BULLETIN DE L'INSTITUT ROYAL DES SCIENCES NATURELLES DE BELGIQUE SUPPLEMENT, 70: 53-63, 2000
BULLETIN VAN HET KONINKLIJK BELGISCH INSTITUUT VOOR NATUURWETENSCHAPPEN SUPPLEMENT, 70: 53-63, 2000

An analysis of nature tourism in the Galápagos Islands

by Craig MACFARLAND

1. Introduction

Planned and organized nature tourism began in the Galápagos Islands in 1967 when Lindblad Travel, a New York-based tour operator, brought in the first tourist vessel, a 66-passenger Chilean ship. Considerable advice for the design of the tourism programme was provided by the Charles Darwin Foundation for the Galápagos Isles (CDF) over the several years prior to and after that time. The Foundation felt strongly that nature tourism represented the economic activity that was by far the most compatible with conservation of the archipelago's biological diversity, evolutionary and ecological processes, and environment. Since then tourism has grown gradually in the islands, particularly during the 1980s and 1990s, reaching the present total of over 60,000 visitors per year and almost 90 tourist vessels. Nature tourism has become by far the greatest economic force in Galápagos. The vast majority of other activities are dependent upon or closely related to it.

After nearly 30 years of this nature tourism "experiment" in the Galápagos, it seems appropriate to evaluate it in terms of several key questions:

— Are the goals of nature protection and appropriate educational nature tourism being met? More specifically, has it evolved and is it functioning adequately? Is it being planned and managed appropriately?
— Are the necessary legal and institutional frameworks and mechanisms in place to guarantee its future?
— Is it a world model for nature tourism, as has been often cited in the literature (BUDOWSKI, 1976, 1977) and the media?

As far as I know this is the first attempt at such an overall evaluation. By its very nature it may well raise more questions than it answers. Hopefully, however, it will serve to guide further evaluation and investigation. Comments on these ideas would be most welcome

2. Outline

This paper will include the following main themes, in the order indicated:

— Notable natural limitations in Galápagos which affect tourism
— Legal and institutional framework for environmental protection and tourism management
— Protection strategy for the islands and surrounding seas
— Development and evolution of nature tourism (ecotourism) in Galápagos
— Key threats and perilous trends to the Galápagos' biodiversity (nature tourism's by-products)
— The future threats to and problems for nature tourism in Galápagos
— Future strategies to decrease key general negative trends
— Lessons from the Galápagos nature tourism experience
— Future strategies for insuring high quality nature tourism in Galápagos
— Provisions of the new law affecting nature tourism
— Conclusions

3. Notable natural limitations in Galápagos

There are a number of natural limitations which have major implications for tourism development in Galápagos:

— Potable water is severely limited
— Soils are marginal or poor and there are few mineral resources
— Supplies of construction materials are severely limited
— Disposal of solid and liquid wastes is very difficult
— The climate is cool seven months of the year
— Beaches are not attractive for recreational tourism
— The islands, because of location, are expensive to visit compared to many areas (e.g. in the Caribbean or Mediterranean)
— The real attraction for visitors is the fascinating and awe-inspiring experience of seeing the unique and abundant wildlife, which is truly wild yet fearless of humans
— At the same time, the islands' ecosystems and species

are generally extremely fragile and vulnerable to the activities of humans, and especially to the impacts of human-introduced species

The first four of these, to some extent modifiable through technology, place significant limitations on the development of tourism support centres and services, if the environment and biodiversity are to be conserved, especially in the regions around those centres, but also well beyond them because of the problems of introduced species. The remaining five taken as a whole are why Galápagos tourism will never be competitive with models of recreational tourism practised in other major regions of the world. To preserve its unique attraction and niche, Galápagos tourism must be designed and practised in an extremely careful and controlled manner to both guarantee protection of ecosystems and ecological and evolutionary processes, and maintain and maximize the unique educational and high quality nature tourism experience that the islands offer.

4. Legal and institutional framework

4.1. General legal and institutional context

Nature tourism operates in the Galápagos within a fairly well-developed legal and institutional framework, which has been evolving over the past 40 years. The Galápagos National Park, established by law in 1959 and including approximately 97% of the 7,800 km^2 total land area of the archipelago, has been under the active and generally improving management of a specialised governmental arm of the national forestry, protected areas, and wildlife institution since 1968. Management is guided by a Management Plan, the first one prepared in 1975, with major evaluations and revisions in 1984 and 1996.

The Galápagos Marine Resources Reserve was originally established in 1986, covering all the inner sea and 15 nautical miles outside a baseline connecting the outermost islands (approximately 70,000 km^2). A Management Plan was finished in 1992, but due to lack of jurisdictional clarity in various laws, inter-institutional conflicts in the tripartite commission (Galápagos National Park, National Fisheries Directorate, and the Navy) established to manage it, and pressure from certain economic sectors, no real active management began until late 1996, when the National Park began to take certain initial actions to protect it.

