 29.0
Daphne	1,043	0.8	1,090	0.8	4.5
Seymour Norte	11,851	9.8	15 966	11.2	34.8
B. Darwin	3,642	3.0	4,768	3.3	30.9
El Barranco	612	0.5	2,297	1.6	275.3
Bartolome	12,538	10.3	14,621	10.2	16.6
Bahia Sullivan	2,168	1.8	4,890	3.4	125.5
C. Bucanero	411	0.3	714	0.5	73.7
Playa Espumilla	7,085	5.8	1,784	1.2	- 74.8
Pto. Egas*	11,310	9.3	7,204	5.0	- 36.3
Sombrero Chino	2,541	2.1	3,626	2.5	42.7
Rabida	3,702	3.1	8,093	5.7	118.6
Pta. Espinosa*	6,752	5.6	5,441	3.8	- 19.4
Volcan Alcedo	314	0.3	593	0.4	88.8
Pta. Garcia	470	0.4	581	0.4	23.6
Pta. Albemarle	23	0.0	138	0.1	500.0
Pta. Tortuga	33	0.0	142	0.1	330.3
C. Tagus*	6,668	5.5	5,338	3.7	- 19.9
B. Urbina	69	0.1	409	0.3	492.8
B. Elizabeth	47	0.0	266	0.2	466.0
Pta. Moreno	56	0.1	232	0.2	314.3
Pta. Cormoran	8,522	7.0	7,028	4.9	- 17.5
B. Post Office	4,062	3.3	2,887	2.0	- 28.9
Corona del Diablo	....	...	2,613	1.8	....
Cerro Brujo	....	...	275	0.2	....

* For 1986-87, the number is low because of insufficient data
Source: Moore, 1987

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C. WWF Park Survey Results

Information on visitor profiles was obtained by WWF during two survey weeks,¹ when 64 international and 15 national² tourists were interviewed. Half of all visitors interviewed were North American, followed by Europeans (41 percent) and Australians (5 percent). A slight majority of visitors were male (55 percent); the mean age was 40 and the mean annual income close to U.S. \$40,000. Visitors were generally accompanied by relatives (45 percent) or friends and colleagues (31 percent).

Main motivations for visiting the Galapagos Islands National Park were rare species (77 percent), its fauna (70 percent), its flora (42 percent), geology (42 percent), adventure (31 percent), and recreation (13 percent). Nature-related activities performed by tourists included hiking, wildlife observation, birdwatching, botany, and boat excursions.

Tourists used planes (83 percent), boats (63 percent) and buses (36 percent) to travel to and around the Galapagos Islands. Two-thirds of all visitors spent at least one night within the park, with the mean number of nights spent inside or near the park at eight. Over 83 percent of all surveyed used a boat or yacht as accommodation facility.

D. Economic Impact of Tourism to the Galapagos

A great deal of economic activity is directly and indirectly related to tourism at the Galapagos. At the international level, not only is there extensive international air travel in and out of the Galapagos, but also, many of the tours are arranged by foreign travel agencies.

At the national level, income is generated for the national park system through entrance fees to the Galapagos. Foreign tourists pay a much greater amount than nationals to visit the islands. This income goes to the National Park Service to be distributed among all Ecuadorean parks. The Galapagos Islands Park receives the biggest portion of this income, about 50 percent of total fee income. Roughly 25 percent of the funds collected for Galapagos go to finance its tourism program, including operational costs for ticket sales, park guards, and three patrol boat operators.

¹One week in February (high season), and one week in July (low season).

²Due to the small group size for nationals, results from their surveys are disregarded in this section.

As a result of nature tourism, the GNP of the Galapagos Islands province is the highest in Ecuador. Income at the national level is also generated through the many Ecuadorean travel agencies that offer trips to the Galapagos. Many guides are also drawn from the mainland to work on the islands.

Local economic impacts of tourism include income to residents who work as guides, work as crew on boats, or own restaurants, snack bars, or souvenir shops. A few years ago, it was noted that while fishing has traditionally been the main economic activity of the Galapagos, many former fishing boats were being remodeled into day-tour boats (Garces y Ortiz, 1984).

E. Environmental Impact

A frequently mentioned change on the islands is the introduction of non-endemic species such as the goat and the rat. However, there is a dispute whether or not this is attributable to tourism or simply to human colonization of the islands. Tourism, according to some sources, is responsible for the introduction of the Norwegian rat and the red ant. Major efforts are being undertaken to rid the islands of these introduced species.

Scientific studies performed through the Charles Darwin Station have not shown noticeable impact on flora and fauna of the Galapagos Islands through current tourism. However, impacts have been noted by long-time residents as well as naturalist guides, and it can be deduced that they have occurred because of tourism. These include the following:

1. The albatross at Punta Suárez, while formerly nesting beside tourist paths, have been moving away from these routes.
2. Sea lions, both male and female, on Isla Lobos seem to have become increasingly nervous and aggressive towards tourists. Some "chase" after tourists who get too close when taking pictures.
3. Path erosion is becoming problematic on Bartolomé, Caleta Tagus, Santa Fé, Plaza Sur, and Seymour Norte.
4. Although it is strictly forbidden to leave trash on the islands or in the waters, such disposal still occurs. Some marine turtles have been reported to swallow plastic bags, mistaking them for jellyfish, and then die when the plastic blocks their digestive systems.

5. Some tourists seem unable to resist the urge to feed animals. For several years, this had a dramatic impact on some animals that got so used to being fed that, when the extra feeding was stopped, they were unable to locate their natural food sources. This situation has now been brought more or less under control.

6. Black coral is being sold in the souvenir shops in Puerto Ayora. Although most guides warn their groups that black coral should not be bought, it remains the island's prime local souvenir.

On the positive side, there is a great deal of environmental education on the Galapagos. The nationals are very proud of the islands, and many have learned about conservation through the islands.

CHAPTER 5

MEXICO

I. Status of Tourism Industry

A. History and Growth

Mexico is a country with a rich tourism tradition, enjoying a worldwide reputation as an international tourism mecca. The development of this industry in Mexico has shown an enormous, almost continuous growth from about 20,000 tourists in 1929 to more than 5,400,000 in 1987. As a result of this growth, tourism has been among the three leading sources of foreign exchange for the last 30 years.

Before the 1960s, most tourist activity focused on beach, "sun and fun" tourism in Acapulco and shopping tourism or border tourism in Tijuana. In the 1970s, spatial diffusion of tourism began, so that by the mid-1980s, Mexico's tourism industry was booming along the Pacific and Caribbean coasts and in Mexico City. The upward development of Mexican tourism in terms of number of visitors and foreign exchange generation has been interrupted only by the oil crisis and international recession of the mid-1970s and briefly by the earthquake of 1985.

This growth has been the consequence of an intensive national advertising effort by Mexican tourism agencies as well as the devaluation of the Mexican peso after 1976. The devaluation made traveling inexpensive for international visitors and also made traveling abroad expensive for nationals, thus turning their interest to local destinations. In the decade between 1976 and 1986, Mexican tourist arrivals increased by 48.9 percent from slightly over three million people to over four and a half million (1986) with an average annual rate increase of 4.4 percent.

Foreign exchange earnings for the same decade grew by over 114 percent from U.S. \$835.6 million to U.S. \$1,791.7 million (SECTUR, 1987). A significant 82.6 percent, or U.S. \$1,479.3 million, of the total corresponds to tourists arriving in Mexico by air. Average expenditures for these air tourists was U.S. \$501, and for tourists entering by land, about U.S. \$186. Therefore, mean expenditure was US \$387 per foreign tourist in 1986. With an average length of stay of 9.9 days for the same year, the mean daily expenditures were U.S. \$50.6 for air tourists and U.S. \$18.8 for those arriving by land.

In 1986, tourism activity, including border transactions and international airfares, represented 17 percent of the current

account revenues while expenditure in that sector contributed 9 percent. Tourism represented over 25 percent of non-petroleum exports. Tourism's contribution to the Gross Domestic Product (GDP) was estimated at 2.6 percent. (Tourism Report II)

Nearly 17,000 new direct and 42,000 new indirect jobs were created between 1983 and 1986 in the tourism sector. This increase brought the total working in the tourism sector in 1986 to over 1,800,000 (518,000 directly and 1,293,000 indirectly employed). Tourism-related employment in 1986 showed a 32 percent increase over the 1976 total employment figure of about 1,300,000. The 1986 total represented 7.3 percent of the economically active population (SECTUR).

In 1986, Mexico's international tourism was heavily dominated by its neighbor, the United States, with 84.2 percent of the total influx of tourists, followed by Canada (5.3 percent), Latin America (6.9 percent) and Europe (3.2 percent) (SECTUR). Air travel to Mexico showed a significant thrust in 1986 and increased almost 10 percent over the previous year.

Domestic tourism accounted for over 32 million travelers in 1986. These tourists stayed an average 1.9 days in hotels. Due to rising inflation and domestic travel costs, national tourists have had to modify their means of transportation, shifting predominantly to land transportation, which showed a 4 percent increase, while the number of Mexicans using domestic airlines decreased 11 percent (Tourism Report II).

B. Major Tourist Attractions

Mexico's tourist attractions are well known: a generally pleasant climate over most of its territory; beautiful beaches on both coasts with an adequate hotel infrastructure; colorful villages and towns; an outstanding archeological heritage, and a lesser known attraction--spectacular natural resources.

Geographically, Mexico's tourist attractions can be seen in five regions: the northwest, northeast, west-central, central, and southeast. Northwest Mexico comprises primarily Baja California, Sonora, and Chihuahua. The Copper Canyon in Chihuahua is a popular tourist attraction primarily because of the Taramara Indians. The long, jagged peninsula of Baja California is one of Mexico's most sparsely settled regions. For many years, it has attracted independent travelers who want a remote vacation. However, with the completion of the Trans-Peninsular Highway in 1973, tourism there is expanding. In addition to the fishing attraction, many tourists come to watch the grey whales. Tourism is rapidly becoming Baja California's largest industry.

Coahuila, Nuevo Leon, and Tamaulipas are the three border states that make up the northeast region. In this region, the greatest tourist attraction is Monterrey, the capital of Nuevo Leon. Monterrey is the third largest city in Mexico and is the nation's most important industrial center. Many U.S. citizens are attracted to this region to hunt doves.

In west-central Mexico is Mazatlan, an old port city that is becoming increasingly popular with both national and international tourists. The city is located on a rugged peninsula facing the Pacific and offers several good beaches, surfing, and excellent fishing facilities.

Also in this region, the state of Jalisco is becoming one of the country's busiest tourist centers. Guadalajara, its capital, is the second largest city in Mexico and has a colonial atmosphere and an excellent climate. Also in Jalisco is Lake Chapala, Mexico's largest lake and a retirement area for people worldwide.

The central region of Mexico is not only the most important area, economically and politically, but also the most important area traditionally for tourists. Among the attractions are the colonial city of Guanajuato; San Miguel de Allende, the artists' mecca; the silver capital of Mexico, Taxco; and the well-known port and resort area of Acapulco. However, the most significant tourist center in this region is Mexico City, the capital of the country. Mexico City has many famous museums, commercial zones, cathedrals, and parks that draw thousands of visitors each year.

In the southeast region is the state of Oaxaca, with its many important coastal resort areas, including Puerto Escondido, Puerto Angel, and the most recent development, Huatulco. At the southernmost end of the country is the state of Chiapas. Chiapas contains the Lacandon jungle, the largest rain forest remaining in North America. In addition to lush jungles and rugged mountain ranges, the state also has many Mayan ruins. The Yucatan Peninsula is also in this region. The Yucatan's primary attractions are its archeological sites, the flamingo colonies of Rio Celestun and Rio Lagartos, the Sian Ka'an Biosphere Reserve, and the resort area of Cancun.

Given this wide range of natural and cultural resources, Mexico is still best known to tourists as a sun and beach destination. Most natural protected areas in Mexico have yet to gain much national and international recognition as tourist attractions. Yet the country encompasses a wealth of natural features--varied landscapes, vegetation, and wildlife--that have enormous tourism potential.

Mexico has many unique natural resources. Its geographical location (it is the only nation in the world where the two great biogeographic regions, the Nearctic and the Neotropical, merge) and its complex physiography (the product of a dynamic geological history) give the country a dramatic biotic diversity.

