

Charles Darwin Foundation
ANNUAL REPORT
2007

STAFF



fundación
Charles Darwin
foundation



Table of Contents

Acronyms and Abbreviations	2
“We remain optimistic”	3
“We are working for all of Galapagos”	4
Galapagos and its native gardens	6
Galapagos and the hidden threats	10
Galapagos and involvement	14
Galapagos and its hidden treasures	18
Galapagos and its crucial data	24
Galapagos and the invasive species	28
Galapagos and fishing	32
We also worked on... ..	36
Financial Report	39
Donors	42
The FOGOS	43
General Assembly	44
We are the CDF	45
Scholarship Students	46
Volunteers	46
CDF Publications	47
Visiting Scientists	48

The Charles Darwin Foundation operates the Charles Darwin Research Station in Puerto Ayora, Santa Cruz Island, Galapagos Islands, Ecuador. The Charles Darwin Foundation is an *Association Internationale Sans But Lucratif* (AISBL), registered in Belgium under the number 371359 and subject to Belgian law. The address in Belgium is Avenue Louise 50, 1050 Brussels.

Acronyms and Abbreviations

CAPTURGAL	Galapagos Chamber of Tourism
CEA	Environmental Education Center
CIMEI	Inter-Institutional Management Committee for Introduced Species for its acronym in Spanish
CSIRO	Australian Commonwealth Scientific and Research Organization
ELECGALAPAGOS	Galapagos Electric Power Company
EREEP	Ecological Risk Assessment of the Impact of Fisheries for its acronym in Spanish
FAE	Ecuadorian Air Force
CDF	Charles Darwin Foundation
GEF	Global Environment Facility
INGALA	Galapagos National Institute
LEPG	Laboratory for Epidemiology, Pathology and Genetics
NGO	Non-Governmental Organization
GNP	Galapagos National Park
UNDP	United Nations Development Program
GMR	Galapagos Marine Reserve
SESA	Ecuadorian Agricultural Health Service
SICGAL	Galapagos Inspection and Quarantine Service
UNESCO	United Nations Educational, Scientific and Cultural Organization
USAID	United States Agency for International Development
WWF	World Wide Fund for Nature (World Wildlife Fund)



“We Remain Optimistic”

Peter Kramer, Ph. D.
President of the Charles Darwin Foundation

We Rem

Galapagos is the only tropical archipelago in the world that, so far, has largely escaped the dramatic transformation that globalized humanity has brought to all the world's islands. Human impact has been limited and the protection and restoration work done over the past few decades shows significant positive results.

However, both the Ecuadorian Government and UNESCO recognized, in 2007, that there is reason for serious concern. Current developments threaten the Islands' integrity and led both institutions to declare Galapagos being at risk. Now the question is whether we will be able to develop and implement truly sustainable forms of using Galapagos resources. Will we be able to understand and adapt our behavior to island conditions, –with other words: Will we be able to maintain Galapagos as true islands?

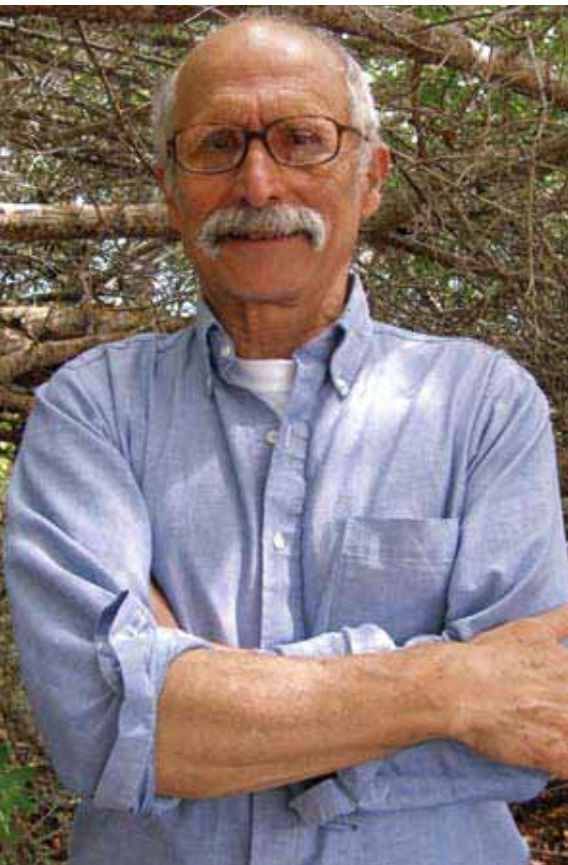
We are optimistic and believe that this is possible to a large extent. The techniques to keep organisms from being imported are known and available, and the international community stands ready to help with technical advice. What is needed most is human will and human skill.

That is why research telling us how we can make Galapagos' economy ecologically sustainable is so important and that is why we must work hard to inform and educate everybody who comes to, or lives on Galapagos about the very special character of islands, in general, and this archipelago, in particular. We can and must learn the rules for human island visitors and inhabitants: Don't bring anything that can multiply and respect the limitations of space and resources.

This annual report presents a number of Charles Darwin Foundation initiatives which illustrate concretely what this is all about. I trust you will find these activities stimulating.

My best,

Peter Kramer



Peter Kramer

“We are working for all of Galapagos”

Graham Watkins, Ph. D.
Executive Director

As the Executive Director of the Charles Darwin Foundation for the Galapagos Islands, it is an honor to write this introductory letter to our 2007 Annual Report. At the outset, I would like to thank all of you – our partners and supporters – for your help and involvement over the years; we all share a fascination with these extraordinary islands that transcends the opportunities we have had to commune with the sea lions, tortoises, blue footed boobies, sharks, and albatross.

Those that have followed Galapagos over the last 20 years will realize that we live through a prolonged crisis caused by the difficulty of reconciling globalization, human development and long term conservation that exasperates not just Galapagos but the whole world. This chronic crisis in Galapagos can only be resolved through a commitment of all interested parties to work together for a sustainable future rather than to focus on our own specific interests; 2007 was important because it marked the national and international official recognition of this crisis through the declaration of Galapagos as “at risk” by the President of Ecuador and by UNESCO.

In light of the declaration of Galapagos as at risk, the CDF continued to partner with local organizations including the National Institute of Galapagos (INGALA) and the National Park to find solutions. One initiative stands out in 2007 that exemplifies partnership - the joint publication of the Galapagos Report 2006-2007 –an analysis of the situation in the islands. The Galapagos Report provided integrated and up to date information on the status and trends in conservation and development in the islands. This information, based upon a series of social, economic, cultural and biophysical studies, was summarized in the publication of “Galapagos at Risk” – a document that tried to present simply the complex socio-economic situation in Galapagos.



During 2007, we also finalized the UNDP-GEF Invasive Species Project, culminating with the approval and signing by the President of Ecuador, Rafael Correa, of the Total Control Plan for Invasive Species in Galapagos. The project has greatly improved our understanding of the status of native and introduced species and developed a strong basis for future research on invasive species

and their impacts in Galapagos. Building on the success of, and lessons learned from, the Project Isabela goat and pig eradications, we have also initiated a new and ambitious project with the National Park which will result in the eradication of rats from Pinzon Island.

During the year, the CDF continued with internal analysis, evaluation

and change. In 2007, we revised own governance, financial management and research programs and increased efficiency and integration of our activities; these changes will strengthen the CDF making our own activities sustainable and helping to build a sustainable society that guarantees the conservation of these islands.

During 2007, the Government of Ecuador and the international community, through UNESCO, recognized the cumulative crises of the last 15 years. This recognition has led to a rethinking of Galapagos and also of the role of the CDF in the future of the islands. The changes in the CDF include providing a more integrated research base for decision making by including social sciences in our research agenda and by viewing the islands more holistically. The changes also include building on our strong local, national and international partnerships to create a solid set of alliances that will ensure that CDF is part of the process of change in the islands. We hope you will continue to partner with the CDF as we move toward a brighter and more sustainable future in Galapagos.

A handwritten signature in black ink, appearing to read "G. Watkins".

Graham Watkins

Galapagos

and its native gardens

Native gardens for Galapagos
Rachel Atkinson, Ph. D.



Importance: Encourage people to learn about the native and endemic plants of Galapagos and to increase understanding of the problems introduced ornamental plants can cause to the islands.

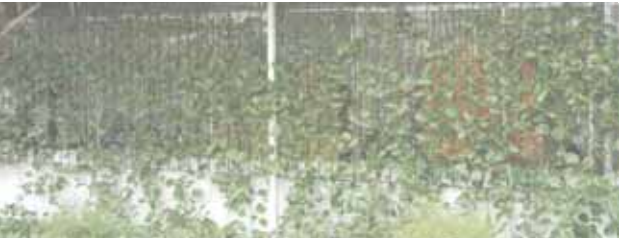
I want to write to you about a project we started in 2007, and I can imagine you smiling when you read what it is, and wondering why a group of serious scientists intent on helping to conserve Galapagos has decided to don boots, pick up secateurs, and help create gardens.

I suppose I should explain to you that the Charles Darwin Foundation does not only do pure science. In fact, one of our most important roles is to translate our research findings into practical solutions. So, when our scientists discovered that we have over 700 species of introduced plants in Galapagos, and that sixty percent of these are ornamentals, we started to wonder how to address this.

Galapagos is a paradise, but far from a Garden of Eden. For most of the year, the landscape is desolate and



The CDF has two nurseries, in Bellavista and Puerto Ayora, Santa Cruz Island, where there are numerous native plant varieties to share with the community.



When we received funding via our Nordic Friends of Galapagos and Roma Pizza in 2007, we realized that this was a unique opportunity to convince people that native plants could make beautiful gardens.

parched, a landscape filled with dead twigs and bleached tree trunks, waiting for rain. Against this inhospitable backdrop, it is hardly surprising that people fill their gardens with ornamentals from elsewhere, that provide color and interest throughout the year. Ornamentals brought here hail from Europe, the Latin American continent, and distant places such as Madagascar, Australia and the Caribbean.

From a conservation perspective, these introductions cause problems - several ornamentals have already become invasive, and there are many more waiting to escape from Galapagos gardens. We know this because they have already done so in other parts of the world. An obvious solution to this time bomb would be to tell people that they cannot have any introduced plants in their gardens, but this is not a good way to make friends. We decided it might be better to give people an alternative - beautiful gardens that do not pose a risk to the future of Galapagos; gardens full of native plants.

First stage of the project will last 2 years. One of the important products will be a book about native garden plants from Galapagos.

Participation from: Municipality of Santa Cruz, National Park Service, Schools, Capitanía de Puerto, Universidad Central Galapagos, private companies and businesses, private property owners.



“It is amazing working with such a motivated and dedicated team, and what is even more important is that we are providing training for alternative careers for people here.”

If this was to work, our ideas needed to be accepted by the community, which meant providing attractive example gardens, producing a wide variety of plants and establishing a friendly team of gardeners ready to help everyone. There are no majestic trees here, and only a few plants with large and bright flowers, but I hardly need to tell you that beauty is in the eye of the beholder: Galapagos plants are beautiful in their own way.



A Japanese tourist takes part in the project by planting a seedling on Santa Cruz Island.



The aims of the project:

- To encourage people to learn about the native and endemic plants of Galapagos.
- To increase understanding of the problems introduced ornamental plants can cause to Galapagos.

Future aims (with further funding from BESS and JAGA Friends of Galapagos, Japan, and hopefully Nordic Friends of Galapagos).

- Expand the project to other islands (in particular San Cristóbal and Floreana), setting up or improving nursery facilities and building local capacity there.
- To train the local people so that they can set up their own small gardening companies.
- To carry out focused and targeted education campaigns with schools to encourage the idea of the importance of our actions in conserving the biodiversity of Galapagos, and improve information available to visitors.

The project's gardeners are Galapagos community members.

Our gardening team is a mixture of Galapageño staff and volunteers from here, the continental Ecuador and further afield. Most have little background experience in gardening, but the great thing is, it doesn't matter. What matters is a conviction in the importance of the project, belief in talking and involving the whole community, from schools, private gardeners and hotel owners, to the municipality, the coastguard and foreign tourists.

It is amazing working with such a motivated and dedicated team, and what is even more important is that we are providing training for alternative careers for people here. Our dream is that one day the staff will be able to set up their own small businesses, as gardeners, garden designers, plant experts. Certainly, if the project continues with the momentum it has started, it is hard to believe that we won't achieve this.

I am sending you some photos of the team, some of the gardens they have helped create. It would be great if you could come and visit us here, see the gardens and meet everyone. I know it is a long way, but do you think it might be possible?

Galapagos

and the Hidden Threats

Center for Avian Health in Galapagos

Sharon L. Deem, Ph. D.



I feel so fortunate to have landed a position with the Center for Avian Health in the Galapagos, which has been leading avian health studies here on the islands for the past 8 years.

“My travels during these first months have included avian health studies on four of the islands.”

Based at the Charles Darwin Foundation in Puerto Ayora, Santa Cruz, with an office window overlooking the ocean, I sure landed on my feet. However, although it may look peaceful and beautiful, a once hidden health threat to the birds of Galapagos has become more evident with each day – that threat is diseases!

Marilyn Cruz and Aníbal San Miguel (standing) with Sharon and Milton Chugcho, getting ready for fieldwork at a farm on Floreana.

Importance: To understand the current and potential impacts of these diseases on the health of Galapagos birds.





A mockingbird suffering from avian pox, a disease that injures its feet and legs and makes them swell, and may even cause its death.

The Center for Avian Health in the Galapagos is a consortium of the University of Missouri Saint Louis, Saint Louis Zoo, Charles Darwin Foundation, and Galapagos National Park. The project is also supported by Galapagos Conservancy.

Since I arrived in Galapagos, in September of 2007, I have learned a great deal about the diseases that threaten the conservation of the bird species that live here. More importantly, I clearly see the preventive actions that will be necessary to avoid the devastation that diseases have wrought on birds elsewhere, especially in island systems. Unfortunately, I also see that implementing preventive measures will be a daunting task, becoming increasingly difficult as residential and tourist populations grow.

Diseases that are currently here, including the avian pox virus and ones that could soon arrive, such as avian malaria, are known as primary factors in the large number of avian extinctions in Hawaii. Both these diseases could result in similar extinctions here in Galapagos if we do nothing.



Fortunately, the Center for Avian Health and its member institutions have focused on both avian pox and malaria, working to understand the current and potential impacts of these diseases on the health of Galapagos birds. It is sad to think that the impact of these and other diseases, including the introduced fly, *Philornis downsi*, thought to have arrived in Galapagos in the 1960s and known to cause up to 97% nestling mortality in some populations of Darwin finches, could be the final straw on the road to extinction.

