



# GALAPAGOS CONSERVANCY

*Saving one of the world's great treasures*

## WILDLIFE & ECOSYSTEM CONSERVATION

**2016-2020**

The long-term protection of the Galapagos Islands and its flora and fauna depends upon the restoration of healthy natural ecosystems. The balance among the plants and animals that evolved in Galapagos was damaged long ago by pirates, whalers, settlers, and others, as well as the many invasive species that arrived with them. Recent increases in development and human activity and the proliferating impacts of aggressive, introduced species have continued to disrupt many fundamental natural processes involving interactions among native plants, animals, microorganisms, and their environment. If left unchecked, the Galapagos Islands will eventually suffer irreversible losses of native and endemic flora and fauna.

In our program area of Wildlife and Ecosystem Conservation, our primary focus is the **Giant Tortoise Restoration Initiative (GTRI)**, carried out in collaboration with the Galapagos National Park Directorate (GNPD) and a group of international scientists. We also work closely with the Charles Darwin Foundation (CDF), local and international NGOs, Ecuadorian governmental agencies, and various individual scientists from US and Ecuadorian universities to protect, conserve, and restore healthy, balanced plant and animal communities, both terrestrial and marine, and establish effective science-based management strategies to ensure the sustainability of these communities in perpetuity. Through our projects, we encourage the development of effective and efficient knowledge management systems that are easily accessible and user-friendly, and strive to develop enhanced capacities in all fields at the local level.



Giant Tortoise © Sam Leinhardt  
Yellow Warbler © Merijn van der Meer  
Whale Shark © Pete Oxford/ILCP

# GIANT TORTOISE RESTORATION INITIATIVE

**T**wo centuries ago, the Galapagos Islands were home to more than 200,000 giant tortoises; today only 10% remain. Their dramatic decline was due primarily to overexploitation by whalers who used them for food on their long voyages in the 1800s. In more recent years, Galapagos tortoises have been and continue to be threatened by predation and habitat destruction from invasive species like rats and goats. These gentle giants were decimated, with much greater destruction of populations on the smaller arid islands.

It was on these islands that the saddleback tortoises evolved — with their smaller body size, longer legs and neck, and the front of their shell raised, which allowed them to reach higher for food, primarily cactus pads. Contrary to the huge domed-carapace tortoises of the wet highland regions of the larger islands of Galapagos, the saddlebacks' physical characteristics were ideally suited to the arid islands. All four of the extinct tortoise species (Pinta, Floreana, Santa Fe, and Fernandina) and the two most threatened species (Pinzón and Española) are all saddlebacks. Recovering these populations and their islands is vital to restoring Galapagos.

Giant tortoises have played a natural and essential role as ecosystem engineers in the Galapagos Islands for more than one million years, profoundly shaping the biological landscape to the benefit of the islands' other extraordinary creatures and plants. In addition to their crucial ecological role, giant tortoises play an important economic role as the Galapagos Islands' greatest eco-tourism attraction.

The long-term goal of the Giant Tortoise Restoration Initiative is to restore tortoise populations throughout the archipelago to their historical numbers. While achieving this vision is far in the future, the first steps have been taken and the process is well underway.



**Above:** Park rangers release young tortoises on Santa Fe Island in June 2015, marking the first time in more than a century that this island was home to tortoises. © GNPD

**Below, left:** Tortoises found in the highlands on Wolf Volcano on Isabela Island during a November 2015 expedition to search for Pinta and Floreana hybrids. © Paul M. Gibbons

## GALAPAGOS CONSERVANCY: RESTORING TORTOISE POPULATIONS

Building on decades of tortoise research and management, an intensive planning workshop in July 2012 provided the blueprints for the **Giant Tortoise Restoration Initiative (GTRI)**. Now in its third year, the GTRI has made major advances in restoring tortoise populations and their islands. During the next five years, Galapagos Conservancy plans to invest more than \$1,000,000 in giant tortoise conservation efforts.

Although tortoise population numbers continue to be low, as they are long-lived species with the associated slow population growth, recent eradications of harmful introduced species (like goats and rats) that posed serious threats to tortoises make this long-term tortoise restoration project both timely and feasible. We can now focus on the long-term restoration of their numbers to historical levels. Full-scale recovery is the long-term goal of this Galapagos Conservancy-driven initiative.

Giant tortoises play important roles in shaping and maintaining healthy ecosystems. They disperse seeds of native plants; they modify habitat by opening areas where other animals and plants can thrive. Restoring giant tortoise populations to historical numbers will help return island ecosystems closer to their original state.