Mexico has a richness and variety of plant and animal species that rivals anything found in the rest of North America, despite Mexico's territorial extension being one tenth the size of the remainder of the continent. In a recent study on biological diversity, Russell Mittermeier (1986) identified countries across the world that contain the highest diversity of plants and animals. Mexico is included in the six "mega-diversity" countries. The country has, for example, about 30,000 species of flowering plants, the highest number of mammals in all neotropical countries (439 species), more than 1,000 bird species, and the world's richest herpetofauna (957 species).

C. Tourism Policies, Promotion, and Management

The government of Mexico uses two principal bodies to regulate and promote tourism development. They are Fondo Nacional de Fomento al Turismo (FONATUR), or the National Trust Fund for Tourism Development, and the Secretaria de Turismo (SECTUR), which is the Ministry of Tourism.

FONATUR was established in 1974 to supply financial support, at preferential interest rates, for the construction of hotels, tourist condominiums, restaurants, and other tourism facilities. FONATUR has played a significant role in the development of some major tourist centers in Mexico, including Cancun, Ixtapa, Los Cabos, Loreto, and most recently, Huatulco.

In addition to creating new tourist centers, FONATUR has a program that grants credit to expand, remodel, or build hotels and other tourist facilities. Since 1974, this program has financed more than 128,000 new rooms, which is 85 percent of the hotel rooms built in the country since that time. The trust fund authorized 172 credit operations in 1986. Through this financial support, the construction of more than 5,000 new rooms and the remodelling of an additional 4,000 rooms was undertaken. It is estimated that the construction of the new rooms directly or indirectly created over 13,000 jobs (Tourism Report II).

This increase in hotel capacity is significant to the tourism industry. In 1986, Mexico had more than 275,000 rooms in almost 7,000 establishments. In addition to these conventional hotels, there are another 30,000 unconventional rooms in places such as pensions, boarding houses, and villas. (Tourism Report II).

In addition to supplying funds for accommodation projects, FONATUR is also responsible for the majority of tourism's promotion in Mexico. This agency takes the lead in publicity and advertising for the tourism industry.

The other federal agency that plays a significant role in the tourism industry is SECTUR. In February, 1984, the Federal Law of Tourism established SECTUR as the federal agency in charge of regulating tourism activity in the country and coordinating the plans of the tourism offices of the different state governments. SECTUR carries out this mandate through a variety of different mechanisms. SECTUR's National Register of Tourism is a clearinghouse of available tourism services nationwide. The Center of Higher Studies in Tourism is a branch of SECTUR that deals with research and training programs for people in the tourism industry. Also, SECTUR handles international cooperation agreements to exchange information about tourist activities.

There are indications that the government will begin to more actively promote tourism to protected natural areas. One indication is seen in the government's 1988 publication called "The General Law for Ecological Balance and Environmental Protection," which frequently mentions the advantages of tourism to the national parks and the need to develop nature tourism.

II. Status of Tourism to Protected Areas

A. Demand for Tourism to Protected Areas

Although tourism in general has been a major industry in Mexico for many years, the segment of tourism to protected areas is just beginning to expand. In the last few years, increasing numbers of foreigners and nationals are discovering the extraordinary natural resources of Mexico.

One objective of the present study was to gather information on the increasing demand for nature tourism in Mexico. This was achieved primarily by gathering existing data about numbers of tourists to protected areas from tour operators and from recorded park statistics. Secondly, surveys of general tourists were conducted at an international airport to determine what proportion of the tourists cite natural history as an important factor in their decision to come to Mexico and what proportion cite protected areas as their main reason to come to Mexico.

Very little has been written about the nature tourism trend in Mexico. In 1985, a review of several popular nature magazines identified 36 travel agencies specializing in ecological tourism (frequently combined with cultural tourism) that advertised their nature tours. Of these 36 agencies only 12 (nine from the U.S., two from Canada, and one from within Mexico) offered ecological excursions, predominantly ornithological, in Mexico. The agencies combined offered a total of 56 nature tours to Mexico in 1985. (Olmsted, 1985).

Visitor statistics vary greatly at protected sites in Mexico and in many cases, it is difficult to document the trends of nature tourists. However, there are a few examples to demonstrate the increasing numbers at parks and reserves.

The Monarch Butterfly Reserve, dedicated to protect the overwintering sites of the monarch butterfly, has seen an enormous explosion in number of visitors. Located outside Mexico City in the mountains that border the states of Mexico and Michoacan, visitation to the reserve increased from 9,000 visitors in 1984-85 to 70,000 visitors in 1987-88. (SEDUE, 1988).

Although there are no official records for the total number of tourists that visit Izta-Popo National Park, the number of tourists that stay overnight has been recorded, and there has been a gradual, upward trend.

Table 1.

**OVERNIGHT GUESTS AT VICENTE GUERRERO MOUNTAIN LODGE
IZTA-POPO NATIONAL PARK
1984-1987**

<u>YEAR</u>	<u>TOTAL</u>	<u>NATIONALS</u>	<u>in %</u>	<u>FOREIGNERS</u>	<u>in %</u>
1984	10,993	7,717	70.2	3,276	29.8
1985	10,998	7,471	67.9	3,527	32.1
1986	13,097	9,740	74.4	3,357	25.6
1987	14,538	10,796	74.3	3,742	25.7
Total	49,626	35,724	72.0	13,902	28.0

Source: Vicente Guerrero Mountain Lodge visitor registration

The increase in tourism to protected areas can also be seen in the visitation statistics at Sumidero National Park, one of the few parks where consistent statistics have been recorded.

Table 2.

SUMIDERO NATIONAL PARK VISITATION STATISTICS 1983-1987

<u>YEAR</u>	<u>TOTAL VISITORS</u>	<u>NATIONALS (%)</u>	<u>FOREIGN (%)</u>	<u>TOTAL INCREASE (%)</u>
1983	72,384	67,548 (93.3)	4,836 (6.7)	...
1984	83,317	76,096 (91.3)	7,221 (8.7)	10,933 (15.1)
1985	85,005	77,292 (90.9)	7,713 (9.1)	1,688 (2.0)
1986	105,660	94,843 (89.8)	10,817 (10.2)	20,655 (24.3)
1987	129,318	110,196 (85.2)	19,122 (14.8)	23,658 (22.4)
Total	475,684	425,975 (89.5)	49,709 (10.5)	56,934 (78.7)

Source: SEDUE, Chiapas

Surveys of tourists were conducted at the airport in Mexico City to determine the degree to which natural protected areas influenced tourists' travels plans and activities. After socio-demographic information was established, visitors were asked how important protected areas were in their decision to visit the country, how many protected areas they visited, and what kinds of nature-oriented activities they participated in during their trip.

WWF Airport Survey Results

Socio-demographic Information

Average age: 42.3 years, youngest 16, oldest 74 years old (N=69).

Average nights: Average number of nights was 15.7; shortest stay was two nights, longest was 99+ (N=67).

Family members: Of the 71 tourists surveyed, 26 (37 percent) came with family members. Average was 2.7 people, or closer to three family members. The largest family group was six people.

Expenditures: The average total expenditure per trip to Mexico was \$1,919 (N=65), while the average daily expenditure was \$237. The highest total vacation cost was \$8,800, and the cheapest vacation cost \$500. Of the respondents, 53 people reported an average expenditure of \$543 for airfare.

Income: The average family income range was between U.S. \$30,000 and \$40,000.

Gender: 49 percent were men, 51 percent were women.

Nationality: The nationality distribution of the survey respondents (N=71) was as follows: 49.3 percent North American, 21.1 percent European, 5.6 percent Mexican, 4.2 percent French, 2.8 percent Colombian, 2.8 percent Venezuelan, 2.8 percent Argentine, and 11.4 percent all other.

Protected Areas and Nature-oriented Tourism

Parks and protected areas were cited as important in influencing tourist decisions to visit Mexico in the following proportions:

Main reason	24%
Important, influenced decision	18%
Somewhat important	18%
Not important	38%
No response	2%

The majority of visitors, 62 percent, had previously visited Mexico. The top five reasons for the present trip were:

Sightseeing	38%
Sun/beaches/recreation	37%
Visit friends or family	35%
Cultural history	23%
Archeology	18%

Relatively few tourists in Mexico participated in activities that reflect an orientation to wildlands, jungles, or natural history. The importance of beaches and sightseeing in the decision to visit Mexico, as well as its rich cultural activities are what most tourists enjoy:

Local cultures	37%
Boat trips	17%
Hiking/trekking	11%
Hunting/fishing	10%
Mountaineering	10%
Wildlife observing	9%
Jungle excursions	7%
Camping	4%
Birdwatching	1%
Botany	1%

Visitors were asked to list what they liked and disliked most about their visit to Mexico. The "friendliness of the people" was mentioned as most liked by 45 of the 71 visitors surveyed. Twenty-three visitors listed "food and restaurants," and 11 highlighted the "climate." Among the most frequently listed dislikes were Mexico's "pollution, noise and litter," recorded in 36 of 71 surveys, and its "road system and lack of road signs," recorded by 10 visitors.

B. Supply of Protected Areas

1. Development and Management of Park System

Mexico has a great variety of categories for protected natural areas. The variation in name, objectives, and management is confusing and difficult to distinguish. In the 96 protected areas that have been declared to date, there are 26 distinct denominations. Among these denominations are:

"Parks"

- national park
- natural park
- recreation and cultural park
- marine park

"Reserves"

- reserve
- natural reserve
- hunting and fishing reserve
- biosphere reserve

"Protected Zones"

- protected forest zone

"Refuges"

- national wildlife refuge
- marine refuge
- migratory bird refuge

"Natural Protected Area"

- natural protected area

(Source: Fauna Silvestre y Areas Naturales Protegidas, 1988)

Although the government has reported to have protected nearly 2.5 percent of the territory in these areas, only 0.8 percent of the country is actually protected.

The Mexican government recently passed the "General Law of Ecological Balance and Environmental Protection" (1988) to state the importance of the protected areas that together make up the National System of Protected Areas (Sistema Nacional de Areas Naturales Protegidas or SINAP). The main functions of the protected areas system, administered by the Ministry of Urban Development and Ecology (SEDUE), is to "promote and conserve the natural richness of the country, introducing visitors to the knowledge of the vital values found in nature and the need for its protection to benefit present and future generations." (Ley

General del Equilibrio Ecologico y la Proteccion al Ambiente, 1988).

Although the new law outlines yet another set of categories for protected areas, there is consensus among all statistics that the total number of national parks in Mexico is 44. Many of these parks are located near large cities and receive many visitors, although no firm statistics are kept. The majority of visitors to these parks, however, are not "hard-core" nature tourists, but rather go to the parks on day excursions for recreation.

2. Examples of Protected Natural Areas

Constitucion de 1857 National Park

Located in the Sierra de Juarez, Constitucion de 1857 is just over 5,000 hectares and is primarily pine-oak forest. Established in 1962, it has several lakes, the largest one being Juarez Lake. The park hosts many endangered species, including the mule deer, bighorn sheep, bald eagle, coyotes, osprey, and pinyon jays. Facilities at the park include an office, a visitor center, a lodge with 13 rooms, camping sites, guard's cabin, picnic facilities, and a parking area.

Lagunas de Montebello National Park

In the state of Chiapas, Lagunas de Montebello has 52 lakes and covers over 6,000 hectares. Established in 1959, the park has pine-oak and cloud forest, with an abundance of ferns and orchids. Wildlife includes: brocket deer, tayra, ocelot, quetzal, black chachalaca, azure-naped jay, barred parakeet, and the blue-crowned chlorophonia. In addition to the natural resources, there are also some archeological sites.

The park has picnic facilities, overlooks, trails, a basic tourist lodge, and a camping area. Sightseeing boats can be leased to tourists. Swimming and snorkeling are allowed in some lakes.

Palenque National Park

Declared a national park in 1981, Palenque is only 1,772 hectares in the state of Chiapas. Despite its small size, the park contains many extraordinary cultural and natural resources. The world-famous site of Palenque from the classic Maya period is in the park. The park also has spectacular rain forest with a great diversity of wildlife. Fauna includes: toucans,

woodpeckers, motmots, antbirds, parrots, crested currawow, howler monkey, ocelot, and anteaters. Palenque is considered by many to be the best spot in Mexico for birdwatching.

Tourist facilities at Palenque are a parking lot, park headquarters, restrooms, trails, and a small archeological museum. There are several hotels near the park.

