# Galápagos and Cape Horn: Ecotourism or Greenwashing in Two Iconic Latin American Archipelagoes?

### Ricardo Rozzi

Department of Philosophy and Religious Studies, University of North Texas, 1155 Union Circle #310920, Denton, TX 76203-5017; rozzi@unt.edu

### Francisca Massardo

Universidad de Magallanes and Institute of Ecology and Biodiversity, Omora Ethnobotanical Park, Correo Puerto Williams, Region de Magallanes y Antartica Chilena, Chile; massardorozzi@yahoo.com

### **Felipe Cruz**

Charles Darwin Foundation, Puerto Ayora, Isla Santa Cruz, Galápagos, Ecuador; Casilla 17-1-3891, Quito, Ecuador; felipe.cruz@fcdarwin.org.ec

### **Christophe Grenier**

Charles Darwin Foundation, Puerto Ayora, Isla Santa Cruz, Galápagos, Ecuador, Université de Nantes, France; Casilla 17-1-3891 Quito, Ecuador; christophe.grenier@fcdarwin.org.ec

### Andrea Muñoz

Escuela de Hoteleria y Turismo, Pontificia Universidad Católica del Ecuador, Av. 12 de Octubre y Patria Torre II, Quito, Ecuador; amunoz@puce.edu.ec

### **Eduard Mueller**

Universidad para la Cooperatión Internacional, San José, Costa Rica; emuller@uci.ac.cr

### Joerg Elbers

International Union for Conservation of Nature, Regional Office for South America, Calle Quiteño Libre E15 12 y La Cumbre, Sector Bellavista, Quito, Ecuador; joerg.elbers@jucn.org True ecotourism requires us to regain an understanding of the inextricable links between the habitats of a region, including its inhabitants, and their habits. With this systemic approach that integrates economic, ecological, and ethical dimensions, we define ecotourism as "an invitation to a journey ('tour') to appreciate and share the 'homes' (oikos) of diverse human and non-human inhabitants, their singular habits and habitats." Today, mass nature tourism often denies these links and is generating biocultural homogenization, socio-ecological degradation, and marked distributive injustices in iconic places, such as Costa Rica, the Galapagos and Cape Horn. In order to implement genuine ecotourism in Latin America and elsewhere, it is imperative to overcome marketing ambiguities, and pay close attention to local autonomy and biocultural diversity.

At the beginning of the twenty-first century, when more than 50 percent of people live in cities exposed to a few languages and biological species in their everyday lives, ecotourism offers an invitation to take a journey (or tour) to appreciate and share the "homes" (or oikos) of diverse human and non-human inhabitants, their singular habits and habitats (Rozzi 2005). The definition given by The International Ecotourism Society (TIES; in Honey 2008, 6) emphasizes that "ecotourism" should provide means for local people, share socio-economic benefits among all involved parties, favor conservation of both biological and cultural diversity, and offer the traveler an educational as well as enjoyable experience of reconnection with biocultural diversity. Today, however, most tourists do not achieve a true ecotourism experience because they go to remote places in conventional cruises, or all-inclusive resorts that offer fake images of nature with minimal environmental reforms (such as not changing the sheets daily) and nominal relations with local people (such as handcrafts sold at stores within the hotel or cruise ship). Latin America, which is the region that harbours the greatest biological diversity in the world (Guevara and Laborde 2008), and where, according to Martha Honey (2008) ecotourism was initiated at the Galápagos Islands in 1969, does not escape to this prevailing "greenwashing" trend that fails to recognize the fundamental principles and practices of ecotourism sensu stricto. Nevertheless, in Latin America a growing number of local communities, conservationists, authorities, and researchers in the sciences and humanities are working toward socially and ecologically responsible forms of tourism, which can promote respectful living together, and meaningful transformative experience for both the hosts and the visitors (Acevedo 2006, Rozzi 2006).

We were invited by Robert Figueroa, the editor of this special issue on environmental justice and ecotourism, to contribute perspectives from Latin America. Faced with a plethora of contrasting ecotourism initiatives in our Neotropical region, we decided to begin with the distinction between integral ecotourism and mass nature tourism based on a concise analysis of the situation in Costa Rica, the world's flagship country for ecotourism. Then we

focus on two of the most fragile ecosystems in Latin America, which represent at the same time two of the most iconic places remaining in today's global world to explore wild habitats and biota: the Galápagos and Cape Horn. For these remote tropical and sub-Antarctic archipelagoes that today are critically threatened by massive tourism, well-run ecotourism, with care and regulations, could offer the most effective option for social, ecological and economic sustainability. Our goal is two-fold: First, we call attention to the marketing ambiguity of the term "ecotourism," as used to mask detrimental impacts that massive forms of nature and adventure tourism are having on the autonomy of local communities, as well as their social and ecological wellbeing. Second, we succinctly introduce forms of ecotourism that are being proposed and/or developed in the Galápagos and Cape Horn archipelagoes by local communities in alliance with the Charles Darwin Research Station and the Omora Ethnobotanical Park, respectively, their teams of national and international researchers, graduate students and volunteers, and some private business and government authorities. Finally, to contextualize our analysis of ecotourism in the two archipelagoes, we briefly assess the distributive justice of the tourism industry at the global scale, and contrast it with global economy as well as with trends of social corporate responsibility for sustainable tourism, and ecotourism.

### **Ecotourism: Local-Global Tensions**

In Latin America it is still possible to find many localities where national and international visitors can experience and share with the local communities and their native habitats relations that are not "packaged" by the mainstream tourism economy. The encounter with these communities reminds us that ecotourism, and communitarian ecotourism, is much more than "conventional tourism in a green envelope" (Acevedo 2006, 294). These "direct encounters," "face to face" with majestic trees, the smell of the mosses and the rain, the colorful macaws and groups of monkeys in the canopy, and the sharing of food, conversations, and everyday life with local peasants, fishermen, or indigenous communities transform both the visitors and the local human and non-human inhabitants that are visited (Acevedo 2006, Rozzi et al. 2006; Rozzi, Anderson, Pizarro et al. 2010). Genuine ecotourism tends to operate at a small scale involving personal engagement with the environment.

Among Latin American countries, Costa Rica is the world's flagship country for ecotourism. However, today it offers a wide scope of tourism, from the mass "four S's"—sun, sea, sand, and sex—to personalized, small-scale, local ecotourism projects. On the side of mass tourism, the recent arrival of U.S. and other foreign hotel chains to Costa Rica has discredited the country's image as the world center for ecotourism. On the side of small scale tourism, the initiative of "Rara Avis Rainforest Lodge and Nature Reserve" helps to illustrate the origins of ecotourism, and the rich diversity of types relationships between "ticos" and US entrepreneurs to develop options for succeeding with

the aims of ecotourism for its alliance with the well-being of local inhabitants and their native habitats (Box). The benefits that projects such as Rara Avis have provided to the local community, their tropical rainforest habitats, and the national and foreign visitors, comply with the three primary principles of ecotourism defined by The International Ecotourism Society (TIES): 1) to benefit conservation; 2) to respect basic rights and benefit host communities; and 3) to be educational as well as enjoyable for the traveler (Honey 2008). Assessing these goals in a recent interview, the former president of TIES, Martha Honey, affirms that:

Regarding the first one, ecotourism has brought increased resources to protected areas and an emergence of "green" architecture that is lighter on the land. Regarding the third principle, we have seen, for instance, the emergence of the importance of good naturalist and cultural guides in interpretation and enhancement of the visitor experience. However, regarding the second principle—ecotourism and host communities—this is both the most difficult part of the ecotourism equation and where, I feel, we have done least well. (Honey 2009, 1)

Today, numerous initiatives such as Rara Avis are established in Costa Rica and Latin America. Many of them have been started by foreign conservationists, such as Amos Bien (see box, p. 27), but also a growing number of ecotourism initiatives are being originated by national entrepreneurs, and more recently indigenous communities (Acevedo 2006; Rozzi 2006). The latter have adopted a communitarian ecotourism or rural communitarian tourism approach that is based on the autonomy of peasant, fisher, and indigenous communities over their management of land, and aims to support these communities in their land tenure and their needs to overcome poverty (PROBIOMA 2004). However, the proportion of the tourism industry that promotes ecotourism *sensu stricto* is comparatively small (Blount 2001).

In 1990, TIES coined what has become the most popular definition of ecotourism: "responsible travel to natural areas that conserves the environment and improves the well-being of local people" (Honey 2008, 6). In this definition, the notion of "improving the well-being of local people" can be, and has been, problematic because it has been associated with a notion of development that is closely linked to forms of global free trade, which threatens local autonomy and the sharing of benefits that is essential to the concept of ecotourism. Tourism like other global industries, has been affected by both free trade and globalization, as well as by the anti-globalization fair trade movement. Within the tourism industry there are marked divisions. Local ecotourism initiatives are increasingly threatened by two interrelated factors: 1) The arrival of hotel chains facilitated by free trade agreements and/or government incentives; and 2) the terminological ambiguity in green marketing that reduces ecotourism to nature, wildlife, and adventure tourism. Chain hotels, airlines, and other multinational tourism companies that generally favor open borders and free

trade have been gaining ground over tenets of ecotourism that support locally owned business, local hiring, and local purchasing. Notably, the bias toward the global side of tourism can be traced even in the environmentally concerned business that supported sustainable tourism at the 1992 Earth Summit. The contradictions among the proponents of "green tourism" are expressed in the *Agenda 21 for the Travel and Tourism Industry*, the travel industry's response to the Earth Summit Declaration on the Environment and Development (Honey 2008). This document made it clear that international tourism corporations coupled sustainable development and environment protection with free trade, privatization, and government deregulation. The *Agenda 21 for the Travel and Tourism Industry* guiding principles state that "nations should cooperate to promote an open economic system in which international trade in Travel & Tourism services can take place" and "protectionism in trade in Travel & Tourism services should be halted or reversed" (Honey 2008, 34).