International recognition and support for conservation of the Galápagos Islands has been substantial. In 1978 it was approved as the world's first Natural World Heritage Site (terrestrial part only) under that international convention. In 1984 the terrestrial part of Galápagos was nominated and accepted as a Biosphere Reserve, under UNESCO's Man and the Biosphere Program

The CDF was also established in 1959, as an international non-profit organization with the following key responsibilities:

— Establishing and managing the Charles Darwin Research Station (CDRS, 1960 onwards)
— Conducting applied research aimed at conservation problems
— Facilitating scientific research on a broader scale
— Act as chief advisor to the government of Ecuador on Galápagos conservation
— Environmental education on Galápagos at local and national levels
— Training of Ecuadorean scientists and conservation managers
— Garnering and channelling international support

The Galápagos National Park (GNP) administration began to function in 1968. It is in charge of management of the National Park (terrestrial), with full legal support of the government, and has developed considerable administrative autonomy. The GNP also has begun to try more actively to protect, patrol, and manage the Marine Reserve, under the new Special Galápagos Law enacted in early 1998. The Reserve has been enlarged to 40 nautical miles outward from the baseline connecting the outermost islands, making it over 130,000 km^2 in size. It is now the second largest marine reserve in the world, after the Great Barrier Reef National Park of Australia. The Reserve is to be overseen by a Marine Reserve Commission, under the new law, but the Park has been placed specifically in charge of its protection and management, to which the other institutions are supposed to contribute support and expertise.

4.2. Tourism/concessions legal & institutional framework

The legal and institutional basis for management of tourism in Galápagos is basically functional, but still somewhat confused. The 1998 law made some improvements, but did not remove that confusion. The parent institution of the National Park (INEFAN — Ecuadorian Institute for Forestry and Natural Areas) at central government level issues permits or *patentes* to operate in the National Park (terrestrial) to tourism operators. However, another institution, the Merchant Marine (DIGMER), issues separate permits to operate vessels in Galápagos. And, although not very active in Galápagos, the National Tourism Corporation (CETUR) supposedly controls the quality of visitor services on the vessels in relation to prices charged. Over the past three decades this situation has meant that the Park Service itself does not directly control the granting of permits for tourism vessels to operate in Galápagos. Instead it has tried to manage the itineraries and other aspects of management or use of Park visitor sites by those vessels once the operator begins activities in the archipelago. Moreover, even INEFAN has frequently found itself in the position of having to grant permits due to *fait accompli* arguments, since operators have been able to get the DIGMER permit for navigation first, then argue that they have permission and have made the economic investment, so must have a permit to operate in the National Park.

In the Marine Reserve the situation is not entirely clear in relation to visitor snorkelling and diving sites. The Park has designated a large number of sites, but there are no detailed regulations legally established for their use, in contrast to the terrestrial visitor sites. In effect, the National Park is beginning to manage those sites, but its legal basis for and management and control of them is still weak.

5. Nature protection strategy

5.1. General

The key tenets of the strategy for protection of nature in Galápagos, both in general and in relation to nature tourism in particular, are as follows. These have been formally enunciated by the Ecuadorean government both through legislation and in various general and specific plans for conservation of the Galápagos:

— Maximum protection of biodiversity and ecosystems, both terrestrial and marine, because of their total interdependence
— Preservation of evolutionary and ecological processes
— Ensure a high quality educational experience for visitors
— Recreational and educational opportunities for the local population (since 1994)

5.2. Specific principles in relation to nature tourism

In designing nature tourism management in the Galápagos the National Park used and still adheres to several specific principles:

— For every visitor site selected for visitation, ensure that there remain 3-4 similar sites not to be visited
— Concentrate impacts in fragile areas to protect the physical environment and vegetation (i.e. by the use of marked trails)
— Zero tolerance for impacts on reproductive success of wildlife (also by marked trails with certain distances from breeding colonies maintained)
— Impacts should be monitored, especially biophysical ones

6. Development & evolution of nature tourism in Galápagos

6.1. The visitor management system in Galápagos

During the first few years of tourism development in the islands, approximately 20 terrestrial National Park visitor

