GALAPAGOS REPORT 2015-2016

TOURISM

BEHAVIOR AND TRENDS IN TOURISM IN GALAPAGOS BETWEEN 2007 AND 2015

Juan Carlos Izurieta

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Behavior and trends in tourism in Galapagos between 2007 and 2015

Juan Carlos Izurieta

Galapagos Tourism Observatory, Ministry of Tourism

The birth of the Galapagos tourism industry dates back to the end of the 1960s, when there were half a dozen ships and hotels attending around 2000 tourists annually (Epler, 2007). By 2015, 55 years later, 291 authorized hotels and 74 vessels with onboard accommodation attended 224,745 tourists.

This article documents the behavior and trends in Galapagos tourism between 2007 and 2015. This time period was selected because in 2007, the government adopted the Transit Control Card system, which has provided records for type of accommodation, demographic characteristic, and travel plans of tourists visiting the Archipelago.

The growth of tourism in the Galapagos in context

The ideal method for quantifying growth of demand over time is the compound annual growth rate (CAGR), which consists of estimating the constant increase in the number of visitors adding each year’s growth to the original value. Using this measurement, the growth of tourism in Galapagos between 2007 and 2015 is +3.72%. This figure is higher than the worldwide growth in tourism (+2.96%), but lower than the overall growth of tourism in Ecuador (+5.69%) (UNWTO, 2016; MINTUR, 2016; Table 1). Important traditional and nature destinations for the region report growth rates similar or superior to Galapagos. For example, during the period 2007 to 2015, the Machu Picchu Archaeological Complex in Peru, with more than one million visitors per year, had a CAGR of +5.38%; the Fernando de Noronha Archipelago in Brazil, with around 76 thousand visitors per year, had a

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Tambopata National Reserve</td>
<td>Peru</td>
<td>45,350</td>
<td>+6.67%</td>
</tr>
<tr>
<td>Tayrona National Park</td>
<td>Colombia</td>
<td>333,965</td>
<td>+6.43%</td>
</tr>
<tr>
<td>Fernando de Noronha Archipelago</td>
<td>Brazil</td>
<td>90,522</td>
<td>+5.79%</td>
</tr>
<tr>
<td>Machu Picchu Archeological Complex</td>
<td>Peru</td>
<td>1,282,515</td>
<td>+5.38%</td>
</tr>
<tr>
<td><strong>Galapagos National Park</strong></td>
<td>Ecuador</td>
<td><strong>224,745</strong></td>
<td><strong>+3.72%</strong></td>
</tr>
<tr>
<td>Corales del Rosario National Park</td>
<td>Colombia</td>
<td>448,479</td>
<td>+3.44%</td>
</tr>
<tr>
<td>Los Roques National Park</td>
<td>Venezuela</td>
<td>60,987</td>
<td>+3.00%</td>
</tr>
<tr>
<td>Cocos Island National Park</td>
<td>Costa Rica</td>
<td>3467</td>
<td>-3.31%</td>
</tr>
<tr>
<td>Gorgona National Park</td>
<td>Colombia</td>
<td>1489</td>
<td>-13.15%</td>
</tr>
</tbody>
</table>

Sources: Cocos Island National Park Administration, Protected Areas of Peru National Service, Coordination of Tourism and Environment of the Fernando de Noronha Archipelago, National Park Administration of Columbia, Tourism Observatory of Peru, Ministry of Environment of Ecuador, Galapagos Tourism Observatory.
CAGR of +21%. There are also destinations that are similar to Galapagos, with a lower growth rate, such as Cocos Island in Costa Rica (-3.31%) or the Gorgona National Park in Colombia (-13.15%).

In comparison with the most visited protected areas in continental Ecuador, Galapagos has the largest number of visitors per year, but the lowest annual growth rate, while Cotopaxi National Park (+4.63%), Cotacachi Cayapas Ecological Reserve (+5.83%), Machalilla National Park (+20.24%), and Cajas National Park (+13.77%) all have higher growth rates (MAE, 2016; Figure 1).

An analysis of tourism in Galapagos using the type of data available in 1979 shows that the period from 2007-2015 did not have the greatest growth. Factors such as the global economic recession in 2009 and/or increases in airfares in 2012 have offset the accelerated pace of growth seen in previous years. During the period 1998 to 2006, the CAGR in Galapagos was +9.38%, six points higher than this more recent period.

To better understand the periods with the greatest growth in Galapagos, it is necessary to also measure the inter-annual variance or year-on-year growth (YoY). For example, for 2014-2015, the YoY was +4%, which means an increase of 9054 tourists. A review of the historical variance and year-on-year growth shows that the period of greatest growth in Galapagos was in the middle of the previous decade (Figure 2).

The growth rate of tourism in Galapagos is definitely high, although recent growth is not the highest historically, nor is it the highest in comparison with other destinations and natural areas of the country or region. It is clear that while there are no restrictions on the number of tourists or other management measures related to the entry of visitors to Galapagos, the arrival trends will reflect national and regional conditions, as they have until now. Continued growth is a reality.
**Change of the tourism model of the Islands**

The original type of tourism in Galapagos consisted of small sailboats and fishing boats that visited the principal natural attractions of the Archipelago (Honey, 1999). The cruise industry then grew significantly; by 2006, 80 vessels with onboard accommodation were active (Epler, 2007). From 2009 onwards, the boat-based tourism modality ceased to be the system with the greatest number of Galapagos visitors. By 2015, the greatest number of tourists (68%) participated in land-based tourism in the populated ports, which consists of overnight stays in towns and traveling to visitor sites on the same island or on nearby islands during the day. This is the fastest growing tourism modality. Between 2007 and 2015, boat-based tourism decreased (CAGR of -1.35%), while land-based tourism grew (+7.46%). Essentially, the growth in Galapagos tourism during the last nine years is almost exclusively from the land-based mode.