Cascada de Basaseachic National Park

Located in Chihuahua, Cascada de Basaseachic was established in 1981. This 5,802-hectare park protects the highest waterfall in Mexico (310 m) as well as an ecosystem representative of the northern Sierras. It has canyons, mountain streams, and pine-oak forest. Fauna includes: white-tailed deer, coyote, mountain lion, golden eagle, peregrine falcon, woodpeckers, and ocellated quail. The physical infrastructure at the park is minimal, with only a picnic area and primitive camping facilities.

Lagunas de Zempoala National Park

In Morelos, the state of Mexico, is the Lagunas de Zempoala National Park. Covering 4,669 hectares, it dates to 1936. The park contains volcanic terrain, with pine, oak, and fir forests as well as six mountain lakes. Flora includes: alders, willows, heaths, and other wild flowers. Fauna includes: white-tailed deer, bobcats, skunks, rabbits, hawks, woodpeckers, juncos, hummingbirds, and swallows as well as several species of reptiles and amphibians.

Permits can be obtained from SEDUE to fish or camp in the park. There are also picnic facilities, restrooms, eateries, and an amusement area for children.

Cumbres de Monterrey National Park

Located in the state of Nuevo Leon, Cumbres de Monterrey is the largest national park in Mexico. Also one of the oldest, the park was created in 1939 and measures 246,500 hectares. The park contains barrancas, canyons, scenic ridges, geological formations, arroyos, caves, and waterfalls. Vegetation is composed of pine-oak forest, submontane scrub, tropical deciduous vegetation, and desert chaparral. Wildlife includes: opossums, jackrabbits, peccaries, raccoons, coati, skunks, mountain lions, hawks, crimson-collared grosbeak, and many species of reptiles and amphibians.

The park functions as an important hydrographic basin, supplying Monterrey with its water. There are many tourist facilities at Cumbres de Monterrey throughout the park. Visitors

come for a variety of activities including mountain climbing, horse-back riding, camping, and speleology.

Sian Ka'an Biosphere Reserve

The Sian Ka'an Biosphere Reserve is on the Caribbean Coast of the state of Quintana Roo. It covers 528,174 hectares of tropical evergreen forest, marshes, mangroves, extensive sea grass beds, freshwater lagoons, and marine and reef environments. The Sian Ka'an Biosphere Reserve is often cited as one of the best Latin American examples of the new approach to natural area protection that seeks to integrate conservation with the development needs of surrounding rural populations.

Activities on the reserve include El Ramonal Agricultural Plot which is designed to experiment with and demonstrate ecologically appropriate farming methods on the poor soils of the Yucatan, the spiny lobster postlarval recruitment study, a palm ecology and management project and extension work by an environmental educator with communities surrounding the reserve. An ecotourism project is just beginning to promote and manage tourism to the reserve.

III. Impacts of Tourism to Protected Areas

A. Economic Activities Related to Nature Tourism

To date, there are no national statistics on employment related directly and indirectly to nature tourism. However, there are many parks and reserves that offer significant employment opportunities in tourism to both the local population and to outside tour groups using the natural area. A few examples of the level and kinds of employment generated in parks and reserves follows.

Monarch Butterfly Ecological Reserve

With the recent establishment of the Monarch Butterfly Reserve in 1986, and the great increase in tourists to the reserve, many residents of the local community have begun working in the tourist business. With the help of Monarca, a Mexican non-governmental organization, a visitors center, a snack bar, and a gift shop have been built. Trails with interpretive signs have also been developed. Trail guides have been trained. The local residents, who had previously logged the area and threatened the monarch habitat, are now profiting from the tourists and maintaining the natural resources of the area. They have made a transition in their livelihood from a resource-destructive activity to a resource-sustaining activity.

The economic impact of tourism to the reserve can also be seen in the town closest to it. There are no overnight facilities at the reserve, but many tourists stay in nearby Angangueo, an old silver-mining town. In addition to the increased demand for accommodations, residents of the town also often supply transportation to the reserve. The reserve is located in the mountains about an hour's drive from Angangueo. Therefore, many people in the town are gaining income from driving visitors to the reserve.

Izta-Popo National Park

Situated 80 kilometers outside Mexico City, Izta-Popo Park centers around the imposing, perpetually snow-clad volcanic peaks of Iztaccihuatl (5,386 m) and Popocatepetl (5,542 m), the second and third highest mountains in Mexico.

There is no entrance fee to the park, but there is a minimal entrance fee (under U.S. \$1) at the lodge for overnight visitors. The main economic activity in the park is the restaurant inside the lodge, which has a seating capacity of 150. It operates with nine employees during the week and 15 on the weekends. On the

weekends, the restaurant easily serves 1,000 meals. The restaurant space is concessioned from the park and, therefore, the owner pays rent to the park.

Also in the lodge, there is a small area where post cards, pins, and posters are sold. Mountain climbing gear can also be rented for a minimal price.

SEDUE employs about 35 people to maintain the park. This includes a park manager, technical advisor, park guards, and people working at the lodge and in the laundry.

Other economic activities related to the tourism at Izta-Popo can be seen outside the park. Just before the park entrance, there are several stands where foods and beverages are sold. There is also some economic impact to the closest town to the park. The town of Amecameca is 22 kilometers from Izta-Popo, and some park visitors spend the night there. A more significant impact is the number of local taxis that are hired at the bus terminal in Amecameca to take visitors up to the mountains.

Sumidero Canyon National Park

As in other national parks, no entrance fee is charged to visitors. Fourteen park guards and a park manager are employed by SEDUE to maintain the area. There are no economic activities on the park grounds that contribute to the park budget.

Three tourist services operate inside the park, although none of them is concessioned to the park. Income is gained through a restaurant at the Los Chiapa Lookout, which is concessioned to the state government; a newer restaurant on the riverside, owned and operated by workers of the Comision Federal de Electricidad; and a tourist boat service.

The nearby city of Tuxtla Gutierrez receives some economic impact, although this is difficult to quantify. Tuxtla Gutierrez receives a great number of visitors, but how many of them have been to Sumidero has not been calculated. There are many travel and tour agencies in Tuxtla; some of them offer trips to Sumidero.

B. Environmental Impacts

1. Conservation Activities and Environmental Education

There have been many positive environmental impacts from tourism to protected areas. Protected areas provide the opportunity for environmental education to increase the awareness

among national and international visitors of the value of natural resources. Nature tourism has also increased the activities of some conservation organizations. Nature tourism has become a tool for many of these organizations to achieve their objectives.

Nature tourism is having an increasing influence on the conservation movement in Mexico. While conservationists have traditionally tried to minimize tourism to protected areas, they are becoming more aware of the conservation value of nature tourism.

Amigos de Sian Ka'an, A.C. is promoting the establishment of ecotourism circuits in the biosphere reserve and is investigating the creation of an ecological tourism center there.

Monarca, A.C., a non-governmental conservation organization created solely to protect the overwintering sites of the monarch butterfly, immediately recognized the need to integrate the local population into this goal. From the start, nature tourism became the new source of income for the surrounding rural population who had previously logged the area. Monarca, A.C. has also created an environmental education packet for children. This material has been distributed to many schools to inform them about the reserve and its conservation work.

INAINE (Instituto Autonomo de Investigaciones Ecologicas) has recently proposed the creation of a research station and Ecocultural Tourism Center in Palenque National Park in conjunction with the Laboratory of Ecology of the National Autonomous University of Mexico and Turismo Ecologico Mexicano.

CIPAMEX (the Mexican section of the International Council for Bird Preservation) has shown interest in the possibility of promoting bird tourism in the Chimalapas Reserve in the state of Oaxaca.

PRONATURA A.C. was created in 1981 to promote sound conservation of natural resources through educational activities, establishment of protected areas, and encouraging better laws for wildlife protection. In 1988 a Yucatan chapter was formally created. PRONATURA - Yucatan has been actively involved with nature tourism issues on the Yucatan Peninsula. They are hosting a meeting in April, 1989 to discuss tourism promotion and management with many national and international people from the tourism industry and conservation community.

2. Negative Impacts

In the majority of parks and reserves, few very serious environmental impacts have been observed to date, yet some minor problems could become major if not corrected. Also, in most

cases, thorough studies on tourism's long-term impacts on plants and animals have not been conducted. Environmental carrying capacity figures have not yet been established, which makes it difficult to calculate the extent of these negative impacts. A sampling of some of the most serious and common problems encountered follows.

a. At Cascada de Agua Azul in Chiapas, much of the waste from tourist facilities is thrown directly into the river, affecting the water's natural blue color.

b. In Izta-Popo National Park, there is a variety of environmental problems. Garbage is often thrown along trails and alpine refuges, up to the summit of the volcanoes. Tourists also cause fires in the park. Another problem is the degradation of the water quality of the spring just below the lodge as a result of lack of refuse treatment at the lodge.

c. In the Piedras Encimadas de Zacatlan in Puebla and Basaseachic Falls in Chihuahua, a profusion of graffiti covers the boulders, cliffs, and other geological features that are among the main tourist attractions in these two areas.

d. In Lagunas de Montebello in Chiapas, orchids are reportedly picked in great numbers by tourists.

e. Disturbances of wildlife have been reported in some areas. Reports include: disturbance of grey whales by tour boats in the sanctuaries of Baja California, disturbance of flamingos in the reserve in Celestun, Yucatan, also from tour boats, and disruption of birds and howler monkeys by tour buses in Palenque National Park.

C. Sociocultural Considerations

Sociocultural impacts of tourism to protected areas are important to consider in making planning decisions about tourism's growth. This issue was not a focal point of the present study, however, and a complete analysis of sociocultural impacts is not presented. However, during the course of this study many sociocultural observations were noted. Some significant sociocultural issues are emerging as local populations are integrated into the tourism industry and provided with an alternative source of income or are displaced as a result of tourism development.

In the case of Sumidero Park, land tenure has been a severe problem for the park. When the park was decreed in 1980, twelve "ejidos" and some 300 private lots were left within the expropriated zone. Most of the private landowners, who apparently did not live off the land, were willing to accept indemnity and move out. But so far, no money has been available

to pay them. In the case of the "ejidatarios," who do live off the land, very few have been compensated. This situation has been a constant source of conflict, both social and economic, reaching political significance.

Because of this unresolved land tenure problem, more and more land inside the national park is being cleared for agriculture and grazing. SEDUE technicians are now suggesting a redefinition of park boundaries, reducing them so as to allow more effective vigilance and to exclude areas that are irreversibly damaged. At Sumidero Park, the park itself is being threatened because of a lack of employment opportunities for the surrounding communities which depend on the land.

IV. Obstacles and Opportunities in Nature Tourism's Development

A. Obstacles to Growth

There are several constraints to the growth of protected area tourism in Mexico. One problem is that most parks are not sufficiently funded, resulting in shortfalls in park maintenance and a lack of tourist services. Since parks do not generate income from entrance fees and most earn very little from the existing tourist facilities, parks are dependent on the government for funds. Since this funding is usually insufficient, parks lack adequate guards as well as facilities to attract tourists. The legal, managerial, and fiscal mechanisms are not yet in place to allow parks to operate effectively and to sustain a tourism industry.

Part of this financial problem can be explained by the budgeting system currently in place for the national parks. Income that parks generate from concessions, parking fees, or lodge fees is sent to the Ministry of Finance as internal revenue. Each year, the Ministry of Programming and Budget allots a budget to SEDUE to operate the national park system. Money programmed for each park is not based on the revenue that each brings in--in other words, the number of tourists who visit each park. A self-financing budgetary mechanism would be more helpful in redirecting funds to parks that need them.

Another factor that contributes to this overall lack of funds for parks is the limited sources of revenues for parks. Most parks do not charge entrance fees. Although not necessary at all parks, entrance fees could be an important source of income for the park system. A system of differential fees could be set up for nationals and foreigners.

Another legal issue that affects the parks' viability and ability to sustain tourism is inadequate demarcation of park boundaries. The status of some protected areas is very indefinite with respect to park limits, land tenure and land use rights, and management regulations; many parks are under severe pressures from local poor rural populations.

Further constraints to the ecotourism industry include: the current lack of infrastructure facilities for tourists; information available about tourists sites, including brochures and guide books; a lack of trained guides; and a lack of sufficient advertising or promotion of the ecotourism industry.

