

GALAPAGOS
CONSERVANCY

Saving one of the world's great treasures



ANNUAL REPORT 2013



Collaboration for Conservation

For more than 20 years, Galapagos Conservancy has focused on protecting and preserving the unique biodiversity of Galapagos. Our working model builds and invests in local capacity to achieve lasting, long-term conservation goals. This commitment to collaboration, leveraging funds and human resources, and leaving little institutional footprint in Galapagos keeps our effectiveness extremely high. In this year's annual report, readers will note great achievements in three areas of investment: ***ecosystem restoration, sustainable society, and emerging issues***.

Creating lasting change in Galapagos recognizes that local residents have both a right to live well and with dignity ("*buen vivir*") but also a responsibility to live harmoniously with their surroundings. So, too, the ecosystems that define Galapagos and its extraordinary landscapes, flora, and fauna require our attention, focus, and commitment. Implementing a shared vision will allow Galapagos to remain the best preserved tropical archipelago in the world.

In our Ecosystem Restoration work, we are pleased to collaborate with several international academic institutions and scientists. The ongoing battle against invasive species — whether it is the introduced bot fly that is destroying native bird populations or introduced plants that threaten local flora and agriculture – is woven through all of our conservation work in Galapagos. The ambitious Land Bird Action Plan maps out a multi-year, multi-institutional effort to restore threatened and endangered bird populations throughout the archipelago. And, the Giant Tortoise Restoration Initiative aims to restore healthy tortoise populations across all islands where they currently or once existed.

Young people in Galapagos have an enormous responsibility to protect the islands while living and working in balance with this World Heritage Site. The Government of Ecuador has committed to improving both curricula and teacher training, recognizing that the challenges facing Galapagos require a well-educated, engaged, and involved citizenry. Working with local, national, and international educators, Galapagos Conservancy is expanding proven practices implemented at the Tomás de Berlanga School, a local model school in Santa Cruz, to other schools throughout the archipelago. Buildng leadership and entrepreneurial skills outside the classroom, in addition to students' classroom instruction, will also make a significant difference in the lives of local youth.

Conservation in Galapagos requires fluid and rapid responses to complement the ongoing science and management initiatives carried out by the Charles Darwin Foundation and the Galapagos National Park Directorate. Galapagos Conservancy's Emerging Issues program provides immediate funding and access to a network of international scientists and institutions to help local authorities respond to unexpected crises. With this program, we also seek to identify and address observations and anecdotal information on new trends or potential threats that might impact conservation in the future.

None of this work would be possible without the generosity of our donors and friends. We remain grateful for your engagement and thoughtful support and look forward to our continued partnership with you to preserve, protect, and restore this extraordinary place.

Johannah E. Barry
President of Galapagos Conservancy

Richard S. Wood
Chairman of the Board of Directors

Philornis Working Group participants

Ecosystem Restoration

Galapagos Conservancy's ***Ecosystem Restoration Program*** seeks to rebuild healthy ecosystems in Galapagos, allowing plant and animal communities to return as close to their pre-human condition as possible. In 2013, our work focused on the following areas:

The Giant Tortoise Restoration Initiative aims to restore tortoise populations on all islands where their numbers decreased, as a result of human activity. Plans are underway to recover hybrid tortoises with partial Pinta and Floreana tortoise ancestry from Wolf Volcano to begin breeding programs for those populations. Young Española tortoises, reared in captivity, will be released on to Santa Fe, as a substitute species replacing the Santa Fe tortoises, which have been extinct for nearly 200 years. An important component of this project in 2013 was the development of protocols for rapid genetic identification of hybrid tortoises with Pinta and Floreana ancestry in preparation for future expeditions.

The Land Bird Action Plan responds to the unfortunate decline of several Galapagos land bird populations primarily on the inhabited islands. The mangrove finch (Isabela), the Floreana mockingbird (now only found on two satellite islands near Floreana), and the medium tree finch (found only on Floreana) are all critically endangered. The vermilion flycatcher has disappeared on Floreana and San Cristóbal and will soon be gone from Santa Cruz. Galapagos Conservancy worked with the Charles Darwin Foundation (CDF) to ensure an expert team of researchers to focus on the land birds of the inhabited islands (Santa Cruz, San Cristóbal, Isabela, and Floreana) to understand the underlying problems and to work toward their recovery.

The ***Philornis Working Group*** was established in response to the discovery in 1997 of *Philornis downsi*, a blood-feeding, parasitic fly that was accidentally introduced and is causing substantial levels of mortality in several species of endemic land birds. An international team of researchers, led by Dr. Charlotte Causton (funded by GC and working for the CDF), are collaborating to better understand the biology of the fly and to develop control methodologies. In addition to the work on *Philornis*, a major effort was begun to develop control methodologies for the tropical fire ant, *Solenopsis geminata*, which preys on native and endemic invertebrates as well as small vertebrates, including tortoise hatchlings.

