



The Importance of Ecotourism as a Development and Conservation Tool in the Osa Peninsula, Costa Rica

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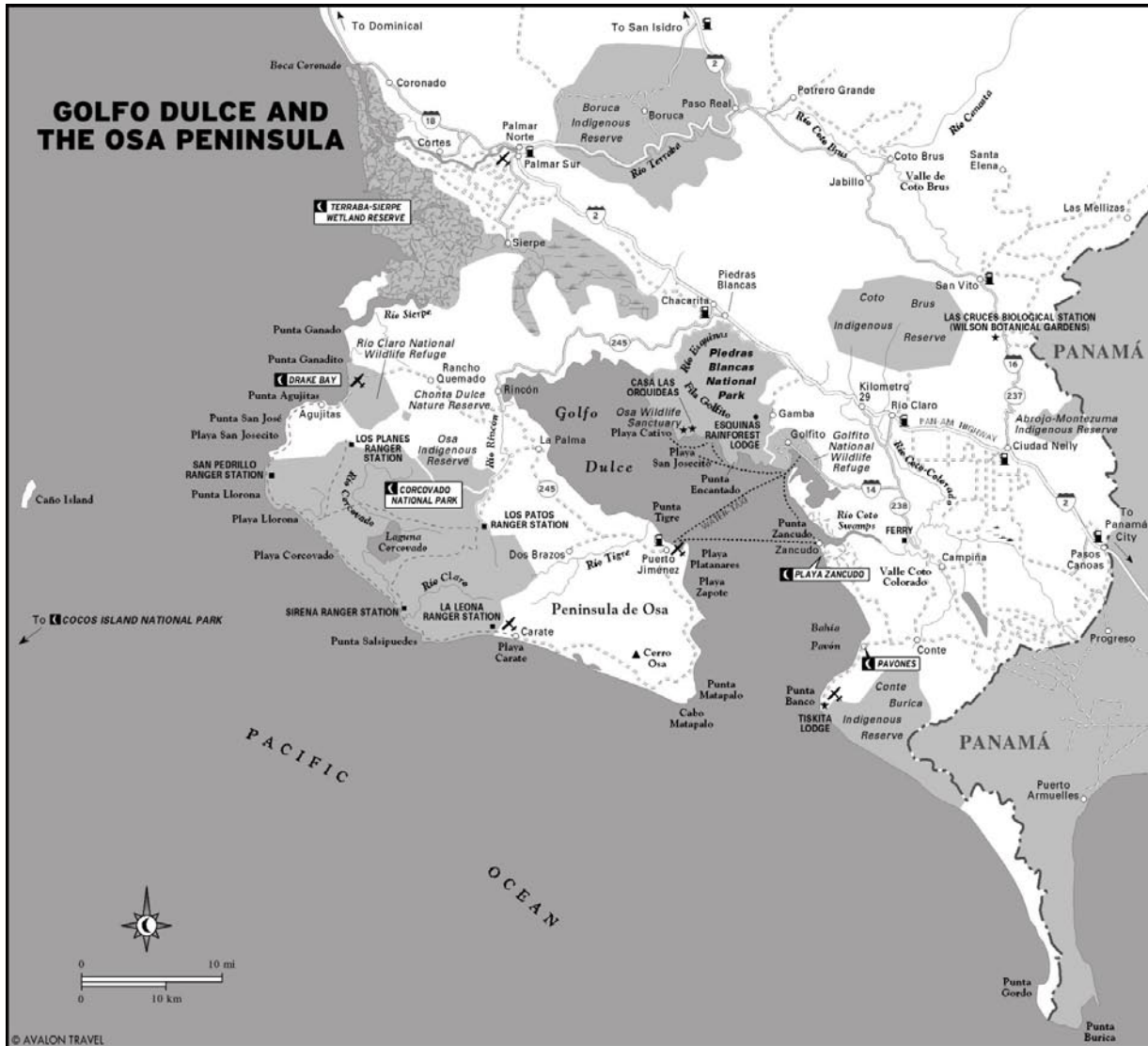
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Map of the Osa Peninsula



Source: Moon Travel, http://www.moon.com/files/map-images/ctr_08_Golfo-Dulce-and-the-Osa-Peninsula.jpg

Key Findings

The Osa Peninsula is the last remaining section of Costa Rica's Pacific coast where ecotourism is the dominant economic activity. It therefore offers a unique possibility to ground test the economic, social and environmental impacts of ecotourism compared with other employment alternatives as well as to make possible some comparisons with the type of large-scale resort and vacation home tourism prevalent along the northern and central Pacific coast.

The following are the key findings that emerged from this field study.

Resident Surveys

The field team conducted 128 interviews with local residents of the Osa in and around Drake Bay and Puerto Jimenez, including 70 interviews with ecolodge employees and 58 with residents not working in tourism. The ecolodge employees included housekeepers, kitchen staff, bar and wait staff, maintenance and grounds workers, and front desk employees; managers are covered in a separate category. The occupations of non-tourism workers included agriculturalists and livestock managers, shopkeepers, school teachers, medical professionals, small business owners, and members of local skilled trades. Here are some key findings from these interviews:

- **Local employment:** Tourism workers are younger, more predominantly male, and far more likely to be from the Osa than non-tourism workers (58% compared with 35%). This indicates that small-scale nature-based tourism is an important employment opportunity for the Osa and that, unlike many other tourism destinations, tourism is not built significantly on imported labor. Expansion of ecotourism therefore would appear to be a good tool for helping to curb outward migration from the Osa Peninsula.
- **Income:** Tourism workers' monthly income is almost twice as high as those of workers not in tourism (\$709.70 versus \$357.12). Further, tourism workers reported that their total monthly household incomes were 1.6 times higher than households where no one works in tourism (\$784 vs. \$503). Therefore, ecotourism in the Osa is generating higher incomes for local residents than employment in the other locally-available types of employment, even during the "worst" months of the year.
- **Household expenditures:** Spending patterns are roughly the same for households with and without tourism workers, although households with tourism workers have more disposable income (\$338 per month vs. \$162). Further, tourism workers were two times more likely than non-tourism workers to feel that their jobs had allowed them to progress.
- **Attitudes towards the future:** Employment in tourism is viewed as a stepping stone to new employment or to management-level opportunities. Tourism workers reported they are far less likely than non-tourism workers to be in their present job in the future. Rather

tourism employees are more likely to have changed jobs to positions of greater skill and more likely to want to start their own tourism related business. Tourism workers exhibit a greater entrepreneurial spirit and willingness to change jobs according to opportunities and personal goals than do non-tourism workers.

- **Quality of life:** While both tourism and non-tourism workers said they feel they are living “a good life”, the percentage was higher for tourism workers (74% vs. 66%). In addition, tourism workers were also almost 3 times as likely to emphasize the importance of stable work as part of quality of life.
- **Tourism Expansion:** A majority of both tourism workers and non-tourism workers indicated a desire to see more tourists arriving in the Osa (63% for tourism workers and 76% for non-tourism workers). However, tourism workers gave a much higher percentage of qualified answers (16% vs. only 2% from those not working in tourism), suggesting that tourism workers have greater familiarity with the potential negative impacts of tourism.
- **Attitudes towards current issues facing the Osa:**
 - **New international airport:** Tourism workers were better informed (87% vs. 57%) about building a new international airport at Palmar Sur, and were more likely opposed to (25% vs. 5%). However, a majority in both groups favor the airport, viewing it as bringing development and increasing employment opportunities.
 - **Cruise ships in Golfo Dulce:** By nearly the same percentages, both groups see cruise ships as positive: 48% in favor, 12% against for tourism workers and 45% in favor and 19% against for non-tourism workers.
 - **Presence of foreigners:** Tourism workers were more than twice as likely as non-tourism workers to have a negative opinion about foreign-owned homes in the Osa (37% for tourism workers vs. 17% non-tourism), while both groups view sales of land to foreigners as more negative (31% and 34%) than positive (19% and 22%). On the other hand, both groups felt that the presence of foreigners was more positive (30% and 29%) than negative (14% and 12%). This would indicate a somewhat negative attitude towards foreign vacation home and property owners, particularly among tourism workers, while the overall presence of foreigners is seen as more positive than negative.
 - **National parks:** Both groups gave overwhelmingly positive responses towards national parks: 85% positive for tourism workers, and 74% for non-tourism workers. This appears to represent a substantial shift in the attitudes of Osa residents who historically opposed the top down declaration of Corcovado and

other parks and the exclusion of local people who had depended on these lands for their livelihoods. This finding suggests that ecotourism, with its commitment to benefiting both local livelihoods and the environment, plus government and NGO efforts to promote poverty alleviation and create income-generating alternatives for communities living in and near protected areas, have helped to improve local attitudes towards national parks.

- **Environmental issues:** Respondents from both tourism work and non-tourism work overwhelmingly agreed that the worst threat to local species diversity at the present time was hunting, followed by deforestation. Yet 37.5% of non-tourism workers reported they had extracted items (such as wood, plants, and seeds) from the forest in the last year, compared to only 17.5% -- less than half as many—for tourism workers. While more research is needed to understand the reasons behind these differences, other studies found that ecotourism has sensitized employees to environmental issues.

Overall, the two groups both see positive changes in education, job training, and value given to nature, and a decline in hunting and deforestation. On the negative side, both groups see increases in land and consumer prices, sale of land to foreigners, and alcoholism, drug addiction, and prostitution. However, the two groups differed in whether or not they attributed these changes to tourism. Those not working in tourism were less likely to attribute either perceived benefits or perceived detriments to the impacts of the tourism industry. In the case of opportunities for job training and local value of nature, tourism workers felt overwhelmingly that the increases were due to the impacts of tourism, whereas more ambivalence was shown by the non-tourism group.

Hotel Owner/Manager Surveys

The surveys with tourism and non-tourism workers were supplemented with surveys of owners and managers from 11 hotels to help determine environmental, social, and economic practices and perceptions. While the sample was small, it included some of the better known ecolodges in and around Drake Bay and Puerto Jimenez. They range in size from 4 to 20 rooms and have between 1 and 45 employees. The interview pool included five Costa Ricans, five U.S. expatriots, one German and one Swiss (in one hotel, two different owners took part).

Many of the findings seem surprising given the 'green' reputation of the Osa and its ecotourism sector. While the hotel executives clearly have a deeper understanding of the threats to the Osa posed by uncontrolled tourism development, in practice they seem to be doing relatively little to monitor and measure the impacts of their own businesses or to invest in staff training and procedures to reduce their environmental footprints. The most significant findings from these manager interviews included:

- None of their hotels are CST certified, although several have initiated the process. Being small hotels, a number said they do not even have enough staff to maintain

detailed accounts. They urged CST to provide more assistance to help with the certification process. Similarly, only a few beaches in the Osa – including Playa Blanca near Puerto Jimenez, Matapalo at the tip of the Peninsula, and Playa San Pedrillo in the north of Corcovado National Park—have received Ecological Blue Flag certification.

- Just over half (6 of 11) say their hotels are volunteering time or contributing material resources or funds to support community and conservation projects. However, *tourist* participation in these “travelers’ philanthropy” projects was even less at most hotels in the sample, ranging from zero to 20%. But the proven record of hotels in Osa with successful projects is proof concept: there is great potential for expanding these efforts in Osa.
- In terms of environmental practices, most of those interviewed report having high quality waste management and septic systems. However, all but one hotel receive electricity from the grid; four supplement this with solar and three with hydro power. (An official with the government-run electricity company, ICE, said that 85 percent of the company’s electricity is from renewable sources, water, solar, and wind.) In addition, few have systems for monitoring and measuring water and energy use, solid waste production, or use of toxic chemicals. Only one hotel has a system to identify, monitor, and keep record of its negative environmental impacts.
- In terms of climate change, none offer on-site opportunities for tourists to off-set the carbon impact of their travel to Costa Rica, and only one reported contributing directly to a carbon off-setting organization.
- They expressed strong concerns about a lack of effective local government, the difficulties in securing land tenure and clear property titles, and the possibility that unplanned and large-scale development as has happened in Guanacaste would come to the Osa. Three of those surveyed were outspokenly opposed to building the new international airport.

Tourist Surveys

The field research teams interviewed a total of 73 tourists, nearly evenly divided between men and women, who stayed on average 5.5 nights in the Osa. They ranged in age from 19 to 70, with a mean age for women of 41 and for men of 38. In terms of their views, activities, and spending patterns, the most important findings were:

- **Reason for visiting the Osa:** The top reason was to visit Corcovado National Park, with the two runner’s ups being the recommendation of a friend and the region’s reputation for unspoiled tropical wilderness.

- **Most popular activities:** Underscoring the importance of healthy natural environments, visitors listed their four top activities as hiking (66%), photography (64%), bird watching (64%), and national park tours (62%).
- **Importance of responsible travel:** Two-thirds (64%) said traveling responsibly was very important or important to them, and over 80% said that it was important that their hotel be socially and environmentally responsible. However, only 8% said they had purchased carbon credits for their travel, while 73% said they did nothing to verify their hotel's environmental practices and 81% said they had done nothing to verify the hotel's social practices. Further, only 18% of travelers surveyed had heard of the Certification for Sustainable Tourism (CST) program. Therefore while most tourists visiting the Osa say they are concerned about traveling in ways that are socially and environmentally responsible, few are taking any concrete actions to do so.
- **Cost of travel:** It proved challenging to calculate costs because tourists come to the Osa in a variety of ways and were interviewed at various stages of their stays. However, costs can be, roughly, divided into those for package and non-package visits. Independent travelers were found to stay an average of 5.5 days and spend on average \$888. Package tour travelers stayed an average of 5.6 days and spent on average a total of \$2150. Because of the assumptions and extrapolations, figures should be taken as approximations.
- **Willingness to pay:** Tourists surveyed perceive their visit to the Osa to be a “good value” whether they were on package tours or traveling independently. Out of 73 visitors surveyed, 44 (66%) indicated a willingness to pay more than they had for the same experience in the Osa – an average of \$177 more. Of this amount, they expressed a willingness to pay on average \$42 more for a visit to Corcovado National Park.

In addition, 42 (58%) of visitors said they were willing to contribute on average \$68 more to support local projects in the Osa. This indicates strong support among visitors for the idea of travelers' philanthropy. However, at present only 6 of the 11 hotels whose managers were surveyed have travelers' philanthropy programs and only a few are directly soliciting contributions from visitors. Clearly the potential exists in the Osa to generate more money from tourism by increasing the travel costs and by soliciting contributions for local projects.

Introduction

The Center for Responsible Travel (CREST) received a one year grant from the Tinker Foundation to undertake a systematic assessment of the impacts of small-scale ecotourism in the Osa Peninsula, Costa Rica. This peninsula, which hosts Corcovado National Park, the “crown jewel,” of Costa Rica’s protected areas, is home to roughly half of all species found in Costa Rica. It is considered not only the country’s last wilderness frontier but also one of the most biodiverse places left on earth. The Osa is also one of few remaining regions along the country’s Pacific coast where ecotourism, catering to both domestic and international travelers, is still the predominant tourism model. The region’s geographic remoteness has to date deterred large-scale tourism development. But the region is now poised to open up to large-scale resort and vacation home development, dominated by foreign investors and owners, catering to an upscale international market, and supported by new roads, a proposed new international airport, marinas, and other infrastructure.

CREST staff, assisted by trained graduate and undergraduate research assistants from both Stanford University and the University of Costa Rica, Golfito, carried out field research in August, 2010 to assess the economic, environmental, and social impacts of ecotourism in the region, and to evaluate local and visitor perceptions of ecotourism and proposed mass tourism projects. This study builds on CREST’s previous research in Costa Rica including an assessment the impacts of rapid coastal development along the Pacific coast (Honey, Vargas, Durham 2010), impacts of cruise tourism (CESD/CREST and INCAE 2007), and three case studies of ecolodges and sustainable hotels (Almeyda et al 2010a; Almeyda et al 2010b, Durham et al 2010)¹. It also provides a foundation for CREST’s ongoing work in the Osa Peninsula around travelers’ philanthropy and as part of a sustainability plan spearheaded by Stanford University’s Woods Institute.

This latest study is timely for several reasons: 1) there is growing concern over the new international airport for Osa and its likely impact, given the impact of the Liberia Airport on northwestern Costa Rica (Honey, Vargas, Durham 2010); 2) the economic recession brought a temporary halt to most new tourism projects, offering an opportunity to carefully assess what types of tourism are most appropriate in the Osa; and 3) Osa Peninsula, because of its biodiversity importance, extensive protected areas, and predominance of ecotourism offers “a best-case scenario” (Horton 2004:2) for examining the potential of ecotourism as a sustainable economic activity. To date, government and private sector expansion plans have been made without a solid understanding of the Osa’s ecotourism model or the likely impacts of large-scale, conventional tourism developments to both local livelihoods and biodiversity conservation in this region. This study of the impacts of ecotourism in Osa is designed to fill a critical gap in knowledge and help to stimulate an *informed* debate about choices for going forward.

¹ The hotels analyzed in these studies are Lapa Rios Ecolodge, Punta Islita Resort, El Parador Resort & Spa and Si Como No Resort and Spa.

Overview of the Osa Peninsula

- **Protected Areas and Biological Importance**

The Osa Peninsula has been hailed by *National Geographic* as “the most biologically intense place on the planet”.² It holds scores of rare and endangered plants and animals, including jaguars, puma, ocelot, white-lipped peccaries, tapirs and harpy eagles, as well as Costa Rica’s largest population of the endangered scarlet macaw and Central America’s largest population of squirrel monkeys. It is also home to more than 375 species of birds (18 are endemic), 124 species of mammals, 40 species of freshwater fish, approximately 8,000 species of insects, and 117 species of reptiles and amphibians. In a total area of less than one million acres, the Osa contains thirteen distinct tropical ecosystems and, remarkably, *hosts two and a half percent of all the existing flora and fauna species on earth.*³

In addition, the 600 foot deep Golfo Dulce, between the eastern coast of the Peninsula and the mainland, holds comparable marine biodiversity within a setting of great beauty. It is regarded by many as one of just four tropical fjords in the world and the only one on the Pacific coast of the Americas. Humpback whales, dolphins, and sea turtles inhabit the Gulf and the extensive mangrove swamps that line the coast are important nurseries for marine wildlife. The Gulf’s rich waters support an impressive array of fish and attract sport fishermen from around the world. The beaches of the Osa Peninsula provide critical nesting habitat for three species of sea turtles – the Pacific Green, Leatherback, and Olive Ridley. The Olive Ridley is the most common, with more than 1500 individual turtles per season visiting the area to lay their nests.⁴

The coast of the Osa has the longest stretch of lowland Pacific rainforest in the world. Only a strip of white sand beach separates the Osa’s 400,000 acre lush rainforest from the sea. The forest holds some 4,000 plant species, 700 species of trees -- some more than 200 feet tall -- and represents the last large stand of tropical moist forest on the Pacific Coast of Mesoamerica. One of the wettest places in the world, the region receives an average annual rainfall of 150 - 200 inches.

Today, 80% of the Osa is within protected areas, both public and private. The Osa Conservation Area (ACOSA) comprises more than a dozen national protected areas, including terrestrial and marine parks, small wildlife refuges, forest reserves, wetlands, and a biological reserve on Cano Island.⁵ The most important of these are:

² The original citation for this quote could not be found, but it is widely quoted. See, for instance, <http://sabalolodge.com/blog/costa-rica/osa-peninsula/> and CANATUR: www.tourism.co.cr.

³ “Letter from the Director,” The Nature Conservancy, <http://adopt.nature.org/acre/costa-rica/letter-from-the-director.html>.

⁴ Ocean Sea Turtle Conservation, “Osa Sea Turtles,” <http://www.osaseaturtles.org/>.

⁵ ACOSA, “Costa Rica National Parks System, 2005-2009,” <http://www.costarica-nationalparks.com/osaconservationarea.html>.