During the last three decades, even the iconic Costa Rica has seen its sustainable tourism models increasingly replaced by a different tourism model of large "all inclusive" resorts and cruise ships. Large scale "green tourism" with a narrow market-oriented philosophy has expanded at the fastest rate since 1984, when the government of Costa Rica passed legislation supporting investment incentives for hotels, air and sea transportation companies, car rental agencies, and travel agencies. With the passage of the *Tourism Development Incentives Law* in 1985, tourism projects became eligible for incentives, including exemptions from property taxes and from import duties for construction and remodeling materials, as well as tax breaks for vehicles, such as vans and cars, fishing and pleasure boats, jet skis, dune buggies, and golf carts. To qualify for these incentives, facilities were required to have more than twenty rooms and had to conform to strict norms of furnishing; hence, most local people could not afford to receivethese government incentives (Hill 1990).

In her landmark short essay, "The Paradox of Tourism in Costa Rica," Caroline Hill (1990) criticized the unrestricted policy of the country to attract foreign tourism investment with the prospects of acquiring modern technology and to increase the number of visitors through international tourism marketing operations. Hill began her essay by criticizing with irony that:

The New York Times Magazine published a special issue on 11 October 1989 entitled "The Sophisticated Traveler." Costa Rican Pacific beaches were featured in an article that discussed Manuel Antonio National Park, a "naturalistic paradise of 1707 acres of jungle coming right to the high-tide mark of some of the most beautiful beaches in the world." The tourists who travel there, as with all the other national parks in Costa Rica, "tend to carry binoculars and serious cameras along with their sunscreen". . . . In 1988, CINDE and the Costa Rican Tourism Bureau (ICT) signed an agreement on an incentive program designed to bring foreign investors in to help in the growth of tourism in Costa Rica. To

realize their goal of bringing in \$1 billion of foreign exchange income by 1995, the private and public sectors are attempting to develop first-class beach hotels and other amenities. (Hill 1990, 14)

By the early 1990s, Hill's critical forecasts were confirmed, and eighty percent of Costa Rica's beachfront properties had already been bought by foreigners (Honey 2008 164). Most of the medium to large hotels in the capital, San José, have been acquired by international hotel chains, including the U.S. Best Western, Marriott, and Hilton (Hampton Inn), and the European Occidental Chain and Barceló. Today, extensive dry tropical forests and traditional cultivation lands of northwest Costa Rica have been replaced by tourist facilities that offer all inclusive packages with "unlimited golf" on extensive lawns that divert the limited water from the native ecosystems and local agriculture communities (Gordon et al. 2010). With the completion of the new international airport of Liberia in Guanacaste, coastal resort and residential tourism are now of large typically gated complexes with hotels, golf courses, marinas, vacation homes, and other facilities that are most often owned by and catering to foreigners, particularly from the U.S. (Honey 2009). Hyatt and other hotel chains have installed large tourism complexes that are frequently advertised as "ecotourism," based on their offer of outdoors activities, including bird watching, horseback riding, and water sports, such as surfing, fishing, scuba diving, and snorkeling.

As the numbers of "ecotourists" rapidly expanded, foreign visitors to Costa Rica became less interested in learning about this country's rich biological and cultural diversity, and in the benefits that their activities could bring to conservation and the well-being of local communities. However, as stated in TIES definition, ecotourism is a different form of tourism that does not only involve recreational activities for the visitor, but it should also include benefits for conservation and the people in the region. The confusion between these two radically different types of tourism—(1) ecotourism run by or with local communities, and (2) nature, wildlife, and adventure tourism implemented by hotel chains—prompts a major threat to sustainability, the well-being of local inhabitants, and the possibility of establishing integrally ethical relationships between the hosts and the visitors in places that still conserve a unique biological and cultural diversity.

In this article we call attention to the former marketing ambiguity of the term "ecotourism," which masks detrimental impacts that massive nature and adventure tourism is having on the autonomy of local communities, and their social and ecological well-being. We center the analysis in two emblematic archipelagoes of Latin America that today are critically threatened by this new form of massive tourism: Galápagos and Cape Horn (Figure 1, Table 1).



**Figure 1.** Map showing the location of two iconic South American archipelagoes at contrasting tropical and sub-Antarctic latitudes: Galápagos (1,000 km west of the Ecuadorian coast) and Cape Horn (at the southern end of Chile). The dark line demarcates the boundaries of the UNESCO biosphere reserve areas that have been created to protect and promote environmental, social, and economic sustainability, including sustainable tourism and ecotourism, in both archipelagoes.

		Galápagos Islands (Ecuador)'	Cape Horn Biosphere Reserve (Chile)"
	Total land area (km <sup>2</sup> )	7,782 km <sup>2</sup> , 13 large islands, 6 smaller islands, 40 islets	19,173 km², 3 large islands, hundreds of smaller islands and islets
Physical	GPS	1°20'N-1°0' S; 92°00'-89°00' W	54°09'-56°18'S; 72°50'-67°28'W
	Geologic origin	Volcanic	Igneous rocks
	National park	Galápagos NP (1959)	Alberto de Agostini NP (1967; 12,800 km²) &
		97% of the archipelago land surface	Cape Hom NP (1945; 63,500 km²)
	-	-	0 / 70 01 the terresular surface
	Park personnel	238 people	l administrative
Protection	Park rangers	Personnel prepared for marine and terrestrial vigilance	None
	Vigilance equipment	Boats, communication equipment	Chilean Navy in the ocean, none in the land
	Biosphere reserve	Galápagos 142,782 km²	Cape Horn 48,883 km <sup>2</sup>
		(7,782 km <sup>2</sup> terrestrial; 135,000 km <sup>2</sup> Marine Reserve)	(19,213 km² terrestrial; 29,670 km² marine areas)
		Created in 1984	Created in 2005
	World Heritage Site	Declared in 1978	N/A
	Historical	Charles Darwin and Beagle Voyage 1835; inspiration for	Charles Darwin and Beagle Voyage 1835; inspiration for   Charles Darwin and Beagle Voyage 1832-1834; inspiration for the
		the theory of evolution	theory of human evolution
Biological	Hotspot and rarity	Unique vertebrates assemblages and highly endemic plant   World hotspot for mosses, liverworts, and lichens	World hotspot for mosses, liverworts, and lichens
landmarks		species	
	Main traits	Isolation, demanding ecological conditions, relative	Isolation, demanding ecological conditions, relative absence of
		absence of competitive and/or predatory species	competitive and/or predatory species, pristine landscapes
	Original people	None	Yahgan people
	Human settlement	130 years (since 1879 in San Cristobal)	7,500 years BP
	Human history	Early subsistence farmers and fishing. Since 1960, some	Nineteenth century exploitation of sea lions and otters from
		people working for the research station. Since 1980s,	Europeans. Late 1890s and early 1930s husbandry and subsistence
Human		tourism; since 1990s, fast growing.	fishing. Since 1950s, has been a naval base.
occupation	Current population	25.000, living in 3% of the territory	2,200 living in less than 3% of the territory
	Main Sites	Puerto Ayora	Puerto Williams, Hornos Island as entrance of cruise ships
	Main occupation	Tourism, fishery	Artisanal fishery, wood fire
	Population strata	Residents, old immigrants, scientists	Residents, Yaghan Community, Public services, Navy families
	Immigration rate	High, 6–10%/year	Relatively stable

Table 1. Biological and cultural traits of the Galápagos and Cape Hom biosphere reserves.

<sup>†</sup>Grenier 2007, Honey 2008, Watkins & Cruz 2007, http://www.Galápagospark.org/index.php/3set\_lang=es <sup>†</sup>Rozzi, Massardo, Anderson, Heidinger et al. 2006, Rozzi, Armesto, Gaffinet et al. 2008, Rozzi, Anderson, Pizarro et al. 2010

# From Genuine Ecotourism to Greenwashing Nature Tourism in the Galápagos

The Galápagos Islands, discovered uninhabited in 1535 by the Spaniard Bishop Tomas de Berlanga who called them the Enchanted Isles, are often cited as the place where ecotourism originated (Grenier 1998, Honey 2008). The unique biodiversity of these remote islands located in the Pacific Ocean, 960 km west of the Ecuadorian coast, was highlighted in 1570 by the name given to the archipelago in the first modern world atlas (*Theatrum Orbis Terrarum*, by Abraham Ortelius): *Galápagos* (the Spanish name for giant tortoises). All of its reptile species—as well as half of the bird and insect, and a third of the plant species—are endemic to Galápagos, and found nowhere else on the planet. Thanks to the work started by the Charles Darwin Research Station at the end of the 1950s, this archipelago is viewed as one of the most unusual and precious ecosystems on earth.