However, all is not doom and gloom and, thankfully, as of today, NONE of the 88 Galapagos resident bird species, of which 50% are endemic and live nowhere else, have gone extinct. This means we still have time to avert avian extinctions in the archipelago. And, with the wonderful collaborative efforts being conducted by institutions here in Galapagos, including the Center for Avian Health, Charles Darwin Foundation and the Laboratory of Pathology, Genetics and Epidemiology of the Galapagos National Park, as well as many visiting International scientists, we can minimize the impact of avian disease agents already present in the islands and ensure other pathogens do not arrive.

Marilyn Cruz takes samples from some birds like the white-cheeked pintail (the islands' only endemic duck) to determine whether they have been infected with avian flu. The results were negative.



“Thankfully, as of today, none of the 88 Galapagos resident bird species, of which 50% are endemic and live nowhere else, have gone extinct.”

“It is important to ensure that our birds are free from infectious and contagious diseases, which is why we must focus our efforts on constant epidemiological vigilance that enables us to respond to any contingency. We should remember that the evolution of the endemic birdlife of Galapagos is one the reasons why the islands were recognized as a World Heritage Site.”

Marilyn Cruz.

My travels during these first months have included avian health studies on 4 of the islands (Santa Cruz, Floreana, Isabela, and Daphne Mayor), which represent only a small subset of the islands on which avian health studies are being conducted.

Although all my work has the single goal to better understand the epidemiology (the study of disease in populations and of factors that determine its occurrence) of avian diseases, the trips have varied greatly. In Isabela, I participated in a H5N1 avian influenza surveillance (which thankfully is not in the Galapagos!); in Floreana, on determining what poultry

pathogens were present on the island prior to the re-introduction of Floreana mockingbirds; in Santa Cruz, on the impact of avian pox virus on a variety of avian species; and in Daphne Mayor, determining the presence of the avian pox virus and *Philornis* fly.

Additionally, in Santa Cruz I was fortunate last September to participate in a simulation “invasive avian pathogen emergency” exercise; a joint project of the GNP, CDF, and SICGAL- SESA. This exercise was an eye opener on the very real threats and concerns shared by these institutions as all work together to keep invasive pathogens out of Galapagos.

“It has been a real honor for me to be able to work with so many excellent biologists, such as Patricia Parker, James Gibbs, Birgit Fessler, and Felipe Cruz, with their long history of conducting conservation research in Galapagos”.

Sharon Deem



Adriana Mero, a CIMEI veterinarian, lent a hand in the simulations at Santa Cruz farms to learn how to respond should cases of West Nile virus appear.

Galapagos

and Involvement

Technical Assistance Workshops

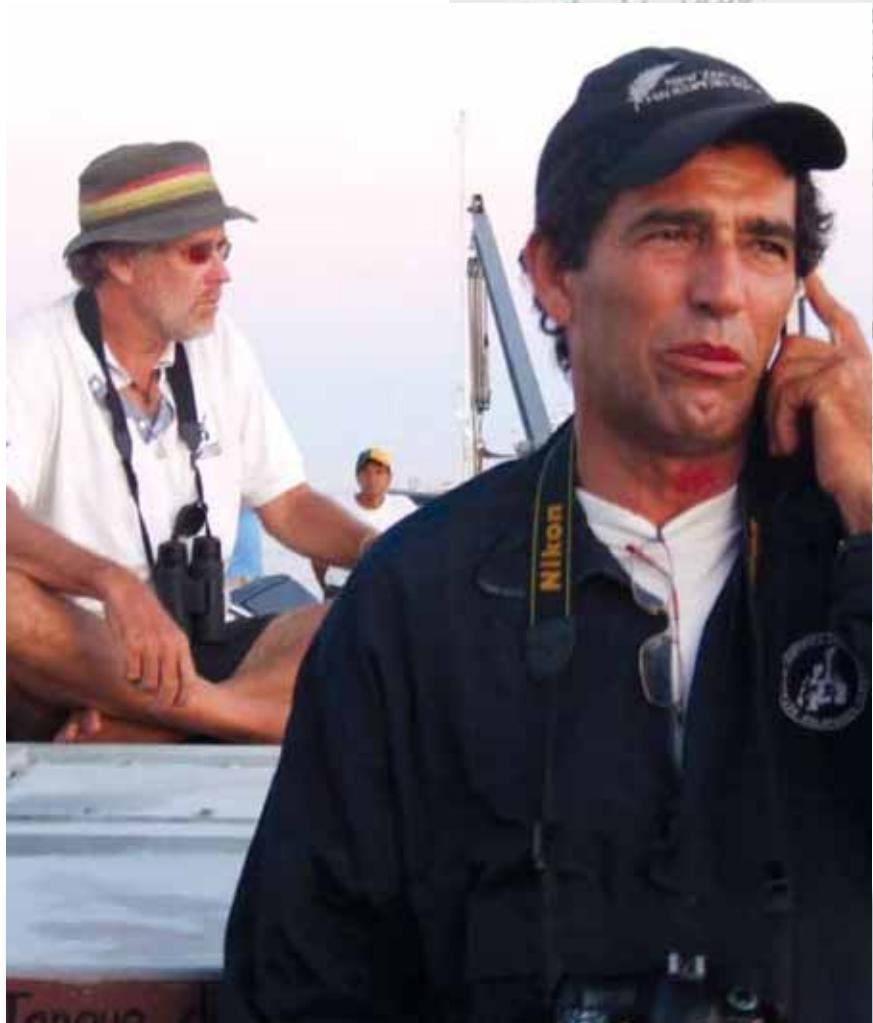
Felipe Cruz

Director of Technical Assistance



Our workshops with the participation of international, national and local experts, began back with the Isabela Project en 1997, but 2007 was especially fruitful in this regard. Let me tell you why...

The workshops in 2007 were about specific needs, both in terms of environmental management, as in the case of the workshop for eradication of rats on small and medium-size islands, and in terms of species protection, as in the case of the workshop we organized to restore the Floreana mockingbird population. However, we also focused on the needs of the human population, for which we organized a workshop to establish the Vocational Training Institute. One characteristic all three workshops had in common was that participants, both national and foreign, have a very close relationship with Galapagos, which assures very concrete results.



Importance: Workshops support CDF efforts to build local institutional capacity.



1. Participants in the Galapagos Rat Eradication Workshop, funded by Galapagos Conservation Trust, the CDF, GNP, CIMEI, New Zealand Department of Conservation, and Landcare Research New Zealand.

*From the CDF: Felipe Cruz, Bryan Milstead, Alan Tye, Jabier Zabala and Paquita Hoeck as visitor scientist .

*From Galapagos Conservancy: Linda Cayot as consultant for CDF, Richard Knab. *From the GNP: Wilson Cabrera, Víctor Carrión, Óscar Carvajal, Danny Rueda, Cristian Sevilla and David Vizuet. *From the CIMEI: Lenin Rogel *From the New Zealand Department of Conservation: Greg Sherley, Pete McClelland and Keith Broome. *From Landcare Research New Zealand: Penny Fisher and John Parkes. *From Island Conservation Canada: Gregg Howald. *From Island Conservation Mexico: Araceli Samaniego H. *From SUNY Syracuse, New York: James Gibbs. *From Université Paris-Sud XI, Francia: Donna Harris.

“At the workshops, we have found substantial and interactive support for our efforts to strengthen local institutions and their capabilities.”

I'd like to share a little about the workshops with you. As a Galapagan and native of Floreana Island, I have personally hoped to see my island free of goats and with its native flora restored, so that the emblematic mockingbird (whose biological data contributed to the formulation of Darwin's theory of evolution) could be reintroduced. And my dream seems to be closer and closer to coming true. Among the foreign scientists who took part in the workshop were people who have a very special relationship with Galapagos, like Paquita Hoeck, who lived in Galapagos as a child, when her father was the Director of the Charles Darwin Foundation.

Another very special workshop was the one that laid the foundations for setting up the Vocational Training Institute and to which we invited officials from the Ministry of Education, INGALA, representatives from the Association of Municipal Governments, the provincial council and the GNP, and representatives of the universities and NGOs involved in education issues. One result of this workshop was a jointly drafted document that took into account specific local needs to increase and improve employment opportunities and reflected the points of view of different sectors concerning a long-term career program. Randal Keynes, Charles Darwin's great-great grandson, was among the guest experts. His profound interest in the islands has led him to develop a number of projects, especially concerning education.



Thanks to the invaluable collaboration of experts from all over the world in different fields, we have developed concrete action plans and new opportunities for participation.



2. Participants in the Floreana Mockingbird Reintroduction Workshop, funded by Galapagos Conservation Trust

*From the CDF: Felipe Cruz, Birgit Fessler, Gustavo Jiménez, Bryan Milstead, Alan Tye. *From the Durrell Wildlife Conservation Trust: Glyn Young. *From the GNP: Sixto Naranjo, Danny Rueda. *From the Max Planck Institute: Herbert Biebach. *From Galapagos Conservancy: Linda Cayot. *From the University of Zürich: Paquita Hoeck, Lukas Keller. *From the GNP Laboratory and the University of Guayaquil: Leandro Patiño. *From the University of Missouri: Patricia Parker. *From the University of Kent: Jim Groombridge. *From the University of Groningen: Jan Komdeur. *From the Catholic University of Quito: Tjitte de Vries. *From Villanova University: Robert Curry.



Alan Tye, on the left, at a work session.

Not all our workshops have enjoyed such active involvement by the different sectors of the community or local institutions, and that has made it difficult to find out what Galapagans think about certain matters. Still, we have found alternative ways to gather their views. The following anecdote illustrates this quite well:

During the workshop on eradicating rats, Greg Shirley, a guest scientist, got sick and the doctor who treated him heard that he was a volunteer scientist and decided to give us a hand and contributed by not charging for his services. That was a very special and friendly way to support the rat eradication project.

The challenges for the Technical Assistance area are becoming greater all the time, but at the workshops we have found substantial and interactive support for our efforts to strengthen local institutions and their capabilities.

That's all my news for the moment. Hope to see you soon, maybe at a workshop as an expert or a participant; whatever, as long as we can share our passion for Galapagos.

3. Participants in the Galapagos Vocational Training Institute Workshop, funded by Lindblad Expeditions

From the CDF: Felipe Cruz, Bryan Milstead, Enrique Ramos, Tom Poulson, Mark Gardener, Alejandro Martínez, Robert Marino, Ros Cameron. *From the GNP: Víctor Carrión. *From INGALA: Schubert Lombeida, Lourdes Barcia, Johnny Vásquez S. *From the Ecuadorian Ministry of Education: María Salcedo Aldaz, Alba Moreno. *From the Universidad Central del Ecuador: Fabián Carrión, Rita Almeida, Lenin Chiliquinga, Hernán Encalada. *Por la University College Dublin: Claire Cave, Fergus O Gorman, Robyn Bushell. *From the Universidad Técnica Particular de Loja: Diana Córdova. *From the USFQ: Ana María Novillo. *From Capturgal: Óscar Aguirre, Edgar Muñoz, Rocío de Malo. *From Lindblad Expeditions: Juan Flaim. * Individual participants: Sven Lorenz, Randal Keynes, Mandy Trueman. *From the Consortium of Galapagos Municipalities: Fausto Cepeda. *From local Government: Max Paredes, Fabricio Hinojosa. *From the U.S National Park Service: Douglas Morris. *From the Scalesia Foundation Tomás de Berlanga: Reina Oleas. *From College of African Wildlife Management: Deo-Gratias M. Gamassa. *From Xanana Vocational Education Trust: Chris Trueman. *From the Galapagos National High School's Culinary school: Vasco Baselli, Javier Pesántez. *From GNP/GGEPL: Alison Peel.



Galapagos

and its Hidden Treasures

The lichens, bryophytes and fungi of Galapagos (Baseline)
Frank Bungartz, Ph. D.



When you visit Galapagos, you probably expect to encounter giant tortoises, walk on scorched lava, and meet marine iguanas. Traveling around the coast you will think the islands are barren and hostile. But don't forget to visit the highlands. You will be surprised by lush cloud forests and tall *Scalesia* trees found nowhere else on earth! The Galapagos are incredible; many hidden treasures still await discovery. Even we scientists still do not know all organisms that live here. Naturally, more spectacular ones first attract your attention and less conspicuous ones remain unnoticed...

Importance: To protect Galapagos we need to understand its ecosystem and its organisms. Lichens, mosses and liverworts are sensitive indicators of its health.



Fredy Nugra, a volunteer from Galapagos, participating in a field survey that will contribute data to assess the status of the islands' ecosystem.



“In 2007 we found additional, previously overlooked, species and discovered some that were new to science.”

Like you, when I first came to Galapagos, I knew little what to expect. My main interests were not the “spectacular” – not Darwin’s finches, not hammerhead sharks, not even *Scalesia* trees. Sure, I was as keen as anybody to “meet” these famous inhabitants, but I was nevertheless looking for the less obvious: lichens, mosses, and fungi.

To protect the Galapagos we need to understand its ecosystem and its organisms – not just the fancy ones! You may have heard that lichens, mosses and liverworts are sensitive indicators. They help us to monitor if ecosystems are still intact. Due to the current situation of Galapagos, we need to increase our efforts to better understand this environment.

For the lesser-known species it is necessary to assemble better baseline data. Last year we were extremely successful. We did not just find additional, previously overlooked species; we even described some as new to science! To find out that these were indeed not yet known, collaborators from all over the world helped us.

Our project has had different sources of funding at different stages. In 2006, we were able to go ahead thanks to the Beneficia Foundation and the J.Q. Worthington Foundation, Inc.; in 2007, the National Geographic Society, Erwin Warth Stiftung, J.Q. Worthington Foundation, Inc., and Discovery Initiatives underwrote our efforts; and in 2008, we are counting on the support of Erwin Warth Stiftung, The Bay and Paul Foundations, and Basler Stiftung.