- **Golfo Dulce Forest Reserve**, established in 1979, which includes 149,593 acres (62,703 hectares) of forested lowland areas surrounding the Golfo Dulce and the Osa Peninsula. These are fragmented, dense evergreen forests which provide a biological corridor, connecting multiple wildlife refuges and national parks surrounding the gulf. A substantial portion of the reserve is still in private land.
- **Sierpe Terraba Mangroves National Wetlands**, 75,715 acres (30,654 hectares) in the northwest of the peninsula, includes the largest intact estuaries in Central America. Nationally designated as a Forest Reserve in 1977 and registered as a Wetlands International RAMSAR site in 1995, the Sierpe Terraba Wetlands hosts important habitat for many species of birds, fish, shellfish, mammals and reptiles. It is an increasingly important nature tour attraction.
- **Piedras Blancas National Park**, created in 1991, protects 34,642 acres of rainforests and beach areas inland of the Golfo Dulce near Golfito.
- **Golfito National Wildlife Reserve**, just adjacent to Piedras Blancas, is a 6,943 acre reserve which was declared in 1988 after the United Fruit Company pulled out of Golfito. It lies in a rugged wilderness area with dense evergreen.
- **Osa Wildlife Refuge** is one of the newest of the numerous other wildlife refuges. This 3962 acre refuge was declared in 1999 to protect forested beach areas on Cabo Matapalo on the peninsula's extreme southern tip.
- **Corcovado National Park**, the oldest and most important of the Osa's protected area is the largest protected area of tropical wet forest in Central America. Established in 1975, Corcovado encompasses over one million acres of land (44,484.56 hectares) and 13,276 acres of ocean (5,375 hectares) and contains a variety of ecosystems including forests, beaches, coral reefs, and mangrove and freshwater swamps. Its unusually high level of biological diversity provides essential habitat for a number of endemic and endangered species and makes it the peninsula's leading tourism attraction. However, its creation, while orchestrated by national and international conservationists and hailed by supporters of Costa Rica's national parks system, was opposed by many Osa residents, including local gold miners, loggers, farmers, and squatters. Corcovado has been the scene of the most volatile and long-running conflict in Costa Rica between rural people and parks.

- **Local Population and the Economy**

In contrast to its richness in biodiversity, the Osa Peninsula is one of the most sparsely populated and poorest areas in Costa Rica. Located in Puntarenas province on the southern part of the Pacific coast, the peninsula consists of two counties or cantons, Osa and Golfito. In the Ministry of Planning's most recent social development index, Osa country ranks 73 and

Golfito county ranks 78 out of 81 counties in the country.⁶ The region's residents suffer from higher than average levels of poverty, infant mortality, and illiteracy (Marviva 2009:4). While Costa Rica boasts of a national literacy rate of 96% and has devoted almost 30% of its national budget to education since the 1970s, the Osa falls well below the impressive national average. Many rural primary schools have only one teacher for all grade levels, and secondary schools are concentrated in urban areas, so that rural and indigenous children have great difficulties attending. Not surprisingly students in the Osa have a higher dropout rate than the national average, with an estimated quarter not attending school and over half not finishing secondary school.⁷

Sources of income have also been limited. Over the last half century or more, the region's economic activities have included logging; hunting; cattle ranching; small-scale agriculture; gold mining; and rice, banana, oil palm and timber plantations. In recent years, tourism and tourism-related businesses employ increasing numbers of the local people. However, economic opportunities in the Osa are undeniably limited, contributing to the prevalence of unsustainable activities like illegal logging, poaching, gold mining, and destructive land-use practices. Today, lands in the Osa are being cleared for logging and agriculture at a higher rate than anywhere else in Costa Rica. These activities have devastating effects on wildlife; the decline in local populations of wild animals is increasing and dramatic.⁸

The Osa suffers from what Costa Rican anthropologist Carlos Borges calls "a very particular phenomenon of poverty, historical and structural" that has left the population "without hope" and with "very little social movement" other than a determination to try to "leave the zone" (Marviva 2009:4) Indeed, the Osa population has decreased steadily and significantly over the last decade, from 36,763 in 1999 to 22,601 in 2008.⁹ As a result, the Osa shows the highest level of population decline in Costa Rica (Marviva 2009:4).

While the social and economic statistics are grim, the history of the Osa is complex and conflictive. A central discourse centers on who is primarily responsible for environmental destruction in the Osa. International and national NGOs and parks officials have typically blamed subsistence farmers, ranchers, and miners, and have argued that excluding squatters and gold miners from the protected areas is necessary to prevent further destruction of the peninsula's rain forests. Local residents, however, have charged that transnational companies, backed by the central government, have been responsible for a string of failed development projects and for much of the "greed" and "waste" of land and resources. They further believe that environmental NGOs colluded with government in the top down imposition of protected areas, sometimes at considerable local cost (Horton 2007:36). Understanding these different

⁶ Ministerio de Planificación Nacional y Política Económica (MIDEPLAN), *Área de Análisis del Desarrollo: Índice de desarrollo social 2007*, MIDEPLAN, San José, Costa Rica, 2007.

⁷ Based on statistics from Ministerio de Educación Pública, San José, Costa Rica, 2009.

⁸ The Nature Conservancy, "Costa Rica: Osa Peninsula, Where Jungle Meets Sea," <http://www.nature.org/ourinitiatives/regions/centralamerica/costarica/placesweprotect/osa-peninsula.xml>.

⁹ Instituto Nacional de Estadística y Censos de Costa Rica (INEC), "Compendio de Datos Actualizados del País",

Anuario Estadístico 2008, San José, Costa Rica, Diciembre 2009.

interpretations of historical events is important in assessing present day attitudes towards government, parks, conservation NGOs, foreign landowners and investors, and ecotourism. We include a brief history of the Osa in Appendix 1 in support of this point.

- **Origins and Growth of Ecotourism**

Costa Rica was an early adopter of ecotourism. Ecotourism took off in 1987, after President Oscar Arias won the Nobel Peace Prize as the architect of the Central American Peace Plan. This Plan officially ended the region's several wars and as the conflicts wound down, Costa Rica's international image and tourism prospects quickly changed (Honey, 2008:160). By 1992 – just five years after tourism began to grow -- Costa Rica was hailed as “the number one ecotourism destination in the world” and the government's airport surveys were showing that most tourists were coming to Costa Rica for ecotourism-related reasons.¹⁰ Between 1986 and 1995, Costa Rica's tourism arrival numbers tripled and gross receipts jumped more than 5-fold, from 261,000 to 792,000 (See Table 1), as tourism surpassed bananas and coffee and became the leading foreign exchange earner.¹¹

Costa Rica's new tourism industry was largely homegrown, based on its outstanding network of public and private parks, as well as its relatively good infrastructure, large middle class, well educated and healthy work force, democratic government, absence of both an army and armed guerrillas, and relatively close proximity to the U.S. market. Most of owners of ecotourism lodges, tour companies, and other businesses were either Costa Rican or long term foreign residents, so that profits tended to stay in the country. There were, initially, no international brand hotel chains in the country (Honey 2008:161-167).

Over the course of the last two decades, not only has Costa Rica's international reputation and arrival numbers grown, but ecotourism has proved highly profitable. Between 1986 and 2007, tourist arrivals grew 7.5 times while gross receipts grew nearly 15 times; by 2007, Costa Rica was earning twice as much per tourist as it was in 1986, just before ecotourism took off. This demonstrates that Costa Rica was successfully capturing more tourism dollars as its tourism grew.¹² Despite the dip in arrival numbers due to the economic recession between 2007 and 2009, total gross receipts have continued to grow.

¹⁰ “What's Wrong with Mass Ecotourism?” *Contours*, Bangkok, 6 (3-4), November 1993, p. 16; Instituto Costarricense de Turismo (ICT), Departamento de Desarrollo, “Anuario estadístico de turismo,” San Jose, Costa Rica.

¹¹ Cuadro No. 44, “Turismo y Ostras Fuentes Generadoras de Divisas para Costa Rica, 1996-2005,” Sección Balanza de Pagos del Banco Central de Costa Rica, Área de Estadísticas del Instituto Costarricense de Turismo, Anuario Estadístico 2005, http://www.visitcostarica.com/ict/backoffice/treeDoc/files/BBF3_Anuario_de_Turismo_2005.pdf.

¹² In contrast, statistics from Jamaica, an island known as “the home of the all-inclusive,” reveal that tourist arrivals and receipts (expenditures by international inbound visitors) increased at roughly the same rate between 1994 and 2000, indicating that the resort model was not bringing the Jamaican economy, over time, more value per visitor. Polly Pattullo, *Last Resorts: The Cost of Tourism in the Caribbean*, 2nd edition, 2005, New York: Monthly Review Press, pp. 18, 97.

Table 1: Costa Rica's Tourism Growth

Year	1986	1990	1995	2000	2007	2009
Arrivals (thousands)	261	435	792	1,088	1,980	1,923
Gross receipts (millions US\$)	\$133	\$275	\$718	\$1,229	\$1,942	\$1,980

Source: ICT, Departamento de Desarrollo, Anuario Estadístico de Turismo

However beginning in the late-1990s, a different model of tourism -- all-inclusive transnational resorts, vacation home and condo complexes, and, to a lesser extent, cruise tourism -- has moved aggressively into northern Guanacaste and from there, spread down the coast towards the Osa Peninsula. This mass market tourism is centered around the Liberia International Airport on the northern Pacific coast, which in 2002 began receiving direct flights from the U.S (Honey, Vargas, Durham 2010). Since then some 100 beach resorts, most linked to international brands, have been built along what is dubbed Costa Rica's 'Gold Coast' -- a 60-mile stretch of the Pacific Ocean from the Papagayo Peninsula in the north to Tamarindo in the south.¹³

Costa Ricans refer to this Pacific coast development as "residential tourism" because the large complexes combine a resort with vacation homes or condos, restaurants, golf courses, marinas, spas, shops and other amenities. These all-inclusive villages typically require sizeable foreign investment and imports, as well as government supplied infrastructure and social services. In addition to large-footprint, all-inclusive resorts, some coastal towns such as Manuel Antonio have experienced what Costa Ricans term "*desarrollo hormiga*" (ant development) or intense and chaotic construction of small and medium hotels, mixed with vacation homes, restaurants and other businesses. In recent years, larger hotels and high rises have been added to the mix.

Over the last decade, Costa Rica's Pacific coast has become an epicenter in the Americas for rapid and often poorly planned coastal development closely tied to the U.S. market. Together cruise ship tourism centered in Puntarenas, residential tourism and *desarrollo hormiga* have transformed swaths of the coast's physical landscape, while displacing or competing for resources with many coastal fishing, farming and ranching communities. Between 2002 and 2007, residential real estate sales and development of vacation homes became one of the country's main sources of foreign direct investment. By 2007, residential construction totaled 74 percent of all new construction along the entire Pacific coast, primarily aimed at foreign, not local, buyers. This highly unstable form of investment also brought unanticipated demands for government services and resources, while apparently generating scant long-term benefits in terms of employment, taxes, or sales of goods and services after the construction stage. With the economic crisis beginning in late 2008, most construction ground to a halt, offering a political breathing space for reassessment (Honey, Vargas, Durham 2010).

¹³ Perry Garfinkel, "There's a Silver Lining in Costa Rica's Gold Coast," *New York Times*, April 16, 2009.

- **Growth of Tourism in the Osa Peninsula**

Tourism in the Osa traces back to the 1950s, when small numbers of foreign investors began purchasing coastal land for tourism, vacation homes, or real estate speculation. However the region's remoteness combined, as elsewhere, with the conflicts in Central America, prevented any real growth of tourism. By 1990, the Osa had only five small hotels and five restaurants catering to a few thousand visitors a year (Horton 2007:41-42).

Since then nature-based tourism has grown exponentially, catering to vacationers wanting to experience nature, adventure activities, and low-key comfort. In 2005, 19 hotels in the Corcovado-Golfito Planning Unit had received Tourism Declarations and were therefore registered as suitable for international visitors.¹⁴ They had a total capacity for 400 guests.¹⁵ By 2009, the number had increased to 28 hotels with a capacity for 582 guests. All are small individually-owned properties; there are as yet no transnational hotel chains in the Osa. According to the ICT, these accommodations in the Osa accounted for only 2.8% of rooms available in Costa Rica for the international market.¹⁶

In reality, however, the number of accommodations in the Osa hotels was far larger, with many cabinas and small hotels operating without Tourism Declarations and catering to an informal, largely domestic and international backpacker market. Field research in the Osa, conducted in 2000-2001, identified 33 cabinas and small hotels just in Puerto Jimenez. (Horton 2007:44; Horton 2004:2,6). According to Fundacion Corcovado, there are about hotels in the two cantons making up the Osa Peninsula, and we counted over 70 hotels ourselves.

While ecotourism in the Osa remains a small piece of Costa Rica's total tourism industry, arrivals numbers have grown significantly. By 2000, the Osa Peninsula ranked last on the ICT's list of the country's most frequently visited destinations. (See Table 2) At this time, more than 75,000 international visitors were coming to the Osa. (Inman 2002:27).

¹⁴ This includes only hotels with a Tourist Declaration which is required for marketing and technical support from the ICT, as well as for a liquor license. Regulations for Tourism Companies and Activities. Executive Decree No. 25226-MEIC-TUR, 1996

¹⁵ Cuadro No. 52, Ofreta de Hospedaje con Declaratoria, segun Unidades de Planeamiento, 2005, Proceso de Gestión y Asesoría Turística, Instituto Costarricense de Turismo Anuario Estadístico 2005, http://www.visitcostarica.com/ict/backoffice/treeDoc/files/BBF3_Anuario_de_Turismo_2005.pdf.

¹⁶ Cuadra 54, Oferta de Hospedaje con Declaratoria Turistica segun Unidades y Subunidades de de Planeamiento, 2009, Gestión y Asesoría Turística, Administración de la Información, ICT, Anuario Estadístico 2009, http://www.visitcostarica.com/ict/backoffice/treeDoc/files/EFDA_Anuario_de_Turismo_2009.pdf.

Table 2: Most Frequently Visited Tourist Destinations in 2000

DESTINATION	% of total number of tourists	No. of total tourists in 2000
Central Valley	84.4	918,335
Middle Pacific	30.8	335,127
Arenal, La Fortuna , San Carlos	22.3	242,640
Northern Guanacaste	18.9	205,646
Puntarenas & Gulf of Nicoya	16.1	175,180
Southern Caribbean	12.7	138,185
Southern Guanacaste	9.0	97,926
Monteverde	12.2	132,745
Northern Caribbean	8.5	92,486
Osa Peninsula	7.0	76,165

Source: ICT 2000, cited in Inman 2002:27.

Over the next decade, tourism arrivals in the Osa have nearly doubled, reaching 147,815 in 2009. At the same time, Osa's ranking among the country's tourism zones rose from 7% of total visitors to 9.7%, moving it higher than Limon, Southern and Northern Caribbean, and Southern Guanacaste. (Table 3) The main attractions drawing visitors to the region have been the Corcovado National Park and the growing number of private reserves. Visitation by residents and non-residents to Corcovado National Park, the Osa's most popular tourism attraction, doubled from 14,326 in 2002 to 28,058 in 2009. The vast majority were foreign visitors, not Costa Ricans.¹⁷

Table 3: Most Frequently Visited Tourist Destinations in 2009

DESTINATION	% of total number of tourists	No. of total tourists
TOTAL Number of Tourists *		1,519,604
Central Valley	83.8	1,273,816
Northern Guanacaste	33.0	500,960
Middle Pacific	28.5	432,448
Northern Plains (Arenal, La Fortuna , San Carlos)	26.9	409,167
Monteverde	13.8	209,128
Puntarenas and Gulf of Nicoya	11.2	170,916
Northern Caribbean	9.8	148,796
Osa Peninsula (Southern Pacific)	9.7	147,815
Southern Caribbean	9.5	144,758
Southern Guanacaste	7.3	111,677
Limón	3.4	52,327

*Not including Nicaraguan tourists that enter by land.

Source: Adapted from ICT, "Estimación del Ingreso de Visitantes por Unidades de Planemiento," *Encuestas de No Residentes*, http://www.visitcostarica.com/ict/paginas/modEst/estudios_demanda_turistica.asp?ididioma=1.

¹⁷ ICT, "Sistema Nacional de Areas de Conservacion (SINAC) Visita de Residentes y No Residentes a las Areas Silvestres Protegidas, 2002-2009," http://www.visitcostarica.com/ict/backoffice/treeDoc/files/EA56_Visitas_por_Unidad_de_Planeamiento_2006.pdf.

The ecotourism industry that has grown up in the Osa has been accurately described as “a three-tiered model of participation” stratified by nationality and geography (Horton 2007:43-44). The top tier is small and medium size boutique lodges (averaging 16 rooms each), primarily owned by foreigners, employing up to two dozen staff, and catering to higher-end international travelers interested in nature-based tourism. These ecolodges, typically located on private reserves or along beaches, are concentrated around Drake Bay, Pt. Jimenez, and Matapalo, and Corcovado National Park.

The second tier includes *cabinas* and small hotels averaging seven rooms located in the towns, particularly Puerto Jimenez, Drake Bay, and Golfito and catering to low-budget travelers and backpackers. These businesses are typically owned by more affluent Costa Ricans who employ family labor and two or three often part-time salaried workers. Costa Ricans also owned and ran a range of auxiliary tourism businesses and services including restaurants, taxis, boats, handicrafts, guiding, and activities such as fishing, scuba diving, water sports, zip lines, agricultural tours, and horseback riding. In 2000, it was estimated that 20 percent of Puerto Jimenez’ economically active population worked directly in ecotourism, and 60 percent received indirect economic benefits from it (Horton 2007:42,44; Horton 2004:6-7). Those interviewed for this current study described ecotourism as the dominant economic activity. “We all depend on tourism,” commented one professional who does not work in tourism.

The third tier is less well-off Costa Ricans employed by the larger ecotourism businesses as cooks, maids, handymen, gardeners, waiters, guides, office staff, and so on. (Horton 2007:44) Indeed, most Osa residents lack the tools, including capital, access to credit, business expertise, connections with the outside world, proficiency in English, and even sufficient education, to make it possible for them to become owners and managers of tourism businesses catering to the international market. Many local landowners have found it more profitable to sell their land to foreign investors for tourism projects, private homes, or private reserves. By as early as the mid-1990s, for instance, beach front land around Golfito was primarily owned by expatriates, driving land prices out of reach of most Costa Ricans. (Gibson 1999:85) The growth of ecotourism has fueled land speculation and raised prices, making it more tempting for locals to sell. During the 1990s, the value of coastal, ocean-view and forested land in the Osa was doubling every year. By 2002, it was estimated that 66 percent of beachfront land in the peninsula was owned by foreigners, mainly North Americans and Germans, for private vacation homes and ecotourism businesses (Horton 2007:45-46).

A North American real estate agent who lives in Puerto Jimenez said in an interview for this study that “people were doubling their prices every five months in the boom years between 1995 and 2005.” She explained, “Most wealthy Ticos [with beach front or ocean view land] are being bought out for hotels or private homes,” while “most poor Ticos [with forested land away from the coast] are being bought out for conservation,” for private reserves. All the buyers are foreigners, mainly North Americans. She estimated that between Carate and Matapalo and Las Palmas there are 45 to 50 properties vacation and retirement homes owned by foreigners. Since 2008, with the economic recession, “tourism is down, but real estate sales are even lower,” she stated.

As this indicates, the growth of ecotourism in the Osa has caused a tilt in economic power towards foreigners. However, rather than disrupting a relatively classless society, this shift represents simply another layer on the Osa's already stratified society. Prior to ecotourism, economic power in the Osa was concentrated in cattle ranchers and rice producers: 62 percent of the land was concentrated in the hands of just 11 percent of the population. (Horton 2007:46) As Horton explains, "[E]cotourism represents a continuation of these patterns of stratified land-holding and unequal social and economic power, albeit with a new set of actors involved – foreign ecotourism investors – rather than a rupturing of an egalitarian society." She adds, "Ecotourism on Osa, therefore, has not so much directly disrupted more traditional local- and nationally-oriented economic activities as offered additional income-generating opportunities." (Horton 2007:46) This process has been facilitated by tourism incentive policies that have long favored larger and more costly investments, overlapping authorities among government agencies, and weak enforcement of regulations and building codes, particularly within the maritime terrestrial zone (Zona Marítimo Terrestre, ZMT) (Honey 2008:162-167; CREST 2010:22-32). It is widely acknowledged, for instance, that most beach front hotels in the Osa are built within the maritime zone. According to one real estate agent, "almost all" the beach front hotels and private homes are built illegally within the ZMT. "Some comply with the law by getting use permits and building only temporary structures. Many hotels in the ZMT have applied a land use plan (*plan regulador*), but the municipal governments have been very slow and owners have jumped the gun" and built permanent structures.

For the peninsula as a whole, ecotourism was estimated in 2000 to generate 589 direct jobs and 696 indirect jobs out of a total population of about 37,000 and ecotourism wages were on par with or higher than wages for other types of work (Horton 2004:6; Horton 2007:44). At this time, Costa Ricans working in ecotourism "widely evaluated ecotourism as having a positive economic impact on the peninsula" (Horton 2007:44).