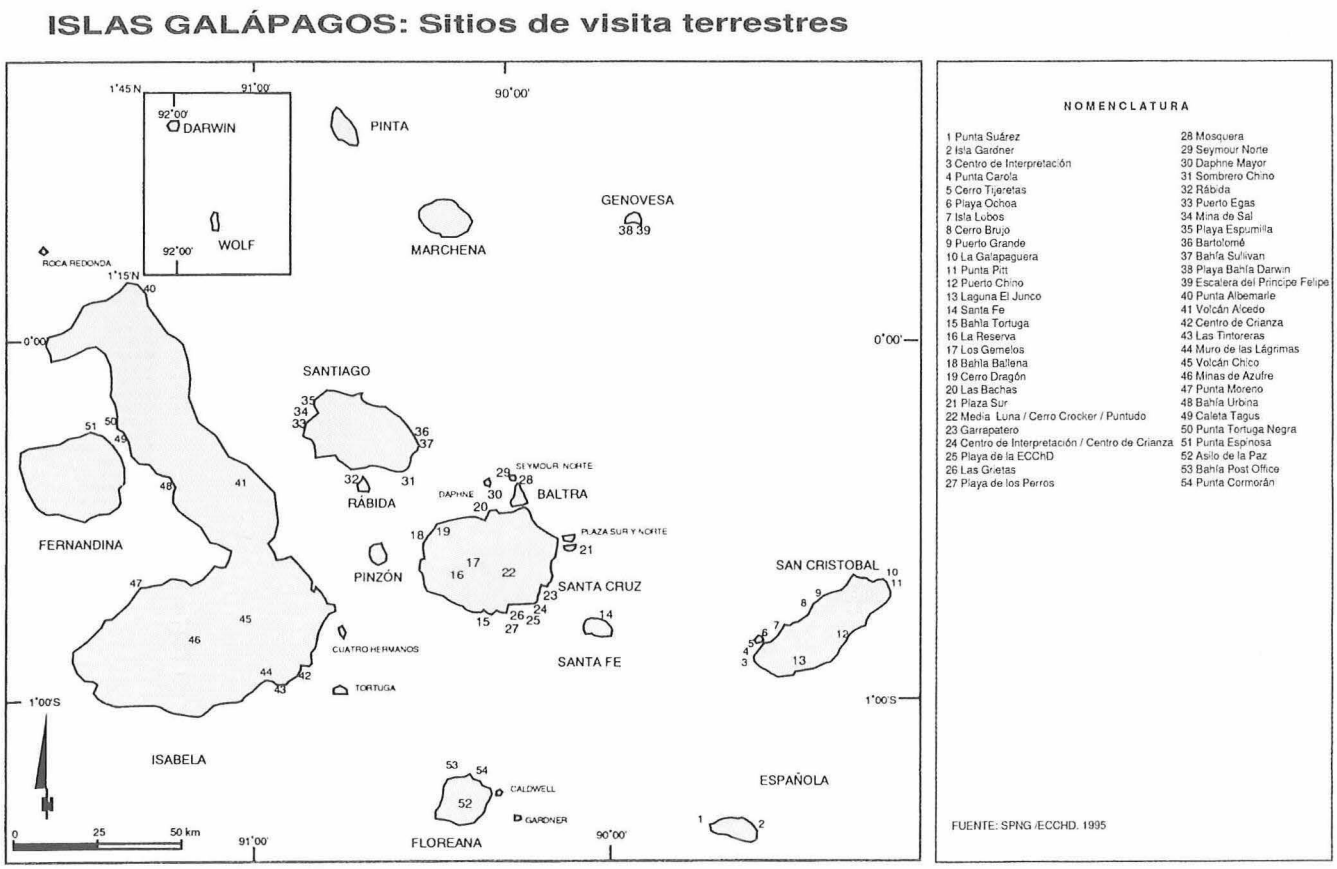


Fig. 1. — Terrestrial visitor sites.

sites were established and the basic design for their use and management was established. Over the following 25 years the system has been refined and augmented with additional terrestrial sites and a set of marine ones, and additional regulations established based upon monitoring results. However, the core design is still the same. The following subsections describe the salient characteristics of that system at present.

6.1.1. Zoning of the national park and visitor sites

— Extensive Use Zone: 11 visitor sites on 7 islands; for groups of up to 16 visitors, one group at a time (these sites are used by smaller vessels)
— Intensive Use Zone: 21 visitor sites on 15 islands; for use by a larger number of groups at a time (these are used by large, medium-sized, and smaller vessels)
— Recreational Zone: 19 sites on 4 inhabited islands; for use by local residents and visitors seeking less expensive alternatives for recreation, education, hiking, and camping (newly introduced with the 1996 Management Plan)
— A total of 53 terrestrial visitor sites, representing less than 1% of the National Park area

Figure 1 shows the location of the 54 sites.

6.1.2. Zoning of the marine reserve for tourism and visitor sites

— 64 Marine visitor sites have been designated
— Most are Extensive Use (groups of up to 16 persons, one group at a time)
— A few are Intensive Use
— Most are for diving, a few for diving and snorkelling, and a few others for small launch rides
— The National Park's jurisdictional and legal control is still weak
— The National Park is in early stages of defining management for these sites and activities

See Figure 2 for the location of these marine sites.

6.1.3. Trail system

Most Extensive and Intensive Use Sites have marked trails, approximately 1-1.5 m. wide, in order to protect fragile vegetation, geological features, and erosion-susceptible substrates; to protect potentially sensitive wildlife while at the same time affording excellent, close-up nature observation; and to concentrate biophysical impacts to soils and vegetation to very limited, manageable areas (the trail beds). Smaller numbers of less fragile visitor sites in the Extensive and Intensive Use Zones, such as some beaches and previously disturbed (by hu-

