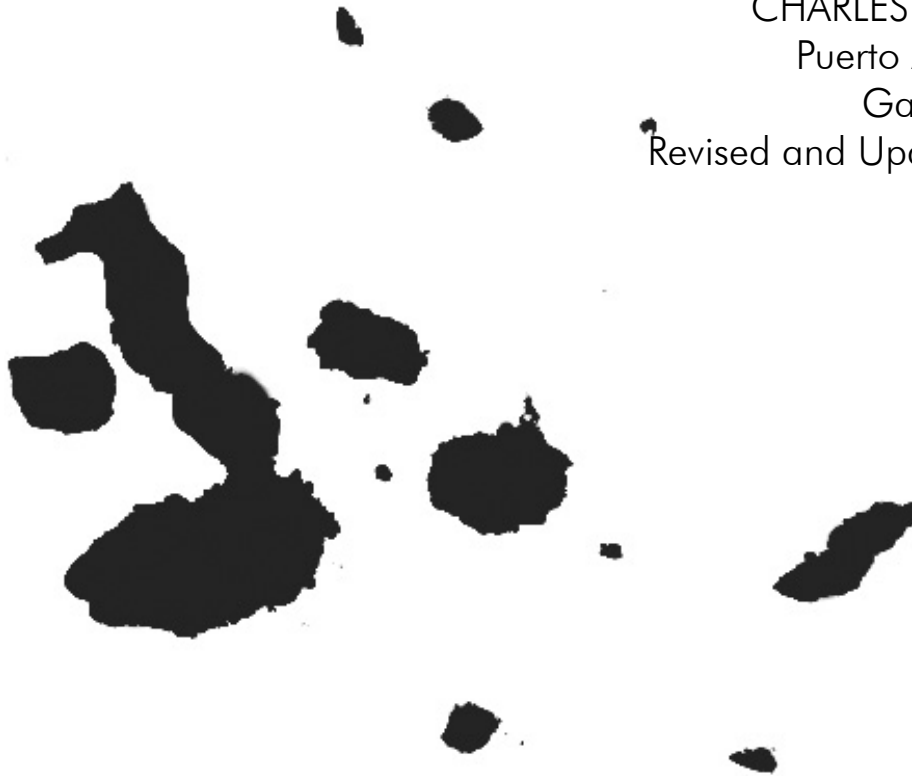


Tourism, the Economy, Population Growth, and Conservation in Galapagos

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ABSTRACT

This paper traces the historical development of tourism in the Galapagos Islands, highlights trends in the industry's growth, and demonstrates the subsequent impacts on the local, national, and international economies, and on the population and conservation of the archipelago.

Early studies concluded that there was an incalculable potential to develop nature-based tourism in Galapagos and that the tourism industry was the most compatible with conservation of the archipelago's unique biological diversity, evolutionary and biological processes, and environment. Incalculable is the key word. No one envisioned that the islands would emerge as one of the world's premier ecotourism destinations; that Galapagos tourism would contribute hundreds of millions of dollars to Ecuador's national economy, and in turn, that it would generate revenues and population growth in Galapagos exceeding anyone's wildest expectation. As the Galapagos tourism industry developed, it became both a blessing and a bane.

The industry's humble beginnings date back to the late 1960s when a half dozen vessels and hotels catered to 2,000 or so tourists per year. By 2006, there were at least 80 vessels and 65 hotels capable of simultaneously accommodating nearly 3,500 guests per night. Since 1991, the rate of visitation increased by approximately 9% per year, with industry revenues increasing by an astounding 14% per year. More than 120,000 tourists arrived in the archipelago in 2005. Despite these leaps, the user fees paid both by visitors and companies conducting tours have not increased since 1993.

Tourism also generates some financial support for conservation (donations) and governmental institutions (primarily through entrance fees). Conservation and government spending are quantified and their contributions to the rapid influx of revenues spurring the ongoing population boom are demonstrated. The average rate of population growth in the 300 km² reserved for human settlement has been 6.4% per year, three times greater than in mainland Ecuador. If temporary and clandestine workers from the continent that also reside in the islands were included, the overall annual rate of population growth would approach or exceed 8%. Population growth is even greater on Santa Cruz, the economic and tourism hub of Galapagos.

There is much debate over the benefits from the rapid economic growth. Clearly, some astute entrepreneurs have realized disproportionately large gains in their net revenues and the economy and living conditions on Santa Cruz are greatly improved. The other islands and large segments of the population have not fared as well. Taylor et al. (2006) argue that immigration and inflation have negated increases in the average real per capita income of the majority of legal residents. It is obvious that economic growth has resulted in unsustainable population growth, socioeconomic stratification, civil unrest, strained public services and infrastructure, an increase in the number of invasive species, and a number of conflicts with conservation goals and authorities.

The increase in tourism has raised other concerns. There is a marked decline, from 1991 to 2006, in how visitors ranked their satisfaction with Galapagos nature and wildlife. Another alarming trend is that when asked, 1/3 fewer international tourists responded that they would have spent more time in mainland Ecuador had they not been able to tour the archipelago. Ecuador is one of the most biologically diverse nations on Earth and has a huge potential for developing ecotourism. Unfortunately, the country is not capitalizing on its natural endowment; this may be attributed to image problems that stem from economic, political, and social chaos that was rampant during the 1990s, poorly developed infrastructure, a failure to actively market mainland tourism, and increased competition from other countries.

The last section of the report addresses underlying issues such as the undervaluation of resource rent and a discussion of some options that may contribute to resolving a number of the pressing problems.



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LIST OF ACRONYMS AND ABBREVIATIONS

Given that some of the acronyms used in the document are based on the Spanish titles of the organizations, the titles are presented in both languages.

Acronym	English Title	Spanish Title
AGIPA	Association of Interpretive Guides of Galapagos National Park	Asociación de Guías Intérpretes del Parque Nacional Galápagos
CAPTURGAL	Galapagos Chamber of Tourism	Cámara de Turismo de Galápagos
CDF	Charles Darwin Foundation for the Galapagos Islands	Fundación Charles Darwin para Las Islas Galápagos
DIGMER	National Merchant Marine and Directorate for the Coast	Dirección General de la Marina Mercante y del Litoral
FOGO	Friend of Galapagos Organization	
FUNDAR	Foundation for Responsible Alternative Development of Galapagos	Fundación para el Desarrollo Alternativo Responsable de Galápagos
GEF	Global Environment Facility	
GNPS	Galapagos National Park Service	Servicio Parque Nacional Galápagos
INEC	National Institute of Statistics and Censuses	Instituto Nacional de Estadística y Censos
INGALA	National Institute of Galapagos	Instituto Nacional Galápagos
NGO	Non-Government Organization	
SICGAL	Quarantine Inspection System for Galapagos	Sistema de Inspección y Cuarentena de Galápagos
UNDP	United Nations Development Program	
UNESCO	United Nations Educational, Scientific and Cultural Organization	
WWF	World Wildlife Fund	
WTO	World Tourism Organization	



I. Introduction and Objectives

The purpose of this study is to contribute to management efforts in Galapagos by identifying and quantifying the economic forces that are dictating the types and pace of change in the archipelago. The principal focus is on revenues generated by tourism and their impacts on the local and national economies, population growth, and conservation. The report begins with this introduction and a brief discussion of the objectives, methodology, and the data sources used. The third section provides an historical overview of the evolution of tourism, major events, and population growth in Galapagos since the late 1950s. The historical review provides a foundation for the entire report and demonstrates that the course of events on the islands is driven by more than just tourism and thus best understood within the broader, historical social and political contexts. Subsequent sections (4-9) provide analyses of the structure, trends, and economics of the dominant sectors in the Galapagos economy - tourism, public institutions, and conservation - and give estimates of employment generated by tourism. Sections 10 and 11 present overviews of the insular economy and of the contributions that tourism makes to both the national and the global economies. The final two sections (13-14) present a discussion and some conclusions on the critical issues that face Galapagos; the intent of these sections is to provoke public dialogue.

II. Methodology and Data Sources

The information used in this study was collected onsite between 17 June and 12 September 2006. During this period, the author visited each of the inhabited islands, with the exception of Floreana. The data, information, and sources used in this study are listed below:

- A 1993 study of Galapagos tourism by Epler that used 1991 data similar to those collected and analyzed in this study and is, thus, useful in identifying historical trends.
- Written surveys filled out by 940 departing tourists waiting in the airports on Baltra and San Cristóbal between early July and mid September of 2006.
- Written surveys e-mailed to each owner of a tour vessel operating in Galapagos. The response rate was very low and prevented estimates of on-island expenditures by vessels.
- Written and verbal interviews conducted in 60 of the islands' 66 hotels.
- Galapagos National Park Service (GNPS) files, such as the guides reports ("Informes de Guías"), park entrance forms that summarize the number and characteristics of visitors, lists of licensed tour operators and guides, and other data.
- Surveys of tourists during selected months in 2004 and 2005 conducted by and courteously supplied by the Galapagos Chamber of Tourism (CAPTURGAL).
- Data on the number, capacity, employment, and owners of hotels, restaurants, bars, discos, and vessels, supplied by the Ministry of Tourism.
- 2006 budgets for the three municipalities (Santa Cruz, San Cristóbal, and Isabela), National Institute of Galapagos (INGALA), the provincial government, and the Ministries of Education and Health, provided by INGALA.
- 2006 budgets for the GNPS, the Charles Darwin Foundation (CDF), and conservation NGOs.
- Port Captain ("Capitanía de Puerto") files in Puerto Ayora covering vessel movement and sailing permits ("zarpes") issued between May 2005 and April 2006.



- Verbal interviews with land-based dive-tour operators and owners/operators of bay and highland restaurants and farms (highland sites frequented by tourists to see tortoises and lava tubes).
- Verbal interviews with guides.
- Verbal interviews with travel agents in Galapagos, Guayaquil, and the United States.
- Information on tours and tour prices obtained from the World Wide Web (WWW) and tour brochures.
- Information on entrance fees to various world class parks from the WWW and e-mails sent to relevant government institutions and travel agencies.
- Information on comparable international tours, safaris, and their prices, obtained from the WWW and e-mails sent to travel agencies.
- Publications listed in the bibliography.

Financial data are grouped in relevant categories or classes to protect rights of confidentiality.

Cross-checking of data was done when possible and highlighted several areas where data are either inconsistent or lacking. Information gained from interviews and surveys and from the various governmental sources did not always agree. The Galapagos National Park Service is extremely diligent in collecting information on tourism; however their data were not always in the form needed for analysis in this study. Many of the forms are completed for administrative purposes and the data do not undergo rigorous analysis. One example is the collection of park entrance fees and the associated data. The Park officials collect entrance fees from everyone who does not have proof of legal residence in the islands or an official letter exempting him or her from paying. Park estimates of the number of foreign tourists appear to be quite accurate and in close agreement to estimates from the various sources and surveys cited in this study. This is not, however, the case for Ecuadorians, many of whom come not as tourists but rather to work, visit

family and friends, or conduct business. Many of these people make repeated trips between the mainland and Galapagos. Many crew members, for example, reside on the continent and work a 6-week-on/3-week-off work rotation in the islands, and thus, make up to 6 trips per year, paying the entrance fee each time.

For this study, when data did not agree, best estimates were made based on all of the information available. While the precise numbers may be inaccurate, the overall totals and trends are considered valid.

III. Historical Overview

Prior to the advent of organized tourism, Galapagos was a rustic, little known outpost, except in the scientific world. The little-developed economy was based on agriculture and fishing. For more than 100 years after the first colonization in 1832, the archipelago's labor force was mostly comprised of conscripted vagrants, political dissidents, and prisoners condemned to one or another of the notoriously inhumane penal colonies that existed at various times on Floreana, San Cristóbal, and Isabela. Tourism was very occasional via international private yachts. The first "tour ship" that stopped in the islands was probably the Trans Pacific cruise ship Stella Polaris in 1934.

The 1950s

The transformation of life within the bucolic settlements on the four colonized islands began in the late 1950s. The Charles Darwin Foundation (CDF), whose mission is to provide knowledge and assistance through scientific research and complementary action to ensure the conservation of the environment and biodiversity in the Galapagos Archipelago, was incorporated in Brussels in 1959. Simultaneously, the government of Ecuador declared that unsettled



islands and designated areas of populated islands were to be incorporated into a national park. The last penal colony, on Isabela, was closed in 1959, after a violent revolt by inmates.

Early studies by Ecuadorian and international experts concluded that there was a significant but incalculable potential to develop nature-based tourism in the islands. Given the dearth of traditional exploitable and marketable resources, it was evident that tourism would yield the highest economic return over time. MacFarland (2001) wrote that the CDF “felt strongly that nature tourism represented the economic activity that was by far the most compatible with conservation of the archipelago’s biological diversity, evolutionary and ecological processes, and environment.” Up to this point, the Galapagos had always been a drain on the national economy. The prospect of having tourists visit the National Park and the anticipated inflow of hard currency (tourists’ dollars) into the national economy and the impoverished islands motivated both the central and local governments, as well as the local population, to support conservation, as doing so was perceived as a means of economic development.

As Galapagos tourism developed, no one envisioned that the islands would become one of the world’s premier ecotourism attractions, drawing ever-increasing numbers of tourists and contributing significantly to the national and insular economies. Also, little thought was given to the local communities, their potential involvement in tourism, how they would fare as the industry developed, or that ultimately the inflow of tourists’ dollars would create one of the world’s fastest growing economies and spur an unprecedented population boom.

The 1960s

In the late 1960s, in an effort to promote the development of tourism, the fuel depot, docks,

and one of the airstrips that had been constructed on Baltra during World War II were refurbished. Two flights per week shuttled tourists, colonists, and scientists between the mainland and the islands. A few small island-based vessels were available for charter. Around 1968, Metropolitan Touring and Turismundial joined forces with Lindblad Expeditions of New York and began running regular 3-, 4- and 7-day cruises.

The 1970s

The industry’s growth was modest during the early 1970s. The “floating hotel” model of tourism advocated by conservationists prevailed. Tourists were housed on vessels and were allowed relatively brief visits to designated sites within the National Park, accompanied by knowledgeable, trained guides; a practice that continues today.

Infrastructure and living conditions onshore were relatively primitive and not conducive to tourism. Electricity, of questionable quality, was only available from 6-7 AM and 6-9 PM on weeknights. On weekends, lights flickered an extra two hours at night. Roads in port communities were dirt and interior highlands were only accessible by foot, donkey, or horse. Subsistence agriculture, fishing, and commerce were the primary sources of employment. A small number of residents worked for the government, the Charles Darwin Research Station (of the CDF), and the National Park Service. A few hotels, vessels, and restaurants did cater to the occasional tourist and passing yacht. Other than privately-operated ham radios, there was no direct communication with the outside world.

Between 1974 and 1980, tourism began to expand in earnest. The industry was clearly the driving force behind an emerging economy and its growth began to dictate the rate and types of change that occurred in Galapagos. Santa Cruz quickly blossomed into the industry hub, as it is geographically located near the center of the



archipelago, is adjacent to the airport on Baltra, and is the location of the Park headquarters and Darwin Research Station.

During the 1970s, the number of tourist vessels jumped from 4 or 5 to 40. TAME Air Lines increased the number of flights between the islands and the mainland. Initially, long-time Galapagueños, who saw tourism as a way to ensure a future for themselves and their families, owned many of the vessels. As time passed, affluent entrepreneurs on the mainland and overseas saw a golden opportunity to achieve high returns on their investments and began to control larger portions of the Galapagos economy.

Economic expansion was further fueled by the sudden influx of petrol-dollars that dramatically increased central government expenditures and personnel in Galapagos during Ecuador's oil boom (1972-1983). On a per capita basis, the islands received more government funds than any of the nation's other provinces. The National Institute of Galapagos (Instituto Nacional Galápagos, INGALA) was created in 1980 to assist municipalities and the National Park Service in planning, coordinating, financing, and implementing development projects (roads, schools, electricity, and water) that were compatible with conservation objectives. Public works programs and administrative positions lured immigrants during an era jokingly referred to as "the bureaucratization of Galapagos." Improvements in infrastructure and public services made the islands an increasingly desirable place to live and visit.

In 1978, the United Nations Educational, Scientific and Cultural Organization (UNESCO) designated Galapagos as one of the first twelve World Heritage Sites. Six years later, the National Park was recognized as a Biosphere Reserve. Among other things, these declarations brought the islands to the attention of nature enthusiasts

throughout the world, increasing the demand to both visit and protect the archipelago.

The 1980s

Despite official guidelines recommending that the number of tourists be restricted to 12,000 per year, 18,000 entered the Park in 1980. A government commission evaluated the situation and concluded that the limit should be raised to 25,000. The commission also began to formulate the first in a series of Master Plans ("Plan Maestros") that integrated natural resource management and socioeconomic development for the entire archipelago.

Tourist numbers remained relatively stable between 1980 and 1985, with an average of 17,500 visitors per year. The slow down in the growth of visitation was attributable to several factors. First, a lingering recession in many developed countries dampened demand. Second, the deterioration of economic conditions within Ecuador caused by plummeting world prices of oil, the country's main export, spiraling rates of inflation, exorbitant interest rates, and currency devaluation thwarted investment and industry expansion. Pressure from conservationists to better regulate tourism may have also contributed to restraining growth.

While there was no significant change in the number of visitors, there was a marked transformation in the distribution of economic benefits and the structure of the tourism industry. Astute entrepreneurs responded to the adverse economic climate by offering a wider range of services and catering to more diverse income groups, such as Ecuadorians, who could no longer afford trips abroad, and young foreign backpackers traveling on limited budgets. Greater emphasis was placed on expanding land-based facilities rather than on the more expensive and ecologically sensitive "floating hotel" model of tourism. Revenues from tourism finally began



to fill the pockets of resident entrepreneurs. This transition triggered the economic boom that many residents had long sought and others had feared.

The islands have few resources and limited employment opportunities, so young and old looked to tourism or connected businesses for their livelihood. Farmers left the rural highlands to open businesses in the prospering port settlements. Many fishermen converted their boats to carry tourists. Economic expansion and the profit incentive fueled the demand for a larger and cheaper labor force, resulting in an increase in immigration from the mainland. Ecuadorians, who for 130 years had associated life in Galapagos with the horror of being confined to one of the infamous penal colonies, now perceived the islands as a land of opportunity. While the rate of unemployment on the mainland was often 25% and an equal percentage of the labor force was underemployed (Central Intelligence Agency, 1998), there were jobs for nearly all in the archipelago and per capita expenditures by the central government and incomes exceeded those on the mainland (INGALA, 1982-1997).

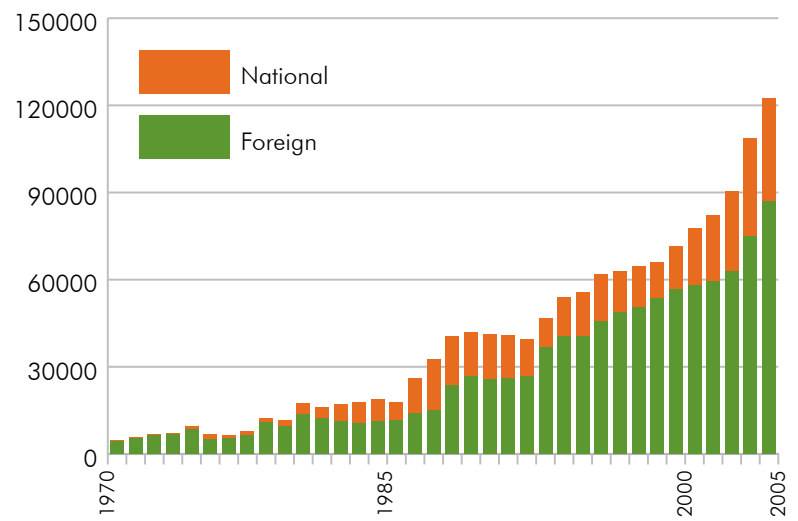
An economic rebound in developed nations and the free-market policies favored by the Ecuadorian government in the mid to late 1980s prompted additional investments in vessels, hotels, and restaurants. The dollar-based economy of Galapagos tourism was a magnet for immigrants and mainland-based businesses. Hard currency was a hedge against continuous hyperinflation and devaluation of the Ecuadorian Sucre. There were also proposals to concentrate high-rise hotels and a casino on the small island of Baltra and to construct a five-star mega hotel on San Cristóbal, which generated controversy.

Conservation and tourism also benefited from a Presidential Decree in 1986, creating the Galapagos Marine Reserve. Underwater Galapagos is every bit as unique and biologically diverse as the islands. It was not long before divers from around the world began to frequent the islands.

The 1990s to the Present

The annual number of visitors jumped from approximately 18,000 in 1985, to 41,000 in 1990, to nearly 72,000 by 2000. Despite a slight decrease after the events of September 11, 2001, visitation recouped and continues to increase; approximately 122,000 visitors arrived in Galapagos during 2005 (Fig. 1). In response to the increased number of tourists and other visitors, the quality of the fleet, land-based infrastructure, and services were constantly upgraded and commanded higher prices, causing revenues to grow faster than the number of tourists.

Figure 1. Number of Park Visitors, 1970-2005



The industry continues to grow and diversify. The number of visitors during the first six months of 2006 was 15% higher than during the first half of 2005.



Diving tours are increasingly popular. Approximately 8 land-based dive shops offer day trips and approximately 25 tour vessels offer 3-, 4- and 7-day live-aboard dive cruises. Shore-based businesses offer an increasingly broad range of products and services.

As the number of visitors increased, the National Park Service focused greater attention on managing tourism. Vessel movement was monitored and itineraries established that designated the day that each vessel could visit specified visitor sites and whether the visit was to be in the AM or the PM. The characteristics and carrying capacity of each site were studied to calculate their acceptable rates of use.

In 1993, park entrance fees were restructured and raised to their current rates. Initially, the central government kept 75% of the revenues generated and used the funds to establish and manage protected areas on the mainland. The remaining 25% went to the GNPS. No other Galapagos institutions received funding.

Social and political upheaval, a heated debate over the use of entrance fees, and environmental issues that emerged during the 1980s and 1990s, culminated in passage of the Special Law for Galapagos in 1998. All the entrance fees were subsequently distributed to institutions in Galapagos.

Another milestone was reached in 1998, when 24-hour electricity became available. Restaurants, hotels, and stores were now able to purchase a wide variety of perishable foods that could be stored for prolonged periods refrigerated or frozen, without the need for private generators. Shops and restaurants began offering ice cream. Hotels added air conditioners and increased their fees. The advent of direct-dial telephone and internet services in 2000 was a boon to businesses, providing direct contact with the outside world, enabling them to order

products and coordinate the coming and going of tourists.

In 2001, UNESCO's World Heritage Site declaration was expanded to include the Galapagos Marine Reserve.

The Quarantine Inspection System for Galapagos (SICGAL) was initiated in 1999 to reduce the potential for new introductions of exotic species. Invasive introduced species compete with and often replace native species and are the single greatest threat to maintaining the islands' ecological integrity. Specially trained SICGAL inspectors now search incoming cargo shipments from boats and planes, as well as luggage carried by tourists and residents.

A major success story in the history of conservation in Galapagos occurred in 2006, when the multi-year, multi-million dollar Isabela Project was successfully completed. The GEF/UNDP-funded project resulted in the complete eradication of goats and donkeys from Santiago and most of Isabela. The resulting recuperation of the natural ecosystem has been nothing short of remarkable.

Population Growth

Rapid and sustained population growth, beginning in the 1970s, was primarily driven by the inflow of tourism dollars that attracted Ecuadorian immigrants. However, extenuating circumstances, such as a meltdown of the national economy and political turmoil during the 1980s and 1990s, also motivated the influx of Ecuadorians from the mainland.