B. Opportunities for Growth

Given its enormous diversity and richness of natural attractions, Mexico has an outstanding nature tourism product. This is a key component in the success of tourism's growth.

Mexico also has the advantage of two important tourism markets close to its borders, the United States and Canada. Both countries already represent a significant portion of Mexico's general tourism, and both also have many nature enthusiasts in their citizenry pointing to the likelihood that demand could be increased for tourism to protected areas.

Thirdly, Mexico now has a worldwide reputation as a travel destination and a high level of general tourism. Efforts by states like Chiapas, Oaxaca, and the Yucatan Peninsula are being made to attract nature tourists. For these tourists, substantial infrastructure is already in place. Airports, communication services, and tourist facilities in the major cities can be used for a portion of nature tourists' trips, and new infrastructure development need take place only at the nature sites. In addition, the large numbers of tourists to Mexico provides a group of potential nature tourists that could "add-on" a nature trip to other travel plans. Therefore, nature tourism could constitute an additional tourist asset to the country. Nature tourism could serve to diversify Mexico's well-known cultural-historic-beach attractions.

V. Izta-Popo National Park (Case Study #1)

A. General Description and Infrastructure

Located 80 kilometers east of Mexico City, Izta-Popo National Park centers around the imposing, perpetually snow-clad volcanic peaks of Popocatepetl (5,542 m) and Iztaccíhuatl (5,386 m), the second and third highest mountains in Mexico.

To reach the park, travelers pass through fir forests from about 2,700 m to 3,300 m altitude. From there on, pine trees dominate the forests to an altitude of about 4,000 meters (the highest altitude where pine is found in the world). The park's entrance is marked by a building, but has no guard; consequently there is no record of visitors entering and leaving the park.

There is another gate about one kilometer beyond the entrance where there is a natural spring that supplies water for the park facilities. Shortly after this gate is the historical Paso de Cortes that marks the place where Cortez passed between the two mountains enroute to Tenochtitlan.

The paved entrance road leads to several parking areas, and then to the Vicente Guerrero Mountain Lodge (altitude 3,900 m). The mountain lodge is a well-designed building with a sloping red roof, owned and operated by SEDUE. The main lodge has four large bunk rooms with 98 beds, some meeting areas, living quarters for park personnel, and a restaurant that seats 150. There is also an older section of the lodge that has an additional 76 beds.

Other infrastructure includes a cabin with first-aid equipment, picnic grounds, and several mountain trails leading to the summits of the mountains.

B. Visitor Information to Date

High season at Izta-Popo is between October and March. Low season is from April through September, which coincides with the rainy season as well as with a lower level of tourism in Mexico in general. The park is heavily visited on weekends, with an estimated average of 500 cars; only a few tourists visit (mainly international) during the week. The ratio of national to international visitors is estimated at about four or five to one.

No overall visitation statistics have been kept recently at Izta-Popo Park. Statistics were kept between 1967 and 1975, during which time the park received over 1,000,000 visitors, ranking as the ninth most-visited national park. At the present

time, the numbers of overnight visitors are recorded at the lodge, which is the only source of statistical information.

From 1984 through 1987 (see Table 1, previously presented), 13,902 foreign visitors registered at the Vicente Guerrero Mountain Lodge. Of these, 48.5 percent or 6,757, came from the United States; 2,105 or 15.1 percent from West Germany; 5.8 percent or about 800 from Canada, France, and Switzerland; 1.3 percent from the United Kingdom; and 1 percent from Austria. The predominance of North Americans is explained by the fact that they represent over 90 percent of international tourism to Mexico. In addition, several American mountaineering clubs (i.e., Mountain Travel, American Alpine Institute) based on the West Coast offer 3 to 4-day mountaineering tours to the park. Most of the visitors come to the park for mountaineering, trekking, and climbing.

C. WWF Park Survey Results

1. Visitor Profile

Specific data on visitor patterns and profiles were obtained by WWF during two survey weeks,¹ when 90 international and 284 national visitors were interviewed.²

a) National Visitors

Most national visitors come from nearby Mexico City (73 percent) or Puebla (10 percent). The majority of visitors were male (67 percent) and had a mean age of 29.5. Visitors were accompanied by relatives (50 percent) or by friends and colleagues (43 percent). Eleven percent indicated that they were traveling with a tour group.

Main motivation for visiting Izta-Popo was clearly recreation (57 percent), the short trip (27 percent), adventure (13 percent), geology (13 percent), and the park's fauna (10 percent).

Nature-related activities by national visitors included hiking and trekking, mountaineering, wildlife observation, botany and birdwatching.

¹One week in high season (February), and one week in low season May).

²A random sample of 41 international and 30 national visitors was selected for the purpose of data analysis.

Visitors generally arrive by automobile (90 percent). A much smaller group travels by bus (10 percent). The mean number of nights national tourists spent in or near the park was 3.2, almost half of them indicating that they stayed overnight at the lodge or at a camping site. Over 75 percent stated that they had visited Izta-Popo before, the mean number of previously reported visits being 5.9.

b) International Tourists

The nationality distribution of the survey participants is similar to that of guests at Guerrero Mountain Lodge, with North Americans constituting about 50 percent of all international tourists visiting Izta-Popo, while the share of Europeans with over 43 percent is relatively high. Two-thirds of all international visitors were male, having a mean age of 32 and a mean annual income between U.S. \$20,000 and U.S. \$29,999. Tourists were mostly accompanied by friends and colleagues (48 percent), by relatives (18 percent), or came alone (18 percent).

Almost two-thirds had planned their excursion to Izta-Popo before traveling to Mexico. The remainder spontaneously visited the Park based upon recommendations from friends, brochures, and other local sources. A majority of visitors used automobiles (68 percent) or buses (30 percent) to get to the park. The mean number of nights spent in or near the park was 3.4 nights, only slightly more than national visitors. Almost 60 percent indicated that they had stayed at the lodge or camped while visiting the park, while 18 percent used a pension.

The main motivations for visiting Izta-Popo were given as its geology (55 percent), and adventure (55 percent), recreation (30 percent), the shortness of the trip from Mexico City (25 percent), and the flora (21 percent).

Nature-related activities performed by international tourists while visiting the park included mountaineering (74 percent), hiking (66 percent), botany (23 percent), and birdwatching (9 percent).

2. Visitor Impressions

Also obtained from the WWF park surveys were visitors' impressions of the park as a tourist attraction.

a) National Visitors

All national visitors evaluated their experience visiting Izta-Popo as excellent (54 percent) or good (46 percent). The

park's infrastructure and installations also received high marks, being rated as good (61 percent) or excellent (39 percent).

National visitors enjoyed the park's natural features, the lodge, the flora, and the climate but criticized the extent of pollution and litter, the lack of wildlife and environmental protection, and the unavailability of transport to and from the park.

Recommended improvements included provision of guide books and technical information, park cleanup, control of litter and pollution, distribution of pamphlets at the park entrance, discussion about the park and park regulations, and improvement of the road system.

Future problems as perceived by national visitors are deforestation and lack of funding to maintain the park.

b) International Visitors

Most international visitors found their experience visiting Izta-Popo as excellent (69 percent) or good (26 percent) and expressed satisfaction with the park's infrastructure, classifying it as excellent (46 percent) or good (46 percent), while some criticized installations as mediocre (5 percent) or poor (2 percent).

International visitors enjoyed the park's natural features, the lodge, the people, and the flora, but indicated as the dislikes, pollution and litter, dirty toilet facilities, and lack of nature trail signs and markers.

Asked for ways to improve the parks as a tourist attraction, visitors recommended improved guide books, technical information in various languages, maps, improved transportation to and from the park, and an increase in the number of nature trails.

Future problems of the park as perceived by international tourists included increased effects of tourism on wildlife and the environment, pollution and litter, erosion, overuse of the area, ecological destruction, and lack of respect for the park on the part of nationals.

D. Economic Impacts of Tourism to Izta-Popo

There is no entrance fee to Izta-Popo, but there is a minimal entrance fee (under U.S. \$1) at the lodge for overnight visitors. The main economic activity in the park is the restaurant inside the lodge, which has a seating capacity of 150.

The restaurant employs nine people during the week and 15 on the weekends. It is concessioned from the park, and therefore, the owner pays rent to the park.

Also in the lodge, there is a small area where post cards, pins, and posters are sold. Mountain climbing gear can also be rented for a minimal price.

SEDUE employs about 35 people to maintain the park. This includes a park manager, technical advisor, park guards, and people to work at the lodge and in the laundry.

Other economic activities related to the tourism at Izta-Popo can be seen outside the park. Just before the park entrance, there are several stands where foods and beverages are sold. There is also some economic impact in the closest town, Amecameca, which is 22 kilometers from Izta-Popo. Some park visitors spend the night there. A more significant impact is the number of local taxis that are hired at the bus terminal in Amecameca to take visitors to the mountains.

E. Environmental Impacts of Tourism to Izta-Popo

Some negative environmental impacts have been noticed at the park. Although fairly minor at present, they could easily get out of control. There is an increasing amount of garbage in the area. Some tourists cut live trees for their campfires, which leads to deforestation and also to the potential for forest fires. Another environmental problem from tourism is an increase of refuse that is not being adequately treated. Solid garbage at the lodge is thrown away at some distance from the lodge, and wastewater is being discharged into a nearby gully. This is degrading the water quality of the spring 5.4 kilometers below the lodge.

VI. Cañon del Sumidero National Park (Case Study #2)

A. General Description and Infrastructure

The Sumidero Canyon is one of the most spectacular geological faults in the Americas. The gigantic chasm was formed some 12 million years ago and its walls, almost vertical, plunge more than 1,300 meters to its inner gorge, where the Grijalva River, dammed in 1980, flows towards the Gulf of Mexico. Around the rim, vegetation is composed of dry tropical deciduous forest and on the lower slopes of the gorge and the riverside, there are pockets of a more humid, denser, evergreen forest.

The wildlife of Sumidero is abundant, including such species as crocodiles, white-tailed deer, spider monkey, anteater, and many birds, such as the great curassow, red-breasted chat, flammulated flycatcher, and belted flycatcher. Geographically, the area represents the meeting place of the Gulf coast and Pacific coast avifauna and is thus particularly important to and highly popular with American birdwatchers.

The park's infrastructure is scarce, limited to a highway bordering the western rim of the canyon, five lookout points with some picnic facilities, and two restaurants operated by concession. There is also a concessioned boat service for visiting the Sumidero by river; the boat concession has two docks for boarding, one in Cahuaré and the other in the picturesque town of Chiapa de Corzo.

The park, which is located near the city of Tuxtla Gutiérrez, the capital of the state of Chiapas, can be accessed by two different modes and entrances. Visitors enter by a paved road from Tuxtla Gutiérrez or by boat down the Grijalva River.

B. Visitor Information to Date

Sumidero National Park is one of the few national parks in Mexico where visitation statistics have been kept regularly and systematically over the last five years, according to SEDUE records. As may be seen in Table 2, presented previously, a total of 477,684 people visited the park during the period 1983-1987. Of this total, 425,975 or 89.5 percent were national visitors, and 49,709 or 10.5 percent were international visitors. Tourism has steadily increased over these years, as illustrated in the dramatic rise of 22.4 percent from 1986 to 1987.

Peak months of visitation at Sumidero are (from highest to lowest): August, July, April, December, January, and March. Months with the lowest number of visitors (starting with the lowest figure) are: June, May, February, September, October, and

November. This means that three high-season periods can be detected: school vacations in summer, Easter or spring vacations, and escape from the colder winter months further north.

The number of foreign visitors to Sumidero has been increasing, with a 78.7 percent increase from 1983 to 1987. This increase is also reflected proportionally, since foreign visitors constituted only 6.7 percent of total visitors in 1983, but over 14.8 percent in 1987. High season for foreign visitors is October - April; July and August also show high seasonality. Peak months for national visitors appear to be July, August, April, and December.

No annual breakdowns showing nationalities, sex, or adult/child distribution for foreign visitors were available, but representative statistics for the month of December 1987 reveal the distribution shown in Table 3. During this month, a total of 9,321 people visiting the park by land were registered, of which 607 were foreigners and 8,714 Mexican. Foreign visitors came from the following countries: U.S.: 169 (27.8 percent of all foreigners), West Germany: 120 (19.8 percent), Guatemala: 99 (16.3 percent), France: 72 (11.9 percent), Italy: 31 (5.1 percent), Switzerland, Canada, and El Salvador each 20 (3.3 percent), and United Kingdom: 9 (1.5 percent). Of these totals, 304 were adult males, 254 adult females, and 49 children.