Similarly, as the elaborated below, those surveyed for this current study also view, in general, ecotourism as a positive economic activity and see jobs in ecotourism provide higher salaries and better opportunities for advancement than the zone's other economic options. "Tourism growth has had both positive and negative impacts, but it's been more positive than negative," stated a middle-aged official with the electricity company who was born in Puerto Jimenez. He said while tourism has brought cultural changes including "drug use and other social problems," it has also brought "good people from developed countries and this generates employment and helps the community. And tourism has also stimulated dialogue about protecting nature and good conservation methods." For others, however, memories of past injustices and conflicts over creation of Corcovado and the parks and reserves remain raw. "I'm not against parks," said one Puerto Jimenez businessman, "but I'm against how they were created and how they are currently run." Despite these concerns, this person went on to say that in his view, "ecotourism brings tourists looking to learn about nature," while "sport fishing brings tourists looking for drugs and prostitution. They are very different tourists." Others reflected similar views about sport fishing: "They call themselves 'eco', but they aren't," commented a local organic farmer. According to one informant, "One solution would be to make sure that new developments are ecologically sound."

Several of those interviewed mentioned a lack of accurate information and open public discussion about tourism development plans. As one person explained, “The community doesn’t have knowledge of what is happening or what plans are underway” because “there is no public forum” bringing together local people, tourism businesses, and NGOs. He suggested that “it would be good if we could work all together to decide what tourism we want and where are the parameters for this kind of development.”

Most of these interviews as well as the surveys were conducted in areas where ecotourism businesses are clustered. However, ecotourism is not spread through the peninsula. Geographically it is concentrated most heavily in Puerto Jimenez and the communities of Matapalo, Carate, and Drake Bay along the east coast, near intact rainforest, beaches, and Corcovado Park. Other parts of the peninsula with poor road access or far from beaches or with land deforested by cattle or rice production, has little ecotourism. Ecotourism is expanding: while a decade ago there was virtually nothing in La Palma, north of Puerto Jimenez, today this area has a growing number of small hotels and attractions.

While recognizing that nationality and geography have positioned some actors in the Osa to benefit far more than others from ecotourism, *the broader hypothesis tested in this current study is that ecotourism represents a different, and better, form of development than the existing extractive alternatives – such as timber, gold mining, plantation agriculture, cattle – or large-scale, densely-developed mass market tourism as is found along the northern Pacific coast.*

Methods

To collect data for testing the hypothesis above, a research team was organized and trained for work with Human Subjects, in accordance with the standards of Stanford University’s Internal Review Board. Field research by two research teams took place during August, 2010 in the communities of Drake Bay and Puerto Jimenez, Costa Rica. One field team was led by Carter Hunt, Ph.D., Bing Postdoctoral Fellow in Environmental Anthropology, and the other by Laura Driscoll, MA, CREST Coordinator at Stanford, with field supervision provided by Prof. William Durham, CREST Co-Director. CREST’s Washington, DC, Co-Director Dr. Martha Honey joined the teams as time permitted. During fieldwork, each team was housed for a few days by each of the main lodges where interviews of staff and guests took place, to allow for focused research among hotel personnel, guests, and surrounding community neighbors in each location. A total of 28 ecolodges provided the main data for this study, 14 in Drake Bay and 14 in Puerto Jimenez (data were also collected at one Costa Rican-owned zip line tour company). Data presented here were gathered through in-depth, structured interviews with 225 individuals in four subject groups: 1) Local residents working in tourism (selected from the employees of sample lodges), 2) local residents not working in tourism, 3) Tourists visiting the area’s hotels and tourism attractions, 4) hotel owners and managers. In addition, we conducted selected informal and semi-structured interviews with local business owners, NGOs, international and local realty offices, former lodge operators, community elders, and government departments.

Having a sizeable field team in each location had the advantage of allowing nearly complete sampling of guests and employees at many of the selected ecolodges.

Table 4: Numbers of Interviews, by lodge and category

	Lodges Sampled	Staff	Managers /Owners: Social/Economic	Managers/ Owners: Environmental	Tourists	Non-tourism Residents	Local Experts/ Elders
Drake Bay	La Paloma	10	1	1	15	27	
	Aguila de Osa	20	1	1	6		
	Jinetes de Osa	9			2		
	Pirate Cove	2	1	1	1		
	Drake Bay Resort	1	1	1	1		
	Cabinas Manolo	1					
	Cabinas Las Caletas	1	1	1	1		
	Hostal Pura Vida	1					
	Delfin Amor		1				
	Finca Maresia				1		
	Rancho Corcovado				1		
	Las Palmas				1		
	El Mirador				2		
	Punta Marengo				1		
	Subtotals	45	6	5	32	27	
Puerto Jimenez	Danta Lodge	5	1		1	31	5
	Iguana Lodge	14	1	1	13		
	Yellow Coco Lodge				2		
	Tortuga Negra		1	1			
	Lapa Rios	1					
	Playa Preciosa		1				
	El Remanso	1					
	Jutta's Hostel		1	1			
	Osa Palmas Zipline	4					
	Finca Exotica				1		
	Cabinas Jimenez				3		
	Bosque del Cabo				1		
	Ojala				3		
	La Choza del Manglar				1		
	Unknown or Unaffiliated				16		
	Subtotals	25	5	3	41	31	5
Grand Total	N = 225	70	11	8	73	58	5

For tourism employees, we obtained a comprehensive interview sample of all consenting employees of each main ecolodge, minus those who were away or on vacation during the study period. For local residents outside of tourism, interviewees were sought door-to-door among houses and shops in several sections of Drake Bay and Puerto Jimenez. To enable easy comparison, demographic data were collected along with information on income and expenses, perceptions of local social, economic and environmental trends, opinions on issues such as the sale of land to foreigners, or the proposed new international airport in Palmar Sur from both groups.

In addition to local residents, tourists in the two communities were interviewed for demographic information, their travel activities and reasons for coming to the Osa, their expenditures and willingness to contribute to local programs, as well as their attitudes toward environmental and social responsibility. Tourists were approached for interviews on site at the lodges that housed the research teams, and lodges nearby, as well as in the waiting rooms at the airports of both Puerto Jimenez and Drake Bay. For the sample of hotel managers, data were collected at each hotel on their specific environmental and social practices, including the sourcing of power, water, food, and labor, as well as various aspects of hotel infrastructure and community involvement. The additional sample of community elders and local experts from local businesses, NGO's and government departments was drawn up with the assistance of local ecolodge owners, who recommended specific offices and individuals for their experience in and knowledge of the Osa.

Quantitative interview data were compiled and analyzed using contingency tables, t-tests, Pearson correlation coefficients, and analysis of variance. In this report, we commonly focus on measures of difference, as between income for tourism employees versus non-tourism employees, to take one example. We make frequent use of “p-values” representing the statistical probability that a given difference is ascribable to chance. By convention, differences with a p-value less than 0.05 (that is $p < 0.05$) – meaning that they are expected by chance fewer than 5 times in 100 – are said to be “statistically significant” (i.e., not likely a chance result). Statistically significant differences are sometimes further corroborated by *qualitative* information gathered from the interviews. Qualitative information collected from both tourism employees and local residents can be found in Appendix 2. The results of both quantitative and qualitative analyses are included below by respondent category.

Results

Section 1: Local Residents

The field team conducted 128 interviews with local residents, including 70 interviews with ecolodge employees and 58 with residents not working in tourism. The occupations of ecolodge employees included housekeepers, kitchen staff, bar and wait staff, maintenance and grounds workers, and front desk employees; managers are covered in a separate category (Section 2). The occupations of non-tourism workers included agriculturalists and livestock managers, shopkeepers, school teachers, medical professionals, small business owners, and members of local skilled trades. The following are findings from the local resident's survey sample.

Comparative demographics of the sample

Our sample of local residents had the following characteristics: those working in tourism were more often male (68%) than female (32%) whereas those not working in tourism showed the reverse (43% male to 57% female). Non-tourism workers were also more likely to be married than tourism workers (54% vs. 32%). Contributing to the differences in marriage rates, the average age of tourism workers (29.6 years) was slightly lower than that of non-tourism workers (35.0 years), although the difference was not statistically significant ($p > 0.05$). Due in part to differences in age and marital status, non-tourism family sizes tended to be slightly larger than tourism workers' households, although the average for both groups was between three and four people per home. As shown in Table 5, female interviewees tended to have lived in the area for less time than male interviewees, and non-tourism workers reported slightly longer average periods of residency in the area than tourism workers, largely due to their being older.

Table 5: Demographics of the sample of local residents (total N = 123)

Demographic Descriptors	Tourism	Non-tourism	N	p-value
Married ^p	21 of 65	31 of 58	-	0.0178*
Male	44 of 65	25 of 58	-	0.0061**
Average household size ^δ	3.37	3.54	65	0.6164
Average interviewee age ^δ	29.61	35.02	71	0.0511
Female average years residency ^δ	13.93	14.98	39	0.8249
Male average years residency ^δ	19.83	28.08	58	0.0330*
Combined average years residency ^δ	18.3	20.46	97	0.4603

^p: Chi Square test used.

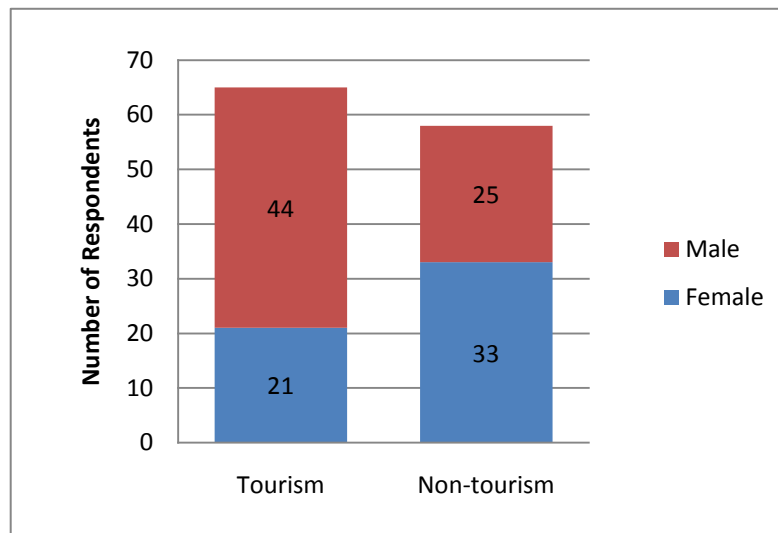
^δ: T test used.

In this table and those to follow, p-values represent the statistical probability that a given difference (here the difference between the tourism and non-tourism values in a given row) is due to chance.

*Result significant at the 0.05 level (i.e., a difference of this magnitude is expected only 5 times per hundred by chance).

**Result significant at the 0.01 level.

Figure 1: Gender and tourism involvement of local residents (both communities, N = 123)



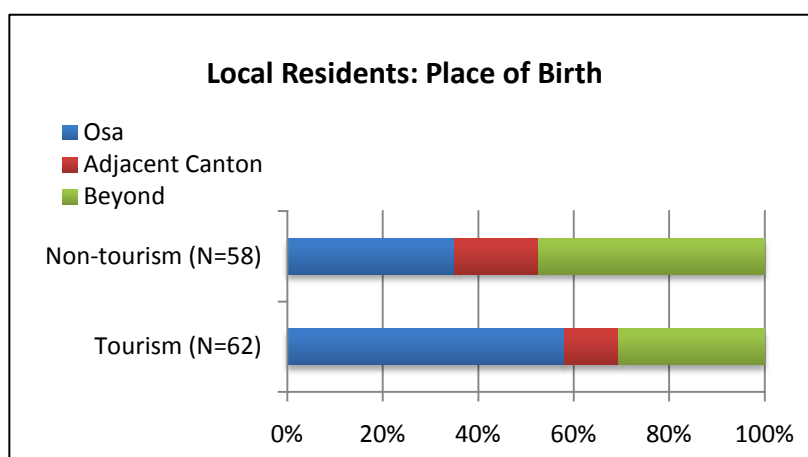
Place of Origin

Interviewees from both the tourism sample and the non-tourism sample were asked to provide their place of birth, enabling a look at mobility and patterns of migration among the local resident population of the Osa. Using the city, canton and province of each respondent's birth, respondents were classified as being from 1) the Osa itself (cantons of Osa or Golfito), 2) a region contiguous to the Osa (either an adjacent canton within the province of Puntarenas, or a directly adjacent canton within a neighboring province), or 3) an area distant from the Osa by one or more cantons.

The results of this analysis showed that within our sample, tourism workers were far more likely to be from the Osa than non-tourism workers -- 58% vs. 35% ($p < 0.05$), a 1.7 fold difference. This is an important finding, because it means that many locals can and do find employment in the local tourism sector, and that they have some advantage in doing so. From other research¹⁸, we know that local employment influences such things as commitment to community, sense of place, and even conservation ethic. Some of this 1.7-fold difference surely stems from the average age difference between tourism and non-tourism workers -- 29.6 years versus 35.0 years (itself a 1.2 fold difference). Still, the suggestion is that tourism work in the Osa represents a special economic opportunity for locally-born citizens. This is a finding that warrants further exploration and analysis in future research.

¹⁸ See Almeyda et al 2010a, 2010b; Durham et al 2010; Broadbent et al 2011, and Horton 2004, 2007.

Figure 2: Place of birth of local residents in tourism and not in tourism (N=120)



Income

Another important finding concerns income. At the level of monthly *individual* incomes, tourism workers across the full sample report almost twice the average income of non-tourism workers (\$709.70 versus \$357.12).¹⁹ This difference is especially meaningful in light of the fact that Osa is one of the poorest areas of Costa Rica. For the ecolodge employees, incomes for the month prior to the survey ranged from a low of \$366.59 for kitchen assistants and housekeeping staff to \$4,788.92 for a freelance guide. Among non-tourism respondents, one person employed as an artisan reported the lowest non-zero monthly income in the sample (\$96.47), while a farmer who had just sold his harvest reported the highest monthly income (\$1,929.42), but acknowledged that it was *only* during harvest time that his income would reach this level. During planting season, he reported being behind as much as \$5,000 a month, after buying seed and materials and paying for planting assistants.

Similarly, tourism employees across the full sample reported combined monthly *household* incomes on average 1.6 times higher than non-tourism incomes (\$784 vs. \$503; figures in local currency are ₡406,583 and ₡260,837). Differences in average household income between tourism employees and others were more pronounced in Drake Bay than in Puerto Jimenez, which is a larger and economically more diverse community. Tourism workers in Drake Bay reported household incomes 1.7 times that of their non-tourism counterparts, whereas Puerto Jimenez tourism employees reported incomes 1.2 times those of their non-tourism neighbors.

Hence, our data suggest that tourism employment in the Osa generates higher incomes for local residents than employment in the other locally available fields. In addition, analysis of incomes earned during each interviewee's "worst month of the year" shows that tourism workers report

¹⁹ Here and elsewhere financial figures are converted from Costa Rican colones to US dollars at the rate of ₡518 = \$1.00 US, the conversion rate on August 15th 2010 during the field research period.

significantly higher incomes even during difficult periods. In contrast to the normal average incomes reported in Table 6 below, tourism workers reported monthly income lows of on average \$467.16, while non-tourism workers reported income lows at an average level of \$310.05, a 1.5 fold-difference that is also statistically significant ($p < 0.05$).

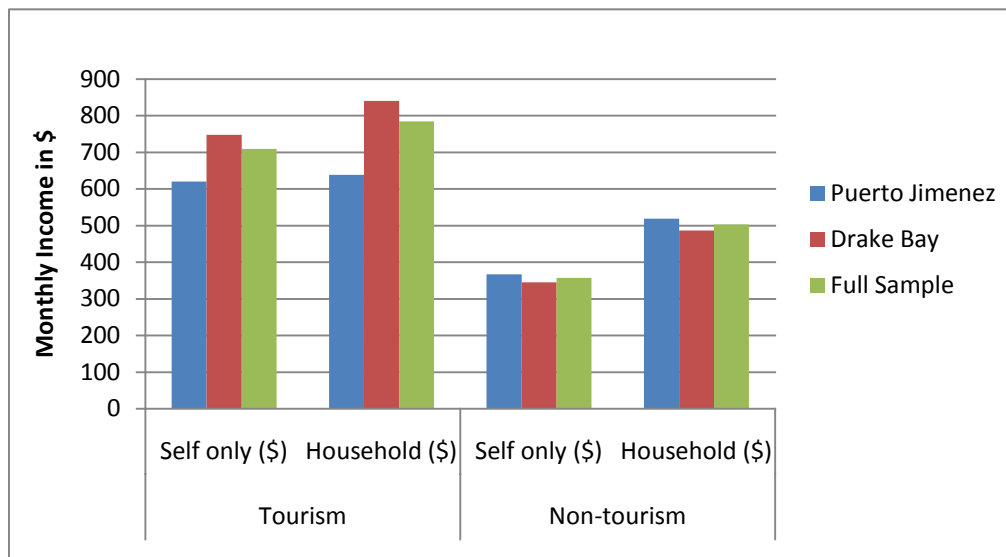
Table 6: Monthly Individual and Household Income in USD, aggregate means (N=116)

Community	Tourism		Non-tourism		p-value ^A	
	Self-only (\$)	Household (\$)	Self-only (\$)	Household (\$)	Self	Household
Puerto Jimenez	620.36	638.46	367.30	519.10	0.4027	0.5283
Drake Bay	747.99	840.10	345.54	486.78	0.0285*	0.1562
Full Sample	709.70	784.47	357.12	503.27	0.0292*	0.2125
Lowest Month	467.16		310.05		0.0299*	

^A: T test used. Here p-values were calculated comparing self-only incomes and household incomes separately between tourism and non-tourism.

*: Result significant at the 0.05 level.

Figure 3: Monthly income comparison by location and occupation, in US dollars (N=116)



Additionally, we asked respondents to indicate which months of the year were best and worst for their income, and which years among the last decade had been particularly good or particularly difficult.

Figure 4: Good and bad years for tourism workers in the past decade (N= 48)

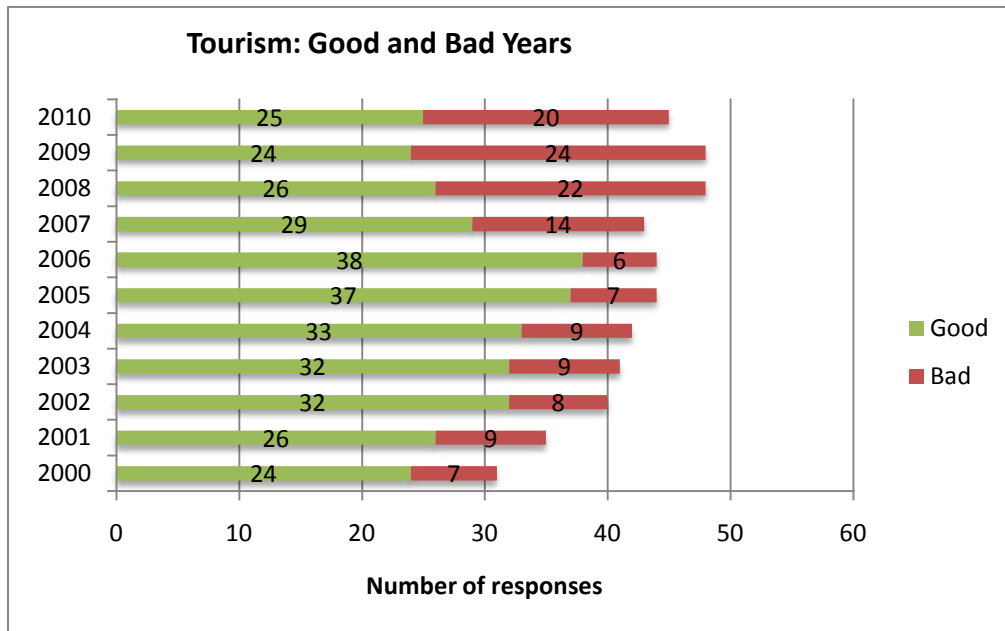
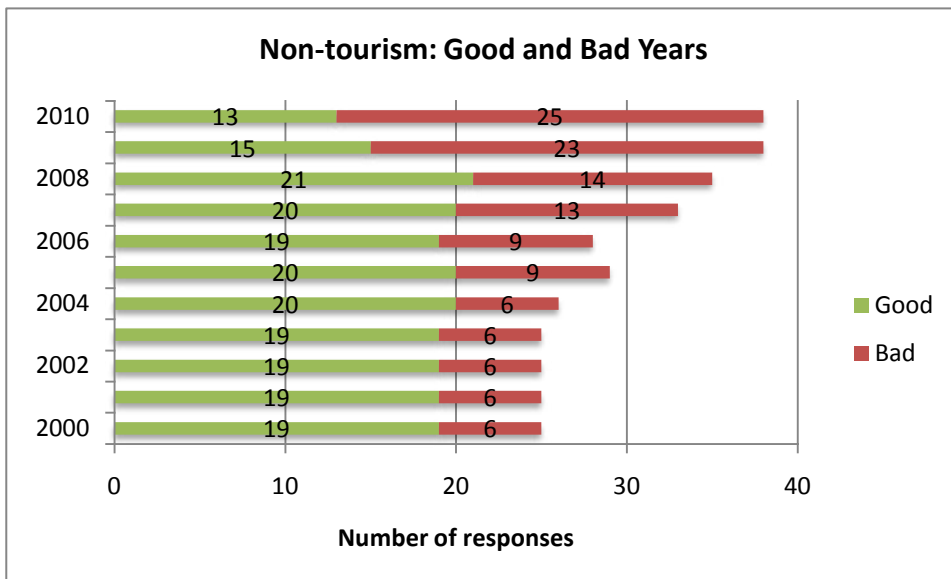


Figure 5: Good and bad years for non-tourism workers in the past decade (N=38)



On average, interviewees claimed that the global recession years 2008-2010 had been more difficult than the few years just previous to the recession. However, more tourism employees than non-tourism workers indicated that the later recession years 2009-2010 had begun to look better, and more tourism employees felt that 2007 and 2008 had been good years just prior to the recession. Although these differences fell just short of statistical significance ($p>0.05$), they do follow observed patterns of tourism industry development expansion prior to and during the recession. The data suggest the possibility that tourism workers may have experienced a better economic climate than their non-tourism counterparts during the growth years prior to the recession, as well as a greater degree of economic recovery during 2010.