Ecuador's economy crashed when the world price for its chief export, oil, began to decline in the 1980s. Between 1981 and 1991, the Sucre – the national currency at the time – lost a staggering 98% of its value, plummeting from 25 to 1,250 Sucres per U.S. dollar. During the 1990s, the



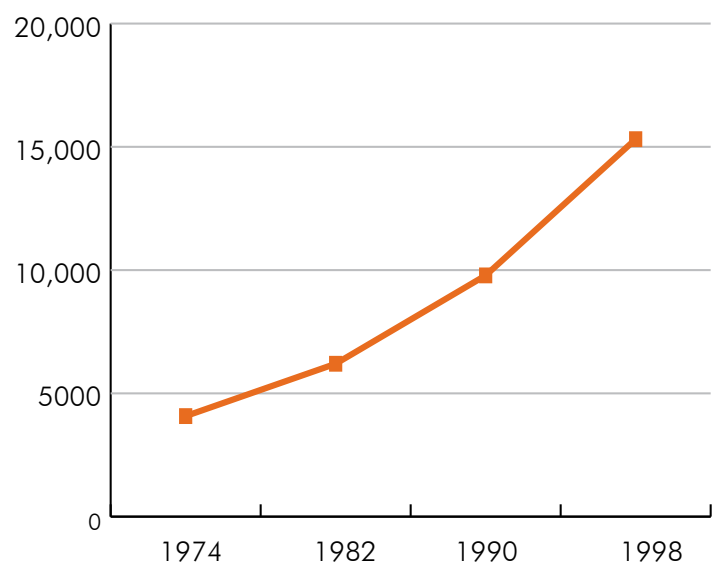
crisis escalated into a full-fledged economic meltdown. A barrage of other problems also besieged the country. A short border war with Peru in 1995, constant incursions by Colombian revolutionary groups (FARC and ELN), and the illicit flow of drugs between Colombia and Peru forced the government to spend millions to beef up its military and police forces. Increasingly depressed oil prices during the end of the 1990s caused the economy to shrink by an additional 7.3%. Politicians and the government in general were unable to restore the economy, consumer confidence, or political stability. The influx of refugees from war-torn Colombia further strained the country's economy and the government's ability to provide essential services. The Sucre continued to fall precipitously - from 4,000 per U.S. dollar in 1997, to 11,700 in 1999, to over 24,000 the following year. Real per capita income was eroded, inflation was out of control, and bank interest rates topped 70%. By the year 2000, 9.5 million of the country's 13.5 million inhabitants lived below the poverty level (The Economist, 2003). The foreign debt soared to an all-time high in the late 1990s. An unprecedented default on international loans, a collapse of the banking system, and a freeze on private assets to stem the outflow of hard currency caused further havoc. Austerity measures dictated by the International Monetary Fund to restore economic stability fell hardest on the poor. Domestic fuel prices doubled in 1999, causing another round of hyperinflation. Public demonstrations and strikes, particularly by the indigenous population, caused havoc and led to the declaration of a state of emergency. Life was an endless struggle for most Ecuadorians. The unemployment rate in early 2001 topped 20%, while underemployment was calculated at 60%.

In the spring of 2000, the government abandoned the Sucre and adopted the U.S. Dollar as its legal tender and the Ecuadorian economy began to recover. "Dollarization" and the surge in oil prices spurred positive economic

growth. The 2006 census should provide insight into how or if Ecuador's economic renaissance has impacted population growth in Galapagos. Disparities in income and employment, economic reform, and political instability are still major issues. Between 1996 and 2005, the country had eight presidents.

The turmoil on the mainland caused a mass exodus of Ecuadorians, with ramifications for Galapagos. According to *El Comercio* (22 Nov. 2001), during the 1990s alone, between 15-20% of the nation's residents fled the country (mostly to Spain and the United States). Others sought refuge in Galapagos, one of the few bright spots in the beleaguered national economy, as its economy was buoyed by tourists' dollars and there was a demand for labor. Between 1974 and 1998, the population in Galapagos more than tripled, from 4,078 to 15,311 (Fig. 2). Approximately two-thirds of the population growth was attributable to immigration (WWF, 2003).

Figure 2. Total Population Growth in Galapagos, 1974-1998





IV. The Galapagos Tourism Industry

Ecotourism as defined by the World Conservation Union (IUCN, 1997) is “environmentally responsible travel and visitation to natural areas, in order to enjoy and appreciate nature (and any accompanying cultural features, both past and present), that promote conservation, have a low visitor impact, and provide for beneficially active socioeconomic involvement of local people.” If one looks solely at the direct impact of visitors on visitor sites in Galapagos, one would be hard pressed to find other areas where the objectives of ecotourism have been so successfully achieved.

From its humble beginnings a little over three decades ago, Galapagos tourism has transformed the once “worthless Clinker Islands” into one of the world’s most famous ecotourism destinations. It has created both economic and political clout that helps to protect the islands’ fragile ecosystems and simultaneously generated a flow of dollars into the local, national, and global economies, at an ever-increasing rate. Improvements in local transportation, communication, infrastructure, health, and socioeconomic wellbeing are directly attributed to the tourism industry. Since its inception, over 1.5 million visitors have experienced the unique natural wonders of Galapagos. The resulting negative impacts are addressed below, but on the uninhabited islands, Darwin would still recognize the places he visited 170 years ago.

The tourism industry is changing and evolving to meet changes in demand and opportunities. The tourist fleet and the services it offers are constantly being upgraded. The Park Service is improving National Park and Marine Reserve infrastructure to enhance visitor satisfaction and mitigate potential negative environmental impacts. New tourist-related activities, such as bay and snorkeling tours, kayaking, land-based diving,

visits to the highlands, camping, and horseback riding, were developed based on market demand, with little or no planning. A few companies offer sport fishing but there is controversy over whether this activity should be sanctioned. Regulations for many of these activities are yet to be developed.

While the impacts on many of the visitor sites may be minimal, the impacts on the area reserved for human settlements have been much more profound. Subject to fewer, less stringent and less enforced restrictions than in protected areas, colonized areas are constantly changing. Hotels are being built, renovated and expanded; streets near the waterfront, particularly in Puerto Ayora, are lined with restaurants, bars, jewelry and souvenir shops, and multi-story buildings that often block the view of the bay. Urban sprawl is creeping into the highlands. Traffic is so heavy that police are stationed at busy intersections to direct it. The first street lights in Galapagos were recently installed in San Cristóbal. In 2006, San Cristóbal completed construction of a new, tourist-friendly dock to replace the old and somewhat dangerous one and is currently revamping its waterfront in the hopes of attracting more tourists. Residents on Isabela were anxiously anticipating the opening of the new and most architecturally advanced airport in the archipelago, and the subsequent transformation of their economy.

Tourists’ Profiles

Based on the various data sources and analyses, it is estimated that the number of actual tourists that arrived in Galapagos during 2005 was just over 100,000. Approximately 19% of all tourists were Ecuadorian residents. Park data for the first five months of 2006 indicate that the number of total visitors was up 15% from the previous year. If the trend holds, above 140,000 will visit the islands during 2006. However, park data also reveal that about 20% of the visitors were non-tourists, resulting in a 7% increase in the number



of actual tourists. Consequently, the number of tourists (non tourists removed from data) covered in this study, from July 2005 to June 2006, is estimated to be slightly higher than 105,000.

Data compiled by the Park from visitor entrance forms between July 2005 and June 2006 confirm that 17,038 visitors arrived for reasons other than tourism and 852 came for business, giving a total of non-tourists of 17,890. It is logical to assume that most of these non-tourists were Ecuadorians. Consequently, this study assumes that about 17,500, or about half of all Ecuadorian visitors that pay the park entrance fee, are tourists, and the rest come for reasons given above. This estimate is supported by data from nearly 4,000 cruises by 80 vessels compiled by the Park Service and Port Captain, which reveal that Ecuadorians made up 8.2% of those taking tours on vessels. According to a survey of hotels, March and April are the peak months for Ecuadorian tourists who represent about 40% of their year-round clientele.

The structure of the Galapagos tourism industry reflects the diversity of tourists that visit the islands. Most foreigners come from the United States. Significant numbers also arrive from the United Kingdom and Germany. While most visit the islands to enjoy their remarkable nature, different groups demand and are able to pay for differing qualities of accommodations and services. The profiles presented below take these differences into account. They separate foreign visitors from Ecuadorian residents, whose average income is about 10% of that earned in North America and Europe. The foreign visitors are then separated into categories based on size of vessel and length of vacation (Table 1). Tourists in any of the categories may stay in hotels. The categories are:

- *Category 1* - foreign tourists that travel on the more costly large vessels (capacity for 40-100 tourists). Approximately 31% of all tourists fall into this category.
- *Category 2* – foreign tourists that travel on the

generally less expensive smaller vessels (capacity for 10-20 tourists). This category accounts for the largest number of tourists, 43%.

- *Category 3* – foreign tourists on vacations that last 70 days or longer; most are backpackers and students. This category accounts for about 7% of all tourists.
- *Category 4* – Ecuadorian tourists who reside on the continent; they predominantly stay in hotels. They represent roughly 1/3 of all visitors but only 19% of the total number of tourists.

Tourists on the larger vessels (Category 1) tend to be a fairly homogeneous group of older foreigners who have significantly higher annual incomes than the other tourists and book a package tour. An estimated 93% travel exclusively on vessels and 7% also spend time in a hotel. Ecuadorians comprise 6.2% of this group. On average, individuals spend 5.7 nights on board and 0.5 nights in a hotel. Tourists in this category are more likely to travel in groups or on charter tours and pay less than those who book the same cruise individually.

The largest number of tourists falls into Category 2. Their ages are more mixed than the other categories. They have lower annual incomes than those in Category 1 but significantly higher than Category 3 tourists. Nearly half come from Europe. Their average length of stay in Galapagos is basically the same as Category 1 tourists but they spend less time on board ships and more time in hotels.

Category 3 tourists are a hodge-podge of travelers on 70-day or longer trips. Most are young backpackers, primarily from Europe and Israel, students, and a few fairly well-to-do middle-aged foreigners. They are often favored by local communities as they are perceived to spend more money on hotels and in local restaurants. They travel alone or with a friend,



meeting fellow travelers along the way. The annual family income reported is the lowest of all foreign tourists but much higher than expected. This is possibly attributed to the fact that students and volunteers gave their parents' average earnings.

One student group was affiliated with the Jatun Sacha project on San Cristóbal. Hotel owners and business persons interviewed on

San Cristóbal stated that students attending the local branch of Quito's San Francisco University or volunteering at Jatun Sacha in the highlands contribute significantly to the island's economy. Ecuadorians, Category 4, receive significant discounts on domestic flights to Galapagos, travel with more companions and family, and spend more time in towns and far less on vessels. They also have significantly smaller incomes.

Table 1. Tourists' Profiles

Profile Characteristic	Foreigner Category 1	Foreigner Category 2	Foreigner Category 3	Ecuadorian Category 4
Average Age	50	44	28	38
<i>Income Distribution</i>				
\$50,000/Yr or Less	13%	26%	56%	
\$50,000-\$75,000/Yr	21%	32%	38%	
\$100,000/Yr Plus	66%	42%	6%	
# of Travel Companions Paid For	2.8	2.4	1.5	3.5
<i>Origin</i>				
North America	60%	39%	42%	NA
Europe	29%	48%	34%	NA
South America	2%	5%	2%	NA
Other	9%	8%	22%	NA
Booked a Package Tour	77%	68%	50%	33%
<i>Percent Staying in</i>				
A Vessel Only	93%	59%	26%	14%
A Vessel and Hotel	7%	17%	34%	5%
A Hotel Only	NA	24%	32%	81%
Private Residence/with Families				19%
<i>Nights in Galapagos Spent on</i>				
A Vessel	5.7	4.3	4.1	0.9
A Hotel	0.5	2.0	3.6	2.8
Private Residence/with Families				1.5
Total Days in Galapagos	6.2	6.1	7.7	5.2



The Tourist Fleet

Organized tourism began in the late 1960s when Lindblad and Metropolitan Tours began running scheduled cruises on the 12-passenger schooner Golden Cachalote. The 66-passenger Lina A was introduced the following year. Tourists lived on board; few ever came in contact with the local populace or local economy.

By 1981, the fleet had grown to 40 vessels capable of accommodating about 600 passengers, then peaked in 1996 at 90 vessels and subsequently decreased to 80 by 2006 (Table 2). Passenger capacity, however, steadily increased from 600 to 1,805 over the same

period. These seemingly opposed trends are explained by the fact that the capacity/vessel increased by 50% between 1981 and 2006, from an average of 14.9 passengers per vessel to an average of 22.5.

Between 1981 and 2006, vessel capacity increased 3-fold. During the same time period, the number of recorded visitors increased 7.5-fold, from 16,265 to 122,450 (in 2005). Profit-minded tour operators achieved this growth by: 1) increasing the number of cruises per year and thus days that their vessels spent at sea; 2) increasing the occupancy rate/cruise, and 3) converting vessels that offered 1-day tours (“day boats”) to those that offer live-aboard, multiple-

Table 2. Number of Tourist Vessels and Total Passenger Capacity, 1981-2006.

Year	1981	1991	1996	1997	2000	2006
Number of Vessels	40	67	90	84	80	80
Total Passenger Capacity	597	1048	1484	1545	1733	1805
Passenger Capacity/Vessel	14.9	15.6	16.5	18.4	21.7	22.6

Source: Galapagos National Park Service Tourism Unit

FLEET CAPACITY AND VESSEL OWNERSHIP

As of July 2006, the tourist fleet’s capacity was 1,805 berths. Forty-five individuals, companies, or families owned the 80 tour vessels operating in Galapagos (Table 3). Of these, 25 owners (57% of the total) owned one vessel each and cumulatively controlled 33% of all legal berths, the number designated in their tourism permits known as a “cupos.”* Ten possessed two vessels each and 25% of all berths. Seven owners possessed three vessels each and 28% of all berths. Fourteen vessels and 15% of all berths are held by three companies, one of which owns six vessels.

The tourism sector is competitive. Most owners cater to the higher income, predominately foreign tourists. At the other end of the spectrum are vessels oriented toward budget-

minded backpackers and Ecuadorians. Although competitive, some vessel owners work collaboratively, at times referring passengers to other vessels, hotels, and restaurants.

Based on data provided by the GNPS and CAPTURGAL, Taylor et al. (2006) analyzed vessel ownership according to the location of the owner during 2005 (Table 4). However, the number of vessels, berths, and vessel class vary from similar data obtained from the GNPS in 2006. For example, Taylor et al. (2006) list the number of berths at 1791 or 14 less than reported in this study.

* The “cupo” is the permit for a tourism operation within Galapagos provided by the Galapagos National Park. Each “cupo” includes a “patente de operación” where the number of passengers permitted in the vessel is designated. In the majority of cases, that number is 16. Therefore, a boat with a permit for 48 passengers would have 3 “cupos” for 16 passengers each. More information on “cupos” is presented in Section XIII: Critical Issues and Topics for Discussion.



Table 3. Distribution of Tour Vessel and Cupo (Number of Legal Berths) Ownership, 2006.

	Own 1 Vessel	Own 2 Vessels	Own 3 Vessels	Own 4 Vessels	Own 6 Vessels	TOTAL Vessels
Number of Vessels	25	20	21	8	6	80
Number of Owners	25	10	7	2	1	45
Percent of All Owners	0.54	0.22	0.15	0.04	0.02	0.98
Number of Berths	596	450	504	138	118	1805
Percent of All Berths	0.33	0.25	0.28	0.08	0.07	1.00

Sources: GNPS, 2006; Ministerio de Turismo, 2006

Table 4. Percent of Tour Vessels owned by Foreigners, Mainland, and Galapagos Residents, 1998 and 2005.

Vessel Class	% Owned by Foreign Residents		% Owned by Mainland Residents		% Owned by Galapagos Residents	
	1998	2005	1998	2005	1998	2005
Luxury	4.1	10.2	77.1	71.8	18.8	18.0
Standard	0	5.7	51.0	51.4	49.0	42.9
Economy	0	0	24.7	26.9	75.3	73.1
Day Tours	0	0	0	16.7	100.0	83.3
Total	2.1	6.5	56.2	54.5	41.7	39.0

Source: Taylor et al. 2006

According to Taylor et al. (2006), mainland residents owned 54.5% of all vessels in 2005, while Galapagos residents owned 39% and foreigners 6.5%. Mainland residents were most heavily invested in luxury class vessels, owning 71.8%. Galapagos residents controlled 83% of day-tour boats and 73% of economy class boats. Foreigners invested only in top end luxury and standard class vessels, owning about 10% and 6%, respectively.

Between 1998 and 2005, there was little variation in mainland ownership, while local ownership dropped by about 3%. During the same period, foreign ownership of vessels increased from 2.1% to 6.5%. Given that the luxury and standard vessels owned by foreign investors tend to be large, using the number of legal berths as a measure indicates that foreign ownership grew significantly. This is contrary to the 1998 Special Law, which stipulates that new vessels be owned by island residents.

FLEET OPERATION

Eight of the 80 vessels in the Galapagos tourist fleet are large 40- to 100-passenger vessels that operate more efficiently than the remaining vessels (Table 5). Their average potential capacity is 76 passengers per night. The 72 remaining vessels have capacities ranging from 10 to 20, with most having 16, and an overall average of 17 passengers per night. Although the larger vessels account for only 34% of the total passenger capacity, they spend a little over 50% more days at sea and have higher rates of occupancy per cruise. Consequently, the larger vessels account for approximately 46% of all annual vessel-occupancy-days. They also cater to a slightly higher percentage of foreigners.

The fleet size and performance increased significantly between 1991 and 2006 (Table 6). The number of vessels increased from 67 to 80, accompanied by an increase in vessel size.



Table 5. Fleet Operation Summary by Vessel Class, June 2005 to May 2006.

	Large Vessels	Other Vessels	Fleet Total
Number of Vessels	8	72	80
Total Number of Legal Berths	606	1199	1805
Average Number of Berths/Vessel	76	17	22.6
Percent of Total Fleet Berths	34%	66%	100%
Percent of Foreigners Aboard	93.6%	90%	91.8%
Percent of Ecuadorians Aboard	6.4%	10%	8.2%
Total Number of Days at Sea/Year	2569	15,181	17,750
Average Number of Days at Sea/Vessel/Year	321	211	222*
Average Rate of Occupancy/Cruise	87%	78%	81%*
Total Number of Passenger Nights/Year*	165,671	197,555	363,226
Percent of Total Passenger Days	45.6%	54.4%	100%
Average Number of Passenger Nights/Vessel/Year	20,709	2,743	2,676*

* Weighted to reflect that 10%, or 8 boats, are large vessels and 90%, or 72 boats, are other boats.

The number of legal berths rose from 1,026 to 1,805. Eleven day-tour boats increased their cupo size (most to 16 passengers) and began to operate as live-aboard, multi-day boats. The number of day boats thus dropped from 16 (with a total capacity of 200 passengers or an average of 12.5 passengers/vessel) to 5 (with a total capacity of 92 passengers or an average of 18.4 passengers/vessel).

The occupancy rate per cruise was basically the same in 1991 and 2006. However, the average number of days that a vessel spends at sea jumped from 153 days to 222. As a consequence, total passenger-nights increased from 145,408 to 363,226. However, visitor days increased 1/3 more than vessel passenger days. This seems to reflect the rapid growth in land-based tourism, in comparison with the "floating hotel" model of tourism, which also catered to more business people and non tourists.

Table 6. Changes in Fleet Structure and Performance, 1991 and 2006.

	1991	2006	% Change
Number of Vessels	67	80	19
Number of Legal Berths	1,026	1,805	76
Total Number of Days at Sea	10,710	17,750	66
Ave. Number of Days at Sea/Vessel	153	222	45
Total Number of Vessel Passenger Days	145,408	363,226	150
Total Number of Visitors	40,746	122,453* *2005	201

Sources: Epler, 1993; data compiled from the GNPS and Port Captain of Puerto Ayora



CRUISE AND TRAVEL AGENCY PRICES AND FEES

Per night prices paid by tourists for a Galapagos cruise were calculated from tourists' surveys. The retail tour prices reported include the price of the vessel as well as commissions or fees charged by travel agencies. In order to calculate prices and revenues received by vessel owners, the estimated amount retained by travel agencies was factored out. The vessel prices include accommodations, on-board meals, island sightseeing, guide and lecture services, and transfers in the islands and between the airport and yachts in Galapagos. Not included are air fares, park entrance fees, tips, drinks, most onshore meals, souvenirs, and any other extras not specifically mentioned in brochures or on web sites.

Insights into the operations of travel agencies presented below were provided by David Blanton, Executive Director of the International Galapagos Tour Operators Association (2007). The structure of the travel agency industry and amounts retained for advertising and booking tours are complex and range from small mom-and-pop-type operators, with a few employees all in one office, to large companies and wholesalers that operate numerous locations and offices, publish and distribute travel brochures, offer tours throughout the world, and consolidate tours from small travel agencies. Most vessel operators work through wholesalers or brokers as it is more convenient and efficient to work with a single large company rather than small individual agencies scattered throughout the world, each with a limited number of bookings. Over the last decade, booking through the internet has become increasingly popular. Many Galapagos vessel operators, particularly the large ones, own travel agencies in Ecuador and abroad, and/or book reservations through the internet. Doing so adds costs but then allows these companies to retain commissions that would otherwise flow to independent travel agencies and wholesalers.

Travel agents dealing directly with Galapagos vessel and tour operators generally do so through a prearranged agreement. Commonly, the Galapagos tour operator will fix a net price/tourist that reflects the value of the booking and then agree to let the travel agent keep a designated commission or fee. The reputation and size, thus the number of potential clients, of the travel agency and its historical ties to island tourism are important factors in determining the amount the agency will retain for its services. Owners of small vessels or hotels in Galapagos that accommodate a limited number of guests are less often involved in these types of agreements.

Internationally-based travel agencies receive between a 15-25% commission or markup, with 20% being the norm. Ecuadorian-based travel agents, with significantly fewer expenses, operate on lower margins. Some receive a 20% commission but then pass 10% of that on to their clientele in the form of lower tour prices in order to attract more customers and strengthen their position in the market. Knowing this, some tour operators may negotiate a lower commission for Ecuadorian travel agents and pocket the difference. In general, the commission retained by Ecuadorian travel agencies is 10%.

Approximately 2/3rds of all tourists reported booking their vacation through the internet or in person with a travel agency located outside Ecuador, while the remaining 1/3rd dealt directly with Ecuadorian companies. Given the travel agency commissions identified above, the average amount retained by all travel agencies is 16.7% (.66 x 20% from outside Ecuador, plus .33 x 10% from within Ecuador), while the vessel owners – on average – receive 83.3% of the retail price.

Nearly all Ecuadorian travel agencies are located on the mainland; the few that are located in Galapagos are generally owned by a vessel operator who works directly with on-site tourists, primarily Ecuadorians and Category 3 tourists.



Consequently, most of the revenues from tour bookings flow to travel agencies on the mainland and overseas and are included as income to the national and international economies, not Galapagos.

VESSEL PRICES AND REVENUES

From June 2005 to May 2006, the average retail price paid by consumers to travel on one of the eight large vessels was \$430/night, versus \$372/night for the remaining fleet. The average weighted price/night for a cruise paid by all tourists was \$400. Factoring out charges by travel agencies, large vessels received \$358/passenger-night whereas smaller vessels retained approximately \$310/passenger-night. The overall average was \$333. Sample tables of Galapagos and similar international tours and prices, including fees to travel agents, listed on the World Wide Web during 2006, are presented in Annex A.

Prices paid by Category 3 tourists (students and backpackers) are combined with Category 2 tourists, as they tend to travel on the same vessels. The data indicate that there is no significant difference between the prices paid by Ecuadorians and foreigners on any given boat. Traditionally, the tourism industry employed a two-tiered pricing system whereby Ecuadorians paid substantially less than foreign visitors. This practice began to disappear in 2000, when the Sucre was dropped as the national currency and the economy “dollarized.” There are still a few cruise vessels that give a discount to Ecuadorians but the amount is generally minimal.

Between June 2005 and May 2006, Galapagos tourist vessels generated \$120.5 million in

revenue (Table 7). The eight large vessels brought in nearly \$59.3 million or 49% of the total received by vessel owners.