The team of researchers at the Charles Darwin Research Station made a significant contribution to update and broadly communicate the scientific narrative elaborated by the British naturalist of the nineteenth century. During the second half of the twentieth century the popularity of the Galápagos as a unique "natural laboratory" for observing the process of evolution at work, grew rapidly (Grenier 2007). In 1959, the Charles Darwin Foundation (CDF) was created with the help of the International Union for Conservation of Nature (IUCN), United Nations Educational, Scientific, and Cultural Organization (UNESCO), and conservationists worldwide to assist the Ecuadorian government in the establishment of the Galápagos National Park (GNP), which protects 97 percent of the total terrestrial area of 7.995 square kilometers and restricted 3 percent for human inhabitation. The U.S. Military bases established in Galápagos during World War II lease modern aerial and naval transport infrastructures allowing regular and growing connections with the continent. Once the GNP was created, planes and cargoes facilitated the integration of this once remote archipelago to Ecuadorean national territory by its peopling and economic development. The main drivers of this geographical opening process of Galápagos, with severe ecological and social consequences, are a "nature tourism" economy linked to the conservation sector, both working at a global/worldwide scale, and the Ecuadorean State, which promotes the development of the new province established in 1973 (Grenier 2007a; 2010).

Organized ecotourism in the Galápagos Archipelago began only in the late 1960s, as a joint venture of two Ecuadorian tourism companies (Metropolitan Touring and Turismundial) that associated themselves with a New York company (Lindblad Travel). The first cruise ship (the Lina A, which had a maximum capacity of fifty eight passengers) arrived to the islands in 1969. This event marked the official start of world's ecotourism (Honey 2008).

David Balfour, honorary British Consul and director of Metropolitan Touring's office on the Galápagos recalls that when he first arrived to the

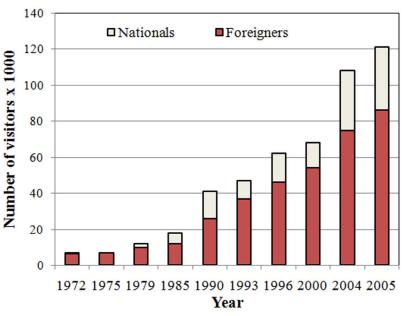
archipelago in 1969, tourism had not really started, and that Metropolitan Touring began by doing a

feasibility study, especially from the point of view of conservation. Tourism was done in close conjunction with the Charles Darwin Research Station and the Galápagos National Park. It was pioneering work . . . [and] there was a close link between tour operations, scientists, and the national park. (quoted in Honey 2008, 125–6)

To reinforce the combined goals of conservation and early ecotourism, the Ecuadorian Government working in close collaboration with the National Park Service and the Charles Darwin Research Station, succeeded in declaring the Galápagos a UNESCO World Heritage Site in 1979, and in nominating the archipelago a UNESCO Biosphere Reserve in 1986, adding to it the Galápagos Marine Reserve. Finally, in 2001, the World Heritage Site was extended including the Galápagos Marine Reserve.

In parallel to the establishment of ecotourism, however, another process began to grow increasingly fast in Galápagos: short-term profit-oriented tourism (Grenier 2002). From approximately 6,000 visitors in the early 1970s, the number of visitors grew to over 120,000 in 2005 (Figure 2), reaching 173,000 in 2008 (Watkins and Cruz, in preparation). As Ecuador adopted free-market policies in the 1980s, and concomitantly ecotourism became a marketing buzzword within the travel industry, there was a growing wave of tourism investments, producing new vessels, companies, and hotels in the remote archipelago. Between 1980 and 1998, uncontrolled commercial fishing, improvised tourism growth, and unregulated population growth through immigration had negative consequences of pollution and an explosive increase of invasive exotic species introduced into the Galápagos Archipelago (Durham 2008; Nash 2009). Today, there are more exotic than native plant species, and several of the native and endemic animal and plant species are extinct (Table 2).

In an effort to stop the detrimental processes originated in the 1980s, the *Special Law for the Conservation and Sustainable Development of Galápagos Province* was issued by the Ecuadorian Government in 1998. This law recognizes the conservation priority through reforms controlling immigration, fishing, and introduced species, and providing support for residents of Galápagos to have a right for job revenues and benefits from tourism in the islands. The law completely banned industrial fishing, and defined a strict zonation for tourism. Tourism activity is allowed only in the companionship of naturalist guides, and in seventy land and sixty two marine sites, precisely demarcated by the Galápagos National Park. Three levels of guides were defined, including Ecuadorian or foreign guides with scientific background or speaking more than one language (categories 1 and 2), and auxiliary guides who lack formal scientific training and usually speak only Spanish. Finally the law mandates that after 1998, all new guides must be residents. In spite





**Figure 2.** Top: Number of tourist visitors per year to the Galápagos Archipelago during the last decades (Source: Watkins and Cruz, in preparation). Bottom: Picture of a visit to the "galapagoes" or giant tortoises reserve "Finca Las Primicias," showing the little-controlled nature tourism that prevails in the archipelago today (Photograph taken on May 29, 2010, by Andres Marin, Omora Ethnobotanical Park Photographic Archive).

of the creation of the *Special Law for Galápagos*, after 1998 the numbers of visitors continued growing at rates higher than 20 percent annually, with a rapid decline in the quality of the visitor experience, a dissociation from conservation goals, and weak respect for the unique biota of the archipelago (Figure 2, Table 2). The average quality of Galápagos guides who, for four decades were considered among the most highly qualified in the world, rapidly decayed, and the tourism industry aggressively oriented toward "soft" nature tourism, with more concern for comfort than conservation (Watkins and Cruz 2007; Grenier 2007b).

	Plants	Vertebrates	Invertebrates
Native	560	112	1893
Threatened	95	54	
Extinct	3	10	3
Introduced	748	36	543

**Table 2.** Number of native species of vascular flora and vertebrate and invertebrate fauna recorded in the Galápagos Archipelago (first row). The second and third rows show that today a significant proportion of this unique flora and fauna is threatened or has become extinct, and the fourth row indicates the high numbers of invasive exotic species that have been introduced into the islands as of 2006. (Data compiled from Durham 2008)

Bruce Epler, who, in collaboration with Alan White and the Charles Darwin Research Station, wrote the first Galápagos Guidebook for visitors to the islands, indicated already in the early 1990s that 85 percent of the money made by the tourism activity in Galápagos was paid to airlines and vessels, and as little as 3 percent for on-land hotels and park entrance fees (Epler 1993; 2007). In 2006, Galápagos's tourism services provided an estimated 71 percent of the islands GDP and generated 33 percent of all tourism revenues earned by the Ecuadorian government. However, 92% of the tourist dollars was spent on "floating hotels," and only 8% was spent on land-hotels or day-boat tours offered by locals. More recently, Honey cautions that "market linkages between local farmers, cattle ranchers, fishers, and the floating hotels are virtually nonexistent: most of the food and other supplies are imported" (2008, 132). There is obvious deterioration in the life conditions of the unique large, long-lived tortoises and other endemic land flora and fauna, the exuberant diversity of colorful fishes and other marine life forms, and the first human immigrants. As a result of the biocultural impacts of distorted ecotourism described in this concise history, in 2007 the UNESCO declared Galápagos as a "World Heritage Site in Danger."

In early August 2010, however, during the thirty-fourth World Heritage Committee session, Galápagos was removed from the list of World Heritage in Danger. The Committee found that significant progress had been made by Ecuador in addressing the problems of invasive species, unbridled tourism, and over-fishing. This decision was taken against the technical advice of IUCN, UNESCO's Advisory Body for Natural World Heritage. On August 28, 2010, *The Economist* called attention to the fact that this decision was based more on political than technical reasons, and admonished that:

The decision to remove the islands from the list of "world heritage sites in danger"—taken at a meeting in Brasília that concluded on August 3rd—was only one of several signs that the UN agency is bending its own rules under pressure from member states. And since UNESCO is supposed to be an unprejudiced protector of the whole world's built and natural environment, such slipping standards are not merely of concern in remote Pacific islands. (*The Economist* 2010, 49)

*The Economist* made a clear distinction between the two ways in which this new trend might be interpreted:

When an archipelago famed for its flora and fauna is deemed to have escaped from environmental peril, that might sound like good news for anyone with an interest in the fate of life on Earth. But UNESCO's recent clean bill of health for the Galápagos islands was greeted with dismay by many of the people who care passionately about the place. (*The Economist* 2010, 49)

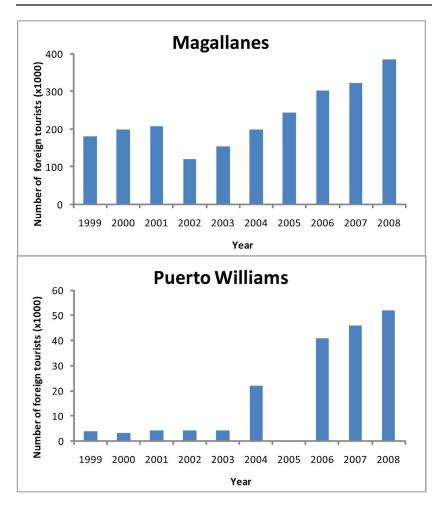
The recent decision to change the "endangered" status of Galápagos reflects political and economic pressures. Nevertheless, it is also true that currently the Ecuadorian government, in cooperation with local authorities, universities, and the Charles Darwin Research Station, has been trying to establish a new management system for sustainable tourism in Galápagos, emphasizing a participatory approach among the main stakeholders on the islands: local people, community organisations, NGOs, local government, and touristic operators, among others. In its initial phase, this work demonstrated to local people that the current tourist activity in Galápagos is not sustainable and that most of the income generated goes exclusively to the largest tourist operators and does not represent a benefit for the local community in the islands (Grenier 2007). At present, efforts are being made to facilitate local stakeholders to work together to guarantee the sustainable management of tourism in Galápagos, involving public, private, and local actors, and to emphasize the use of local products for a genuine ecotourism in the Ecuadorian Enchanted Isles.