Interviewees were also asked which months of the year were good months and bad months, and if those good and bad periods changed from a good year to a bad year. During good and bad years (Figures 6 and 7 respectively), both groups of interviewees claimed similar good and bad income months. Generally, for both groups, the period from May through October is most difficult, and the period from November through April most comfortable. Of all these comparisons, the only one to reveal a significant difference between tourism workers and non-tourism workers was the categorization of June in a good year; for tourism workers, responses were evenly split between positive and negative, while for non-tourism workers, responses were overwhelmingly negative ($p<0.05$).

Figure 6: Comparison of good and bad months for tourism employees and non-tourism workers during a good year (for total sample sizes, see Appendix 3).

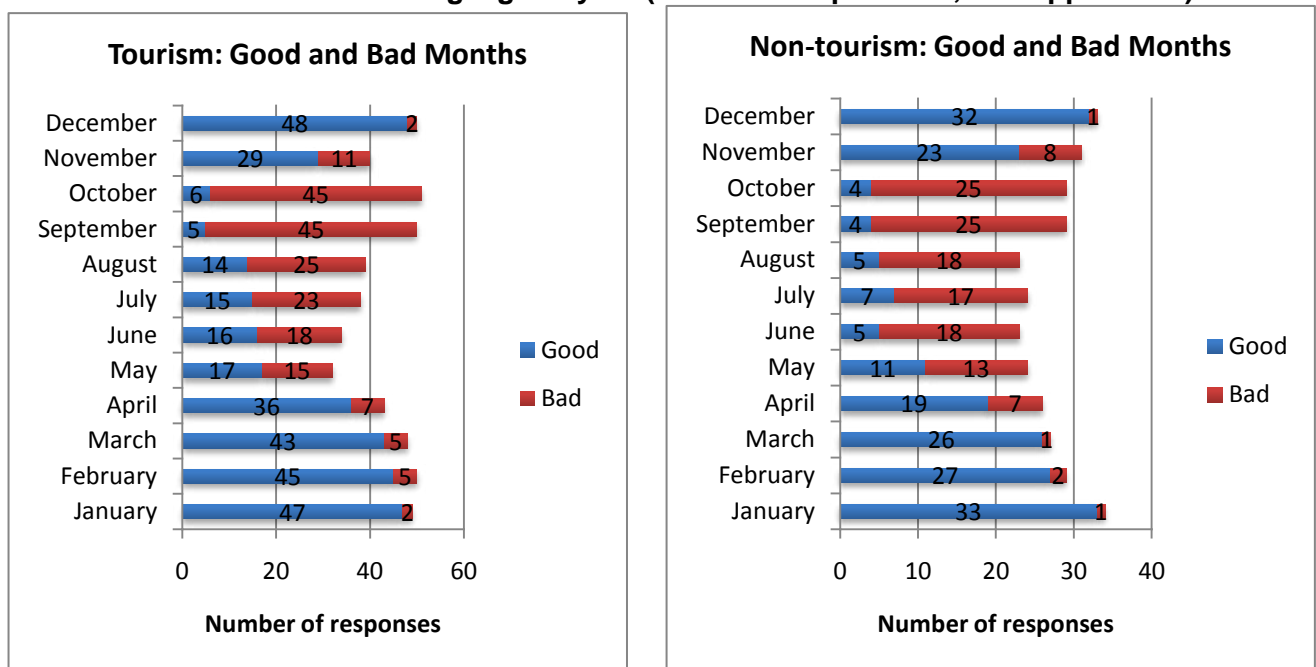
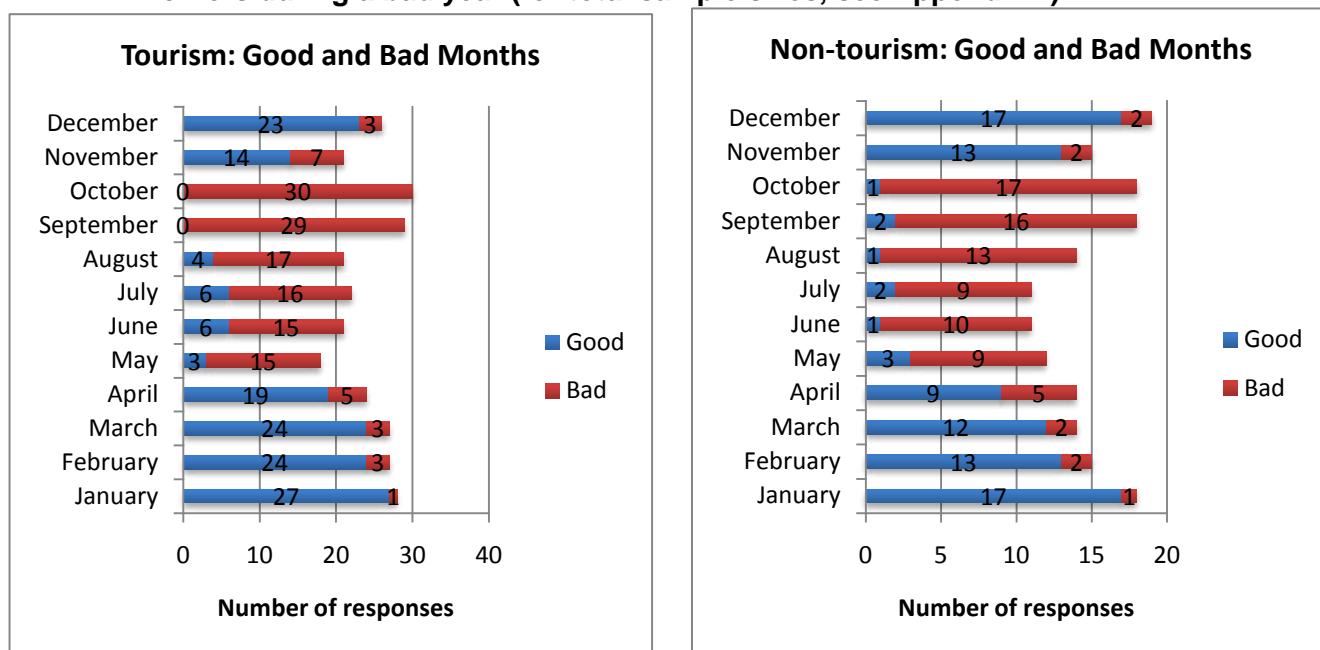


Figure 7: Comparison of good and bad months for tourism employees and non-tourism workers during a bad year (for total sample sizes, see Appendix 4)



Household Expenses

On categories ranging from food and utilities to personal investments and recreation, expenses between the two groups fell into broadly similar distributions. Food was the largest expense for both groups, followed by housing, utilities and savings, with only a few visible differences between tourism workers and non tourism workers. Tourism workers did however report spending significantly less on education than their non-tourism counterparts (an average of \$12.52 per month [n=6,492] versus \$33.26 per month [n=17,240]). Further research is needed to determine the major reasons for this difference, which likely reflects the smaller size of tourism households and the younger age of the interviewees (as in Table 5). Tourism workers also reported a higher amount of remaining, disposable income after their normal monthly expenses compared to non-tourism counterparts (\$338 per month vs. \$162). Both of these differences were statistically significant at the 0.05 level.

Table 7: Average reported monthly expenses, by category

Expense	Tourism \$ (N)	Non-tourism \$ (N)	p-value^A
Food	184 (64)	204 (51)	0.5112
Housing	49 (63)	41 (51)	0.7115
Utilities	48 (62)	66 (52)	0.1429
Transportation	18 (62)	51 (52)	0.1272
Education	13 (62)	34 (51)	0.0321*
Recreation	30 (63)	39 (50)	0.6326
Savings	54 (59)	42 (51)	0.7303
Investment	26 (61)	24 (51)	0.8870
Medical Costs	15 (62)	28 (51)	0.1265
Other	49 (57)	66 (46)	0.4143
Total	\$373 (64)	\$389 (50)	0.7903

^A: T test used.

*: Result significant at the 0.05 level. 95% confidence that the difference is not due to chance.

Interviewees were also asked to specify whether their current line of work (either tourism or another form of employment) had allowed them to buy or do anything that they previously could not afford. Out of 104 subjects who answered this question, 75 (72%) said “yes” (the remaining 28% said “no”). However, tourism workers were much more likely than non-tourism workers to feel that their jobs had allowed them to progress. Tourism workers answered “yes” to this question at a rate of almost 2 to 1, with 63% feeling their work had improved their circumstances. By comparison, just under half of non-tourism workers (48%) answered “yes” to the same question. Though the difference was not statistically significant, this result suggests that tourism work has a greater stimulating effect on economic behavior and is perceived as offering more possibilities for advancement than local work options outside of tourism.

To gain greater insight into consumer behavior, subjects who indicated their current work had allowed them to buy or do things they had not previously been able to afford, were asked what specific things the extra money had enabled them to buy. Multiple responses were permitted from each subject. Responses ranged from cars to livestock, with the most common answers being home appliances, home improvements (purchases of furniture, tools), and construction of a new house. Interestingly, tourism workers gave more varied responses than non-tourism workers, with a few respondents mentioning investing in their own schooling, whereas no non-tourism workers mentioned school or training as a goal their work had allowed them to realize. Tourism workers also invested much more often in cars and motorcycles (24% of tourism responses vs. 10% of non-tourism responses, as shown in Figs. 3 and 4), with corresponding reductions in the emphasis placed on farm and livestock expenses, clothes and jewelry, and furniture/tools. Lastly, slightly more tourism employees claimed to have been able to buy land (10%, compared with 7% of non-tourism workers).

Figure 8: Reported disposable income purchases enabled by current employment (N=40)

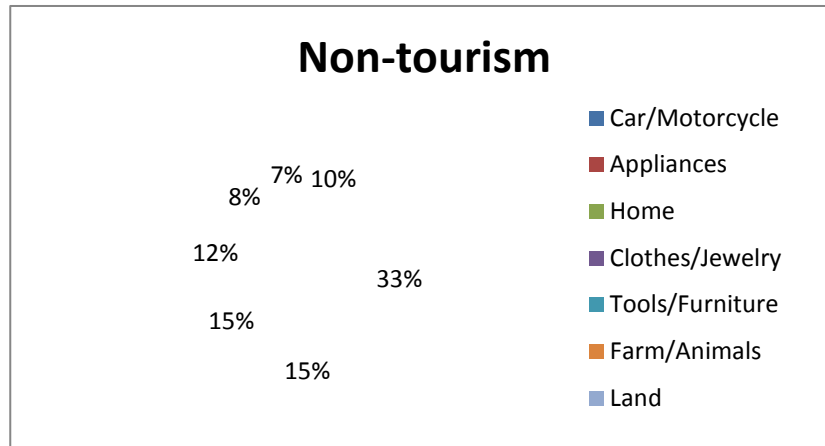


Figure 9: Reported disposable income purchase enabled by current employment (N=80)

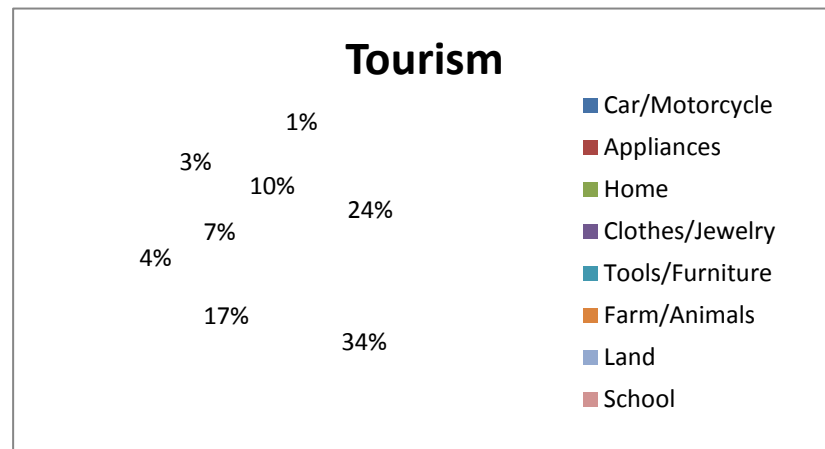
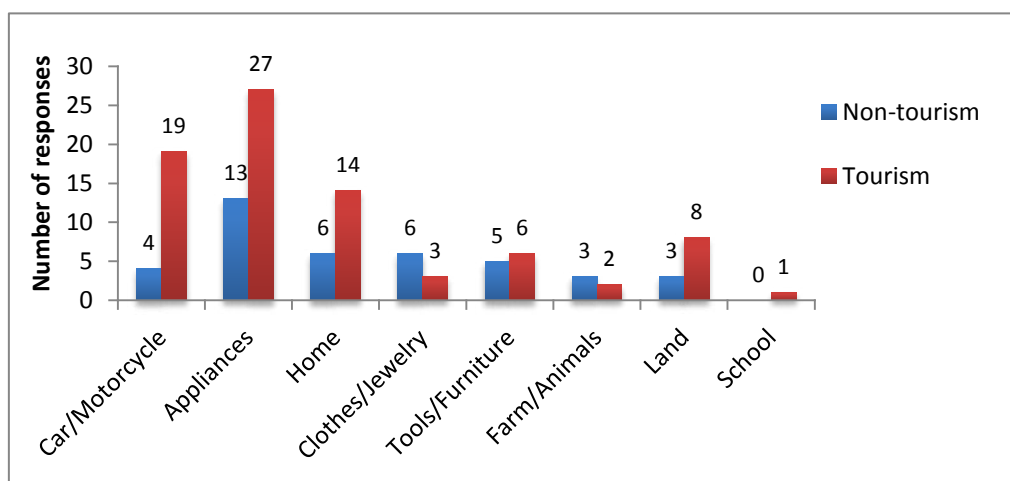


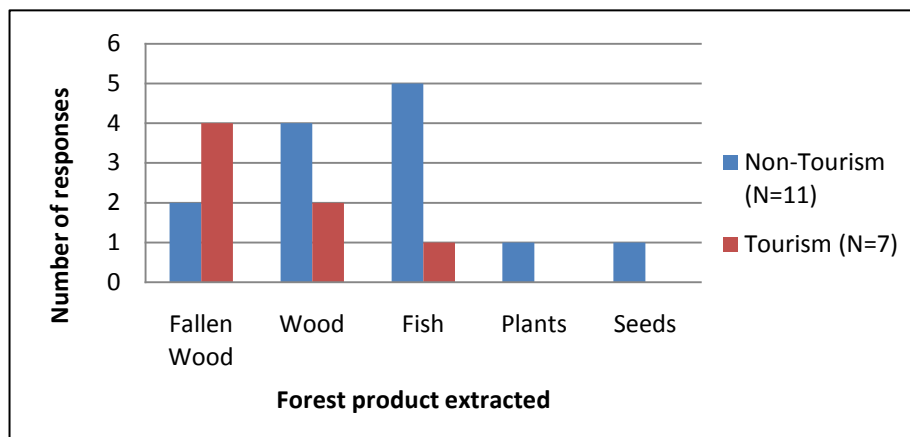
Figure 10: Comparative disposable income allocation: Tourism v. non-tourism (N=120)



Environmental Behavior

To gain insight into possible employment-related changes in environmental behavior, respondents were asked to comment on their extraction of forest products during the previous year. Among non-tourism workers, 37.5% said they had extracted items (such as wood, plants, and seeds) from the forest in the last year, compared to 17.5% -- less than half as many—for tourism workers. While just over the threshold for statistical significance ($p = 0.051$)²⁰, this result suggests that there may well be meaningful differences between the two subject groups in their attitude toward forest use. Interestingly, more non-tourism workers reported extracting live wood from forest than tourism workers, while the reverse is true (more tourism workers than non-tourism workers) for fallen wood extraction (see Figure 11). What are not fully clear from our sample are the reasons behind the observed differences. It is possible that the different responses reflect different amounts of disposable income (described above), different needs in terms of food and housing, and different amounts of time for activities such as hunting or collecting wood. It is also possible that tourism workers are more sensitized to the issue of forest product extraction, and will thus answer this question differently than their non-tourism peers while acting no differently in practice. It is also possible that the difference in responses reflects a true difference in attitudes toward use and stewardship of forestlands, which might suggest that ecotourism work has had a positive effect on the degree to which local populations are sensitized to the health of their ecosystem. Similar conclusions were reached in studies in the Osa by Almeyda et al 2010b and Horton 2004 and 2007), while the findings of Stem et al were mixed in terms of ecotourism's effectiveness as a conservation tool. Further research is required to explore these differences in more detail.

Figure 11: Local products extracted by local residents in the Osa (N=18)



²⁰ According to convention, a p-value less than 0.05 would be needed to establish statistical significance at the 95% confidence level.

Future Plans

To assess the longer-term impacts of tourism involvement on local residents' career goals and economic activities, interviewees were asked to describe what they imagined they might be doing in five years and in ten years. Responses broke down into the following categories: continuing with one's current line of work, focusing on one's family, starting a new business of one's own, starting a new *tourism-related* business, retiring, studying, and unsure. Compared to non-tourism workers, tourism workers said they were far *less* likely to continue in their present job five years into the future, much less ten years. Five years in the future, only 11% of tourism employees claimed they intended to still be working the same job, compared to 24% of non-tourism employees. Ten years down the road, the difference became even greater, with only 2% of tourism employees intending to stick to their current job, compared to 12% of non-tourism employees. The resulting picture is that employment in tourism is viewed as a stepping stone to new employment or to management-level opportunities.

Consistent with this picture is a second, related finding: tourism employees were much more likely to change jobs several times in their working life, perhaps due to greater job training and/or advancement opportunities than traditional vocations. Tourism workers had changed jobs on average 1.7 times, while non-tourism workers had changed jobs 1.2 times. Additionally, when analyzed based on the percentage of each sample that had changed jobs 0, 1, 2 or 3 times, the difference in distributions between tourism workers and non-tourism workers was significant at the 0.01 level. Additionally, when analyzed based on the positions they had recently changed from and to, tourism employees were more likely to have changed to positions of greater skill.

Table 8: Reported Job change patterns among tourism and non-tourism workers

Job Changes in 10 yrs	Tourism	Non-tourism	p-value ^A
0	0	2	0.0094**
1	30	17	
2	20	6	
3	12	0	

^A: Chi square test used.

*: Result significant at the 0.01 level. 99% confidence that differences are not due to chance.

Table 9: Differing degrees of skill in latest job change

Changes in Degree of Skill	Tourism	Non-tourism	p-value ^A
Less	0	2	0.018*
More	40	10	
Same	22	13	

^A: Chi square test used.

*: Result significant at the 0.05 level. 95% confidence that differences are not due to chance.

Our survey also found that tourism employees were also more in favor of starting their own tourism-related business than their non-tourism counterparts (23% vs. 18% in the five year timeframe, and 19% vs. 15% in ten years) or their own non-tourism businesses (27% vs. 18% in five years, and 33% vs. 29% in ten years). Overall, tourism workers were more likely to indicate a desire to start their own business, whether in tourism or not (27% vs. 18% in five years, and 33% vs. 29% in ten years). It would seem that tourism workers exhibit a greater *entrepreneurial spirit* and willingness to change jobs according to opportunities and personal goals than do non-tourism workers. Additionally, the desire to stop working altogether and retire was slightly more common among tourism workers than among non-tourism workers, despite the fact that tourism workers were on average 5-6 years younger and report having higher salaries than non-tourism respondents. Together with the greater proclivity shown by tourism workers for undertaking entrepreneurial ventures, the greater earnings of tourism work, and increase in plans to retire suggest that tourism employees feel freer to make professional choices than do non-tourism workers.