During 1991, average cruise prices, including travel agency fees, ranged from roughly \$180/night on the 10 large and most expensive “fixed-itinerary” vessels, to \$117/night on vessels that were classified at that time as “flexible-itinerary” vessels, to \$32/trip for day-boats. The average price/night for a cruise was approximately \$135.

By 2006, with travel agency fees included, tourists on the eight large vessels reported paying an average of \$430/night or 139% more than during 1991. Over the same period, the average nightly price quoted for other vessels increased 118%. Overall, prices increased 7%/year over the 15-year period. This is consistent with a sample of prices charged by vessels and listed on the internet in January 2007, which revealed that most vessels had increased prices by 5-14% over their 2006 listings.

Between 1991 and 2006, revenues received by the Galapagos tourist fleet and travel agencies jumped 725%, from \$19.7 million (Epler, 1993) to \$145.5 million. Of the total revenues in 2006, travel agencies retained approximately \$25 million, with \$20 million going to overseas travel agencies and \$5 million to Ecuadorian companies.

The annual rate of increase in revenues between 1991 and 2006 was a very respectable 14%, with the rapid rise attributable to a 7.5%/year growth in the number of tourists coupled with price increases.

Estimates of profits and costs are not addressed

Table 7. Estimated Prices and Total Revenues Received by Galapagos Tourist Vessels, June 2005 to May 2006.

	Large Vessels	Other Vessels	All Vessels
Number of Passenger Nights	165,671	197,555	363,226
Average Price/Night	\$358	\$310	\$333
Total Revenues	\$59,310,218	\$61,242,050	\$120,552,268



in this study. An effort to do so would prove both time consuming and frustrating as local business persons are extremely reluctant to provide the type of information required to make these estimates.

Island-based Tourism

HOTELS AND LODGING

A slow transition from the original “floating hotel” model of tourism to more land-based tourism

began in the late 1970s, when the towns began to establish themselves as tourist destinations. The trend continues today. As of 1982, there were 18 hotels in the islands capable of housing 214 guests, with San Cristóbal and Santa Cruz having nearly the same number of beds (Table 8). By 1991, there were 26 hotels capable of accommodating 880 persons, and by 2006, 65 hotels that could accommodate 1,668 guests. The average annual rate of growth between 1991 and 2006 was approximately 4.8%. During

Table 8. Land-based Tourism Infrastructure: 1982, 1991 and 2006.

	1982	1991	2006	% Change 1982-1991	% Change 1991-2006
Santa Cruz					
Number of Hotels, Pensions, etc	12	16	28	33	75
Number of Rooms			431		
Hotel Capacity	86	492	990	472	101
Number of Restaurants and Bars*	8	16	61	100	281
San Cristóbal					
Number of Hotels, Pensions, etc	4	6	23	50	283
Number of Rooms			217		
Number of Beds	82	315	449	284	42
Number of Restaurants and Bars*	9	9	35	0	289
Floreana					
Number of Hotels, Pensions, etc	1	1	1	0	0
Number of Rooms			16		
Number of Beds	24	21	36	-12	71
Number of Restaurants and Bars*	1	3	0	200	-100
Isabela					
Number of Hotels, Pensions, etc	1	3	13	200	333
Number of Rooms			91		
Number of Beds	22	52	193	136	271
Number of Restaurants and Bars*	2	2	18	0	800
Total					
Number of Hotels, Pensions, etc	18	26	65	44	150
Number of Rooms			755		
Number of Beds	214	880	1668	311	90
Number of Restaurants and Bars*	20	31	114	55	268

* Excludes hotel restaurants but includes cafeterias and soda bars.



this study, the author observed the continued expansion of hotel capacity on Santa Cruz - a floor was being added to one hotel and the Sol y Mar had been torn down and was being replaced by a much larger hotel.

Based on information from surveys at 42 hotels, 37 owners were said to live in Galapagos, 4 on the continent, and 1 in a foreign country. There is no evidence of horizontal integration of the hotel sector. Each hotel appears to have a separate owner. There is some vertical integration however, with at least 5 hotel owners also owning vessels.

Hotels have fared differently on each island. During the 1970s and early 1980s, the economy and hotel use on San Cristóbal, the provincial capital, was driven by the dramatic increase in government expenditures and employment, attributed to the discovery of and export of oil from Ecuador and the subsequent surge in oil prices. The burst in investment and the building of tourist-related facilities was further spurred by the opening of a new airport in the mid-1980s. Hotel capacity more than tripled between 1982 and 1991, from 82 to 315 rooms. However, the expected tourism boom never materialized. Three of the island's 13 hotels were closed by 1991 (Epler, 1993). Experiments with different types of accommodations, such as rental apartments, caused capacity to grow by about 2.5% per year after 1991. The situation, however, was still bleak in 2006, as several hotels remained closed or open in name only.

Hotels on Santa Cruz have been much more successful than on the other islands. As tourism increased, Santa Cruz emerged as the economic and tourist hub of the archipelago. Prior to organized tourism, Puerto Ayora had only two or three hotels, the largest of which was the Hotel Galapagos. By 1982, it had more but smaller hotels than San

Cristóbal and slightly more beds. By 1991, of the 26 hotels and 880 beds in the islands, 16 hotels and 492 beds (56% of the total capacity) were located on Santa Cruz. The number of beds continued to increase, doubling to 990 by 2006.

Isabela and Floreana have historically had fewer hotels and rooms than either of the other two inhabited islands. However, since 1991, the number of hotels more than tripled, from 4 to 14, and the number of beds increased from 73 to 229, with most of the growth on Isabela. Growth on Isabela, which had 13 hotels as of 2006, was in response to the opening of a small airport in 1996, large enough for inter-island flights. New hotels have recently been constructed in anticipation of the renovation of the airstrip and the construction of an expanded air terminal with the capacity for commercial flights from the continent, expected to be completed in 2007.*

HOTEL PRICES

Hotel prices quoted in this study range from \$8 to more than \$400 per night (Table 9). This is the amount received by the hotel and does not

Table 9. Hotel Prices by Island, 2006.

Island	Price Range	Average Price Per Night		Average Weighted Price*
		Foreigners	Ecuadorians	
Santa Cruz**	\$8-175	\$44.59	\$42.70	\$44.90
San Cristóbal	\$9-48	\$22.90	\$19.60	\$21.81
Isabela	\$10-35	\$17.30	\$16.80	\$17.10

* Prices are weighted to reflect the mix of foreign and national tourists.

** Excludes the Royal Palm Hotel, as its prices are significantly higher than those charged by other hotels (i.e., in excess of \$400/night) and its inclusion would skew the data.

As of September 2007, the new terminal and renovation of the airstrip were completed. However, flights remain as before (small interisland flights, military flights from the continent that also provide cargo and passenger service to the local community, and small private flights from Guayaquil for up to 10 passengers). To open a commercial airport that could service flights from the continent, the Directorate of Civil Aviation requires the construction of control towers, a large fire truck, and other technical requirements. There is no definitive date for the completion of these requirements.



include travel agency commissions. Travel agency fees are the same as for full tours, but it was not possible to ascertain the number or percentage of hotel clientele that booked reservations through a travel agency or the location of the agency. In 2006, foreigners paid 3-9% more than nationals, depending on the island. This is in marked contrast to 1991, when international visitors paid 65-100% more, and may be a reflection of the “dollarization” of the Ecuadorian economy in 2000. Hotels on Santa Cruz charge more than double those on the other islands.

HOTEL AND LODGING OCCUPANCY AND TOTAL REVENUES

Surveys revealed that higher-end hotels cater almost exclusively to foreigners, mid-priced hotels are frequented by more foreigners than Ecuadorians, and less expensive hotels and “pensiones” cater to a mix of budget-minded, foreign backpackers, students and Ecuadorians. Overall, 62% of hotel clients were reported to be foreigners and 38% Ecuadorians (Table 10). This is a complete reversal from 1991, when 65% of hotel users were Ecuadorian and 35% foreigners (Epler, 1993).

The mix of tourists visiting the three islands (interviews were not conducted on Floreana) differs. San Cristóbal reported the highest percentage of foreign tourists (67%). However, San Cristóbal receives far fewer tourists than the other two islands so the actual number of foreign visitors is comparatively low. The rates of foreign visitors on Santa Cruz and Isabela were 63%

and 55%, respectively. The higher percentage of non-Ecuadorian visitors to San Cristóbal appears to be attributed to the fact that international volunteers working on the island frequent the town on weekends and many backpackers and surfers fly to San Cristóbal from the continent as the flights are less heavily booked than those to Baltra. These visitors generally leave when transport to one of the other islands, primarily Santa Cruz, becomes available. This explains why the average length of stay on San Cristóbal is significantly less than on Santa Cruz, where tourists remain 46% longer, and Isabela, where the average stay of 3.5 nights exceeds that of San Cristóbal by 35%.

The hotel occupancy rates and the percent of foreigners and nationals staying in hotels presented here are based on estimates from hotel owners and receptionists. They are subject to dispute. First, they were difficult to correlate with park visitor data, which measures the total number of visitors, including non-tourists. Second, the Ministry of Tourism stopped collecting data on hotel occupancy several years ago so there is no official data for cross-checking. Third, data from tourist surveys were helpful but incomplete as many hotel users are not tourists. Fourth, many of those interviewed in hotels could not or were reluctant to answer some questions or gave inconsistent responses. Fifth, some hotels rent rooms on a long-term basis to non-resident workers, businessmen, and other non-tourists. Sixth, insightful research by CAPTURGAL (2004 and 2005) found that 2.6% of foreigners, 17.7% of nationals, and 5.5% of all tourists

Table 10. Percentage of Foreign and Ecuadorian Hotel Users and their Average Length of Stay by Island and Overall, 2006.

Island	Percent		Average Stay in Nights		
	Foreigners	Ecuadorians	Foreigners	Ecuadorians	Wtd. For All Tourists
Santa Cruz	63	37	3.5	4.4	3.8
San Cristóbal	67	33	2.5	2.8	2.6
Isabela	55	45	3	3.8	3.5
Overall Average	61.7	38.3	3.3	3.8	3.3

Source: A survey and follow-up interview, 2006



Table 11. Hotel Room Occupancy and Revenues by Island, 2006.

	Santa Cruz	San Cristóbal	Isabela & Floreana	Total (Wtd.)
Total # of Rooms	431	217	109	757
Maximum Occupancy Nights/Yr*	157,315	79,205	39,785	276,305
Occupancy Rate	70%	14%	31%	48%
Occupancy Nights/Yr	110,120	11,089	12,333	131,958
Ave. Wtd. Price/Night**	\$89.18	\$43.62	\$34.20	\$68.25
Total Revenues	\$9,820,501	\$483,702	\$421,789	\$10,725,992

* The number of rooms multiplied by 365 days a year.

** The weighted average prices assume two persons per room and reflect differences in prices paid by foreigners and nationals.

interviewed stayed in a private residence. Data gathered during the course of this study confirmed CAPTURGAL's findings. This further confuses matters and deserves future investigation.

Overall, Galapagos hotels had gross revenues of roughly \$10.7 million in 2006 (Table 11). This is significantly higher than the \$1.2 million they took in during 1991 (Epler, 1993). The annual compounded rate of growth over the 15-year period was slightly over 14%, similar to that of tourist vessels.

Santa Cruz, which is frequented by more visitors exceeded that of San Cristóbal, even though it has half the number of beds. This is attributed to the fact that the rate of occupancy and length of stay are higher than on San Cristóbal. However, prices are below those charged on San Cristóbal so the island's hotel revenues are lower.

OTHER ON-ISLAND EXPENDITURES

In addition to expenditures on vessels and hotels, tourists spend significant amounts on meals and beverages, souvenirs, diving, snorkeling and other tours, gratuities, and other items and services. The tourist surveys provide insight into spending by the various categories of

tourists (Table 12). However, restaurants, bars, and souvenir shops were not surveyed so the data were not cross-checked to verify estimates.

Ecuadorian tourists spend significantly more on-island than their foreign counterparts. As expected, Category 3 backpackers and students also outspend their foreigner counterparts.

When each category of tourist is weighted to reflect their importance in terms of percentage of all tourists, the average expenditure per tourist is \$114.65. Therefore, the total expenditures on the items identified above, based on a total of 105,000 tourists, are approximately \$12,038,250.

Table 12. Breakdown of On-island Expenditures (excluding hotels, park entrance fees, and conservation donations) by Tourist Category.

Expenditure	Foreign Tourists			Ecuadorians
	Category 1	Category 2	Category 3	Category 4
Crafts	\$43	\$31	\$18	\$34
Meals	\$18	\$26	\$30	\$69
Other*	\$28	\$46	\$88	\$72
Total	\$89	\$103	\$136	\$175

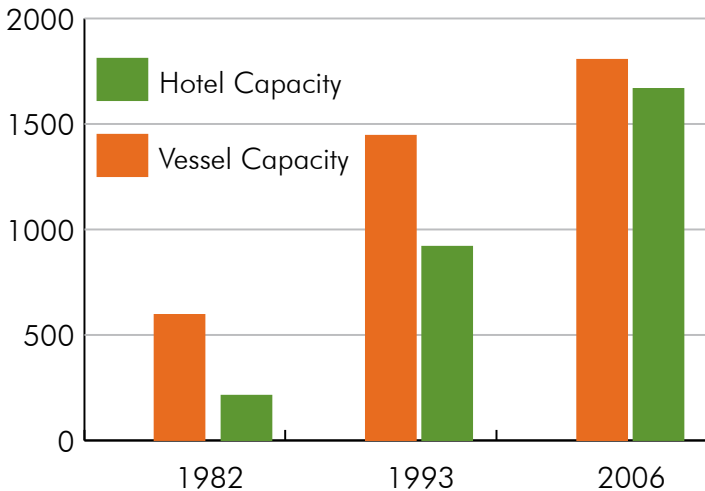
* Includes tours, tips, and miscellaneous expenditures.



Comparison of Vessel and Hotel Capacities

Both vessel and hotel capacities have continually increased since the 1970s, when an emerging tourism industry spurred the initial development of the sector. In 1982, the combined capacity of hotels and vessels was 811, with 26% in hotels and 74% on vessels (Fig. 3). Expansion in both continued into the early 1990s, but the rate of growth in hotel capacity began to exceed that of vessels. Total guest capacity reached 2,366 in 1991, with 39% in hotels. Between 1991 and 2006, the number of hotel beds increased by 90%, from 880 to 1,668, while there was only a 76% increase in the number of vessel berths.

Figure 3. Vessel and Hotel Capacities: 1982, 1993, and 2006



The trend continues. As of 2006, Galapagos hotels and tour vessels could accommodate 3,479 persons per night, with hotels accounting for 49% of the total. Additional rooms were under construction as this study was being conducted. The number of hotel beds may soon exceed the number of berths.

V. Summary of Tourists' Expenditures in Galapagos

Tourists' expenditures (excluding the park entrance fee and donations) on island-based vessels, hotels, restaurants, souvenir shops, and tours leaped from \$20.7 million in 1991 to \$143.3 million in 2006 (Table 13).

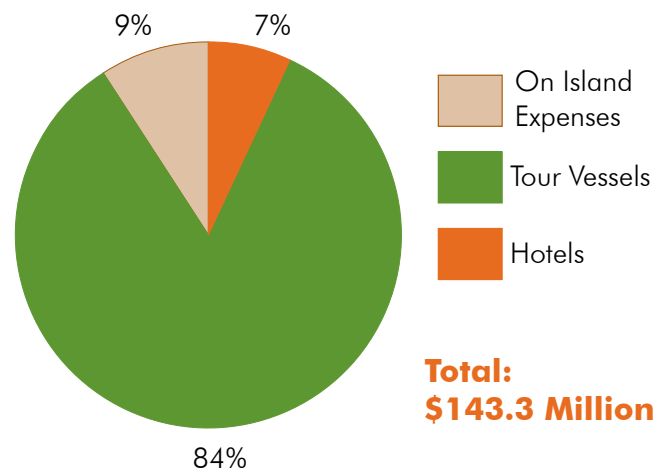
Tour vessels made the most impressive gains, with revenues (travel agency fees included) up nearly 11.8-fold in 15 years, while hotel revenues rose from \$1.16 million to \$10.73 million.

Eighty-four percent of the revenues identified in the table above were earned by tour vessels, while hotels and on-island businesses accounted for the remaining 16% (Fig. 4).

Table 13. Amount and Distribution of Tourists' Dollars Spent on Galapagos Vessels, Hotels, and On-island, 1991 and 2006.

Item	Millions of \$	
	1991	2006
Hotels	1.1	10.73
Tour Vessels	19.6	120.50
On-Island Expenses	NA	12.04
Totals	20.7	143.27

Figure 4. Galapagos Tourism Revenues by Source, June 2005 to May 2006





VI. Employment by Sector of the Tourism Industry, 2006

The National Institute of Statistics and Censuses (INEC, the Ecuadorian Institution charged with compiling and analyzing statistical data), periodically collects information on population and employment in the Galapagos Province. As of 2002, INEC calculated that 8,772 people were economically active in the archipelago and employed in 18 sectors. According to their data, the most important sectors and their percent of island employment were: transport, storage and communication (15.3%); vehicle and motorcycle servicing (11.2%); agriculture and ranching (10.3%); public administration (10.3%), and construction (7.6%). Although tourism was not listed as a separate sector, it, along with indirect employment in the support services, is one of the largest employers in Galapagos. Wilen and Stewart (2000) reported that in 1999, 40% of the Galapagos population was employed within the tourism sector or connected businesses. Other sources estimate that tourism is responsible for 78% of all employment.

Given the time and financial constraints, it was not practical to gather comprehensive data on tourism-generated employment. Employment information for some of the more obvious sectors of the tourism industry was collected from tourism websites that list the number of crew and guides on each vessel, written and personal surveys, the National Park Service, the Ministry of Tourism, and the port captains of the different islands.

Tour vessels are the largest employers. If all are at sea simultaneously, there are approximately 725 crew members and slightly over 100 guides on board. During a typical cruise, there are 2 crew members working per every 5 tourists and 1 guide for every 16 passengers. On the large, luxury vessels, the ratio of passengers to crew is 2:1 and there is a guide for every 10 tourists.

The crew and guides are on board 24 hours a day. To enable them to have time off, vessel owners employ various rotation schedules. Shifts of 6 weeks on and 2-3 weeks off are common, while others are 4 weeks on and 4 weeks off. Without specific information on which boats use which rotation, it is difficult to determine the total number of crew members employed. A conservative estimate is 1,100.

Small vessels may employ as few as 4 crew members, whereas the largest vessels employ slightly in excess of 60. The overall average is 12 crew members per vessel. A large and growing percentage of these are Galapagos residents. Tour operators agreed that there is a shortage of experienced and high caliber crew members so they often resort to hiring crew from the mainland.

As of June 2006, there were 303 active naturalist guides: 129 in level I (first time guides with a high school diploma), 105 in level II (level I guides with 4 years experience in Galapagos guiding), and 69 in level III (guides with a university degree and at least two languages). Some are employees of a given vessel or company and work on a regular schedule or rotation. Others work on a free-lance basis, when they want and/or when work is available. There are also guides who earn their living by giving tours on private lands (primarily in the highlands) and adjacent park lands. To remain active a guide must demonstrate that he or she has worked at least 120 days over the previous year.

Most vessel owners have on-island offices that provide administrative and logistical support, as well as machine shops and storage areas, where a significant number of people are employed. Many also have offices and travel agencies on the mainland. Given the poor response to the operators' survey, the number of on-island employees and their wages are not known.



According to the Ministry of Tourism, restaurants and bars employ 377 people, while hotels employ 355 (Table 14). Tour or travel agencies count for more than 100 employees. A large but unknown labor force is employed selling souvenirs, jewelry, art, handicrafts, ice cream, water, soft drinks, and other small items to tourists. The number of employees identified here represents a fraction of the total directly employed by tourism. In addition, there are many that are indirectly employed that service or sell to tourist-dependent businesses. Santa Cruz employs three of every four persons working in these sectors. Employment on Isabela is low due to

Table 14. Direct Employment by Sector of the Tourism Industry, 2006.

Employment Sector	Santa Cruz	San Cristóbal	Isabela & Floreana	Total
Tour Agencies	72	18	7	97
Lodging	244	71	40	355
Restaurants, Bars, Etc.	225	102	50	377
Tourist Vessels*	870	230	0	1,100
Guides**				303
Total	1411	421	97	1929
Percent	73%	22%	5%	100%

* Excludes on-island employees.

** The locations of guides are not known.

Sources: Personal interviews; surveys; Ministerio de Turismo, 2006

VII. The Galapagos National Park Service

The Galapagos National Park Service (GNPS), responsible for the management of both the Galapagos National Park and the Marine Reserve, is the largest and most important organization in the archipelago. Its projected budget for 2006, \$11.1 million, was up 31% from \$8.46 million the previous year, and dwarfs the budgets of all other public and international institutions in the province. If estimates of the value of in-kind donations—such as donated labor, technical and staff support, vehicles, vessels, computers, discounts on air fares, etc.—were available, the GNPS budget would be much higher.

Nearly half of the park’s funding was derived from visitor entrance fees (Fig. 5). The central government contributed 27%. Fines and permits together generated 21% of the total budget. Various other sources contributed the remainder. Broken down differently, the park

earned 70% of its budget through entrance fees and self-financing, 27% came from the central government, and donations amounted to 3%.

The current schedule of visitor entrance fees was implemented in 1993 (Table 15). Previously, foreigners were charged \$40 and Ecuadorian nationals \$0.60. The fee structure was revised in an attempt to provide the GNPS with a degree of financial autonomy by reducing its dependence on the central government – whose financial support was shrinking due to the collapse of the national economy – and to simultaneously reflect demands placed on the National Park (Epler, 1993). Any increase in the number of tourists would generate greater funding for the additional work incurred.

At the time, many hotel and vessel operators raised concern that the higher fees would result in lower visitation. Their fears were unfounded and the visitor rate increased by 15% between 1993 and 1994, well above the average annual rate. However, about 75% of the entrance fees were siphoned off by the central government to



finance parks in mainland Ecuador. After numerous long and in-depth discussions, the Special Law for Galapagos was passed in 1998 and entrance fees were designated to be used exclusively to support institutions and local governments in the islands (Fig. 6). Fifty percent or \$5.26 million of the \$10.5 million projected to be generated by entrance fees during 2006 goes directly to the Park Service (includes 40% funding for the National Park and 5% each for SICGAL and the Marine Reserve). It should be noted that an assortment of annual tour vessel taxes, discussed below, were raised the same time that visitor fees were increased.