From our brief historical account of ecotourism in Galápagos we can learn that:

- 1. This type of tourism is identified with Latin America.
- 2. It began with a focus on the biological diversity of a remote and exotic place.
- 3. It was initially developed by Ecuadorian and U.S. private tourism operators in close collaboration with national and international scientists, other professionals, and government authorities.
- 4. We can also learn about the central role that the presence of a long-term ecological research, education, and conservation field station has played in the process of establishing ecotourism. As much as La Selva Biological Station and the Organization for Tropical Studies (created in 1963) were instrumental to initiate ecotourism in Costa Rica in the 1970s (Appendix), the Charles Darwin Research Foundation established by IUCN in 1954 (under the advice of the German ethologist Eibl-Eibesfeldt) was a key factor in implementing conservation and ecotourism in the Galápagos.
- 5. Finally, for individuals and organizations that aim to develop ecotourism with the intention to contribute to biocultural conservation and the wellbeing of local communities, our concise summary about the current status of ecotourism in Galápagos yields also an important understanding that advises caution. The establishment of genuine ecotourism is incompatible with policies that are prevailingly guided by free-market criteria. Ecotourism requires policies that also consider ecological, social, and cultural attributes of the fragile, unique socio-ecological systems. It is also critical to highlight the fact that insular systems in general, and the Galápagos in particular, have evolved a peculiar, endemic biota due to their condition of isolation. In order to achieve biocultural conservation, and genuine ecotourism, the condition of isolation of insular systems cannot be overridden by the fate of boundaries imposed by the prevalence of free-trade policies. In the Galápagos, the pioneer twodecade period of tireless discovery of the archipelagos' biodiversity beauty, its scientific interest and potential value for tourism, as well as the implementation of conservation and small-scale, carefully planned ecotourism initiatives, was taken over by a three-decade period of unregulated, massive nature tourism. Therefore, the initial efforts of hardworking pioneers will remain utopian, and the beauty and unique diversity of the archipelago will be lost, if tourism cannot be strictly regulated again.

# The Cape Horn Biosphere Reserve: An Opportunity for Sub-Antarctic Ecotourism?

At the southern end of the Americas, almost 200 years ago the famous British naturalist Charles Darwin visited another emblematic archipelago: Cape Horn. Like the Galápagos has been suggested as the place that inspired Darwin's evolutionary theory of natural selection, the Cape Horn archipelago has



**Figure 3.** Number of foreign visitors per year to the Magallanes Region (A) and Puerto Williams (B) during the last decade (Source: INE-SERNATUR 2008). \*Data are not available for the year 2005 in Puerto Williams.

been suggested as the place that inspired his early ideas on human evolution (Rozzi 1999; Rozzi, Massardo, Anderson, Heidinger et al. 2006). As with the scientific and ecotourism interest in the Galápagos Archipelago, so Darwin's narratives have contributed to a growing tourism interest in the Cape Horn region. In addition to the commonalities associated with Darwin's evolutionary theory, the development process of ecotourism in these two South American archipelagoes shares other essential similarities.

First, the current Regional Development Plan for the Chilean Region of Magallanes and Antarctica has identified tourism as one of the five main priorities for economic development. Among tourism activities, nature tourism represents the principal attraction for visitors to the region (Chacón 2002, García 2004), and the regional and national office of tourism (SERNATUR) adopted the slogan impossibly wilder ("más salvaje imposible"). For the global citizen, the Magellanic sub-Antarctic ecoregion that culminates in Cape Horn represents one of the last "wild" destinations, and today it is experiencing an explosive growth in the number of foreign visitors (Figure 3). During the last decade, the number of foreign tourists has doubled in the Magellanic region, and it has increased by an order of magnitude in Puerto Williams, the capital of Cape Horn County and of the Chilean Antarctic Province. The fast increase in the number of foreign visitors to Puerto Williams is in part the result of the opening of a border crossing to the Argentine city of Ushuaia, located on the north coast of the Beagle Channel, which receives more than 300,000 tourists each year (Rozzi, Anderson, Pizarro et al. 2010). In this context, the former governor of the Chilean Antarctic Province, Eduardo Barros, affirmed that if planned and managed in an adequate way, ecotourism could offer a long-term "gold mine," and the option for ecotourism would "represent a shift in the State's vision of development, previously based on short-term economic cycles based on extractive and unsustainable activities, including the hunting of whales and the gold rush of the nineteenth century or oil exploitation during the twentieth century" (Barros and Harcha 2004, 33).

Second, with an analogous role played by the Charles Darwin Research Station in the Galápagos Biosphere Reserve, but much more recently, in the late 1990s a group of researchers in collaboration with the Chilean Government established the Omora Ethnobotanical Park (OEP) as a long-term socio-ecological research center near Puerto Williams on Navarino Island (Rozzi, Massardo, Anderson, Heidinger et al. 2006). Studies conducted by OEP researchers led to the discovery that the Magellanic sub-Antarctic ecoregion constitutes a hotspot of biodiversity for a special group of plants: more than 5 percent of all species of mosses and liverworts are found in less than 0.001 percent of the earth's surface (Rozzi, Armesto, Goffinet et al. 2008). Additionally, more than 50 percent of these species are endemic to the austral ecoregion. To broadly communicate this discovery, OEP researchers together with teachers and students at the primary school in Puerto Williams began to refer to the exuberant diversity of these little plants as the "Miniature Forests"

of Cape Horn." This metaphor stimulated educational activities that integrated sciences, the arts, and environmental ethics, which led to the establishment of the Little Explorers of the Miniature Forests of Cape Horn project supported by the Chilean National Science Foundation (CONICYT). In turn, this project developed with the local community in Cape Horn contributed to the creation of a new national educational program supported by CONICYT that formally integrated pre-schoolers into science education for the first time in Chile. Subsequently, the educational experiences exploring the *miniature forests of* Cape Horn were translated by OEP researchers, students, and regional tourism operators into an innovative ecotourism activity: Ecotourism with a Hand-Lens. This form of ecotourism invites visitors, toting a hand-lens, to discover this unique biodiversity at the high latitudes of the Americas. National and international tourists, accompanied by local guides, enjoy and value the beauty, diversity, and ecological importance of small organisms like lichens, mosses, mushrooms, insects, and other invertebrates that usually pass by unnoticed, and which were previously not incorporated into tourism attractions in Chile (Rozzi 2005).

Third, the discoveries made by Chilean and international researchers associated with the Omora Park team, stimulated these researchers to work in close collaboration with the Chilean government in the preparation of a proposal for UNESCO to create the Cape Horn Biosphere Reserve (CHBR). After a fiveyear process, the proposal was approved, and the CHBR was officially created in 2005. During the process of preparing the CHBR proposal, the Omora Park's researchers not only worked with authorities but also coordinated: 1) the participation of the local community, particularly the Yahgan Indigenous Community, educators and pre-school, school, and university students; 2) articulated inter-institutional collaborations, especially among the National Forestry Service (CONAF), Corporation for the Promotion of Production (CORFO), the National Tourism Service (SERNATUR), the Agricultural and Livestock Service (SAG), the National Corporation for Indigenous Development (CONADI), the National Fisheries Service (SERNAPESCA) and the Undersecretary for Navy Affairs Office of the Ministry of Defense; and, 3) strengthened the association with national and international research centers. This process generated the definition of the zoning for the CHBR, a control program of introduced invasive mammal species, and the development of novel themes and activities, as well as trails and navigation routes, for sub-Antarctic ecotourism.