During that same period, 8,714 nationals (93.5 percent of total visitors) visited the park. Most came from the same state of Chiapas (46.2 percent), México (including presumably Mexico City - 24.5 percent), Veracruz (6.2 percent), Oaxaca (5.8 percent), Tabasco (4.1 percent), Jalisco (2.4 percent), Morelos (2.1 percent), and Nuevo Leon (2 percent). Veracruz, Oaxaca, and Tabasco are adjacent states. A majority of the national visitors (3,766) were adult men; 3,411 were adult women; and 1,537 were children. All visitors for the month of December used a total of 33 buses and 1,693 automobiles to visit the park.

Table 3.

MONTHLY VISITOR DISTRIBUTION SUMIDERO NATIONAL PARK 1983 - 1987					
MONTH	TOTAL	NATIONALS	%	FOREIGN	%
January	36,011	32,016	88.9	3,995	11.1
February	28,424	24,471	86.1	3,953	13.9
March	33,847	29,730	87.8	4,117	12.2
April	54,658	48,437	88.6	6,221	11.4
May	28,485	26,570	93.3	1,915	6.7
June	27,776	26,115	94.0	1,661	6.0
July	61,126	57,110	93.4	4,016	6.6
August	63,329	55,972	88.4	7,357	11.6
September	28,822	26,265	91.1	2,557	8.9
October	29,023	24,520	84.5	4,920	15.5
November	31,661	26,741	84.5	4,920	15.5
December	52,522	48,028	91.4	4,494	8.6
Total	477,684	425,975	89.5	49,709	10.5

Source: SEDUE, Chiapas

The park is visited mostly by week-end excursionists. The percentage of foreign tourists coming to the park solely for natural exploration (primarily birdwatching) is estimated at 5 percent by the park manager.

C. WWF Park Survey Results

1. Visitor Profile

Data on visitor patterns and profiles were obtained during two survey weeks,³ when 81 international and 297 national visitors⁴ were interviewed.

³One week in March (high season), and one week in May (low season).

⁴For the data analysis, a random sample of 30 national visitors and 40 international visitors was selected.

a) National Visitors

National visitors were predominantly male (73 percent), and the mean age was 32.7. Visitors tended to be in groups of relatives (47 percent) or friends and colleagues (37 percent). Only 7 percent came with a tour group. Transportation to reach the park was provided mostly by automobiles (80 percent) and buses (23 percent). National visitors spent a mean number of 1.4 nights in or near the park, using good quality hotels (17 percent), lodges or camps (10 percent) or private homes (13 percent). Over 57 percent had visited the park before, averaging 9.7 previous visits.

Major motivations for visiting Sumidero were recreational (53 percent). Other reasons included the park's geology (43 percent), adventure (20 percent), fauna (20 percent), and short trip length (17 percent).

Nature-related activities performed by national visitors included wildlife observation, boat excursion, birdwatching, and botany.

b) International Visitors

Europeans accounted for a surprising 65 percent of all international visitors, almost half from France. North Americans constituted only 30 percent of park visitors. Park personnel claim that the park normally receives a large proportion of German visitors, though this was not the case when WWF surveys were conducted.

Almost two-thirds of international visitors were male, and visitors had a mean age of 47.4. International visitors generally came in a tour group (55 percent) or were accompanied by relatives (28 percent) or friends and colleagues (25 percent).

Motivations for visiting the Sumidero included its geology (45 percent), short trip length (30 percent), its fauna (30 percent), recreation (20 percent), rare species (15 percent) and adventure (13 percent). Nature-related activities engaged in by international park visitors were birdwatching, boat excursions, botany, wildlife observation, and jungle excursions.

Fifty-eight percent of international visitors used automobiles to reach the park, 43 percent took a bus, and 20 percent traveled by plane. International visitors stayed slightly longer in or near the park than national visitors, remaining a mean number of 1.4 nights, mainly using good quality local hotels (55 percent). Over 66 percent had planned to visit Sumidero before arriving in Mexico, while the remainder decided to visit the park based upon recommendations from friends or guides or other local advice.

2. Visitor Impressions

Visitors' impressions of Sumidero as a tourist destination were also obtained from the WWF park surveys.

a) National Visitors

National visitors considered their park experience to be either excellent (63 percent) or good (33 percent). The park's infrastructure was rated predominantly as good (by 59 percent) or excellent (by 35 percent). Seven percent classified the park infrastructure as poor.

National visitors enjoyed the park's natural features and resources, the look-outs, the flora, and the park guards, but they criticized damaged facilities, lack of plant and wildlife checklists and technical information on the area, pollution and litter, and lack of wildlife and environmental protection.

To improve the park as a tourist attraction, national visitors recommended improving guidebooks, technical information, overlooks, and transportation, cleaning up and controlling litter, and improving the park's infrastructure.

Future problems the park might face, according to some of the nationals interviewed, are ecological destruction, lack of respect for natural resources of the park on behalf of the local population, and maintaining the facilities.

b) International Visitors

International visitors evaluated their experience in the park predominantly as good (56 percent) or excellent (42 percent). Although a majority rated the park's infrastructure as either good (56 percent) or excellent (19 percent), more than 22 percent gave infrastructure a mediocre rating.

International visitors enjoyed the park's natural features and resources, birdwatching, the local flora, and the restaurant, but some criticized the lack of available technical information and checklists on the area, the lack of nature trails, and the condition of the roads.

Asked for ways how to improve the park as a tourist destination, international tourists recommended improving guidebooks, providing maps and technical information, installing concessions, and improving tourist services.

Future problems as perceived by some of the international visitors included deforestation, increased effects of tourism on

wildlife and environment, and environmental problems caused by motor boats.

D. Economic Impacts of Tourism to Sumidero

As in other national parks, no entrance fee is charged at Sumidero. Fourteen park guards and a park manager are employed by SEDUE to maintain the area. There are no economic activities on the park grounds that contribute to the park budget.

Three tourist services operate inside the park, although none of them is concessioned to the park. Income is gained through a restaurant at the Los Chiapas Lookout, which is concessioned to the state government; income also comes from a newer restaurant on the riverside, owned and operated by workers of the Comision Federal de Electricidad, and from a tourist boat service.

Some economic impact from tourism to Sumidero is experienced in the nearby city of Tuxtla Gutiérrez, although this is difficult to quantify. Tuxtla Gutiérrez receives a great number of visitors, but how many of them have been to Sumidero has not been calculated. Many travel and tour agencies operate in Tuxtla, and some of them offer trips to Sumidero.

E. Environmental Impacts of Tourism to Sumidero

Negative environmental impacts at Sumidero thus far have been limited. They include forest fires, some of which are caused by tourists. Fires are most frequent during the peak of the dry season, from March to May, and have been causing serious damage to large patches of local flora in the park. Water pollution and litter are other problems that have been associated with tourists. A positive side of these problems is that park guards are realizing that detrimental effects are occurring on the resources and consequently, on the tourism industry, and the guards are beginning to put pressure on SEDUE to increase park maintenance.

APPENDIX A

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APPENDIX B

GLOSSARY OF TERMS

BNTMP: Belize National Tourism Marketing Programme

BTR: Belize Tourism Report

BTIO: Belize Tourism Industry Organization

carrying capacity: the sustainable amount of visitors per day/month/year that an area can support, dependent upon the type or size of protected/natural area, soil, topography, animal behavior, and the number and quality of tourist facilities available

CASEM: Cooperativa de Artesanos de Santa Elena y Monteverde

CATIE: Centro Agronomico Tropical de Investigacion y Ensenanza

CDP: Community Development Plan

CIPAMEX: The Mexican Section of International Council for Bird Preservation

CTB: Community Tourism Board

CTRC: Caribbean Tourism Research and Development Centre

DITURIS: Direccion Nacional de Turismo de Ecuador

ecological tourism: see nature-oriented tourism

ecotourism: see nature-oriented tourism

EDF: European Development Fund

FONATUR: Fondo Nacional de Fomento al Turismo

GDD: Gross Domestic Product

ICT: Investigacion Costa Ricensa de Turismo

IDB: Inter-American Development Bank

INAINE: Instituto Autonomo de Investigaciones Ecologicas
infrastructure -- framework or facilities developed within the protected area for visitor activities, ease of access, and management

IUCN: International Union for the Conservation of Nature and

Natural Resources

leakages: hidden costs which have to be subtracted from the gross income derived from tourism

national park: officially designated tract of land

nature tourism: see nature-oriented tourism

nature-oriented tourism: tourism to relatively undisturbed natural areas with the specific objective of admiring, studying and enjoying the scenery and its flora and fauna

NGO: Non-governmental organizations

NNTB: National Nature Tourism Board

OAS: Organization of American States

OECD: Organization for Economic Cooperation and Development

OTS: Organization for Tropical Studies

protected area: officially designated tract of land for the preservation of one or more of its natural resources

SECTUR: Secretaria de Turismo

SEDUE: Secretaria de Desarrollo Urbano y Ecologia

SINAP: Sistema Nacional de Areas Naturales Protegidas

SIS: Social Impact Strategy

socio-cultural impacts: impacts from tourism on the community and its culture

UNAM: Ecology of the National Autonomous University of Mexico

UNEP: United Nations Environment Programme

UNDP: United Nations Development Programme

USAID: United States Agency for International Development

VINP: Virgin Island National Park

WTO: World Tourism Organization

WWF: World Wildlife Fund

APPENDIX C:

WWF Surveys

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Fecha:
Aeropuerto:
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World Wildlife Fund

ENCUESTA SOBRE TURISMO INTERNACIONAL

El Fondo Mundial para la Naturaleza (WWF) está llevando a cabo un estudio en este país y quisiéramos que usted participara, respondiendo cuidadosamente a este cuestionario. Esa información nos ayudará a determinar el estado de la industria turística en el país y el potencial que existe para turismo a áreas naturales como parques nacionales y reservas. Gracias! Le agradecemos su cooperación!

- 1.Cuál es su nacionalidad? _____ 2. En qué país vive usted? _____
3. Es usted () HOMBRE o () MUJER (por favor, marque con una X) EDAD: _____
- 4.Cuál es su profesión u ocupación? _____
5. Es este su primer viaje a este país?
1 SI 2 NO (en este caso, cuantas veces ha venido anteriormente?) _____
6. Cuántas noches pasó usted en el país? _____
7. Por qué razón escogió usted este país para este viaje?
(marque con una X todas las opciones que se apliquen)
() 1 VISITA A AMIGOS Y/O FAMILIARES () 2 NEGOCIOS/CONVENCION
() 3 SOL, PLAYAS, RECREO () 4 PASEO
() 5 ARQUEOLOGIA () 6 HISTORIA CULTURAL
() 7 HISTORIA NATURAL (botánica, vida silvestre)
() 8 OTROS (especifique) _____
8. Qué le impulsó a escoger este país como destino de su viaje? (marque todas las opciones que se apliquen)
() 1 IDEA PROPIA () 2 RECOMENDACION DE AMIGOS O FAMILIARES
() 3 PROPAGANDA (especifique _____)
() 4 DOCUMENTAL EN TELEVISION O REVISTAS (especifique _____)
() 5 OTROS (especifique _____)
9. Hasta qué punto influyeron las áreas naturales de este país (como por ejemplo parques nacionales, reservas etc) en su decisión de venir aquí? (una sola opción)
() 1 MOTIVO PRINCIPAL () 2 IMPORTANTE, INFLUYO EN MI DECISION
() 3 RELATIVAMENTE IMPORTANTE () 4 NO TUVO INFLUENCIA EN MI DECISION
10. Quién le acompaña durante este viaje? (por favor, marque con una X)
() 1 NADIE () 2 FAMILIARES (especifique el número _____)
() 3 AMIGOS O COLEGAS
() 4 GRUPO TURISTICO (especifique el nombre de la compañía) _____
() 5 OTRO (especifique _____)
11. Qué aerolínea(s) utilizó para su vuelo internacional a y de este país? _____
12. Favor de calcular de la manera mas aproximada posible la cantidad total que gastó Ud/su familia en su viaje al país, en dólares o en moneda nacional:
\$ _____ Moneda nacional _____
Del total, _____ fueron gastados en pasaje aereo internacional.