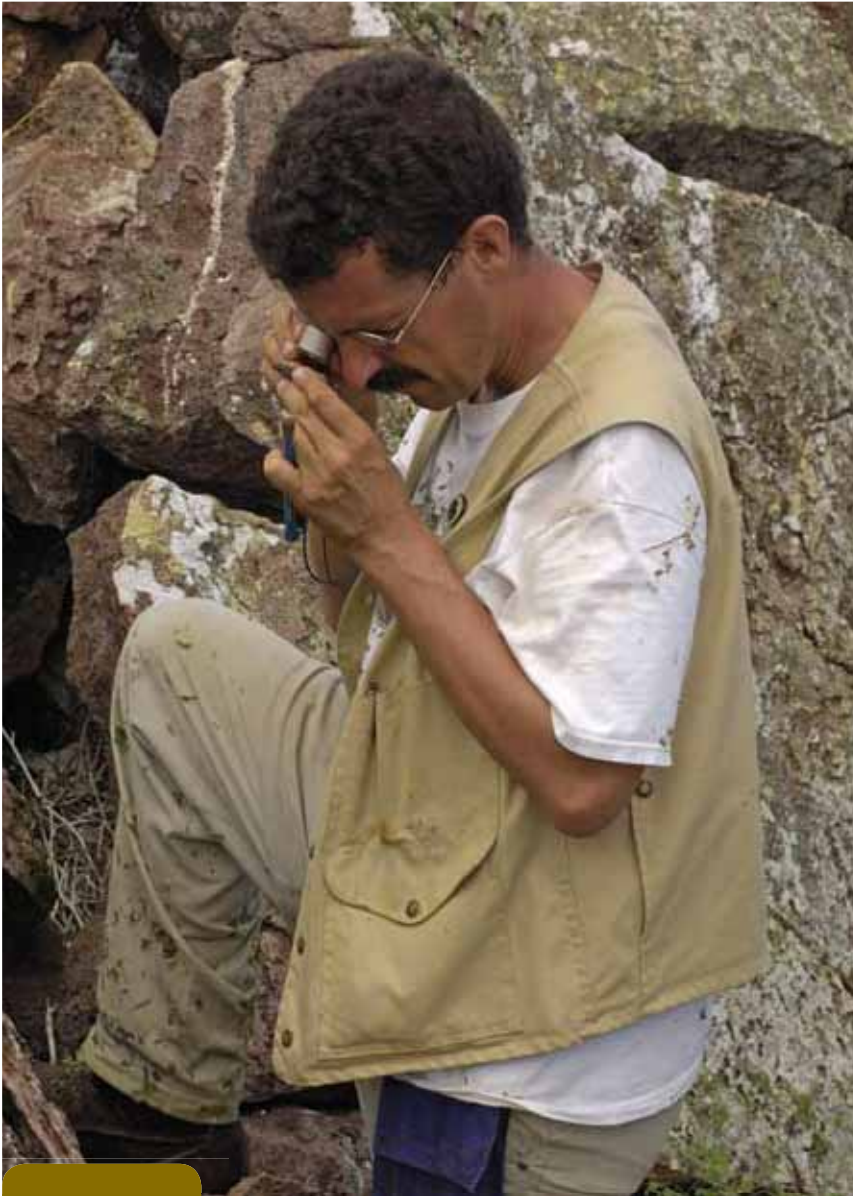
Small invertebrates use lichens and mosses as shelter and food. Finches use them as material to build their nests. Lichens are the first colonizers of rocks and the crusty species on bark protect trees against excessive heat in the arid zone. In the islands highlands there are mosses hanging from tree limbs. These natural curtains gather up moisture and condense water, which drips to the forest floor. This process makes a substantial contribution to the natural hydric balance of these dry islands. Finally, the lush tropical highland forests need soil fungi to recycle nutrients. Without these organisms, the ecosystem cannot function.

Collaborating project scientists are André Aptroot (Soest, Netherlands), Anders Tehler (Stockholm, Sweden), Damien Ertz (Brussels, Belgium), Matthias Schultz (Hamburg, Germany), Ulrik Søchting (Copenhagen, Denmark), Robert Lucking (Chicago, U.S.A.), Othmar Breuss (Vienna, Austria), Camille Truong, Philippe Clerc (Geneva, Switzerland), Marusa Herrera (Mexico City, Mexico), and our local interns Fredy Nugra and Xavier Arturo (Puerto Ayora, Galapagos).

Now we officially described four new species: among those, *Ramalina darwiniana* was named, of course, in honor of Charles Darwin, but with this name we also commemorate the enormous efforts by the CDF to better understand and protect these precious Islands.

My students help me a lot. Both are born in Galapagos and know the archipelago very well. Fredy studies lichens on native and introduced trees; Xavier compares fungi in disturbed and intact forests.





We still need to travel to a few islands to get a better idea of the total biodiversity of Galapagos. The most important sites we have yet to visit are Cerro Azul volcano on Isabela, and Floreana and Española islands. The project's next phase will focus on the many samples collected at the CDF herbarium.

We plan to have the first draft of a quick reference guide, with scores of illustrations and descriptions of all the common species, by the end of 2008.

Our field work here is hard but rewarding. Finding a way across islands with no trails is nearly impossible. Without guides from the local community and support by the Galapagos National Park we would almost certainly be lost. Climbing volcanoes from sea level, walking across lava fields as sharp as glass, beneath scorching sun, carrying all you need on your back – this can be truly exhausting! But then the view from the crater rim, the vast ocean around you, the vibrant, colorful diversity – they are worth the effort!

So many wonderful and exciting places: in 2007 we went to the remote island of Pinta, climbed one of the highest volcanoes, Darwin Volcano on Isabela, and we explored Santa Fe, a small island off the coast of Santa Cruz. When we got home, the cumbersome task began to identify what we found.

Of course, I knew that lichens, fungi and mosses are common here, but little did I know how incredibly diverse the islands really are. There is so much to discover! Originally, 229 different lichens were known. Today, a more realistic estimate is between 500 and 600 species!

There is still so much to be done. I hope to write a guidebook so finally anyone may appreciate Galapagos' overlooked treasures.

Jorge Herrera

51, has been a permanent resident of Galapagos for 46 years and a CDF co-worker for 22 of them. He is in charge of managing the Foundation's warehouse and its fixed asset base. In 2005, he graduated with honors in a Warehouse and Storage Administration certification program at the South Pacific Occupational Training Center (Centro de Capacitación Laboral Pacífico Sur) in Santiago, Chile. Jorge gets about in a wheelchair.

"My best therapy is my job, thanks to the trust and opportunity to be useful that the Foundation has given me. I believe that change is good any way you look at it, which is why, from my position with the CDF, I support the changes the Foundation is proposing. The results will be evident in the future and will benefit Galapagos and its people.



Yandri Moreira

19, recently graduated from the Galapagos National High School's Culinary School. He is now the Waiter and Waitress Supervisor at The Rock restaurant in Puerto Ayora. Yandri is among the first to benefit from this educational project sponsored by Sven Lorenz and other individual donors, with technical support from the Charles Darwin Foundation.

"At the School, creativity was one of the tools we focused on developing to prepare delicious dishes. If you know how to make the most of it, and you dedicate yourself, studying is one of the best things life has to offer..."

Henry Mora and Francisco Moreno

Henry Mora, 25, and Francisco Moreno, 22, were born in Floreana island and are currently working here. They are part of the system for eradication and control of introduced flora, along with five other people. Their best allies? The GPS to locate their position, and their determination to press ahead with manual eradication.

"It's a pleasure to protect the environment in Galapagos, and I think we young people have the responsibility of taking care of where we live."

Henry



"Now I really feel like I'm part of those who are doing something to preserve these islands, and I hope all of society can be involved in the change for good in Galapagos."

Francisco

Eva Rodríguez

58, has had the lifelong aim of "being a volunteer." This U.S. citizen, a mother of four and member of the Peace Corps, came to Isabela to work with the Environmental Education Center and inspire children and teenagers to protect this unique world heritage.

"The kids not only learn important lessons about the environment, they also improve their leadership abilities, since they will be the ones to undertake the campaigns to safeguard this land that belongs to them."



Galapagos and Its Crucial Data



Galapagos Report 2006-2007
Susana Cárdenas
Assistant to the Director of Research

Importance: The data (integrated and official) gathered helps to provide solid guidance for the island development process. Objective indicators are crucial to effective decision-making and coherent policies to bring about Galapagos sustainability.

Over time, we have seen that Galapagos is a complex system of links between resources and ever-changing interacting systems, be they social, cultural, economic, or natural. This interaction determines the course of development and the status of conservation in the islands, so it is crucial to envisage it objectively.

Consequently, along with the GNP and INGALA, we realized the need and responsibility of generating and making available solid, integrated and official information as indicators of the different elements that make up the system. Thus arose the idea of consolidating a process of continuous socio-environmental monitoring that would involve local institutions to support implementation, monitoring, and evaluation of plans and strategies for Galapagos.

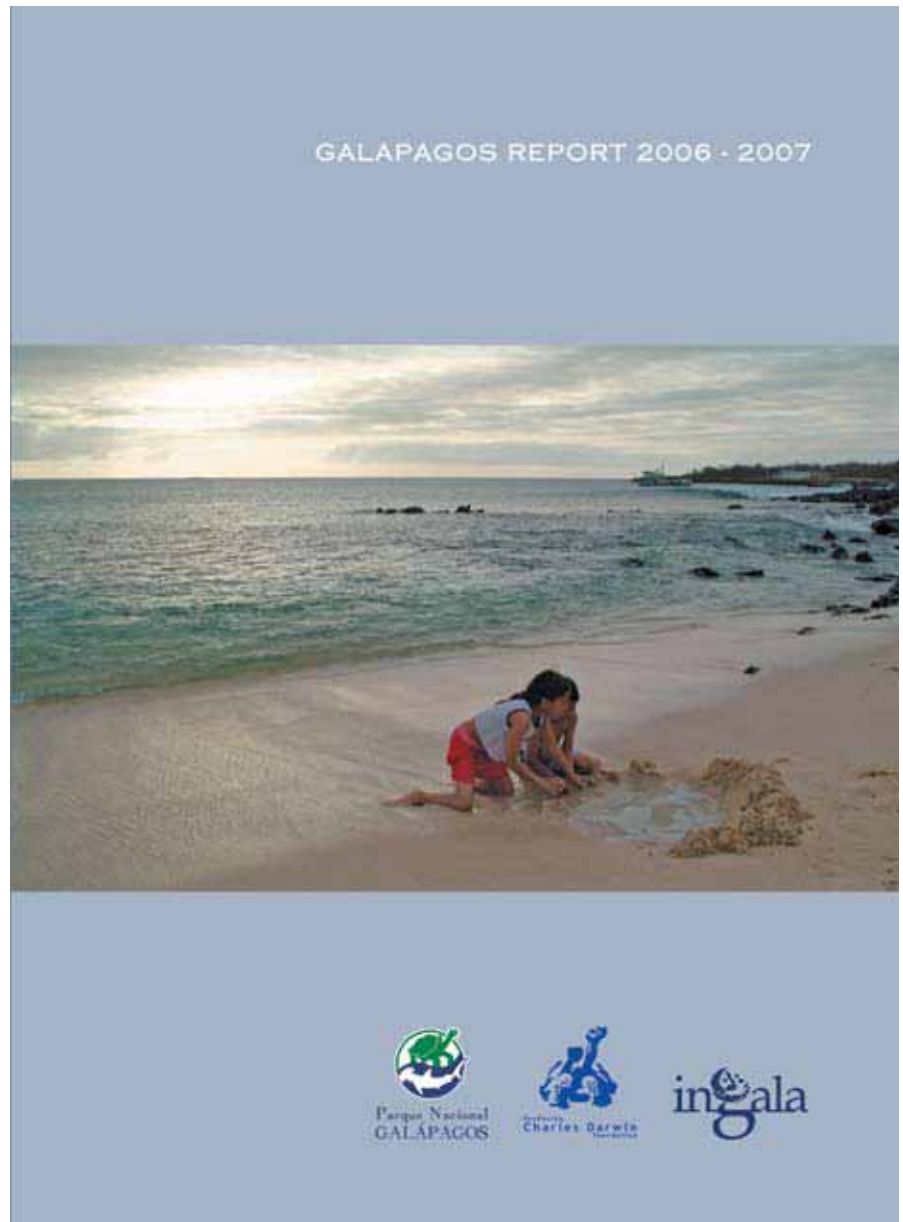
Objective indicators are crucial to producing suitable decision-making processes and to developing coherent policies to foster overall sustainability. It was also important that this information reach a wide range of key players, institutions and the community at large as an educational and informational tool.

Lots of interested people, at the launch of the Report, at the Ministry of Environment in Quito.



Among the most important data we obtained are:

- Overall economic growth of tourism in the last 15 years: 14% annually.
- Increase in total air traffic (number of flights) in the last 5 years: 59%.
- Resident population growth in the last 16 years: 123%.
- Decrease in the sea cucumber catch between 2002 and 2005: 83%.
- Increase in consumption of fossil fuels in the last 5 years: 64%.
- Increase in SICGAL inspection units in the last 5 years: 100%.
- Percentage of native and endemic species listed in endangered categories according to IUCN in 2007: 52%.
- Number of introduced species recorded up to 2007: 1321 species.
- Introduced vertebrates completely eradicated from selected islands and islets: cats, goats, domestic pigeons, donkeys, and pigs.



Finally, we decided to draft a new series of Galapagos Reports. Why did we call it a new series? Because between 1996 and 2002, the Natura Foundation and the World Wide Fund for Nature (WWF) produced six Galapagos Reports that became an important source of information. Thus was born the Galapagos Report 2006-2007, which builds on historical information presented in the previous Galapagos Reports to renew the process of analyzing trends and changes in the various issues involving the archipelago based on a comprehension of it as a socio-ecosystem.

I had to attend a number of inter-institutional meetings to define concepts, content and form... The work sessions were arduous. It was decided that the first section of the Galapagos Report 2006-2007 should contain articles concerning the orientation of socio-economic systems and their relationship to the flow of resources, such as investment capital, a growing population, energy sources, and waste, among other things.

As the Galapagos Report progressed, I began to get a better picture of the interactions between socioeconomic resources, the use of natural resources and biodiversity. We had to factor everything in, including the regenerative ability of Galapagos ecosystems. By the second part of the Report, we were fully wrapped up in the conservation status of the archipelago's endemic biodiversity and biophysical resources, as well as in the indicators for their primary threat: introduced species.

The GNP, INGALA and the CDF jointly authored the Galapagos Report 2006-2007 with the help of private consultants, and overall coordination was furnished by the CDF.

Our sources of information were the various institutions in Galapagos and continental Ecuador, both public and private (CAPTURGAL, tour operators and travel agencies, tour guides, owners of tour vessels, members of the Galapagos Fishing Cooperatives, Civil Aviation Administration, Ministry of Tourism, Ministry of Energy and Mines, SESA-SICGAL, Petrocomercial, ELECGALAPAGOS, Provincial Traffic Authority, municipal governments and port authorities, the local community).