The global economic recession in 2009 caused a 10% reduction in the number of boat-based tourists and a 2% reduction in the number of land-based tourists. However, since the recession, only land-based tourism has recovered. In fact, the number of boat-based tourists has not yet returned to the level observed in 2008 (90,024), the year before the crisis (Figure 3).

If we project the number of boat-based and land-based tourists in Galapagos for 2021 using the post-recession CAGR of both modalities, only 25% of tourism in Galapagos would be boat-based, which underscores the urgent need for management and planning associated with land-based tourism.

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**Figure 2.** Comparison between annual arrivals, cumulative growth, and annual growth rate of visitors to Galapagos from 1980 to 2015. Source: Visitor register (1979-2006) and Transit Control Card Register (2007-2015), Galapagos National Park Directorate.

**Figure 3.** Arrivals to Galapagos according to the type of accommodation, onboard or on land, 2007-2015, and the projection to 2016-2021, in thousands (k). Source: Transit Control Card Register, Galapagos National Park Directorate.
San Cristóbal as a gateway to Galapagos

Entry to Galapagos has traditionally been through the Baltra airport, which continues to be used by most visitors. The San Cristóbal airport, which opened in 1986, captured 7% of visitor entries to Galapagos in 2007, 28% in 2013, and 23% in 2015 (Figure 4). Due to the allocation of flight frequencies and this airport’s facilities, it is expected that this entry point will maintain this percentage or grow slightly over the next few years, closing the gap between the two airports.

Figure 4. Percentage of arrivals to Galapagos by airport (Baltra and San Cristóbal), 2009 to 2015. Source: Transit Control Card Register, Galapagos National Park Directorate

Tourism source markets

Ecuador and the United States are the main sources for visitors to Galapagos. In 2015, seven countries accounted for 70% of international tourists: United States (37%), United Kingdom (8%), Germany (6%), Canada (6%), Australia (5%), Argentina (4%), and France (3%) (Figure 5). In 2007, only nine years ago, 70% of international tourists came from only four countries: United States, United Kingdom, Germany, and Canada.

Figure 5. Correlation between the number of visitors in 2015, and the compound annual growth rate (CAGR) between 2007 and 2015, for the Top 10 countries with arrivals to Galapagos and four countries outside the Top 10 with high CAGR. Source: Transit Control Card Register, Galapagos National Park Directorate.
The diversification of tourist destination markets is a worldwide phenomenon due to new connections and reduced travel costs. After Ecuador and the United States, the countries providing the next highest number of visitors to Galapagos are shifting and the gaps between them are closing. The United Kingdom, historically the third most important market for Galapagos, is decreasing in absolute numbers at a significant pace, while increasingly more visitors come from Germany, Canada, and Australia. Australia has a high CAGR for the period, as do Argentina and Chile. Over the next few years, these three countries may contribute similar numbers of visitors as the main European markets. Although few Galapagos visitors come from Mexico, Peru, Brazil, and China, these countries have high CAGR values; if they maintain this level of growth, they may become major sources of visitors in the future.

**Change in the type of tourists**

Between 2007 and 2015, there have been some changes in the profile of tourists to Galapagos. For example, the average age of boat-based passengers in Galapagos is now five years higher than in 2007 (Table 2). In the case of land-based tourists, the average age has risen two years. The length of stay increased for land-based tourists, from four days in 2007 to five in 2015. The length of boat-based stays has remained at seven days.

### Table 2. Changes in average length of stay and age of visitors onboard and on land.

<table>
<thead>
<tr>
<th>Year</th>
<th>Average Length of Stay (boat-based)</th>
<th>Average Length of Stay (land-based)</th>
<th>Average Age (boat-based)</th>
<th>Average Age (land-based)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>7</td>
<td>4</td>
<td>47.1</td>
<td>35.6</td>
</tr>
<tr>
<td>2008</td>
<td>7</td>
<td>4</td>
<td>47.8</td>
<td>35.8</td>
</tr>
<tr>
<td>2009</td>
<td>7</td>
<td>4</td>
<td>46.6</td>
<td>35.3</td>
</tr>
<tr>
<td>2010</td>
<td>7</td>
<td>4</td>
<td>47.0</td>
<td>35.7</td>
</tr>
<tr>
<td>2011</td>
<td>7</td>
<td>4</td>
<td>48.3</td>
<td>36.7</td>
</tr>
<tr>
<td>2012</td>
<td>7</td>
<td>4</td>
<td>49.4</td>
<td>37.3</td>
</tr>
<tr>
<td>2013</td>
<td>7</td>
<td>4</td>
<td>50.1</td>
<td>37.2</td>
</tr>
<tr>
<td>2014</td>
<td>7</td>
<td>5</td>
<td>51.2</td>
<td>37.7</td>
</tr>
<tr>
<td>2015</td>
<td>7</td>
<td>5</td>
<td>52.2</td>
<td>37.8</td>
</tr>
</tbody>
</table>

Source: Transit Control Card Register, Galapagos National Park Directorate.