Interestingly, non-tourism workers expressed a greater desire to study than did their tourism counterparts. While additional research is required to identify the exact reason for this difference, it may represent non-tourism workers' desire for professional advancement not directly offered by their current jobs.

Figure 12: Comparison of informants' plans 5 years hence (N=101)

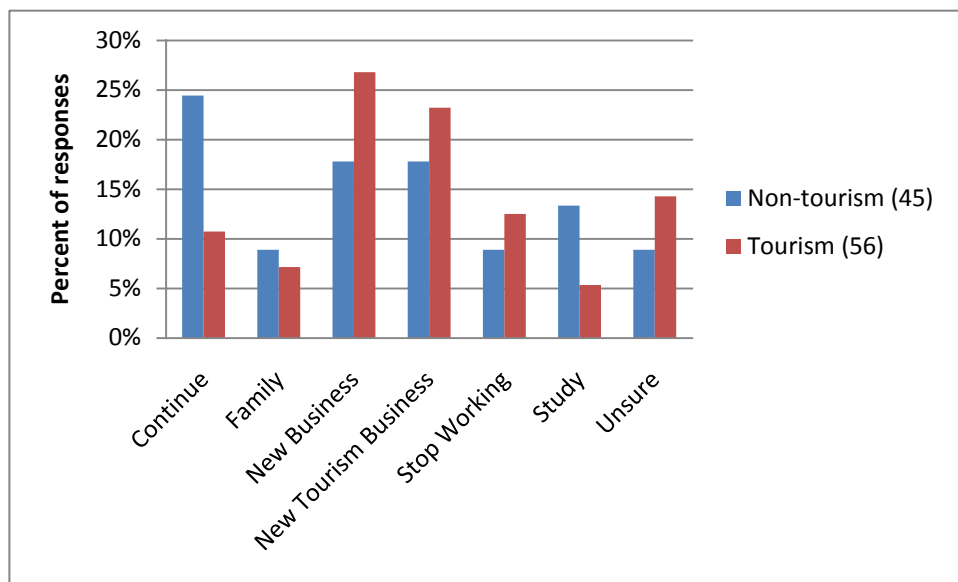
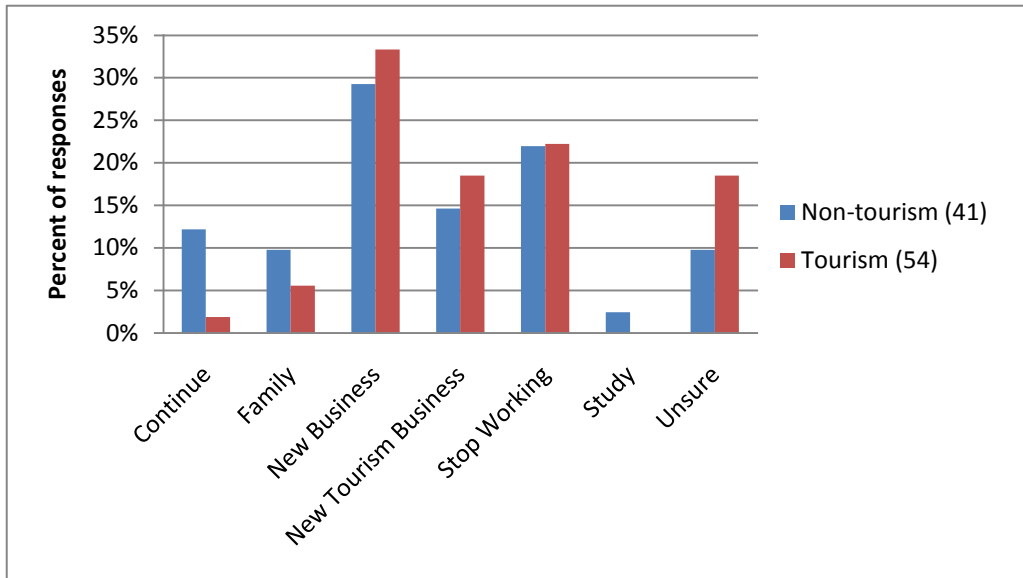


Figure 13: Comparison of informants' plans 10 years hence (N=95)



Attitudes and perceptions about life in the Osa

Interviewees were asked a number of questions about current important topics in the Osa, concerning such topics as the sale of land to foreigners, plans to build an international airport in Palmar Sur, cruise ship tourism, and attitudes toward national parks and private reserves. Responses fell into one of four categories: positive, negative, qualified/mixed, and no response/no opinion. Responses from each group can be found below in Table 10.

When asked about governmental plans to build a new international airport in Palmar Sur, 83% of respondents said they were aware of the plans, and only 17% were not. When the two subject groups were analyzed separately, the tourism sample was statistically better informed, with 87% of tourism respondents aware of the plan, and 13% unaware, vs. the non-tourism's sample of 57% aware and 43% unaware. Comparing tourism employees with non-tourism workers on their opinion about the future airport revealed a significant difference: 25% of tourism workers were against the new airport while 34% were in favor (another 28% gave mixed responses, and 15% gave no opinion). For non-tourism workers, only 5% were against the airport while 47% were in favor (17% gave mixed responses, and 31% gave no opinion). Those in favor of the new international airport gave responses like "I suppose the airport is good because it will bring more tourists, so the community will develop and there will be more work." Those opposed cited fears of being overrun, overcrowded, and overdeveloped, or hurt by the wrong kind of development. In the words of one interviewee, "I hope they do not build it... we are going to become Jacó!" [a heavily developed resort area farther north along the Pacific coast].

We found no statistically significant difference between tourism and non-tourism employees regarding their opinions on the presence of cruise ships in the Golfo Dulce: 48% of those in tourism and 45% of those not in tourism see cruise tourism as positive. Several questions dealt with attitudes towards foreigners living in the Osa. When asked “what impact do private homes built by foreigners have on the community?”, the two groups differed in their opinions: tourism workers were almost twice as likely as non-tourism workers to give a negative opinion (37% vs. 17%, significant at the 0.05 level). However, when asked “how do you feel about the presence of foreigners already living here?”, the two groups were approximately equal in their responses: 29% positive and 12% negative for non-tourism workers vs. 30% positive and 14% negative for tourism workers. Further, when asked “how do you feel about the selling of land to foreigners?” opinions from both groups were split almost equally among the four categories, with as many positive and negative responses as qualified or neutral/missing. For the levels of statistical significance of all results, please see Table 10.

Two questions addressed attitudes toward national parks and private reserves. When asked “how do you feel about the existence of national parks and protected areas?”, respondents gave overwhelmingly positive responses (85% positive for tourism workers, and 74% for non-tourism workers). Far fewer respondents ventured an opinion on the same question regarding *private* reserves, with more than 52% of the sample declining to comment—a response that surprised us at first. But on further enquiry, we concluded that private reserves were not as widely known or discussed in the Osa as in other areas of Costa Rica.

When asked “do you think the expansion of oil palm plantations in the region is good or bad for the community?”, opinions did not differ greatly between the two groups, with roughly equal numbers giving negative opinions (21% of non-tourism workers and 20% of tourism workers), and a larger number expressing positive opinions (47% of non-tourism workers and 31% of tourism workers). Among our respondents, sources of reliable local employment were widely viewed with favor.

Table 10: Comparison of local attitudes and perceptions

Topic	Tourism (N = 65)				Non-tourism (N = 58)				p-value
	Positive	Negative	Mixed	NR	Positive	Negative	Mixed	NR	
Aware of New Airport	87% (56)	13% (9)	-	-	57% (33)	43% (25)	-	-	0.0002**
Opinion on New Airport	34% (22)	25% (16)	28% (17)	15% (10)	47% (27)	5% (3)	17% (10)	31% (18)	0.0043**
Opinion on Cruise Ships	48% (31)	12% (8)	13 (20%)	20% (13)	45% (26)	19% (11)	12% (7)	24% (14)	0.5104
Opinion on Houses of Foreigners	23% (15)	37% (24)	22% (14)	18% (12)	38% (22)	17% (10)	12% (7)	33% (19)	0.0138*
Opinion on Foreigner Presence	30% (19)	14% (9)	15% (10)	42% (27)	29% (17)	12% (7)	16% (9)	43% (25)	0.9764
Opinion on Sale of Land to Foreigners	19% (12)	31% (20)	23% (15)	28% (18)	22% (13)	34% (20)	19% (11)	24% (14)	0.8844
Opinion on National Parks	85% (55)	2% (1)	12% (8)	2% (1)	74% (43)	3% (2)	16% (9)	7% (4)	0.3513
Opinion on Private Reserves	37% (24)	11% (7)	5% (3)	48% (31)	31% (18)	5% (3)	7% (4)	57% (33)	0.5180
Opinion on Oil Palm Plantations	31% (20)	20% (13)	18% (12)	31% (20)	47% (27)	21% (12)	10% (6)	22% (13)	0.2700

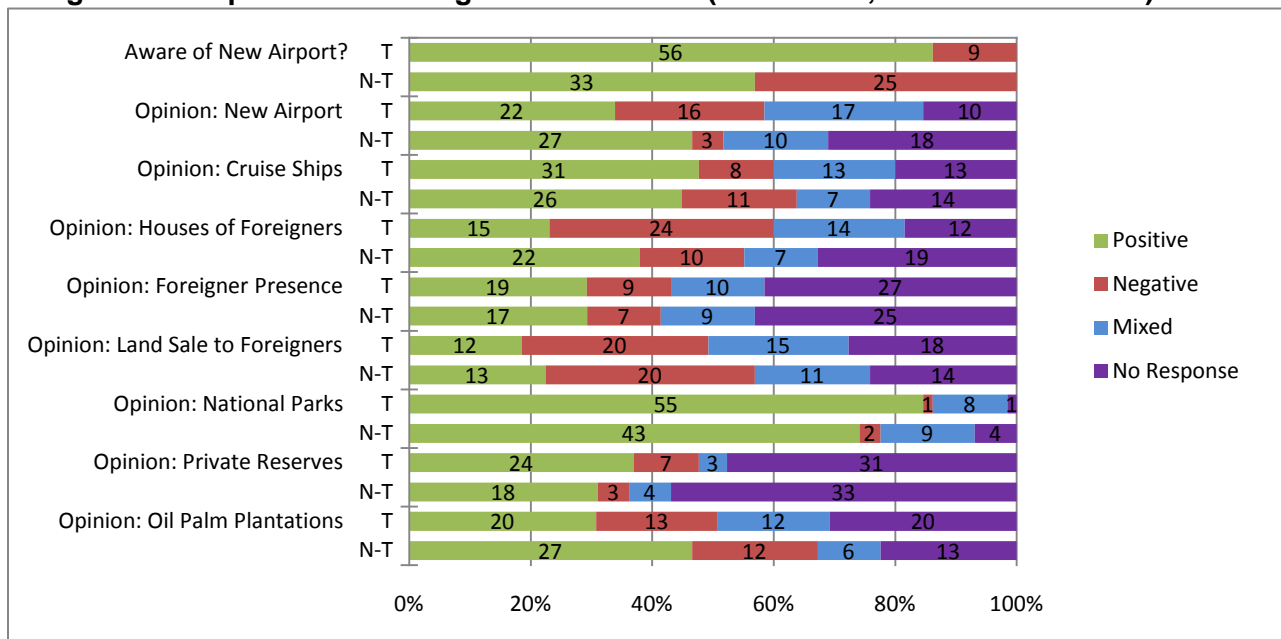
NR = No Response.

A: Chi square test used. Significance reported as p value.

*. Result significant to the 0.05 level. 95% confidence that observed difference is not the result of chance.

** : Result significant to the 0.01 level.

Figure 14: Opinions on a range of local issues (T= tourism, N-T = non- tourism)



Respondents were also asked to give their opinions on current threats to plant and animal species in the area of Osa. Respondents from both tourism work and non-tourism work overwhelmingly agreed that the worst threat to local species diversity at the present time was hunting, followed by deforestation, human presence, and pollution.

Table 11: Comparison of perceived threats to local species diversity. N=123

Threat	Tourism		Non-tourism		Total
	Drake	PJ	Drake	PJ	
Hunting	21 (48%)	7 (19%)	6 (22%)	9 (29%)	43
Deforestation	7 (16%)	5 (24%)	1 (4%)	10 (32%)	23
Human Presence	8 (18%)	2 (10%)	5 (19%)	4 (13%)	19
Pollution	7 (16%)	1 (5%)	3 (11%)	2 (6%)	13
Food scarcity	2 (5%)	0	2 (7%)	1 (3%)	5
Construction	0	1 (5%)	0	3 (10%)	4
Tourism	0	0	3 (11%)	0	3
Capture for pets	0	0	2 (7%)	0	2
Mining	0	1 (5%)	0	0	1
Global warming	0	1 (5%)	0	0	1
Airports	0	1 (5%)	0	0	1
No threats	3 (7%)	0	2 (7%)	0	5
No response given	5 (11%)	9 (43%)	9 (33%)	11 (39%)	34

N=65 Tourism, 58 Non-tourism. Multiple responses per subject were permitted.

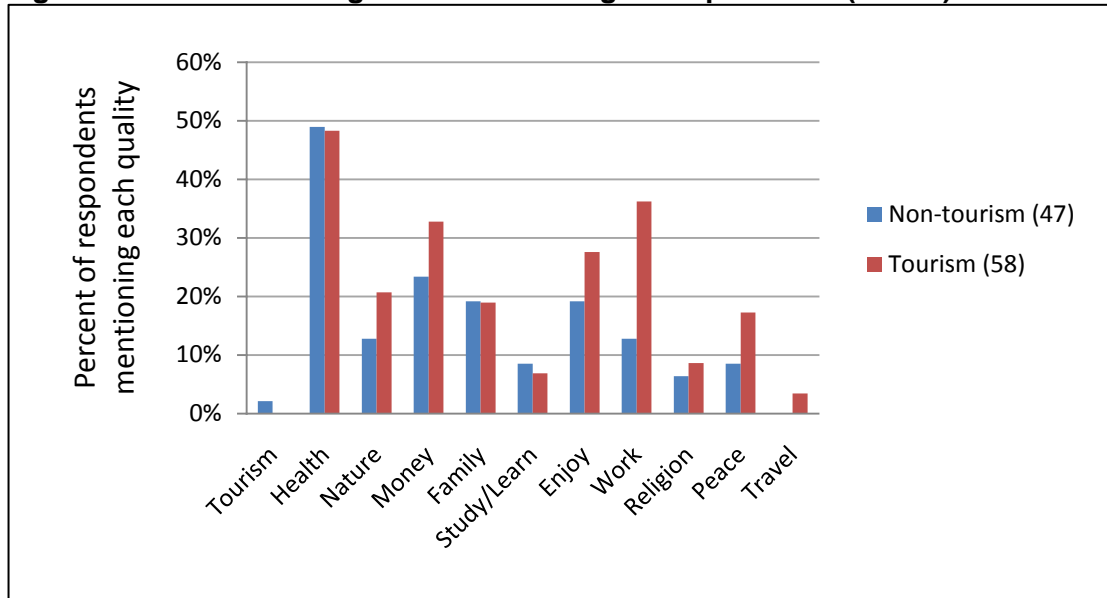
Quality of life

Interviewees were also asked for their definition of “a good life” and whether they considered themselves to have a good life by that definition. The qualities of a good life varied widely, ranging from “knowing Jesus Christ and living by the laws of God” (from a 40 year-old woman not working in tourism), to “having enough money that I do not need to work” (a 43 year-old woman working in tourism). In order to capture the full range of each individual’s values, respondents were allowed to list as many qualities of a good life as they wished. In both groups “good health” emerged as the number one choice. The most important difference between tourism and non-tourism workers was the value placed on having a stable job. Tourism workers were almost 3 times as likely to emphasize the importance of stable work as part of quality of life, with 36% of tourism respondents mentioning it as a factor, compared to only 13% of non-tourism workers (a difference significant at the 0.05 level).

Tourism workers were also more likely to highlight the importance of money, enjoyment and leisure, living in nature, political stability, and travel. Indeed, although two respondents from among the tourism workers mentioned the benefit of being able to travel, no non-tourism workers mentioned travel as a factor in quality of life, and fewer valued peace, leisure, or money as qualities important to a good life. Though the differences are not statistically significant, they may reflect the impact among tourism workers of greater earnings, or higher value placed on nature as a result of their work in tourism, and the impact of meeting foreign tourists.

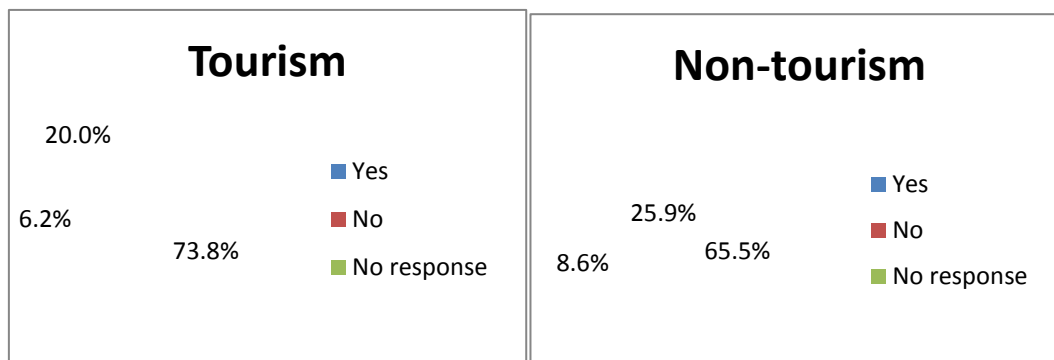
Regardless of the differences among definitions of a good life, when asked if they themselves lived good lives, the majority of respondents in both subject groups responded favorably. However, tourism workers were statistically more likely to say “yes” than non-tourism workers, and correspondingly less likely to say “no,” or to decline to comment.

Figure 15: Qualities of a good life according to respondents (N=105).



*“Travel” in the chart means that informants think a good life means being able to travel.
 *“Tourism” in the chart means that informants felt that having tourism in the area was a component of a good life.

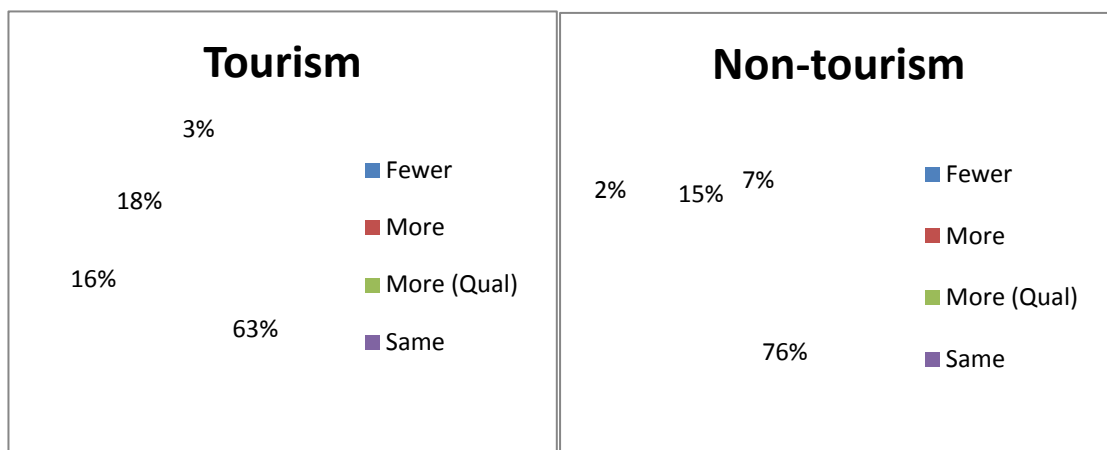
Figure 16: Do you experience a good quality of life? Comparison between tourism and non-tourism workers. N=65 tourism, N=58 non-tourism.



Support for tourism expansion

When interviewees were asked “in the future, do you hope to see more tourists here in the Osa, or fewer tourists?”, responses included “fewer,” “the same amount,” “more,” and qualified versions of “more.” Qualified answers highlighted a desire to reap the benefits of increased economic activity from tourism, while avoiding the known negative environmental and social impacts of increased tourism traffic. While a majority of both tourism workers and non-tourism workers indicated a desire to see more tourists arriving in the Osa (63% for tourism workers and 76% for non-tourism workers), tourism workers gave a much higher percentage of qualified answers (16% vs. only 2% from those not working in tourism). Examples of qualified answers include “more tourism would be good, but I hope there is balance, and I hope there are real economic benefits for us,” and “I hope there are more tourists, but it would depend on the type of tourism they bring” This difference suggests that tourism workers have greater familiarity with the potential negative impacts of tourism.