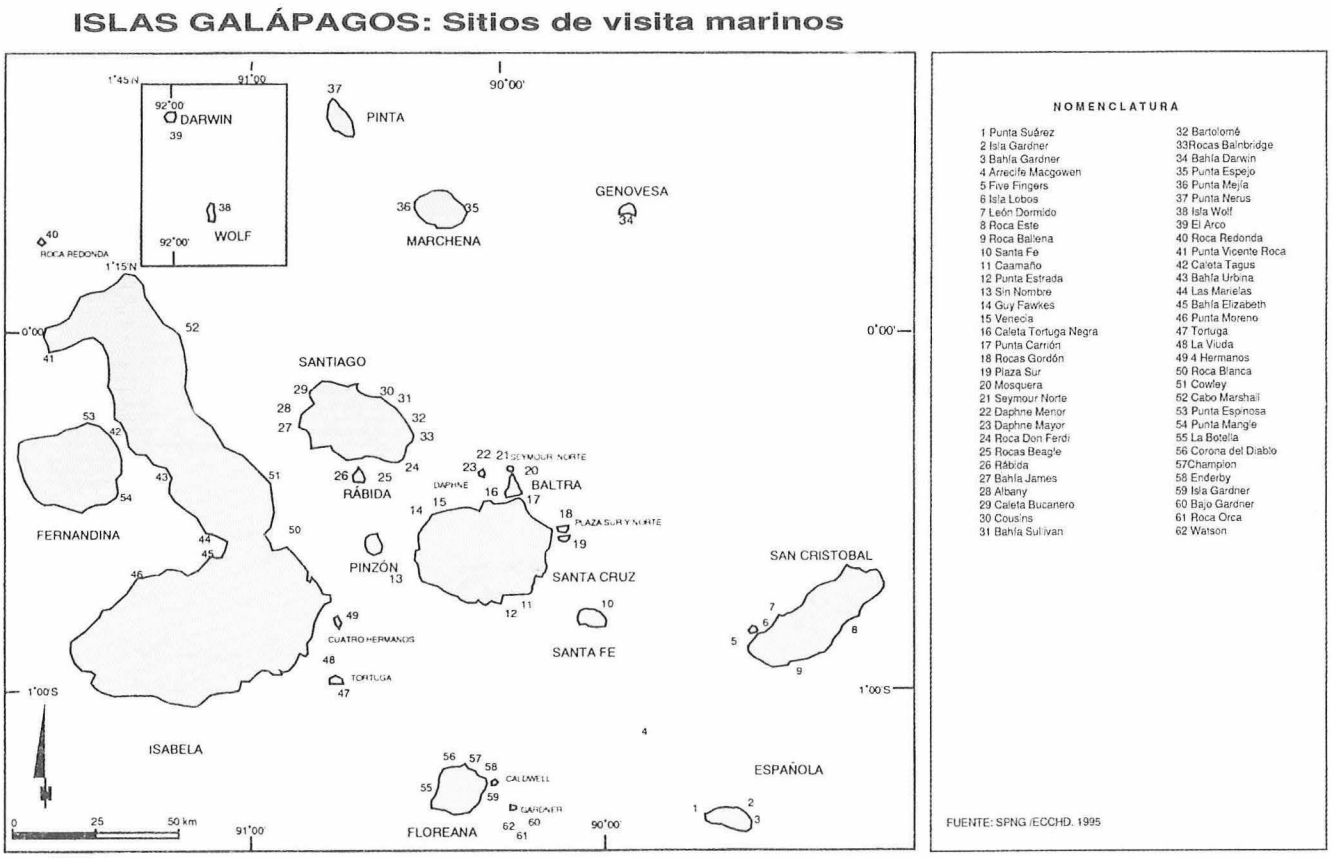


Fig. 2. — Marine visitor sites.

man settlement) areas have designated open areas (with marked boundaries), instead of trails. Visitor sites in the Recreational Zone are mostly of the open type. In the Marine Reserve the visitor sites have no underwater trails, and a few have or soon will have buoys for securing diving and snorkelling launches (prevention of anchor damage).

6.1.4. Guides system

Naturalist Guides are required for all visits to the Intensive and Extensive Use visitor sites. They are not required for visits to the Recreational Zone, except for organized tour groups of non-locals. Naturalist Guides are licensed by the National Park, after taking required training courses given by the Park and CDRS and passing an examination. The guides' main functions are to be interpreters and to apply the Park's regulations for visitor control; they also serve as the Park's "eyes and ears" in many situations, reporting as required on infractions, making natural history observations, and conducting monitoring. Park regulations require a maximum of 16 visitors per guide in a single group.

There are three categories of Naturalist Guides, defined by formal educational preparation, experience, and the type of training course and examination passed. The highest category is for those with university degrees in the natural sciences (biology, geology, or similar) or natural resources management, and the lowest requires no formal education whatsoever beyond basic primary education. The resulting quality of guiding ability in terms of natural history and conservation biology interpretation is highly variable.

6.1.5. Tour modalities

Most visitors use vessels as floating hotels, which are called Navigational Tours, and include Diving Tours. Smaller numbers stay in local hotels and go on Day Tours, mainly to the central islands' visitor sites, because most Day Tours operate out of Puerto Ayora, Santa Cruz Island, which by far the major tourism support base in Galápagos; small numbers do the same out of Puerto Baquerizo Moreno, San Cristobal Island. Even fewer visitors go on local Bay Tours in the areas surrounding the local ports, especially at Puerto Ayora, and some at Puerto Baquerizo Moreno. Very small numbers of tourists are starting to visit Puerto Villamil on southern Isabela Island for either Day Tours or Bay Tours. Port Tours — in which cargo vessels bring tourists to Galápagos from the continent, take them through Galápagos from one inhabited port to another and then back to the continent — are now rather rare, but still occur occasionally.

6.1.6. Key regulations

— All types of tour operations require authorization by the National Park
— All Navigational, Diving, and Day Tours have fixed itineraries established by the National Park (the intent is to avoid congestion at the most popular and heavily visited sites, mainly in the more central islands, and to disperse vessels to underused sites,
— Terrestrial sites may only be visited during daylight hours (camping areas in the Recreational Zone are an exception) and a detailed set of conservation regulations apply
— There is not yet a detailed set of regulations developed and applied for marine visitor sites.