Although the age of visitors and time spent in Galapagos has increased, there is no information that allows the determination of whether these factors have resulted in changes in tourist behavior and possible impacts on visitor sites or the local population. It is important that this type of information is generated for decision-making and adaptive management.

**The boom of tourism in populated ports**

High tourist demand in Galapagos has promoted a boom in the supply of tourist services, and these in turn, like any business would, aim to capture more tourists and/or extend the lengths of their stay.

While the supply of vessels with onboard accommodation has remained nearly the same between 2007 and 2015, land-based tourism supply and demand have undergone high growth. For example, the food and beverage sector, which in 2007 consisted of 43 businesses in the four populated islands, reported 133 businesses in 2015, an increase of 299%. In the same period, the number of travel agencies grew from 32 to 128, an increase of 300%.

In terms of available accommodations, in 2007 there were 73 establishments with 1055 rooms. By 2015, that number had grown to 291 establishments with 2728 rooms, an increase of 299% in the number of business and 169% in installed capacity.

The new accommodations were developed away from the waterfront, with little regulation, which reflects a low level of planning and zoning for these businesses (Figure 6).

**Demand does not match supply**

Despite the high growth in demand in populated ports, the boom in the number of accommodations has exceeded demand for certain businesses. With an average stay of five days, the 150,000 land-based tourists represent 600,000 visitor-nights per year. However, the supply of 2728 rooms per night in the populated ports represents 1.9 million rooms available over a year. Assuming double occupancy for all rooms, demand during one year will utilize 30% of the rooms available. Reviewing in detail the occupancy data for accommodations reported in 2015, the higher-category establishments (four and five star hotels and lodges) maintain an average annual occupancy of 60-80%, while lower-level businesses (three stars or less) maintain a less than 20% average annual
occupancy (MINTUR, 2016). Thus, the higher category hotels capture most of the current market.

Current policies restrict the construction of new hotels that don’t comply with environmental, social, and tourism standards. Maximum capacity per hotel is set at 35 rooms. New investments, which tend to be likely candidates for upscale businesses, will seek to ensure high occupancy rates to justify the investment, which will potentially translate into an increase in the number of tourists or their length of stay.

Conclusions and recommendations

The model for Galapagos tourism has changed; it is urgent that tourism planning and management take into consideration the new, growing modalities. Currently there is a notable stagnation in the number of boat-based tourists, high growth in the number of land-based tourists, a rapid and disorderly growth of supply in populated areas in response to demand, and market diversification. All of these factors reflect changes that must be addressed. Based on our analysis, we propose the following recommendations:

Update management actions in sites near towns. Galapagos has a renowned system of visitor management at designated visitor sites associated with the boat-based tourism model and some day tours. This system must be expanded to include all tourism modalities, as well as the visitor sites with free access that have the highest growth in demand. Some examples of such strategies include assigning specified routes/itineraries for all operators, including new modalities, such as experiential fishing and land tours with tour operators. It is also important to further develop the reporting system for naturalist guide observations, which would enable improved monitoring of tourist behavior at the visitor sites close to the populated areas.

Zone the tourist areas located outside of the protected areas. The bays and ports of the populated centers are experiencing increasing traffic and a proliferation of tourist businesses (hotels, travel agencies, restaurants) without any zoning policies. Challenges that must be met before tourism grows even more include establishing micro-zones in the bays and tourism and public use areas, as well as planned development within towns that includes tourist areas to ensure access to services and public areas by the local population.
Improve the quality of the new land-based businesses. In addition to zoning, policies should focus on improving the quality of smaller businesses to ensure that they optimize their services and can increase their profitability, so that they can sustain themselves with fewer visitors.

Better characterize new visitors to Galapagos. Currently only demographic profiles and travel information is collected from Galapagos tourists, but this information does not address issues such as behavior of new tourists at visitor sites, compliance with codes of conduct, and tourist impact on Galapagos ecosystems. This additional information is vital to improving management of Galapagos and is especially important for marketing and positioning Galapagos as a target destination for the desired segment of visitors.

Set a limit on the number of visitors. Establishing limits on the number of visitors to Galapagos, as has been done in other destinations such as Fernando de Noronha in Brazil, could have positive impacts for Galapagos. Even with the current number of visitors and businesses an update of land use and management regulations is urgently needed. If the current growth rate continues, approximately 280,000 visitors will arrive annually within five years. This number in and of itself isn’t as problematical as the associated increased level of risk factors for the Archipelago, including invasive species, consumption of natural resources, waste generation, and congestion in visitor sites, among others. Unlimited growth in visitor numbers is unmanageable for an archipelago. Establishing limits, not only in projections and planning, but in practice, must begin as soon as possible. It will take time to implement new policies and for them to take effect. This must happen before reaching a point of no return.

Galapagos continues to be an exceptional nature tourism destination, but much has changed since the days of a half dozen boats and hotels of the 1960s. It is vital to define short- and long-term growth and to manage the Archipelago in ways that maximize the resiliency of ecosystems and recognize that unlimited growth will result in unsustainable environmental services and community well-being.