Figure 17: Comparison of hopes for tourism growth between tourism and non-tourism workers. N=57 tourism, N=46 non-tourism.



Social impacts of tourism on community life

A further set of questions probed deeper into local understanding of the positive and negative impacts of tourism for Osa residents. Those working in tourism and those not working in tourism revealed several significant differences in their perspectives on the social impacts of tourism. Survey respondents were asked to assess the relative change over the last five years in the following areas: education, job training, hunting activity, medical care, land prices, and the perceived value of nature for the general public. They were also asked to assess the impacts of tourism on deforestation rates, prices of local consumer goods, rates of alcoholism, rates of drug addiction, rates of prostitution, and land sales to foreigners. Interview questions asked if each factor was improving, getting worse, or remaining the same, and to what extent tourism was a driver for any observed changes.

Overall, the two subject groups agreed on the direction of various changes. They both see positive changes in education, job training, and value given to nature, and a decline in hunting and deforestation. On the negative side, both groups see increases in land and consumer prices, sale of land to foreigners, and alcoholism, drug addiction, and prostitution. However, the two groups differed in whether or not they attributed these changes to tourism. Those not working in tourism were less likely to attribute either perceived benefits or perceived detriments to the impacts of the tourism industry. In the case of opportunities for job training and local value of nature, tourism workers felt overwhelmingly that the increases were due to the impacts of tourism, whereas more ambivalence was shown by the non-tourism group.

Similarly, the tourism group saw both deforestation's decrease and alcoholism's rise as influenced by tourism to varying degrees, whereas the non-tourism group attributed those changes more often to other factors. See Table 12 below for additional detail.

Table 12: Social impacts of tourism

Social Factor	N*	Tourism				Non-tourism				p-value ^A
		Change	Change is Due to Tourism?			Change	Change is Due to Tourism?			
		↑ / ↓ / =	No (%)	Unsure (%)	Yes (%)	↑ / ↓ / =	No (%)	Unsure (%)	Yes (%)	
Education	89	↑	22	4	24	↑	20	0	19	0.2692
Job Training	76	↑	1	2	36	↑	5	1	28	0.2129
Hunting	92	↓	4	0	48	↓	12	2	26	0.0059**
Medical Care	60	↑	14	0	19	=	16	2	9	0.1539
Land Prices	91	↑	3	1	51	↑	2	0	34	0.4200
Value of Nature	92	↑	3	0	49	↑	9	1	30	0.0470*
Deforestation	83	↓	4	2	41	↓	11	0	25	0.0243*
Consumer Prices	96	↑	16	1	34	↑	16	1	28	0.9639
Alcoholism	78	↑	18	5	22	↑	23	0	10	0.0293*
Drug Addiction	89	↑	22	4	24	↑	20	0	19	0.2692
Prostitution	53	↑	12	2	16	↑	10	0	13	0.4394
Land Sales to Foreigners	80	↑	5	1	40	↑	4	1	29	0.9019

A: Chi square test used.

*: Result significant to the 0.05 level. 95% confidence that observed difference is not the result of chance.

**: Result significant to the 0.01 level.

Section 2: Hotel Owners and Managers

We supplemented the tourism worker surveys with interviews of hotel owners and managers in order to gain more detailed information about hotel operations. These interviews had two foci. One management questionnaire focused on social and economic practices of the hotel such as hiring practices, number of employees, occupancy rates, and degree of involvement with the local community. The second questionnaire focused on environmental practices and attitudes, such as the sourcing of water and food, use of pesticides and cleaning chemicals, and disposal of waste.

A total of 28 hotels provided data for this study through their management, employees and/or guests, 14 hotels each in Drake Bay and Puerto Jimenez. Of these 28 hotels, 11 (37.9%) provided responses to our management surveys on socio-economic issues and 8 (28.6%) provided responses to our environmental surveys. In most cases a single individual responded to both surveys, though in one case the co-owners responded separately to the social/economic and the environmental surveys resulting in 12 overall interviewees. Of these twelve managers, 7 (58%) were not Costa Rican born, although all were currently full time residents of Costa Rica. Of these 7, 5 (42%) were originally from the United States, 1 (8%) from Germany, and 1 (8%) from Switzerland. The remaining 5 (42%) managers were Costa Ricans. Hotels ranged in size from 7 guests/4 rooms, to 50 guests/20 rooms, and staff sizes ranged from 1 employee (other than the owner) to 46 employees. On average, the hotels reported receiving roughly 50% of their guests from the United States, and had been in business 14 years (ranging from 2 weeks to 36 years within the sample).

Social and economic practices

Although this sample from eleven hotels is too small for detailed statistical analysis, a number of themes emerged from management interviews pointing to areas where social and economic practices could be improved, or additional resources provided to assist hotel managers:

1. **Education and Training:** Staff members at Osa hotels show generally high levels of dedication and motivation, but they are far from uniformly well-trained. Our survey found that much of the existing employee preparation takes place informally, on-the-job. There is a need for more consistent training opportunities in hospitality, food preparation, and especially English language instruction. When training has been offered in Puerto Jimenez, employees are sometimes unable to attend the classes due to conflicts with working hours. A more appropriate timetable for such training should be considered, as well as additional support for training extension programs in smaller communities such as Drake Bay and Matapalo.

2. **Accounting/Recordkeeping:** Many of these small hotels do not have the staff required to maintain detailed records of such things as revenues per room and per night. Legal, financial, and infrastructural supports for modest increases in size (beds) and staffing were seen as measures that could help, as well as additional opportunities for training and capacity building..
3. **Tenure Security:** With the exception of one locally owned property (Danta Lodge), hotel owners purchased the lands where hotels are located directly from local residents or from first generation foreigners. Without additional tenure security and legal protections, the region and its residents are highly vulnerable to the type of over-exploitation and land speculation as has happened in Guanacaste, Costa Rica as well as elsewhere along the Pacific Coast of Central America. This vulnerability will be greatly heightened with the installation of an international airport in the region.
4. **Community Development and Conservation Projects:** Six of 11 responding hotels (55%) stated that their hotel is involved in supporting local community conservation and school programs, either monetarily or through donations of time or resources. However, *tourist* participation in these “travelers’ philanthropy” projects was even less, ranging from zero to 20%. Although based on a small sample, the indications are that community and conservation projects are currently supported by only a small number of hotels and even fewer visitors. Further development of the linkages between these local NGOs and institutions and tourism businesses, with more systematic opportunities for tourists to participate, could significantly expand the flow of resources from tourism into worthy local projects.²¹
5. **Governance and Institutional Strengthening:** Respondents often expressed a concern for more effective local governance. In Drake Bay, issues include the lack of a formal governmental body, policing, zoning, and planning. In Puerto Jimenez, concerns about local governance revolved largely around issues of purported corruption.

Environmental practices

Regarding environmental practices, 8 of 11 hotel managers (73%) completed our second interview focused specifically on environmental topics. Given the relatively “green” reputation of the Osa as a visitor’s destination, we were surprised by a number of the findings. For example, 7 out of the 8 respondents (88%) reported (a) that they are not yet monitoring any negative environmental impacts of their activities; (b) that they are still using grid power (although four incorporate some solar energy); and (c) that they are not yet taking specific actions to mitigate climate change. Additional qualitative information gathered in interviews suggested the following additional opportunities for enhancing environmental sustainability:

²¹ In January 2011, CREST and Fundacion Corcovado launched a project, funded by CRUSA, to expand travelers’ philanthropy in the Osa through the involvement of more tourism businesses and visitors.

1. **Education and Training:** As in the preceding section, education and training opportunities in environmental management are sparse, with formal employee training offered only sporadically. Few hotels cited any system to measure or train staff to monitor water and energy usage, toxic substances and chemicals, or solid waste production. Even where water and energy meters have been installed managers did not rigorously maintain records. Low local access to such meters and to staff training in monitoring techniques and procedures remain key obstacles to good environmental stewardship.
2. **Climate Change:** Climate change is not yet regarded as a major issue in Osa. The resident surveys, for example, revealed, only one tourism worker who perceived global warming as a threat to the Osa. Similarly, the tourist surveys (described below) found that only 8% of Osa visitors offset their flights. None of the hotels offered on-site opportunities for tourists to off-set the carbon impact of their travel to Costa Rica, and only one reported contributing directly to a carbon off-setting organization. As awareness of tourism-related climate change grows, mechanisms for incentivizing tourist and hotel participation in such programs will become increasingly essential in Osa and elsewhere. Building relationships between carbon offsetting organizations and local hotels, including possible commissions to hotels for offsets purchased on site, might contribute to greater participation. With greater linkages to local conservation projects as mentioned in the previous section, tourists might also contribute directly to local off-setting activities, either through in-kind labor or monetary donations.
3. **Certification/Certificate for Sustainable Tourism (CST):** While many of the hotels surveyed expressed interest in Costa Rica's Certification for Sustainable Tourism (CST) program and a few had even initiated the process, it was clear that they felt that the CST system needed to offer additional support for smaller lodges in the Osa. Indeed, at the time of fieldwork, no hotel in our sample had obtained a sustainability rating under the CST program. Out of more than 70 hotel enterprises appearing on regional hotel maps of Osa and Golfito, the two cantons have contributed only 13 hotels to the 131 certified by CST.²² The first one certified in the Osa, Lapa Rios Ecolodge, was the subject of an earlier, intensive CREST study (Almeyda et al 2010b). Given the number of Osa hotels and the challenges to both financial and environmental recordkeeping noted above, a local CST extension office in Puerto Jimenez would provide invaluable support for local businesses embarking on CST audits.
4. **Wastewater Monitoring/Septic Systems** – Even though they are not yet certified, nearly all the hotels in this sample reported having exemplary wastewater management and septic systems. Yet in Drake Bay in particular, fecal chloroform content in the bay water remains so high that those hotels that have attempted to pursue an Ecological Blue Flag designation for the beach there have found that avenue closed to them. Only a few beaches in the Osa – including Playa Blanca near Puerto Jimenez, Matapalo at the

²² Hotel certification data were taken from the ICT's website for the CST program: <http://www.turismo-sostenible.co.cr/en/>.

tip of the Peninsula, and Playa San Pedrillo, the northern most stretch of beach in Corcovado National Park, have received Blue Flag certification.²³ As a result, even responsibly managed hotels are unable to benefit from this certification due to the collective impacts of poor waste management among other hotels and in the community. As is the case with many of the items listed here and above, wastewater management is conflated with other issues, including capacity for environmental recordkeeping.

5. **Concern for Overdevelopment/Unplanned Development:** In both the socio-economic and environmental interviews with hotel managers, we heard a strong concern over unplanned and excessive development of tourism, in some cases referring specifically to Guanacaste as a model to avoid. Seen as opening the door for all-inclusive resort “mega-projects,” managers and owners on both sides of the Peninsula voiced general opposition to a local international airport. In Drake Bay several operators even expressed disapproval of any plans to install an improved road or bridge in town because they feared it bring in too many tourists. In Puerto Jimenez, respondents derisively cited plans for installing additional “boat slips” and new marinas. Local hotel managers and owners expressed concern about being left out of the tourism planning process. Institutional strengthening of a coordinated body, such as CATUOSA (the Osa Chamber of Commerce), offering tourism businesses the opportunity to participate in peninsula-wide tourism planning could serve as a crucial forum for not only giving local business owners a voice in planning tourism development but also for ensuring a more sustainable future for tourism in the Osa.

Table 14: Select responses on environmental practices. N=7

QUESTION	RESPONSES FROM HOTELS
Are you certified by the CST system?	None are certified
What is the source of the hotel’s water?	4 from wells 2 from municipality 1 from creeks
What is the source of the hotel’s electrical power?	6 of 7 use grid 4 also incorporate solar 3 also incorporate hydro
Is the hotel taking any steps to address climate change?	6 of 7 report doing nothing (1 reports “we don’t burn trash”)
Does the hotel identify, monitor, and keep record of its negative environmental impacts?	6 of 7 report no monitoring
What do you see as the top threats to future protection of the environment and the local culture of the Osa?	Most common responses: 5 of 7 – Unplanned/Over-development of tourism 3 of 7 – proposed international <i>airport</i>

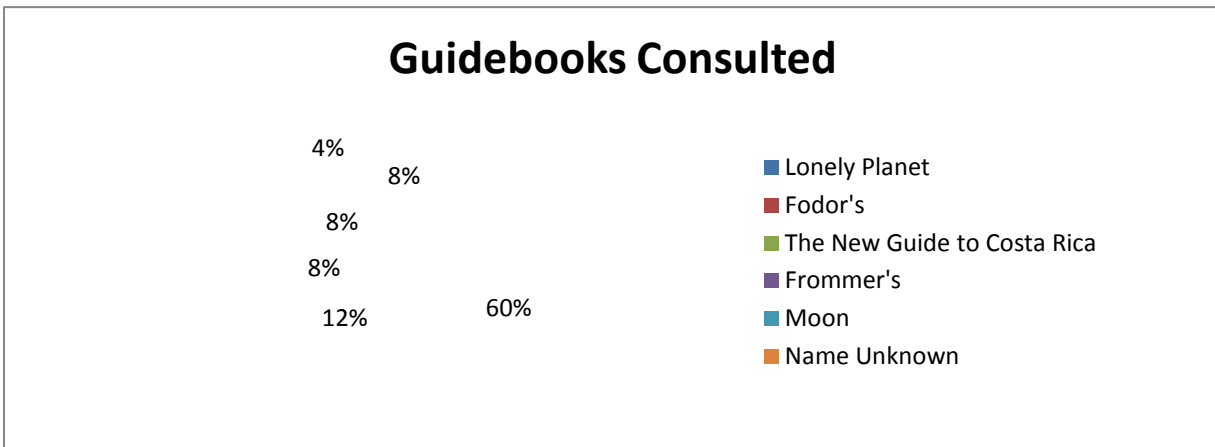
²³ “Southern Pacific Beaches,” Mucha Costa Rica.com-Beaches, <http://muchacostarica.com/what-to-see/beaches/south-pacific-beaches.aspx>.

Section 3: Tourists

Demographics of the sample

We interviewed a total of 73 Osa visitors at a range of hotels, restaurants, and airport waiting areas in Puerto Jimenez and Drake Bay. On average, interviewees were interviewed at 3.7 days of a 5.5-day stay in Osa. Of this sample, 27 were females (37.0%), 23 were males (31.5%), 19 were couples (26.0%) who shared in answering, and 4 were missing gender information (5.5%). The mean age of female interviewees was 41.2 years, and the mean of male interviewees was 37.8 years. A total of 59 tourists provided information on sources used to plan their trip, and 23 (39%) said that they had consulted a range of guidebooks and sources prior to their visit, 15 (25%) of whom reported using *Lonely Planet* for their travel recommendations.

Figure 18: Guidebooks consulted by visitors to Osa (N=25)



Reasons for visiting the Osa

Tourists were also asked to describe their main reason for visiting the Osa, in an effort to understand what aspects of the Osa are most important for drawing visitors. As shown in Figure 19, among the 52 tourists who answered, the most popular reason for visiting the Osa was to go to Corcovado National Park. The two runners up were (a) the recommendation of a friend, and (b) the reputation of the Osa as a place of unspoiled tropical wilderness. It is important to note here that these categories reflect only the answers supplied by our interviewees, so they can be taken as an unprompted picture of what is most important to Osa travelers.

Tourists were also asked to indicate which local activities they took part in while on their trip (taking into account that most visitors interviewed still had a few days left in their trips). Underscoring the importance of healthy natural environments, the most popular activities among our sample of local area visitors were hiking (66% of those interviewed), photography (64%), bird watching (64%), national park tours (62%), kayaking (36%) and snorkeling (32%).

Figure 19: Tourists reasons for visiting the Osa (N=52)

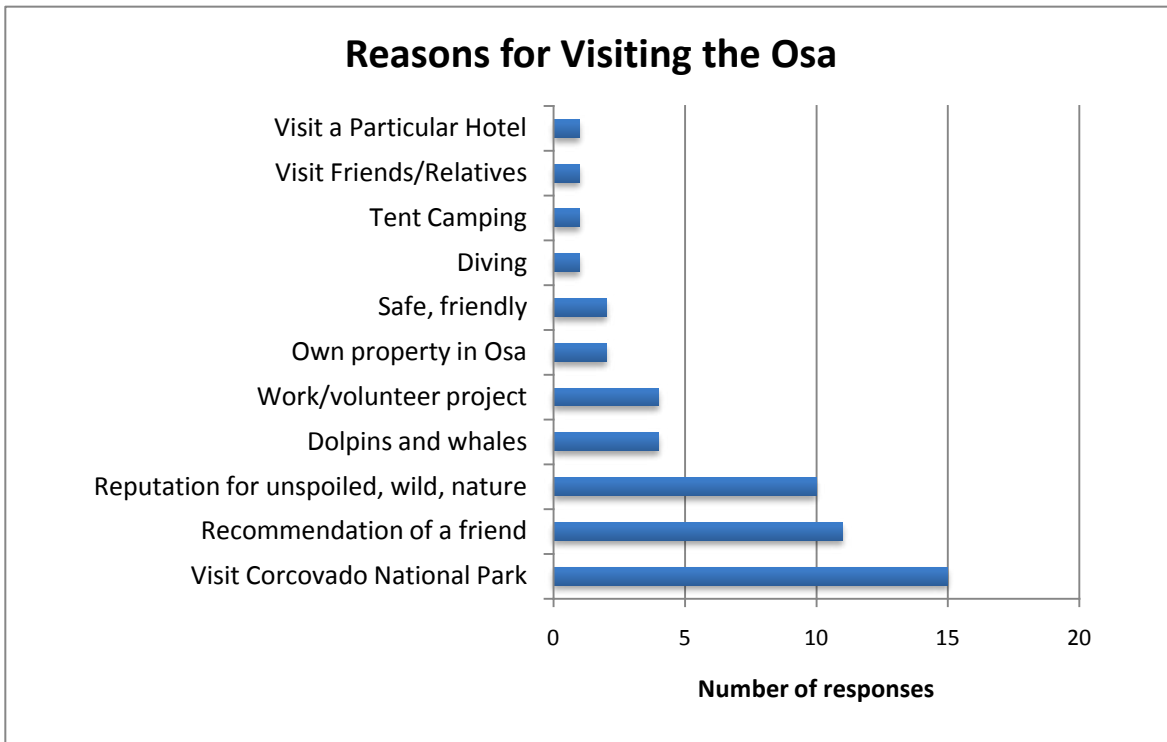
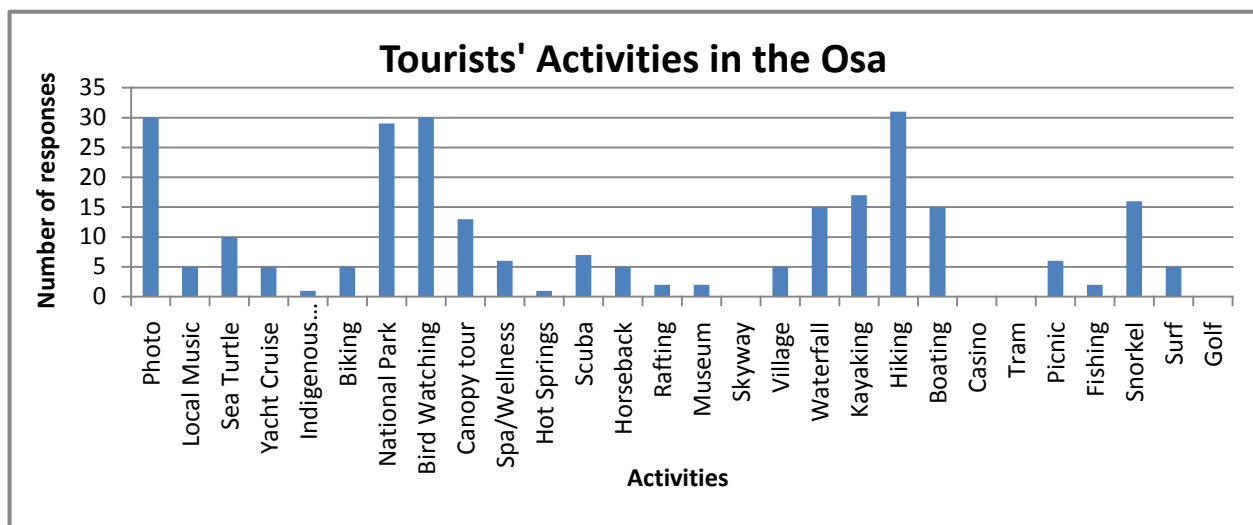


Figure 20: Tourists' activities in the Osa (N=47)



Perspective on environmental and social responsibility of hotels

Tourists were asked to rank on a 1-5 scale how important it was to them to travel responsibly. 53% of respondents to this question (27 people) gave a ranking of 5 out of 5, and 31% (16 people) ranked responsible travel 4 out of 5. Hence a total of 43 of 67 respondents (64%) said responsible travel was important. However, only 5 respondents out of 59 (8%) reported that they had purchased carbon credits for their travel. In addition, 81% of respondents (42 people) claimed that it was either a 4 or 5 out of 5 in importance for their hotel to be environmentally responsible, and 83% (39 people) claimed that social responsibility of their hotel was also a 4 or 5 out of 5. Surprisingly then, 73% of respondents had done nothing to judge the environmental responsibility of their hotel prior to their trip, and 81% had done nothing to verify their hotel's social responsibility. Out of 55 subjects who responded to the question, only 10 (18.2%) had heard of Costa Rica's Certification for Sustainable Travel (CST). Comments from interviewees regarding the environmental and social responsibility of their hotels cited the difficulty of finding reliable information ("it wasn't easy"), fear over added expense at an environmentally and socially responsible hotel ("ecolodges are too expensive as it is"), or they justified why environmental and social responsibility were not high priorities. For example, one couple in their 70s remarked "at our age, we're just focused on seeing as many places as possible," while another interviewee explained that "the owners of the hotel are Costa Rican, so I wasn't concerned [about social responsibility]."