Table 15. Visitor Entrance Fees for the Galapagos National Park

Category	US\$
Foreign Tourists (non-resident)	100
Foreign Tourists under 12 years	50
Foreign Tourists (Andean Community or Mercosur residents)	50
Foreign Tourists (Andean or Mercosur residents under 12 years)	25
Citizens or residents of Ecuador	6
Citizens or residents of Ecuador under 12 years	3
Foreign Tourists non-resident attending a national academic institution	25
National or foreign children under 2 years	No Fee

Source: Galapagos National Park Service

Figure 5. Galapagos National Park Budget Sources, 2006

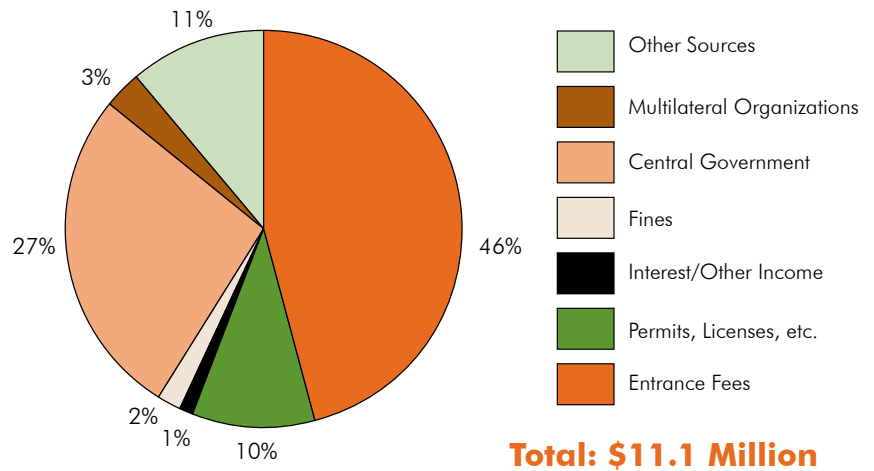
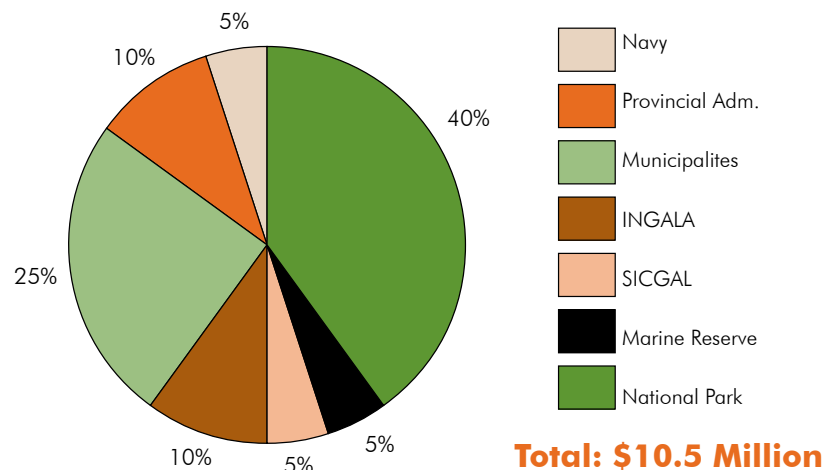


Figure 6. Galapagos Distribution of Park Entrance Fees





VIII. The NGO Community in Galapagos

The NGO community in Galapagos is represented by several international NGOs as well as several smaller local NGOs. The majority of the NGOs work in the area of conservation, but there are an increasing number of local NGOs that focus on other aspects of life in Galapagos.

International NGOs

There are several prestigious, international conservation NGOs that have a physical presence in the islands and others based outside of Galapagos, primarily the Friends of Galapagos organizations, whose sole focus is the conservation of the archipelago. The Charles Darwin Foundation (CDF) is the primary NGO in Galapagos. Other NGOs with offices in the islands include World Wildlife Fund, Conservation International, and WildAid.

and predates the establishment of the GNPS. Under a formal agreement with the Government of Ecuador, the CDF provides technical advice and assistance to the government on conservation issues in Galapagos. It works in close collaboration with the GNPS.

As the technical advisor to the Government of Ecuador on the conservation of the environment and biodiversity of Galapagos, CDF's work is necessarily apolitical. This intellectual position has on occasion run contrary to the personal interests of segments of the tourism industry, artisanal and mainland-based fishing fleets, would-be developers, and some local politicians. Funding for CDF has grown slowly – and during some years not at all – from \$4.5 million in 2003 to nearly \$4.8 million in 2006 (Table 16). Over the past two decades, a network of Friends of Galapagos organizations has been established in countries with Galapagos enthusiasts and a significant number of Galapagos tourists, to provide advocacy and ever-increasing donor

Table 16. Charles Darwin Foundation Funding (in 1000s of US\$) by Source, 2003-2006*

Source	2003		2004		2005		2006		2003-06
	\$	%	\$	%	\$	%	\$	%	
Government & Multilateral Donors	2,459	55	2,251	50	1,929	45	1,520	32	45
FOGOs & Foundations	1,204	27	1,443	32	1,492	35	1,803	38	33
Travel Partners	205	5	273	6	362	8	579	12	8
Prizes	206	5	45	1	30	1	341	7	4
Earned Income	237	5	299	7	347	8	400	8	7
NGOs and Individuals	114	3	100	2	87	2	102	2	2
Corporations	40	1	80	2	57	1	43	1	1
Total	4,465	100	4,492	100	4,304	100	4,778	100	100

* Excludes significant "In Kind" donations of vehicles, equipment, and technology.
Source: Annual Reports, Charles Darwin Foundation

THE CHARLES DARWIN FOUNDATION

The CDF's contributions to Galapagos are significant and date back to 1959, the same year that the Galapagos National Park was established. CDF's research station was inaugurated in 1965

support for the CDF and Galapagos conservation. In addition, a series of formal relationships (Travel Partnerships) have been established with some members of the tourism sector to further increase support for conservation.



BUDGETS FOR RESEARCH AND CONSERVATION IN GALAPAGOS, INTERNATIONAL NGOS

The total 2006 operating budget of the international NGOs who focus on research and conservation of the protected areas and biodiversity of Galapagos was approximately \$5.7 million (Table 17). The CDF budget equaled 83.7% of the total.

Local NGOs

There are numerous Ecuadorian, island-based NGOS that focus on conservation and sustainable development. Detailed information on the local NGOs, such as the Foundation for Responsible Alternative Development of Galapagos (FUNDAR), the New Era Foundation and Jatun Sacha on San Cristóbal, and El Consorcio Carmaren was not available. In general, their budgets are very limited. Other local foundations are still in the planning or start-up stages.

There are also Ecuadorian foundations and groups working with the municipalities, fishermen, and the agricultural sector. The Association of Interpretive Guides of Galapagos National Park (AGIPA), one of the guides' associations, was instrumental in raising funds to improve the library on Santa Cruz. The Galapagos Foundation is a partnership between tour operators, including Metropolitan, Wittmer and Andando Tours, and Celebrity Expeditions, among others. Their funding supports the recycling program on Santa Cruz and coastal cleanups. This foundation also provides educational tours for local students in the National Park and Marine Reserve.

Total expenditures for these groups during 2006 were estimated to be approximately \$150,000, with approximately \$100,000 or 66% of this attributed to The Galapagos Foundation. Complete data are not available, but comments received from industry personnel that reviewed

the initial draft of this study indicate that tour operators donated much more than identified above (Sevilla, 2007).

Table 17. The 2006 Budget for Research and Conservation in Galapagos (International NGOs)

Organization	2006 Galapagos Budget (US\$)	Percent of Total 2006 Conservation Budget
Charles Darwin Foundation	4,778,000	83.7
World Wildlife Fund	500,000	8.8
Conservation International	200,000	3.5
WildAid	230,000	4.0
TOTAL	5,708,000	100

IX. The Public Sector

Total expenditures by the public sector during 2006 were estimated at \$25,560,000 (Table 18). The roughly \$1,000 per capita may be the highest of any of Ecuador's provinces. This is attributed to the fact that expenses are higher in the islands, the return on investment (the inflow of hard currency or tourists' dollars) is exceptionally high, and 50% of the park entrance fees, as noted above, are earmarked for the sectional governments and institutions.

The budget for sectional governments totaled \$13.4 million or 56% of the total public spending. Of this, approximately \$10 million went to municipal governments. Santa Cruz, due to having the largest population, had estimated expenditures of \$5.27 million. Education and Health accounted for \$8.1 million of the \$9.3 million budget for Provincial Administrations. INGALA received the major portion of expenditures by autonomous institutions.



Table 18. Budgets of Public Institutions, 2006.*

Institution	Budget (US\$)
Sectional Governments	
Municipality of San Cristóbal	3,716,572
Municipality of Santa Cruz	5,271,560
Municipality of Isabela	960,653
Provincial	3,459,367
Sectional Governments – Total	13,408,152
Provincial Administrations	
Social Welfare	155,763
Farming and Ranching	440,538
Education	5,064,246
Health	3,032,972
Interior Government	625,013
Provincial Administrations – Total	9,318,532
Autonomous	
INGALA	2,286,981
SICGAL	446,160
Ministry of Tourism**	100,000
DIGMER	NA
The Navy	NA
Police	NA
Autonomous – Total	2,833,141
Grand Total	25,559,825

* Excludes the Galapagos National Park Service.

** Based on 2005 estimate.

X. The Galapagos-based Economy

One would be mistaken to assume that all of the revenues identified above enter the insular economy. The amount of tourist dollars that remains in the insular economy has long been a topic of debate. As explained below, there are significant leakages.

Comprehensive and historical data on the economy of Galapagos is lacking and restricted to a few publications. Epler (1993) estimated that during 1991, tourists spent \$32.3 million on cruises, hotels, travel agents, flights to and from the mainland, and park fees. De Miras (1995) concluded that only 7.6% of the amount spent on a Galapagos vacation enters the local economy. Wilen and Stewart (2000) found that foreign and Ecuadorian tourists' expenditures in the islands amounted to \$35 million and that an additional \$74.3 million was spent on the mainland. Taylor et al. (2006) conducted the most thorough examination of the island-wide economy and concluded that "total income (that is, the growth domestic product) increased by an estimated 78% between 1999 and 2005, placing Galapagos among the fastest growing economies in the world." Studies directed by Taylor et al. (1999 and 2006) found that average total expenditures

Table 19. Key Growth Indicators in Galapagos

Indicator	% Growth
Ave. Annual Rate of Population Growth, 1990-1998	6.4
Ave. Annual Rate of Visitor Growth, 1981-2005	9
Ave. Annual Rate of Growth in Hotel Beds, 1991-2005	4.8
Percent Increase in Vessel Berths, 1991-2005	72
Ave. Annual Rate of Growth in Vessel Revenues (includes travel agency fees), 1991-2005	14
Ave. Annual Rate of Growth in Hotel Revenues, 1991-2005	14
Ave. Annual Rate of Growth in Total Tourist Revenues, 1991-2005/06*	13
Increase in Island-Wide GDP, 1999-2005**	71.8
Percent of Tourism, Public and Conservation Revenues (GDP) Attributed to Tourism, 2005/06***	88

* Based on Taylor et al., 2006.

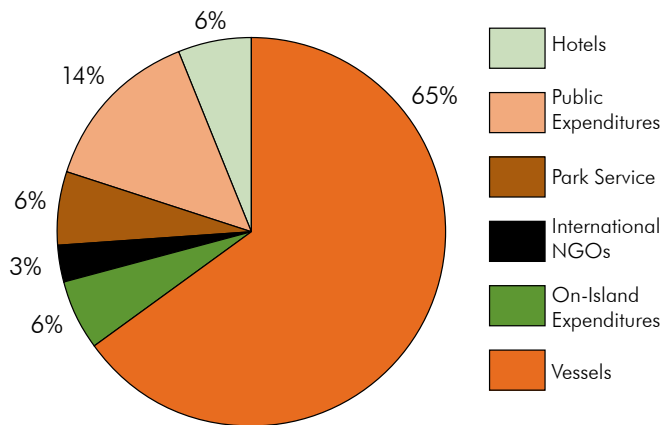
** Total tourism revenues growth lagged slightly behind growth in vessel and hotel revenues as air fares were little changed during this period.

*** Includes park entrance fees and tourists' donations included in the conservation and public budgets.



by foreign tourists increased from \$3,677 per person in 1999 to \$4,180 in 2005. Key indicators confirm the rapid rate of growth (Table 19). The estimates above indicate that the various sectors of the Galapagos economy combined generated approximately \$185.8 million between June 2005 and May 2006 (Fig. 7). Vessels

Figure 7. The Galapagos Economy, 2006



Total: \$185.5 Million

accounted for 65% of the total, with hotels and on-island expenses contributing 6% each. Public expenditures contributed 14% and research, conservation, and resource management (GNPS and international NGOs) 9%. If park entrance fees and donations that are included under conservation were added to tourism, the tourism industry would account for roughly 88% of the revenues identified. Although data on all sectors of the economy, such as agriculture, mining, etc., were incomplete or not available, they are known to be comparatively low. Fisheries are important but there are no estimates of the value of fish landed and sold in local markets. Fish exports are not included in the analysis but contributed a little over \$3 million in 2006, or about 1.6%, to the local economy.

It was hoped that this study would provide an estimate of insular GDP. However, very few vessel owners responded to a survey intended

to identify their on-island expenditures on labor, offices, support services, utilities, and the purchase of local produced goods such as fish and agricultural produce. In addition, estimates of the public budgets and funding sources for the National Merchant Marine and Directorate for the Coast (DIGMER), the Navy, and the Police were not available, as was the case for agriculture, mining, and the fisheries sectors.

The most thorough assessments of the insular economy were conducted by Taylor et al. (1999 and 2006). Taylor's (2006) Island Economy-wide Analysis, which was stated to be based on conservative estimates of on-island expenditures, found that between 1999 and 2006, total income grew 78%, or at an average annual rate of 9.6%, to \$73.2 million. Tourism, which is estimated to contribute \$62.9 million to the insular economy, was responsible for 68% of the increase. Simultaneously, the population grew by 60%, diluting potential gains in average per capita income, which grew by a modest 1.8% annually. Taylor warns that, "In real terms, adjusting for inflation, it is likely that per-capita income on the islands decreased."

Taylor et al. (2006) also examined the market linkages "that transmit the impacts of exogenous income injections (like tourist spending) through the local economy" and indirectly result "in significant multipliers of tourist expenditures in the local economy." The study revealed that even though tourists rarely purchase produce from farmers or fish from fishermen "a 10% increase in tourist spending (the addition of approximately 6,600 tourists in 1999) was predicted to result in increases of 3.9% and 4.7%, respectively, in incomes of agricultural and fishing households."

Taylor et al (2006) estimated the multiplier effects for major sectors of the Galapagos economy (Table 20). The multiplier effect occurs when new dollars enter into an economy and are re-spent by the recipients thereby creating additional



income. The multiplier varies by sector, reflecting such factors as different levels of leakages or outflows of money from the sectors in question. Galapagos fisheries, for example, were found to have a high multiplier, as earnings go directly to a fisherman's family and are used to buy locally-built boats and products. The direct outflows or leakages include purchases for items such as fuel, engines, and nets. The leakages are much higher for tour vessels that are constructed elsewhere and equipped with imported engines, generators, and high tech electronics and that consume huge amounts of fuel. Spare parts have to be imported. These are often financed by outside sources that have to be repaid. Many vessels are insured by international companies that charge hefty premiums. Travel agencies on the mainland and overseas take a cut of earnings to cover the services they provide. A much smaller amount of their revenues enter the local economy. Also, a significant number of Galapagos-based, tourist-oriented businesses employ workers whose homes and families are not located in the islands. Consequently, their salaries immediately flow out of Galapagos.

The multiplier was lowest for foreign tourists; their expenditures are primarily off-island so very little enters the insular economy. Each \$1,000 increase in spending by these tourists raised island

income by only \$218. However, due to the sheer magnitude of their expenditures, international tourists have a dominant impact on the local income and population growth. The multiplier effect for Ecuadorian tourists is more than double that of their international counterparts, \$429, as a larger portion of their expenditures is spent on-island. When spending on airfares, travel agent commissions, and other expenses incurred traveling to and from the archipelago are factored out, the multipliers, for international and Ecuadorian tourists, increase to \$467 and \$654, respectively (Taylor et al., 2006).

Taylor et al. (2006) found that proceeds from the off-island sale of fish and conservation spending have the largest income multipliers as a greater percentage of these funds flow directly into the pockets of island residents. Public sector expenditures, excluding those by the Park Service, have a low multiplier, as a significant amount is spent off-island in the purchase of building materials, equipment, and services not available in Galapagos.

XI. Contributions to the Mainland Economy

Before analyzing the national importance of Galapagos tourism, it is useful to quickly summarize the national potential and contributions of all tourism to the Ecuadorian economy. A USAID-funded study (USAID, 2006) states that, "As one of the world's 17 mega diverse countries, Ecuador has a great tourism potential."

The World Tourism Organization (WTO, 2006) reported that 861,000 international tourists entered Ecuador in 2005 (Table 21). The average annual increase since 2000 was about 6.7%, but tourism receipts only grew by 3.7% per year. According to the WTO, \$486 million was received in 2005. The average receipt per tourist

Table 20. Estimated Effect of a \$1,000 Income Injection into the Galapagos Economy by Source

Source	Impact on Total Income (US\$)
Tourism	
Foreign	218
Domestic	429
Conservation	803
National Park	688
Government	243
Fishing	
Santa Cruz	1,010
San Cristóbal	1,156
Isabela	1,282



Table 21. Ecuador’s International Tourist Arrivals, International Receipts, and Receipts/Tourist, 2000-2005.

	2000	2001	2002	2003	2004	2005
Arrivals (thousands)	627	NA	683	761	793	861
Receipts (US\$ million)	402	NA	447	406	367	486
Receipts/Tourist (US\$)	641	NA	654	533	463	563

Table 22. Ecuador’s Tourism Balance of Payments (US\$ million), 2000-2005. (Source: WTO, 2006)

	2000	2001	2002	2003	2004	2005
International Receipts	402	NA	447	406	367	486
International Expenditures	299	340	364	354	NA	NA
Balance of Payments	103	NA	83	52	NA	NA

was \$563, down from \$641 in 2000. It should be mentioned that most of the international arrivals recorded by the WTO are visitors from neighboring Colombia and Peru, whose lengths of stay, expenditures, and income are very distinct from the average tourist that goes to Galapagos.

The fact that the nation’s tourism balance of payments appears to be steadily declining is alarming (Table 22). International tourism receipts have been likened to export earnings, revenue that generates hard currency needed to pay international debts and finance domestic programs - the greater the earnings, the healthier the nation’s economy.

The sector’s performance has fallen far short of its potential. The USAID study found that, “The sector is expected to grow but currently faces stiff competition from Peru and Costa Rica – to which it has been losing market share over the last decade.” According to the WTO, the rate of growth has historically lagged behind that of other Latin American nations. Ecuador, in fact, experienced the smallest growth rate in tourism of the 19 Latin American nations covered by the WTO. Tourism in neighboring Peru and Colombia grew nearly three times faster. Also,

on a per tourist basis, receipts are half that of Costa Rica and Peru (WTO website). The main attraction that draws international tourists to Costa Rica is the country’s system of protected areas. Honey (1999) wrote that over 2/3rds of the tourists in 1999 visited a protected area. Ecuador has much more area protected,

a richer and more diverse culture, and more major climatic zones than Costa Rica, and yet is failing to capitalize on its natural and cultural endowments.

The WTO concluded that “Sustained development in Ecuador’s tourism has been somewhat compromised by the social, political and economic situation in the country.”

The Galapagos Component of Ecuador’s Tourism

International tourists, who come primarily to visit Galapagos, also spend a significant amount of time and money in mainland Ecuador. It is argued that their expenditures on the mainland would not have occurred had these people not visited the archipelago and, thus, are directly attributed to Galapagos tourism. To validate this, departing tourists were asked, “What would you have done had you been unable to visit Galapagos?” Follow up questions solicited information on other areas of Ecuador visited as part of their Galapagos vacation and the associated costs.

Only 22% of the international tourists surveyed



indicated that they would have visited Ecuador if they were unable to visit Galapagos (Table 23). The most common responses were: “not sure” or “would travel to another country.” In 1991, of the 251 international tourists asked the same question, 34% responded that they would have traveled in Ecuador (Epler 1993). This is an alarming change or downward trend that has severe economic implications for tourism on the mainland. Had it not been for the national significance of Galapagos, 78% of the foreign tourists visiting the archipelago would have spent their money elsewhere. Also, the Category 1 big spenders showed the least interest in visiting Ecuador.

When Ecuadorian tourists were asked what they would have done had they not been able to visit Galapagos, 31% responded “travel to another country.” This would result in an outflow of money and further diminish the national tourism balance of payments.

International tourists spent nearly as much or more time in mainland Ecuador as in the islands (Table 24), but much less money. Given that there are no direct international flights to Galapagos, all international tourists pass through airports at either Quito or Guayaquil, which are the most visited sites and the places where foreign tourists spend the most time and money. Visiting the volcanoes and markets of the Andes ranks second, with the coast being the least frequented area.

A concern of national importance is that the amount of time that Galapagos-bound tourists

reported spending on the mainland is less than half that reported in 1991.

The expenses for these mainland visits were estimated at \$874, \$666, and \$617, respectively, for Category 1, 2, and 3 tourists. Their average daily expenditures were \$174.80, \$78.35, and \$28.70. Total expenditures on side tours on the mainland amounted to approximately \$62,990,600.

In addition, mainland-based travel agencies received an additional \$5 million by booking foreign tourists.

Table 23. Vacation Alternatives had Tourists not been able to Visit Galapagos

Alternative	Foreigners				Ecuadorians
	Category 1	Category 2	Category 3	All*	
Stayed in Home Country	4.6%	2.7%	7.3%	5.80%	-
Traveled in Ecuador	12.7%	26.0%	28.2%	22.10%	59.0%
Not Sure	46.2%	46.6%	37.0%	41.40%	10.3%
Traveled to Other Countries	36.5%	24.7%	27.5%	30.70%	30.7%

* Weighted to reflect the importance of each group.

Table 24. Number and Location of Vacation Days Spent in Mainland Ecuador by Foreign Tourists by Category

Location	Category 1	Category 2	Category 3
Quito/Guayaquil	3.4	4.4	14
Andes	0.8	2.3	3.7
Amazon	0.6	1.2	1.3
Coast	0.2	0.6	2.5
Total – Mainland Ecuador	5	8.5	21.5

Galapagos Airlines

The two airlines, TAME and AEROGAL, that service the archipelago are based on the mainland. Nearly all of the revenues earned by transporting passengers and cargo to and from the islands remain on the continent.



Airline tariffs vary according to whether a passenger is a foreigner, Ecuadorian national, or Galapagos resident. The average weighted price (takes into account whether one flies to and from the islands from Quito or Guayaquil and adjusted to reflect seasonal price differences) is \$345.50 for foreigners and \$170.00 for nationals (Table 25). In 1991, air tariffs paid by foreigners were

Table 25. Estimated Airline Revenues from Visitors, June 2005 to May 2006

Visitor Category	Number	Wtd. Price (US\$)*	Revenues (US\$)
Foreigner	90,950	345.50	31,423,225
National	37,150	170.00	6,315,500
TOTAL	128,100	295.60	37,738,725

* Prices are weighted to reflect seasonal variations.

the same but nationals paid only \$120. In lieu of the absence of data from the airlines on the number of passengers that flew under each rate, park data on the number of foreign and national visitors are used to calculate airline revenues.

During the period covered in this study, approximately 128,100 foreigners and nationals visited the islands (this reflects a 15% increase in arrivals over 2005). Of these, approximately 98,600 were foreigners and 40,300 were nationals.

Galapagos airlines brought in an estimated \$37.7 million. This estimate is far below the amount actually grossed as it does not include receipts from Galapagos residents and others who did not pay or fill out the park entrance form, nor the earnings from carrying cargo.

Summary

From June 2005 to May 2006, \$105.75 million flowed into mainland Ecuador from tourism, for hotels and tours on the continent, air fare to/from the islands, and to travel

agencies. Total expenditures by foreign tourists in Galapagos, including park entrance fees and donations, and on mainland Ecuador were \$249 million. Although there is a margin of error in the estimates presented, the fact remains that in 2005, Galapagos received about 10% of the 861,000 international tourists that the WTO reported entered Ecuador, and that 10% generated approximately 55% of the \$486 million in total tourism receipts.

XII. The Global Economic Importance of Galapagos Tourism

In addition to expenditures incurred in Galapagos and mainland Ecuador, Galapagos-bound tourists also spend money on international air fares, foreign travel agencies, and visits to other countries, with the combined Galapagos/Machu Picchu tours the most popular.

Category 1 tourists spent an average of \$1,320 on international transportation and Category 2 tourists, \$1,448. The fact that Category 1 tourists spend less on international travel is attributed to group discounts and flight incentives offered by high-end tour operators and travel agencies. The average weighted expenditures for Categories 1 and 2 combined were \$1,395. The total spent on international travel, including a 5% or so travel agency commission, was \$108,391,500. Category 3 backpackers and students are not included in these estimates. Their estimates of spending on international travel appeared to be reasonable and averaged \$1,911. However, most failed to enter expenses incurred visiting other nations or gave estimates of their daily cost during their trip that were difficult to interpret. A little less than 3% of Category 1 tourists and 2.4% of Category 2 tourists visited other nations. The average amount spent in other countries for all tourists in these categories was \$372. Total expenditures for visits to other nations amounted to \$28,904,400.