6.1.7. Annual operational fees paid by operators to the national park

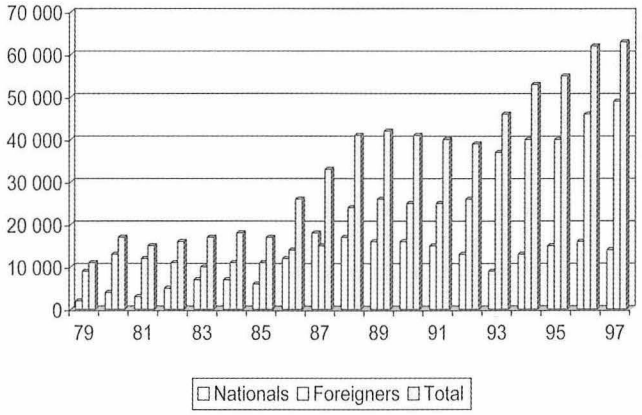
The Navigational Tour operators pay annual permit fees at three levels, according to the number of passengers they are authorized to carry, the quality of services offered, and the type of itinerary:
— Level A: $250/year x number passenger spaces
— Level B: $200/year x number passenger spaces
— Level C: $150/year x number passenger spaces

Day Tour operators pay at two levels, according to the same three criteria: $150 or $50 x the number of passenger spaces.

Apart from this permit and fee collection system, there is no real system of concessions yet developed for Galápagos by the responsible Ecuadorean agencies.

6.1.8. Key indicators of success of the system

There are several key indicators which demonstrate the basic soundness and success of this nature tourism management strategy. First, the level of protection of biodiversity, ecosystems, and the physical environment is extremely high. Studies prove only minor impacts on soils and geological features at very restricted locations and on certain trails, all of which have been easily manageable through special structures such as wooden stairs at two sites, or maintenance of trails at a few others (DE GROOT, 1988). Long-term studies of impacts on key indicator species such as waved albatrosses, three species of boobies (blue-footed, red-footed and masked), and two species of frigatebirds (magnificent and great) at both visitor sites and non-visited control breeding colonies have shown no detectable impacts on reproductive success over several decades (CELLERI, 1981; DE GROOT, 1983, 1988; HERNÁNDEZ, 1978; MACFARLAND and TINDLE, 1978; MARTÍNEZ and MATÍNEZ, 1979; NARVÁEZ, 1981, 1985; TINDLE 1979, 1983). Likewise, studies of visitor motivations and actual and desired experiences in Galápagos have shown that the quality of the visitor experience has been maintained at an extremely high level so far (MACHLIS *et al.*, 1990; WURZ, *et al.*, 1994).



Source: Fundacion Natura y WWF, 1997

Fig. 3. — Visitors to Galápagos 1979-1997.

6.2. Major tourism trends and indicators

6.2.1. Growth in visitor numbers

Figure 3 shows the patterns of increase in numbers of visitors to Galápagos 1979-97 (data for 1969-78 are not as reliable, but the number in 1969 was approximately 3,000 in total, to give an idea of the overall change). There has been a gradual increase over three decades, with major increases in numbers in the late 1980s and mid-1990s, which coincide with major increments in the number of vessels in operation (with a corresponding increase in the number of spaces for individual tourists).

Table 1. — Evolution of types of tourism in Galápagos

YEARS	MODALITIES
1969-1982	Navigational Tour
1983-1990	Navigational Tour
	Day Tour
1991-1993	Navigational Tour
	Day Tour
	Bay Tour
1994-1998	Navigational Tour
	Day Tour
	Bay Tour
	Ports Tour
Future	Navigational Tour
	Day Tour
	Bay Tour
	Ports Tour (waning?)
	International Cruise Ships?
	Aerial Overflight Tours (helicopters)?
	Sport Fishing Tours?
	Underwater "Hotels"?

6.2.2. Evolution of types (modalities) of tourism

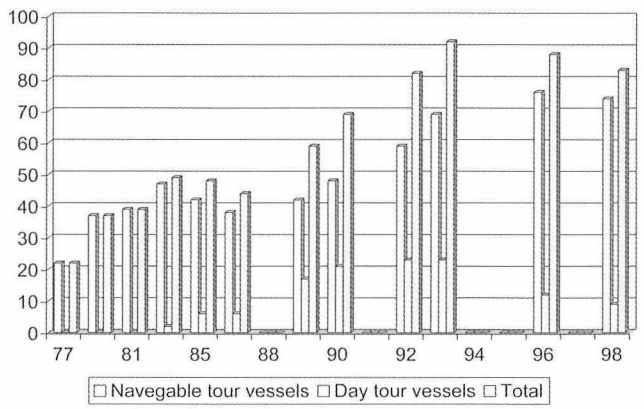
Table 1 shows the gradual increase in major types or modalities of tourism operations 1969-1998, and projections of future possible additions. This demonstrates the typical trend seen in nature tourism around the world — ever increasing development forced by operators. Unless the management authority truly controls both the entire planning and concessions process, with systems in place for defining desired future conditions, selection of indicators and standards for those, and monitoring of the indicators to determine the limits of acceptable change, there will always be gradual and continual increase in infrastructure, modalities, and new types of activities and equipment being added to the system. Likewise, concessions systems must be controlled by the management authority, or it will be trying continually to keep up with and accept changes brought from the outside. This inevitably eventually leads to congestion, conflicts among user groups, and a decrease in the quality of the originally defined visitor experience.

6.2.3. Evolution of supply: tourism vessels in Galápagos

Figure 4 demonstrates the evolution of the number of tourist vessels operating in Galápagos from 1977 to 1998 (data not available for some years), for the two types which account for almost all vessels (Navigational and Day Tour vessels). This shows the overall tendency for numbers to increase from the late 1970s until the early 1990s, the notable increase in Day Tour vessels from their inception in 1981 until 1994 and their gradual decline since, and the slight recent decrease in Navigational Tour vessels (1996-1998).