References


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TOURISM

NATURALIST GUIDE REPORTS: AN EXAMPLE OF PARTICIPATORY SCIENCE FOR MONITORING IMPACTS OF TOURISM IN THE PROTECTED AREAS OF GALAPAGOS

María Casafont, Gabriela Erazo, Mariuxi Farías and Juan Carlos Izurieta

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Naturalist Guide Reports: An example of participatory science for monitoring impacts of tourism in the protected areas of Galapagos

María Casafont¹, Gabriela Erazo¹, Mariuxi Farias¹ and Juan Carlos Izurieta²

¹WWF Ecuador
²Tourism Observatory

Introduction

The Galapagos National Park has more than 500 licensed naturalist guides who accompany visitors on their tours around the Archipelago. At the end of each trip, the guides report their observations, including impacts perceived at visitor sites and any management recommendations to minimize these impacts. These reports provide an important monitoring tool for decision-making on tourism management of the protected areas of Galapagos.

The Galapagos National Park Directorate’s (GNPD) monitoring process for tourism impacts has evolved over time. Since the system was implemented in 2000 (Medina & Torres, 2000), there have been subsequent additions including monitoring methodologies for dive tourism (Cubero, 2006), and the System of Managing Visitors (SIMAVIS; Reck et al., 2008). These monitoring systems rely on naturalist guides, who represent a vital instrument for the identification and collection of information.

From 2008 to the present, the GNPD has archived the observations of naturalist guides according to category and management area. Officials responsible for the different areas use these data in their planning. This process of collecting and recording information constitutes a participatory science tool, which supports GNPD decision-making processes, and also provides an historical record that allows for measurements of changes over time and the basis for management decisions.

This article analyzes the most important results of the reports that naturalist guides submitted to the GNPD between 2008 and 2015, and proposes recommendations for improving this system and ensuring its use in decision-making.

Methodology

The data analyzed are from the activity reports of naturalist guides from 2008-2015, which have been systematized by the GNPD. The analyzed reports represent about 10% of the total number of reports received, as the vast majority of reports delivered to the GNPD contain no observations; they were submitted by guides solely for the purpose of reporting the number of days worked.
A database, created for the analysis, identifies each observation, its date, authorship, location, vessel or agency, and description. Each observation was classified according to type, using the set of indicators for monitoring tourism impacts in SIMAVIS (Reck et al., 2008). A total of 1638 reports with 1941 observations were analyzed. For the year 2011, the only existing reports covered January to April, and in 2015, January through March (Table 1).

<table>
<thead>
<tr>
<th>Year</th>
<th>Reports</th>
<th>Naturalist Guides</th>
<th>Observations</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>335</td>
<td>160</td>
<td>275</td>
</tr>
<tr>
<td>2009</td>
<td>255</td>
<td>140</td>
<td>218</td>
</tr>
<tr>
<td>2010</td>
<td>274</td>
<td>118</td>
<td>215</td>
</tr>
<tr>
<td>2011</td>
<td>18</td>
<td>11</td>
<td>11</td>
</tr>
<tr>
<td>2012</td>
<td>126</td>
<td>73</td>
<td>181</td>
</tr>
<tr>
<td>2013</td>
<td>255</td>
<td>115</td>
<td>412</td>
</tr>
<tr>
<td>2014</td>
<td>329</td>
<td>106</td>
<td>556</td>
</tr>
<tr>
<td>2015</td>
<td>46</td>
<td>36</td>
<td>73</td>
</tr>
<tr>
<td>Total</td>
<td>1638</td>
<td></td>
<td>1941</td>
</tr>
</tbody>
</table>

Source: Reports of Tourism Activities in Visitor Sites of Galapagos, GNPD.

**Results**

There were observations for 91 visitor sites, which represent 64% of the total visitor site network. However, 65% of the observations (1245 of 1941) was concentrated in only 18 sites, with Bartolomé, Punta Cormorant, Cerro Dragón, Tagus Cove, and the Fausto Llerena Tortoise Center having the most observations (Figure 1).
More than 10 indicators were noted from the analysis of all reports. However, the five most frequently cited and relevant indicators and those analyzed in this article include: 1) presence of introduced species; 2) management of visitor sites; 3) presence of trash; 4) species observations, and 5) identification of conflicts of use (Figure 2).

Here we present the most notable results of the analysis of the five indicators with the highest number of observations. This analysis seeks to demonstrate the availability of information resulting from this process of participatory science and its contribution to the decision-making of the GNPD.

**Presence of introduced species**

The Report of Tourism Activities in the Visitor Sites of Galapagos (colloquially referred to as the "Guide Report") identifies the distribution of the different and most well-known invasive species in the Archipelago. This information only provides an indication of abundance, given that the area of observation is relatively small (visitor site) in relation to the size of the island or islet.

The majority of reports of introduced species (92%) makes reference to seven different species, cats being the species most often reported (Figure 3).

Eight visitor sites represented 78% of observations of introduced species, with the most sightings at Cerro Dragón (29%), followed by Urbina Bay (15%) and Punta Cormorant (13%). All of these sites are on human-inhabited islands (Figure 4).

