



Galápagos  
Conservancy  
[galapagos.org](http://galapagos.org)

# IMPACT REPORT 2022

REVOLUTIONIZING CONSERVATION PRACTICES FOR GALÁPAGOS





# A LETTER FROM GALÁPAGOS CONSERVANCY ACTING PRESIDENT DR. JAMES GIBBS



Dearest Galápagos Conservancy Community,

Thanks to you, 2022 was an extraordinary year for conserving, protecting, and restoring the Galápagos Archipelago and its awe-inspiring species found nowhere else on Earth. Your support resulted in dynamic programs focused on endangered wildlife populations, such as the Pink Iguana, the Galápagos Penguin, and Hammerhead Sharks, and even on extinct species, such as the Floreana Giant Tortoise, which may return to its home island next year for the first time since the mid-19th century.

Your generosity contributed to more sustainable communities, through 24 small conservation grants that unlocked the local knowledge and skills of Galapagueños with good ideas but without funding for implementation. Our Women in Sustainable Entrepreneurship Program (WISE) launched 40 new businesses that boost family income while providing valuable services for the community and the environment. During its seventh year, our Education for Sustainability Program continued to strengthen the skills, collaboration, and self-confidence of the 430 schoolteachers serving all 7,300 schoolchildren in the Islands.

In conservation, especially when dealing with species long-considered extinct, you don't always get storybook endings. In 2022, an expedition to Fernandina Island to find a mate for the last known Fernandina Giant Tortoise and another to the San Cristóbal highlands in search of the San Cristóbal Flycatcher both fell short of rediscovery. However, in both cases, we uncovered new clues and remain hopeful that we can bring these species back from extinction.

We are committed to what's best for Galápagos, its wildlife, and its people. This means empowering Galapagueños to lead conservation action. On September 9, 2022, we helped inaugurate Conservando Galápagos as a new local conservation partner. Washington Tapia, a Galápagos native and highly respected conservation leader, accepted the challenge to lead Conservando Galápagos and its talented local staff as its first General Director.

We are delighted with this progress but even more excited about the opportunities ahead. I look forward to sharing news about new initiatives, including a nature reserve on Isabela Island, a multi-year program to restore Waved Albatross nesting areas on Española Island, and several exciting projects related to Giant Tortoise restoration.

For now, please know that our success is your success. Nothing described in the pages of our 2022 Impact Report would be possible without the generosity and commitment of the Galápagos Conservancy Community. We are honored and grateful for your continued support.

With my sincerest gratitude,



*James Gibbs*  
**Dr. James Gibbs**

Acting President

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### SAVE GALÁPAGOS

Scan the QR code to help save the Galápagos Islands.



[galapagos.org/impactreport2022](https://galapagos.org/impactreport2022)

Galápagos Conservancy envisions a future where all Galápagos species are protected from extinction and natural ecosystems thrive in harmony with residents and visitors

In 2022, we continued to rewild Galápagos and achieve sustainability through powerful conservation efforts that combine local knowledge, best practices, and cutting-edge science. Our programs are possible thanks to a generous and ever-growing community of individuals and organizations that understands what is at stake in Galápagos.



# GALÁPAGOS CONSERVANCY BY THE NUMBERS



## WILDLIFE CONSERVATION

8

8 MAJOR EXPEDITIONS IN 2022 TO THE ISLANDS OF SANTA FE, FERNANDINA, PINZÓN, PINTA, SANTIAGO, NORTH SEYMOUR, BALTRA, AND TO WOLF VOLCANO