6.2.4. Fusion of vessel permits

A recent trend (middle 1990s) is the fusion of two or more smaller, locally-owned vessel tourism permits to make a



Source: Fundacion Natura y WWF, 1997

Fig. 4. — Evolution of supply: tourism vessels in Galágapos 1977-1998.

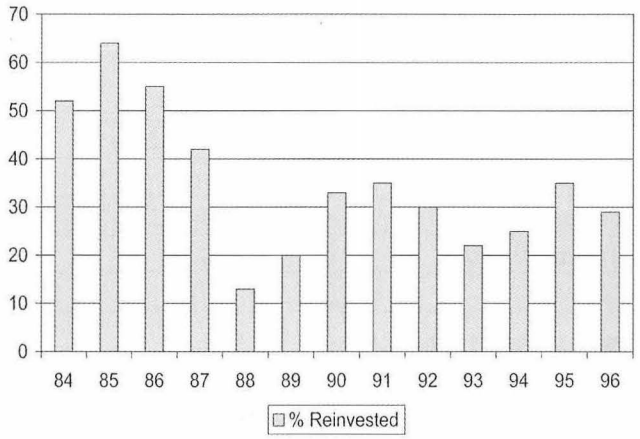
single permit with a larger number of passenger spaces, on middle to larger-sized boats which are owned and operated by companies from outside Galápagos (continental Ecuador, sometimes with foreign partners). This process is gradually eliminating some local operators and has certain negative consequences:

— Decrease in local employment opportunities
— Contributes to the archipelago's human population growth, because of imported staff for larger vessels with demands for more experienced personnel
— Tendency for more pressure on visitor sites considered to be most popular because the larger ships want those in contrast to small local vessels

Table 2 illustrates this process between 1996 and 1998. The decrease in numbers of Navigational Tour vessels and the increase in number of passenger spaces on that type is due mainly to the addition of a few medium and one large vessel, by combining permits from smaller ones with less spaces.

6.2.5. Management capacity of Galápagos National Park

As measured by infrastructure (patrol boats) and staff (Table 3), the overall management capacity of the National Park was at its apogee during the late 1970s to early 1980s, then suffered a sharp decline, and is now once again in a period of build-up and improvement. That has affected its ability to manage nature tourism as well as all other programmes, precisely in the period when tourism was growing the most. That has been reflected since the early 1980s up to now by the fact that very little patrolling and direct interaction for either educational/interpretive activities or control have been conducted by National Park personnel with tourism vessels or visitors. The National Park has been relying almost entirely upon the system of naturalist guides for those functions. The Tourism Programme personnel of the Park only interact with visitors briefly at the two main airports when visitors enter the islands and pass through the checkpoint to see if they have paid their entrance fees. From then on visitors rarely ever see Park personnel, and virtually no patrolling of visitor sites occurs.



Source: Fundacion Natura y WWF, 1997

Fig. 5. — % of Galápagos tourism revenues reinvested in conservation 1984-1996 (GNP Budget).

6.2.6. Ecuador's investment in conservation of the Galápagos

Between the mid-1970s and the mid-1980s investment by the Ecuadorean government in conservation of Galápagos was substantial. Thereafter it dropped sharply and has been notably low from the later 1980s to the present. Figure 5 illustrates this in terms of the percentage of direct government revenues from tourism to the islands (visitor entrance fees plus annual permit payments by tourism vessels) which were returned via support to the Galápagos National Park from 1984 to 1996. Table 4 shows the same trend in the 1992-96 period, but in terms of percentage of public spending in total in Galápagos and specifically for the Galápagos National Park budget in relation to the total estimated income to Ecuador from Galápagos tourism (all spending on tourism services and goods, as well as entrance fees and annual permit payments). This situation hopefully will change soon because the new Special Galápagos Law of early 1998 provides for the National Park receiving 50% of all tourism entrance fees and annual permit payments

Table 2. — Comparison of passenger capacity of tourism vessels 1996 and 1998

YEAR	TYPE OF VESSELS	NUMBER OF VESSELS	NUMBER OF PASSENGERS
1996	Navigational Tours	77	1313
	Day Tours	12	172
	Total	89	1485
1998	Navigational Tours	75	1394
	Day Tours	9	159
	Total	84	1553

Source: Galápagos National Park, 1998

Table 3. — Management capacity of Galápagos National Park

Management Indicator	Periods			
	1976-1982	1983-1990	1991-1995	1996-present
Patrol Boats	5-6	0	1-2	3
Professional staff	4	2	5	10
Technical staff	4	3	4	12
Guards	70	50	60	80

Source: Galápagos National Park, 1998

by tourism vessels, plus specific other amounts for management of the Marine Reserve, for quarantine and other controls to prevent exotic species introductions, and other aspects.

6.2.7. Tourism demand versus capacity 1996

Although tourism has been growing in Galápagos throughout the almost 30 years of its existence, this growth has been driven by economic interests, and neither planned technically in relation to the natural resource base, nor related to potential market studies. In fact, there is evidence that supply already exceeds demand, even though there are some private sector interest groups inside and especially outside of Galápagos on continental Ecuador that would like to bring in more vessels and operators. The following is an approximate calculation of the present situation (in terms of occupancy rates of existing tourism services on Navigational and Day Tour vessels, based on 1996 data on visitation, capacity (tourism places for passengers), the fact that most vessels spend 30 days per year in dry dock or similar repairs, and a reasonable assumption about Day Tour passengers who do not travel every day while in the Islands (many spend considerable time on Santa Cruz Island, with occasional day trips by boat).