It is important to understand the diversity of introduced species observed at each site. Cerro Dragón (Santa Cruz Island) had the greatest diversity of introduced species, followed by Punta Pitt on San Cristóbal (Table 2).

**Management of visitor sites**

Naturalist guide observations from some sites indicate management needs that the GNPD should resolve. These include: infrastructure in need of repair (docks, staircases, signage, etc.); vegetation extending into the trail making it difficult to pass, or general information about zoning and regulation of activities, which include exceeding capacity, group distribution, and inadequate signage, among others.
Figure 4. Visitor sites with the most reports of observations of introduced species.
Source: Reports of Tourism Activities in Visitor Sites of Galapagos, GNPD

Table 2. Concentration of observations of introduced species in visitor sites.

<table>
<thead>
<tr>
<th>Visitor Site</th>
<th>Cats</th>
<th>Goats</th>
<th>Wasps</th>
<th>Donkeys</th>
<th>Rats</th>
<th>Anis</th>
<th>Ants</th>
<th>Flies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Post Office Bay</td>
<td>2%</td>
<td>25%</td>
<td></td>
<td>3%</td>
<td>3%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urbina Bay</td>
<td>23%</td>
<td>36%</td>
<td></td>
<td>11%</td>
<td>8%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bartolomé</td>
<td>1%</td>
<td></td>
<td></td>
<td>22%</td>
<td></td>
<td></td>
<td></td>
<td>38%</td>
</tr>
<tr>
<td>Cerro Brujo</td>
<td>6%</td>
<td>2%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cerro Dragón</td>
<td>19%</td>
<td>68%</td>
<td>4%</td>
<td>98%</td>
<td>11%</td>
<td>6%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Puerto Egas</td>
<td>4%</td>
<td></td>
<td></td>
<td>8%</td>
<td></td>
<td>28%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Punta Cormorant</td>
<td>21%</td>
<td>15%</td>
<td>5%</td>
<td>11%</td>
<td>13%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Punta Pitt</td>
<td>11%</td>
<td>21%</td>
<td>3%</td>
<td></td>
<td></td>
<td>6%</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td><strong>81%</strong></td>
<td><strong>89%</strong></td>
<td><strong>85%</strong></td>
<td><strong>100%</strong></td>
<td><strong>62%</strong></td>
<td><strong>61%</strong></td>
<td><strong>38%</strong></td>
<td><strong>13%</strong></td>
</tr>
<tr>
<td>Other sites (48)</td>
<td>19%</td>
<td>11%</td>
<td>15%</td>
<td>38%</td>
<td>39%</td>
<td>63%</td>
<td>63%</td>
<td>88%</td>
</tr>
</tbody>
</table>

Source: Reports of Tourism Activities in Visitor Sites of Galapagos, GNPD.

By 2014, the last year with a good number of reports, management reviews constituted 30% of all observations (167 of 556; Figure 2). It is important for GNPD officials to conduct a yearly review of this indicator in order to prioritize their work at visitor sites, and to guarantee safety conditions of each site and its infrastructure, an optimal flow of activities and visitor groups, and in general, the ongoing operation of authorized tourism activities within the visitor site network. A visual analysis of the results enables the GNPD to understand where potential problems exist and how to take action to resolve them (Figure 5).
Naturalist guide reports can help the GNPD to prioritize its management actions. The reduction in the number of observations related to tourism infrastructure at Bartolomé and Tagus Cove between 2008 and 2014 coincides with management actions that were taken at those sites (improvement of staircases and walkways). However, a recent increase in observations may relate to a perception of maintenance needs at these sites (Figure 6). The reports also help to measure the effectiveness of actions taken or even the durability of materials used. In the case of infrastructure, it also allows the measurement of acceptance or perception of management actions by the naturalist guides.
Presence of trash

The presence of trash is an indicator used for monitoring the impact of tourism in protected areas (Reck & Casafont, 2009), as trash is recognized as one of the elements that most interferes with landscape quality of a visitor site and visitor perceptions. Some naturalist guides who are aware of this problem repeatedly report the presence of trash at visitor sites.

In 2008, the percentage of observations related to trash in visitor sites was 10% (28 out of 275 comments; Figure 7). This percentage has almost tripled in recent years, reaching 22% in 2014 (122 observations of 556) and 28% in 2015 (20 observations of 73).

In some cases, naturalist guide reports detail the origin and nature of the trash, which is helpful in determining mitigation actions or to raise awareness of the problem. However, according to the reports, the origin of trash is primarily the ocean\(^1\) and 70% of it is plastic. Throughout the study period, there has been an increase in the presence of oceanic trash in relation to that originating locally (visitors, boats, debris waste due to accidents, etc.; Figure 8).

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\(^{1}\) This category refers to the trash that arrives on the shores of Galapagos visitor sites due to ocean currents. However, the origin of this trash is unknown or diverse (ships that sail in and out of the Galapagos Marine Reserve, populated ports in Galapagos, or other ports and cities of the world).
The analysis of this indicator reflects a troubling scenario regarding the increase of trash in the Archipelago, especially trash that is carried by ocean currents and whose uncertain origin limits the ability to combat it. However, highlighting this world-wide problem, which occurs in oceans as well as on coasts, in Galapagos represents an opportunity to join and implement actions to increase global awareness on the effects of the use of plastic materials and the benefits of finding alternatives.