“This initial document became an important tool at all levels and a model of inter-institutional collaboration.”

The Galapagos Report 2006-2007 (Spanish version) was concluded for presentation to the local and national communities in June 2007. With this huge book in hand, the next task was making it known, so we brought it out in Santa Cruz, San Cristobal, Isabela, and Quito. By the end of the year we had the English version for release to the international community.

This initial document became an important tool overall and it stands as a model of inter-institutional collaboration. That is why continuing this process is vital, besides the fact that a number of issues were left out of this first edition. And there is the challenge: to bring subsequent Galapagos Reports ever closer to the ideal document, one that contributes to the building of a shared vision and model of development for Galapagos.



Graham Watkins, CDF Director, during the presentation of the Galapagos Report in Santa Cruz.

- The projects that made major contributions: “Control of Invasive Species in the Galapagos Archipelago” (funded by GEF), “Conservation of the Galapagos Marine Reserve” (funded by USAID), and the Araucaria Program of the Spanish International Cooperation Agency (AECI).
- Galapagos Conservancy funded coordination, editing, publishing, and publicity events

“The Galapagos Report 2006-2007 was an example of local inter-institutional coordination and efforts. The challenge for the future is to continue and strengthen this process”.

Fabián Zapata, Manager of INGALA.

“The Galapagos Report process enables gathering, analyzing and disseminating the objective and reliable indicators that are essential to defining and debating the most suitable development model for the islands”.

Washington Tapia, PNG

Galapagos

and the invasive species

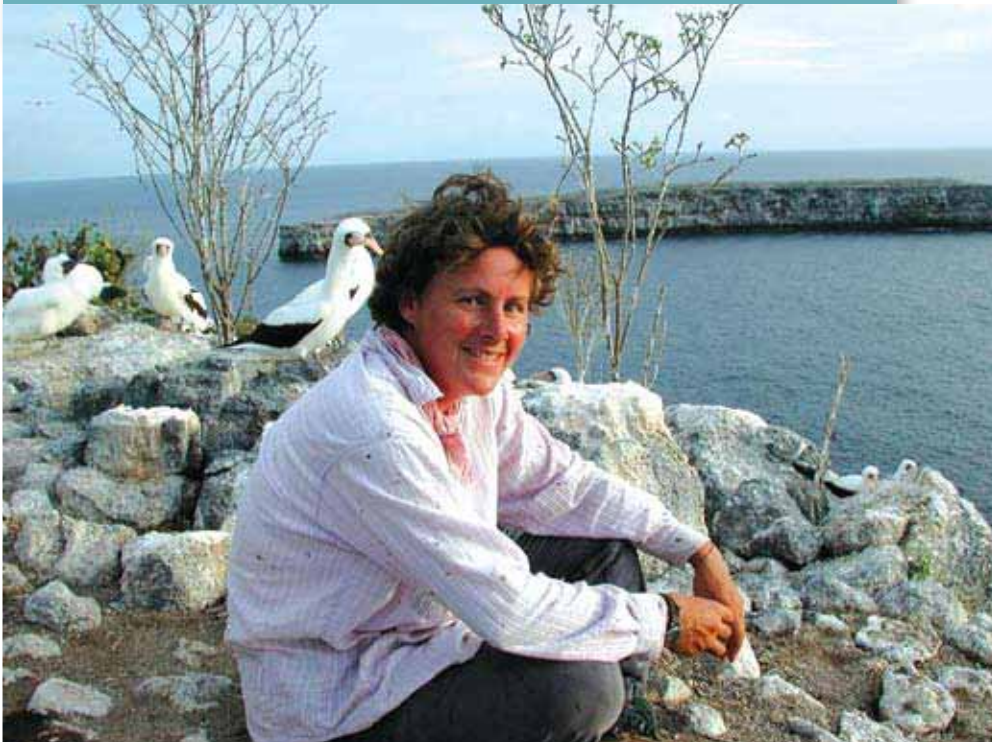


Plan for Total Control of Introduced Species
Charlotte Causton, Ph. D.

When I was being interviewed for a position at CDF in 1997 I was amazed to discover that the Galapagos Islands did not have a system of barriers in place to protect it from its greatest threat: invasive species. How could that possibly be? Galapagos already had its fair share of invasive species, but was still remarkably well conserved. Fortunately, plans were underway to help keep it that way and I was able to take part in this.

“One of my proudest moments was when we launched the inspection and quarantine system for Galapagos.”

Importance: To prevent new species introductions and restore habitats affected, with a strong emphasis placed on community involvement and improving local technical capacity.



José Loayza (on the left) and Ronal Azuero, during one of their routine trips to gather samples and check for new introduced species

I was lucky enough to start working in Galpagos at an exciting time. The Special Law for Galapagos had been approved, paving the way for the implementation of an integrated system for controlling invasive species; the Total Control Plan. CDF played a pivotal role in developing this plan and we were pleased to see it formally adopted by local government in 2007. Key to its success are actions to prevent new species introductions and restore habitats affected by invasive species - with a strong emphasis placed on community involvement and improving local technical capacity.

Preventing new bioinvasions is a high priority and CDF provides continuous expertise in biosecurity. One of my proudest moments was when we launched the Galapagos quarantine and inspection system (SICGAL) in 1999. In 2007, in SICGAL's 8th year of operation, CDF oversaw the evaluation of its operational and legal capacity and the development of a strategic plan for making it stronger. This plan includes recommendations from recent CDF analyses of the risks of planes and boats transporting invasive species.

I am also very proud to have helped design and implement programs to monitor for the introduction of high threat species and for rapidly eliminating them before they establish



Work in 2007 was financed by the Global Environment Facility, Galapagos Conservation Fund and Galapagos Conservation Trust.

Funds are urgently needed to support biosecurity programs in 2008 and thereafter.

- Other participants from CDF in 2007: David Cruz, Piedad Lincango, Elmer Salazar, Fabián Bersosa, Henri Herrera, Alejandro Mieles, Lazaro Roque-Albelo, Ronal Azuero, Jose Loayza, Edison Lomas, and consultants Carlos Zapata, Angel Ramos, Simon Goodman and Andrew Cunningham.
- Our partners in these activities were SESA-SICGAL, CIMEI, and LPEGG-PNG



“Conservation work is full of challenges and sometimes exhausting, specially when a new invasion appears...”

in Galapagos. In 2007, CDF dedicated considerable time to help prepare institutions for the arrival of invasive species and disease, including West Nile Virus and Avian flu. Institutions got quite a scare during an exercise to simulate the introduction of avian flu when flu-like symptoms were spotted in dying chickens. Fortunately, laboratory results were negative!

These projects are particularly rewarding to me because I work with an amazing team of people and we

work closely with the community. I am especially proud to see CDF technicians Ronal Azuero and Jose Loayza, both from Galapagos, become professionals in invertebrate monitoring. They have been working on the program since its inception and, under our guidance, they have become experts in checking planes for disease-carrying mosquitoes and looking for signs of other insect invasions, such as the dreaded cactus-boring moth. Can you imagine Galapagos without Opuntia cacti?

“2007 was a very satisfactory year for us because, as a result of our work, the council of INGALA adopted two important resolutions to prevent the entry of invasive species to Galapagos: 1) Require that domestic and international aircraft must be inspected in mainland Ecuador before coming to Galapagos, and 2) Implement a system to optimize shipping cargo to the archipelago. We hope in 2008 to collect the fruits of those actions.”

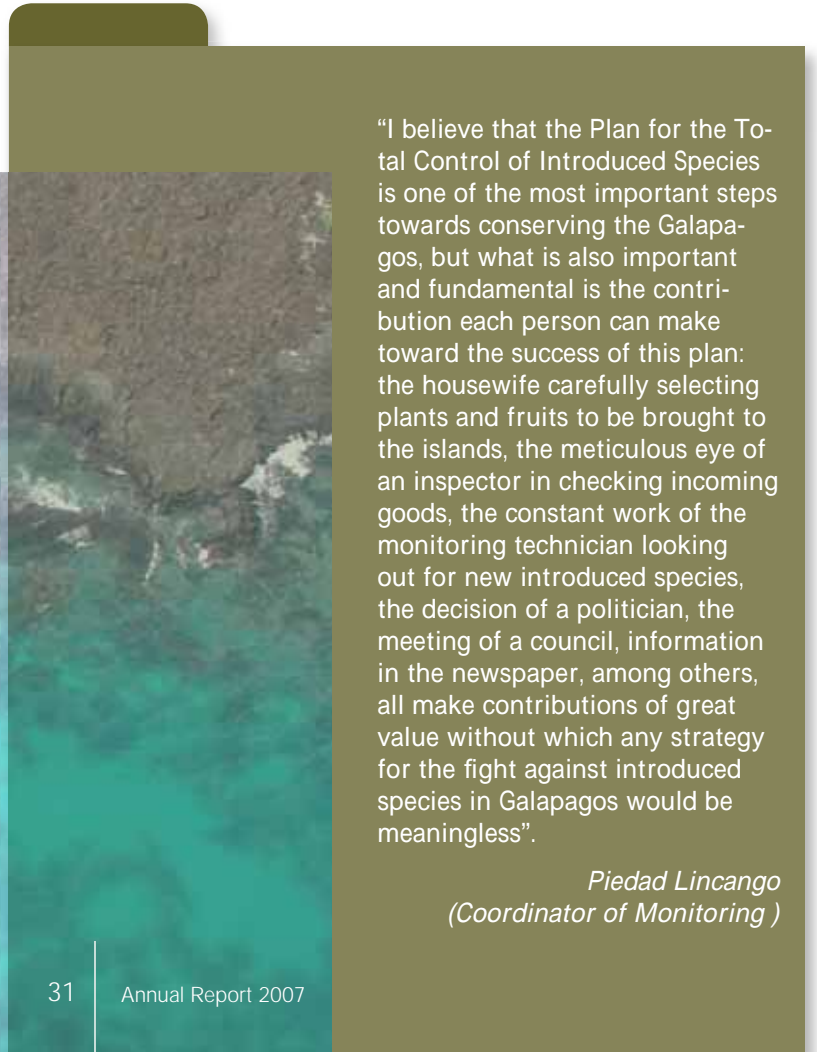
*David Cruz
(Technical advisor,
Quarantine Unit)*



The value of their work and of others involved in biosecurity programs can't be overstated. It will protect human and ecosystem health and will likely save millions of dollars. Because of this, it is crucial that funding is found to maintain these programs.

These are just a few examples of what we did in 2007. Conservation work is filled with challenges and can be very draining at times, especially when you hear about a new invasion... But when some of your research makes a difference to effective decision making or you manage to protect a Galapagos species, all those long hours that you have put in are worth it.

I feel very honored to have been part of this and to have worked with all the dedicated people who are involved in conserving the Galapagos Islands.



"I believe that the Plan for the Total Control of Introduced Species is one of the most important steps towards conserving the Galapagos, but what is also important and fundamental is the contribution each person can make toward the success of this plan: the housewife carefully selecting plants and fruits to be brought to the islands, the meticulous eye of an inspector in checking incoming goods, the constant work of the monitoring technician looking out for new introduced species, the decision of a politician, the meeting of a council, information in the newspaper, among others, all make contributions of great value without which any strategy for the fight against introduced species in Galapagos would be meaningless".

*Piedad Lincango
(Coordinator of Monitoring)*



Galapagos and fishing



Ecological Risk Assessment of the Impact of Fisheries
on the Galapagos Marine Reserve
César Peñaherrera

Importance: The information gathered will help to improve management of fishing impacts in the Galapagos Marine Reserve.



A year ago, Rodrigo Bustamante and Tony Smith of the Australian Commonwealth Scientific and Research Organization (CSIRO), both good friends and CDF collaborators, gave a talk on the process of Ecological Risk Assessment of the Impact of Fisheries (ERAIF) in which they were involved in Australia and the considerations to be kept in mind for the potential use of this technique in Galapagos.

Alex Hearn, CDF marine biologist, had told me to pay attention to everything, but being an intern, I never thought that I would have the opportunity to lead the whole project. Since I needed to finish up my thesis first, we started the review and adaptation of the methodology to the Galapagos fishery situation seven months after Rodrigo and Tony's talk.

Getting data on how fishing impacts on marine ecosystems is vital for understanding Galapagos, but what fisheries to analyze? Due to its scope, we decided to use "white fishing" or just plain fishing for fish. For the analyses, we made a three-fold subdivision of this fishery, based on the differences in catching methods and the affinities of the fish caught. We started with bottom fishing, because that was what we had the most information about, even though it wasn't much.



The project is to last a year and half. After the first four months, work was halted because of lack of funds. During all that time, we had workshops and work meetings. We also kept in constant contact by email and telephone conferences. We started up again in May of 2008.

To do this assessment, we have relied on funding from the Royal Caribbean Ocean Fund, Pew, and Lindblad Expeditions.



Work consisted mainly of meetings, but there was occasion to visit the islands as well as for out-of-the-office socializing.

“The CSIRO team opportunely supplied us with biological data on the species being studied, which made it possible to accelerate the process.”

In ERAIF, participation by users in this case, fishermen is essential. Users and scientists are the ones who consider the risks to the elements of each component.

The first months were far from easy. The dearth of information and the need to have lists of historical data pretty much complicated the chronogram we had set. Unfinished databases, lack of studies, missing information, unobtainable on-line articles... How to get ahold of everything as soon as possible? Well, nobody said being a scientist would be easy...

As part of the process, we got together with scientists closely involved with Galapagos fisheries and marine environments, and were able to compile some very valuable information. However, whenever we analyzed the population intensity matrices and the consequences of fishing activities, sleepy faces became the norm and strong coffee was handed out all around. And no wonder: we spent long hours discussing the contents of interminable matrices... Fortunately, the team put their hearts into it and we were able to refine and condense the information generated.



With that information ready, we began the second part of the analysis. The demand for data at that point was incredible. At just the right time, the CSIRO team supplied us with biological information on the species under study, which enabled speeding up the process. Nevertheless, the search for programming criteria for this part has been complex. Currently it is very advanced, but the criteria are still subject to review and verification.

What's left to do? We still have more than half of the work to finish up before concluding the ERAIF process. The information we've secured is only a part of the three sub-fisheries to be analyzed. Preliminary results are quite interesting, especially because they show that in Galapagos there are some very decent fisheries. We have also managed to detect problems never before examined, such as how bait is obtained or species movement.