2,389

TORTOISES UNDER OUR CARE AT THE SANTA CRUZ AND ISABELA BREEDING CENTERS

2,700

ESPAÑOLA TORTOISES IN THE WILD, UP FROM ONLY 15 IN THE 1960S

1 MILLION

PHOTOS TAKEN BY WILDLIFE CAMERAS FOR ANALYSIS

55

BABY TORTOISES ADOPTED FOR LIFE THROUGH THE ADOPT A GIANT TORTOISE PROGRAM

100%

PINK IGUANAS (200-300 INDIVIDUALS) ON THE PLANET WE ARE WORKING TO SAVE

10

PINK IGUANA HATCHLINGS LOCATED, EXAMINED, AND RELEASED FOR THE FIRST TIME

80

WILDLIFE CAMERAS DEPLOYED ON WOLF VOLCANO

37

CONSERVATION GRANTS AWARDED



## COMMUNITY SUSTAINABILITY

7,300

STUDENTS IN GALÁPAGOS TAUGHT

430

TEACHERS TRAINED IN SUSTAINABILITY EDUCATION

55,900

TOTAL HOURS OF TEACHER PROFESSIONAL DEVELOPMENT

50

TEACHER-LEADERS TRAINED TO TAKE ON PROGRAM LEADERSHIP

98%

OF TEACHERS BELIEVE OUR CURRICULUM WILL BETTER PREPARE STUDENTS TO PROTECT GALÁPAGOS

27

COMMUNITY IMPACT GRANTS AWARDED

39

LOCAL ORGANIZATIONS SHARED THEIR EXPERTISE WITH TEACHERS AND STUDENTS



## GALÁPAGOS CONSERVANCY

37

YEARS OF PRESERVING, PROTECTING, AND RESTORING GALÁPAGOS

135

PROJECTS SUPPORTED

10,748

GALÁPAGOS CONSERVANCY MEMBERS WHO MAKE OUR WORK POSSIBLE

\$4.7M

TOTAL FUNDS RAISED IN 2022

#1

NONPROFIT SOURCE OF SUPPORT FOR CONSERVATION IN GALÁPAGOS

76%

OF FUNDING DIRECTED TO CONSERVATION ACTION THANKS TO INCREASED EFFICIENCY

4-STAR

CHARITY NAVIGATOR RATING FOR ACCOUNTABILITY, TRANSPARENCY, LEADERSHIP, AND ADAPTABILITY





## FROM THE DESK OF WASHINGTON TAPIA



I was born and grew up in Galápagos and have been involved in protecting its marine and terrestrial ecosystems my entire life. As a Galapagueño, I am grateful for the concern, expertise, and funding that we receive from around the globe to help protect this unique natural treasure we all love and share. The conservation challenges facing Galápagos are many, and the response requires large-scale, collective action.

Thanks to the launch of Conservando Galápagos, Galapagueños will now have unprecedented leadership roles in conservation in our Islands. Conservando Galápagos is a new local organization staffed and led by a seasoned technical team of dedicated Galapagueño conservationists. Conservando works closely with Galápagos Conservancy, the Galápagos National Park Directorate, and other local conservation organizations and community leaders to conserve, protect, and restore wildlife and ecosystems and to help ensure a sustainable future for the residents of Galápagos.

Conservando Galápagos was launched on September 9, 2022, and I am very excited to serve as its first General Director. Galápagos Conservancy has committed long-term support to fund on-the-ground conservation priorities identified by Conservando Galápagos and the Galápagos National Park.

Together with my team, we are committed to ensuring that your generous support is laser-focused on the highest conservation priorities to ensure that the precious wildlife of the islands is restored and protected forever.

I look forward to informing you throughout the year about this new and exciting chapter for conservation in Galápagos.

For Galápagos,



Washington Tapia  
General Director



Opposite: Giant Tortoises on Alcedo Volcano © Joshua Vela ; Washing... Tapia in the field © Joshua Vela



## BREAKING NEWS:

# IMPORTANT DISCOVERIES WILL HELP SAVE THE PINK IGUANA

Joint expeditions in 2022 by Galápagos Conservancy and the Galápagos National Park Directorate to Isabela Island's Wolf Volcano resulted in significant discoveries that will help us protect the Critically Endangered Pink Iguana. First spotted by Galápagos National Park rangers in 1986 and classified as a unique species in 2009, very little is known about the Pink Iguana, whose total population scientists estimate at less than 300 individuals. With no young Pink Iguanas seen in over a decade, concern has grown about the species' possible extinction.

During the expeditions, a team of park rangers and scientists, led by rangers Johannes Ramirez and Jean Pierre Cadena, identified Pink Iguana nesting sites and observed Pink Iguana hatchlings for the first time. They also retrieved thousands of photographs from wildlife cameras installed in 2021. The cameras documented competition for nesting areas by the more dominant Yellow Iguana also found on Wolf Volcano. More importantly, the cameras show that feral cats pose a significant threat to Pink Iguana hatchlings as they emerge from their underground nests.

Armed with this new and valuable information, Galápagos Conservancy and the Galápagos National Park are redoubling the work of Iniciativa Galápagos to research, monitor, and protect the Pink Iguana. To better support future field expeditions and serve as an observation point to control access to the area, the Park built a field station on Wolf Volcano's rim, providing a 360-degree view of the volcano and its surroundings. Construction of this site was completed in 2022 with Galápagos Conservancy support.