Tables 26 and 27 present breakdowns of vacation expenditures by tourist category and Figure 8 presents a percentage breakdown of the amount spent by foreigners and Ecuadorians on Galapagos vacations. In total, Category 1 tourists spend significantly more than all other tourists.

Category 1 tourists spend the largest amount on both Galapagos tours and the mainland, although they pass less time on the mainland than other international tourists. If the costs for a cruise, the park entrance fee, and donations are deducted for each of the four categories, average

Table 26. Breakdown of Average Vacation Expenditures (US\$) by Tourist Category

Expenditure	Foreigners			Ecuadorians
	Category 1	Category 2	Category 3	Category 4
International Travel	1,320	1,448	1,911	NA
Other Intl. Expenditures*	548	240	NI	NA
In Mainland Ecuador	874	666	617	NA
Air: Ecuador/Galapagos/Ecuador	361	361	373	170
Galapagos Cruise	2,454	1,538	1,062	55
Park Fee & Donations	139	110	110	7
In Galapagos Towns	109	185	179	267
Hotels	20	82	43	92
Crafts	43	31	18	34
Meals	18	26	30	69
Other	28	46	88	72
Total	3,774	2,986	NI	478

NA Not applicable

NI Not included as expenditures listed generally reflected only international air fares and expenditures in Ecuador and Galapagos

* Expenditures in the country of residence and other countries visited.

Table 27. Total Average Weighted Expenditures by Foreign and Ecuadorian Tourists

Expenditures	Foreigners		Ecuadorians	
	US\$	%	US\$	%
International Travel	1,455	29.9	NA	NA
Other Intl. Expenditures*	325**	6.7	NA	NA
In Mainland Ecuador	715	14.7	NA	NA
Air: Ecuador/Galapagos/Ecuador	362	7.4	170	36
Galapagos Cruise**	1,730	35.5	55	12
Park Fee & Donations	117	2.4	7	1
In Galapagos Towns	167	3.4	267	56
Hotels	63	1.3	92	19
Crafts	33	0.7	34	7
Meals	26	0.5	69	14
Other**	45	0.9	72	15
Total	4,871***	100	478	100

NA Not applicable * Expenditures in the country of residence and other countries visited.

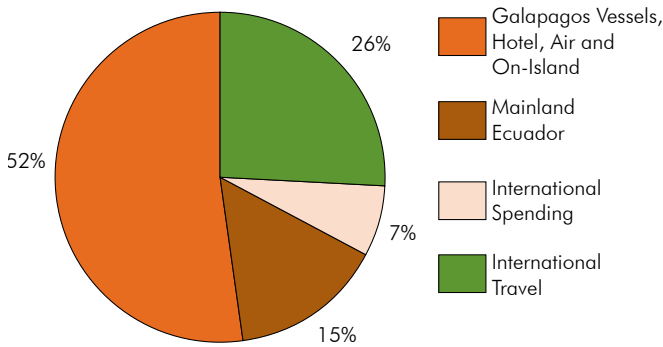
** Includes travel agency commissions.

*** Expenditures by Category 3 tourists are not included.



expenditures on Galapagos hotels, meals, crafts, and other expenditures are: \$109, \$185, \$179, and \$267, respectively. However, Category 2 and Category 1 tourists, by virtue of the fact that they comprise 43% and 31% of all tourists respectively, spent the most overall.

Figure 8. Breakdown of Total Expenditures by All Galapagos-bound Tourists, 2005-2006



The total average weighted vacation expenditures for the three categories of foreign tourist amounted to \$4,871, nearly \$700 more than the 2005 estimate of \$4,180 (Taylor et al., 2006). Most of the difference is attributed to higher reported international air fares. The estimate of the average expenditure by Ecuadorians is \$478 and significantly less than the \$688 cited by Taylor. Nearly half of the discrepancy is attributed to different estimates on the amount spent on cruise ships (i.e., \$55 versus Taylor's \$126) and the fact that this study did not include expenditures by Ecuadorians in the rest of Ecuador.

International tourists spent the greatest amount on cruises (including travel agency fees), \$1,730 or 35.5% of their total spending, followed by international airlines at \$1,445 or 29.9% of the total. An additional 14.7% was spent visiting the mainland. A mere 3.4% was spent in Galapagos towns and 2.4% went to park entrance fees and for donations. In contrast, Ecuadorians spent much more – in absolute and percentage terms – in towns and less on cruises and domestic air fares.

XIII. Critical Issues and Topics for Discussion

For more than four decades, managers, scientists and officials in the Galapagos have worked hard to balance opposing mandates in one of the most important ecosystems on Earth. There have been a long series of successful initiatives that have improved the management of the National Park and Marine Reserve, protected the unique biodiversity of the archipelago, and enhanced the socioeconomic wellbeing of Ecuadorians living on the islands and mainland. Many of the initiatives were hard fought and dragged on. The Marine Reserve, for example, was first established in 1986. In 1998, it was then expanded and a management plan finally implemented. Banning the killing of sharks to harvest only their fins and restrictions on the sea cucumber harvest involved long, intense battles.

This is not to say that there have not been, and are not, problems in the management of the National Park, Marine Reserve, towns, and farmlands. As early as 1994, UNESCO contemplated placing both the Marine Reserve and National Park on its List of World Heritage in Danger (Carrasco, 2004).^{*} This was motivated by instability in the leadership of the GNPS attributed to years of political and economic upheaval in Ecuador, severe cutbacks in the park's budget, civil disobedience in Galapagos and throughout mainland Ecuador, and exceptionally rapid growth of the archipelago's population. The situation was further complicated in the 1990s, by a bitter, and at times violent, series of conflicts over the finning of sharks, the explosion of the sea cucumber fishery, and illegal fishing and camping within the Marine Reserve by both the mainland-based industrial fishing fleet

^{*} In June 2007, UNESCO finally placed Galapagos on its List of World Heritage in Danger (see sub-section The Reputation of Galapagos in Section XIII, *Critical Issues and Topics for Discussion*).



and local fishermen. These conflicts and illegal activities threatened to negate three decades of conservation work and tarnish the reputation of the islands.

During the last few years, the situation in Galapagos has been relatively calm. However, many of the issues that confronted public officials in the past have not been completely resolved and must be addressed on an ongoing basis. Given the diverse parties involved, there is often no absolute right or wrong. Some of the more critical ongoing socioeconomic issues are discussed below.

Population Growth

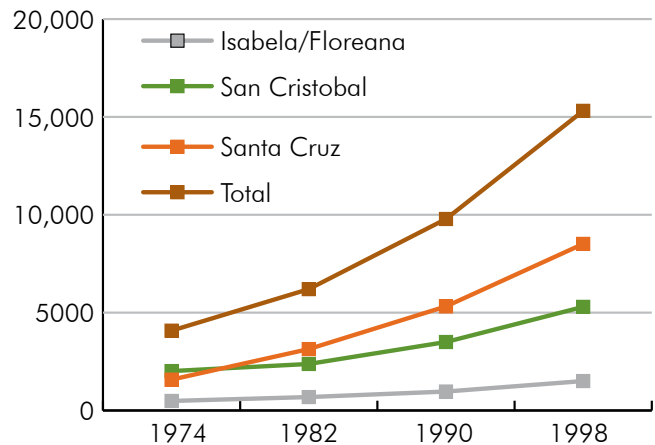
The land mass of Galapagos encompasses nearly 8,000 km². While nearly 97% is designated National Park, 3.3% or approximately 236.5 km² (100 square miles) is reserved for human settlements on four islands (WWF, 2003). Of the colonized area, 48% is on Santa Cruz and most of that, 114 km² or 84%, is located in the highlands and is considered the agricultural zone. Urban port areas in Galapagos cover less than 20 km² (Rodriguez, 1993). Half of the urban area is encompassed by Puerto Ayora on Santa Cruz, 29% is on Isabela, 17% on San Cristóbal, and the remainder on Floreana. The majority of the island of Baltra, with the central airport just north of Santa Cruz, is also predominantly park land. Two military bases, air force and navy, are located there.

The economic impacts of tourism on the insular economy have prompted the population to increase by 375%, from 4,078 in 1974, to 15,311 in 1998. Between 1982 and 1990, the number of inhabitants grew by an alarming 6.4% per year. If this rate continues, the population will double every 11 years. To put this in perspective, the rate of population growth for the country of Ecuador over the same period was 2.1% per year. Consequently, the present rate of growth in the

archipelago is believed to be several times higher than that of continental Ecuador.

Each of the four inhabited islands has fared differently. Their economies, population growth rates (Fig. 9), and standards of living are directly correlated with the number of tourists that visit each island.

Figure 9. Total and by Island Population Growth, 1974-1998



Economic and population growth on Santa Cruz, the financial capital of the archipelago, has exceeded that of the other inhabited islands combined. The population of this once-rustic outpost grew nearly tenfold between 1974 and 1999. As of 1998, 8,512 of the archipelago's 15,311 residents lived on Santa Cruz. The tourist revenues captured by the land-based economy are substantially higher than on any of the other islands. Relatively speaking, the small town of Puerto Ayora is a sprawling urban center with a vibrant economy. Hotels, restaurants, nightclubs, clothing stores, and souvenir and T-shirt shops line the sidewalks. Academy Bay is filled with moored cargo ships, fishing boats, private yachts, and a steady stream of tourist vessels.

Prior to tourism, San Cristóbal, the provincial capital, boasted 49% of the archipelago's inhabitants. Santa Cruz subsequently emerged



as the center of tourism and surpassed San Cristóbal in the late 1970s. The residents of San Cristóbal were clearly envious of the growth in prosperity occurring on Santa Cruz. During the early 1980s, community leaders in San Cristóbal organized “mingas” – collaborative efforts to achieve a common goal - to construct an airport near the port town of Puerto Baquerizo Moreno. Young and old, male and female, fisherman and bureaucrat each donated time and labor to the effort. Pressure was brought to bear on the Ecuadorian government and the project was completed in 1986. Simultaneously, funds started to flow into building new hotels, tourist shops, restaurants, a museum, and better infrastructure. Economic growth resulted in migration; the island’s population increased at 3.3% per year, from 2,377 in 1990 to 5,295 in 1998. Within a few years of the opening of the airport, tourism replaced government as the largest employer. Fearing that land would be bought up and developed by outsiders, the municipality and townspeople called for tourism with a local base. However, by the late 1990s, the growth rate of San Cristóbal’s economy began to fizzle, while Santa Cruz continued to thrive.

Isabela and Floreana, until recently, had little involvement with tourism and have the smallest populations. A third airport capable of handling small planes that fly between the islands was inaugurated on Isabela in 1996 but had little impact on local tourism. Life on the island should change when the renovated airport finally meets all of the technical requirements for commercial flights from the continent. Details and dates are as yet unclear, but it is expected that small 50-70-passenger airplanes will begin scheduled flights between the mainland and Isabela, perhaps as soon as 2008. Isabela has the richest natural endowment of any of the inhabited islands and therefore the greatest potential for land-based tourism. There is speculation that the island will become a major tourism hub. As on San Cristóbal, there is concern that wealthy outsiders

will come in and reap benefits that residents believe should be theirs. Consequently, the community is seeking to develop its own identity and model of tourism.

The economy of Floreana is still reliant on small-scale agriculture, but some residents are linking development to tourism. It seems highly unlikely that the island will escape the trends occurring elsewhere, even if the citizenry prefers to limit growth.

There have also been changes in the distribution and characteristics of the population on each island. Prior to tourism, the majority of the population lived in the highlands. In 1974, 41% of the population lived in rural areas, while only 14% did so in 1998. Urban areas have experienced exceptionally high and sustained rates of population growth. As of 1998, 86% of island residents lived in port towns. Between 1990 and 1998, the urban population grew by more than 7% per year.

One has only to look at Puerto Ayora to realize that tourism is driving population growth. The surge in population during the 1970s coincided with the birth of tourism. Between the early 1970s and 1981, the number of vessels working out of the port grew from about 5 to 40. Few of these vessels visited the other populated islands. An unprecedented inflow of public funds during this period also contributed to growth. The population showed signs of adjusting to tourism during the 1980s and 1990s. The opening of the airport on San Cristóbal in 1986 shifted a portion of the economic and population growth to that island. Over a 24-year period, Galapagos tourism grew by an average of 9.4% per year and Puerto Ayora’s population by 9.1% per year (Fig. 10 and Table 28). For each 1% growth in the number of visitors, the town’s population grew by .97%.

Taylor et al. (2006) took an archipelago-wide view of the relationship between the number of



visitors and population growth and concluded that “a 10% increase in tourist spending (the addition of approximately 6,600 tourists in 1999)” led to “an increase in population, via migration, equivalent to 5.7% of the existing island workforce.”

They added, “Given a high migration elasticity, every increase of \$3,000 in total island income resulted in the addition of approximately one person to the islands’ population, via migration from mainland Ecuador, between 1999 and 2005.”

Island by island, population densities have increased and, as of 1998, ranged from 39 inhabitants per km² on Isabela and Floreana, to 75 on Santa Cruz (Table 29). The urban population density of Puerto Baquerizo Moreno, due principally to its smaller area, is the highest, at 448/km², followed closely by Puerto Ayora at 410/km². To put this in perspective, the 1998 populations of Puerto Ayora and Puerto Baquerizo surpassed the total population of Galapagos in 1990, just eight years earlier. When the 2006 census data become available, this trend will most likely be even more dramatic.

It is not possible to foresee the future but if the growth rates identified by the 1998 census continue, the Galapagos population in 2006 would be about 25,000 with roughly 22,800 of these residing in urban areas. Santa Cruz would have 12,000 residents and the population density of Puerto Ayora would have risen to nearly 680/km².

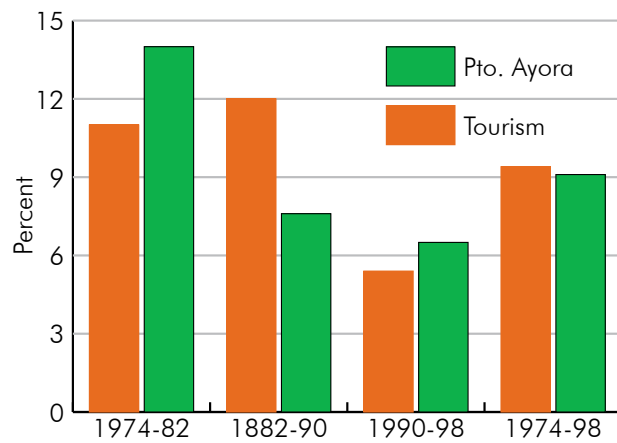
The return to economic stability in Ecuador since 2000 and restrictions on immigration embedded in the Galapagos Special Law may

have slowed immigration but exact numbers will not be known until release of the 2006 census. However, INGALA estimated that in 2007 there are approximately 24,000 legal residents, 1,800 temporary residents, and 5500 irregular residents

(those without official documentation).

In response to the presidential decree in April 2007, declaring “Galapagos at Risk,” INGALA initiated the development of an 18-month project to ensure the return of the majority of the irregular residents to the continent and to improve the overall control of immigration.

Figure 10. Annual Growth Rates in Visitors and the Population of Puerto Ayora, 1974-1998



POPULATION GROWTH ISSUES

One has merely to look at the recent history of Galapagos to realize that rapid economic and population growth are increasingly putting a variety of strains on local resources and municipalities, causing social stratification and leading to civil unrest that threatens to undermine conservation efforts and tarnish the archipelago’s international image as a tranquil ecotourism destination. The increased likelihood of introducing new invasive species, a result of population growth, has long-term implications for both conservation and human health.

Tourism and population are intertwined. If the current rate of growth in visitors (9% per year) continues, there will be 969,000 visitors per year by the year 2031, 25 years from now. The municipalities must be forward-looking. Unlike the Park Service, they have not yet considered establishing limits to growth despite their burgeoning populations. If the 6.4% per year increase in population continues, by 2030,



Table 28. Population Trends in Galapagos by Island (excluding Baltra), 1974-1998

	1974	1982	1990	1998
San Cristóbal				
Puerto B. Moreno	1,311	1,777	2,952	4,709
% Change between Censuses		36%	66%	60%
% of Island Population	65%	75%	84%	89%
Rural	703	600	547	586
% Change between Censuses		-15%	-9%	7%
% of Island Population	35%	25%	16%	11%
Island Total	2,014	2,377	3,499	5,295
Santa Cruz				
Puerto Ayora	900	2,390	4,294	7,185
% Change between Censuses		166%	80%	67%
% of Island Population	57%	76%	81%	84%
Rural	677	748	1,024	1,327
% Change between Censuses		10	37	30
% of Island Population	43%	24%	19%	16%
Island Total	1,577	3,138	5,318	8,512
Isabela				
Puerto Villamil	170	408	696	1,280
% Change between Censuses		140%	71%	84%
% of Island Population	38%	65%	81%	90%
Rural	276	222	168	147
% Change between Censuses		-20	-24	-13
% of Island Population	62%	35%	19%	10%
Island Total	446	630	864	1,427
Floreana				
Rural	41	56	104	77
% Change between Censuses		37	86	-35
Overall Total				
Urban	2,381	4,575	7,942	13,174
% Change between Censuses		92%	74%	66%
% of Total Population	58%	74%	81%	86%
Rural	1,697	1,626	1,843	2,137
% Change between Census		-4%	13%	16%
% of Total Population	42%	26%	19%	14%
Galapagos Total Population	4,078	6,201	9,785	15,311
% Change between Census		52%	58%	56%

Source: INEC, 1974, 1982, 1990, 1998

the population in Galapagos will reach 118,000. The population density in settled areas will be 500 inhabitants/km² and many times that in the coastal towns. These numbers will lead to greater, more intense issues and conflicts. Buildings are under construction throughout Puerto Ayora, but basic restrictions, for example on the number of floors, are not being adhered to. Land values are soaring. Sewage problems and contamination of drinking water are already occurring. The agriculture and fisheries sectors are incapable of meeting local demand and must be supplemented by cheaper imports from the mainland.

The perception that the majority of islanders are benefiting from economic growth is a myth; most Galapagos residents are not. Potential gains are negated by population growth attributed to immigration. Taylor et al. (2006) found that, due to migration, real per capita income is at best stagnant and possibly declining.

The source population for new jobs (i.e., employed residents, unemployed residents, or immigrants) determines the degree to which existing residents benefit from economic growth and the creation of new jobs. The welfare gain for a community attributable to a new job is the change in income realized by a resident who takes the new job, plus the increase in income for the individual who fills the job vacated by the resident hired for the new job, and so on down the job chain. The job chain stops – in terms of welfare gains for a community – when a job opening in the chain is filled by an immigrant.



Three simplistic examples taken from Barkley et al. (2002) are presented in Table 30. In example 1, a new job is created that pays \$10,000/year. Resident A, who previously earned \$7,000, is hired; his income increases by \$3,000 and each subsequent job in the chain is filled by an existing resident. In this example, the community welfare gain is the sum of gains for individual residents (\$3,000 + \$1,500 + \$5,500), which amounts to the salary of the new job (\$10,000). In example 2, resident A accepts the new job but the job he left is filled by an outsider. In this case, the job chain ends and the welfare gain to the community is restricted to resident A's \$3,000 salary increase. In example 3, which is generally the case in Galapagos, the new job is filled by an outsider, which immediately ends the job chain and produces no welfare gain for the existing community. In the latter scenario, community welfare may actually decline as those filling new and/or existing jobs often live in Galapagos temporarily and send their earnings back to families on the mainland, causing leakages in the insular economy. However, during their stay in the islands, they demand public services and infrastructure that existing residents pay for. Also, those who become island residents bid up the prices of land, homes, and local produce, and effect an increase in public expenditures on services, education, water, and infrastructure. As mentioned below, the quality of life for residents is negatively impacted by

Table 29. Populations and Densities by Island and Area (excluding Baltra), 1998

	<u>Santa Cruz</u>	<u>San Cristóbal</u>	<u>Isabela & Floreana</u>	<u>Overall</u>
Rural Area (km ²)	96.3	73.4	27.7	197.4
Rural Population	1,327	586	224	2,137
Percent of Island Population	15.6%	11%	14.9%	14%
Rural Population Density (per km ²)	13.8	8	8.1	10.8
Urban Area (km ²)	17.5	10.5	11.1	39.1
Urban Population	7,185	4,709	1,280	13,174
Percent of Island Population	84.4%	89%	85.1%	86%
Urban Population Density (per km ²)	411	448.5	11.5	336.9
Total Area (km ²)	113.8	83.9	38.8	236.6
Total Population	8,512	5,295	1,504	15,311
Total Population Density (per km ²)	74.8	63.1	38.8	64.7

Sources: INEC, 1998; WWF, 2003

Table 30. Job Chains in the Local Labor Market: Implications for Local Benefit from Economic Development

<u>Example</u>	<u>Net Change in Income of Local Resident</u>
Example 1	
A new job pays \$10,000/yr is taken by local resident A who leaves a job paying \$7,000/year	\$3,000
Resident A's old job is taken by resident B who leaves a job paying \$5,500/year	\$1,500
Resident B's old job is taken by resident C who was previously unemployed	\$5,500
<i>Total increase in income of local residents</i>	\$10,000
Example 2	
A new job pays \$10,000/yr is taken by local resident A who leaves a job paying \$7,000/year	\$3,000
Resident A's old job is taken by a new resident who arrives from the mainland	\$0
<i>Total increase in income of local residents</i>	\$3,000
Example 3	
A new job pays \$10,000/yr is taken by a new resident who arrives from the mainland	\$0
<i>Total increase in income of local residents</i>	\$0

Source: Barkley et al. 2002



inflated prices, petty crime, crowding, noise, and socioeconomic stratification.

RESOURCE ACCESS AND CIVIL UNREST

Increases in the resident population are directly correlated with the growth in the economy and ultimately lead to greater strains being placed on local resources. Growing demands to access these resources, in particular the fisheries, and to receive a greater portion of the archipelago's economic pie, have culminated in social strife.

A bitter and prolonged conflict over exploitation of fisheries resources erupted during the 1990s, due to the advent of new fisheries for sharks, only the fins of which are sold, and sea cucumbers. After extensive lobbying efforts by the CDF, the GNPS, and the tourism industry, the capture and sale of sharks in Galapagos waters were prohibited. Restrictions were also placed on the number of sea cucumbers that could be harvested.

Fishermen were infuriated and argued that they were being deprived of the opportunity to earn a livelihood and that "The Darwin Station people want to keep Galapagos as their own plantation" (Brooke, 1993). As a consequence:

- Threats were made to Lonesome George, the last surviving tortoise from the island of Santa Cruz; these had to be taken seriously because more than 80 tortoises were slaughtered on Isabela during 1994 alone.
- In January 1995, a group of approximately 40 masked men, armed with clubs and machetes, and identifying themselves as "pepineros" (sea cucumber fishermen), took control of the road that crosses Santa Cruz, the National Park headquarters, and the Darwin Station.
- Fishermen were also suspected of setting a fire that burned for months and devoured

nearly 70 square miles of National Parkland on Isabela (Lemonick, M. 1995).

- In September 1995, a group of machete-wielding protesters again seized the Darwin Station and the administrative headquarters of the Park Service. Led by local politicians, who formed a "Strike Committee," similar actions took place on Isabela and San Cristóbal.
- Violence erupted again in 1997, when sea cucumber fishermen, camped illegally within the National Park, shot and wounded a park ranger. Shortly thereafter, fishermen again seized Park headquarters.

The emotional and ongoing hostile confrontations were further fueled in 1995 by the President of Ecuador's decision to veto a bill sponsored by the islands' sole delegate to the National Congress, to regulate immigration and give Galapagos residents greater autonomy in managing the National Park and Marine Reserve. All embraced the first part of the bill. However, conservationists opposed transferring power to oversee protected areas to the local community and initiated a worldwide letter-writing campaign to pressure the government not to enter into "negotiations with those who incite violence and threaten terrorist activities."

Passage of the 1998 Special Law for Galapagos contributed greatly to easing tensions but portions of the law are not, as yet, strictly enforced.