Species observations

As part of the reporting exercise, naturalist guides record information about different species of interest (endemic, native, and migratory). These observations represent 5% of the total number of observations recorded in 2015.

While the presence or absence of certain species is not an indicator that can be related in a causal way with tourism, reporting these sightings helps to identify distribution, relative abundance, and, in some cases, the health status of individuals, or potential impacts on species that may be occurring. This data then becomes valuable for science and management. For instance, reports related to migratory species or exceptional records in the Archipelago and those of marked individuals may provide significant information for ongoing research, as might reports of impacts or disease.

Identification of conflicts of use (fishing, tourism, hunting, etc.)

Naturalist guide reports can also indicate the occurrence of events involving a compatibility conflict with tourism, or with the conservation and protection established by the zoning system of the protected areas (Figure 9).

Of the 130 reports containing observations on conflicts of use between 2008 and 2015, the greatest number of observations (52%, or 69 of 130 observations) was due to fishing and its associated activities (cleaning or presence of fishing gear adrift or on the bottom) in visitor sites or adjacent areas where this activity is not permitted.

Although fishing is not banned in all of the reported areas (according to the zoning of the Galapagos Marine Reserve in 2002), the identification of these activities as a conflict reflects the perception by some naturalist guides concerning the incompatibility between fishing and tourism activities.

Other allegations of conflict of use refer to irregular tourist activities, such as misuse of anchorages, or failure to follow itineraries or assigned visitor sites (38%; 50 of 130). This type of complaint has been decreasing in recent years (Figure 10), which reflects the regulations put into place by the GNPD between 2009 and 2013.

The remaining 9% of observations (11 of 130) corresponds to conflicts with hunting, research, management, agriculture, and cargo activities.

Conclusions and recommendations

The analysis of the observations provided by naturalist guide reports demonstrates the potential of this process as a monitoring tool. It shows that the "naturalist guide" not only orients, controls, or transmits information to visitors, but also contributes to monitoring the state of conservation of the protected areas. This analysis also demonstrates how naturalist guide reports represent an exercise in citizen science, which can provide a cost-effective process to help identify several key factors for decision-making by protected area managers.

Currently, the Report of Tourism Activities in the Visitor Sites of Galapagos is considered as just one of the inputs for monitoring impacts of tourism, and is used anecdotally
by decision-makers. This study shows that this process of participatory science has the potential to become a primary tool for monitoring impacts, evaluation, and follow-up on management measures, with more than 500 guides as permanent observers.

However, only about 10% of the guide reports provide observations, indicating that the monitoring tool is underutilized. In addition, currently more than 90% of the reports correspond solely to boat-based tourism, when, according to visitor statistics, 68% of Galapagos tourists are now land-based (Tourism Observatory, 2015). Based on all of this information, we make the following recommendations for the generation of robust information that will support decision-making processes:

- Encourage naturalist guides who operate within the day-tour modality to submit reports;
- Strengthen the entire process to increase the quantity and quality of reports;
- Design and improve incentives to guides for submitting adequate and regular reports;
- Improve registration, systematization, and analysis of data by the GNPD, and effective communication of the generated information;
- Report and communicate decisions taken based on the information from the naturalist guides’ reports to demonstrate their importance and to increase the commitment of guides with this process.

Figure 10. Percentage of observations related to conflicts due to fishing and tourism from 2008 to 2015.
Source: Reports of Tourism Activities in Visitor Sites of Galapagos, GNPD

References


GALAPAGOS REPORT 2015-2016

TOURISM

ANALYSIS OF EXPERIENTIAL FISHING AS AN ALTERNATIVE MODE OF SUSTAINABLE TOURISM IN GALAPAGOS

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The Galapagos National Park Directorate has its headquarters in Puerto Ayora, Santa Cruz Island, Galapagos and is the Ecuadorian governmental institution responsible for the administration and management of the protected areas of Galapagos.

The Governing Council of Galapagos has its headquarters in Puerto Baquerizo Moreno, San Cristóbal Island, and is the Ecuadorian governmental institution responsible for planning and the administration of the province.

The Charles Darwin Foundation, an international non-profit organization registered in Belgium, operates the Charles Darwin Research Station in Puerto Ayora, Santa Cruz Island, Galapagos.

Galapagos Conservancy, based in Fairfax, Virginia USA, is the only US non-profit organization focused exclusively on the long-term protection of the Galapagos Archipelago.
Analysis of experiential fishing as an alternative mode of sustainable tourism in Galapagos

Gabriela Erazo, María Casafont and Mariuxi Farias

WWF Ecuador

Introduction

Experiential fishing tourism operations began in Galapagos in 2005 as a management tool to reduce fishing effort in the Galapagos Marine Reserve, based on the idea that if provided a socioeconomic alternative, artisanal fishermen of Galapagos would stop fishing and dedicate themselves to tourism (Palacios & Schuhbauer, 2013).

Over the years, the Galapagos National Park Directorate (GNPD) and the experiential fishing sector created specific regulations for such operations and established conditions for new operators. Since then, the nature of the experiential fishing has evolved as a tourism product. While it shares some characteristics with other forms of tourism, it has several distinguishing aspects, which must be analyzed to understand the current situation of this alternative mode of tourism.