A fundamental difference between the Galápagos and Cape Horn archipelagoes is that the latter has been inhabited during millennia. The Yahgan people represent the world's southernmost ethnic group. They navigated through the archipelagos south of Tierra del Fuego in canoes made of bark, for hunting, fishing, and inhabiting mostly on the coastal areas. In the Yahgan language *omora* means hummingbird. However, in the Yahgan cosmogony *omora* is a bird, and at the same time a small person, a spirit who maintains

social and ecological order. Birds are perceived as distant relatives of humans and inhabitants of common habitats, but this co-inhabitation has strict social and ecological rules. For instance, the Yahgan narratives underline the need for conserving the diverse communities of birds and other animals that maintain the integrity of the vegetation and watershed habitats, in order to sustain longterm flows of fresh drinkable water in Cape Horn (Rozzi, Massardo, Anderson, McGehee et al. 2010). Focusing attention on omora and its habitats helped OEP's research team reverse some socio-cultural prejudices that Yahgan people were facing from the side of other stakeholders in Puerto Williams. For example, in 2000 at the local school, Yahgan students were in average two years older than their classmates of navy and other resident families. Misleadingly, the lower performance of the Yahgan children was attributed to their intellectual capacities rather than to the Chilean centralized primary education curricula that were dissociated from Cape Horn's biodiversity and ecosystems and the Yahgan culture (Rozzi, Arango, Massardo et al. 2008). The name of Omora invited the Yahgan community to participate in a substantive and respectful way in the park's educational and research programs. As a result of this process, omora became a flagship species for biocultural conservation and ecotourism. With the support of the government and the Omora Park team, the Yahgan community built the Kipa Akar: the house (akar, in the Yaghan language) of the women (kipa). At this center, elder and young members of the Yahgan community began to weave baskets made of rushes, build small bark canoes, and carve harpoons made of whale bones as handcrafts that started to be sold to the growing numbers of visitors to Cape Horn.

Ecotourism started to offer an alternative for social well-being, as well as for the conservation of the Yahgan traditional ecological knowledge and sub-Antarctic habitats. With support from the regional government, Omora Park researchers have been working together with families of the Yahgan community in educational programs and ecotourism projects that helped create a communitarian center for handcraft production and sales, an ecotourism hostel, and the preparation of traditional Yahgan food. The conservation of Yahgan language and culture and the well-being of the members of the local community represents a central goal of OEP's ecotourism program in Cape Horn. However, this approach faces daily challenges, and as a whole Cape Horn is facing growing pressures of land-ownership by outside tourism companies. Therefore, to achieve the goal of developing ecotourism in the context of global environmental change and global free-market policies, it is critical for local initiatives to be articulated with initiatives at national and international levels. It is important that local actors can learn about global policies, and at the same time, that these local actors can educate global actors about the unique regional biocultural diversity. For ecotourism projects, this dialogical dynamic can favor the incorporation of both local and global forms of knowledge and criteria to collaboratively develop alternative processes for

achieving environmental and economic sustainability, biocultural conservation, ecological and social well-being.

# Distributive Equity in Global Tourism: A Challenge for Ecotourism in Latin America

At the global scale, the United Nations World Tourism Organization (UNWTO) offers a promising panorama for social and economic well-being. Tourism is portrayed as one of the largest and fastest-growing economic sectors worldwide over the last six decades, while as an export category, tourism ranks fourth in value worldwide after fuels, chemicals, and automotive products (UNWTO 2009). According to the World Travel and Tourism Council (WTTC), in 2006, the tourism industry generated 234.3 million jobs and contributed over 10% of the world's Gross Domestic Product (GDP) (WTTC 2007). The UNWTO 2009 Annual Report states,

over time, an increasing number of destinations have opened up and invested in tourism development, turning modern tourism into a key driver for socio-economic progress, through the creation of jobs and enterprises, infrastructure development, and the export income earned. . . . Visitor expenditure on accommodation, food and drink, local transport, entertainment, and shopping make up an important pillar of the economies of many destinations, creating much needed employment and opportunities for development. (UNWTO 2009, 2–4, emphasis added)

However, an assessment of the distribution of the number of tourists and their contributions to regional economies shows that Latin America benefits little compared to the economic revenues of the tourism industry that are concentrated in Europe, the U.S., and more recently in Asia. Thus, while boasting the origins of ecotourism and suffering the biological, cultural, and economic growing pains of ecotourism at the local-level, Latin America is dwarfed in terms of the socio-economic benefits distributed by this global industry. Moreover, the global tourism market remains focused on the Anglo-European sites, and more recently, Asian and Pacific Island destinations, in spite of the popularity of ecotourism rhetoric in Latin America.

The economic concentration of tourism activities in Europe, the U.S. and Asia, even surpasses the degree of concentration of the world's economy in these regions. During the last two decades, Europe accumulated more than 50 percent of all tourist arrivals and visitors' expenditures. Considering the figures of tourist arrivals from 1990 to 2005, the numbers of tourists worldwide grew from 438 to 804 million; however, respectively, 265 (61 percent) and 441 million (55 percent) of these tourists visited Europe (Table 3). During the same decade and half, the region of Asia and the Pacific experienced an explosive growth from 56 million in 1990 to 154 million visitors in 2005, displacing North America to the third place in the world's numbers of visitors (Table 3). The number of tourists to the Middle East and Africa also grew at a very fast

rate and accounted for 9.3 percent of the tourist visits worldwide in 2005. In this global context, the number of tourist arrivals to Central and South America is remarkably low. Combined, both Latin American regions accounted for only 2.2 percent of the world's tourist arrivals in 1990, and 3.1 percent of these arrivals in 2005 (Table 3).

Reflecting on tourist expenditures, the concentration of the tourism industry in Europe, Asia, and North America is even higher. The UNWTO Annual Report for the year 2009 highlights that in the year 2008, worldwide receipts from international tourism reached the high value of US\$ 944 billion. However, 87 percent of these receipts were issued in Europe, Asia, and North America, and less than 3 percent were issued in Central and South America (Table 3). Like the numbers regarding tourist arrivals, the concentration of these economic figures of tourist expenditures in Europe, Asia, and North America significantly exceeds the economic concentration of the world's Gross Domestic Product (GDP) in these regions. In 2009 the world's GDP reached the sum of 58 trillion dollars; 70 percent of this value was contributed by the economies of the European Union (28 percent), the U.S. (25 percent), and Japan and China (17 percent) (International Monetary Fund 2010). Two Latin American countries alone, Brazil (2.7 percent) and Mexico (1.5 percent), contributed with 4.2 percent, and Latin America as a whole accounted for more than 8 percent of the world's GDP. This percentage is three times higher than the 2.7 percent contributed by Latin America to world tourism expenditures.

This succinct regional analysis of the distribution of economic benefits suggest that for Latin America the tourism industry might not be a key driver for socio-economic progress, as stated in general terms by UNTWO's report at the global scale. Or, if it is a key driver, sustainable tourism remains most promising for local Latin American communities, while being severely undercut by the massive and traditional-consumptive forms of tourism in which Latin America ought not to compete—both because it may not be able to match the "Corporate New World Players," either domestically or in their strength of transnational corporate tourism, and due to the threat of biocultural destruction such massive tourism would entail for Latin America. In spite of this fact, Latin American governments continue subsidizing massive tourism with "perverse incentives" frequently at expenses of the well-being of local communities and their habitats. Conventional tourism is clearly not the route for socio-economic progress in Latin America. The fast growth-rate of the tourism industry in Latin America requires closer examination in terms of who benefits and who is damaged by a growth in the number of visitors that is as high as 232 percent in less than two decades in Central America, a region that received 1.9 million tourists in 1990, and to 6.3 million in 2005 (Table 4). Are these rates of growth in the numbers of tourists sustainable? Can Latin America compete with the rest of the world and benefit their local people with conventional tourism? The answers to these

										Accumulated
										% of world
					%					tourist
	Numbe	r of tour	ist arriv	als	growth	% of wo	rld touris	t arrivals		arrivals
					1990-					
Region/year	1990	1995	2000	2005	2005	1990	1995	2000	2005	2005
Europe	265	309.5	392.6	441.8	67%	60.5%	57.9%	57.4%	55.0%	55.0%
Asia and the										
Pacific	55.8	82	110.1	153.6	175%	12.7%	15.4%	16.1%	19.1%	74.1%
North										
America	71.7	80.7	91.5	89.9	25%	16.4%	15.1%	13.4%	11.2%	85.2%
Middle East	9.6	13.7	24.9	37.9	295%	2.2%	2.6%	3.6%	4.7%	90.0%
Africa	15.1	20	27.9	37.3	147%	3.4%	3.7%	4.1%	4.6%	94.6%
Caribbean	11.4	14	17.1	18.8	65%	2.6%	2.6%	2.5%	2.3%	96.9%
South										
America	7.7	11.7	15.3	18.3	138%	1.8%	2.2%	2.2%	2.3%	99.2%
Central										
America	1.9	2.6	4.3	6.3	232%	0.4%	0.5%	0.6%	0.8%	100.0%
						100.0				
World	438.2	534.2	683.7	803.9	83%	%	100.0%	100.0%	100.0%	

Table 3. International tourist arrivals (in millions) to different regions of the world. Data from UNWTO (2009).

Region	US\$ (billion)	% world income	Accumulated %
Europe	473.7	50.2%	50.2%
Asia and the			
Pacific	206.0	21.8%	72.0%
North America	138.5	14.7%	86.6%
Middle East	45.6	4.8%	91.5%
Africa	30.6	3.2%	94.7%
Caribbean	23.8	2.5%	97.2%
South America	19.3	2.0%	99.3%
Central America	6.8	0.7%	100.0%
World	944.3	100.0%	

Table 4. International tourist receipts in different regions of the world in 2008. Data from UNWTO (2009).

two questions are: no. As discussed in the cases of Costa Rica and Galápagos, social well-being, as well as biological and cultural diversity, are negatively impacted by conventional tourism.