Although there have been no major instances of social disobedience in the last few years, there are underlying social problems that may once again result in conflicts and civil disobedience similar to those of the 1990s. For example, sky-rocketing land prices are spurring demands that the Park Service push back their boundaries and open park lands for colonization. Officials are being pressured to sanction new activities, such as sport fishing, that are linked to tourism but deemed by many as incompatible with conservation. As



the economy and population grow, they will be increasingly more difficult and complicated to manage. As has happened in the past, politicians will align themselves with economic issues that may be detrimental to conservation.

SOCIAL, CULTURAL, AND ECONOMIC STRATIFICATION

Workers and settlers from the mainland arrive continuously in search of work, with little knowledge of or respect for the insular ecosystems. The mores and aspirations of these new arrivals often conflict with those of long-time residents and conservationists. This is causing a profound change in the social fabric of the islands. The population and labor force are in flux; workers are constantly coming to and leaving the islands. Many obtain employment, work for a few months or years, and then return to the mainland. Their allegiance is to their homes and families on the continent, not to Galapagos.

Some of the attributes that originally compelled early colonists to move to Galapagos have been lost. Living expenses are severely inflated. Crime, unheard of a few decades ago, is slowly on the rise. One has merely to look at the recent past to realize that socioeconomic stratification often manifests itself in civil disobedience. More people will lead to increasing demands for greater local participation in formulating management policies and potentially weaken the power of the Park Service. As the economic clout and influence of tourism grows, the industry will be increasingly difficult to regulate. Attempts to do so then ripple through the local and national economies producing stiff opposition.

PUBLIC SERVICES AND INFRASTRUCTURE

Municipalities are unable to keep pace with the increases in the demand for basic services caused by the rapid growth in population. Public infrastructure is under-financed and costly to

maintain. Garbage, used equipment, sewage treatment, and waste disposal are some of the current problems. The meager supply of drinking water is heavily tapped and shows signs of being polluted. Several hotels on San Cristóbal were closed due to a lack of water.

The quality of education is recognized as one of the most pressing problems in the archipelago. Those who can afford to do so, send their children to private schools. Public schools are over-crowded and under-funded; graduates are frustrated and ill-equipped to compete with better-educated and more experienced foreigners and mainlanders who secure employment as guides, crew members, and administrators. There is a severe shortage of skilled laborers in Galapagos who can supply the quality of services that tourists expect, so many vessel and hotel owners have no option other than to bring in employees from outside.

Changes in Conservation Philosophy and Spending

For more than three decades, management efforts in the archipelago focused on regulating activities in the protected areas of the archipelago by limiting the number of licenses (cupos) for tour vessels, designating use zones and visitor sites, and using fiscal policy (i.e., raising park entrance fees). Little attention was directed toward what was happening in the areas dedicated to colonization. The towns were bucolic communities, with little infrastructure or public services.

An increased awareness of the issues posed by rapid population growth prompted the GNPS, the CDF, international donors, and NGOs to adopt a holistic approach to conservation. The new CDF strategy, for example, “promotes good management through the provision of integrated information for decision-making, ensuring effective communication, incorporating local



people into conservation strategies, and helping to build the capacities of local organizations.”

As is the case in the Galapagos, population growth adjacent to protected areas has caught the attention of public officials and conservationists around the world. The current buzz word or philosophical approach used to address this situation is referred to as “sustainable development.” The term is notoriously ambiguous. For example, the 1987 Brundtland World Commission on Environment and Development report defines “sustainable development” as “meeting the needs of the present without compromising the ability of future generations to meet their own demands.” The International Ecotourism Society defines “ecotourism” as “responsible travel to natural areas that conserves the environment and improves the well-being of local people.”

The switch in philosophy to promote local involvement in decision-making and sustainable development is a global trend but has been criticized as it diverts manpower and funds from conservation to human development. Among the opponents is George Schaller, one of the world’s preeminent field biologists. Schaller (in Mitchell, 2006) states that,

There are certain natural treasures in each country that should be treated as treasures, and it is up to conservation organizations to fight on behalf of these special places. Too many of these organizations have lost sight of their purpose. Their purpose is not to alleviate poverty or help sustainable development. Their purpose must be to save natural treasures.

Protected Area Management and Resource Rent

The GNPS is the most important and influential, largest and best-financed institution in Galapagos. In addition to managing and protecting the terrestrial and marine ecosystems, it controls tourism and subsequently influences the rate of economic growth that, in turn, is a determinant of population growth.

The GNPS has implemented various systems to regulate tourism and finance conservation and development. These include visitor entrance fees and boat licenses (cupos); designating use zones, visitor sites, and their carrying capacities; regulating vessel itineraries, and collecting fees from those operating within the National Park and Marine Reserve. Each of these is briefly discussed below.

NATIONAL PARK AND MARINE RESERVE ZONING AND VISITOR SITES

One of the early actions taken by the GNPS was to divide the National Park into primitive scientific, primitive, extensive use, intensive use, and special use zones. These zones reflect levels of ecological and scientifically important attributes and the need for protection. Acceptable activities and uses within each zone are defined. Similar zones and specified uses have also been established for the Marine Reserve.

The GNPS also regulates use and levels of impacts on both the National Park and the Marine Reserve by designating visitor sites, establishing the visitor carrying capacity for each site, and regulating access to other areas and sites, primarily for scientific research. There are 116 designated visitor sites, 54 terrestrial and 62 marine dive and snorkeling sites. The total terrestrial area encompassed by visitor sites is minimal, perhaps 2 to 3% of the Park’s land mass, and a negligible percentage of the Marine



Reserve. Appropriate infrastructure, such as paths, stairs, and moorings, are tailored to each site. Each site is monitored; if negative ecological impacts are detected, the site is removed from the list or its carrying capacity reduced.

According to long-term residents that have exceptional knowledge of the islands (Fiddi Angermeyer, Jimmy Peñaherrera, Felipe Cruz, and Godfrey Merlen), there is opportunity to add paths to existing sites and open new sites, but the options are extremely limited. Restraining factors are accessibility and the quality of sites. Sites must have the natural endowment that warrants being visited. Anything less would detract from the Galapagos experience. One would thus conclude that restrictions to opening new visitor sites and increasing the use of existing sites may ultimately contribute to constraining the number of tourists frequenting the park and marine reserve. Woram (2007) points out that there are sites of historical interest that could be developed and the possibility of adding compatible activities at some existing sites.

FIXED ITINERARIES

Another tool effectively employed by the GNPS to control activities within the National Park and Marine Reserve is the establishment of fixed vessel itineraries. Each vessel is allowed to visit certain visitor sites on specific days and times as part of a regular circuit or cruise of a specified duration. Any deviation requires permission from the GNPS. In addition to preventing overuse of sites, the itineraries are designed to enhance visitor satisfaction and avoid crowding.

As explained above, stipulating the duration of each cruise has a bearing on the number of people touring the park over the course of a year. For example, shortening the duration of cruises and/or limiting the number of days a tourist spends in the Park will lead to an increase in the number of people entering the park annually.

RESOURCE RENT

Understanding the concept of resource rent is critical when analyzing the situation of tourism in Galapagos. Resource rent is an economic term for abnormally high profits that are derived from the exploitation of natural resources, generally common property resources such as fisheries, minerals, forests, and parks. It is the difference between the price of a product (in this case a Galapagos tour) produced using or accessing a natural resource (the unique Galapagos landscape, flora and fauna) and the cost associated with providing that product. Costs include labor expenses, capital to purchase vessels, machinery, materials, energy, and other inputs that are used to convert the resource into a final product. Reasonable compensation for the degree of risk involved in providing the product is also considered. The revenues, or surplus profits, that remain after these costs are taken out reflect the value, or rent, attributed to the resource base. If the cost of accessing the resource is low, there is economic incentive to accelerate exploitation and exhaust the resource. As the cost assigned to the resource base is increased, profits shrink and there is less incentive to justify the additional investment required to expand production. Less of the resource is extracted so it is available over a longer period of time. In the case of renewable resources, such as fisheries or an ecosystem, lower levels of exploitation allow them to recuperate and be used on a sustainable basis over time.

Resource rents reflect the future demand or value of a resource; that is to say, the opportunity cost of present use and the economic and social benefits to be derived from the resource. Another key issue is who reaps the benefits of a resource and who bears its management cost.

The resource rent charged by the GNPS has fostered a growth in fleet capacity but has not led to the dire consequences predicted by



economic theory. This is attributed to the fact that the GNPS simultaneously uses other means of regulation, mentioned above, to control tourism. Nevertheless, this topic deserves considerable attention and additional study.

TOUR VESSEL FEES AND CHARGES

In addition to taxes on income, tour vessels using the National Park and the Marine Reserve pay a variety of licenses, permits, and concession fees to the Park Service, and local and national institutions (Table 31). These include payments for taxes on assets, tourism licenses, “Zarpes” (permits to sail), anchorage, dock and cargo fees, municipal and Ministry of Tourism charges, and

fees per berth are \$625.78. These fees are a direct reflection of the value the GNPS assigns to the resource base. They have not been increased since 1993, and percentage-wise contribute less to the Park’s budget each year.

The annual fees deserve special attention. During a meeting in Quito in 1993, sponsored by USAID and hosted by the Fundación Idea, the case was made for increasing the visitor entrance and tour vessel fees. At the time, the GNPS collected \$40/person from adult foreign visitors and \$0.60/person – payable in Sucres – from Ecuadorians. Vessels, regardless of their category, were charged a flat annual fee/berth that amounted to less than \$10. During the meeting, entrance fees

were raised to their present levels. Based on estimates of vessel earnings, it was recommended that the larger, higher-priced vessels pay an annual berth fee of \$1,000. This was rejected. In the end, the annual per berth fee was increased and tiered to reflect differences in revenues earned by different categories of vessels (Table 32).

Given that the current average price per night paid by tourists on tour vessels is approximately \$333, it is clear that the amount collected from vessels by the GNPS

Table 31. Local Taxes (US\$) Paid by Tour Vessels, 2006*

Type of Tax	Vessel Class				
	Economy	Standard	Superior Tourist	First Class	Luxury
Tax on Assets	360	576	1,080	3,600	9,000
Municipal Patent	350	420	460	520	680
Tourism License	480	560	700	2,800	3,000
National Park License	2,400	3,200	4,000	20,000	22,500
DIGMER	1,100	1,200	1,475	2,400	2,600
Tourism Promotion	48	56	70	187	200
Renewal of Tour Operator’s License	300	480	1,200	4,000	10,000
Chamber of Commerce	64	80	120	480	540
TOTAL	5,102	6,572	9,105	33,987	48,520

* Table does not include those taxes that are collected on a per use basis, such as the sailing permit.

Source: Estudio de Campo y Talleres Técnicos con Funcionarios Municipales, 2005

other miscellaneous fees. They are graduated to reflect the value of the vessel and its potential earning power.

A line item under receipts in the Park’s 2006 budget titled “Licenses, Permits and Patent Fees” amounts to \$1,129,534 and contributes 10.2% to the budget. Given 1,805 berths, the annual

Table 32. Annual per Berth License Fees by Vessel Category

Type	Category	Amount (US\$)
Cruise	A	250
Cruise	B	200
Cruise	C	150
Day Tour	R	100
Day Tour	E	50

Source: Galapagos National Park Service, Tourism Unit



fails to reflect the value of the resource base. The undervaluation of the Galapagos resource base has long been recognized (Southgate and Whitaker, 1992 and Epler, 1993). Tour companies recoup the annual fee/berth within a day or two. As is the case with entrance fees, this fee has not increased in thirteen years. Over the same period of time, vessel revenues increased by 725%. Consequently, tour operators and those with cupos receive some of the resource rent as higher than normal profits and tourists capture a greater amount of the consumer surplus (the difference between what consumers are willing to pay and the actual price). In the end, there is economic incentive to increase supply and the number of visitors. As of 2006, this fee contributed about 3% of the budget of the GNPS and amounted to less than 1% of tour vessel receipts. A dramatic increase would: 1) reduce the pressure to expand vessel capacity, and 2) generate funding for conservation or other designated uses, like education. It can also be argued that raising the resource rent increases the appreciation of the resource base and thus strengthens the sense of stewardship.

Raising resource rents would also contribute to stabilizing supply – when measured in the number of berths – and reduce pressure on the GNPS to issue new cupos. Under the present system, those who receive cupos pay nothing but are able to sell or rent them thus reaping a financial gain with no investment of their labor or cash.

The GNPS may want to consider taking steps to lessen industry opposition to raising this fee. Many of the vessel owners interviewed expressed their frustration in gaining access to park officials to clarify or resolve issues. Consequently, it may be wise for the Park Service to use a portion of any additional funds to hire or designate someone to deal exclusively with the industry and, by doing so, create a meaningful dialogue and goodwill between the industry and the GNPS. Jointly agreeing on the use of additional funds

(i.e., to enhance visitor site infrastructure, open new visitor sites, provide relevant short courses for industry employees, support education in general, etc.) would weaken industry resolve to oppose an increase.

VISITOR ENTRANCE FEES

Developing countries, such as Ecuador, often lack the financial resources and technical knowledge and experience to adequately manage protected areas and often rely on international assistance and visitor fees. The uniqueness of an area and its ecosystem are the primary determinants of visitor willingness to pay - the more unique an area, the more money that can be charged. Distance, travel, and tour costs, as well as political and social instability, come into play. Entrance fees are also client-sensitive. This appears to be the case in Tanzania where entrance fees are often higher in remote protected areas. Having paid the cost of reaching them, visitors are willing to pay a higher entrance fee.

Entrance fees serve multiple purposes. First and foremost, they generate income to fund conservation. If they are extremely high, they will dissuade visitation thus discouraging congestion and overuse. They also have a bearing on the characteristics of tourists visiting a protected area. Mature, higher income tourists traveling on a high-end tour are more willing and able to pay higher fees than the average backpacker, student, or surfer. Another argument for visitor fees is that the management of the protected area is paid for by those who use and enjoy the park; not by a country's taxpayers.

The schedule of entrance fees in Galapagos was born out of necessity. During the mid-1980s and the 1990s, funds entering the central government coffers were shrinking causing legislators to constantly reduce the park's annual budget. This prompted many park employees to seek employment in the private



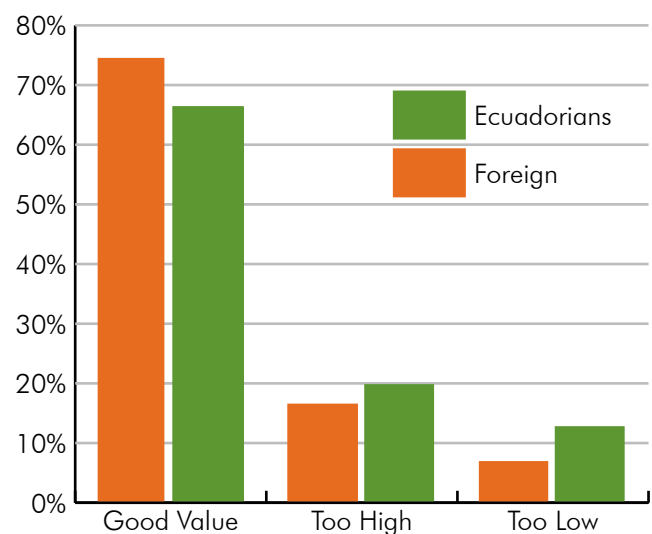
sector. Simultaneously, the number of tourists was steadily increasing while the ability of the GNPS to fulfill its mandates was declining. The GNPS was facing a crisis. The revision and increase in entrance fees in 1993 was seen as a way to finance conservation and management. It also created a degree of autonomy for the GNPS, as it was no longer totally reliant on the central government for funding. Other advantages were that most of the cost associated with managing the National Park and Marine Reserve was born by users, not the general Ecuadorian public, and the flow of revenues received by the GNPS reflected the number of visitors and, to a degree, the associated work load. As originally envisioned, a portion of the revenues would also flow to the towns for designated activities. There was concern from some members of the tourist industry that the higher fees would slow their rate of growth. However, the increase had no discernable impact on the number of visitors.

Entrance fees paid by foreigners – on face value – appear to be the highest of any of the world's national parks, but are, in reality, comparatively low. Most parks in developing countries have daily non-resident entrance fees that range from \$5 to visit Egypt's Red Sea Marine Park to \$60 to visit Tanzania's Mount Kilimanjaro. Visitors commonly leave each night and pay every day they enter the park. Many visit more than one park in the course of a day and thus pay multiple entrance fees. In the case of Galapagos, they pay a one-time fee and there is no limit on the amount of time they can stay. In addition, they are gaining access to both a national park and a marine reserve. Also, those on vessels do not have to leave the protected area each night and can enjoy the natural wonders 24 hours a day. Given an average stay of 6 nights (7 days), the price per day for foreign adult tourists is \$14.29, which is below that charged by comparable world class parks (Annex B).

Thirteen years have passed since the fee system was implemented, prompting the argument that the time has come to review and increase the schedule of entrance fees. Given a very conservative 3% rate of annual inflation, nearly 50% more is required to purchase the same labor, goods, and services that were purchased for a dollar in 1993. In 1993, the entrance fees paid by foreigners amounted to about 3% of the total cost of their vacation and 10% of what they spent on a week cruise. As of 2006, the \$100 entrance fee paid by foreigners constituted 2% of the total vacation cost and about 5% of what was paid for cruises.

Tourists were asked to give their perception of the park entrance fees (Fig. 11). The majority of foreign and Ecuadorian tourists agreed that the entrance fees are reasonable and a good value. Those entering comments stated that the fee was justified and that tourists should contribute to conserving the islands. Eighteen percent of foreigners and 20% of Ecuadorians felt the fee was too high, while an even smaller percentage thought that it was too low.

Figure 11. Tourists' Perception of Park Entrance Fees





Given the facts and tourists' responses above, it appears that entrance fees can be increased. The exact amount should be contingent on stated objectives and subsequent studies. If the purpose is to control the growth rate of tourism, and thus the population, a substantial increase would be appropriate. Doing so would have significant and potentially negative impacts on parts of the economy that should be thoroughly investigated before hand. A less drastic increase would have negligible economic impacts on tourism and the towns but substantially increase revenues for the park and other institutional beneficiaries of entrance fees. If the fee schedule is revised, managers should consider basing the amount paid by Ecuadorians on their per capita income relative to that of non-resident visitors. For example, per capita income in Ecuador during 2006 is \$4,300 versus \$42,000 in the United States (CIA, World Fact Book website), so paying 10% of the amount charged foreigners would be appropriate. Doing so may quiet the few foreigners who complain about paying proportionately more than nationals. Lastly, educating tourists with a flyer or possibly a poster in the airports explaining the fee and the use of funds will increase their willingness to pay.

Attaching time limitations, as is done in several African nations, is another means of increasing conservation revenues. Having visitors stay for shorter periods would increase the number of persons paying the park entrance fee but have minimal impact on the total number of annual visitor days. For example, the National Park could reduce a vessel's itinerary from seven to five days. If the vessel maintains the same occupancy rate/cruise and spends the same amount of time at sea, it carries 40% more passengers. There may be negative implications associated with this course of action that should be addressed before any decision is made.

"CUPOS"

During the 1970s and early 1980s, in the formative years of the GNPS and Galapagos tourism, a series of Master Plans ("Plan Maestros") recommended caps on the annual number of visitors to the park. These caps were repeatedly surpassed and eventually abandoned.

During the 1980s, the "cupo" system was initiated to exert control over tourism within the park. Cupos were initially administered by the Ministry of Agriculture but power was later transferred to the GNPS. A cupo is a quota issued by the GNPS granting the right to an individual, family, or company to carry up to a specified number of passengers during a cruise to visit protected areas. There is no charge when a cupo is issued. Simply stated, cupos are a market-based approach to conservation that gifts a public resource or property rights to a limited number of private enterprises.

The cupo system is similar to Individual Transferable Quotas (ITQs) used to manage certain fisheries. Unlike traditional ITQs, cupos cannot be legally sold. As long as laws are not violated, cupos are valid for their owner's life and, presumably, can be passed on to their heirs. The economic theory is that establishing property rights for natural resources will reduce environmental problems, such as overexploitation, associated degradation, and competition for open-access resources that lead to Hardin's Tragedy of the Commons.

At some point in time, a freeze was placed on the number of cupos. The Galapagos Special Law subsequently entitled those who owned cupos for 15 passengers or less the right to upgrade to 16. Cupos presently range in size from 16 to a maximum of 100 passengers. The Special Law also stipulates that if new cupos are granted, they will go to Galapagos residents. Mainland-based and international companies that had cupos prior



to passage of the law were grandfathered in. An attempt to solicit information on the criteria used in granting cupos and to identify cupo owners was unsuccessful. As of July 2006, the cupo system fixed the tourist fleet capacity at 1,805 berths.

There is a general misconception that the cupo system caps the number of annual visitors, the overall visitation, measured in visitor-days, and the number of cruise boats. However, these are determined by the joint actions of cupo holders and users (see below), each of which is seeking to maximize profits. Take two identical 16-passenger vessels that each spends 45 weeks (315 days) at sea and has a 75% (12-passenger) occupancy rate per cruise. The first owner offers a 7-day cruise and caters to 540 passengers/year. The second decides that he earns more per day from shorter trips and offers 3-, 4- and combined 7-day cruises. On average, 6 or half of all his passengers take the 7-day cruise, 6 take the 3-day cruise and are then replaced by 6 more tourists on a 4-day cruise. This vessel accommodates 18 tourists/week or 810/year. If the owner of the second vessel finds that offering shorter trips results in a higher annual rate of occupancy, say 14 passengers per cruise, the number of tourists that he caters to increases again. Other factors remaining constant, this vessel would carry 21 tourists/week or 945/year. Likewise, a cupo holder's ability to increase the number of days his vessel is at sea has a bearing on the number of annual passengers.

As mentioned above, cupos cannot be legally sold. However, it is common knowledge that they are sold and rights to their use transferred. MacFarland (2001) points out that this "alarming trend" began in the 1990s when large companies began purchasing cupos from small operators. In other instances, owners who had two cupos and ran two vessels combined the cupos and ran one larger vessel. The merging of two or more cupos enables companies to bring in large luxury vessels that are more cost-effective due to economies

of scale, spending more days at sea, and demanding higher prices. This is one explanation as to why the number of tourist vessels operating in Galapagos has decreased since the mid 1990s.

Credible sources – who asked not to be identified – reported that a 16-passenger cupo sold for \$320,000 in early 2005. Also, there are several ways to transfer the rights conveyed by a cupo. There is no law prohibiting the transfer of rights as long as there is no change in ownership. In instances, a cupo owner may enter into an agreement or partnership with someone who owns a tour vessel. The parties involved agree on how revenues will be divided. Cupos are also rented. It is no secret that a 16-passenger cupo rents for \$5,000 per month. One vessel was paying \$7,000 per month to use a 16-passenger cupo in 2006. In both instances, the name(s) of the cupo owner(s) remained unchanged.

The cupo rents identified above are relatively cheap given the potential flow of revenue that can be produced. Let us assume that someone rents a 16-passenger cupo to be used on his vessel, charges \$2,500 per week per tourist, operates at 75% occupancy, and spends 45 weeks per year at sea. In this instance, the revenue stream generated by use of a cupo amounts to \$1,350,000. At \$5,000 per month (\$60,000 a year), the rental cost of a cupo represents 4.44% of the revenue stream. For larger, well-managed vessels that spend more days at sea, have a higher occupancy rate, and charge higher prices, the percentage is significantly less.

In summary, the cupo system fixes the number of total berths available and in the process influences, but does not directly stipulate, the number of tour operators, vessels, and sizes of vessels. By itself, this system has little bearing on the number of tourists. As long as new cupos are not issued, the system does eventually cap the total number of visitor-days but only when cupo



owners have each maximized their overall cruise occupancy rates and number of days that their vessels spend at sea.

Lastly and of great social importance, by specifying who owns a cupo, the system influences the distribution of wealth by limiting who has the option of reaping the economic benefits attributed to having access to the National Park and Marine Reserve.