The GTRI is closely coordinated with the Galapagos National Park Directorate, which provides technical expertise, logistical support, personnel, infrastructure, and the authority needed to carry out the work. In addition, scientists with a long-term investment in Galapagos tortoises and their habitat play a vital role in the development and execution of many projects.

# TIMELINE OF GALAPAGOS TORTOISE CONSERVATION HISTORY

**The Giant Tortoise Restoration Initiative builds on decades of tortoise research and management. Notable past events and accomplishments provided the foundation for the more recent accomplishments and those yet to come.**

## 1965 – PRESENT

The **world-class tortoise breeding and repatriation program** of the Galapagos National Park Directorate and the Charles Darwin Foundation was established in 1965. Since then, this program has repatriated more than 4,000 young tortoises to their islands of origin.

## 1972 – 2012

**Lonesome George** (pictured below), the last Pinta Island tortoise, was discovered and taken into captivity where he lived out his life as a conservation icon at the Tortoise Center on Santa Cruz Island. He passed away in June 2012 at about 100 years old.



© Tim Saxe

## 1994 – PRESENT

**Genetic studies** of Galapagos giant tortoises were initiated at Yale University. Results from this ever-expanding work inform research and management strategies for all populations. Genetic testing of more than 1,600 tortoise blood samples collected on Wolf Volcano in 2008 identified numerous tortoises with partial ancestry from Floreana (extinct since the 1850s) and Pinta (extinct since the death of Lonesome George in 2012). We now have the opportunity to recover these lost lineages to their original islands.

## 1997 – 2006

**Project Isabela**, the largest ecosystem restoration initiative ever carried out in a protected area, successfully eliminated introduced goats — one of the biggest threats to giant tortoises — from northern Isabela, Santiago, and Pinta Islands. Many said the task was impossible. Project Isabela proved otherwise, with ecosystems now rapidly recovering on these islands.

## 2009 – PRESENT

Major advances are being made in understanding tortoise movement and the technology to study it via support from the **U.S. National Science Foundation**.

## 2010

Tortoises were returned to **Pinta Island**. 39 sterilized hybrid adult tortoises were released and are now thriving and exerting a significant ecological impact on the island and modifying the habitat to facilitate future tortoise releases.

## 2010 – PRESENT

A major survey of tortoises, cacti, and woody vegetation conducted on **Española Island** in 2010 revealed that the Española tortoise, nearly extinct 40 years ago, is now secure with about 1,000 tortoises breeding on the island. Monitoring continues.

## JULY 2012

An international workshop in Galapagos, **Giant Tortoise Recovery through Integrated Research and Management**, generated the priorities and strategies for the GTRI.

## DECEMBER 2012

A **rat eradication campaign** was carried out on **Pinzón Island**. The absence of the introduced black rat will allow natural recruitment into the tortoise population.

## 2014 – PRESENT

The **Giant Tortoise Restoration Initiative** was launched with defined goals for every species of Galapagos tortoise.

## NOVEMBER 2014

The first in-depth review of the three Galapagos National Park **tortoise breeding and rearing centers** resulted in improvements and plans for data management, tortoise care, infrastructure, and long-term maintenance.

## DECEMBER 2014

The first *in situ* **hatchling tortoises** to survive in over a century were found on Pinzón Island — a result of the successful rat eradication two years before.

## JUNE 2015

The first **201 juvenile Española tortoises** were released on Santa Fe Island to begin the repopulation of that island with tortoises genetically close to the original species.

## OCTOBER 2015

The identification of a new species of Galapagos tortoise — *Chelonoidis donfaustoi* or the **Eastern Santa Cruz Tortoise** — was announced.

## NOVEMBER 2015

Scientists and park rangers embarked on a major **expedition to Wolf Volcano** on northern Isabela Island to collect hybrid tortoises with partial Pinta and Floreana tortoise ancestry to initiate breeding programs for the two islands.



# RESTORING THE GIANT TORTOISE DYNASTY

## GALAPAGOS CONSERVANCY WILL INVEST MORE THAN \$100 MILLION

### RESTORING GIANT TORTOISE POPULATIONS

#### Returning Giant Tortoises to Santa Fe Island

The Santa Fe tortoise went extinct sometime in the mid 1800s. No complete specimen exists, but Yale University geneticists have used fragments available in museums to determine that the Española tortoise is the species most closely related to the extinct Santa Fe tortoise. Española tortoises reared in the Santa Cruz Tortoise Center are being used to reestablish a tortoise population on Santa Fe. The first 201 juvenile Española tortoises were released there in June 2015. Monitoring and additional releases are planned for the next ten years.