Ultimately, in contrast to mass tourism, ecotourism pays close attention to local biocultural diversity and local autonomy, features that may most benefit the peoples who are most impacted by tourism world-wide. In Latin America, the potential of ecotourism is for local indigenous and non-indigenous communities to be empowered, their member's lives improved, and their unique and fragile habitats protected. At the same time their biocultural uniqueness makes the Latin American region economically competitive. The shift from mass tourism to ecotourism can provide an opportunity for promoting both social and ecological well-being. This type of tourism, originally developed in Latin America, is a route worthy of exploration. The challenge is how to implement ecotourism: under the pressures of global competition in the massive tourism market, or by convincing local communities in the non-Latin American regions that the benefits and virtues of ecotourism for local agency and sustainability can translate to their places on the grounds of distributive environmental justice.

### Three Notions Learned in the South American Archipelagoes to Implement Ecotourism

The brief analysis of ecotourism in Costa Rica, Galápagos, and Cape Horn illustrates that this form of tourism began in the region recently, approximately four decades ago, with a genuine commitment to the well-being of local communities, and the conservation of the unique biological and cultural diversity of Latin America. At the same time, this period coincides with a strong introduction of neoliberal free-market economics, which has minimized government regulation. In this context, in order to achieve its goals of social and ethnic equity, conservation of biological and cultural diversity, and a beneficial experience for both hosts and visitors, true ecotourism needs to clearly define and establish its boundaries, strengthen alliances with people and intuitions that converge, and demand corporate social responsibility. To conclude we provide three brief remarks on each of these points with the aim to advance forms of ecotourism that can comply with the goals of contemporary environmental justice.

### Inhabitants, Habits, and Habitats: 3 Hs for Integral Ecotourism

Ecotourism requires recovery of the understanding about the inextricable links between the habitats, the habits, and the inhabitants of a region. With this systemic approach, our initial definition of ecotourism as "an invitation to have a journey (or tour) to appreciate and share the 'homes' (or oikos) of diverse human and non-human inhabitants, their singular habits and habitats' (Rozzi 2005) acquires essential economic, ecological, and ethical dimensions.

Ecologically, for example, the habit of basketry handicraft practiced by the Yahgan community requires the conservation of the wetlands habitats where the austral rushes (Marsippospermum grandiflorum) that provide the vegetal fibers are gathered (Figure 4). In turn, the preservation of these habits and habitats contribute to the well-being of the Yahgan community, the preservation of their biocultural identity, and the richness of the experience that ecotourists can have in Cape Horn.

Economically, the links of the "3Hs" highlight the importance of territorial rights of indigenous and local communities in Latin America, and elsewhere. As Pengue (2008) emphasizes, autonomy and ownership of territories are the pre-condition for the subsistence of rural and other local communities in Latin America. The victims of the destruction of habitats and unique biodiversity in the Neotropics are not only non-human biological species and future generations. Today in Latin America numerous indigenous, African American, fishing, and other rural communities resist and protest against their displacements and destruction of their regional habitats (Rozzi 2001). As Colombian philosopher Arturo Escobar criticizes in his landmark book *The Invention of the Third World*: "it suffices to take a quick look to the biophysical, economic, and cultural landscapes of the Third World to realize that the Development Project is in crisis" (Escobar 1996, 9). Against this background Escobar calls for a post-development era, and this is where ecotourism could offer a genuine sustainable development option.

Ethically, during the last four decades the omnipresence of a neo-liberal economy has favored a marked bias toward economic values, which are alienated from regional eco-cultural contexts. This has exacerbated a fundamental colonial barrier derived from the fact that the dominant ethics of modernity have developed with little or no consideration for habitats, non-human as well as non-European human co-inhabitants (Rozzi 2001). It is interesting to note that this omission has moved modern ethics away from the original meaning contained in the Greek root ethos, which in its most archaic form means den or habitat, from which the verb inhabit came, as well as habits, or recurring conducts that shape environmental culture (Rozzi, Arango, Massardo et al. 2008). The original meaning of ethos, which integrates habitats, habit, and diverse human and non-human inhabitants, is also found deeply rooted in Amerindian worldviews, as well as in new paradigms in the ecological and evolutionary sciences (Rozzi 2001). To make steps towards environmental justice, we propose an ecotourism approach that redirects attention toward the exploration of, and reencounter with, everyday biological and cultural diversity, rooted in specific eco-cultural units of habitats-habits-inhabitants.

### The Lichen's Metaphor for Genuine Partnerships

As mentioned above, to achieve the goal of ecotourism in the context of global environmental change and global free market policies, it is critical to establish partnerships between local, national, and international levels of action. In order



**Figure 4.** To implement genuine ecotourism, we propose that we need to conserve and respect the habitats, inhabitants, and their habits. For example, in Cape Horn, wetland habitats provide the vegetable fibers required for the habit of weaving baskets, which the Yahgan women offer today to ecotourists (Photographs by Sandra Vallejo, Lorena Penaranda, and Ricardo Rozzi; Omora Ethnobotanical Park Photographic Archive).

to establish a dialogical and collaborative dynamic that respects and promotes autonomy of the partners, at the Omora Ethnobotanical Park (OEP) we coined the metaphor of a "lichen like partnership."

In the Cape Horn Biosphere Reserve, the *Kipa Akar* and OEP share both differences and similarities in their interests. Analogously, the lichens are symbiotic organisms formed by an alga and a fungus. The alga photosynthesizes and provides nutrition for itself and the fungus. In turn, the fungus provides a substrate, a type of microhabitat, that sustains the life of itself and the algae. However, in spite of their symbiotic relationship and their physical proximity, the algae and the fungi reproduce independently, maintaining their own lineages. The metaphor of the lichen is manifested in several of the activities that OEP develops in collaboration with the *Kipa Akar* (Rozzi 2006). For example, tourists are guided through the Omora Park to appreciate the wetlands of rushes, where they learn about the birds, freshwater invertebrates, other organisms, and their interactions in these sub-Antarctic ecosystems. Later, these tourists visit the *Kipa Akar* where they encounter the Yahgan handcrafters and learn about the basketry techniques used to weave the baskets made from the rushes gathered in the wetlands. Through this symbiotic relationship a

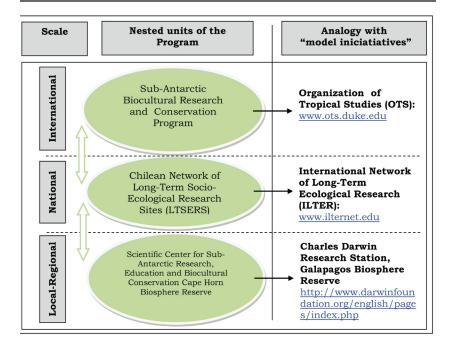
biocultural experience and partnership is established not only between the *Kipa Akar* and OEP, but also with the visitors. This field experience allows tourists to intellectually and emotionally understand the links between biological and cultural diversity, and at the same time support the Yahgan community, and the biocultural conservation work conducted at OEP.

At a larger scale, to effectively accomplish ecotourism goals, as well as to conduct biocultural research, education, and conservation, OEP implemented an innovative approach to working at multiple scales (Anderson, Likens, Rozzi et al. 2008; Anderson, Rozzi, Armesto et al. 2010). At the local level OEP functions as a research center for the Cape Horn Biosphere Reserve; at the national level it works as a long-term socio-ecological research (LTSER) site that co-founded the Chilean LTSER network with other field stations and universities; at the international level OEP was instrumental for the creation of the Sub-Antarctic Biocultural Conservation Program coordinated by the University of Magallanes and the Institute of Ecology and Biodiversity in Chile and the University of North Texas in the U.S. (Figure 5). This organization of nested units has enabled the articulation of synergistic work at local, national, and international scales in transdisciplinary long-term biocultural conservation. This multiple-scale, "lichen-like partnership" approach integrates research into actions that enrich the collaboration with the Kipa Akar, as well as with the various actors involved in genuine ecotourism in the sub-Antarctic ecoregion and the Cape Horn Biosphere Reserve, and could be adapted in other regions.

### Ethics, Sustainability, and Ecotourism Clusters

In this article we have put forward a definition of ecotourism that emphasizes an ancient pre-Socratic meaning of ethics (rooted in the Greek terms "ethos" and "oikos"), which reverberates with the hospitality, the habit of sharing the home, expressed by Amerindian and other local communities in Latin America today. This definition provides a foundation for an ecotourism founded on love and solidarity, and not in competition and "struggle for existence" as promoted by the free-market, with its caricature of Darwinian natural selection (Maturana 1990; Rozzi 1999).