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13. Aproximadamente cuanto dinero (en dólares o en moneda nacional) gastó usted/ su familia en los siguientes rubros? (si venía con un paquete, por favor marque con una X los rubros incluidos en el paquete y pone el total)

	dólares	moneda nacional
1 VUELOS INTERNOS	_____	_____
2 TRANSPORTE INTERNO	_____	_____
3 ALOJAMIENTO	_____	_____
4 COMIDAS Y BEBIDAS	_____	_____
5 GASTOS PERSONALES	_____	_____
6 TOURS Y EXCURSIONES	_____	_____
7 SOUVENIRS	_____	_____
8 OTROS(especifique	_____	_____

14. Realizó usted alguna de las siguientes actividades relacionadas con la naturaleza durante su visita al país? (marque con una X todas las que se apliquen)

- () 1 EXCURSIONES A LA SELVA O EL BOSQUE () 2 MONTANISMO
() 3 OBSERVACION DE AVES () 4 OBSERVACION DE VIDA SILVESTRE
() 5 BOTANICA () 6 PESCA Y CAZA
() 7 ACAMPAR () 8 EXCURSIONISMO Y CAMINATAS
() 9 VISITA A CULTURAS AUTOCTONAS () 10 PASEOS EN LANCHAS O BOTE
() 11 OTROS (especifique)

15. Qué áreas protegidas/parques nacionales visitó usted ?

16. Qué tipo de alojamiento utilizó usted durante su viaje?

(marque con una X todas las opciones que se apliquen)

- () 1 HOTEL DE LUJO INTERNACIONAL () 2 HOTEL LOCAL DE BUENA CALIDAD
() 3 HOTEL O PENSION SENCILLOS () 4 ALBERGUE DE SELVA/ CAMPAMENTO
() 5 BARCO O LANCHAS () 6 OTROS (especifique)

17. En general, se considera usted satisfecho(a) por su visita al país?

- () 1 SI, MUY SATISFECHO(A) () 2 SI
() 3 NO MUY IMPRESIONADO(A) () 4 NO, DESILUSIONADO(A)

18. Anote (hasta un total de 4 cosas) lo que más le gustó de su visita a este país:

1 _____ 2 _____
3 _____ 4 _____

19. Anote que no le agradó de su visita a este país

1 _____ 2 _____
3 _____ 4 _____

20. En su opinión, qué podría hacerse para mejorar la calidad de la visita y de la experiencia en el país? Tome en cuenta transporte, logística, guías, información técnica como mapas y guías turísticas, alojamiento, comida?

21. Piensa volver a este país?

- () 1 SI () 2 NO

22. Cual es el nivel anual aproximado de ingresos de su familia?

- () 1 MENOS DE US\$ 10,000 () 2 MAS QUE US\$ 10,000 () 3 MAS QUE US\$ 20,000
() 4 MAS QUE US\$ 30,000 () 5 MAS QUE US\$ 40,000 () 6 MAS QUE US\$ 50,000
() 7 MAS QUE US\$ 100,000

NUEVAMENTE LE AGRADECEMOS SU VALIOSO TIEMPO INVERTIDO A LLENAR ESTE CUESTIONARIO

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Airport:
Date:
#



World Wildlife Fund

A SURVEY OF INTERNATIONAL TOURISM

The World Wildlife Fund is conducting a tourism study in this country and would like to ask you to participate in this study by answering this questionnaire as accurately as possible. The information will help us assess the country's tourism industry and the potential of tourism to natural sites such as national parks and reserves in the country. We appreciate your cooperation! Thank you!

1. What is your nationality? _____
2. In what country do you live? _____
3. What is your gender? please circle: 1 MALE 2 FEMALE AGE: _____
4. What is your occupation or profession? _____
5. Is this your first trip to this country?
1 YES
2 NO (if no, how many times have you been here before? _____)
6. How many nights did you spend in this country? _____
7. Why did you choose this country as a travel destination? (circle as many as apply)
1 VISITING FRIENDS AND/OR RELATIVES 2 BUSINESS/CONVENTION
3 SUN, BEACHES, ENTERTAINMENT 4 SIGHTSEEING
5 ARCHAEOLOGY 6 CULTURAL/NATIVE HISTORY
7 NATURAL HISTORY (i.e. botany, wildlife) 8 OTHER (specify _____)
8. What influenced you to choose this country as a destination for this trip?
(circle as many as apply)
1 OWN IDEA 2 RECOMMENDATION BY FRIENDS OR RELATIVES
3 ADVERTISEMENTS (specify _____)
4 TV DOCUMENTARIES, MAGAZINES (specify _____)
5 OTHER (specify _____)
9. To what extent did the country's protected areas (i.e. national parks, reserves, etc.) influence your decision to come here? (circle one)
1 MAIN REASON 2 IMPORTANT, INFLUENCED MY COMING HERE
3 SOMEWHAT IMPORTANT 4 NOT IMPORTANT
10. Who is accompanying you on this trip? (please circle)
1 NOBODY 2 FAMILY MEMBERS (how many? _____)
3 FRIENDS AND/OR PROFESSIONAL COLLEAGUES
4 TOUR GROUP (please name company _____)
5 OTHER (specify _____)
11. What airline(s) did you use for your travel to and from this country? _____
12. Please estimate as best as you can the approximate total amount of money you spent on your trip to this country, in US\$ or in local currency:
US\$: _____ LOCAL CURRENCY: _____
of the total, US\$ _____ was spent for international airfare

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13. How much money (in US\$ or local currency) did you approximately spend on the following items? (if you came with a package tour, please circle items included in package)

US \$ LOCAL CURRENCY

- 1 AIRPLANE (local travel) _____
- 2 LOCAL TRANSPORTATION _____
- 3 ACCOMODATION _____
- 4 FOOD AND BEVERAGES _____
- 5 PERSONAL EXPENSES _____
- 6 TOURS AND EXCURSIONS _____
- 7 SOUVENIRS _____
- 8 OTHER (specify _____)

14. Did you engage in any of the following nature-related activities while in this country?

- 1 JUNGLE EXCURSION 2 MOUNTAIN TREKKING 3 BIRD WATCHING
- 4 WILDLIFE WATCHING 5 BOTANY 6 FISHING/HUNTING
- 7 CAMPING 8 HIKING 9 VISIT INDIGENOUS CULTURES
- 10 BOAT TRIPS 11 OTHER (specify _____)

15. Which protected areas/parks, if any, did you visit? (please list)

16. What type of accomodation did you use during your trip? (circle as many as apply)

- 1 HIGH STANDARD INTERNATIONAL HOTEL 2 GOOD QUALITY LOCAL HOTEL
- 3 BASIC HOTEL/PENSION 4 JUNGLE LODGE/CAMPING
- 5 BOAT/SHIP 6 OTHER (specify _____)

17. Overall, were you satisfied with your trip to this country?

- 1 YES, EXTREMELY 2 YES
- 3 WAS NOT TOO IMPRESSED 4 NO, QUITE DISAPPOINTED

18. Please list up to four things you liked best on your trip to this country:

1 _____ 2 _____
3 _____ 4 _____

19. Please list up to four things you did not like:

1 _____ 2 _____
3 _____ 4 _____

20. In your opinion, what should be done to improve the quality of the visit and experience? Consider transportation, logistics, guide, technical information (i.e. maps, guide books), accomodation, food, etc.?

21. Would you consider coming back to this country for another vacation?

- 1 YES 2 NO

22. What is the approximate annual income of you and your family?

- 1 LESS THAN US\$ 10,000 2 OVER US\$ 10,000 3 OVER US\$ 20,000
- 4 OVER US\$ 30,000 5 OVER US\$ 40,000 6 OVER US\$ 50,000
- 7 OVER US\$ 100,000

ONCE AGAIN, THANK YOU VERY MUCH FOR TAKING THE TIME TO PARTICIPATE IN THIS QUESTIONNAIRE. IF YOU WANT TO KNOW MORE ABOUT THIS STUDY AND ITS RESULTS FEEL FREE TO WRITE TO THE WORLD WILDLIFE FUND IN WASHINGTON, D.C., ATTENTION OF SUSANNE FRUEH, PROJECT DIRECTOR NATURE TOURISM, FOR MORE INFORMATION.

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Fecha:
Parque:
#



World Wildlife Fund

CUESTIONARIO SOBRE TURISMO ECOLOGICO

El Fondo Mundial para la Naturaleza (WWF) esta llevando a cabo un estudio en este pais y quisieramos que usted participara, respondiendo cuidadosamente a este cuestionario. Esa informacion nos ayudara a determinar el estado de la industria turistica en el pais y el potencial que existe para turismo a areas naturales como parques nacionales y reservas. Gracias! Le agradecemos su cooperacion!

1. En que ciudad vive usted? _____

2. Es usted () HOMBRE o () MUJER? EDAD: _____
(Por favor, marque con una x)

3. Cuál es su profesión u ocupación? _____

4. Es este su primer viaje a este parque?
1 SI
2 NO (en este caso, cuantas veces ha venido anteriormente?) _____

5. Quién le acompaña durante este excursion? (por favor, marque con una X)
() 1 NADIE () 2 FAMILIARES (especifique el número _____)
() 3 AMIGOS O COLEGAS
() 4 GRUPO TURISTICO (especifique el nombre de la compañía) _____
() 5 OTRO (especifique _____)

6. Aproximadamente cuánto gastó usted y su familia en los siguientes rubros durante su excursion a este parque? (si venia con un paquete, marque con una X los rubros incluidos en el paquete)

DOLARES MONEDA NACIONAL

() 1 TRANSPORTE AEREO INTERNO _____
() 2 TRANSPORTE LOCAL _____
() 3 GUIA _____
() 4 ALOJAMIENTO _____
() 5 COMIDAS Y BEBEIDAS _____
() 6 GASTOS PERSONALES _____
() 7 SOUVENIRS _____
() 8 OTROS (especifique _____)

7. Qué tipo de transporte utilizó usted para llegar a este parque? (marque con una X todas las opciones que se apliquen)

() 1 AUTOMOVIL () 2 AUTOBUS
() 3 AVION () 4 BARCO O LANCHA
() 5 OTROS (especifique)

8. Cuantas noches pasó usted en el parque? _____ NOCHE(S)

9. Si pasó la noche en el parque, en dónde se alojó?

() 1 DENTRO DEL PARQUE () 2 FUERA DEL PARQUE

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10. Qué tipo de alojamiento utilizó usted durante todo el viaje a este parque?
 1 HOTEL INTERNACIONAL DE LUJO 2 HOTEL LOCAL DE BUENA CALIDAD
 3 PENSION SENCILLA 4 CAMPAMENTO
 5 BARCO O LANCHA 6 OTROS (especifique)

11. Qué le hizo venir a este parque? (marque todas las opciones que se apliquen)
 1 VIAJE CORTO 2 RECREO
 3 AVENTURA 4 VIDA SILVESTRE SOBRESALIENTE
 5 FLORA SOBRESALIENTE 6 GEOLOGIA Y/O PAISAJE SOBRESALIENTE
 7 ESPECIES RAROS 8 OTROS (especifique) _____

12. Cómo calificaría usted su experiencia en este parque?
 1 EXCELENTE 2 BUENA
 3 MEDIOCRE 4 DECEPCIONANTE

13. Cómo calificaría usted las instalaciones del parque?
 1 EXCELENTES 2 BUENAS
 3 MEDIOCRE 4 MALAS

14. Qué tipo de actividades relacionadas con la naturaleza ha realizado durante su visita a este parque?

- 1 EXCURSIONES AL BOSQUE O A LA SELVA 2 MONTANISMO
 3 OBSERVACION DE AVES 4 OBSERVACION DE VIDA SILVESTRE
 5 BOTANICA 6 PESCA/ CAZA
 7 ACAMPAR 8 CAMINATAS O EXCURSIONES
 9 VISITA A CULTURAS AUTOCTONAS 10 VIAJES EN BOTE
 11 OTROS (especifique) _____

15. Anote (hasta un total de 4 cosas) lo que más le gusto de este parque

1 _____ 2 _____
3 _____ 4 _____

16. Anote (hasta un total de 4 cosas) lo que no le agrado de este parque

1 _____ 2 _____
3 _____ 4 _____

17. En su opinión, qué podría hacerse para mejorar la calidad de la visita y de la experiencia? Tome en cuenta transporte, logística, guías, información técnica como mapas y guías turísticas, alojamiento, comida etc.