A young mangrove finch, hatched and reared in captivity, is prepared to be released back into the wild on Isabela.
© Francesca Cunninghame

The Invasive Plants Initiative focuses on two of the most invasive plants in Galapagos — quinine and blackberry. Galapagos is typical of oceanic islands

in having a small native flora. However, in recent decades, increases in immigration and transport of fruits and vegetables to the Islands to meet the demands for growing tourism have meant a huge increase in methods of arrivals and introductions. In the case of plants, at least 65% were deliberately brought to the islands for agriculture or as ornamentals.

Funding from Galapagos Conservancy is helping resident scientists investigate the use of biological control as a management tool. Purposely introducing a new species in order to control another has its risks — the most serious being that non-target species may be affected. Pre-release testing in this phase of the project will ensure that the control species is absolutely specific to the target invasive and will not have a negative impact on other species.

Sustainable Society

Galapagos Conservancy's investments in a ***sustainable society*** seek to build an economic system compatible with biodiversity conservation, an educational system that readies citizens to be productive members of the local economy, and a strong civil society dedicated to and engaged in Galapagos conservation.

Galapagos Conservancy and its partners seek to expand best educational practices throughout Galapagos and to promote formative extracurricular activities such as citizen science, leadership and entrepreneurship development, and environmental awareness-building for K-12 students to reinforce what is learned in the classroom. Parents, teachers, business leaders, and representatives of the Ecuadorian Ministry of Education are working together to create a local voice for education in Galapagos — to speak to specific educational needs of the community.

The concept of ***Buen Vivir,* or good living**, focuses on living in harmony with other people and nature and is embedded in the Ecuadorian Constitution. Achieving *buen vivir* is challenging in Galapagos since local planning departments lack the experience and the means to guide residents on how to build sustainable, ecologically-friendly communities. Our investment in this area has created land use and building codes for developing the urban areas of Santa Cruz, the most heavily populated island in the archipelago. A secondary project on Floreana, the least populated of the inhabited islands, has resulted in an island-wide vision and a guide for developing the rural highlands in a sustainable manner.

Emerging Issues

Conditions in Galapagos are continually changing, influenced by both natural events as well as ever-increasing human-caused pressures. Galapagos Conservancy's ***Emerging Issues Program*** identifies and initiates discussion and evaluation of new impacts and trends with potential to negatively affect Galapagos conservation.

Monitoring blue-footed booby populations became urgent when anecdotal observations suggested that the population in Galapagos was declining. The multi-year project that ended in early 2014 concluded that the blue-footed booby population had declined steadily over that last few decades and that it is experiencing constant reproductive failure. Many traditional breeding sites remain largely empty, with few young surviving. Apparently linked to a scarcity of herring and sardine — historically important food items for the boobies that are no longer abundant in Galapagos waters — the ultimate cause is still being analyzed. Galapagos National Park officials now have the best available data to develop management scenarios for this iconic sea bird.

Invasive species are the greatest threat to the terrestrial ecosystem of Galapagos and can also have detrimental impacts on both agriculture and human health. While the current quarantine system has helped to decrease the number of species arriving to Galapagos, monitoring of cargo ships is also a vital component of preventing the future arrival of new species. Galapagos Conservancy supported the first year of an effort to create a system for identifying invasive species on cargo ships, highlight weak points in that system, and provide practical recommendations for improvement. After the first year, funded by Galapagos Conservancy, the Galapagos Biosecurity Agency now includes the work in their annual operational plan, thus establishing an effective system to be implemented in perpetuity.

Researchers and conservation managers have only a basic understanding of the location and functioning of the ***San Cristóbal watershed*** on which the entire population of the town of Puerto Baquerizo Moreno is dependent. The primary objective of this initiative was to identify the permanent stream systems on the southern slopes of the island, and specifically, to gain an understanding of hydrological processes in Galapagos. This research will allow a comparative analysis with the processes observed on Santa Cruz, the most densely populated island in the Archipelago, and provide the Galapagos National Park Directorate with the information needed to implement the new management plan for the protected areas of Galapagos.

Sean Burnett and Washington Tapia test a UAV in Galapagos. © James Gibbs

Unmanned Aerial Vehicles

for Monitoring and Management

Three Unmanned Aerial Vehicles (UAVs – autonomous helicopters with GPS guidance systems) were designed and built for use as monitoring tools in Galapagos. Each UAV is equipped with a high resolution "still" camera. For each monitoring run, the helicopter autopilot is programmed to take high-resolution (12 megapixel) aerial images from a low height (less than 50 m) at pre-determined sampling points. High quality imagery is collected with specified GPS points and altitudes, and the resulting imagery is compiled as a seamless mosaic and made available to the Galapagos National Park Directorate as both raw imagery and also modified to be viewable and measurable on Google Earth. Pilot tests to determine the utility of the imagery for ecological monitoring were undertaken on North and South Plaza and other designated small islands. After initial experimentation with the UAVs, a plan will be developed for expanding the use of UAV technology for monitoring ecological change in Galapagos and engaging the public to help analyze the imagery. Galapagos National Park Directorate personnel will be trained in UAV maintenance, flight planning, image processing, and analysis.