The GNPS reported in 2006 that it was contemplating issuing new cupos. This is apparently in response to the fact that Isabela Island was constructing a new airport and will actively cater to tourists. Also, artisanal fishermen will be issued cupos that will allow them to take paying passengers fishing. Information on the number of and restrictions that accompany these cupos had not been released when this study was being conducted.

If new cupos are to be granted, there are several options that the GNPS may find useful to contemplate. ITQs have been successfully allocated to communities or community groups to be used for a specified purpose, such as creating employment or funding public education. This alternative achieves many goals such as mitigating community loss, promoting community-based management, and creating a larger number of beneficiaries. In the case of Galapagos, doing something similar with cupos also prevents their illegal sale and enables decision-makers to achieve different goals. Issuing more but smaller cupos may result in a more diverse distribution of wealth. Likewise, favoring vessels that are associated with hotels could alleviate pressure on the Park and yield greater economic benefits for local communities. Each alternative has pros and cons that must be considered as part of the decision-making process.

If the GNPS were to hold the line on not issuing new cupos, the number of visitors will eventually

reach a limit. Freezing cupos should be strongly supported by most current cruise vessel operators as doing so protects their vested interests and restricts outside competition. There is still room for growth in the short run, particularly among smaller operators who have ample opportunity to increase their days at sea and rates of occupancy. If new cupos are not given out and their consolidation more rigidly controlled, there will be less future growth in the revenues taken in by large vessels as they have less opportunity to increase either their number of days at sea or occupancy rates.

Presently, as long as a cupo holder acts responsibly, he or she has the cupo for life. Once granted, cupos are a negotiable commodity. The GNPS may have to contemplate the option to buy back cupos at their fair market value, if circumstances dictate.

FEES PAID BY VISITING VESSELS

Another source of park revenues is from fees paid by private vessels that tour the islands. These vessels fall into three categories. The first are private yachts, normally on a trans-Pacific voyage, that have historically anchored in the bays adjacent to settled areas. They spend money in local establishments and rarely visit the protected areas.

The second are private, non-commercial yachts with wealthy owners that secure permission to tour the National Park and Marine Reserve. To make the necessary arrangements with Park and other officials, an island-based agent is hired. During 2005 and early 2006, seven agents were active. ServiGalapagos is the largest. During 2005, 18 private vessels made 26, 4-to-7-day cruises through the islands. The number increased substantially in 2006, and as of late June, 20 such vessels had made 30 cruises. The number of passengers is not known but each paid the \$100 visitor fee. In addition, the owner paid the GNPS \$200 per day for each guest and crew



member on a given cruise. The total amount paid to the GNPS and local agents is not known, but one private vessel reportedly paid the GNPS \$70,000.

Lastly, there has been much controversy associated with visits by large, 500-or-more-passenger, commercial ships that sporadically visit Galapagos. A case in point is the M/V Discovery that visited San Cristóbal in 2006. Proponents argue that the economic benefits attributed to visits by large cruise ships outweigh the associated costs (Table 33). Opponents respond that the short-term benefits are offset by the long-term costs, arguing that this type of large-scale tourism is not compatible with the fundamental philosophy of Galapagos tourism, tarnishes its reputation, and serves as a precedent to justify “mass tourism.” These large vessels also put a strain on visitor sites and have historically led to chaos as local businesses and vessel operators

respond to the sudden influx of an unusually large number of tourists by charging exorbitant prices.

TOURISM’S CONTRIBUTIONS TO CONSERVATION

In addition to the fees paid to the local, provincial, and national governments, agencies and Park Service, tour operators and most importantly tourists donate money to support conservation in Galapagos. The Friends of Galapagos organizations throughout the world raise funds for Galapagos conservation through annual donations and membership subscription from Galapagos. Many of these members give increasingly larger amounts to Galapagos and some include Galapagos conservation in their wills. The U.S.-based Galapagos Conservancy is by far the largest private donor to Galapagos conservation.

Among the travel companies, Lindblad Expeditions’ financial contributions date back to the late 1960s. With the establishment of the Galapagos Conservation Fund in 1997, their onboard fundraising and resulting annual donations to Galapagos increased. Theirs is the most successful of the travel partnerships. To encourage their clients to donate to conservation, Lindblad matches donations over \$250 by discounting the cost of a future trip on one of their vessels by an equal amount. Celebrity Tours followed Lindblad’s lead and, together with a number of companies have created a significant revenue stream for Galapagos conservation. In 2006, more than \$500,000 in donations was received in the U.S. from tourists via on-board fundraising programs.

Operators whose tours are restricted to Ecuador are not in a position to make such an offer. Members of Metropolitan’s Galapagos Foundation make monthly contributions to support conservation-related activities, such as the recycling project on Santa Cruz.

Table 33. Estimated Revenues Generated by a Visit from M/V Discovery

Expenditure	US\$	US\$	Percent
DIGMER (Port Fees, Taxes, etc.)		112,450	43
Entrance Fees			
Galapagos National Park	21,080		
Galapagos Marine Reserve	2,635		
DIGMER	2,635		
SESA	2,635		
Municipalities	13,175		
INGALA	5,270		
Province	5,270		
Total Entrance Fees		52,700	21
Local Tour Vessels		40,905	16
Souvenirs		24,160	9
Food and Beverage		9,585	4
Guides		7,680	3
Ground Transportation		5,937	2
Purchase of Fish		1,982	1
Miscellaneous		1,514	1
Grand Total		256,913	100



Individuals, most of whom are or were tourists at one time, also make private contributions. Surveys of visitors showed that the percentage of tourists making donations and the average size of their donation vary according to tourist category (Table 34). A larger percentage of the tourists on large vessels make onsite donations and the average given exceeds that of tourists in the other categories. However, further analysis is needed as many of the tourists in the other categories donate via the Friends of Galapagos Organizations once they return home, and many of these become long-term annual donors.

Table 34. Donations to Conservation by Foreign Tourists by Category based on surveys completed in Galapagos.

	Foreigners		
	Category 1	Category 2	Category 3
Percent Making a Donation	13.3%	8.6%	12.4%
Average Amount Donated	\$256	\$120	\$78

TOURISM MODELS AND REVENUE GENERATION AND DISTRIBUTION

The debate over the model of tourism that is best for the archipelago dates back decades and depends, to a large degree, on one’s point of view. During the early years, the “floating hotel” model of tourism prevailed. This model was advocated by conservationists as it catered to an exclusive, environmentally-conscious group of tourists, generated high returns, was easily monitored and controlled, and had a minimal impact on the ecosystem or towns. Tourists lived on cruise vessels, stopped at various sites in the National Park, and spent an hour or so visiting the Darwin Station. With the exception of donations to the CDF, on-island spending was nil. The transition to a mixture of the floating hotel and island-based tourism evolved over time. During the mid 1990s, local politicians and residents called for “turismo con base local” (locally-

based tourism). The essence of this model is embedded in the 1998 Special Law that strongly favors local ownership, investment opportunities, and employment in tourism and business, and discourages the involvement of foreign and mainland-based companies and individuals. The overriding objective is to funnel more money through the insular economy to benefit the local population. It should be clear from the results presented that doing so has proven to be both a blessing and a bane. A stronger economy translates into population growth, which then dilutes economic gains. It also fails to adequately acknowledge that the Park is a national, not a provincial, protected area and that the tourism model(s) favored should take the well-being of residents on the mainland into consideration.

One sector of the tourism industry that is often criticized is the large island-based vessels. The common perception is that the large vessels contribute little to the local economy. This was the case years ago but more of their tourists are now spending time and money ashore. As with other models, there are pros and cons associated with this type of tourism. There are also myths that should be debunked and are discussed below.

Each of the eight large vessels is owned by a company based outside the islands – five are owned by mainland-based companies and three by two international companies – so a larger percentage of their revenues flow off-island or to other nations. Given the rapid rate of economic growth that in turn spurs population growth, this may be a good thing. Also, these companies invest a portion of the proceeds received in employment-generating tourism on the continent, which should be praised, not condemned.

Large vessels contribute less to local employment than do smaller ones. According to Hardner and Gomez (2004), as much as 40% of the skilled work force (secondary schooling or higher) and 25% of the less-skilled labor employed on cruise



ships are temporary workers that do not live in Galapagos. It is common knowledge that larger vessels draw a greater percentage of their crew from off-island. However, on the large vessels, the ratio of passengers to crew is roughly 2:1 and there is often a guide for every 10 tourists. On smaller vessels, there are about 5 tourists for every 2 crew members and 1 guide for each 16 passengers. Also, large vessels spend more time at sea and, subsequently, provide more employment days. Lastly, large vessels cater to high-end tourists that are paying for quality services and labor; logically, the wages and tips received must be higher to maintain the crews' quality. In an attempt to abide by the Special Law favoring the hiring of locals, experienced, high caliber crew members and other employees are hired away from other vessels. This ripples through the fleet providing opportunities for advancement. Lower paying vessels respond by replacing lost employees that have moved up with the best, new employees they can attract. The quality of labor is rewarded and constantly upgraded.

Another complaint is that large vessels purchase their produce (i.e., meat, fish, vegetables, fruits, etc.) from the mainland and fail to support local farmers and fishermen. This is not always the case. ETICA, an agent for four of the large vessels, goes out of its way to purchase local produce even when doing so is more expensive (Balfour, 2006). Also, importing is a case of last resort as doing so increases the chance of introducing exotic species. This is true for all vessels and hotels regardless of their size. The problem is that since the larger vessels require larger volumes of supplies than the smaller vessels, they must meet those requirements by purchasing from the mainland to supplement shortfalls in local production. This should be viewed as a positive, not negative, situation. It is a market opportunity that local agricultural and fishing cooperatives can exploit by organizing small producers, establishing quality standards, stabilizing supply, and collective bargaining.

Policy makers must also take into account that the islands are the property of Ecuador and the Park is a national park. Consequently, expenditures by tourists on the mainland must be considered. Tourists traveling on large vessels spend less time on the continent but on a per person basis spend significantly more than other tourists.

Another criterion that should be taken into account when contemplating which model of tourism is best for the islands is the distribution of wealth. It should be noted that there are extreme disparities in the economies of each island caused by variations in tourist expenditures that affect the prosperity and population of each island. Santa Cruz is most closely linked to tourism. It boasts 56% of the total population, over half the hotel capacity and number of restaurants and bars, the most developed infrastructure, the largest urban area, the highest hotel occupancy and visitation rates, the highest prices and on-island tourist expenditures, and the fastest rates of economic and population growth (Table 35). Residents on its three relatively forgotten and poorer sister islands have not fared as well. In recent years, economic growth on San Cristóbal has been stagnant or negative (Aguas, 2006). Isabela's future has the potential of changing dramatically with inauguration of the new airport and direct flights from the mainland. Infrastructure, the quality and diversity of services, and tourists-dependent businesses, however, have a long way to go before that can rival Santa Cruz. A shortage of water on Floreana is apparently a major factor thwarting tourism development there.

Disparities in the economies of each island and the likelihood of continued growth of tourism pose many interesting questions. A few are:

- From an ecological perspective, is it advantageous to concentrate tourism on one island?
- Would doing so make tourism more or less difficult to control?



- Is there not a moral obligation to promote a more equitable distribution of income?
- Would encouraging island-based tourism diminish adverse impacts of tourism in the National Park and Marine Reserve?
- Would expanding tourism to other islands negate expected gains by stimulating population growth similar to that experienced on Santa Cruz and in the process further dilute potential increases in per capita income?
- Should different models of tourism that reflect the natural and historical heritage of each island be explored and promoted? The model advocated on San Cristóbal focuses on various activities, one of which is sport fishing. The island, however, has a sordid but intriguing human history that could be used to draw tourists.
- Should “Acceptable Limits to Growth” be established for each island and their urban and rural areas to regulate population growth? Doing so would set standards such as minimum lot sizes, specifications on septic systems, limits on the number of building permits issued each year, the number of floors and height of buildings, etc. Regulations are useless without enforcement and each time they are violated sends a message that it is OK to do so.

UNOFFICIAL MODELS OF TOURISM

There is a history of officials turning a blind eye toward certain unofficial or non sanctioned forms of tourism. If a major controversy does not arise, regulations are then formulated and the activity permitted. Cases in point include the status of land-based diving operations, sport fishing that exists but is not legally sanctioned, and large cruise ships based elsewhere that sporadically run cruises through the islands.

In addition, insightful research by CAPTURGAL (2004 and 2005) found that 2.6% of foreigners, 17.7% of nationals, and nearly 5.5% of all tourists interviewed stayed in a private residence. The tourist surveys distributed during this study yielded nearly identical results. This model of tourism is common on San Cristóbal but those residences are registered to do so. This does not appear to be the case on Santa Cruz. Allowing this activity decreases revenues to licensed hotels that presumably pay higher taxes than do private homes and may help explain the boom in new homes and adding floors to existing homes. Authorities should consider whether this deserves further investigation.

GALAPAGOS TOURISM: A NATIONAL PERSPECTIVE

Ecotourism is emerging as a fast-growing component of international tourism, making up

Table 35. Breakdown of On-island Expenditures (US\$) by Tourist Category and Island

Tourist Category	Santa Cruz	San Cristóbal	Isabela
Foreign - Category 1			
Crafts	35.72	3.94	3.28
Meals	11.67	5.57	0.71
Other*	22.52	3.45	2.40
Total	85.10	12.96	6.39
Foreign - Category 2			
Crafts	15.30	1.36	0.91
Meals	26.18	0.68	3.18
Other*	76.60	2.12	8.94
Total	118.08	4.16	13.03
Foreign - Category 3			
Crafts	27.85	2.22	0.73
Meals	22.17	2.75	1.55
Other*	37.19	4.90	3.83
Total	87.21	9.87	6.11
Ecuadorians			
Crafts	26.00	7.90	0.50
Meals	47.35	19.95	1.70
Other*	60.10	11.48	0.60
Total	133.45	39.33	2.80



7% of the global market and has been shown to have a greater multiplier effect than traditional tourism. Ecuador's natural and cultural endowments are its best kept secrets. From the ecotourism perspective, these resources have been barely tapped but hold untold promise for future development.

The Ecuadorian government acknowledges its policy to use the islands to lure more tourists to the mainland, so it is in the national interest to continue to promote tourism in the archipelago. One must realize that only 18 of every 10,000 Ecuadorians reside in Galapagos and what is good for Galapagos may not always be good for Ecuador in general. The economic benefits that the nation receives from Galapagos are not restricted to direct expenditures by tourists. The mainland economy is the beneficiary of many of the monetary outflows or "leakages" from the insular economy.

Galapagos producers are incapable of keeping up with the increasing demand attributed to the growth in population and number of tourists, so one would expect that greater amounts of money will flow to the continent. Foods, in particular processed products and crops that do not grow in the archipelago, building material, alcohol, fuel – to name a few – are imported from the continent. Some of the tour vessels were constructed there and most go to the continent for haul-outs and major repairs. Remittances, money sent to families by island laborers, generate wealth for Ecuadorians on the continent. Vessel and hotel operators in the archipelago also employ staff, purchasing and shipping agents, travel agencies, etc., on the continent.

According to a recent study funded by USAID (2006), the mean daily expenditure of ecotourists in Ecuador is \$41. This is less than 10% of what is spent in Galapagos and far below the amount spent by Galapagos-bound tourists on the mainland.

THE NATIONAL RETURN ON INVESTMENT

A protected area exists in the concrete dimensions of geography, biology, and economics – and in the dimension of symbolism as well. It has living denizens and physical boundaries. It has benefits and costs. It has friends and sometimes it has enemies. (Quammen, D. 2006)

In many developing nations, protected areas are huge economic assets and profit centers. Galapagos is a case in point. It has benefits that are both tangible and intangible, and it has costs. The islands are likely the only protected area in Ecuador where the economic benefits presently exceed the costs.

The Ecuadorian central government supported conservation in the archipelago by contributing \$2,958,442, or 26.7% of the total, to the 2006 budget of the GNPS. The rest came from self-financing, entrance fees, and donations. The central government also invests in other local institutions that support conservation and tourism. Total national receipts by foreign tourists in Galapagos during a 12-month period spanning 2005-06, including park entrance fees, donations to conservation, and expenses on mainland Ecuador, amounted to \$249 million. It can be argued that the nation received \$90 from foreign tourists visiting the islands for each dollar that the government of Ecuador contributed to conservation. Investing in protecting Galapagos clearly has a huge payoff.

THE REPUTATION OF GALAPAGOS

The economy and wellbeing of island residents, as well as many on the mainland, are dependent on tourism in Galapagos. The industry, in turn, is ultimately dependent on the archipelago's reputation as one of the world's most pristine and best-managed protected areas. This reputation is periodically subject to danger. For example, during a 1994 UNESCO meeting in Phuket,



Thailand, Ecuador requested that the Marine Reserve be added to the Galapagos World Heritage Site. UNESCO accepted the application under the condition that Galapagos be added to its List of World Heritage in Danger. This clearly signified that there was international concern that the National Park and Marine Reserve were not being properly protected. Ecuador managed to block the declaration, as it could have dire consequences for the insular and national economies.

However, in April 2007, the rapid and steady increase in the number of tourists and invasive species prompted Ecuador's newly elected President Correa to declare "Galapagos at risk." UNESCO followed suit in June and placed Galapagos on its List of World Heritage in Danger.

Decisions that threaten the reputation of the National Park and the Marine Reserve, whether the threats are real or perceived, should be thoroughly reviewed. Allowing a large outside ship like the 500-passenger M/V Discovery to visit has some significant short-term payoffs but the long-term negative consequences of such an action may damage the area's reputation and negate any gains.

TOURISTS' SATISFACTION AND PERCEPTIONS

Tourists were asked several questions to gauge their satisfaction with various aspects of their visit (Table 36). Overall, Ecuadorians were more critical than their foreign counterparts. Foreigners and Ecuadorians both gave the highest ranking to the nature and wildlife observed; 79% and 55%, respectively. However, this is a significant decline from 1991, when tourists rated they were 90% very satisfied with nature. Services in

general ranked second for foreigners and were slightly higher than in 1991. Infrastructure in the park and towns was generally deemed satisfactory but leaving something to be desired. Ecuadorians were much less impressed by the quality of services ranking them far below foreign tourists.

When questioned regarding their perception of towns visited, 69% of the foreign tourists responded favorably, 22.4% found the towns, Puerto Ayora in particular, "touristy or expensive," and 8.6% gave negative feedback. The most commonly cited reasons for enjoying the towns were a friendly population, courteous treatment from vendors with little or no pressure to buy things, and good service. Negative feedback revolved around concerns that the town was growing too fast and the streets cluttered with construction materials.

Sixty-six percent of all foreigners and 98% of all Ecuadorians expressed a desire to visit the islands again, which contrasts with the fact that only 6% of foreign tourists and 37% of Ecuadorians had visited the archipelago previously.

When asked about the number of tourists seen during their visit, over 60% of both foreign and

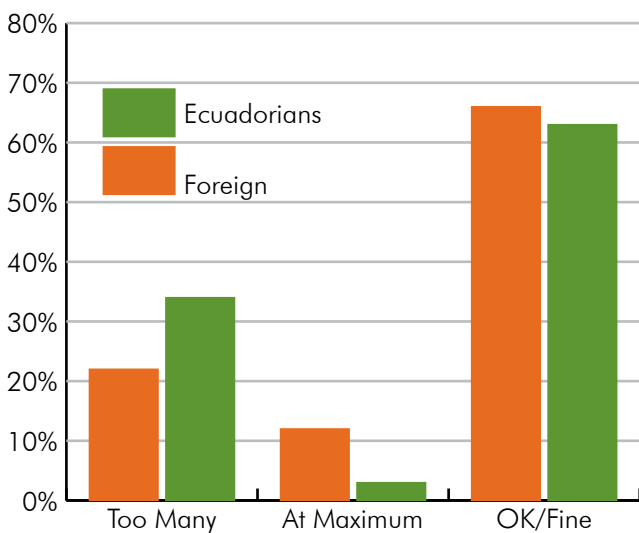
Table 36. Tourists' Satisfaction (%) with the Nature Observed, Services on Board and in Towns, and Infrastructure in the Park and Towns

	<u>Unsatisfactory</u>	<u>Satisfactory</u>	<u>Excellent</u>
Foreign Tourists			
With Nature Observed	3	18.4	78.6
Park Infrastructure	9.3	54.9	35.8
Town Infrastructure	12	60.6	27.4
On-board Services	7.7	26.7	65.6
Services in Towns	9.8	47	43.2
Ecuadorian Tourists			
With Nature Observed	7.2	38.1	54.7
Park Infrastructure	11.9	63.1	25
Town Infrastructure	31.3	57.5	11.2
On-board Services	15.5	56.3	28.2
Services in Towns	23.8	58	18.2



Ecuadorian tourists responded that the number was fine, about 25% felt there were too many, and the rest felt that the number was at its maximum and should not be increased (Fig. 12). Those who expressed concern that there were too many tourists stated that certain sites were not able to accommodate all the tourists that arrived on the large vessels, that Española received too many tourists, and the Darwin Foundation and towns were overcrowded.

Figure 12. Perception of the Number of Tourists Seen



Oscillations in the Visitor Rate and the Insular Economy

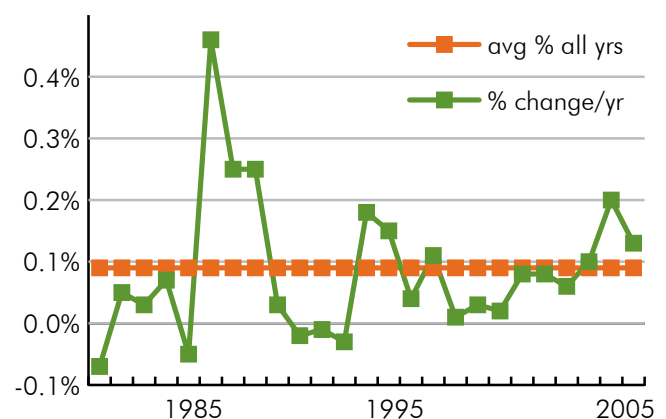
Galapagos is no longer isolated from the rest of the world. The number of visitors, the amounts they spend, and the future of Galapagos are, to a large degree, dictated by events outside the islands. Island residents are not masters of their domain. Political and economic instability within Ecuador during the 1990s accelerated population growth in Galapagos. The corresponding decline in export oil prices forced the central government to severely cut back the budget of the GNPS. Ecuadorian presidents came and went yearly during the 1990s; each appointed a new park

director causing turmoil and a lack of continuity in park leadership. In 1994, UNESCO contemplated placing Galapagos on its List of World Heritage in Danger. Although it was not added at that time, it was finally added in June 2007. Press reports that infectious diseases, such as cholera, were spreading through mainland Ecuador dissuaded tourists from visiting Galapagos. Oscillations in stock markets, fuel prices, the economies of developed nations, and wars also come into play. There was a change in the flow of international tourism after 9/11 and President Bush's subsequent decision to invade Iraq. These factors have created mini boom-and-bust cycles in visitor arrivals (Fig. 13) and consequently, the economy and population of the archipelago.

Swings in visitor arrivals ripple through the economy producing a level of instability that tour operators and hotel and business owners must take in stride and incorporate into their pricing policies. The conservation sector is also affected. Fewer visitors mean less in park entrance fees and donations for conservation. International funding in support of conservation also ebbs and flows with changes in the global economy and politics.

Policy- and decision-makers in the archipelago cannot control demand but they can influence the

Figure 13. Percent Change in Visitor Arrivals, 1981-2005





supply side of the equation by regulating growth. The Park Service has implemented measures, such as regulating the number of tour vessels and cupos, that add a degree of stability. This may account for the fact that, to the author's knowledge, no vessel owner has ever gone bankrupt. This does not appear to be the case onshore. Businesses and their owners change frequently. The municipalities seem to be oriented toward promoting rapid economic growth without taking all of the risks into account.

XIV. Conclusions

There are many challenges facing Galapagos. Managers, policy-makers and conservationists must serve multiple masters, many of whom have different points of view, expectations, demands, influence, and power. These include the global and local scientific communities, conservation groups, the tourism industry, tourists, the local population, those favoring development, and the nation of Ecuador. Consequently, it is difficult to satisfy all concerned so most decisions will evoke some degree of controversy.