## PINK IGUANA HATCHLINGS DOCUMENTED FOR THE FIRST TIME



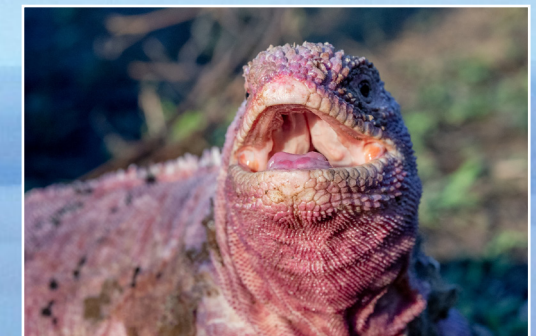
First photographic record of neonate pink iguanas. Wolf Volcano, Galápagos Islands. © Johannes Ramirez



A specimen of a neonate pink iguana. Wolf Volcano, Galapagos Islands. © Johannes Ramirez



Park ranger Johannes Ramirez monitoring a juvenile pink iguana. © DPNG



Pink iguana specimen in its adult age. Wolf Volcano, Galápagos. © Joshua Vela



Background: Permanent control and monitoring house on Wolf Volcano, Galápagos Islands @Galapagos Conservancy / Jorge Carrion



# FROM THE DESK OF DR. JORGE CARRIÓN



I am pleased to report that in 2022 *Iniciativa Galápagos*, a major joint conservation program operated by Galápagos Conservancy, Conservando Galápagos, and the Galápagos National Park Directorate made great progress towards rewilding the endangered species of Galápagos.

- ▶ **OUR DE-EXTINCTION PROGRAM** for the Floreana Island Giant Tortoise gained momentum with hybrid tortoises with Floreana genes rescued from Wolf Volcano breeding prolifically in captivity; many baby tortoises are awaiting release to the wild, pending the outcome of the upcoming rat and cat eradication on Floreana Island planned for later this year.
- ▶ **WE CONTINUED TO SEARCH FOR A MATE FOR FERNANDA**, the last known Fernandina Island Giant Tortoise. No others were found, but we have one last hope: a final expedition planned for 2023 to search the last habitat yet unexplored near where tortoise tracks were detected recently.
- ▶ **OUR PROGRAM SUPPORTED INVESTIGATIONS OF THE PINK IGUANA** on Wolf Volcano, which located the species' nesting areas for the first time and identified its primary threats (feral cats). These insights will enable the Park to move ahead with strategic interventions to save the species from extinction.

In 2023, we will continue these efforts and launch two major initiatives. The first is a large-scale expedition to the highlands of San Cristóbal Island to explore the area for any Giant Tortoises that might survive. We will also support redesigning and reconstructing the island's Tortoise Rearing Center.

The second major new focus will be a three-year effort to restore nesting habitat for the Waved Albatross on Española Island, including clearing many of their take-off and landing points and recruiting tortoises into the areas to help maintain vegetation suitable for nesting albatross.

*Iniciativa Galápagos'* strategic and long-term programs, described in more detail in our Impact Report, are possible because of the vision, generosity, and commitment of the Galápagos Conservancy Community. With your continued support, I am confident we will successfully restore these and other remarkable Galápagos species.



Jorge Carrión

Dr. Jorge Carrión  
Director of Conservation



Hatchling Giant Tortoises from Floreana Island at the Santa Cruz Breeding Center © Galápagos Conservancy



Fernanda, the only known tortoise of her species on Fernandina Island © Lucas Bustamante



A male Pink Iguana basking in the late afternoon sun on the summit of Wolf Volcano © Joshua Vela



Galápagos Conservancy park rangers and scientists plan ecological monitoring activities for Giant Tortoises on Alcedo Volcano, Isabela Island © Joshua Vela



Dr. Jorge Carrión alongside a GNPD park ranger in the highlands of Wolf Volcano © Joshua Vela



# INICIATIVA GALÁPAGOS 2022

Galápagos Conservancy, together with the Galápagos National Park Directorate, is leading the fight to save Giant Tortoises, Pink Iguanas, Waved Albatross, among other species across the Archipelago.

## PINTA ISLAND

Ecosystems are recovering on Lonesome George's Island of birth

- Until their eradication in 2003, as many as 40,000 feral goats roamed Pinta Island, devouring its native and endemic vegetation.
- In 2010, the GNPD and Galápagos Conservancy released 39 hybrid tortoises as ecosystem engineers to help restore the island.
- In 2022, a 16-person team conducted ecological monitoring that confirms that vegetation has recovered significantly in the absence of goats and tortoises are having a positive impact, dispersing seeds of endemic plants, and opening areas for new vegetation growth.