*Total funding needed: \$100,000*

\$20,000/year for international and interisland travel, equipment, and personnel

#### Reestablishing Tortoise Populations on Floreana and Pinta Islands

Tortoise extinctions occurred on Floreana in the mid 1800s and on Pinta in 2012, with the death of Lonesome George. Over the last two decades, genetic analyses of Galapagos giant tortoises (wild tortoises and museum specimens) have opened a window of opportunity for restoring these populations using hybrids found on Wolf Volcano (northern Isabela), which have partial ancestry from either Floreana or Pinta tortoises. Breeding programs for both populations will begin in 2017. Thirty-two adult tortoises (some known to have partial Pinta or Floreana tortoise ancestry and the rest with similar morphology) were taken from Wolf Volcano to the Tortoise Center on Santa Cruz in November 2015. Genetic analyses will determine their potential for the breeding programs. More tortoises may be collected in the future. Offspring from the breeding groups will be released onto Pinta and Floreana over the next two decades.

*Total funding needed: \$150,000*

\$30,000/year for international and interisland travel, equipment, and personnel

#### Improving the Tortoise Breeding and Rearing Centers

The Tortoise Breeding and Rearing Centers of the Galapagos National Park Directorate are an integral part of tortoise conservation and restoration. Providing scientific advice and supporting the GNPD in its efforts to ensure that the Centers are operating efficiently and effectively is a core part of the GTRI. Current work focuses on improving data management and establishing adequate facilities for the Pinta and Floreana breeding programs.

*Total funding needed: \$100,000*

\$20,000/year for international and interisland travel, equipment, and personnel



© Pete Oxford/ILCP

### RESEARCH & MONITORING OF GIANT TORTOISES

#### Understanding Tortoise-Cactus-Woody Vegetation Interactions and the Role of Tortoises as Ecosystem Engineers

A survey of tortoises, cactus, and woody plants was carried out on Española in 2010, and is repeated annually. Similar work is currently carried out on Santa Fe Island. A larger, archipelago-wide research project will help determine interactions among these groups and implications for many other Galapagos species that depend on them. Of particular importance is the status of cactus populations on the arid islands.

*Total funding needed: \$125,000*

\$25,000/year for international and interisland travel, equipment, and personnel

#### Population Surveys of Tortoises on San Cristóbal, Santa Cruz (Eastern Santa Cruz Tortoise), Southern Isabela, and Santiago

During the tortoise workshop in 2012, Galapagos National Park personnel and international experts identified several tortoise populations with major knowledge gaps related to tortoise distribution, genetic relationships among tortoises, and genetic diversity in repatriated tortoises. For example, much of the tortoise habitat on San Cristóbal Island has never been comprehensively surveyed and the genetics of the tortoise populations on southern

# STY ISLAND BY ISLAND

## N \$1,000,000 OVER 5 YEARS

Isabela are poorly understood. More intensive surveys of these populations are needed. Modern genetic analysis combined with intensive field work, including tracking tortoise movements with cutting-edge GPS technology, can help resolve the many unknowns and provide for more effective conservation measures.

**Total funding needed: \$175,000**

**\$35,000/year for international and interisland travel, equipment, and personnel**

### Fernandina Island

Only one giant tortoise has ever been seen on Fernandina Island, and it was collected by the California Academy of Sciences during their 1905-06 expedition. Since then, tortoises have been considered extinct, most likely due to volcanic activity. However, tortoise scat was found in 1964, a possible sighting of a giant tortoise was documented during an aerial survey in recent years, and additional scat and tracks were observed on a recent botanical expedition. A search is needed to determine if these sightings are in fact evidence of a Fernandina tortoise population.

**Total funding needed (one year only): \$30,000**

### Genetic Analyses of Tortoises

During the international tortoise workshop in 2012, tortoise genetics played an important role in determining research and management needs for the different populations. Ongoing analyses are needed as we move forward with the Pinta and Floreana tortoise breeding programs. In addition, knowledge gaps in tortoise genetics must be filled to improve tortoise restoration efforts. Priority populations include Pinzón, San Cristóbal, and southern Isabela tortoises. Some of this work has been initiated but additional analyses are needed. GC covers only a portion of the funding requirements.