The regulations of 2015 (GNPD administrative resolution No. 007/2013) define and characterize experiential fishing as a tourism activity whose main attraction or difference is the demonstration of traditional Galapagos fishing techniques, but with a strong component of recreational activities (snorkeling, panga rides, hiking, and beach time) allowed at 20 visitor sites. There is, however, a great divide between how this activity is described in the regulation and its actual implementation. These differences demonstrate the complexity of managing conflictive situations when they arise.

In reality, the product has lost its identity. Experiential fishing is no longer the focus, but rather a means for conducting operations that are very similar to day tours. The experiential fishing product has converted to one with a focus on visitor sites and complementary activities (snorkeling and beach time). In some cases, this creates pressure on the GNPD by those offering these trips to open more visitor sites to this mode of tourism. Experiential fishing operators on all the islands have begun to operate in the same areas as other tourism modalities rather than developing their activity as stipulated in the corresponding resolution; thus, they have not found their market niche. Instead, they directly compete with other tourism modalities, mainly day tours, offering products similar to those that already exist but under another name. This has led to unfair competition and price wars. Another product offered by experiential fishing operators, mainly in San Cristóbal, is similar to sport fishing and is focused on a segment of tourists who fish on a regular basis and whose principle interest is specialized fishing.

A comparison between experiential fishing and the other main tourist products in the Archipelago highlights areas of competition (Figure 1).
In December 2015, at the request of the GNPD, WWF carried out an “Analysis of Supply and Demand of the Experiential Fishing Tourism Operations in Galapagos and Timetable of Technical Advice.” This article contains some of the most important findings of the study.

**Methods**

This analysis began by building an understanding of the current supply and demand for experiential fishing, and reviewing the management strategies of the GNPD. Information, gathered during the first half of 2015, included:

a) 26 in-depth interviews (12 travel agencies or operators, 7 key actors, 7 boat owners-operators);

b) 31 interviews of operators and travel agencies conducted by individuals posing as potential customers (15 in Quito, 10 in Puerto Ayora, and 6 in Puerto Baquerizo Moreno);

c) Review of secondary information collected by the Tourism Observatory, records and reports of the Public Use Directorate of the Galapagos National Park, and review of the results of the reports generated in the project “Review of the Visitor Management System for Visitor Sites of the Protected Areas of Galapagos Near and Central to Population Centers” (WWF & ECOLAP, 2014);

d) Internet searches for online offerings, using the key words “Galapagos experiential fishing”, “marlin fishing”, “fishing tour in Galapagos”, and “marlin Galapagos” (in English and Spanish) in Google search engine; in addition, we searched the online portals of the main specialized tourism media outlets (Lonely Planet, Tripadvisor, NatGeo, Travel and Leisure, and Condenast, among others);

e) Review of printed materials and information on experiential fishing available in official information centers, such as the Tourist Information Office (iTur), the tourist information center of the Ministry of Tourism (MINTUR), and the information booth of the GNPD, all on Santa Cruz.

**Analysis of supply**

Until 2011, the GNPD issued a total of 56 experiential fishing authorizations. However, in 2014, only 31 were operational, distributed as follows among the three main islands: 12 in Santa Cruz, 9 in San Cristóbal, and 10 in Isabela. In May 2015, only 23 vessels had renewed their permit (Table 1). However, considering only the number of operating vessels, experiential fishing is the tourist mode with the greatest number of service providers.

The characteristics of the offerings of the 23 boats that constitute “supply” for experiential fishing vary by island and operator. In many cases, they do not involve any...
fishing activities. For example, in Santa Cruz, one tour marketed as “experiential fishing” follows a northern route with a marine visit to Daphne Major and another offers a southern route to Santa Fe Island; however, neither tour regularly includes experiential or participatory fishing activities. Since Santa Fe is a traditional visit for day tours, this situation creates market interference, a competition between the two modes of operation, both of which are authorized by the GNPD but which are subject to different conditions for management or operation.

In San Cristóbal, there is a “sport fishing” product for both small and large (mainly marlin) species. Another day tour called “360°” circles the entire coastal perimeter of the island and includes various activities such as panga rides, snorkeling, and beach time at several visitor sites along the coast. The experiential fishing day tour in San Cristóbal, which does include fishing, also conflicts with the traditional day tour by utilizing the same visitor sites, including iconic sites such as Kicker Rock. This situation of similar products with different names, prices, and permitted activities causes confusion among visitors.

In Isabela, experiential fishing operators market a day tour to “Los Túneles” and “El Finado” visitor sites, neither of which involves fishing. However, there is no conflict because in Isabela there are no authorized day tour operators. Therefore the experiential fishing tourism modality has filled an existing but empty market niche. Isabela’s experiential fishing operators demonstrate the greatest satisfaction with the profitability of their activities and have requested that the GNPD develop a regulation plan that would enable them to improve the quality of their operations.

Currently, products are marketed through the following channels:

1. Sport fishing: Six service providers in San Cristóbal advertise their product in the destination markets under a reservation system, with customized contacts in Argentina, Brazil, and the United States;
2. Day tour: Six providers in Santa Cruz and 10 in Isabela primarily sell to passing tourists staying on land; seven providers in San Cristóbal market in this fashion and offer various types of day tours (the 360° tour, among others);
3. Wholesalers: Although it occurs infrequently, some experiential fishing operators contract travel agencies (four providers in Santa Cruz and four in Isabela) to market their day tours primarily for visits to sites exclusively assigned to this modality;
4. Inactive operators: There are 25 permits that are no longer valid and five that are valid but not operating.