Demand: 61,895 visitors x average 5 days per visitor = 309,475 visitor-days, less 15% for those who do not travel every day on vessels = 263,050

Capacity: 1,485 places (Navigational and Day Tours) x 330 days operation/year = 490,050 visitor-days

Therefore: 263,050/490,050 = approx. 54% occupancy

7. Perilous general trends in Galápagos (nature tourism's by-products)

The great economic boom in tourism has produced four major related trends in Galápagos. These indirect by-products of nature tourism are severely threatening the islands' biodiversity and ecosystems:

— Rapidly growing human population (6-7% per year increase, mostly from immigration)
— Rapidly increasing rates of introduction of alien species
— Rapidly increasing demand for local resources
— Massive extraction of some resources (marine fisheries)

Table 4. — Estimate of total revenues to Ecuador from Galápagos tourism versus public spending in Galápagos and GNP Budget 1992-96 (in '000 of US$)

YEAR	AMOUNT	PUBLIC SPENDING	%	GNP BUDGET	%
1992	42,142	1,722	4.08	319	0.75
1993	54,173	2,351	4.34	566	1.04
1994	60,854	3,365	5.52	837	1.37
1995	61,720	6,325	10.24	1,094	1.77
1996	69,364	6,623	9.54	1,074	1.55

Source: based upon Fundacion Natura y WWF, 1997

These trends and efforts to counteract them are discussed in much greater detail elsewhere in this volume. They are presented here only to indicate that the situation forms part of the context within which nature tourism operates in Galápagos, and continued unplanned growth in tourism would continue to exacerbate the trends and undermine conservation efforts.

8. Future problems and threats to nature tourism

The following are a summarized list of the main future threats to the (until now) generally successful and well-managed nature tourism system in the Galápagos. These have been identified over the past 4-5 years by myself and other specialists in nature tourism management in protected areas (see WALLACE, 1993; WURZ *et al.*, 1994), as well as at a workshop on the re-zoning of the GNP and re-design needs of the tourism system at the CDRS/GNP in 1993, attended by representatives from the tourism industry, the National Park, CETUR, the Navy, the CDRS, and many other organizations. For the purposes of this paper they are presented as a list with some added comments, where appropriate. They are not in any order of priority. Most of them already exist as initial problems, but which have not yet become major threats.

— Inadequate zoning of National Park, Marine Reserve, and rural and urban areas. The last Management Plan revision (1995) improved it, but it still needs to take into account a broader spectrum of recreational/educational opportunities, based upon protection needs for biodiversity and natural resources and desired visitor experiences, founded upon the proper combinations of biophysical, social, and administrative (management) settings to be created and offered.
— Imbalance in visitor site use: congestion at some visitor sites & under-use of others. The National Park has been improving this gradually through management of fixed itineraries, but there is still more to be done.
— Unplanned appearance of new tourism modalities: e.g. Day Tours, Bay Tours, Sport Fishing Tours. This will continue to occur until the National Park directly controls the entire planning process and concessions system.
— Unplanned appearance of new tourism activities, such as jet skis, sport harpooning, and helicopter overflights. Again, these may be unavoidable unless the National Park really controls the entire planning process and concessions system.
— Increasing number of newer operators less sensitive to conservation needs.
— Decreasing quality of guiding. There are now approximately 200 licensed guides and the quality is very variable, from extremely good to very poor. Some visitors are starting to voice complaints and the poorer quality is beginning to affect the visitor experience. The entire system of classifying guides, and training and licensing them, has become somewhat politicized by some of the guides, local interest groups, and politicians. The classification system, qualifications for guide candidates, training curricula, requirements for obtaining a licence, and a process for evaluation of guides need to be redesigned.
* An inadequate concessions system:
  — Weak government control in general and lack of direct control of the system at Galápagos National Park level.
  — Industry usually well ahead of management authorities, with new modalities and activities being introduced without planning or control by the Park.
  — Inadequate development of the needed partnership between government (the National Park) and the nature tourism industry.
* Tourism supply capacity is almost double the actual demand, yet the tendency is for more growth.
* An open-ended economic growth system in the nature tourism industry, which the Park authorities do not really control. Studies and experience worldwide amply demonstrate that this will lead eventually to increasing social conflicts between visitor groups, a notable decrease in the quality of the visitor experience, ever more infrastructure and undesirable development, and, in the special case of Galápagos, the basic resulting problems of rapid population growth and increasing rates of arrival of introduced species. The answer is not to create monopolies, but a well-designed oligopoly of tourism operators, balanced among local smaller ones and larger ones from the continent, totally controlled by the National Park and managed according to a well-designed concessions system with clear and fair regulations and processes. The tourism industry should be brought into the process of planning and design of that system, or primitive *laissez-faire* capitalism will lead to implosion of the nature tourism system in Galápagos.
* Lack of cohesiveness in the tourism industry. Suspicion and primitive competition dominate, exacerbating the situation described in the previous point.
* Lack of adequate conflict resolution and consensus building among all stakeholders in the process of planning and designing tourism management in Galápagos.
* Lack of adequate presence of the GNP at visitor sites.
* Lack of adequate interaction of a GNP specialized tourism staff with visitors.
* The range of experiences offered to visitors is too limited (see Zoning above).
* Growing conflicts between the tourism industry and local populations.
* Increasing strain on GNP management capacity if the nature tourism industry continues to expand.
* Economic displacement of local tourism operators by economically more powerful outside ones from continental Ecuador.