18. Piensa que este parque tiene o va a tener problemas de cualquier manera?

19. Cual es el nivel anual aproximado de ingresos de su familia?

- 1 MENOS DE US\$ 5,000 2 MAS QUE US\$ 5,000
 3 MAS QUE US\$ 10,000 4 MAS QUE US\$ 20,000
 5 MAS QUE US\$ 30,000 6 MAS QUE US\$ 40,000
 7 MAS QUE US\$ 50,000 8 MAS QUE US\$100,000

NUEVAMENTE LE AGRADECEMOS SU VALIOSO TIEMPO INVERTIDO A LLENAR ESTE CUESTIONARIO.

Date:
Park:
#



World Wildlife Fund

A SURVEY OF INTERNATIONAL NATURE TOURISM

The World Wildlife Fund is conducting a tourism study in this country and would like to ask you to participate in this study by answering this questionnaire as accurately as possible. The information will help us assess the country's tourism industry and the potential tourism to natural sites such as national parks and reserves in the country. We appreciate your cooperation! Thank you!

1. In what city do you live? _____
2. Are you: 1 MALE 2 FEMALE (please circle) AGE: _____
3. What is your profession/occupation? _____
4. Is this your first excursion to this park?
1 YES
2 NO (if no, how many times have you been here before? _____)
5. Who is accompanying you on this trip? (please circle)
1 NOBODY 2 FAMILY MEMBERS (how many? _____)
3 FRIENDS AND/OR PROFESSIONAL COLLEAGUES
4 TOUR GROUP (please name _____)
5 OTHER (specify _____)
6. During your excursion to this park, how much did you (and your family) approximately spend on the following items? (if you came with a package tour, please circle items included in package and give total)

	US \$	LOCAL CURRENCY
1 DOMESTIC AIRFARE	_____	_____
2 LOCAL TRANSPORTATION	_____	_____
3 GUIDE	_____	_____
4 ACCOMODATION	_____	_____
5 FOOD AND BEVERAGES	_____	_____
6 PERSONAL EXPENSES	_____	_____
7 SOUVENIRS	_____	_____
8 OTHER (specify _____)	_____	_____
7. What type of transportation did you use to come to this park? (circle as many as apply)
1 CAR 2 BUS 3 AIRPLANE 4 BOAT
5 OTHER (specify _____)
8. How many nights did you spend in this park? _____ NIGHTS
9. If you stayed overnight, where did you stay?
1 WITHIN THE PARK 2 OUTSIDE THE PARK
10. What type of accomodation did you use during your entire visit to the park?
1 HIGH STANDARD INTERNATIONAL HOTEL 2 GOOD QUALITY LOCAL HOTEL
3 BASIC PENSION 4 CAMPING 5 BOAT/SHIP 6 OTHER _____

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11. Why did you come to this park? (circle as many as apply)
- 1 SHORT TRAVEL TIME 2 AS DIVERSION FROM CITY/BEACH VACATION
 3 ADVENTURE 4 OUTSTANDING WILDLIFE
 5 OUTSTANDING VEGETATION 6 OUTSTANDING GEOLOGY AND/OR LANDSCAPE
 7 RARE SPECIES 8 OTHER _____

12. How would you rate your experience in this park?
- 1 EXCELLENT 2 GOOD 3 MEDIOCRE 4 DISAPPOINTING

13. How would you rate the park's facilities?
- 1 EXCELLENT 2 GOOD 3 MEDIOCRE 4 BAD CONDITION

14. What nature-related did you engage in while in this park?
- 1 JUNGLE EXCURSION 2 MOUNTAIN TREKKING 3 BIRD WATCHING
 4 WILDLIFE WATCHING 5 BOTANY 6 FISHING/HUNTING
 7 CAMPING 8 HIKING 9 VISIT INDIGENOUS CULTURES
 10 BOAT TRIPS 11 OTHER (specify) _____

15. List up to four things you liked best on your visit to this park (you may consider for instance installations, food, guards, information, natural features:

1 _____ 2 _____
 3 _____ 4 _____

16. Please list up to four things you did not like:

1 _____ 2 _____
 3 _____ 4 _____

17. In your opinion, what should be done to improve the quality of the visit and experience? Consider transportation, logistics, guide, technical information (i.e. maps, guide books), accomodation, food, etc.?

18. Do you think this park is or will be facing any particular problems? If yes, specify:

19. What is the approximate annual income of you and your family?

- 1 LESS THAN US\$ 5,000
 2 LESS THAN US\$ 10,000
 3 OVER US\$ 10,000
 4 OVER US\$ 20,000
 5 OVER US\$ 30,000
 6 OVER US\$ 40,000
 7 OVER US\$ 50,000
 8 OVER US\$ 100,000

 (you may tear off this section and keep it)

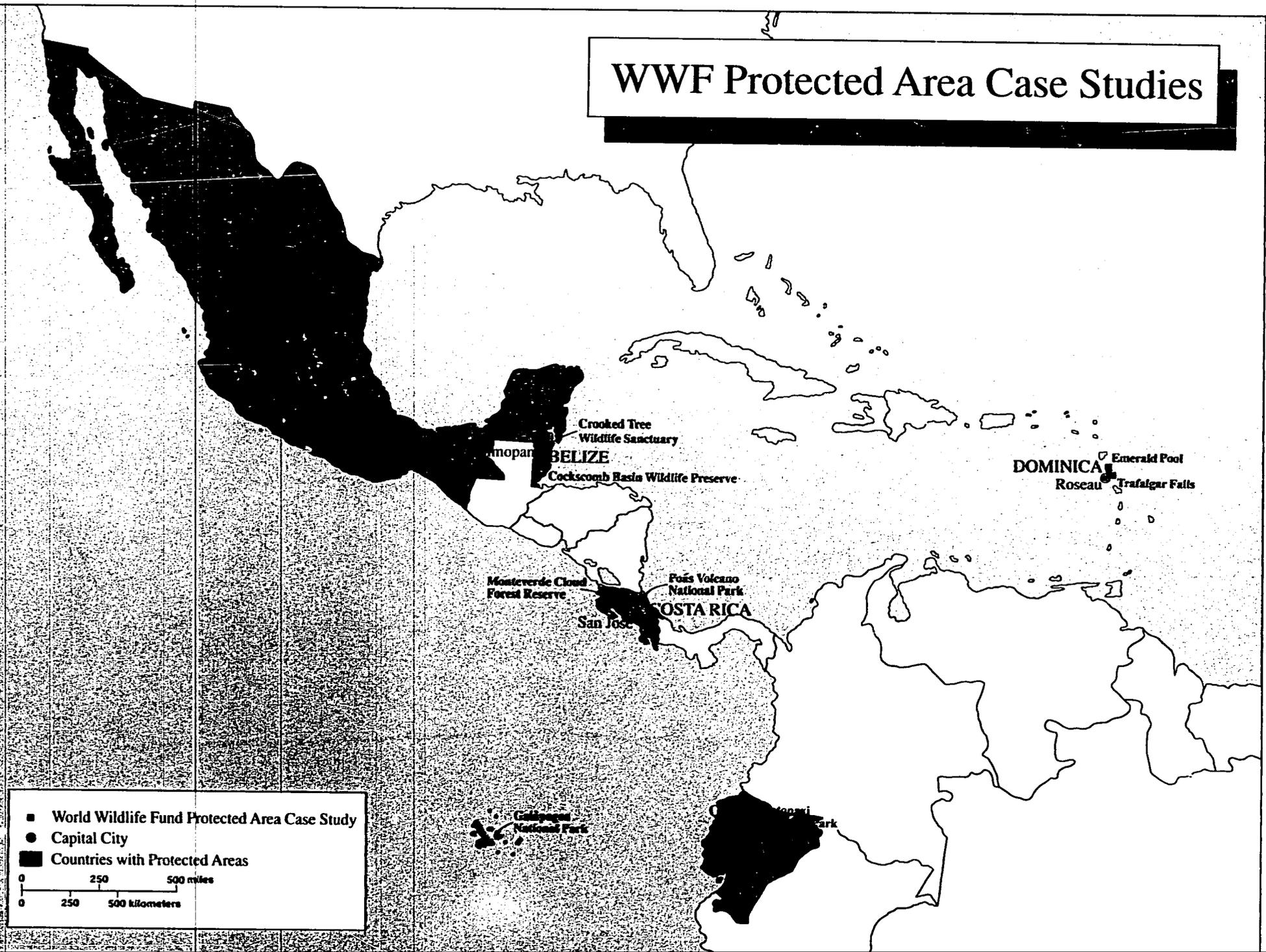
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APPENDIX D

Maps of WWF Protected Area Case Studies

WWF Protected Area Case Studies

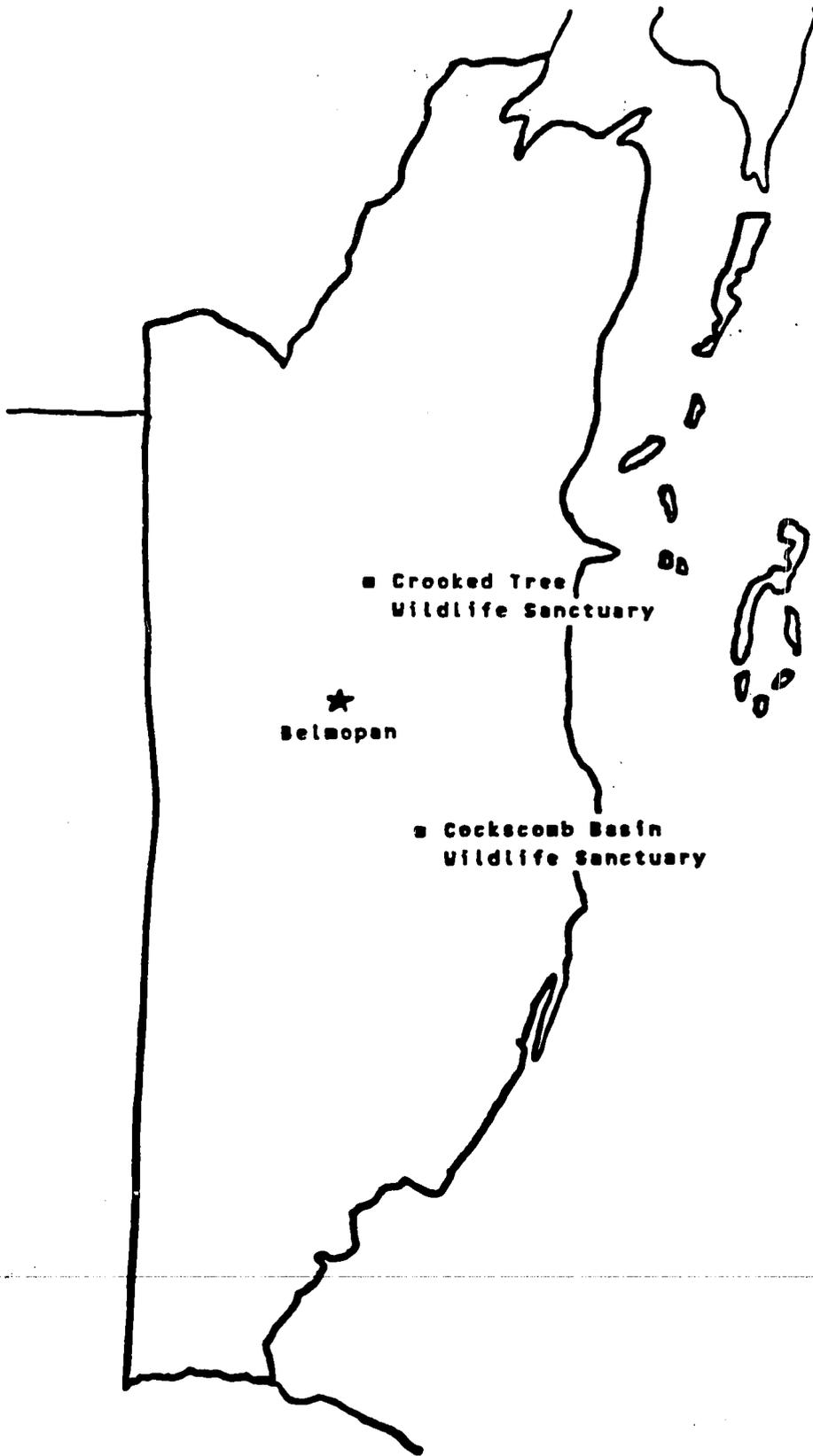


- World Wildlife Fund Protected Area Case Study
- Capital City
- Countries with Protected Areas

