

Galapagos Islands Ecology Program 2014 Season Summary

EPI Galápagos Islands Ecology Program took place from February to August, 2014. The program maintained significant participation from local students, with a total of 156 participants from three islands. This number represents 37% of all students age 15 to 16 years old that live on the islands. Additionally, we experienced significant growth in the number of international students - a total of 120 participated in the program – an increase of 33% over 2013. For the first time, we hosted students from two U.S. universities. A total of 276 students from 20 local and visiting schools had the opportunity to work alongside park rangers, scientists, and EPI instructors on the following projects:

Tortoise monitoring in Galapagos National Park (GNP) –The GNP is conducting a giant tortoise population survey on Santa Cruz Island in order to collect data to determine the conservation status of this species (*Chelonoides nigra*), and better understand its population distribution. Students help collect data from tortoises including body measurements and geographical location. They also observe rangers tag tortoises with both brands and microchips which help with future data collection efforts. In 2014 students monitored a total of 102 tortoises and tagged 50 in the Chato Reserve, and in the Caseta and Salasaca areas of Santa Cruz Island.

Breeding Center – The GNP runs a captive juvenile tortoise breeding program with tortoises from different islands, with the goal of maintaining the populations of these threatened species. EPI students support the work of the park rangers in some of their daily duties like cleaning pens and feeding the tortoises. Additionally, students learn directly from the center’s staff, and help take body measurements from juvenile tortoises. They also learned how to monitor the growth of turtles and how to collect data.



International students at the breeding center

Invasive Species Eradication – EPI students helped to eradicate invasive plant species in sensitive areas of Santa Cruz Island, especially in Media Luna hill located in the highlands at 2000 feet above sea level. Introduced plant species like Cascarilla, Blackberry, and Guava are taking over endemic plants like Miconia. Students eradicated an area of 6.8 acres of invasive species, and reforested with 600 Miconia plants. In total they eradicated an impressive 7,693 Blackberry plants, 15,286 Santa María plants, 370 Cascarilla trees and 72 Guava plants.



Local students after the eradication work in Media Luna Hill

as seed dispersers on many of the Galapagos Islands. Students collected and tortoise dung samples at the Chato Reserve on Santa Cruz Island, then used tools like sieves, latex gloves, tweezers, and magnifying lenses in order to “open” and analyze the samples. The activity was lead by EPI instructors and local scientists that cooperate with Dr. Blake’s research. Students recorded a total of 7,671 seeds from 21 different plant species. Sixty-nine percent of the seeds belonged to Guava plants demonstrating how the ecosystem can be impacted by the tortoises distributing seeds.

Seed Dispersal – EPI continued supporting the giant tortoise research that Dr. Stephen Blake has been conducting for many years. Dr. Blake is a senior scientist who is studying the migration patterns and the ecological importance of the tortoises



Local students looking for seeds in fresh dung sample

Outreach and Alumni Program

Nest Protection – Invasive animal species like fire ants, feral pigs, feral donkeys, and feral cats threaten the existence of a considerable number of giant tortoise nests by eating the eggs and hatchlings, and heavy rains can also flood nests can decrease hatchling survival rates. As a conservation strategy, the GNP maintains a nest protection program to increase the birth rate of giant tortoise populations in the wild. Students visit nesting areas to help park rangers check the conditions of each nest, collect data, and release newborn hatchlings. This year, EPI provided an opportunity for 28 local students to join park rangers in five field day trips to “La Torta,” an important nesting site on Santa Cruz Island. The students uncovered a total of 69 nests and set free 245 hatchlings into the wild.



Local student measuring a newborn tortoise in the wild

The MOLA MOLA Ecology Club – The Mola Mola club is a group of 16 local students from different schools in Puerto Ayora, Santa Cruz Island. Their goal is to take an active role in local



Mola Mola members next to a pile of 2,200 plastic bottles

conservation projects, learn about science, ecology, and biodiversity, and help influence positive change in their community. This year the club organized activities like beach cleanups, a plastic bottle collection campaign (3,000 bottles so far!), outdoor cinema in parks, and promotion of renewable energy. The Mola Mola club is also involved in conservation activities with the Galápagos Tortoise Program, and leads cultural exchange activities for visiting EPI students, by taking them to key locations in town to talk about local conservation challenges.

One member of Mola Mola, Walter Pisco, has shown exceptionally strong leadership skills and interest in advancing conservation in Galápagos. This year, EPI helped secure funding for Walter to achieve his dream of studying biology at the University of Baja California Sur (UABCS), México, a top Latin American institute in the field of Marine Biology. Walter will be enrolling at UABCS in January 2015!

Community Monitoring of Sea Turtles – EPI partnered with the Charles Darwin Foundation (CDF), the GNP, and EPI alumni from the local community to create the first sea turtle nest monitoring project at Tortuga Bay, a locally popular beach just outside of Puerto Ayora on Santa Cruz Island. A group of eight students spent five days training at Bachas beach to learn how scientists and park rangers work with Green sea turtles and collect nesting data. Based on this experience and knowledge, the students initiated and led the Tortuga Bay conservation project. The students monitored the beach at Tortuga Bay three times a week for ten consecutive weeks and identified a total of 55 Green sea turtle nests. They marked every nest they found with a yellow flag to draw attention to its location and help prevent possible



Local students updating the informative billboard at Tortuga Bay

accidents from visitors to the beach. Students also created and placed signage at the entrance to the beach to increase awareness in the community about the beach’s importance as a sea turtle nesting site. At the end of the project, the students excavated the marked nests with CDF and GNP staff and found a total of 3,217 eggs shells, each one representing a newborn sea turtle. The data they collected indicates a 90.41% hatching success rate, proving the critical value that the beach has for the sea turtle population. EPI is working to continue this project in future years and expand it to other islands.

The annual students science symposium was hosted for the first time on San Cristóbal Island. A total of 250 people attended, including local students and school authorities. During the event, students that participated in EPI's Galapagos Island Ecology Program presented their scientific projects to the community and shared their EPI experience. Five top students received a special prize, a trip to Baja California to participate in EPI's Mexico program. EPI partners the GNP and the Ministry of Education were also present and recognized for their contributions to the program.

We sincerely thank all of the partners, collaborators, donors, participants and service providers of the 2014 Galapagos Islands Ecology Program. We extend a special thanks to the GNP, our main research and conservation partner, and the Helmsley Trust, IGTOA, Houston Zoo, the Galapagos Tortoise Program, and tourism operators Ecoventura and Canodros for their generous support. Fundación Galápagos donated inter-island cruises for 21 local students so they could learn natural history and explore career opportunities. EPI also collaborated with the Houston Zoo on a professional development workshop to train our staff on educational delivery.

EPI provides a unique opportunity for youth to learn about their roles as individuals in a world that continues to rely on their active participation in conservation. In 2015 we aspire to invest in our outreach and alumni program in order to continue to keep young people active in conservation. Investing in youth today will help create the leaders of tomorrow.