With globalization of the free market, however, competition takes on a new level of complexity, with conflicting self-interests exacerbated by conflicting cultural and societal values (Buckley and Casson 2001). In massive tourism, the physical and emotional disconnection between the corporate headquarters and the local hosts weakens the shared sense of "oikos," and of social responsibility. In this context, the normative dimension of ethics requires us to strengthen the notion of limit of freedom and to emphasize respect for ecological and social constraints that are essential for the well-being of local humans and broader biotic communities (Leopold 1949). Economist Daniel Finn has recently criticized the amoral defenses of capitalism, and asserted that no market can exist without a moral context, or *moral ecology*, which includes the laws defined by the markets, the provision of essential goods and services,



**Figure 5.** A schematic representation of the nested organizational units that enable the Omora Ethnobotanical Park to articulate its work at local, national, and international scales. At the local level, it plays a role similar to the one played by the Charles Darwin Research Station in the Galápagos Biosphere Reserve. At a national level, it forms part of the Chilean network of the Long-Term Socio-Ecological Research sites. At the international level, the Organization for Tropical Studies provides a model and close collaborator. The program is coordinated in Chile by the University of Magallanes and the Institute of Ecology and Biodiversity in association with the Omora Foundation, and in the U.S. by the University of North Texas in association with the Center for Environmental Philosophy and the Omora Sub-Antarctic Research Alliance. Collaborative networks of institutions also bring diverse disciplines that are relevant for biocultural conservation and ecotourism

### Rara Avis: A Pioneer Ecotourism Initiative in Costa Rica

Rara Avis (Latin for rare bird) was created by Amos Bien, a U.S. graduate student, who in 1977 came to Costa Rica to take a field ecology course offered by the Organization of Tropical Studies (OTS). The course took place at La Selva Biological Station and reserve. There Amos spent most of his time talking with farmers who had cut out small homesteads on La Selva's periphery. During an interview, Amos told one of us (Rozzi) that "when I sat down and did the math with the local farmers about how much money they hoped to make and how much they really could make from cattle, the two things were widely different." Amos wanted to demonstrate that rain forests left intact could be more profitable than clear-cut land, and he explained to the farmers that the rain forests were becoming scarce, and because of its scarcity, people were going to pay more to come as tourists and visit them. In 1983, Amos succeeded in establishing Rara Avis, Costa Rica's oldest and purest Rainforest Lodge. In 1986, he further succeeded in adding his property and La Selva Reserve to the Braulio Carrillo National Park.

Today, nearly all of Rara Avis's employees, including guides, are from the nearby town, and the lodge buys most of its supplies locally. Employees who have been with Rara Avis for two years become stockholders, and there is also a profit-sharing scheme for lower-level employees. For the local community, Rara Avis is today one of the most important sources of employment and income and generates about eighty thousand dollars annually. It also conducts free tours for elementary and secondary school groups, and receives groups of U.S. university students.

Amos Bien, a transplanted New Yorker who has lost most of his city accent and became a "Tico," is in many ways the pioneer of ecotourism in Costa Rica. To demonstrate that "tropical rainforests have not only a place of extreme beauty . . . but they are also the home to countless plants and animals. . . . [E]conomically sound conservation and management of a tropical rainforest can serve the needs of landowners and governments, as well as the needs of the planet," at Rara Avis webpage, Amos claims that: "A LOT OF help is needed to create the necessary shift in current thinking and we firmly believe that if perceptions are altered, intelligent behavior will follow. It is this change in behavior that will preserve our planet" (http://www.rara-avis.com). With this ethical plea for support of ecotourism, Amos encourages citizens of global society to reconnect with local realities and to gain an understanding about the beauty, the diversity, and the value of life in the rainforests.

the morality of individuals and groups, and the civil society (Flinn 2003). For ecotourism it is essential to respect the condition of geographic and ecological isolation that has enabled the evolution of singular biotas (Grenier 2007a).

Since the European discovery travels of the sixteenth century, remote regions, including archipelagos such as the Galápagos, have been subject to processes of increasing geographical connectivity and cycles of over-exploitation. These "mining" economies in archipelagos such as Galápagos and Cape Horn have been stimulated by the Ecuadorean and Chilean States, with the aim of integrating these marginal regions into their national territories through colonization. In spite of the ecological and human costs of these processes of geographical opening and mining economies, at the beginning of the twenty-first century both archipelago regions still maintain most of their biological and cultural unique characteristics. Today, their fame as remote wilderness areas is of great interest for the international scientific and conservation communities, as well as for the worldwide tourism industry.

The Galápagos and Cape Horn archipelagos are now parts of the globalized world, and they have to cope with the geographical opening caused by tourism. The challenge is to regulate this geographical opening in order to create conditions of social and environmental justice through responsible ecotourism. Regulation and associability have been two key factors for sustainable tourism in Latin American regions (Koens et al. 2009). To implement regulation and associability, Costa Rica, Chile, and Brazil have promoted the creation of "ecotourism clusters" during the last decade (Ramos 1999). These novel, economically "competitive clusters" bring together a set of diverse industries, activities, and services that are able to generate dynamic, sustainable development of local or regional units that are economically, socially, environmentally, and territorially integrated (Koens et al. 2009).

The cluster approach goes beyond the concept of "corporate responsibility" by organizing more distributive responsibilities and better benefit sharing. In cases such as the Monteverde Cloud Forest Preserve in Costa Rica, the integration of scientific tourism and the participatory approach of cluster commercial tourism has promoted strategic relationships between donors, the private sector, and government to support an ecotourism linked to improved management of the protected area (Koens et al. 2009).

It would appear as globalization advances that local demand would become insignificant. However, research on ecotourism has shown an opposite trend (Hawkins 2004). High expectations by local consumers seem to drive firms to a more competitive and innovative position, and in the case of ecotourism, demand can be from either regional/national tourists or foreign tourists that visit the region. In this industry, instead of exporting products, the consumers travel to the attraction. In order to analyze demand, attention should be paid to the volume and growth of demand, source and caliber of markets, as well as tourist behavior and level of sophistication. The cluster approach to ecotourism overcomes the bottom-up versus top-down dichotomy and puts

high value on local biocultural singularities. Despite its negative aspects, well-implemented ecotourism represents a promising development strategy for Latin America, which brings more social and environmental benefits than alternative land uses like logging, banana plantations, and cattle ranches that have far worse drawbacks (Stern et al. 2003). For this purpose local teams of researchers at field stations such as Monteverde, La Selva, Charles Darwin, and Omora Park play a critical role for capacity building and adding value to local biological and cultural diversity (Ramos 1999). Further development of ecotourism requires better institutional capacity and more integrated planning on the local level, and, at the national level, it is critical to keep the focus of tourism development away from mass tourism. At the international level, contemporary societies are challenged to develop strategies that can find an equilibrium between social, economic, and environmental impacts on their way towards sustainability. This requires promoting environmental awareness among the general public, involving the private sector in policies that are based on a sustainable development paradigm, and giving an equivalent consideration to social, economic, cultural, ecological, and ethical aspects. In the context of a prevailing market-oriented global society, this special issue on environmental justice and ecotourism advocates a significant step forward in achieving more balanced, multidimensional and multiple-scale policies to favor communitybased ecotourism. This approach should build local capacity to participate in these policies, thereby insuring livelihood and social well-being, sustainability, and conservation of the world's precious biological and cultural diversity.<sup>1</sup>

#### References

Acevedo, M. 2006. Ecoturismo comunitario en la Ecoregión Valdiviana. In *Bosque Nativo y Comunidades Locales del Sur de Chile*, eds. R. Catalán, P. Wilken, A. Kandzior, D. Tecklin, and H. Burschel, 291–299. Santiago, Chile: Editorial Universitaria, Santiago, Chile.

Anderson, C. B., G. E. Likens, R. Rozzi, J. R. Gutiérrez, J. J. Armesto, and A. Poole. 2008. Integrating Science and Society through Long-Term Socio-Ecological Research. *Environmental Ethics* 30 (3): 295–312.

<sup>1.</sup> The authors thank the numerous persons and institutions that have collaborated with the programs of the Omora Ethnobotanical Park, and Robert Figueroa for his valuable editorial suggestions to this manuscript. The map was prepared by Maria Rosa Gallardo at the GIS Laboratory, Universidad de Magallanes, and the figures by Lacy Fenn at the Research Office, University of North Texas. The research and projects that have generated the results presented in this article are the fruit of collaborations between multiple institutions and have had the support of PFB-23 (Basal-CONICYT), P05-002 (ICM-MIDEPLAN), and 08-CTU01-22 (INNOVA-CORFO). This article is a contribution of the Sub-Antarctic Biocultural Conservation Program (Universidad de Magallanes, Institute of Ecology and Biodiversity, and University of North Texas, www.chile.unt. edu).