## SANTIAGO ISLAND

Scientists seek to restore the historical numbers and distribution in the island's tortoise population

- Previous expeditions revealed that the sex ratio of the island's population of 700-800 Giant Tortoises (*Chelonoidis darwini*) is significantly unbalanced in favor of males.
- In December 2022, a team collected 273 eggs and 56 baby tortoises of this species and transferred them to the Santa Cruz Breeding Center, where experts are maintaining the temperature of the eggs at 29.5° to produce as many females as possible.
- In five years, all the *C. darwini* tortoises that hatch at the breeding center will be released on Santiago to assume their role as ecosystem engineers.



## WOLF VOLCANO

Scientists learn more about the elusive Pink Iguana

- In 2022, research teams undertook 10 expeditions to Wolf Volcano on Isabela Island, where the total population of Pink Iguanas is estimated at between 200-300 adults.
- In February, Pink Iguana hatchlings were spotted for the very first time. This significant discovery will allow us to develop strategies for saving this species from extinction.
- To facilitate future research and monitoring, the GNPD, with funding from Galápagos Conservancy, completed the construction of a research station that provides a 360-degree view of Wolf.



## SEYMOUR & BALTRA ISLANDS

Researchers conduct intensive ecosystem monitoring

- In June, a 30-person team monitored 2,740 hectares on Baltra and North Seymour islands to determine the population status of land iguanas, *Opuntia* cacti, and various woody plant species.
- Scientists estimate the population of Land Iguanas (*Conolophus subcristatus*) at 2,467 on Baltra Island and at least 3,930 on North Seymour.



## SANTA FE ISLAND

Researchers study the ecological impact of released tortoises

- Since 2015, Galápagos Conservancy has worked with the GNPD to release 743 Giant Tortoises of the Española Island species (*Chelonoidis hoodensis*) to this island, which had been without tortoises for more than 150 years.
- In May, an 18-person team undertook a 7-day expedition and estimated that 99% of the Giant Tortoises released have survived and are thriving on the island.
- The team observed that tortoises are dispersing seeds and expanding the range of *Opuntia* cacti, which are an essential source of food for the island's Land Iguanas, and are likely soon to start breeding.



## FERNANDINA ISLAND

The search continues for a mate for Fernanda

- Fernanda, the last known Fernandina Giant Tortoise (*Chelonoidis phantasticus*), is thriving at the Santa Cruz Breeding Center.
- An extensive expedition in March 2022 did not find additional tortoises on the island.
- Several clues, including tortoise tracks and scat far from where Fernanda was found, will be investigated during a 2023 expedition to find a mate for Fernanda.





# EDUCATION FOR SUSTAINABILITY



by Lenin Rogel  
Education Coordinator  
Conservando Galápagos



Children receive experiential education and learn to care for the biodiversity of Galápagos © Galápagos Conservancy

## FORMING FUTURE LEADERS FOR A MORE SUSTAINABLE GALÁPAGOS

As a Galápagos native married to a Galápagos schoolteacher, and someone who has dedicated my professional life to environmental education, I couldn't be prouder and more excited to serve as Education Coordinator at Conservando Galápagos.

Through our Education for Sustainability Program, 7,300 school-age children learn through real-life examples and by implementing projects in the community that reinforce the interconnectedness of nature, economy, and society. In 2022, teachers in all grades implemented five month-long units focused on topics ranging from marine and terrestrial biodiversity to sustainable fisheries to renewable energy. Each unit involved project-based learning (an approach where students learn core subjects as they implement real-life projects), multiple learning activities outside the classroom, and opportunities for students to engage with experts in the community.

This past year was notable in several ways. For the first time, 50 teacher leaders trained by the program played a central role in developing and leading workshops for our biannual Teacher Institutes. Additionally, representatives from 39 local organizations participated in designing content for the Institutes and helping teachers better understand the conservation and sustainability topics they are required to teach. Collaboration among teachers and community members is becoming a common occurrence.

For me, the most promising news is the continued high satisfaction and motivation of the 430 PreK-12 teachers in the Islands. In October 2022, 86% of teachers reported feeling highly motivated and committed to their profession. Teachers tell us their motivation is due to our constant support throughout the pandemic and the satisfaction they receive from collaborating with their peers.

I am excited to see how this high level of motivation, combined with growing teacher skills and community involvement, translates into stronger and more impactful education in 2023 and beyond.