Tortoise Webcams

Bringing Galapagos to You

Web cameras are fast becoming a standard tool to engage the public in species protection and awareness. With start-up funding from Dr. Jim Gallagher of New Jersey, a long-time donor and friend to Galapagos, a series of four "tortoise-cams" and supporting web delivery systems were installed at the tortoise breeding pens of the Galapagos National Park Directorate Tortoise Center on Santa Cruz. With the webcams running continuously, uploads are sent daily to a remote server and then combined into one continuous streaming video that shows the highlights from all four cameras from the previous day. Footage is streamed on www.galapagos.org, where an interactive component allows interested observers to "chat" and comment on the footage. With the successful launch of these webcams, after overcoming the various technological hurdles that come with working in such an isolated place as the Galapagos Islands, we anticipate using more of these integrated systems to engage visitors and residents in the daily conservation efforts in Galapagos.

One of the young tortoises at the tortoise center on Santa Cruz goes in for a close-up inspection of the webcam installed in his pen. © James Gibbs

Galapagos Conservancy Financial Statements

Fiscal year beginning April 1, 2013 and ending March 31, 2014

(with comparitive totals for FY 2013)

	FY 2014	FY 2013
Revenue and Other Support		
Contributions & Membership	$2,905,336	$2,276,612
Sales	18,271	22,355
Investment Income	559,836	347,639
Total Revenue and Support:	**3,483,443**	**2,646,606**
Expenses		
Grants Out:		
Ecosystem Restoration	299,367	357,642
Sustainable Society	223,888	270,214
Galapagos National Park	126,910	100,000
Charles Darwin Foundation	530,526	$735,979
Other Strategic Partnerships	95,941	0
Allocated Program Costs	713,853	458,396
TOTAL Grants Out:	**1,990,485**	**1,922,231**
Costs of Goods Sold	**17,423**	**12,155**
Support Services:		
Management and General	153,474	198,217
Fundraising	506,811	530,813
TOTAL Support Expenses:	**660,285**	**729,030**
Total Operating Expenses:	**2,668,193**	**2,663,416**
Operating (loss) Income	815,250	(16,810)
Endowment Income	100,000	100,000
Adjusted Operating (loss) Income	**915,250**	**83,190**
Total Net Assets	**$5,660,879**	**$4,845,629**

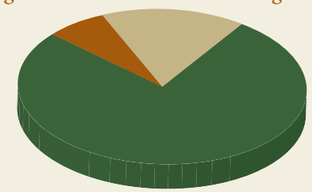
Mission

To advance and support the conservation of the unique biodiversity and ecosystems of Galapagos

Vision

Galapagos Conservancy works to ensure a balance between human society and nature that will protect and enhance the unique ecosystems of the Galapagos Archipelago. We value innovative science and conservation management that seeks to protect and conserve the unique flora and fauna of Galapagos and which constantly strives to add knowledge and context to the world's understanding of biodiversity conservation. We envision a healthy and engaged society within Galapagos that actively cares for and respects the sustainable and thoughtful use of local resources.

Management: 6% *Fundraising: 19%*



Grants and Conservation Investments: 75%

Artificial Penguin Nests

To Increase the Galapagos Penguin Population

The Galapagos penguin is the rarest and most endangered penguin in the world. One reason is the limited options for suitable nest sites. To increase the population, Galapagos Conservancy funded the construction of high-quality, shady nest sites on three major islands (Isabela, Fernandina, and Bartolomé) where penguins currently breed. To date, monitoring of the artificial nest sites shows that they do, in fact, increase reproduction and reproductive success when food is available. The long-term goal is to reverse the decline of the Galapagos penguin population and to strengthen the population so that it can better withstand the impacts of more frequent and intense climate fluctuations caused by El Niño events.

2013 Contributors

We are grateful for the financial support provided by our 11,000 members whose generosity is at the core of our conservation investments. Here we recognize our Galapagos Ambassadors, who make annual gifts of $1,000 or more. Legacy gifts are marked by (L).

Isabela Society ($25,000+)

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Mary E. Forman (L)
Ilse Friend (L)
Henry Kirk Lathrop
Lesbian Equity Fund
John and Adrienne Mars
Judith Muggia
The Philecology Foundation
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Galapagos Islands, May 6-10, 2013
Arlington, VA, November 15, 2013
Fairfax, VA, February 10, 2014
Washington, DC, May 30, 2014

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This council is an informal group of scientists and conservationists in the U.S. who bring to our work a unique understanding of Galapagos and the issues surrounding protected places. These individuals provide valuable knowledge and perspective, and our work is enriched by their guidance. We are grateful for their willingness to share their time and expertise to help move Galapagos conservation forward.

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GALAPAGOS CONSERVANCY
Saving one of the world's great treasures

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