- Anderson, C.B., R. Rozzi, J.J. Armesto and J. Gutiérrez. 2010. Building a Chilean Network for Long-Term Socio-Ecological Research: Advances, Perspectives and Relevance. *Revista Chilena de Historia Natural* 83: 1–11.
- Barros, E., and J. Harcha. 2004. The Cape Horn Biosphere Reserve Initiative: Analysis of a Challenge for Sustainable Development in the Chilean Antarctic Province. *The Cape Horn Biosphere Reserve*. In *A Proposal of Conservation and Tourism to Achieve Sustainable Development at the Southern End of the Americas*, eds. R. Rozzi, F. Massardo, and C.B. Anderson, 27–43. Punta Arenas, Chile: Ediciones Universidad de Magallanes.
- Blount, B. G. 2001. Indigenous Peoples and the Use and Abuses of Ecotourism. In *On Biocultural Diversity*, ed. L. Maffi. Washington, D. C.: Smithsonian.
- Buckley, P. J., and M. Casson. 2001. The moral Basis of Global Capitalism: Beyond the Eclectic Theory. *International Journal of the Economics of Business*, 8 (2): 303–327.
- Chacón, M. 2002. Turismo en Chile. *Serie Estudios N°270*. Biblioteca del Congreso Nacional de Chile, Departamento de Estudios, Extensión y Publicaciones..
- Durham, W.H. 2008. Fishing for Solutions: Ecotourism and Conservation in Galápagos National Park. In *Ecotourism and Conservation in the Americas*, eds. A. Stronza and W.H. Durham: 66–89. CAB International Press.
- *The Economist.* 2010. UNESCO's World Heritage Sites: A Danger List in Danger. August 28.
- Epler, B. 1993. An Economic and Social Analysis of Tourism in the Galápagos Islands., Coastal Resources Center. Narragansett, RI: University of Rhode Island.
- ——. 2007. Tourism, the Economy and Population Growth and Conservation in Galápagos. Puerto Ayora, Ecuador: Fundación Charles Darwin.
- Escobar, A. 1996. Encountering Development: The Making and Unmaking of the Third World. Princeton, NJ: Princeton University Press
- Finn, D. R. 2003. The Moral Ecology of Markets: On the Failure of the Amoral Defense of Markets. *Review of Social Economy*, 61 (2): 135–162.
- García, M. 2004. Cape Horn Biosphere Reserve, a Challenge for Ecotourism. In *The Cape Horn Biosphere Reserve: a Proposal of Conservation and Tourism to Achieve Sustainable Development at the Southern End of the Americas*, eds. R. Rozzi, F. Massardo, and C. B. Anderson, 177–204. Punta Arenas, Chile: Ediciones Universidad de Magallanes.
- Gordon, B., F. Sarmiento, R. Russo and J. Jones. 2010. Sustainability Education in Practice: Appropriation of Rurality by the Globalized Migrants of Costa Rica. *Journal of Sustainability Education* 1 (May): ISSN 2151-7452. http://www.jsedimensions.org/ojs/index.php/jse/article/viewFile/29/pdf\_5
- Grenier, C. 1998. Mythes de l'écotourisme : le Cas des Iles Galápagos. In *VIIèmes Journées de Geographie Tropicale, Iles et Littoraux Tropicaux*, ed. G. Mainet. Nantes, France: Ouest Editions: 169–179.
- 2002. How Tourism reduces Geodiversity and How It Could Be Different: The Galápagos Archipelago and Easter Island Cases. In *Tourism, Biodiversity and Global Society*, eds. F. di Castri and V. Balaji, 233–255. Leiden, The Netherlands: Backhuys Publisher.
- Grenier, C. 2007a. Conservación Contra Natura: Las Islas Galápagos. Quito, Ecuador: Universidad Andina Simón Bolivar, Abya-Yala, IFEA, IRD, Coopération Française.

- ——. 2007b. Galápagos Necesita un Verdadero Ecoturismo. In *Galápagos: Migraciones, Economía, Cultura, Conflictos y Acuerdos*, eds. P. Ospina and C. Falconí, 131–144. Quito, Ecuador: PNUD, Universidad Andina Simón Bolivar, Corporación Editorial Nacional.
- ——. Forthcoming. Nature and the World: A Geohistory of Galápagos. In *The Role of Science for the Conservation of the Galápagos: Fifty Years' Experience and Challenges for the Future*, eds. M. Wolff and M. Gardener. London: Routledge.
- Guevara, S., and J. Laborde. 2008. The Landscape Approach: Designing New Reserves for Protection of Biological and Cultural Diversity in Latin America. *Environmental Ethics* 30: 251–262.
- Hawkins, D. 2004. Sustainable Tourism Competitiveness Clusters: Application to World Heritage Sites Network Development in Indonesia. Asia Pacific Journal of Tourism Research 9 (3): 293–307
- Hill, C. 1990. The Paradox of Tourism in Costa Rica. *Cultural Survival Quarterly* 14 (1): 14–19.
- Honey, M. 2008. Ecotourism and Sustainable Development. Who Owns Paradise? Washington, D.C.: Island Press.
- ——. 2009. ECOCLUB Interviews. September. http://ecoclub.com/news/099/interview.html
- International Monetary Fund. 2010. World Economic Outlook Database, April 2010: Nominal GDP List of Countries. Data for the Year 2009.
- Koens, J., C. Dieperink, and M. Miranda. 2009. Ecotourism as a Development Strategy: Experiences from Costa Rica. Environment, Development, and Sustainability 11:1225–237
- Leopold, A. 1949. A Sand County Almanac and Sketches Here and There. New York: Oxford University Press.
- Maturana, H. 1990. Emociones y Lenguaje en Educación y Política. Santiago, Chile: CED
- Nash, S. 2009. Ecotourism and Other Invasions. Darwin's 200th birthday Comes to a Conflicted Galápagos with Shorter Horizons. *BioScience* 59:106–110.
- Parque Nacional Galápagos. 2005. Plan de Manejo del Parque Nacional Galápagos. Galápagos, Ecuador.
- Pengue, W. 2008. La Apropiación y el Saqueo de la Naturaleza. Buenos Aires, Argentina: Lugar Editorial.
- PROBIOMA. 2004. Ecoturismo Comunitario. http://www.probioma.org.bo/ecoturismo/quienes.htm
- Ramos, J. 1999. Una Estrategia de Desarrollo a Partir de los Complejos Productivos (Clusters) en Torno a los Recursos Naturales. Taller de Trabajo Sobre "Conceptos y Metodologías en el Análisis de los Clusters." Santiago, Chile: CEPAL.
- Rozzi, R. 1999. The Reciprocal Links Between Evolutionary-Ecological Sciences and Environmental Ethics. *BioScience* 49: 911–921.
- . 2001. Éticas Ambientales Latinoamericanas: Raíces y Ramas. In "Fundamentos de Conservación Biológica: Perspectivas Latinoamericanas" (Primack, R., R. Rozzi, P. Feinsinger, R. Dirzo, F. Massardo), pp. 311–362. Fondo de Cultura Económica, México.
- 2005. Biodiversidad en la Educación Informal: Turismo Sustentable en Cabo de Hornos. In *Biodiversidad de Chile: Patrimonio y Desafios*, 628–630. Santiago, Chile: Comisión Nacional del Medioambiente.

- 2006. El Parque Etnobotánico Omora: Un Espacio Para Integrar la Diversidad Biocultural y el Bienestar Ecosocial en la Provincia Antártica Chilena. In *Bosque Nativo y Comunidades Locales del Sur de Chile*, eds. R. Catalán, R., P. Wilken, A. Kandzior, D. Tecklin, and H. Burschel, 318–334. Santiago, Chile: Editorial Universitaria.
- Rozzi R., C. B. Anderson, J. C. Pizarro, F. Massardo, Y. Medina, A. Mansilla, J. H. Kennedy, et al. 2010. Field Environmental Philosophy and Biocultural Conservation at the Omora Ethnobotanical Park: Methodological Approaches to Broaden the Ways of Integrating the Social Component ("S") in Long-Term Socio-Ecological Research (LTSER) Sites. Revista Chilena de Historia Natural 83:27–68.
- Rozzi, R., X. Arango, F. Massardo, C. B. Anderson, K. Heidinger, and K. Moses. 2008. Field Environmental Philosophy and Biocultural Conservation: The Omora Ethnobotanical Park Educational Program. *Environmental Ethics* 30 (3): 325–336.
- Rozzi, R., J. J. Armesto, B. Goffinet, W. Buck, F. Massardo, J. Silander Jr., M. Kalin-Arroyo et al. 2008. Changing Biodiversity Conservation Lenses: Insights from the Sub-Antarctic Non-Vascular Flora of Southern South America. Frontiers in Ecology and the Environment 6:131–137.
- Rozzi, R., F. Massardo, C. B. Anderson, K. Heidinger, J. Silander Jr. 2006. Ten Principles for Biocultural Conservation at the Southern Tip of the Americas: The Approach of the Omora Ethnobotanical Park. *Ecology & Society* 11 (53). www. ecologyandsociety.org/vol11/iss1/art43
- Rozzi, R., F. Massardo, C. B. Anderson, S. McGehee, G. Clark, G. Egli, E. Ramilo et al. 2010. Multi-Ethnic Bird Guide of the Subantarctic Forests of South America. Denton, TX and Punta Arenas, Chile: UNT Press and Universidad de Magallanes.
- Stern, C. J., J. P. Lassoie, D. R. Lee, J. D. Deshler. 2003. How "Eco" is Ecotourism? A Comparative Case Study of Ecotourism in Costa Rica. *Journal of Sustainable Tourism*, 11 (4): 322–347.
- United Nations World Tourism Barometer (UNWTO). 2009. UNWTO World Tourism Barometer. United Nations World Tourism Organization: www.unwto.org/facts/eng/barometer.htm
- Watkins, G., and F. Cruz. 2007. Galápagos en Riesgo: Un Análisis Socioeconómico de la Situación Actual en el Archipiélago. Puerto Ayora, Ecuador: Fundación Charles Darwin. Puerto Ayora, Ecuador.
- World Travel and Tourism (WTTC). 2007. Progress and Priorities 2006/07. London: WTCC.