* Inadequate planning, monitoring, and evaluation processes, based on measurable indicators and standards, for the entire nature tourism system.
* Gradual breakdown in the quality of the unique visitor experience offered by Galápagos (see MACHLIS and COSTA, 1991).

9. Key lessons from the Galápagos ecotourism experience

The following are the main lessons provided by the Galápagos tourism experience, as well as related experience in other countries, such as Costa Rica, Mexico, the United States, Canada, Australia, and New Zealand, after nearly 30 years:

1. An adequate concessions system is a major key to long-term success, with these main characteristics:
   * Maximize control at local management authority level.
   * Design of the entire system, not just parts in piecemeal fashion, is critical.
   * The system requires a solid legal basis: a decree or law, regulations, clear and open procedures, an operations manual, and knowledge by all stakeholders of the process.
   * The local management authority must have the true capacity to apply consequences for infractions, ranging from warnings, to fines, and even to loss of permits to operate.
2. Management capacity must be in place before tourism growth is allowed (including new modalities and activities).
3. The system must be planned and then closed to further development once limits are set.
4. All stakeholders must be part of the process of planning and implementation, including the tourism industry.
5. Opening of the system to additional growth (or closing or reducing use of part of it) must be based upon monitoring of key indicators and standards, established as part of the design and planning process, and the decision should be taken only by the management authority, based upon such technical grounds.

10. Future strategy to dampen perilous trends

The new Special Law for Galápagos, approved in early 1998, contains numerous provisions to enable starting to try to dampen those trends (see section 7 above). The law is still somewhat weak in various places, but at least it puts the key subjects on the table and provides for a beginning. Details will have to be worked out by elaboration of the regulations to be derived from the law, with all stakeholders participating and agreeing to abide by those rules or suffer the consequences. The key components are:

1. Immigration control: partial, but the principle is established.
2. Quarantine and control system to sharply curtail introductions of alien species.
3. Greatly increased support for the National Park and to strengthen local authorities, the educational system, etc.
4. For the Marine Reserve
   * Increased to 40 miles around baseline connecting outermost islands
   * Single authority for administration and management (GNP)
   * Industrial fishing allowed only in two zones outside previous 15-mile limit and for one more year; then should stop.
   * New management plan.
   * Fisheries restricted to locals (artisanal) and with strict new regulations to be developed.

11. Future strategy for nature tourism management

The main components of this strategy flow from the problems and threats and lessons learned, presented previously:

1. Redesign and restructuring of the concessions system
2. GNP must have direct control of concessions system
3. Refinement of zoning to include the Marine Reserve and rural and urban areas
4. Planning process including all stakeholders
5. Redesign of guide classification system, and guide training and licensing
6. Include greater range of visitor experiences in zoning and visitor site redesign
7. Institute improved planning, monitoring, and evaluation process based on measurable indicators and standards
8. Management capacity must exist before any increases in tourism are permitted, and only be allowed when technical monitoring of pre-established indicators and standards demonstrate the acceptability of such (within the limits of acceptable change established in the planning process, in light of the defined desired future conditions)
9. GNP must decide when to open, modify, or close parts of the system

12. Provisions of the new law affecting nature tourism

The new Special Galápagos Law does not directly confront most of the main problems and future threats to nature tourism in Galápagos. It does, however, contain a few provisions worth noting:

1. It places full power for authorizing tourist operations in Galápagos protected areas in INEFAN, via the GNP (a positive step, but needs refinement so that direct control will reside in GNP).
2. No transfers of permits will be acceptable except to local residents.
3. No new permits for tourism operations can be issued,

unless revised GNP Management Plans determine such.
4. Provision for favourable treatment for local tourism operators.
5. Certain limits on new tourism infrastructure in non-GNP areas (e.g. hotels). INGALA (Galápagos National Institute Council) will have control of this aspect, creating potential for conflict with the GNP.
6. Some confusion is present in the law among roles and power of INGALA versus INEFAN (GNP)

Much will depend upon the detailed regulations being prepared, based upon the law.

13. Conclusions

In reference to the main questions posed in the introduction, the following can be said:

The nature tourism system developed in Galápagos over the past 30 years has functioned extremely well until now. It has provided for both a high degree of biodiversity and resources protection, as well as for a high quality, educational visitor experience.

Likewise, many aspects of the required institutional and legal framework are in place to guarantee a sound future for the nature tourism system there.

However, numerous problems have begun to emerge, which will eventually lead to threats to the system as developed until now, unless proper authority for the GNP is established over this system, including all aspects of concessions granting and management; participatory planning and implementation with all key stakeholders involved is instituted; redesign of the system is completed; and similar complementary actions are taken.

Overall, the Galápagos Islands are a good model for nature tourism to this type of large dispersed protected area, with many positive lessons for design, planning, and implementation. Its process of evolution, and the problems and threats detected and attempts to ameliorate them, can serve for other areas. However, it can not be taken as a good model for local ecotourism which intensely involves local communities as the primary service providers and beneficiaries, and which attempts to provide for minimizing impacts to their cultural and social life.

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Note

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