Figure 21: How did tourists verify the social responsibility of their hotel? (N=59)

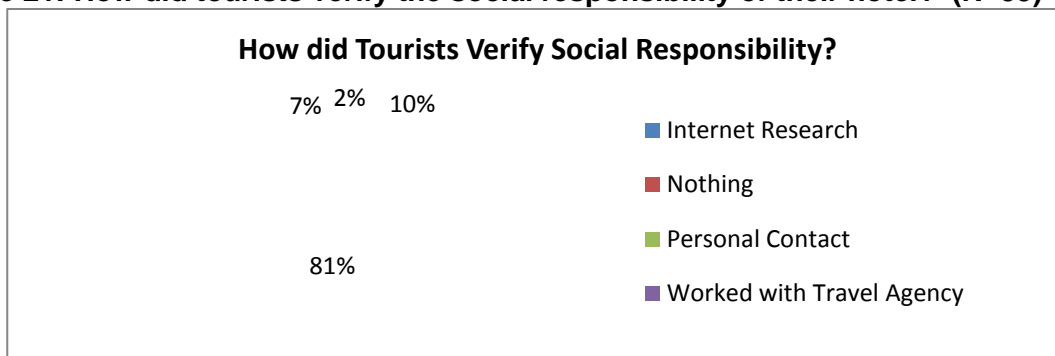
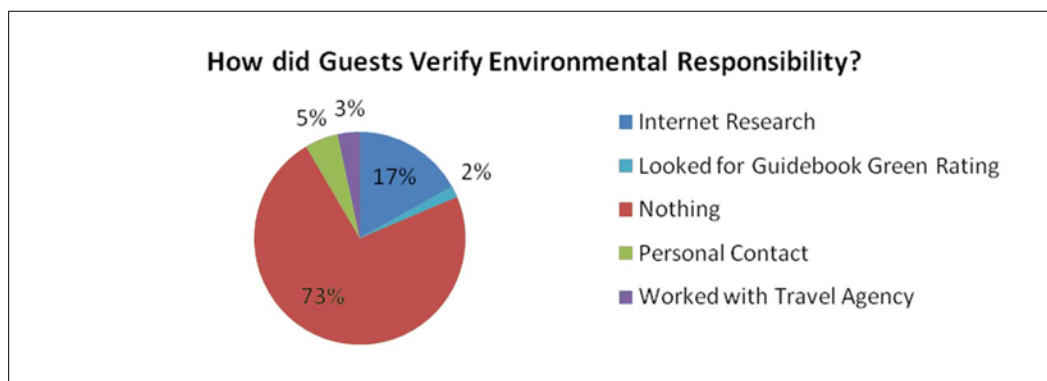


Figure 22: How did tourists verify the environmental responsibility of their hotel? (N=59)



Costs

Calculating visitor expenditures for the Osa turned out to be more challenging than we first expected. First, visitors come to Osa in many different ways, and sometimes costs are bundled together such that they are challenging to disaggregate. One relatively common way to visit Osa, for example, is with a pre-paid tour package, commonly including lodging, food (all or part), and certain specified activities (all or part), for a given number of days. We found that what is included in packages is highly variable, adding to the complications of cost estimation. Another common way to visit Osa is for visitors to come entirely on their own (with no package tour), or without a package but with a hotel stay that may include breakfast or certain transportation costs. We chose to treat these visitors as two distinct categories, package and non-package, and apply separate cost estimation procedures in each case.

Second, the expenses of package and non-package visits are paid on different time courses. When interviewed, visitors on package tours generally had several days of prepaid Osa experiences still to come, whereas visitors on their own (no package) had simply a running total of costs up to the time of the interview. To make their cost tallies comparable and inclusive of their full visit to Osa, we extrapolated the non-package visitor costs out to the projected end of their Osa visit. For instance, if they had stayed three days and intended to stay six in the Osa, we doubled the amount they had spent at the time of the survey. In addition, even on the most inclusive of package tours, visitors have incidental and “extra” expenses for souvenirs, supplemental food or activities, and the like. Again for comparability, we tallied the accumulated cost to date of extras for each visitor on a package tour and then extrapolated that figure to the end of their trip. For both groups of visitors, this procedure allowed us to calculate more accurate and comparable “adjusted” cost figures. Even so, because of the assumptions and extrapolations they entail, our expenditure figures should be taken as approximations.

Finally, we found useful two different ways to estimate average costs per person per day. First, there is the usual rough approximation (here called “method 1”) achieved by dividing the sample’s average total costs per person by the sample’s average length of stay. Second, and probably more meaningful, is a case-wise estimate (“method 2”), where the fraction “costs per person/length of stay” was tallied for each respondent in each expense category and divided by the actual number of days that individual was staying in the Osa, then summed for all respondents and the average calculated. Because method 2 provides an average of case-by-case spending, it returns slightly higher values than method 1. We decided to offer both estimates for comparison.

Following these procedures, we were able to calculate adjusted trip expenses for 58 of the 73 Osa visitors interviewed (80 percent).²⁴ The average adjusted *total cost* of visiting the Osa was \$2150 per person for those on package tours, and \$888 per person for those not on package tours. For the 19 out of 58 (33%) who said they were visiting Osa as part of a package tour, the

²⁴ Understandably, not all respondents had the patience on vacation to work through the steps of our cost accounting.

average reported price of the package itself (ignoring extras) was \$1847 per person. The average package length was 5.5 days, and average of all expenses (\$2150)—package plus extra costs (as for souvenirs, extra equipment rentals, etc)—came to \$391 per person per day (method 1). For method 2, where both the real expenses per category and actual length of stay (rather than the average of 5.5 days) were used in calculating the costs for each individual visitor, the average came to \$437 per person per *day*. For those visitors on their own, the average reported cost of visiting the Osa was \$501 per person up to the time of the interview, or \$888 per person adjusted for the full trip. The average non-package trip lasted 5.6 days, which corresponds to the adjusted figure of \$159 per person per day (method 1) or based on real length of stay and cost/category, the cost was \$181 per person per day (method 2). Just to clarify, however, in both methods, the average adjusted total cost of visiting the Osa remains the same: \$2150 per person for packages and \$888 per person for independent travelers.

For improved accuracy, we asked all respondents to estimate their expenses by categories (as shown in Table 13 and Figures 23 and 24). For those on package tours, the price of the package accounted for 88.7% of total reported costs, with lodging and travel costs included in the majority of tour packages. Thus, the figures gathered for “lodging” and “travel” can be understood to represent those cases in which extra lodging costs were incurred by a package traveler above and beyond what was included in their tour package. For those independent travelers, the greatest proportion of costs went to lodging, which represented 34.3% of reported trip costs at the time of the interview. Proportion of total costs was calculated for each category by comparing the amount reported for that expense category against total reported expenses for each respondent’s trip to the Osa.

Table 13: Comparative expenses for visitors on package tours and visitors not on package tours

Expense Category	Visitors not on Packages (N=39)		Visitors on Packages (N=19)		
	Trip Expenses		Trip Expense "Extras"		
	Mean per Person (\$)	% of Raw Total*	Mean per Person (\$)	% of "Extras"***	% of Raw Total**
Travel to Hotel (all conveyances, within Costa Rica)	85	18.0	33	14.7	1.6
Lodging	219	34.3	16	3.6	0.7
Gasoline / Auto	20	5.0	3	1.0	0.2
Food (restaurant)	45	11.1	30	15.1	1.2
Food (grocery)	23	8.5	6	3.8	0.3
Equipment Rental	6	1.8	0	0.0	0.0
Gifts / Souvenirs	7	2.5	15	15.3	1.1
Spa Visits	13	1.5	9	12.8	0.7
Tours / Hikes	63	10.8	34	11.6	2.5
SCUBA / Snorkel	11	3.6	10	5.5	0.6
Tickets & Entry Fees	8	2.6	31	11.4	2.1
Other	1	0.3	5	5.6	0.3
Average total costs per person outside package at time of interview	501		191		
Average total package costs per person	--		1847		
Average raw total costs at time of interview	501		2038		
Average adjusted total costs for entire stay ^A	888		2150		
Average daily adjusted cost per person (method 1) ^A	159		391		
Average daily adjusted cost per person (method 2) ^A	181		437		

* Percentages may not sum to 100 due to rounding; similarly average costs may also show rounding error.

** Percentages are based on reported costs of extras compared to total cost including the price of the tour package, and thus do not sum to 100%.

^A Two estimates of average adjusted costs per person per day are provided: "method 1" shows the average adjusted total cost divided by the average length of stay, whereas "method 2" represents each informant's response *divided by their individual length of stay*, and then averaged over the sample. We regard the latter as more accurate.

Figure 23: Proportion of total reported expenses by category, for visitors on package tours. (N=19)



Figure 24: Proportion of total reported extra expenses by category, for visitors on package tours. (N=19)

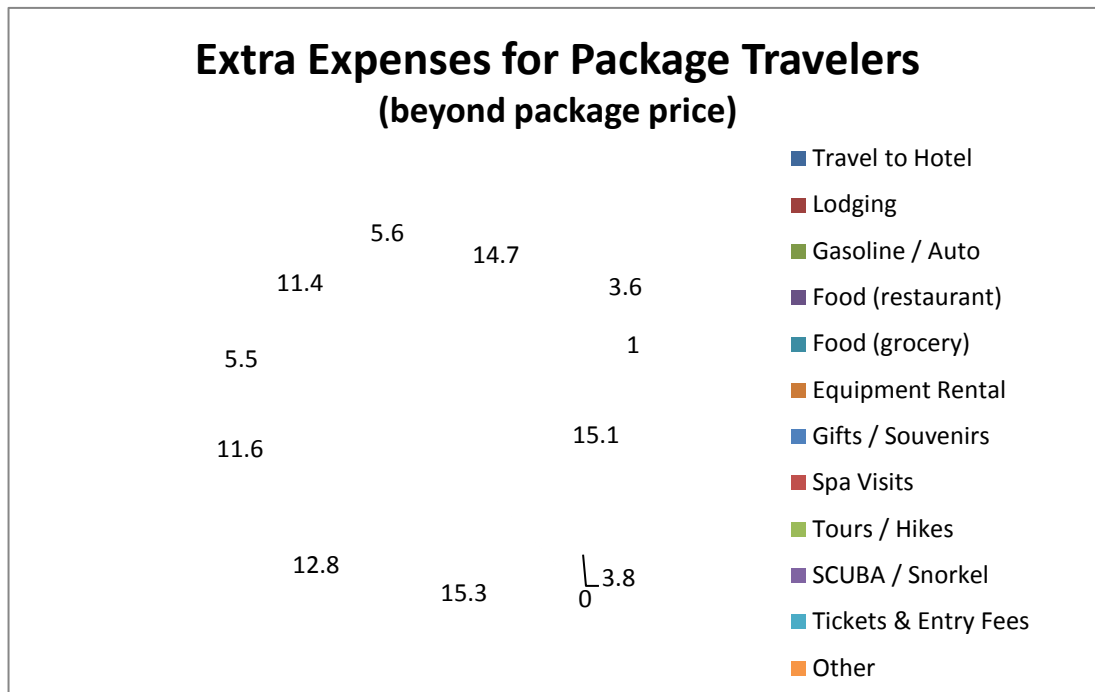
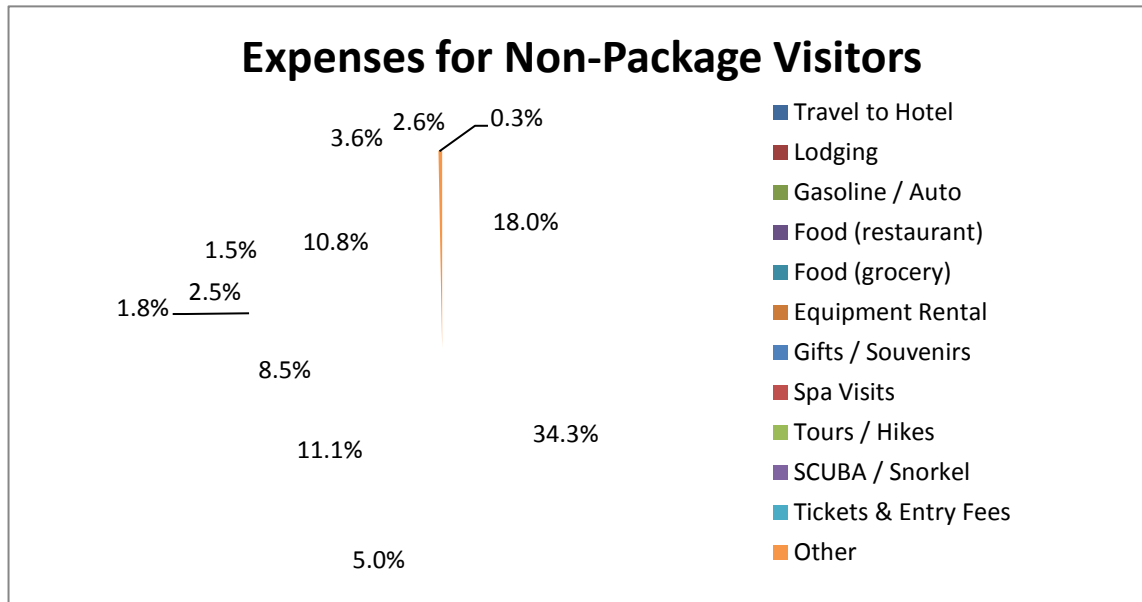


Figure 25: Proportion of total reported expenses by category, for tourists on non package tours. (N=39)



It is important to note that the definition of package tour varied by hotel and sometimes also by informant. Although we corrected for discrepancies as best we could, there surely remain some hidden differences in total expenses between package tours and non-package tours. It was also our impression that the hotels offering packages were, generally speaking, the higher end hotels in our sample. This means that the average package tour is not be easily comparable to the average non-package tour in terms of quality and range of amenities. Again as we learned, there are many different ways to visit the Osa, package or not, and travel arrangements differ widely in terms of quality and what is included. Further research with highly detailed attention to “package” contents would help refine the data on visitor expenditures.

Willingness to pay

Another key focus of our research was assessing ‘willingness to pay’ as an overall, integrative measure of the tourism experience in Osa. It asks, in effect, what additional amount people would be willing to pay for the very same experiences they had had on their trip. Out of 73 visitors surveyed, 47 (73%) indicated a willingness to pay more than they had for the same experience in the Osa. Once we excluded three extravagantly exceptional cases, 44 respondents (66% of the total) indicated a willingness to pay an average of \$177 more for the same experience in the Osa (for the same hotel, same activities, etc). This generous amount says a couple of things. First, it confirms visitor reports that Osa visits are perceived as “good value.” Comparing willingness to pay against the total per person cost of a trip, visitors say they are willing to pay, on average, something like an additional 15% of the total cost per capita. Second, it shows how importantly Corcovado National Park figures into Osa visits. When asked to place a dollar figure on how much more they would be willing to pay to visit the Corcovado

National Park, visitors said they would pay, on average, an additional \$42 per person, on top of what they already paid (at least the \$10 entrance fee, plus any guide services). In other words, roughly one-fourth of the total additional they said they would pay to visit Osa, they would pay to visit Corcovado.

In addition, visitors were asked how much they would hypothetically be willing to pay, on top of their current trip costs, in order to support local environmental and cultural protection. Over half of our visitor sample (58%) said they were willing to pay more, and offered on average an extra \$68 per person to local environmental and cultural programs. Tourists were then asked to specify what percent of that hypothetical additional amount they would like to go toward environmental protection, and what percent toward cultural protection. Paralleling their importance rankings for environmental and social responsibility discussed in the section above, tourists favored the environment for an average of 69% of their contributions, vs. 31% for cultural heritage protection.

Carbon tax

While thinking about potential extra costs and contributions, 46 visitors (of 73 total, or 63%) answered a question about a hypothetical carbon tax to help mitigate climate change. The tax would be assessed according to the distance traveled by airline to reach Costa Rica from the visitor's place of origin. Thirty-four visitors—fully 74% of the respondents—said they would contribute, and twelve (26%) declined. Most of the latter said they did not believe CO₂ was a climate change driver, or that they doubted that the money collected through the tax would be adequately managed and used. For those willing to pay such a tax, the average amount they would contribute was \$49.

Conclusions

This study set out to assess ecotourism as a conservation and development tool in the Osa Peninsula of Costa Rica. With a team of trained researchers from the University of Costa Rica, Golfito, and Stanford University, we were able to carry out a wide range of interviews about ecotourism in and around the two main communities of Drake Bay and Puerto Jimenez. Analysis of interview data with 128 local residents, to start with, brought us to the following principal conclusions.

First, comparing Osa tourism workers with residents working outside of tourism, we found that a much higher percentage of tourism workers had been born in the Osa (58% compared with 35%). Tourism thus represents a major employment opportunity for Osa locals, in striking contrast to many other tourism destinations that give preference to outside labor.

Second, we found that tourism workers have a monthly individual income nearly twice as high as non-tourism workers, and that income differential persists even during the low season of tourism. Across both study communities, combined household incomes were 1.6 times higher in households where one or more person works in tourism. It is clear that tourism in Osa generates higher incomes for local residents than employment in the other locally available fields, such as agriculture, fishing, and trades.

Third, tourism workers also appear to feel somewhat more strongly about the impacts of tourism, whether positive or negative. Tourism workers were on average more likely to be aware of current plans for a new international airport, and were on average much more critical of the project than their non-tourism peers. Although there is clearly a call for more job training opportunities, residents do credit tourism with recent increases in free training workshops provided by the governmental Instituto Nacional de Aprendizaje (INA). In addition, those interviewed credit ecotourism with increasing the value local residents now give to nature. While both groups share overwhelming positive attitudes towards national parks, tourism workers were slightly more favorable than non-tourism workers, 85% vs. 74%. Further, they said that laudable recent decreases in hunting and deforestation are due to ecotourism in the Osa. Given the region's history of conflicts between people and parks, it appears that ecotourism, with its commitment to both local livelihoods and conservation, is helping to shift attitudes among Osa residents. Indeed, a majority in both groups said they feel they are living "a good life", although, again, the percentage was higher for those in tourism: 74% to 66%.

However, the subject pool also believed that the perceived increase in rates of alcoholism were due more to tourism than to other factors, and tourism employees gave more emphatic opinions than did their non-tourism counterparts. This last result may be due to the social and economic effects of increased disposable income earned by tourism workers. According to overall perceptions of change, tourism appears to be driving increases in several positive social and environmental indicators, while at the same time creating some more complex social effects that are perceived as presenting challenges for communities and development planners.

Among the Osa residents in our sample, the line between tourism and non-tourism economic activities was far less distinct than we expected. When discussing the local economy, respondents often told us, “we all work in tourism,” in recognition of the fact that tourism is the largest economic driver of all industries in the region. Without direct and indirect economic activity coming from tourism, even local shop owners, farmers and road workers would be out of jobs. As one interviewee put it, “without tourism, no one would have money to spend in my store.” Thus, *tourism is playing a keystone role in the economic network of the peninsula: even those residents who do not derive their primary income from the payroll of a hotel or an airline still consider themselves to be sustained in no uncertain terms by the local tourism industry.*

The study also included interviews with 73 tourists on visits to the Osa, which led to the following conclusions. The Corcovado National Park is the number one reason those surveyed cited for visiting the Osa. Their preferred activities – hiking, photography, bird watching, and national parks tours – all reflect the importance both ecotourism and of maintaining a healthy natural environment in the Osa. A majority of tourists surveyed perceived their visit to the Osa had been a “good value” and 66% expressed a willingness to pay an average of \$177 more for the same experience, including \$42 more to visit Corcovado National Park. In addition, a majority – 58% - expressed a willingness to contribute on average \$68 more to support local conservation and community projects in the Osa.