**Total funding needed: \$150,000**

**\$30,000/year to help support the genetics analyses**

### Evaluation and Mitigation of Human Interactions with and Impact on Giant Tortoises

Giant tortoises were a traditional part of the diet of settlers in Galapagos. When the GNP was established in 1959, efforts to curb the hunting of tortoises were generally successful. However, killing tortoises underwent a resurgence in the 1990s and has become a serious concern on southern Isabela. In addition to poaching, increased development in the highlands of the inhabited islands has resulted in a network of road systems and infrastructure that impacts tortoise movements. A series of mitigation strategies will be developed including education, community outreach, and enforcement actions.

**Total funding needed: \$100,000**

**\$20,000/year for international and interisland travel, equipment, and personnel**

## Leaders of the Giant Tortoise Restoration Initiative

**Dr. Linda Cayot**, Galapagos Conservancy's Science Advisor, who has spent several decades working on behalf of Galapagos tortoise conservation, coordinates the Giant Tortoise Restoration Initiative (GTRI). She completed her PhD on giant tortoises in 1987, supervised the tortoise breeding and rearing center, and led much of the tortoise field work from 1988–1997. She played a major role in Project Pinta and organized the tortoise workshop in July 2012, which resulted in the GTRI.



**Washington (Wacho) Tapia** is the Galapagos-based Director of the GTRI. A Galapagos native and reptile expert with decades of field experience, Wacho has been working for Galapagos conservation since volunteering at the tortoise and land iguana rearing centers at the Charles Darwin Research Station following high school. He completed his graduate thesis on the giant tortoises of Cinco Cerros on southern Isabela Island under the supervision of Dr. Cayot. He then worked for the GNP for 15 years, leading their science program and technical group.



**Dr. James Gibbs**, GTRI collaborator and professor at the State University of New York College of Environmental Science and Forestry, has been working on giant tortoises for more than a decade and on Galapagos ecosystems for more than three decades.



He is currently the principal investigator on the tortoise-cactus-woody vegetation research and helped lead the return of tortoises to Pinta Island. Dr. Gibbs has been a long-term science partner with Galapagos Conservancy and the GNP.

**Dr. Gisella Caccone**, GTRI collaborator and evolutionary biologist at Yale University where she is a Senior Research Scientist and director of the Center for Genetic Analyses of Biodiversity, has been studying the genetics of Galapagos giant tortoises since 1994. Dr. Caccone has led the Yale tortoise genetics team for the last decade.





# WILDLIFE CONSERVATION IN GALAPAGOS CONSERVANCY WILL INVEST MORE THAN

Over the past 25 years, Galapagos Conservancy has helped to restore many threatened animal populations and to reduce the impact of invasive species with an unprecedented commitment of personnel, resources, and expertise. Between 2016 and 2020, GC seeks to invest more than \$3 million in wildlife and ecosystem conservation projects, in addition to our work restoring giant tortoises. Our overarching goals are:

- **Reducing impacts from introduced species and improving quarantine systems**
- **Restoring threatened wildlife populations**
- **Restoring islands closer to their historical condition**

In recent years, conservation efforts have shifted from a species-specific approach to focusing on the restoration of island ecosystems, building on the successful eradication of introduced species, such as feral goats and rats, that dramatically altered the natural systems. GC supports this work primarily through funding high priority projects and partnering with other institutions.



**Above:** A young captive-reared mangrove finch adjusts to the pre-release aviary on Isabela Island prior to being released back to the wild.  
© Francesca Cunninghame, CDF

**Right:** A canine member of the snail-detecting team sniffs an invasive Giant African Land Snail. © Rebecca Ross, Dogs for Conservation

## Saving the Land Birds

Several iconic land bird populations are in a spiraling decline. Mangrove and medium tree finches, as well as the Floreana mockingbird, are all *critically endangered*. The first extinction of a land bird species — the San Cristóbal vermilion flycatcher — was recently detected. Timely studies of all land birds may help prevent future extinctions. With the focus on the inhabited islands of Santa Cruz, San Cristóbal, Isabela, and Floreana, the goal is to develop management strategies to ensure the survival of these rare Galapagos birds. Galapagos Conservancy will continue to fund the lead scientists in this research.

**Total funding needed: \$375,000**  
\$75,000 per year for five years

## Combating Invasive Species

Galapagos ecosystems suffer due to the harmful effects of aggressive introduced plants, animals, and micro-organisms. Invasive species alter habitats, crowd out or replace native species, and affect human activities. Developing management tools to combat the most destructive of these invaders is vital, as well as improving methods to identify and prevent new introductions.