Only with this information can we define the priority lines of research to understand the interaction between fisheries and the marine environments in Galapagos. We're making good progress and I can only hope that the faces don't start to fall in my work group when they see me coming in loaded down with new matrices to analyze.

Participants:

- From CSIRO Marine and Atmospheric Research: Tony Smith, Rodrigo Bustamante.
- From the Charles Darwin Foundation: César Peñaherrera, Alex Hearn, Stuart Banks, Diego Ruiz, Annie Lalancette, Jerson Moreno, Mauricio Castrejón, Sandie Salazar, Gustavo Jiménez, Patty Zárate, Rachel Atkinson, Lázaro Roque-Albelo, Javier Zabala, Priscilla Cubero.
- From IPADE: Javier Ojer, Mariela González.
- From Melbourne University: Fernando Rivera
- From the Galapagos National Park: Juan Carlos Murillo, Eduardo Espinoza.
- From WWF: Priscilla Martínez, Xavier Chalén



From left to right:
Eduardo Espinoza, An Parma,
Hany Reyes, Mauricio Castrejón,
Annie Lalancette, Tony Smith,
Verónica Toral, Alex Hearn
y César Peñaherrera.

In the context of fishing, ecological risk assessment (ERA) examines the probability that an ecosystem will be changed in an unacceptable manner due to fishing activities. It is based mainly on existing fishing and biological data and is designed to aid managers in avoiding such changes. These changes include collapse of stocks, introduction of invasive species, fragmentation of habitats, and loss of top predators.



We also worked on

The Thirty-sixth General Assembly. With a new meeting arrangement and a symposium open to the community at large for a review of our last 50 years in the archipelago and a look forward to the next 50 years, this edition of the Assembly will not soon be forgotten. We welcomed new members of proven mettle and experience like Charles Darwin's great-great-grandson, Randal Keynes, María Eulalia Arízaga de Balfour, Pablo Iturralde and Rodolfo Rendón. After a very productive affair, we closed our annual gathering by planting 60 native plants in the Foundation's Bellavista nursery.

Solar Energy and Good News. We officially began solar electricity use in three of our buildings located at the Research Station in Puerto Ayora, Santa Cruz Island.

Human Ecosystem Model Encounter and the Cosmos Awards. Graham Watkins, our Executive Director, and Bryan Milstead met with Dr. Gary Machlis, one of the originators of the "Human Ecosystem Model." The purpose of the meeting was to exchange ideas and information for understanding the dynamics of Galapagos from a HEM perspective. Graham Watkins' mission was to convey news of current circumstances in Galapagos and the challenges being faced in our archipelago to hundreds of people attending the 2007 Cosmos Awards in Japan.

Toward a New Model of Tourism. On a number of occasions last year we held protracted meetings with Galapagos National Park officials and the various stakeholders of the tourism sector. One such get-together was aboard the Mary Anne for a workshop to define the first steps toward implementing a new model of tourism in Galapagos.

Telemetry System. We ran experiments on lobster movements using telemetry at Punta Estrada, Santa Cruz Island. We also began preparing abundance and distribution maps that will serve as a basis for future decision-making concerning this fishery.

Fishery Management Plan. We worked with the Technical Commission of the Participative Management Board on final details of the new 2008–2012 Fishery Management Plan. This ecological risk assessment of fisheries will underlie Galapagos Marine Reserve ecosystem management.

Important Publication. The U.S. National Academy of Sciences recorded in its Journal of Proceedings an important discovery we took part in, along with the GNP and a group of experts led by Michael Graham of Moss Landing Marine Laboratories, concerning kelp forests in deep-water habitats. These seaweed refugia are "potential hotspots of tropical marine

diversity and productivity,” providing a protective setting for many species on which fisheries and tourism depend.

Ecological Risk Analysis. We took an active part in sea cucumber and shark ecological risk assessment studies, population studies and fishery planning.

Invasive Species Study. We received a visit from Chad Hewitt and Marnie Campbell of the National Centre for Marine and Coastal Conservation, Australian Maritime College, with whom we worked on risk analysis of invasive marine species introduction. Their report focused on invasion vectors, such as tourist and cargo vessel routes. The recommendations of this study will serve to prepare a baseline and a monitoring program.

New Lichen Species. The CDF botany team rediscovered a rare lichen species in the chamomile forest on San Cristobal Island. Thirty-one years have gone by since the last time the *Lobaria dissecta*, thought to be extinct, was last seen. Its presence in the archipelago is a sign of an intact, mature flora that has managed to avoid threats from invasive species like the blackberry.

Weed Control and Plant Conservation. A new group, from Floreana Island, was trained by the botany team on Santa Cruz

to aid in CDF activities such as weed control and threatened plant conservation. These seven field assistants fully dedicated themselves during the year to conservation work on their home island and to ongoing monitoring that has enabled gathering important data on species recovery in areas where goats were eradicated.

Scalesia Germination and Monitoring. We did successful *Scalesia affinis* germination trials that showed that 50% of the seeds were viable. This rate promises to end the scarcity of the species on Santa Cruz, where there are currently only 64 specimens. Monitoring of *Scalesia atracyloides* was done on Santiago Island, where 13 separate populations of this species, endemic to the island, were recorded. This indicates a rapid recovery after eradication of major threat factors.

Molecular Study. Our scientists were part of a molecular study of *Calandrina galapagosa* by the California Academy of Sciences and the University of San Francisco, Cal. The study's importance lies in that this plant is endemic to San Cristobal and in danger of extinction. The results will help the GNP to take suitable decisions for its protection.

New Herbarium Collection. Two years after the last eruption of Sierra Negra

volcano on Isabela Island, we gathered nonvascular plant samples from sites close to the volcano's crater. This is important as evidence of the plants' slow regeneration process.

Tortoise, Penguin and Cormorant Surveys. The CDF, PNG, Fabricio Valverde Laboratory, and scientists Joe Flannagan, Hara Woltz and James Gibbs carried out a joint tortoise survey on Española Island, where more than 500 individuals were found. Moreover, our yearly visit to record the archipelago's penguin and cormorant populations turned up an estimated population of 1,770 penguins, establishing them as a stable species, and 1,927 cormorants, a record high for this species since monitoring was first begun in 1977.

SESA-SICGAL Assistance. We worked with SESA-SICGAL on preparing a form for introduced domestic species surveys in the rural areas of the four inhabited islands. We also provided them with technical assistance in monitoring the Mediterranean fruit fly.

Iguana and Cactus Monitoring. We participated in iguana and cactus monitoring on Baltra by means of a novel remote estimating system that enabled counting iguanas in areas where they were assumed not to exist. We also did cactus density mapping that has enabled detection of future population trends.





Financial report

Finances

The financial statements in this report were prepared in compliance with the International Financial Reporting Standards (IFRS) and have been audited by the firm of BDO Stern in conformance with the requirements of the Belgian government.

In 2007 we put into operation a new financial structure and system to provide greater efficiency in CDF resource management and financial capacity building. The new structure involved profound changes, from the way we record operations up to the way we have done our 2007 financial reporting.

Revenue

The international community was crucial to keeping up our programs and achieving our goals in 2007, for which we wish to express our very special gratitude.

Revenue for 2007 is strictly reported according to amounts incoming during the year and gross receipts from sales and services. This report differs from that submitted in 2006, which included deferred income from prior years and net income from sales and services. The current report presents the two years under the new system of financial reporting (IFRS).

Revenue in 2007 amounted to US\$ 4,239,595.73, which was 11% over that of 2006. Private international contributions constituted the largest source of funds, accounting for 58% of all income received.

Income from multilateral and bilateral organizations was less than in 2006, due to the conclusion of the GEF-funded project for invasive species control in Galapagos.

Expenditures

Revenue in 2007 funded 67% of the Research, Technical Assistance, and Information and Development programs.

Expenditures were made to support research, monitoring and control programs as well as local capacity building, education and inter-institutional alliance initiatives.

Further investments were made in the scholarship and volunteer program, with priority attention to the local community.

Administrative expenses amounted to 24% of total expenditures, a slight rise over what was spent in 2006. The increased cost was due to investments in improving the infrastructure at our Puerto Ayora facilities.

Charles Darwin Foundation for the Galapagos Islands (AISBL)
Cash Flow Statements (In Dollars)

Years ending on December 31,	2007	2006
Cash Flows from Operating Activities:		
Cash Received from Donors and Services Rendered	4 158 708,00	4 699 395,00
Cash Paid to Suppliers, Projects and Employees	-4 245 774,00	-4 774 873,00
Interest Received	23 078,00	-
Interest Paid	-	-16 167,00
Other Income, Net of Expenses	111 965,00	33 094,00
Net Cash Provided (Utilized) from Operating Activities	47 977,00	-58 551,00
Cash Flows from Investment Activities:		
Increase in Temporary Investments	-140 311,00	-33 545,00
Payment for Fixed Asset Purchase	-17 098,00	-115 676,00
Net Cash Utilized in Investment Activities	-157 409,00	-149 221,00
Cash Flows from Financing Activities		
Employer Retirement Plan and Severance Payments	-9 215,00	-5 473,00
Cash Received from Unused Projects	-	291 945,00
Net Cash Utilized in Financing Activities	-9 215,00	286 472,00
Net Cash Increase (Decrease)	-118 647,00	78 700,00
Cash at the Beginning of the Year	889 700,00	811 000,00
Cash at Year End	771 053,00	889 700,00

Charles Darwin Foundation for the Galapagos Islands (AISBL)
Statements of Changes in Net Assets (In Dollars)

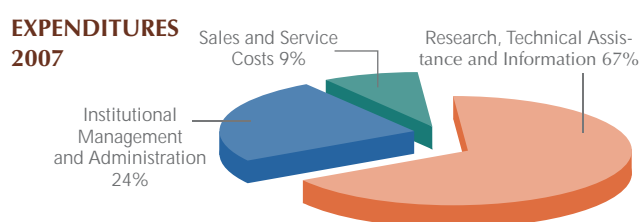
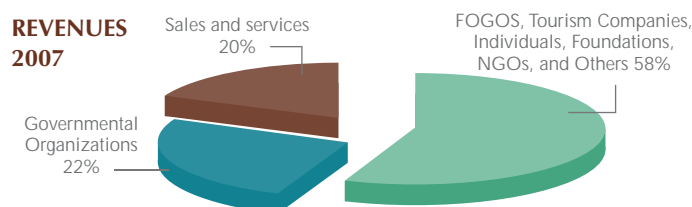
Years Ending on December 31,	2007	2006
Capital Fund		
Opening Balance	99 725,00	99 725,00
Prize Transfer	37 925,00	
Fixed Asset Sale Transfer	50 000,00	
Capital Reserve Transfer	291 945,00	
Closing Balance	479 595,00	99 725,00
Restricted Assets		
Opening and Closing Balance	588 303,00	588 303,00
Capital Reserve		
Opening Balance	-767 893,00	-1 059 838,00
Capital Fund Transfer	-291 945,00	
Unused Project Appropriation		291 945,00
Closing Balance	-1 059 838,00	-767 893,00
Cumulative Surplus		
Opening Balance	1 048 159,00	820 989,00
Adjustment of Income from Prior Years	923 317,00	
Net Surplus (Deficit)	-410 077,00	227 170,00
Closing Balance	1 561 399,00	1 048 159,00
Total Assets of the Foundation	1 569 459,00	968 294,00

Charles Darwin Foundation for the Galapagos Islands (AISBL)
Balance Sheets (in dollars)

December 31,		2007	2006
Assets			
Fixed Assets			
(Note A)	600 234,00	716 724,00	Fixed Assets
Other Assets		25 751,00	20 180,00
Prepaid Expenses			14 644,00
Total Fixed Assets		625 985,00	751 548,00
Current Assets			
Stock	(Note B)	148 283,00	152 140,00
Accounts Receivable	(Note C)	388 187,00	481 097,00
Temporary Investments	(Note D)	351 590,00	211 279,00
Cash on Hand	(Note E)	771 053,00	889 700,00
Total Current Assets		1 659 113,00	1 734 216,00
Total Assets		2 285 098,00	2 485 764,00
Assets and Liabilities			
Capital Fund	(Note F)	479 595,00	99 725,00
Restricted Assets	(Note G)	588 303,00	588 303,00
Capital Reserve	(Note H)	-1 059 838,00	-767 893,00
Cumulative Surplus	(Note I)	1 561 399,00	1 048 159,00
Total Assets of the Foundation		1 569 459,00	968 294,00
Long-Term Liabilities			
Employer Retirement Plan, Labor Suits and Contingent Liabilities	(Note J)	212 505,00	85 836,00
Short-Term Liabilities			
Deferred Income	(Note K)	232 905,00	1 278 325,00
Labor-Related Obligations	(Note L)	52 375,00	38 320,00
Accrued expenses payable		13 968,00	10 082,00
Accounts payable	(Note M)	203 886,00	104 907,00
Total Short-Term Liabilities		503 134,00	1 431 634,00
Total Liabilities		715 639,00	1 517 470,00
Total Assets and Liabilities		2 285 098,00	2 485 764,00

REVENUES	2006	2007
FOGOS, Tourism Companies, Individuals, Foundations, NGOs, and Others	1 580 802,74	2 476 929,85
Governmental Organizations	1 508 635,96	921 022,77
Sales and Services	744 147,47	841 643,11
	3 833 586,17	4 239 595,73

EXPENDITURES	2006	2007
Research, Technical Assistance and Information	3 338 657,78	3 010 054,89
Institutional Management and Administration	937 198,24	1 096 069,45
Sales and Service Costs	377 977,96	412 224,16
	4 653 833,98	4 518 348,51
Depreciation	218 294,95	131 324,20



Donors

Donors

2007 will be remembered as the year of local, national and international recognition of the challenges to conserve the Galapagos archipelago. Reflecting on the achievements of the past year we would like to take the opportunity to offer a “thank you” in appreciation of all those who donated to the mission of CDF. Through their trust and loyal support, CDF continues to serve as the basis for world conservation standards and as the leader in the protection of this extraordinary ecosystem. We encourage you to join the efforts of the following supporters in the coming year.

Presented here are the donors who gave more than \$500 to the CDF in 2007.