On average, visitors showed strong leanings toward socially and environmentally responsible travel. However, they appeared to suffer from both a lack of available tools and information on which to base their travel choices, and from a lack of initiative in seeking out more information. Strong willingness to pay more for their visit to the Osa, to contribute to social and environmental health of the region, and for a potential “carbon tax” indicates a way in which local tourism planners might be able to bring in more funding for local responsible travel initiatives. Additionally, travelers’ lack of knowledge about the CST certification program indicates a failure of current efforts at publicizing the program to interested international consumers, and suggests that more attempts at international outreach could promote demand for more responsible tourism products.

In turn, we found a number of areas where additional tools and incentives could help hotels in our sample operate in more socially and environmentally responsible ways. The capacity of local hotels to monitor and manage their social and environmental impacts could be strengthened, as could the incentives for becoming involved in climate change mitigation, local community programs, and the national certification for sustainable tourism. Given the strong desire of most Osa visitors to experience the pristine natural attributes of the Osa region, the preservation and celebration of the region’s unique ecosystem should be a primary goal for ensuring a sustainable future for tourism in the Osa.

Overall these surveys and interviews with local residents, hotel managers, and tourists demonstrate that ecotourism is widely viewed as a high value economic activity in the Osa Peninsula. It is perceived as providing stable, better paying jobs and offering more opportunity

for advancement than other economic endeavors. Further, it is credited with helping to shift local attitudes towards positive perceptions of Corcovado and the other protected areas. Although not evenly spread throughout the peninsula, its economic reach is wide, with most businesses tying their well-being to the health of the tourism sector. In addition, visitors surveyed in the Osa expressed strong satisfaction with their nature-based tours and a willingness to pay more for similar experiences. These findings therefore validate the study's main hypothesis that *ecotourism in the Osa represents a different, and better, form of development than the existing extractive alternatives – such as timber, gold mining, plantation agriculture, cattle – or large-scale, densely-developed mass market tourism as is found along the northern Pacific coast.*

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Appendices

Appendix 1. Brief Historical Sketch of the Osa Peninsula

The earliest known inhabitants of the Osa region were the Guaymi, Boruca, and Cabecar peoples who first settled in the area between 800 and 1500 A.D. They were accomplished goldsmiths, fashioning ceremonial pieces from nuggets found in the Claro and Tigre Rivers. Pre-Columbian artifacts show evidence of scattered hunting and gathering communities, while today many of the region's remaining indigenous communities live in government-created reserves, including the Osa Indigenous Reserve.

It wasn't until the 1930s that internal migrants from other parts of Costa Rica and Central America moved into the Osa in search of land, work, and fortune. The "discovery" of gold in 1937 set off a short-lived gold rush, as 400 pan handlers from Costa Rica, Nicaragua, and Panama converged on the Rio Tigre on the edge of present-day Corcovado National Park. Artisanal gold mining has continued over the decades, with thousands of fortune seekers panning for nuggets in the region's rivers.

Also in the 1930s the United Fruit Company (now Chiquita Brands) set up operations in the Osa, developing plantations around Palmar and Golfito, where they also built a railroad and a port for exporting the bananas. Golfito became a prosperous trade town and most important port in southern Costa Rica. Thousands of workers moved to the region, living in company built towns and organizing into a militant labor union which won Costa Rican banana workers some of the highest agricultural wages in Latin America.

The other main agricultural activity was rice production, either on individual farms or large plantations. However, the poor quality of the soil required extensive and costly fertilizers and in the early 1980s, after several years of low yield crops, the government ceased giving agricultural credits for rice. This put many rice farmers out of work. Similarly unsuccessful were government promoted livestock and agricultural programs to provide land to Osa residents and to give them after 15 years of working the land productively. The program faced a range of challenges, including poor soil quality, lack of technical assistance and credit for fertilizers, and long distances to market. By 1986, agriculture in the region has fallen markedly and by 1994, the region had to import cattle to meet domestic needs. By the 1990s, the Costa Rican government had ended, as Horton explains, "the agricultural frontier model of subsistence and upward mobility subsidized by the exploitation of natural resources on the peninsula." (Horton 2007:38)

The most severe economic dislocation occurred in 1985 when, in the wake of a prolonged strike and the fall of banana prices worldwide, United Fruit abandoned Golfito. The company's departure left behind a ghost town and set off an internal migration of workers and their families in search of employment. United Fruit gradually converted many of the old banana fields into African palm plantations which require far less labor. The extracted palm oil, which is exported from Golfito, is used to produce cooking oil, margarine, and soap.

In 1990, in an effort to boost employment, the Costa Rican Tourism Institute (ICT) opened a duty-free shopping zone (Depósito Libre) in Golfito. Costa Ricans and foreign residents are permitted to shop here duty free twice per year, on condition that they stay over at least one night. The free trade zone resuscitated Golfito's economy, creating jobs in the formal and informal sectors that are dominated by local residents. One study done in the late 1990s found that while no one from Golfito owned a concession in the Depósito Libre, 73% of the jobs there were held by Golfitoños. In addition, around the periphery of the duty free zone, 51 *cabinas* and hotels, as well as dozens of restaurants and shops had sprung up to accommodate overnight visitors (Gibson, 1999: 84-6).

This has led to the growth of “duty free tourism” with shoppers visiting nearby national parks and reserves, beaches, botanical gardens, the Golfo Dulce, and other attractions, and staying in a growing number of small hotels and fishing camps. The ICT was supposed to transfer “up to 25%” of the revenue generated from the free trade zone to the local municipality for tourism development in Golfito. However, this strategy for domestic tourism has proved only moderately successful, in part because Costa Ricans on average spend much less than international tourists and because in practice far less than 25% of revenue went to support tourism development.

Tied to Golfito's free trade zone and port was another government backed economic development scheme. In 1989, the government signed a contract with the Ston Forestal, a wholly owned subsidiary of the U.S.-based Stone Container Corporation, to plant 24,000 hectares with a fast growing tropical hardwood called Melina (*Gmelina arborea*) using genetically modified seedlings. Ston Forestal planned to grind the Melina trees into wood chips and export an estimated 600,000 metric tons per year to the United States. The government agreed to help build the port and granted Ston Forestal the benefits of the free trade zone. The company bought a 1000 hectare cattle farm on the Pan American Highway outside Palmar Sur and began leasing land on some 200 local farms used previously mainly for rice production or pastureland. The leased land did not include any primary forest (Gibson, 1999:86-7).

While the company billed this as a “reforestation” project, national and international environmental organizations began raising a series of concerns. They discovered that Ston Forestal had been forced out of Honduras by environmentalists concerned about forest destruction. The company's original plan to locate its port at Punta Estrellas in the Osa Peninsula was rejected by the government after the environmental impact study revealed potential for ecological damage to marine and terrestrial ecosystems. Golfito was then selected to be the port since it was already environmentally compromised and economically vulnerable (Gibson, 1999:89). However, as environmental objections continued to be raised and the international market for wood commodity dropped, Ston Forestal withdrew, defaulting on its leases and turning farms, many already planted with Melina, back to their owners. As the trees reached maturity, some Osa farmers began to harvest. Today, Melina lumber which had been practically unknown in Costa Rica, is the most widely used non-native wood, representing 20 percent of all milled lumber in the country (Horton 2007:49; History of Gmelina 2011).

Several decades earlier, the operations of another U.S. lumber company, Osa Forest Products (OFP), had also raised environmental concerns and caused local conflicts. In 1957, OFP acquired about 47,000 hectares of land with the intention of exporting timber. But the company invested little in the property and by the early 1970s, Costa Rican squatters (*precaristas*) had laid claim to some 8000 hectares, clashing violently at times with OFP personnel and Costa Rican rural guards. In 1975, a small but influential group of environmentalists, backed by international conservation organizations, convinced President Daniel Oduber to expropriate OFP's land and create the Corcovado National Park. International NGOs provided funds to help establish the park and relocate families who were within the park, while the government provided compensation for the lost land (Wallace 1992:53-65; Honey 2008:173-75). The squatters, in turn, opposed creation of the park and pressured the government to distribute OFP land to them. However, geographically isolated and with little outside support except from the country's small communist party and the government's land institute, the squatters were unable to prevail over the coalition of influential Costa Rican environmentalists and transnational conservation NGOs (Horton 2007:36-38).

When Corcovado was created in 1975, there were also about 60 artisanal gold miners inside its boundaries, however the activities of these "old timers" were tolerated as largely harmless to the park (Tangley 1986:296). The picture soon changed. By the early 1980s, with the sharp decline of agriculture and world gold prices skyrocketing, thousands of prospectors and their families had moved secretly and illegally into Corcovado. By 1985, there were up to 3000 miners working in the park. Many of them viewed the national park as publicly owned land that should be used as needed. However, park officials, along with scientists and environmentalists, grew increasingly alarmed by the swelling numbers of artisanal miners living in and around the park who were contaminating and silting the rivers, causing landslides, killing fish and wildlife for food, cutting trees for fire wood, and clearing land for agriculture (Schaper 2002:2).

In 1985 the park director asked University of Pennsylvania scientist Daniel Janzen who had worked in Costa Rica's parks for more than a decade, to lead a team to investigate and propose a solution. The report, published by World Wildlife Fund, was shocking (Janzen et al 1985). The Janzen report found some 1400 miners were living in the park, game animals had been "practically eliminated" and most rivers had become "sterile and full of sediment." It concluded that the park would only recover if most of the miners were removed, but he also warned that police action was not a long term solution. Instead the report proposed that to stop such invasions, the park "should involve itself deeply with neighboring communities and other planning agencies to show the benefits of the park." This early articulation of one of ecotourism's precepts – that parks will only survive if people around the perimeters see tangible benefits – proved here, as elsewhere, easier to propose than to implement (Honey 2008:173-174; Wallace 1992:128-144). In 1986, with funding from the World Wildlife Fund, the park service and Rural Guard moved to evict all the miners from Corcovado. Some 500 left voluntarily, but over 200 resisted and were arrested and moved to a small town outside the park. After several uprisings, hunger strikes, and a march by miner families from the Osa to San Jose, the miners were finally given small parcels of land or about \$5000 in settlement (Schaper 2002:4; Wallace 1992:139-144).

While this was the biggest expulsion, over the years the rural police and park authorities have periodically rounded up and expelled gold miners, while the government has made repeated efforts to negotiate settlements, giving the miners money and land if they gave up their trade. On occasion, scientists were forced to abandon their research inside Corcovado and tourism camps were temporarily closed down. With new waves of miners continually appearing inside the park, the park service decided to legally permit, as Janzen had recommended, low-level incursions of as many as two hundred miners inside the park. (Wallace 1992:128-144; Honey 2008:174) Other protected areas reached similar agreements. In 1999, for instance, there were 200 registered gold miners in the Golfo Dulce Forest Reserve (Horton 2007:55).

While over the decades a few miners struck it rich, most miners maintained a semi-nomadic life of poverty. By the mid-1990s some former miners had found work in the dozen-odd ecotourism lodges, tent camps, and private reserves established in the buffer zone around the park. In addition, one innovative project helped *oreros* to set up a cooperative which included an ecolodge for backpackers (Honey 1999:143-4) Estimates were that tourism in Corcovado was generating about a \$1 million per year, twice as much as gold mining was netting (Honey 2008:174).

With the creation of the parks, as Horton explains, “funds were channeled toward land acquisition and conservation,” while local residents who were struggling as farmers, ranchers, and gold miners were excluded from using the natural resources (Horton 2007:38). Yet almost from the outset, this model was also questioned and challenged. The conflicts between people and parks in Corcovado and elsewhere the Osa contributed, as was happening in other parts of the world, to a reassessment of the top down policing approach to park management. Rather than fences and firearms, some community activists, park officials, conservationists, and development experts, began to argue that ultimately parks would only survive if, as Daniel Janzen put it, there are “happy people” living on their peripheries (Honey 2008:30).

By the late 1980s and early 1990s, this new approach to park management was taking hold in Costa Rica and elsewhere around the world (Honey 2008:13-17). The Costa Rican government and international NGOs moved from a concentration on creating parks to funneling resources into projects aimed at poverty alleviation and income-generating alternatives for communities living in and near protected areas. In the Osa and elsewhere, ecotourism was increasingly put forth as a new economic activity that could both help create local jobs and new businesses, while protecting biodiversity and the resource base on which nature tourism depends. Proponents argue that while ecotourism is still a market-based and export oriented economic it differs from mass tourism, extractive industries, commercial agriculture, and cattle ranching because it puts a premium on both sustainable economic and social development of the local area through activities that help strengthen the parks and protect the environment. Over time, field research suggests, the ecotourism boom which began in the 1990s has gradually helped to shift local concepts towards seeing Corcovado and other protected areas as contributing to an improved quality of life in the peninsula (Horton 2007:52-57).

Appendix 2. Qualitative comments from area residents on local issues
(Translated summaries of open-ended responses from interviews)

National Parks	Good	<ul style="list-style-type: none"> • They protect natural resources, heritage, animals. • They are beautiful. • They are for our children. • Costa Rica should have more parks. • Parks increase income, jobs, respect for nature.
	Bad	<ul style="list-style-type: none"> • Most of the parklands used to be ours, and were expropriated illegally by the government. • Park management strategies should take into account local needs. • Locals have nowhere to grow food anymore, with so many parks. • Why do we need more parks? So much land is already protected. • Money from park visitation should be reinvested for communities • Not maintained well anymore
Private Reserves	Good	<ul style="list-style-type: none"> • They help protect nature. • Locals can receive money from the government for conserving land. • They bring the same benefits as national parks, but many private reserves are probably protected better than government could do it.
	Bad	<ul style="list-style-type: none"> • Owners of private reserves should maintain the right to sell. • It's not fair that the owners don't let anyone in. • Rich people buy up the good land (Example: Mel Gibson tried to buy the Marengo private reserve.) • Unfortunately, they sometimes just develop the reserve lands later on.
Houses of Foreigners	Good	<ul style="list-style-type: none"> • They are attractive, nice houses. • Having them here brings jobs, economic benefits. • They own the land, so it is their right to build there. • Sometimes they deforesting for lumber or buildable land.
	Bad	<ul style="list-style-type: none"> • They are privatizing the land. • They bring pollution, environmental damage. • Many do not offer employment or benefits to locals. • They build where the law prohibits Costa Ricans from building. The laws are not applied to foreigners. • There is a lack of respect , cultural consciousness. • Sometimes they build on land that isn't theirs.
Presence of Foreigners	Good	<ul style="list-style-type: none"> • They protect the land while locals sometimes don't. • They bring money, and provide work. • Cultural interchange is good.
	Bad	<ul style="list-style-type: none"> • They are intrusive in our culture. • Too many foreigners are coming. • They blame local citizens for things. • They are territorial about their land.

		<ul style="list-style-type: none"> • Drug use is increasing with their presence. • Some immigrants are just looking for Costa Rican citizenship. • Costa Ricans lose their rights when so many foreigners come in.
Selling Land to Foreigners	Good	<ul style="list-style-type: none"> • It brings work and income to the people here. • Locals can't afford land prices here, so it's good to have foreigners buying. • Selling their land allows locals to buy other properties from other locals– foments investment. • They are conservationists.
	Bad	<ul style="list-style-type: none"> • No one really sells their land for good reasons. No one truly wants to sell. • The land is worth more than they sell it for – Locals are usually not getting a good price for their property. • Selling land to foreigners puts pressure on the Maritime Terrestrial Zone. • If people sell to them, eventually they can throw out the locals. • Many only buy to get rich. • It depends who is buying, where, and what use it will go toward. • At this rate, my grandchildren will have nowhere to live. • Foreign buying forces local land prices up too far. Locals now can't buy their own land here, only foreigners. • I fear we are selling off Costa Rica piece by piece.
Oil Palm Plantations	Good	<ul style="list-style-type: none"> • It's better than paving it, I guess. • Palm plantations bring money for people who have nothing else. • It's a good use for already degraded land. • It brings reinvestment in the local infrastructure, and work and money. • It's good because it's mostly the locals profiting, not foreign owners. • It's a diversifying option, something else besides just tourism.
	Bad	<ul style="list-style-type: none"> • It's bad, because this is a conservation region. • It would be better if they didn't deforest land to do it, if they only used it if it were already ready for planting. • It's a monoculture crop, and that is bad for the area. • What's done is done, but I hope they don't plant any more. • It's complicated: It's good for the community, bad for the environment. • Palms are ecologically damaging, especially for the mangroves. • They have to use agrochemicals to grow the palms here. • Yes, it brings work. But unfortunately, the work it brings is very seasonally restricted, and the wages/salaries from oil palm plantations are very low.

Appendix 3. Comparisons of good and bad years, between tourism and non-tourism workers.

Year	N	Tourism		Non-tourism		p-value
		Good	Bad	Good	Bad	
2000	56	24	7	19	6	0.9005
2001	60	26	9	19	6	0.8798
2002	65	32	8	19	6	0.7027
2003	66	32	9	19	6	0.8472
2004	68	33	9	20	6	0.8734
2005	73	37	7	20	9	0.1264
2006	72	38	6	19	9	0.0594
2007	76	29	14	20	13	0.5371
2008	83	26	22	21	14	0.5964
2009	86	24	24	15	23	0.3302
2010	83	25	20	13	25	0.0518

Appendix 4. Comparison of good and bad months for tourism employees and non-tourism workers during a good year.

Month	N	Tourism		Non-tourism		p-value
		Good	Bad	Good	Bad	
January	83	47	2	33	1	0.7843
February	79	45	5	27	2	0.6399
March	75	43	5	26	1	0.3037
April	69	36	7	19	7	0.2867
May	56	17	15	11	13	0.5982
June	59	16	18	5	18	0.0299
July	62	15	23	7	17	0.4087
August	62	14	25	5	18	0.2428
September	79	5	45	4	25	0.6090
October	80	6	45	4	25	0.7920
November	71	29	11	23	8	0.8730
December	84	48	2	32	1	0.4626

Appendix 5. Comparison of good and bad months for tourism employees and non-tourism workers during a bad year.

Month	N	Tourism		Non-tourism		p-value
		Good	Bad	Good	Bad	
January	46	27	1	17	1	0.7474
February	42	24	3	13	2	0.8313
March	41	24	3	12	2	0.7683
April	38	19	5	9	5	0.3150
May	30	3	15	3	9	0.5762
June	32	6	15	1	10	0.2055
July	33	6	16	2	9	0.5657
August	35	4	17	1	13	0.3241
September	47	0	29	2	16	0.0666
October	48	0	30	1	17	0.1920
November	36	14	7	13	2	0.1719
December	45	23	3	17	2	0.9150

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About the Center for Responsible Travel (CREST)

The Center for Responsible Travel (CREST) is a unique non-profit organization devoted to increasing the positive global impact of responsible tourism. CREST functions as a bi-coastal institute, with offices in Washington, DC and at Stanford University in California. It collaborates with experts and institutes around the world. CREST's international network provides interdisciplinary analysis and innovative solutions through consultancies, research, field projects, publications, video documentaries, conferences, and courses. Recognizing responsible tourism's potential as a tool for poverty alleviation and biodiversity conservation, CREST's mission is to use policy-oriented research to design, monitor, evaluate, and promote sustainable practices and principles within the tourism industry.

The Center (formerly the Center on Ecotourism and Sustainable Development/CESD) was founded in 2003 by two pioneers in the field of ecotourism who saw a critical need for providing intellectual rigor to the responsible and ecotourism movements. Dr. William Durham, professor of Anthropology at Stanford University, and Dr. Martha Honey, author and then-director of a small ecotourism project, met at a Stanford event, agreed on the need for a new approach, and launched CREST shortly thereafter.

CREST's programs, research, field projects, publications, courses, and documentaries have included impacts of coastal tourism and residential developments, cruise tourism impacts on ports-of-call, indigenous rights and tourism, 'green' certification programs for tourism businesses, travelers' philanthropy, market research on tourism trends and consumer demand, tools for financing sustainable tourism projects, cost benefit analysis of different types of tourism, and identifying and promoting innovative and replicable models of sustainable tourism.

CREST views responsible tourism as a development and conservation tool that has the potential to address some of the most complex and compelling social and natural conservation issues of our times. CREST's academically rigorous research, publications policy tools, courses, conferences, and field projects are designed with a vision to *transform the way the world travels*.

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