### Parasitic Flies:

Our top priority is the introduced parasitic bot fly, *Philornis downsi*. Additional research and management are needed to control this fly, which is having a devastating impact on finch and other small land bird populations. Current investigation is focused on avian-safe insecticides, mass-trapping with pheromones, sterile male release, and biological control using natural enemies. Galapagos Conservancy will continue to fund the lead scientists in this crucial effort.

**Right:** *Scalesia* forests have been reduced to nearly 1% of their original area. Efforts to eliminate invasive blackberry and quinine will help restore these trees to healthy numbers.  
© Patricia Jaramillo



**Below:** Given their dependence on specific marine algae for food, marine iguanas are one of the species expected to be most impacted by climate change.  
© Steven M. Genkins, "Seadoc"



# ACTION

## \$3,000,000 OVER 5 YEARS

### Tropical Fire Ants:

Invasive ants prey on both native invertebrates and vertebrates, including giant tortoise hatchlings, while their mutualistic relationship with introduced scale insects and aphids can seriously debilitate plants. Controlling the tropical fire ant (*Solenopsis geminata*) is high priority due, in part, to its capacity to disperse naturally between islands and its negative impact on humans and native biodiversity. Galapagos Conservancy will continue to fund scientists researching potential biological control species (decapitating flies!) to control these and other invasive ants.

### Invasive Plants:

The *Scalesia* forest on Santa Cruz, dominated by the giant daisy-tree *Scalesia pedunculata*, is now estimated to cover less than 1% of its original distribution. While habitat alteration in farmlands caused the initial decline, invasive plants, blackberry (*Rubus niveus*) and the quinine tree (*Cinchona pubescens*), are largely to blame for the more recent steep decline of the remaining *Scalesia* forest. Galapagos Conservancy will support efforts to develop control methods to reduce the impact of these invasive plants and restore the most heavily invaded ecosystems. Upcoming activities include determining the current distribution of these invasive plants, monitoring native plant communities in experimental plots and adding new plots, assessing the impact of plant control programs on native wildlife, and searching for natural enemies to be used in a potential biological control program.

### Marine Invasives:

Efforts are already in progress to prevent the arrival and spread of marine invasive species in the Galapagos Marine Reserve (GMR) and to investigate possible vectors that can transport these species, such as marine traffic and warmer ocean currents resulting from global climate change. To better understand potential risks of different species' spreading, Galapagos Conservancy will help fund the following projects: 1) install and analyze settlement plates in key sites of the GMR; 2) monitor key sites; 3) raise awareness among the community, and 4) conduct research in the GMR, focusing on two highly invasive species of green algae or "sea grapes," *Caulerpa racemosa* and *Caulerpa peltata*.

**Total funding needed: \$1,500,000**  
\$300,000 per year for five years

## Climate Change Implications for Galapagos and Measuring Vital Signs

Changes to our planet's climate as a result of human activities could be more rapid than has been observed in many thousands of years. In the islands famous as the world's "laboratory of evolution," the unique flora and fauna may not be able to adapt quickly enough. Decision-makers in all sectors, from natural resource managers to those responsible for human welfare, urgently need scientifically-based information on the potential impacts of global climate change on Galapagos, as well as long-term monitoring of the vital signs of

Galapagos in order to detect even small changes as they happen. A one-year expert-in-residence is needed to evaluate climate change implications and adapt global-scale oceanic and atmospheric processes to the Eastern Tropical Pacific zone, within which the Galapagos Islands are located. Establishing a Vital Signs monitoring program will enhance this effort by detecting, in real time, changes as they occur. Galapagos Conservancy will support the one-year analysis and the establishment of a Vital Signs Monitoring Program.