Businesses

- C3 film ^A
- GAP Adventures (Planeterra) ^B
- High Country Passage Travel
- Islas Galápagos Turismo & Vapores
- Metropolitan Touring
- Nexus Japan, Ltd. ^A
- Roma Pizza ^C
- Zion Creative Visual Work

Foundations

- Captain Planet Foundation
- Cybec Foundation
- Erwin-Warth-Stiftung ^D
- Hawksglen Foundation ^B
- J. Q. Worthington Foundation, Inc. ^B
- Keidanren Nature Conservation Fund ^A
- National Geographic Society
- Oak Foundation
- Oram Foundation ^B
- Program for Latin American Libraries and Archives
- Skilling Family Foundation

Government, Bilateral & Multilaterals

- Araucaria - Spain
- Assistance for Community Projects, Japan
- Belgium Science Policy Office

- Commission of the European Communities (INCOFISH)
- Darwin Initiative, United Kingdom
- Galapagos National Park Service
- Government of Ecuador
- Government of Finland ^C
- Government of the Netherlands
- Max Planck Institute
- North Carolina State University (NASA sponsored project)
- TAME Airlines
- United Nations Development Program (Global Environment Fund)

Non-governmental organizations

- Bird Life International
- Conservation International
- International Union for the Conservation of Nature
- Moss Landing Marine Laboratories
- Osaka Lions Club
- Peace Boat
- Penguin Fund of Japan
- Smithsonian Tropical Research Institute
- The Nature Conservancy
- The Pew Charitable Trusts
- Wildlife Conservation Society - Gains
- World Wide Fund for Nature (WWF)

- Young Presidents Organization (YPO)

Travel partners

- Discovery Initiatives Travel
- Galapagos Conservation Fund (Lindblad Expeditions) ^B
- Galapagos Travel ^B
- International Galapagos Tour Operators Association (IGTOA)
- Lindblad Expeditions

Individuals

- Edward P. Bass ^B
- Edward and Sally Benthall and Friends ^E
- Gustav Bergman
- Mark J. Butler, IV (Old Dominion University)
- Niels and Virginia Cappel
- Mark and Janet Eckhouse and students
- Ahti Heinla
- Cleveland Hickman ^B
- Hendrik Hoeck ^D
- Michael Klett ^D
- Mauricio Paute Calle
- Saladin family
- Cynthia Travis

Some of CDF's support is received through partnerships with Friends of Galapagos Organizations (FOGOs). A) Japan Association for Galapagos (JAGA); B) Galapagos Conservancy; C) Nordic Friends of Galapagos; D) Frankfurt Zoological Society; E) Galapagos Conservation Trust.

FOGO

FOGOS

CDF is privileged to count on the commitment of independent non-profit organizations throughout the world known as Friends of Galapagos Organizations (FOGOs). FOGO raise funds and awareness in support of conservation in Galapagos within their respective countries by developing long term relationships with donors and administering specific grants included in the CDF donor list. We extend our appreciation to these loyal partners. The following FOGO have provided financial support during 2007.

- Frankfurt Zoological Society
- Friends of Galapagos Netherlands
- Galapagos Conservancy
- Galapagos Conservation Trust
- Galapagos Darwin Trust
- Japan Association for Galapagos (JAGA)
- Nordic Friends of Galapagos
- Swiss Friends of Galapagos

Our **Technical Assistance Program** supports equitable and sustainable local enterprises and local community organizations by serving as bridge between them and support from the public and private sector.

Celebrity Cruises Fund for Galapagos
Guy & Therese Delavaldene Family Foundation
Galapagos Darwin Trust
Galapagos Conservation Fund
Galapagos Conservancy
Sven Lorenz
Andrés Córdova Lozano

general assem

General Assembly Members

The General Assembly is the governing body of the CDF and reflects its international character. Members include scientists, philanthropists, Ecuadorian Government officials, and others dedicated to the CDF's mission. The Assembly sets policy, issues regulations, elects the Board of Directors, and approves the operating plan and budget, as well as dealing with other important matters. The president of the CDF presides over the General Assembly at its annual meeting in Ecuador.

Patron

HRH Prince Philip, Duke of Edinburgh

President's Council

HRH Grand Duke Henri of Luxembourg
Sven-Olof Lindblad

Board

- Peter Kramer – President
- Rodolfo Rendón - Vicepresident
- Pablo Iturralde - Treasurer
- Sylvia Harcourt-Carrasco – Secretary
- Foreign Affairs Ministry
- María Eulalia Arízaga de Balfour
- Robert Bensted-Smith
- Randal Keynes

Honorary members

- Dr. Rodrigo Borja Cevallos
- Arq. Sixto Duran-Ballén
- Ing. León Febres Cordero
- Dr. Oswaldo Hurtado Larrea
- Dr. Plutarco Naranjo
- Mr. Roger Perry
- Dr. Tom Simkin

Active institutional members

- Conesup
- Frankfurt Zoological Society
- Galapagos Conservancy
- Galapagos National Park
- Geographic Military Institute
- National Galapagos Institute (INGALA)
- National Fishery Institute
- Naval Oceanographic Institute (Inocar)
- IRD
- Max-Planck-Institute for Ornithology
- Metropolitan Touring
- Ministry of Environment
- Ministry of Agriculture and Livestock (MAG)
- Ministry of Tourism
- Museum of Natural Sciences
- Presidency of Ecuador
- Senacyt
- Smithsonian Institution
- Unesco
- Vice Presidency of Ecuador

- International Union for Conservation of Nature (IUCN)
- WWF – Galapagos
- WWF

Active members (persons)

- Prof. David Anderson
- Dr. Laura Arcos
- Ing. Alfredo Arévalo Tello, M.Sc.
- Dr. León Baert
- Dr. Oswaldo Báez
- Mr. David Balfour
- Ing. Bernardo Beate
- Dr. Rodrigo Bustamante
- M.Sc. Luis Calvopiña
- Dr. Linda Cayot
- Dr. Segundo Coello
- Prof. Guy Coppois
- M.Sc. Eliécer Cruz
- Mrs. Desirée Cruz
- Ms. Sarah Darwin
- Mrs. Tui De Roy
- Mrs. Dolores Gangotena de Diez
- Prof. Dr. Irenaeus Eibl-Eibesfeldt
- Dr. Fernando Espinosa
- Dr. Joe Flanagan
- Mrs. Emma Flor de Tejada
- Dr. Lynn Fowler de Abad
- Dr. Tom Fritts
- Dr. Dennis Geist
- Dr. Óscar Gordillo
- Dr. Peter Grant
- Dr. Rosemary Grant
- Dr. Jack Stein Grove
- Dr. Elena Gualancanay
- Dr. Minard (Pete) Hall
- Prof. Ole Hamann D.Sc.
- Mr. Freddy Herrera
- Dr. Hendrik Hoeck
- Mr. Juan Holguin
- Dr. Syuzo Itow
- Blg. Macarena Iturralde
- Mr. Michael Jackson
- Mrs. Yolanda Kakabadse
- Dr. Lukas Keller
- Dr. Friedemann Koester
- Dr. Octavio Latorre

- Dr. Andrew Laurie
- Mrs. María López
- Dr. Alfredo Luna Tobar
- Dr. Craig MacFarland
- Dr. Jean Pierre Maelfait
- Mr. Luis Maldonado Robles
- Dr. Kazumi Matsuoka
- Dr. Conley K. McMullen
- Mr. Godfrey Merlen
- Econ. Reyna Oleas
- Dr. Eugenia del Pino
- Dr. Gunther Reck
- Mr. Raymond F. Rifenburg
- Mrs. Carmen Rivadeneira de Moncayo
- Dr. Ira Rubinoff
- Dr. Marcelo Santos Vera
- Mr. Juan Schiess
- Econ. Roque Sevilla
- Dr. Howard Snell
- Mrs. Heidi Snell BFA
- Mrs. Jennifer Stone
- M.Sc. Luis Suárez
- Dr. Jim Thorsell
- Prof. Fritz Trillmich
- Dr. Roberto Troya
- Dr. Carlos Valle
- Dr. Hernán Vargas
- Ing. José L. Villa
- Dr. Tjitte de Vries
- Ms. Barbara West
- Dr. Pádraig Whelan
- Dr. Martin Wikelski

Corresponding members

- Ms. Katherine Coolidge
- Mr. Felipe Cruz
- Mrs. Kay T. Dodge de Peraza
- Galapagos Conservation Trust
- Mr. Jacinto Gordillo
- Prof. Cleveland Hickman Jr.
- Dr. Marinus S. Hoogmoed
- Mr. Charles Huttel
- Prof. Richard Keynes
- Dr. Bernard Landry
- Mr. John Lastavica
- Dr. Duncan Porter
- Mr. José Rodríguez Rojas



The efforts of the CDF depend on a hardworking and dedicated group of people. More than 70% of CDF staff is permanent resident in Galapagos and nearly 90% are Ecuadorian.

Iván Aldaz
 Manfred Altamirano
 Rachel Atkinson
 Ronal Azuero
 Alejandra Badillo
 Stuart Banks
 Freddy Baque
 María del Camen Barragán
 Juan Barreno
 Fabián Bersosa
 Franklin Betancourt
 Karola Buitrón
 Paola Buitrón
 Frank Bungartz
 Félix Burgos
 Goberth Cabrera
 Sandy Calderón
 Roslyn Cameron
 Jaime Cango
 Susana Cárdenas
 Mauricio Castrejón
 Williams Castro
 Charlotte Causton
 Rubén Cevallos
 Susana Chamorro
 Freda Chapman
 Zoila Chilinguina
 Grey Choez
 Sonia Cisneros
 Paulina Couenberg
 Adela Cruz

Felipe Cruz
 David Cruz
 Priscilla Cubero
 Alberto Delgado
 Jeanette Díaz
 María Auxiliadora Farías
 Elena Farías
 Birgit Fessl
 Pamela Gavilanes
 Lourdes Gómez
 Mariela González
 Jacinto Gordillo
 Germania Granda
 Ana Guerrero
 Anne Guezou
 Ivonne Guzmán
 Alexander Hearn
 Henri Herrera
 Jorge Herrera
 Tony Inga
 Patricia Jaramillo
 Aldo Jaramillo
 Delsy Jaramillo
 José Jiménez
 Padero Jiménez
 Freddi Jimenez
 Gustavo Jiménez
 Sandra Landázuri
 María Piedad Lincango
 Alizon Llerena
 Washington Llerena

Liz Llerena
 José Loayza
 Andrea Marín
 Cruz Márquez
 Alejandro Martínez
 María Teresa Martínez
 José Masaquiza
 Alejandro Mieles
 Bryan Milstead
 Luis Molina
 Manuel Montalván
 Jerson Moreno
 Francis Nicolaidis
 Carmen Nicolalde
 Marisol Ochoa
 Mario Olaya
 Manuel Orellana
 Ximena Pacheco
 Mariela Padilla
 Jorge Pazmiño
 Roberto Pepolas
 Amable Pilla
 Mercedes Pincay
 Paola Pozo
 Enrique Ramos
 Luis Ramos
 Solanda Rea
 Bolivia Rentería
 Jorge Luis Rentería
 Patricia Robayo
 María Isabel Rojas

Klever Román
 Bolívar Romero
 María Cristina Ron
 Lázaro Roque
 Sara Luz Ruiz
 Diego Ruiz
 Elmer Salazar
 Sandie Salazar
 Andrea Sánchez
 José Antonio Sánchez
 Timothy Silcott
 Saskia Silva
 Sayonara Suárez
 Sandra Tapia
 Claudio Terán
 Natalia Tirado
 Marco Toscano
 Alan Tye
 Janina Valarezo
 Omar Valle
 Carlos Vega
 Martha Véliz
 Verónica Véliz
 Mariana Vera
 Gabriela Verdesoto
 Graham Watkins
 Matthias Wolff
 Javier Zabala
 Patricia Zárate



Above: San Cristóbal staff; below: Isabela staff.

Scholarship Program

The CDF gives scholarships to exceptional students in Galapagos and provides financial aid and other forms of support to promising Ecuadorian post-graduate students in the fields of conservation, science and education.

Galapagos Scholars

Magaly Balladares, Sandra García, Edgar Masaquiza, Danny Pauta, Grace Pesántez, Jeniffer Suárez.

Galapagos Thesis Scholars

Diógenes Aguirre, Xavier Arturo, Lenyn Betancourt, Javier Carrión, María Escarabay, Carolina Larrea, Verónica Michuy, Jimmy Mora, Fredy Nugra, Diana Salazar.

National Thesis Scholars

Fernanda González, David Loayza, Edison Lomas, César Peñaherrera.

Interns

Carlos Núñez, Roberto Carlos Palacios, Juan Carlos Real, Freddy Salazar.

Volunteer Program

National and international students and professionals who volunteer benefit from a hands-on conservation experience with the CDF. Their considerable expertise and dedication contributes to building the Foundation's capacity to effectively respond to the challenges facing Galapagos.

Local Volunteers

Jordana Aguilar, Marcos Aguilar, Javier Ballesteros, María Barrera, Erika Bonito, Luis Cabrera, Ana Carrión, Janneth Castañeda, María José Castro, Cris-thian Castro, Washington Córdova, Susan Garner, Diana Gil, Augusto Haz, Ana Iza, Daniel Lara, Katherine León, Grace Loyola, Luciana Masaquiza, Pablo Mejía, Luis Molina, Luis Mora, Miriam Muñoz, Melina Neira, Jonathan Panezo, Jessenia Reyes, Bolívar Rios, Daniel Sabando, Anderson Sánchez, Mirian Silva, Mónica Tigse, María Fernanda Tomalá, Ernesto Vaca, Edgar Vélez, Verónica Véliz.

Local Student Volunteers

Diego Cajas, Karina Chango, Karime Domínguez, Carmen López, Katherin Ortega, Angel Ulloa, Alfonso Velasteguí.

National Volunteers

Gladys Alvarez, Miriam Bárcenas, Germán Cabezas, Henry Chávez, Jessica Coello, Adolfo Coello, María Delgado, David Flores, Alicia Maya, Ana Lucía Naranjo, María Olmedo, Ana María Ortega, Lorena Ortiz, Christian Palacios, Miguel Pardo, Michelle Paz, César Peñaherrera, Luis Pérez, Katya Pérez, Sandra Pozo, Karina Quezada, María Alejandra Ramos, Jorge Rizzo, Juan Rodríguez, Guillermo Rosero, Cristina San Segundo, Eduardo Sandoval, Daniel Segura, Walter Simbaña, Manuel Tenecora, Fernanda Tupiza, Darío Veintimilla, Sandra Vivero, José Yunhon.

National FAE Volunteers

Marco Caiza, Esteban González, Byron Gualotuña, Luis Quishpe, Edison Valarezo, Carlos Yacelga.

