

Galapagos

Can Darwin's Lab Survive Success?

Text and photos by Bjorn Olesen

Bjorn Olesen visits the Galapagos Islands, the birthplace of eco-tourism, and he reflects on some of the lessons learnt.

Originally known as the Enchanted Isles, Galapagos is located some 1,000 km off Ecuador's coast and consist of 13 main islands plus 115 small islets, all of volcanic origin. The total land area is 7,900 square km, about 10 times the size of Singapore.

This archipelago is universally viewed as one of the most unusual and precious ecosystems on earth. It was first recognized in 1835, when Charles Darwin stopped there on the HMS Beagle as a part of a 5-year expedition. Half the birds, more than half of the insects, a third of the plants and all the reptiles are endemic to Galapagos, being found nowhere else on the planet.

Prior to 1800, pirates had estab-

lished small outposts on the islands. The pirates were later replaced by whalers. Galapagos was claimed by Ecuador in 1832, after which small permanent settlements were established. At the time of Darwin's visit there were some 200-300 people living there.

Eco-tourism started here

Coming forward in time, the Galapagos is often cited as the place where eco-tourism started. Since the late 1980s the islands have had to cope with a variety of complex problems that have all come in the wake of the ecotourism boom: New immigrants, introduced species, industrial over-fishing, and conflicts between development interests and park management.

Despite the passage in 1998 of The Special Law for the Galapagos by the Ecuadorian Government, the number of people living in the Galapagos has increased from 20,000 in 1998 to 40,000 in 2006 (including illegal immigrants). Tourist arrivals have more than doubled over the last ten years as well, with serious implications.

Under the Special Law, tour companies are required to hire locally, unless they can prove that the skills they require are not available on the islands. When stopping at islands with human settlements, many tour companies now arrange for passengers to visit restaurants, private farms, and local schools. By 2006, there were 114 restaurants/bars in the Galapagos, up from just 20 in 1982. Larger vessels are required to visit two parts of the islands during an eight-day tour, and this has stimulated new ecotourism income for the communities.

New immigrants reinforce a fron-



Pinnacle Rock, Bartolome Island.



The Great Frigatebird (*Fregata minor*).



The endemic Galapagos Sea Lion (*Zalophus wollebaeki*).



The Marine Iguana (*Amblyrhynchus cristatus*).



The Galapagos Land Iguana (*Conolophus subcristatus*).



The endemic Galapagos Giant Tortoise (*Geochelone nigra*).

Space is very tight overall, so for caption I only give one line.

tier mentality bringing a culture based on resource extraction, low awareness about the Galapagos ecosystem, and strong external alliances. Commercial fishing, while legally restricted to fewer than 1,000 local fishermen, continues to grow, with serious environmental consequences.

One of the most worrisome environmental threats to the Galapagos Island has been the introduction of non-native species - accelerating in the wake of the eco-tourism and immigration booms.

Goats, for example, were introduced way back in the 1850s and immediately began to take food away from indigenous tortoises and iguanas. On the island of Isabella, there are more than 200,000 goats, which are extremely adaptable and hard to exterminate.

There are many other introduced pests: cats kill young iguanas and chicks of birds; dogs eat turtle eggs and hunt adult iguanas. Pigs destroy bird nests; donkeys devour vegetation; rats eat eggs of the giant tortoises. Invasive species also include insects and plants, which are equally threatening.

But eliminating one species at a time is not practical. The vegetation that goats eat provides cover for feral pigs. Cats eat rats. Dogs kill cats. There needs to be an integrated, well-designed programme. Eradicating introduced species and keeping new ones from arriving is a never-ending and enormously costly struggle.

By 2007, scientists have indentified introductions of 36 species of vertebrates (including donkeys, cattle, goats, dogs), 540 species of invertebrates (various ants, wasps, flies), and 740 plant species, and the numbers continue to rise.

In 2001, UNESCO granted World Heritage status to this gigantic marine reserve which covers 138,000 square km. But despite these positive steps at setting a legal framework for protection, the Galapagos remains at risk. In June 2007, UNESCO added the Galapagos to the list of "World Heritage in Danger" sites, noting specifically the negative effects brought by the sizeable growth of tourism, which had grown from 41,000 visitors in 1990 to around 145,000 in 2006.

Eco-tourism Scorecard

Some have heralded the Galapagos Islands, with their geographic remoteness, well-run national park and biologi-

cal research station, low-impact floating hotels, and environmentally aware tourists, as a model of sustainable and sound eco-tourism.

But the islands remain at a crossroads, and this is an appropriate time to evaluate how they stand up on the seven characteristics of effective eco-tourism as defined by Honey (1999):

1. Involves Travel to Natural Destinations

Nature is the allure of the Galapagos. This mid-ocean moonscape of stark lava rock and scrub brush remains one of the world's most precious ecosystems. It offers eco-travellers both unique clues to understanding evolution and chances for close encounters with exotic creatures.