0 250 500 miles
0 250 500 kilometers

26

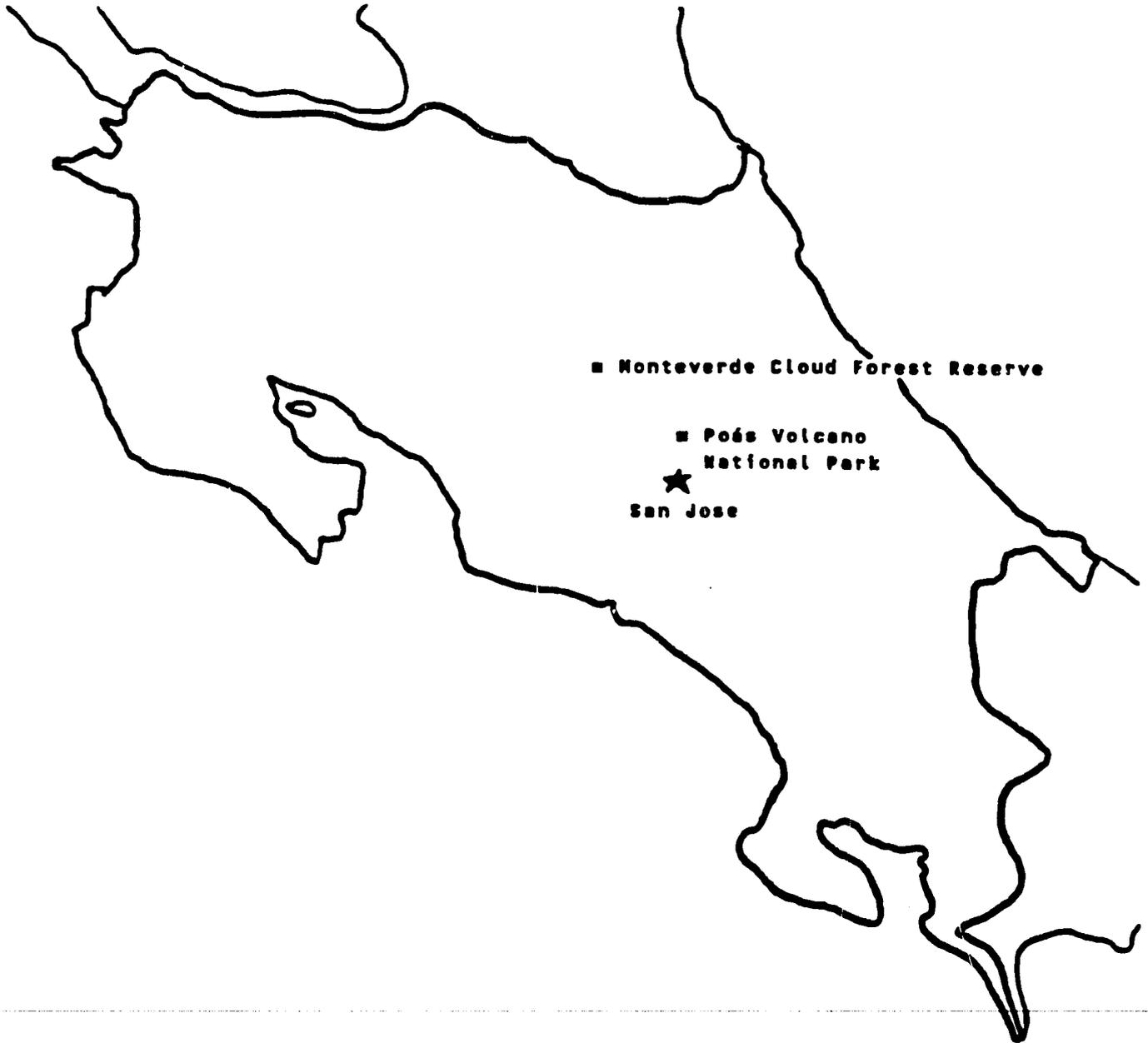
BELIZE



■ WWF Protected Area Case Study

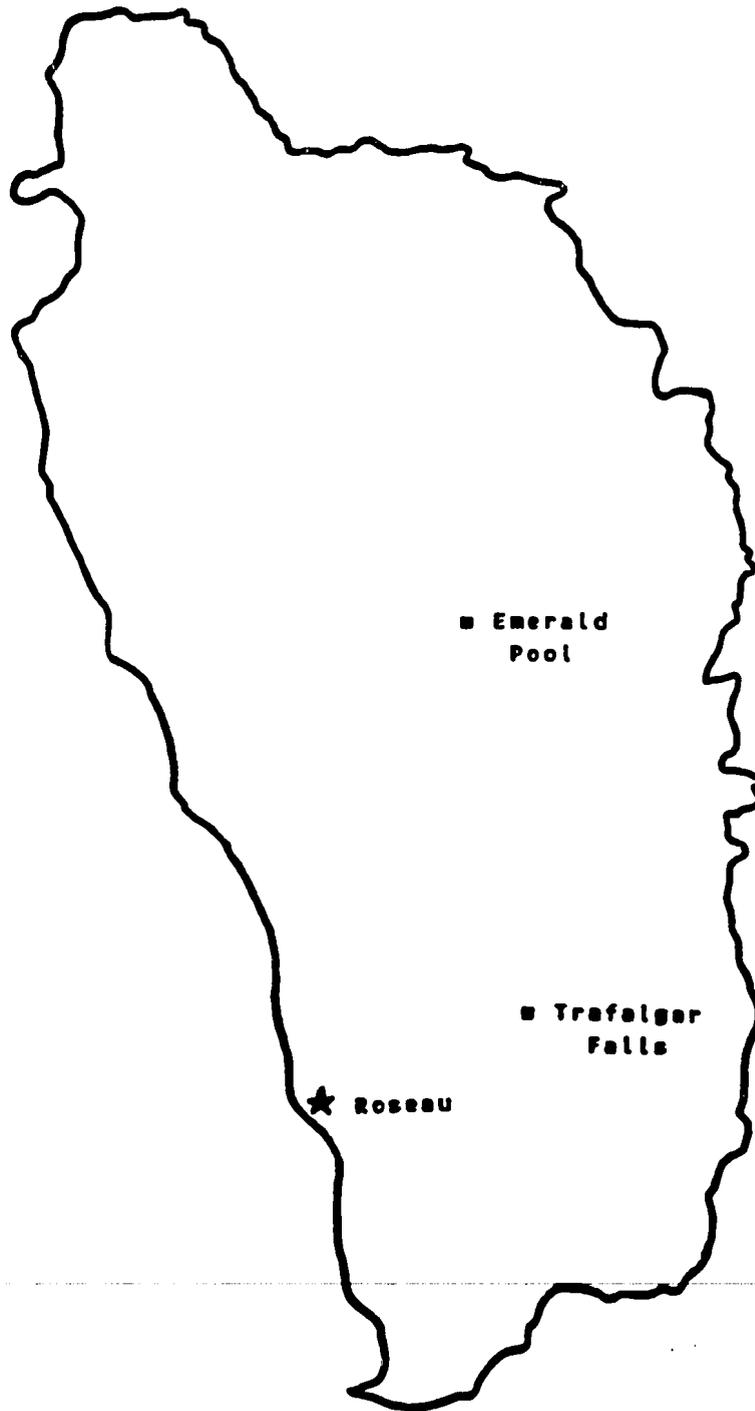
202

COSTA RICA



■ WWF Protected Area Case Study

DOMINICA



■ WWF Protected Area Case Study

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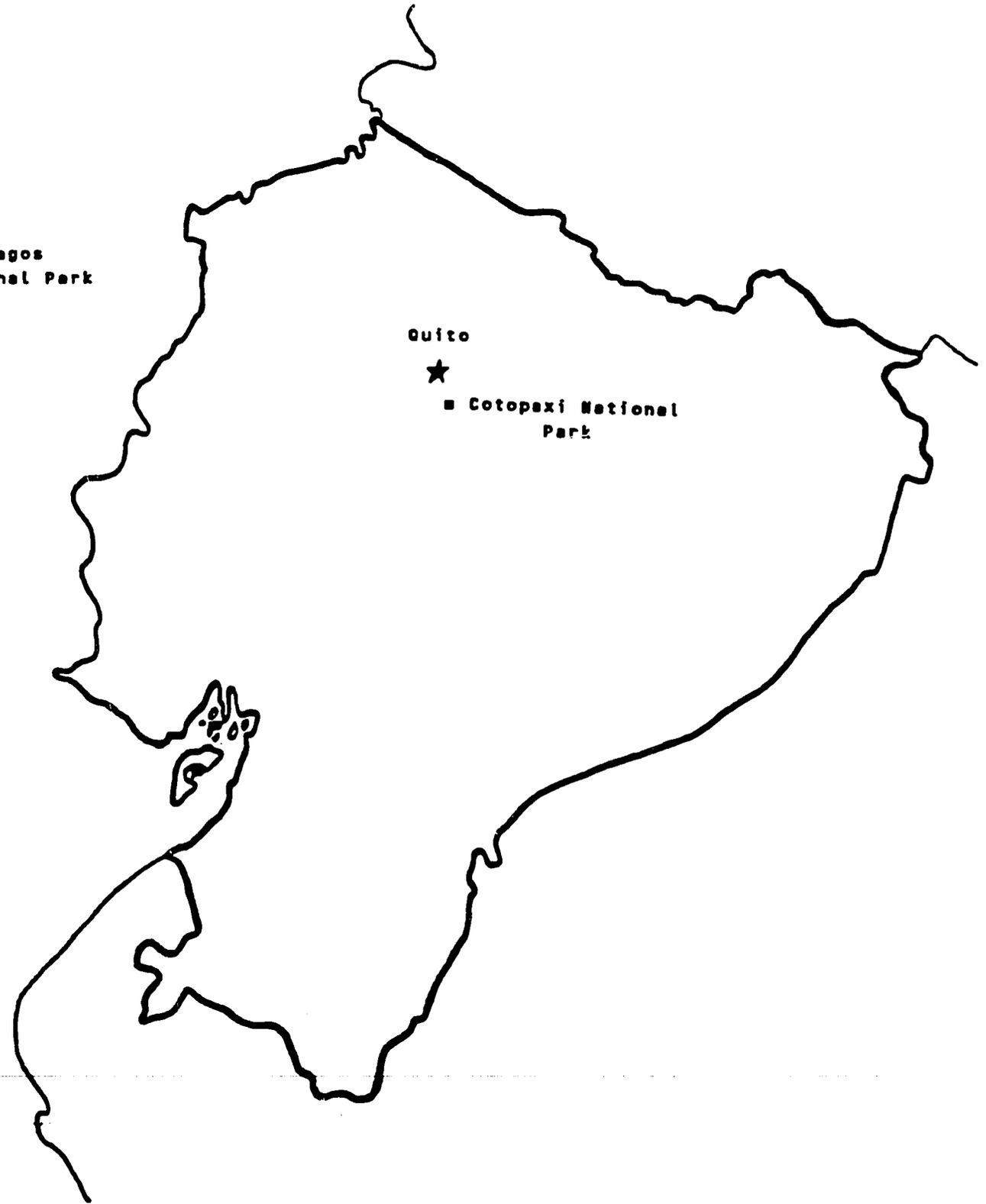
ECUADOR

■ Galapagos National Park

Quito



■ Cotopaxi National Park



■ WWF Protected Area Case Study

2/6/5

MEXICO



■ Iztá-Papo
National Park
★
Mexico
City

■ Cañon del Sumidero
National Park

■ WWF Protected Area Case Study

ABOUT THE AUTHOR

Elizabeth Boo graduated from the University of Notre Dame in 1981 with a B.A. in political science. She then spent a year in Tepatitlan, Mexico, teaching English. In 1986 she completed an M.A. at George Washington University in international affairs, with a concentration in economic development of Latin America. She began working with the Latin America and Caribbean Program of World Wildlife Fund in 1986, where she currently serves as Ecotourism Program Officer.



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ISBN 0-942635-15-9