This situation is confusing for tourists and complicates marketing and positioning of this modality within the wholesale tourism market. It also has consequences for the GNPD’s management efforts, as the experiential fishing sector pressures the GNPD to ensure the sustainability of this activity, which has been presented as a viable alternative for Galapagos fishermen.

A market study of experiential fishing carried out in 2006 showed that 42% of tourists surveyed were interested in such an experience. These individuals would choose any type of fishing (sport or experiential) if it were the only type offered in the Archipelago (Oleas & Cardenas, 2006). If multiple fishing options were available, only 17% indicated an interest solely in experiential artisanal fishing.

This study also revealed that the 24 Santa Cruz boats needed to capture 41% of the potential market to break even, if operators on the other islands also sold this new modality. Lacking a thorough analysis of the real supply and demand for this type of tourism operation, the GNPD has responded to pressures to resolve perceived problems by opening new visitor sites for this modality. Just recently, the GNPD authorized visits to sites where other tourism modes are already operating, including Santa Fe, Kicker Rock, and the visitor sites of Española.

Analysis of demand

Currently it is unknown how many tourists are purchasing the experiential fishing product. Operators usually do not report their trips to the GNPD, as do all other tourism modalities. This situation results in a lack of information regarding the demand for this form of tourism, and makes

### Table 1. Number of boats in 2015 operating in the tourism modes with no overnight accommodations.

<table>
<thead>
<tr>
<th>Mode</th>
<th>Santa Cruz</th>
<th>San Cristóbal</th>
<th>Isabela</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experiential fishing tour</td>
<td>12</td>
<td>9</td>
<td>10</td>
</tr>
<tr>
<td>Bay tour</td>
<td>6</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>Day tour</td>
<td>10</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Dive day tour</td>
<td>11</td>
<td>10</td>
<td>1</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>39</strong></td>
<td><strong>21</strong></td>
<td><strong>17</strong></td>
</tr>
</tbody>
</table>

Source: Ministry of Tourism, GNPD, 2015.
decision-making difficult for the GNPD to improve the sustainability of this tourism mode as demanded by the operators.

One potential source of information, the registry of departure clearances maintained by the port captaincies, cannot be considered reliable for analysis, since it reveals significant inconsistencies when compared to the occasional efforts of the GNPD to register departures of experiential fishing operators. According to GNPD records for 2014, only three of the 31 authorized operators reported their activity on a regular basis. Six operators reported a maximum of four times in the year, and the remaining 22 did not submit a single report. This lack of information makes it impossible to quantify the economic impact of this form of tourism on the families that depend on it, and makes it difficult to design strategies to position the product in one or another tourism sector, to better compete with other established modalities in Galapagos.

This lack of data and analysis makes it difficult for the GNPD to ensure the proper management of visitor sites, activities, and operations. It has resulted in a situation where there are more than 20 visitor sites within protected areas whose use and management have not been clearly defined and where the integrity of Galapagos’ renowned visitor management system is weakened.

Conclusions and recommendations

Experiential fishing is a reality within the tourism market of the Archipelago; it includes elements that can diversify the traditional “nature destination” offering by combining it with cultural experiences. However, above all, it should contribute to consolidating new options and alternatives in ways that maintain Galapagos as a competitive tourist destination.

This article has reviewed some of the challenges facing the experiential fishing modality. Here we propose some options and recommendations to improve the competitiveness and management of this form of tourism in the short- and medium-term.

1. Create a well-defined identity for the experiential fishing product. This is key to successful tourism. It is important to create a "genuine" experiential fishing product and then search for a demand that values that product. The competitive advantages of the modality should not be based on access to sites, but on the basis of the cultural, culinary, and social benefits generated by the activity. The products should be defined by island to specialize on different segments of the market.

2. Simplify the current management framework for all day tour modalities in Galapagos, unifying all of them under the Day Tour category. With this integrated management model, all operators (including Day Tours, Bay Tours, Dive Day Tours, and Experiential Fishing Day Tours) would be governed under the same conditions and management measures. This approach would help to ensure adherence to the requirements of management categories for public use of the site, acceptable visitor load, and permitted activities, in a way that maximizes the use of the sites without compromising their integrity.

3. Establish a reporting system (trip report) that involves the port authority as a key generator of information for management. The system must provide feedback to operators and guides, including details such as the volume, demand profile, and even customized information about operational profitability, in order to improve marketing and promotion strategies for the activity.

4. Strengthen the technical capacity of new tour operators in tourism administration and management (tourism system), as well as managerial, administrative, and financial skills.

5. Analyze and decide upon the desired potential markets and then develop a marketing strategy to better integrate the experiential fishing service providers into the tourism value chain, both horizontally (local business between parties) and vertically (local business with national and international operators).

6. Develop a communication strategy to standardize the information provided to tourists at official information points (iTur, GNPD visitor information center, and MINTUR information offices). For local travel agencies, we recommend an event to launch the product and to explain its competitive advantages and the best way to sell it. Likewise, the GNPD and the Ministry of Tourism could issue a statement informing national travel agencies about this tourism modality.
References