2. Minimizes Impact

During the past decades, tour operators, naturalist guides, national park officials, and research station scientists in the Galapagos have worked together to create a model for low-impact, high-quality eco-tourism (See box story). However, the 2007 decision to include the Galapagos on the list of endangered World Heritage sites indicates strongly that tourism numbers have become too high for the islands' capacity.

More serious are three other problems that only partially are connected with the ecotourism boom: introduced species, immigration, and commercial fishing. In particular the enforcement of the immigration section of The Special Law has been very patchy.

So on this dimension the record has been very mixed.

3. Builds Environmental Awareness

Eco-tourism has helped to expand the world's understanding of the islands' uniqueness and fragility. The many visitors have helped to spread the word, and so has the countless nature documentation and infotainment programmes produced there and shown in Ecuador and all over the world. Although, as visitor numbers have grown exponentially, there has been a gradual watering down of environmental emphasis. Overall, the record in this respect has been good.

4. Provides Direct Financial Benefits for Conservation

The Galapagos Islands are Ecuador's biggest tourism destination, bringing in one-third of the government's revenue from tourism. The increased entrance fees for foreigners, and the increase in the percentage of gate fees kept by the national parks service have greatly increased the amount of funds for environmental protection. This is a solid victory for conservation, but it comes at a time when the islands and marine reserve are facing greater environmental assaults than ever before.

5. Provides Financial Benefits and Empowerment for Local People

Eco-tourism has done both. Since the late 1980s, the standard of living and job opportunities on the islands have grown, as has the political militancy of the local population. The Special Law dictates a fairly even distribution of park entrance fee revenues. Moreover, it outlines measures to strengthen economic capacity and opportunities, educational level, technical skills, and social services of the resident community, while attempting to curb its unsustainable level of growth. This is a clear victory for the islanders. However, trends in recent years show a stagnation in benefits for local people, as the "quality" and average spending of each foreign tourist declines.

6. Respects Local Culture

This is not a significant issue in the Galapagos, since most of the local community is recently imported.

7. Supports Human Rights and Democratic Movements

Over the last decade or more, a representative movement has developed that pushed for participatory democracy on the islands and for the passage of the Special Law by the national government in Quito, the capital. This highly significant development is in line with the principles and goals of eco-tourism, so a positive development.

In the Galapagos, more than almost anywhere else in the world, the only viable commercial activity is high-quality, limited, and carefully monitored eco-tourism. This, combined with the key components of the 1998 Special Law, which aims to carefully regulate immigration and fishing, holds out a possibility of protecting the fragile



The Millennium Tourboat.



Waved Albatross (*Phoebastria irrorata*).

environment and striking equilibrium with the local population. If enforcement of the local regulations could be improved, and a meaningful increase in the entrance fees for foreigners implemented, and if numbers were well controlled and/or reduced, then the outlook for the archipelago would look bright.

I agree with Tom Fritts, a wildlife biologist with the Smithsonian Institution's National Museum of Natural History, who states in Honey (1999): "The bottom line is that ... the Galapagos still have about 95% of their native species of flora and fauna ... They are disturbed but not destroyed." So, for those who have the opportunity, I strongly recommend a visit to the Enchanted Isles, where you can still find those untouched places of nature that is pure magic. 🌿

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Commendable Ecuadorian Ecotourism Initiatives

A) The **Ecuadorian Ecotourism Association** (ASEC) founded in 1991 was one of the first national eco-tourism organizations in the world. In early 2008 ASEC had 67 members (7 in Galapagos) representing all the social sectors of eco-tourism in Ecuador: Indigenous and local communities, private tour operators, NGOs, universities, local governments, the Ministry of Tourism, clean energy companies, and private individuals. Together these members manage approximately 76% of incoming tourism in Ecuador.

B) The larger tour operators founded a dynamic, non-profit organization in 1995, **International Galapagos Tour Operators Association** (IGTOA) to lobby the Ecuadorian Congress for passage of the Special Law. Their stated mission is to: "preserve the Galapagos Islands as a unique and priceless world heritage that will provide enjoyment, education, adventure, and inspiration to present and future generations of travelers." IGTOA has become the collective voice to petition the government of Ecuador for proper funding, management and legal enforcement.

C) **The Galapagos Chamber of Tourism** (CAPTURGAL), founded in 1996, spearheaded in 2005 a green certification programme for local products in tourism, fishing and agriculture sectors.

D) In 2001, **Smart Voyager**, a new environmental certification programme for boats in the Galapagos was launched in a collaboration between Conservación y Desarrollo, an NGO citizen's group founded in 1992 and based in Quito, and the Rainforest Alliance, an American environmental NGO. By 2007, Smart Voyager had certified 8 boats and also moved into certification of hotels throughout Ecuador.

E) For renewal of operating licences, local authorities require all boat operators to subscribe to **oil and solid waste recycling programmes**, and to obtain a fumigation certificate to prevent introduction of alien species. Boats must also be fitted with holding tanks for wastewater, which is then collected in ports by local councils. In 1999, a used-oil recycling programme was started which has recycled 120,000 gallons of oil up to 2005 - equivalent to 75 percent of the total oil used in the islands.