International Volunteers

Magnus Andersson, Antonio Aragón, Aquila Ayala, Jérôme Bauer, Ellen Beaumont, Stephen Blake, Jill Blythe, Julia Collins, Viviana Contreras, Lorraine Crouch, Sharon Deem, Krista Dressler, Julia Endris, María Alejandra Espinosa, Joseph Flanagan, Sara García, Richard Geddes, Pablo González, Vanessa Green, Erin Green, Alison Hillegeist, Josune Iturralde, Fátima Jorganes, Christina Kachulis, Annika Krutwa, Bruce Lakin, Laurie Lakin, Annie Lalancette, William Liddle, Gina Margillo, Robert Marino, Adair Muth, Sylvia Noah, Macarena Parra, Alejandro Perales, Richard Pringle, Mariantú Robles, Gisela Sertório, Nicolette Shaw, Anne Simonis, Abran Steele, Carl Stepath, Nathan Truelove, Ana Vásquez, Salvatore Vicedomini, James Weis, Neil White, Frauke Ziemmeck

CDF Publications

Peer reviewed

Aptroot A. & Bungartz F. 2007. The lichen genus *Ramalina* on the Galapagos. *The Lichenologist* 39: 519-542.

Baine M., Howard M., Kerr S., Edgar G. & Toral-Granda M.V. 2007. Coastal and Marine Resource Management in the Galapagos Islands and the Archipelago of San Andres: Issues, problems and opportunities. *Ocean and Coastal Management* 50: 148-173.

Campbell K., Baxter G., Murray P., Coblentz B. & Donlan J. 2007. Development of a prolonged estrus effect for use in Judas goats. *Applied Animal Behaviour Science* 102: 12-23.

Carrión V., Donlan C.J., Campbell K., Lavoie C., & Cruz F. 2007. Feral donkey (*Equus asinus*) eradications in the Galapagos. *Biodiversity and Conservation* 16: 437-445.

Graham M., Kinlan B., Druel L., Garske L. & Banks S. 2007. Deep-water kelp refugia as potential hotspots of tropical marine diversity and productivity. *Proceedings of the National Academy of Sciences* 104 (42): 16576-16580.

Guezou A., Pozo P. & Buddenhagen, C. 2007. Preventing Establishment: an inventory of introduced plants in Puerto Villamil, Isabela Island, Galapagos. *PLoS One biology* 10: e1042-e1053.

Hearn A. & Toral-Granda M.V. 2007. Reproductive biology of the red spiny lobster *Panulirus penicillatus* and the slipper lobster *Scyllarides astori* in the Galapagos Islands. *Crustaceana* 80 (3): 297-312.

Jaeger H., Tye A., & Kowarik I. 2007. Tree invasion in naturally treeless environments: Impacts of quinine (*Cinchona pubescens*) trees on native vegetation in Galapagos. *Biological Conservation* 40: 297-307.

Jiménez-Uzcátegui G., Wiedenfeld D. A. & Parker P.G. 2007. Passeriformes afectados con viruela aviar en la Isla Santa Cruz, Galápagos. *Brenesia* 67: 29-34.

Lavoie C., Donlan J., Campbell K., Cruz F. & Carrión C. 2007. Geographic tools for eradication programs of insular non-native mammals. *Biological Invasions* 9: 139-148.

Márquez C., Wiedenfeld D., Landázuri S. y Chaves J. 2007. Human-caused and natural mortality of giant tortoises in the Galapagos Islands during 1995-2004. *Oryx* 41 (3): 337-342.

Milinkovitch M.C., Monteyne D., Russello M., Gibbs J.P., Snell H.L., Tapia W., Márquez C., Caccione A., & Powell J.R. 2007. Giant Galapagos Tortoises: Molecular Genetic Analysis Reveals Contamination in a Repatriation Program of an Endangered Taxon. *BMC Ecology* 7: 2.

Pacheco J., Herrera H.W. & Mackay W. 2007. A New Species of Thief Ant of the Genus *Solenopsis* from the Galapagos Islands (Hymenoptera: Formicidae). *Sociobiology* 50 (3): 1075-1086.

Russello M.A., Hyseni C., Gibbs J.P., Cruz S., Márquez C., Tapia W., Velensky P., Powell J.R. & Caccione A. 2007. Lineage identification of Galapagos Tortoises in Captivity Worldwide. *Animal Conservation* 10 (3) 304-311.

Toral-Granda M.V. & Martínez P.C. 2007. Reproductive biology and population structure of the sea cucumber *Isostichopus fuscus* (Ludwig, 1875) (Holo-thuroidea) in Caamaño, Galapagos Islands, Ecuador. *Marine Biology* 151: 2091-2098.

Vargas H.F., Lacy R.C., Johnson P.J., Steinfurth A., Crawford R.J.M., Boersma P.D., & Macdonald D.W. 2007. Modelling the effect of El Niño on the persistence of small populations: The Galapagos penguin as a case study. *Biological Conservation* 137 (1): 138-148.

Wiedenfeld D., Jiménez-Uzcátegui G.A., Fessl B., Kleindorfer S. & Valarezo J.C. 2007. Distribution of the introduced parasitic fly *Philornis downsi* (Diptera, Muscidae) in the Galapagos Islands. *Pacific Conservation Biology* 13: 14-19.

Technical Reports

Mauchamp A. 2007. Monitoreos de vegetación en el volcán Alcedo, Galápagos, Ecuador Noviembre 1995 – Noviembre 2006: Análisis y recomendaciones. Fundación Charles Darwin. 18 pp.

Castrejón M. 2007. Proceso de evaluación del manejo pesquero en la Reserva Marina Galápagos y formulación del Plan de Manejo Pesquero 2008. Comisión Técnica de la Junta de Manejo Participativo.

Castrejón M., Hearn A., Murillo J.C., Lalancette A., Reyes H., Gaibor N., Chalén X., Oviedo M., Espinoza E. & Avendaño U. 2007. Puntos de referencia objetivo para la pesquería de pepino de mar (*Isostichopus fuscus*) de la Reserva Marina de Galápagos. Comisión Técnica de la Junta de Manejo Participativo. 24 pp.

Castrejón M., Larrea S., Gravez V., Chalen X., Murillo J.C., Gaibor N., Reyes H., Martínez R. & Oviedo M. 2007. Capítulo Pesca del Plan de Manejo de la Reserva Marina de Galápagos, primer borrador (diciembre 2007). Comisión Técnica de la Junta de Manejo Participativo. 49 pp.

Cruz-Delgado F. & Jiménez-Uzcátegui G. 2007. Recuperación de la zona de anidación del petrel de Galápagos en La Comuna, Isla San Cristóbal. Fundación Charles Darwin. 24 pp.

Jiménez-Uzcátegui G. 2007. Censo del cucuve de Floreana *Nesomimus trifasciatus* 2007. Fundación Charles Darwin. 11 pp.

Jiménez-Uzcátegui G. 2007. Monitoreo de albatros *Phoebastria irrorata* Diciembre 2006, Isla Española. Fundación Charles Darwin. 12 pp.

Jiménez-Uzcátegui G. 2007. Monitoreo de albatros *Phoebastria irrorata* Junio 2007, Punta Cevallos, Isla Española. Fundación Charles Darwin. 6 pp.

Jiménez-Uzcátegui G. 2007. Monitoreo de albatros *Phoebastria irrorata* Mayo 2007, Isla Española. Fundación Charles Darwin. 10 pp.

Jiménez-Uzcátegui G. 2007. Censo parcial de flamencos *Phoenicopus ruber* 2007. Fundación Charles Darwin. 14 pp.

Jiménez-Uzcátegui G. & Betancourt F. 2007. Mortalidad de aves en la carretera Puerto Ayora-Canal de Itabaca 2006. Fundación Charles Darwin. 9 pp.

Jiménez-Uzcátegui G. & Vargas F.H. 2007. Censo del pingüino de Galápagos y cormorán no volador. Fundación Charles Darwin. 22 pp.

Jiménez-Uzcátegui G. Ed. 2007. CS/ECU/2006/168 Estudio biológico en Santa Rosa y El Camote Isla Santa Cruz e Isla Baltra. Fundación Charles Darwin. 41 pp.

Roque-Albelo L. & Ortega A.M. 2007. Evaluación de especies de invertebrados terrestres: priorizando especies en peligro. Fundación Charles Darwin. 51 pp.

Roque-Albelo L. & Landry B. 2007. Lista anotada de los Lepidoptera de las Islas Galápagos, Ecuador. Fundación Charles Darwin. 38 pp.

Salazar S., Jiménez-Uzcátegui G. & Míeles A. 2007. Una nueva enfermedad en crías de lobo marino *Zalophus wollebaeki*. Fundación Charles Darwin. 7 pp.

Thesis

Aguirre D. 2007. Aspectos etológicos, influencia antropogénica y distribución de la gaviota de lava *Larus fuliginosus*, una especie endémica del archipiélago de Galápagos. Universidad Central del Ecuador.

Larrea C. 2007. Movimiento, dispersión y éxito reproductivo del cormorán no volador *Phalacrocorax harrisi*, en las islas Galápagos. Universidad Católica del Ecuador.

Peñaherrera C. 2007. A study of the spatial and temporal distribution of the fish assemblage in the Galapagos Marine Reserve from fisheries landings. Pontificia Universidad Católica del Ecuador.

Betancourt Cargua R.L. 2007. Participación Comunitaria en el Monitoreo de Invertebrados Terrestres Introducidos en Puerto Ayora, Santa Cruz - Galápagos. Universidad Central del Ecuador.

Michuy V. 2007. Evaluación de impactos del turismo en dos colonias reproductivas de lobos de Galápagos *Zalophus wollebaeki*; Islas Mosquera y Plazas Sur, Galápagos. Universidad Central del Ecuador.

Salazar-Aldáz D. 2007. Ecología alimentaria del lobo marino de Galápagos en el islote Caamaño. Universidad Central del Ecuador.

GEF Reports

Atkinson R. & Rentería J. 2007. Informe control de la mora *Rubus niveus* en Santiago 2007. Fundación Charles Darwin. 8 pp.

Atkinson R. & Rentería J. 2007. Informe final sobre la aplicación del sistema de análisis de riesgo de plantas introducidas para identificar especies prioritarias. Fundación Charles Darwin. 7 pp.

Buitrón P. & Zabala J. 2007. Informe de revisión, compilación y evaluación de datos sobre *Rattus* sp. en el archipiélago de Galápagos. Informe sobre la base de datos de roedores introducidos y análisis de los datos en ella contenidos. Fundación Charles Darwin. 24 pp.

Carrión V., Sevilla C., Boada R. & Causton C. 2007. Priorización de sitios que requieren acciones de manejo contra las hormigas de fuego. Fundación Charles Darwin.