**Total funding needs estimated: \$500,000**

## Dogs as Conservationists

Due to their keen sense of smell, dogs have been used around the world to help with a variety of important "detection" jobs. Galapagos Conservancy recently funded two teams of dogs for use in Galapagos to:

- Detect already-established, highly invasive Giant African Land Snails in Santa Cruz before they spread, or even worse, disperse to other islands
- Prevent the arrival of new invasive species by sniffing incoming cargo to detect banned products

**Total funding needed: \$50,000**  
\$10,000 per year for five years



## Galapagos Biosecurity Agency (ABG)

The ABG controls, regulates, prevents, and reduces the risk of introduction and dispersal of exotic organisms that put at risk the native and endemic biodiversity of the Galapagos Islands, human health, and the local economy. ABG's work includes: 1) control and inspection at ports and airports; 2) monitoring pests and epidemiological surveillance for early detection of new invasives; and 3) emergency and rapid response actions to eliminate threats to Galapagos before they become long-term problems. Galapagos Conservancy supports ABG in implementing new effective techniques already proven in other countries, including:

- Establishment of new methods for collection and control of exotic species in points of embarkation/debarkation
- Investigating the behavior and host preferences of fruit flies on Santa Cruz Island
- Developing a baseline for swine diseases to enable decision-making
- Improving food quality and safety of locally-produced dairy products through microbiological analysis
- Education and involvement of the community in helping to detect and notify the ABG of the presence of new introduced species

**Total funding needed: \$250,000**  
\$50,000 per year for five years

## Project Floreana

Floreana Island is one of the most ecologically degraded islands in the archipelago. The first to be settled by humans, Floreana has sustained a significant loss of biodiversity, with the highest number of local extinctions, including giant tortoises, mockingbirds, and snakes. The restoration of Floreana must link conservation with the lives of the approximately 120 human inhabitants. Already, the eradication of introduced goats from Floreana has resulted in the recovery of native vegetation, and plans are underway to eliminate introduced rodents and feral cats. Recovery of the habitat will pave the way for reintroductions of giant tortoises and the Floreana mockingbird. We will continue to collaborate with our partners in this project, filling funding gaps and providing expertise when needed.

**Total funding needed: \$750,000**  
**\$150,000 per year for five years**



**Above:** Floreana Island has sustained the greatest loss of biodiversity of all of the Galapagos Islands. It will be the focus of several restoration projects aimed at returning it to a condition similar to how it existed a few hundred years ago.

**Below, right:** Rangers from the GNPD and ABG often work together with Galapagos Conservancy in the field. Here, they have just released tortoises on Pinta Island in 2010. © GC Archives



**GALAPAGOS**  
CONSERVANCY

*Saving one of the world's great treasures*

### GALAPAGOS CONSERVANCY

is a leader in the global collaborative effort to balance both conservation and a thriving community in one of the world's most remarkable ecosystems. We seek to advance and support the conservation of the unique biodiversity and ecosystems of Galapagos through directed research, conservation management, informed public policy, and building a sustainable society.

*Questions or comments?*

Contact [comments@galapagos.org](mailto:comments@galapagos.org) or 703-383-0077

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## Partners in Conservation

**Galapagos National Park Directorate.** The GNPD has its headquarters in Puerto Ayora, Santa Cruz Island, Galapagos and is the Ecuadorian governmental institution responsible for the administration and management of the protected areas of Galapagos. Galapagos Conservancy has worked with the Park for over two decades, providing annual support for projects. Since 2014, the GNPD and GC have been the two lead organizations for the Giant Tortoise Restoration Initiative.

**Galapagos Biosecurity Agency.** The ABG (Spanish acronym), created in October 2012 as a public institution working within the Ministry of the Environment, has its headquarters in Puerto Ayora, Santa Cruz Island, Galapagos. Its mission is to control, regulate, impede and reduce the risk of introduction, movement, and dispersal of exotic species, which threaten human health and the ecological integrity of Galapagos marine and terrestrial ecosystems. Galapagos Conservancy began supporting ABG in 2014 through the Dogs for Conservation program to control the Giant African Land Snail. Since then, GC has supported their dog and cat clinic as well as further development of their quarantine and control methodologies.

**Charles Darwin Foundation.** The CDF, an international non-profit organization registered in Belgium, operates the Charles Darwin Research Station in Puerto Ayora, Santa Cruz Island, Galapagos. The CDF's mission is to provide knowledge and assistance through scientific research and complementary action to ensure the conservation of the environment and biodiversity in the Galapagos Archipelago. Galapagos Conservancy has been a major funder to the CDF since GC's establishment in 1992; GC primarily supports research aimed at solving some of the highest priority issues in the Islands, as well as the library.

**Island Conservation.** IC is headquartered in Santa Cruz, California, and has a small staff working in Galapagos. IC's mission is to prevent extinctions by removing invasive species from islands. This work is tied very closely to much of GC's work in Wildlife and Ecosystem Conservation. We have supported several projects of IC in the last several years and collaborate with them on projects closely tied to the GTRI.