A major management issue for the new millennium and one that complicates conservation worldwide is how to balance the trade-offs between environmental protection and socioeconomic development that will in turn enhance the well-being of citizens. Better planning is key to achieving such a balance. This is particularly critical in developing countries such as Ecuador – and even to a degree in Galapagos – where there is apprehension that the conservation of natural resources will be at the expense of economic development and, ultimately, widen the gap between the rich and poor people and nations of the world. Therefore, while protecting the environment is of paramount importance, it is not the sole measure of success. A major source of controversy is how the economic benefits that flow from the conservation

of protected areas should be distributed. This is a bone of contention in Galapagos. The “eco” in ecotourism is as much about economics as ecology. The common belief is that diverting a greater amount and percentage of tourism dollars into the insular economy will enhance the socioeconomic wellbeing of island inhabitants. This has not proven to be the case. As revealed by Taylor et al. (2006) and in this study, population growth has negated increases in GDP per capita. A small segment of the population has seen an increase but overall incomes have remained stagnant or, in real terms, decreased over time. Population growth has strained the capacity of local municipalities and institutions to provide adequate services, education in particular, and infrastructure; increased pressure to exploit resources, particularly in the Marine Reserve; accelerated the introduction of invasive species; led to the pollution of the meager supplies of both brackish and drinkable water, and increased the disparity in incomes.

Population

INGALA is charged with regulating immigration and sending those who live and obtain employment in Galapagos without the proper credentials off the islands. Doing so has proven to be problematic; many ordered to leave return within weeks. There is tremendous economic incentive for immigrants to seek work in the archipelago. During 2006, the official rate of unemployment for the nation was 10.6%, with 47% underemployed. The islands, in contrast, have a shortage of labor that compels employers to hire non-resident workers. Also, imported laborers work for less than residents.

The problem of illegal immigration is not unique to the islands. Nations throughout the world have been struggling with the same issue and few, if any, have been successful. The situation is more complex in the islands as those seeking work are Ecuadorian nationals. The author knows of no



other instance where a nation regulates the free movement of its citizens.

However, as stated earlier, in April 2007, in response to the presidential decree declaring “Galapagos at risk,” INGALA began the development of an 18-month project to remove the irregular residents (those without official papers) and to improve their overall control of immigration.

There may be complimentary actions that influence population growth and contribute to the welfare of residents. Upgrading the quality of local labor and developing appropriate skills is a must. One method to achieve this objective could involve a two-track approach that combines long-term efforts to improve public education for the islands’ youth and short-term training courses and internships for older residents. A few possibilities for funding these programs are presented below (see sub-section Education).

There is a long and successful history of towns in developed nations that regulate growth by establishing building and zoning construction codes (i.e., minimum lot sizes in rural and urban areas), mandating specifications for septic systems, restricting the height of buildings, and restricting the number of building permits. Townspeople would benefit from the same type of support and mechanisms that have been employed in other communities and by the GNPS to safeguard protected areas.

Ecosystem Management

Galapagos differs from most parks as it is, to an unusually large degree, an entity unto itself. Unlike Galapagos:

Most parks generally aren't large enough to assure the conservation of complete ecosystems . . . The boundaries of a national park, in virtually all cases, are artificial lines

(sometimes curvy, sometimes straight) that do not embrace the complete ecological existence of the plant and animal populations dwelling (or visiting) inside. Those borders are merely a statutory membrane through which the park, like a living cell, must be able to breathe. (Quammen, 2006)

The archipelago must be managed in its entirety, not on a component basis made up of the National Park, the Marine Reserve, and the four inhabited islands. Each component is interconnected. Biological and socioeconomic factors must be incorporated into a comprehensive management plan.

Increasing Fees

Based on preliminary information, there appears to be ample opportunity and justification for increasing funding for projects by raising entrance, vessel license, permit, and patent fees. All have remained the same since 1993. Doing so would be a step in addressing the undervaluation of resource rent and, depending on the amount of increase, possibly slow visitation and thus the rapid rate of population growth. Vessel fees are customarily retained by the GNPS but policy-makers have been innovative in distributing entrance fees to support institutions involved in managing both protected areas and towns. The process of public involvement in the decision-making process is well established and can be used to debate potential new and continuous flows of funding. The critical point is the efficient use of revenues.

Education

Given that education is a priority, all or a portion of any increase in entrance fees could be directed to support public education. If new cupos are issued, authorities should contemplate giving them to some type of school committee. The committee and park officials could then jointly



select a qualified vessel owner to rent the cupos thus creating a flow of funds that would be invested in education.

Short-term training courses could be financed by raising fees paid by tour vessels, and working collaboratively with vessel operators to use all or a portion of the funds to sponsor agreed-upon courses, workshops, or hands-on training sessions. Involving those who pay taxes and fees in decision-making will increase their willingness to pay, strengthen industry ties with the GNPS and communities, and help assure the efficient use of funds.

None of the actions above should have a significant impact on the park budget; it would still receive the same amount per visitor, with the flow of funds directly reflecting changes in visitation and the park's corresponding work load. Historically, the GNPS has given out cupos free of charge so issuing them to some sort of educational oversight committee would have no impact on its budget.

National Park Service Budget

The GNPS is not as under-funded as commonly perceived. When compared with park budgets in other nations, the GNPS is well off. The United States National Park Service 2006/07 budget, for example, is approximately \$2.5 billion. Up-to-date estimates are not available but 423.4 million visitors entered US parks during 2005; consequently, the budget/visitor is approximately \$5.90. Yellowstone's 2006 budget was \$30.5 million and 2.8 million visitors entered the park, bringing the budget/visitor to \$10.70. The Great Barrier Reef in Australia encompasses 6 to 7 times more area than the Galapagos National Park and Marine Reserve and receives approximately 1.65 million visitors a year. The Great Barrier Reef Authority's management budget in Australian dollars was \$38.7 million (US \$30 million) or US \$18.75/visitor. The estimated budget of the GNPS

in 2006 was \$11.1 million. If 140,000 visitors (tourists and others) arrived in 2006 as forecast in this study, the budget/visitor was about \$85.

The Tourist Fleet

Over the decades, the tourist fleet has diversified, flourished, and been continuously upgraded. It presently consists of approximately 80 vessels that are classified according to size and quality of accommodations and services, as luxury, first class, tourist superior, standard, economy, and day-boats. The largest are licensed to carry up to 100 passengers and 66 crew members and guides. The smaller vessels carry 12 or more passengers, with 16 being the norm, 4 crew members, and 1 guide.

Each class of vessel requires differing levels of investment and entrepreneurial capabilities, caters to different clientele, fills different economic niches, produces a different stream of revenues, and has different margins of profit. Each has pros and cons. The large vessels, above 40 passengers, are the most expensive, are built overseas and focus on serving the high-end international market. These vessels are often criticized. First, the owners are located on mainland Ecuador or overseas, so profits flow back to corporate headquarters. They employ more people per tourist and generally pay higher wages, but have a greater percentage of crew that are not island residents. They also demand a steady supply and large volumes of high quality meat, fruits, vegetables, fish, etc., and purchase most of these items in the mainland and not in Galapagos. Their marketing is more complex and most have overseas offices. However, tourists on these vessels and some owners contribute significantly to supporting conservation initiatives and contribute more to the mainland economy.

At the other extreme are the small vessels and day-boats. Most, if not all of these, are



constructed of local wood in the islands or on the continent and although the crew to passenger ratio is lower than on large vessels, a much higher percentage of their crew live in the islands and a large amount of their supplies are purchased from local producers. They deal mainly with budget-conscious young foreigners and Ecuadorians who spend time and money in the towns but donate little to conservation.

Hotels and Land-Based Tourism

Historically, hotels have been favored by residents as they are perceived as being more reliant on local produce, services, and labor, thus generating more community benefits than vessels. This is generally but not always true. If produce that is available locally can be purchased and shipped from the mainland at a lower price, it is generally imported. The same is true of labor. Employees from the mainland are often more educated and experienced and work for less than residents so they are brought in to live on island. Both hotels and tourist vessels have a direct impact on the insular economy and population growth. However, hotel salaries are lower and the ratio of employees per tourist is greater on vessels.

Diverting tourists to towns may also take pressure off the Park. This may be true, but land-based tourism is causing a myriad of problems in areas reserved for human settlement. Population growth is out of control, the supply of drinking water heavily exploited, and more and more vehicles are required to meet demand. There is no public sewage system so drinking water and nearby bays are in danger of being polluted. The rate of introduction of exotic species that eventually reach the Park and Marine Reserve is correlated with population growth. The quality of education and public infrastructure are under constant strain.

Hotels pay nothing to the GNPS, capture a portion of consumer surplus that the GNPS fails

to collect, and conceivably could experience even higher growth rates. Santa Cruz is a case in point. Puerto Ayora, in particular, has emerged as a tourist destination and has a population growth rate that exceeds that of the other inhabited islands. Many visitors never leave the island; they frequent the highlands, beaches, Darwin Station, take tours of the bay, dine, and buy souvenirs.

Lastly, hotels are subject to less control than vessels and there is strong evidence that the sector, particularly on San Cristóbal and Isabela, is overcapitalized. For example, Eisen (2007) projects that the hotel occupancy rate in the United States will drop to 68% in 2007. This is the equivalent of the rate on Santa Cruz but overall hotel occupancy for the archipelago is 48% and as low as 14% on San Cristóbal. During the data collection phase of this study, several hotels in Puerto Ayora were being torn down and replaced with larger structures or being added to. Similar expansion was observed on San Cristóbal and Isabela. The number of hotel rooms will soon exceed the number of berths and there is no evidence of a slowdown in construction and upgrading. Revenues, however, are only 9% of those attributed to "cruise tours." Hotels are competing fiercely for guests; the range in hotel accommodations and prices are greater than for vessels and there is a wide assortment of seasonal discounts to attract visitors. In addition, a large number of unsanctioned private residences rent rooms.

Tourism Models

The model of "turismo con base local" advocated in the mid-1990s is still popular and the foundations of the Galapagos Special Law. It favors local and land-based economic growth. This type of transition has been slowly progressing but should not be pushed too rapidly. It has taken decades for the fleet to evolve into its present structure, and experience



demonstrates that attracting visitors to towns is a slow, ongoing process. Tourists are attracted by the archipelago's natural endowment; many have little or no interest in visiting the towns and cannot be coerced into doing so.

Overall, the diversity of tourism models is well-balanced and should be praised. Each contributes to Galapagos stakeholders (tour and hotel operators, conservation, the local populace, and mainland Ecuador) to different degrees. They are also changing over time. More tourists stay on the islands than ever before and a larger percentage leave their cruise vessels to dine locally and participate in the night life. One area of concern is that each inhabited island has benefited differently from tourism. The airport on San Cristóbal has yielded only marginal benefits for local entrepreneurs; tourism infrastructure there is overcapitalized. We will have to wait for the future to know how the new airport on Isabela will affect the town. There are reports that Floreana's inhabitants desire more involvement in tourism but are constrained by a shortage of potable water.

Socioeconomic Information

The absence of systematic large-scale gathering of economic data for parks means that key parts of the economy are overlooked. The absence of adequate statistics causes an information blind spot; these natural places are valued, on a financial basis, at a zero price. This leads to excessive destruction of natural areas, implying that present economic performance will be severely curtailed.
(IUCN, 1998)

Taylor et al. (2006) came to a similar conclusion and suggested "that on-going collection of socioeconomic as well as biological data should be a high priority in Galapagos as at other ecotourist destinations."

Data on the economic benefits attributed to protected areas are historically scarce and often unreliable. This is particularly true in Galapagos. With the exception of an occasional study by a consultant, there is little on-going information on the economics of tourism in the archipelago. The Park Service collects no economic data and the local branch of the Ministry of Tourism stopped collecting data on important subjects such as hotel occupancy and prices around 2002. Relevant information from the visitor entrance cards that would be useful to economic analyses (i.e., length of stay, name(s) of vessels, and hotels used) were not entered into the computer data base. The Park's Tourism Unit reported that, as of June 2006, it was in the process of doing so.

The Park does an excellent job of entering the data from the "Informe de Guías" that summarizes the number of days, number of foreigners and nationals aboard vessels, and sites visited on each cruise, but the data received is incomplete. In instances, there are no data on some vessels that operated during 2005 and 2006. This information should be cross-referenced with that collected by the various port captains and a monthly or annual summary of days at sea requested from vessel owners. Tour prices are easily obtained and when combined with data mentioned above could provide up-to-date estimates of vessel and hotel revenues. Park data sets are sometimes mislabeled and should be corrected. The Park data set on the number of visitors who are tourists, businesspersons, or arriving for other reasons needs to be improved and clarified. The Ministry of Tourism or Hotel Owners Association should be encouraged to gather data and submit monthly reports on hotel occupancy rates.

There are also contradictory data. For example, based on information from the GNPS, Taylor et al. (2006) reported that 94 tourist vessels with 1,897 berths were conducting tours in 2005. Information supplied by the GNPS during this



study indicates that there were 80 vessels with a capacity of 1,805 berths during 2006; whereas Proaño (2006) states there were 84 vessels with 1,674 berths operational in 2006. Vessels are sporadically replaced by new ones but, given the freeze on cupos, there should be little change in the number of vessels and berth capacity.

The Galapagos Economy

Lastly, tourism is the dominant, but not only, force driving the Galapagos economy and population growth. Global oil prices have recuperated; oil export revenues are again flowing into the Ecuadorian government's coffers and boosting the national economy. National economic growth has risen from minus 7.3% in 1999 to nearly 4% in 2005. Government institutions are consequently investing heavily in local economies, including Galapagos, which generally receives the highest amount per capita of any Ecuadorian province. Historical data on the budgets for public institutions are not available but based on the GNPS budget that jumped from \$7.8 million in 2005 to a reported \$15 million in 2007, public spending is rising much more rapidly than are tourism revenues.



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ANNEX A. Samples of Galapagos and International Tours and Prices Listed on the World Wide Web, 2006

Table A. Sample Galapagos Tours and Prices Listed on the World Wide Web, 2006

Vessel*	Vessel Length (ft.)	Passenger Capacity	No. of Nights	Price Range* (US\$)	Weighted Price/Night* (US\$)
1	110	16	7	2,329-2,690	371
2	93	16	7	2,750-3,050	425
3	100	16	7	2,795-2,995	421
4	82	12	7	1,255-1,785	236
5	72	14	7	1,395-1,890	252
6	76	16	7	930-1,275	166
7	100	14	7	2,892	413
8	46	10	7	643	92
9	85	16	7	2,002-2,272	315
10	98	18	7	2,195	314
11	95	16	7	1,500-1,650	230
12	90	16	7	2,200	314
13	78	16	7	1,000-1,530	200
14	70	16	7	1,530	219
15	70	16	7	1,380	197
16	70	10	7	1,000	143
17	72	10	7	1,060	151
18	84	16	7	1,450	207
19	75	16	7	910-1,300	172
20	110	16	7	2,329	333
21	237	90	7	2,850-3,075	431
22	70	12	7	1,040	149
23	48	8	7	1,200-1,350	187
24	210	48	7	2,950-3,600	491
25	125	40	7	3,543	506
26	192	32	7	3,250-3,500	491
27	100	36	7	2,481-2,870	396
28	110	24	7	2,282-2,414	340
29	83	20	7	2,195-2,596	357
30	83	20	7	2,195-2,596	357
31	83	20	7	2,195-2,596	357
32	125	16	7	2,700-3,450	466
33	216	16	7	2,592-2,880	401
34	140	16	7	2,750-3,050	425
35	185	16	7	2,500	357
36	124	16	7	2,469-2,743	382
37	105	12	7	2,435	348
38	112	12	7	2,038-2,264	315
39	51	10	7	1,990	284
40	84	8	7	Charter Only – 16,500	295
41	78	13	7	1,670-2,328	309
42	79	16	7	1,380-1,525	213
43	66	16	7	1,250-1,425	197
44	74	16	7	1,282-1,413	197
45	75	12	7	1,200	171
46	50	10	7	890-1,100	150
47	53	12	7	728-980	131
48	70	16	7	688-1,375	172
49	63	12	7	1,000	143
50	88	16	7	1,780-2,100	289
51	57	10	7	880	126

*Prices charged by individual vessels are listed on the World Wide Web. Nevertheless the names of vessels are omitted as many owners consider their prices confidential.

- Prices are double occupancy during the low and high season. When prices also vary by cabin and deck, mid-range prices are used.
- Prices include broker/travel agent fees.
- Excludes air fare and park entrance fee.
- Prices are weighted to reflect variations in prices between the low and high seasons. According to TAME, the low season is 13 weeks long (25% of the year) and the high season 39 weeks long (75% of the year).
- Week-long, 7-night tours are the most common, although there are 3-, 4-, and 10-day cruises.
- Many of the vessels (not all) with 7-day cruises that also offer 3- and 4-night tours charge more per night for the shorter tours. The increase is generally in the range of 11 to 16%. The shorter the tour, the higher the price/day.

Sources: *The World Wide Web; Sunny Land Tours; LaTour; Collette Vacations; General Tours*



Table B. Sample International Nature Cruises and Prices Listed on the World Wide Web, 2006.*

Location	Vessel Length (Ft.)	Passenger Capacity	No. of Nights	Price Range* (US \$)	Price/Night (US \$)
NW Canada and/or Alaska	92	10	7	1,800-2,370	260-340
	116	25	9	1,800-1,925	200-275
	152	70	7	3,230-4,720	460-675
	152	70	10	3,630-5,230	360-525
	166	84	6	3,250-3,950	540-660
	87	12	7	3,395	485
Shetland and Falkland Islands and/or Antarctica	226	49	11	3,095-6,995	280-635
	284	105	9	3,750-6,750	415-750
	272	84	14	5,509-9,252	390-660
Australia/Great Barrier Reef	115	42	4	750-1,045	190-260
	206	72	7	1,860-2,545	265-365
Costa Rica and/or Panama	185	100	7	3,099	440
	185	100	9	3,599	400
	174	64	7	2,490	355
	174	64	10	3,980	400

* Egypt/Red Sea tours are excluded as most tours are on large ships and not comparable to Galapagos.

Table C. Sample Galapagos Diving Tours and Prices Listed on the World Wide Web, 2006

Vessel*	Vessel Length (Ft.)	Passenger Capacity	No. of Nights	Price Range(US\$)	Price/Night (US \$)
1	75	12	7	1,200	170
			3	750	250
2	110	16	7	2,329-2,690	330-385
3	93	16	10	4,560	455
			7	3,190	455
4	100	16	10	4,175-4,375	420-440
			7	2,995-3,195	430-455
5	86	10	7	1,799-1,999	260-285
6	96	16	7	2,380	340
7	82	12	7	2,350	335
8	72	14	7	2,450	350
9	76	16	7	2,100-2,350	300-335
10	100	14	7	3,095	450
11	90	16	7	2,500	360
12	70	14	7	2,799	400
13	72	10	7	1,060	150
14	84	16	7	1,022-1,191	145-170
			4	639-745	160-185
15	293	100	7	2,715-4,205	390-600

* Prices charged by individual vessels are listed on the World Wide Web. Nevertheless the names of vessels are omitted as many owners consider their prices confidential.



Table D. Sample International Diving Tours and Prices Listed on the World Wide Web, 2006

Location	Vessel Length (Ft.)	Passenger Capacity	No. of Nights	Price Range (US \$)	Price/Night (US \$)
Australia/Great Barrier Reef	90	29	4	1,047-1,339	260-335
	100	29	7	2,538-3,177	360-455
	82	19	7	3,000	428
Egypt/Red Sea	83	16	7	1,270	180
	96	12	7	1,090	155
	129	20	7	1,230	175
	144	12	7	1,485	212
	125	20	7	1,015	145
	86	12	7	1,536	219

Table E. Sample International Nature Land Tours and Prices Listed on the World Wide Web, 2006

Location	No. of Nights	No. of Park Visits*	Price Range** (US \$)	Price/Night (US \$)
Kenya (Africa)	12	5	5,760	480
	11	5	6,095	555
	7	6	1,690-1,995	240-285
	10	6	2,390-2,870	240-285
	9	5	4,945-5,430	550-605
	6	4	1,469	245
Tanzania (Africa)	3	2	980	325
	10	4	3,380	340
	12	8	6,790	565
Tanzania and Kenya (Africa)	13	9	6,598	510
	13	8	4,290	330
Zambia (Africa)	12	3	4,695	390
	11	3	3,990	360
Peru/Machu Picchu (South America)	6		1,190	200
	6		824-1,870	140-310
	3		336-409	110-135
	8		845	105
Machu Picchu and Galapagos	14***		6,840-7,785	490-555

* May include multiple entries into the same park.

** Prices vary by season and quality of accommodations; prices exclude international air fares.

*** Four nights in Galapagos.



Table F. Sample Mainland Ecuador Tours and Prices Listed on the World Wide Web, 2006

Tour Type	Location	No. of Nights	Price (US \$)	Price/Night (US \$)
Upper Amazon Lodges	Kapawi	3	570-656	190-219
		4	750-878	187-219
		7	1,354	193
	Sacha	3	661	220
		4	810	202
	La Selva	3	634	211
		4	756	189
	Yaturi	3	300	100
		4	375	94
	Yachana	3	336	112
		4	448	112
	Cuyabeno (5-9 people)	4	652	163
	Casa del Suizo	2 in Quito, 5 in camp	1,395	199
	Light Brigade Trekking Tour	6	1,575	262
Upper Amazon Cruises	Amazon Adventure	9 (2 in Quito)	1,395	199
	Manatee Cruise	3	461	154
		4	652	154
Andes Tours	Cuenca	3	830	277
Day Tours	Cotopaxi National Park & Indian Market	1	140	
		1	375	
	Cuenca & Ingapirca Ruins	2	475	237
Half-day Tours	Quito or Guayaquil	0	30-45	



ANNEX B. Park Entrance Fees in Selected Nations and Protected Areas (in US Dollars*/Adult/Day unless otherwise noted)

Country	Year	Park	Citizens	Residents	Non-Residents
Australia	2005	Great Barrier Reef Tax	7.00		7.00
Brazil/Argentina		Iguacu			30.00
Ecuador	2006	Cotopaxi	1.20		10.00
		Cuyabeno	2.40		20.00
		Machalilla	1.20		15.00
		El Cajas	1.20		10.00
		Other parks	0.40-0.80		5.00-10.00
Costa Rica	2005	All mainland parks	3.00		6.00-15.00
		Cocos Island (per person/trip)			105.00
		Cocos Island (additional dive tax/trip)			28.00
Egypt	2003	Red Sea Marine Park			5.00
		Ras Mohammed			5.00
India	2004	World Heritage Sites	0.20		10.00
Kenya	2006	Abgerdare, Amboseli & Lake Nakuru	1.40	7.00	30.00
		Tsavo East, West & Meru	1.40	7.00	27.00
		Nairobi & Shimba Hills	1.40	7.00	23.00
		Other parks & reserves	1.40	7.00	8.00-15.00
Madagascar	2001	Masoala			9.70
Nepal	2005	Sagarmatha (Everest)	0		15.00
		Royal Chitwan	0.30		7.50
Peru	2006	Machu Picchu			25.00
		Inca Long Trail (5-day permit)			60.00
		Inca Short Trail			30.00
Rwanda	2006	Parc des Vocans			25.00
		Gorilla Viewing Fee**			375.00
South Africa	2005	Kruger	10.00		20.00
Tanzania	2006	Serengeti & Ngorongoro Crater	1.35		50.00
		Kilimanjaro	1.35		60.00
		Gombe & Mahale	1.35		40.00
Zambia	2002	South Luangwa, Lower Zambesi & Victoria Falls Island	3.15		20.00
		Kafue	3.15		10.00
		Others	1.60		5.00-15.00

* Currency conversion rates as of April 2006.

** In Parc des Vocans - a 1-to-4-hour trek including guide and military escort. Maximum group size is seven.