- Causton C.** 2007. Análisis de Riesgo de insectos introducidos a las Islas Galápagos, parte I. Fundación Charles Darwin. 26 pp.
- Chalén A.R.** 2007. Evaluación del soporte legal para el funcionamiento del Sistema de Inspección y Cuarentena para Galápagos. Fundación Charles Darwin. 27 pp.
- Cruz D. & Causton C.** 2007. Análisis del riesgo asociado a las operaciones y rutas aéreas al Archipiélago de Galápagos. Fundación Charles Darwin. 30 pp.
- Cruz D., Boada R. & Causton C.** 2007. Análisis del riesgo asociado al movimiento marítimo hacia y en el Archipiélago de Galápagos. Fundación Charles Darwin. 44 pp.
- Cruz D., Cruz M. & Arana D.** 2007. Evaluación del ejercicio de simulación en el marco del Plan de Contingencia contra la aparición del virus de la influenza o gripe aviar. Fundación Charles Darwin - Laboratorio de Epidemiología, Patología y Genética - Dirección Parque Nacional Galápagos y Servicio Ecuatoriano de Sanidad Agropecuaria de Galápagos, Sistema de Inspección y Cuarentena para Galápagos. 24 pp.
- Cruz D., Cruz M. & Arana D.** 2007. Evaluación del ejercicio de simulación en el Marco del Plan de Contingencia contra la aparición del Virus del Nilo Oeste en Galápagos. Fundación Charles Darwin - Laboratorio de Epidemiología, Patología y Genética - Dirección Parque Nacional Galápagos y Servicio Ecuatoriano de Sanidad Agropecuaria de Galápagos, Sistema de Inspección y Cuarentena para Galápagos. 26 pp.
- Fundación Charles Darwin & Parque Nacional Galápagos.** 2007. PROYECTO PINZÓN: Restauración de los Ecosistemas de las Islas Galápagos mediante la Eliminación de Roedores Introducidos. Informe Final del Taller Desarrollo de una Estrategia para la erradicación de roedores introducidos en el Archipiélago de Galápagos, abril 2007. Fundación Charles Darwin. 58 pp.
- Fundación Charles Darwin.** 2007. Informe de Batimetría de la Laguna El Junco. Fundación Charles Darwin. 17 pp.
- Fundación Charles Darwin.** 2007. Estudio de Impacto Ambiental previo a la instalación de bombas de agua marina en la zona marino-costera de Las Diablas, Isabela Sur, como mecanismo de control de la población de ranas (*Scinax quinquifasciata*) por parte del Parque Nacional Galápagos. Fundación Charles Darwin. 15 pp.
- Fundación Charles Darwin.** 2007. Sistematización del Monitoreo Comunitario del mosquito *Aedes aegypti*. Fundación Charles Darwin. 15 pp.
- Fundación Charles Darwin.** 2007. Sistematización del Monitoreo Comunitario de la rana *Scinax quinquifasciata*. Fundación Charles Darwin. 12 pp.
- Fundación Charles Darwin.** 2007. Estrategias para el Fortalecimiento del Sistema de Inspección y Cuarentena para Galápagos. Fundación Charles Darwin. 27 pp.
- Herrera H.** 2007. Informe de la base de datos y actual distribución de hormigas introducidas en las Islas Galápagos. Fundación Charles Darwin. 42 pp.
- Herrera H. & Roque-Albelo L.** 2007. Lista anotada de las hormigas de las Islas Galápagos Ecuador. Fundación Charles Darwin. 13 pp.
- Laboratorio de Epidemiología, Patología y Genética de Galápagos (LEPG-G) "Fabricio Valverde, Fundación Charles Darwin y Servicio Ecuatoriano de Sanidad Agropecuaria-Galápagos.** 2007. Plan de contingencia para la aparición del virus del Nilo Oeste en Galápagos. Fundación Charles Darwin. 29 pp.
- Laboratorio de Epidemiología, Patología y Genética de Galápagos (LEPG-G) "Fabricio Valverde, Fundación Charles Darwin y Servicio Ecuatoriano de Sanidad Agropecuaria-Galápagos.** 2007. Plan de Contingencia para la emergencia del virus de la Influenza Aviar en Galápagos. Fundación Charles Darwin. 29 pp.
- Lincango M.P.** 2007. Análisis de Riesgo para la Importación de Frutos de Cinco Especies a las Islas Galápagos. Fundación Charles Darwin. 88 pp.
- Lincango M.P. & Causton C.** 2007. Evaluación de las actividades del Sistema de Monitoreo y Vigilancia, FCD-SICGAL (Enero-julio, 2007). Fundación Charles Darwin. 21 pp.
- Lincango M.P. & Miele A.E.** 2007. Informe del Estudio Piloto: Invertebrados terrestres de Puerto Baquerizo Moreno, San Cristóbal, Galápagos. Fundación Charles Darwin. 22 pp.
- Lincango M.P., Azuero R. & Loayza J.** 2007. Informe Trimestral del Sistema de Monitoreo y Vigilancia de Invertebrados Terrestres Introducidos 2007 (4 partes). Fundación Charles Darwin. 98 pp.
- Lincango M.P., Miele A.E., Lomas E.E. & Betancourt L.** 2007. Invertebrados Terrestres presentes en Puerto Ayora - Santa Cruz, Galápagos. Fundación Charles Darwin. 31 pp.
- Rentería J., Atkinson R. & Buddenhagen C.** 2007. Estrategias para la erradicación de 21 especies de plantas potencialmente invasoras en Galápagos. Fundación Charles Darwin. 108 pp.
- Roque-Albelo L., Causton C., Azuero R. & Poulosom T.** 2007. Invertebrados Terrestres colectados a bordo del M/V Discovery. "Una nueva amenaza para la biodiversidad de las islas Galápagos, Ecuador". Fundación Charles Darwin. 32 pp.
- Velasco M.** 2007. Estudio de percepciones de la población de Galápagos sobre las especies introducidas, el Sistema de Inspección y Cuarentena (SICGAL) y el Comité Interinstitucional de Manejo de Especies Introducidas (CIMEI). Fundación Charles Darwin. 37 pp.
- Zabala J., Atkinson R., Milstead B. & Causton C.** 2007. Informe sobre propuesta del Sistema integrado para priorizar actividades de control de especies invasoras (vertebrados, plantas e invertebrados) para facilitar la toma de decisiones para el Fondo Fiduciario de Especies Introducidas en Galápagos. Fundación Charles Darwin. 4 pp.
- Zapata C.** 2007. Evaluación de la eficacia de los protocolos de fumigación a embarcaciones y aeronaves hacia Galápagos y entre islas. Fundación Charles Darwin. 95 pp.
- Other Publications**
- Banks S.** 2007. Estado de especies y hábitats marinos en Galápagos. En: Informe Galápagos 2006-2007. FCD, PNG & INGALA, Puerto Ayora, Galápagos, Ecuador. 122-127.
- Banks S.** 2007. Monitoreo ecológico submareal de las subzonas de manejo costero, 2004-2006. En: Informe Galápagos 2006-2007. FCD, PNG & INGALA, Puerto Ayora, Galápagos, Ecuador. 132-136.
- Causton C.** 2007. Riesgos asociados con las rutas aéreas actuales y propuestas hacia Galápagos. En: Informe Galápagos 2006-2007. FCD, PNG & INGALA, Puerto Ayora, Galápagos, Ecuador. 55-59.
- Causton C. & Sevilla C.** 2007. Último registros de invertebrados introducidos y su control en Galápagos. En: Informe Galápagos 2006-2007. FCD, PNG & INGALA, Puerto Ayora, Galápagos, Ecuador. 146-149.
- Cruz D. & Causton C.** 2007. Incrementa el tráfico aéreo a Galápagos. En: Informe Galápagos 2006-2007. FCD, PNG & INGALA, Puerto Ayora, Galápagos, Ecuador. 48-54.
- Hearn A., Murillo J.C. & Reyes H.** 2007. Disminuye la rentabilidad de las pesquerías en la Reserva Marina Galápagos. En: Informe Galápagos 2006-2007. FCD, PNG & INGALA, Puerto Ayora, Galápagos, Ecuador. 19-22.
- Hearn A., Toral-Granda M.V., Martínez C. & Reck G.K.** 2007. Biology and fishery of the Galápagos slipper lobster. En: E Spanier & K Lavalli (eds.) The biology and fisheries of the slipper lobster. Crustacean Issues, vol 17 287-308.
- Hearn A. & Murillo J.C.** 2007. Se agotan los recursos pesqueros costeros de la Reserva Marina. En: Informe Galápagos 2006-2007. FCD, PNG & INGALA, Puerto Ayora, Galápagos, Ecuador. 128-131.
- Jaramillo P. & Bungartz F.** 2007. The herbarium CDS at the Charles Darwin Station on the Galapagos Islands: Moving a collection into a new era. The Vascularium 2: 3-7.
- Jiménez-Uzcátegui G., Carrión V., Zabala J., Buitrón P. & Milstead B.** 2007. Estado de vertebrados introducidos en Galápagos. En: Informe Galápagos 2006-2007. FCD, PNG & INGALA, Puerto Ayora, Galápagos, Ecuador. 140-145.
- Merlen G. & Salazar S.** 2007. Estado y efectos antropogénicos en los mamíferos marinos de Galápagos. Plan de Acción para la Protección del Medio Marino y Áreas Costeras del Pacífico Sudeste. En: Memorias del Taller de Trabajo sobre el Impacto de las Actividades Antropogénicas en Mamíferos Marinos en el Pacífico Sudeste. 70-76.
- Jiménez-Uzcátegui G., Milstead B., Márquez C., Zabala J., Buitrón P., Llerena A., Salazar S. & Fessl B.** 2007. Vertebrados de Galápagos: estado de amenaza y acciones de conservación. En: Informe Galápagos 2006-2007. FCD, PNG & INGALA, Puerto Ayora, Galápagos, Ecuador. 108-114.
- Murillo J.C., Reyes H. & Hearn A.** 2007. Aspectos sociales de las pesquerías. En: Informe Galápagos 2006-2007. FCD, PNG & INGALA, Puerto Ayora, Galápagos, Ecuador. 15-18.
- Tye A.** 2007. La Flora endémica de Galápagos: aumentan las especies amenazadas. En: Informe Galápagos 2006-2007. FCD, PNG & INGALA, Puerto Ayora, Galápagos, Ecuador. 101-107.
- Tye A., Atkinson R. & Carrion V.** 2007. Incrementa el número de plantas introducidas en Galápagos. En: Informe Galápagos 2006-2007. FCD, PNG & INGALA, Puerto Ayora, Galápagos, Ecuador. 137-139.
- Young G. & Fessl B.** 2007. Project 15005 - conservation of the mangrove finch, annual report to DI 2007. <http://darwin.defra.gov.uk/documents/15005/387/15-005 AR1edited.pdf>

visiting

Visiting Scientists

Conley McMullen (James Madison University) Study on the Genus *Cordia* in the Galapagos Islands • Michael Woolf • Beattie Sturgill.

Gregory Shriver (University of Delaware) Development of a Strategy for Monitoring and Evaluating the Impact of Introduced Plants on the Galapagos Rail *Laterallus spilonotus* • James Gibbs • Margaret Pepper • Ann O'Hara Woltz • Nicole Schwarz.

Henning Adersen (University of Copenhagen) Comparative Studies of Plant Populations and Communities in the Galapagos Islands and La Plata Island • Anne Adersen • Marianne Philipp • Ruth Bruus Jakobser • Hafdis-Hanna Aegisdottir • Ida Hartvig Larsen • Christina Bramow • Signe Brandst Larsen.

Regin Pindstrup (Galathea Expedition) Morphology, Phenology and Pollination of Endemic Asteraceae in an Isolated Population on Floreana, Analysis of Vegetation in Permanent Plots • Rikke Dandanell • Casper Naundrup.

Stephen Walsh (University of North Carolina at chapel Hill) Identification of Invasive *Guayaba* on Sierra Negra Volcano in Galapagos • Julie Tuttle • Laura Brewington.

Mark Bush (NOAA) Reconstruction of the History of Climate and Vegetation in the Galapagos Islands Based on Lake Sediments. • Dunia Urrego • Bryan Valencia • Aaron Collins • Crystal McMichael • José Mogollón.

Chynthia Froyd (University of Oxford) Human Colonization and Environmental Changes in the Galapagos Islands, Remote Islands of the East Ocean • Emily Coffey • Alistair Seddon • Benson Schliesser • Ianin Robertson.

Ole Hamann (University of Copenhagen) Comparative Studies of Plant Populations and

Communities in the Galapagos Islands and La Plata Island: Dynamics of Vegetation and Management Actions. • Michelle Hamann.

Dennis Geist (University of Idaho) Vulcanological Studies of the Cerro Pajas Volcano and Floreana Island • Andrés Ruiz • Melissa Sabga • Nathalie Vigouroux.

Frank Sulloway (University of California, Berkeley Eric Rorer) Following in the Footsteps of the Darwin Expedition • Julianne Chase.

Anders Drud Jordan (Galathea Expedition) • Preben Hjorth.

Sandra Herbert (National Science Foundation) Reconstruction of Charles Darwin's Geological Expedition in 1835 on Santiago Island in the Light of Twenty-First Century Science • James Herbert • Dennis Geist • Andrew James Miles • Sally Anne Gibson • Andrew Thurman.

Jeffrey Powell (Yale Institute for Biosphere Studies) Molecular Genetics of Giant Tortoises of the Galapagos Islands • James Gibbs • Ann ÓHara Woltz.

Fritz Trillmich (University of Bielfeld) Social Structure in Sea Lion Colonies • Birt Muller • Kerstin Martin • G.Von Hegel • Katuska Torres • Ulrich Poerschmann • Juan Pablo Muñoz • Jana Jeglinski • Michael Tillmann.

Jeffrey Podos (University of Massachusetts) Morphology and Vocal Evolution in Darwin's Finches • Andrew Hendry • Ann McKellar • Anthony Herrel • Beatrijs Vanhooydonck • Daniel Luna • Luis F.de Leon Reyna.

Katheryn Huyvaert (Colorado State University) Biology of the Waved Albatross Conservation • Paul Doherty • David Anderson • Carolina Proaño.

Lukas Keller (University of Zurich) Study of Cross-breeding and Susceptibility to Disease in Galapagos Mockingbirds • Paquita Hoeck • Herber Biebach • Michael Janssen • Karla Muñoz.

Mads Ole Jensen (Galathea Expedition) Morphology and Vocal Evolution in Darwin's Finches • Rie Olsen Morten Kierkegaard

Martin Wikelski (Princeton University) Study of stress in marine iguanas • Maren Vitousek • Jim Adelman • Nathan Gregory • Nicole Cyr • Michael Romero • Gregory Florant.

Peter Grant (Princeton University) Princeton University) Ecology of Darwin's Finches on Daphne Island(1) and Genetic Bases of Beak Development in Darwin's Finches(2) • Rosemary Grant • Arkahat Abzhanov • Juan Carlos Collantes • Jennifer Gee • Francisco Moscoso • Celine Calbaut • Ricardo Mallarino.

Steven Emslie (University of North Carolina) Ecology and Foraging in Three Species of Tropical Boobies in Galapagos • Carlos Zavalaga • Teresa Maness • Devin Taylor • Sebastián Cruz

David Anderson (National Science Foundation) Galapagos Seabird Monitoring Program • Jaqueline Grace • Carolina Proaño • Sebastián Cruz.

Sabine Tebbich (University of St. Andrews) Study of Flexibility in Darwin's Finch Behaviour and Its Importance in the Use of Tools by Woodpecker Finches • Patrick Meidl • Irmgard Teschke • Sophia Stankewitz • Viiviana Morales • Caroline Raby • Erica Cartmill.

Joshua Feingold (Nova Southeastern University) Coral Reefs Hit by El Niño: Community Structure and Thermal Environment in Deep Sea Coral Communities • Gina Shure • Amber Little.

Publication Credits

The 2007 Annual Report was produced by the Information and Public Relations Program

Editor and Overall Concept:

Ivonne Guzmán

Graphic Design:

Margarita Silva R.

Contributors:

Alex Ontaneda and text authors.

Translation:

Jeffrey Morrison

We also wish to thank the CDF staff who provided content and suggestions during the preparation of this report.

Photography:

The CDF is grateful to the photographers who kindly donated the pictures for this publication.

Front cover: Rachel Atkinson / CDF

Back cover, and inside front and back

covers: David Jiménez.

Photos:

Ivonne Guzmán: Pg. 3

María del Carmen Barragán: Pg. 5

Charles Darwin Foundation Archive: Pg. 6, 7, 8, 9, 10, 14, 15, 16, 17, 33, 45

Sharon Deem: Pg. 11, 12, 13

Frank Bungartz: Pg. 18, 19, 20

Frauke Ziemmeck: Pg. 21

Claire Rainford: Pg. 22, 23

Daniel Rivas: Pg. 23

Alex Ontaneda: Pg. 22

Galapagos National Park: Pg. 24, 26, 27

Charlotte Causton Archive: Pg. 28

Fabricio Yauli: Pg. 29

Ronal Azuero: Pg. 30

David Jiménez: Pg. 31, 32, 36, 38, 41, 42, 43, 45

Rodrigo H. Bustamante: Pg. 34, 35

Carlos Pi: Pg. 44

Daniela Chalén: Pg. 45

Charles Darwin Foundation, Annual Report 2007

ISBN-978-9978-53-033-7

Copyright number: 029640

Printed by Grupo Impresor

Quito, Ecuador

September 2008

This report is printed in Evergreen Aspen 50 / 30 (50% of recycled fibers, 30% of post consume fibers), that fulfills the standards of the Forest Stewardship Council.

CDF Mission

To provide knowlegde and assistance, through scientific research and complementary action, to ensure the conservation of the environment and biodiversity in Galapagos.



Learn more about the Charles Darwin Foundation by visiting us on the web at www.darwinfoundation.org or writing to us at cdrs@fcdarwin.org.ec

Charles Darwin Foundation
Puerto Ayora, Santa Cruz Island
Galapagos Islands, Ecuador
Telephone: 593-5-2526146