In 2022, the Education for Sustainability Program returned to in-person professional development for the first time since early 2020. Activities included:



Two five-day, 50-hour Teacher Institutes for all 430 Galápagos teachers. © Galápagos Conservancy



251 Teacher observations, where coaches facilitated reflections and feedback on each teacher's technique. © Galápagos Conservancy



207 Professional Learning Circles, where teachers worked collectively to plan and solve shared challenges. © Galápagos Conservancy



30 Hours of "boot camp" training for new teachers in Galápagos. © Galápagos Conservancy



# ADOPT A GIANT TORTOISE

Giant Tortoise restoration initiatives in the Galápagos Islands are among the most successful endangered species rewilding efforts in history. Over the past six decades, more than 12,000 tortoises have been reared in captivity, and approximately 80% of them have been already released to the wild to help populations overcome the damage done by centuries of exploitation. As “ecosystem engineers,” Giant Tortoises are mega-herbivores that have restorative impacts on the ecosystems and biological diversity of Galápagos. Despite this progress, Giant Tortoise populations in Galápagos are still just 20% of their historical numbers.



## LIFELONG CONNECTIONS HELP RESTORE GALÁPAGOS GIANT TORTOISE POPULATIONS

Launched in 2022, the Adopt a Giant Tortoise (AGT) program is helping the Galápagos National Park Directorate and Galápagos Conservancy to achieve our ambitious multi-decade goal of restoring Giant Tortoise populations to their historical range and numbers across the Archipelago.

The AGT program connects an adopter with a real tortoise for life. Adoption fees cover the true cost of the tortoise’s incubation, feeding it with Otoy and Portillo leaves, regular health monitoring by Park veterinarians, and its eventual release to the wild, usually five years after hatching. By then, Giant Tortoises are large enough (on average 3.75 pounds) and their shells strong enough to keep them safe from invasive predators.

Adopters receive twice-yearly updates about their adopted tortoise. Soon, adopters may choose to place a geo-locating tag on their tortoise’s shell to track it after its release to the wild. Giant Tortoises have been known to live for more than 150 years, so the bond formed through adoption can connect generations of conservationists. Since its launch in August 2022, 55 tortoises have been adopted through the AGT program, generating essential funding to bolster Giant Tortoise restoration throughout the Islands. Another set of young tortoises will soon become available for adoption.



### SCAN THE QR CODE

to learn more about our Adopt a Giant Tortoise program.

[galapagos.org/adopt](https://galapagos.org/adopt)



Meet Oobus Furlotti, the first Giant Tortoise to be adopted under the Adopt a Giant Tortoise Program © Galápagos Conservancy



Top: Giant Tortoise from Alcedo Volcano © Joshua Vela

Middle: Release of juvenile tortoises © GNPD / Galápagos Conservancy

Bottom: Juvenile Giant Tortoises at the Santa Cruz Breeding Center © Sue Cullumber





## SAFEGUARDING GALÁPAGOS PENGUINS FROM CLIMATE CHANGE

With as much as 70% of the Galapagos Penguin population lost during El Niño events in the 1980s and '90s, the recovery of this endangered species continues to face many challenges, including the erosion of nesting sites and introduced predators, such as cats and dogs.

Researchers led by the University of Washington's Dr. Dee Boresma made two expeditions in 2022 to monitor the penguins and inspect artificial nesting sites constructed of rocks and lava for the penguins in previous years. During these trips, the team employed a new method to distinguish between juveniles and slightly older penguins, which involves observing the color of a penguin's feet.

Dr. Boresma reports that the penguins' overall health was good and more penguins are using the constructed nests. However, the team observed fewer juveniles than in 2021. To ensure successful breeding in the future, her team repaired existing nesting sites and strategized with the Galapagos National Park Directorate on how to better protect these sites from predation and to formulate measures to establish marine protection zones to ensure reliable food sources for penguins.

## MARINE LIFE REBOUNDS WITH INNOVATIVE CORAL REEF RESTORATION

Along with a devastating impact on penguins, El Niño events three decades ago caused the decimation of many coral reefs in the Galapagos Marine Reserve. Extreme weather conditions, bleaching, and high densities of sea urchins reduced coral populations by 95- 99%. Since then, some coral reef communities have recovered, but more needs to be done to restore the corals of Galapagos, which filter water, store carbon, buffer shorelines from erosion, and serve as essential breeding and feeding grounds for many marine fishes, including sharks.

In 2022, Galapagos Conservancy teamed with the Galapagos National Park Directorate on a multi-pronged project to restore and expand coral populations. The first step involved establishing an underwater nursery in Academy Bay on Santa Cruz Island to grow five different coral species from coral fragments. Based on the success of this pilot project, the Park will soon establish more nurseries at Santa Cruz's Punta Estrada and other locations.

Estefany Altamirano, a Galapagos native and recent college graduate with a degree in biology, serves as the program's field assistant and coordinates young Galapagos volunteers who assist with underwater monitoring and cleaning the Academy Bay nursery. Estefany reports remarkable changes in the biodiversity in the area surrounding the nursery, with a greater presence of sharks, rays, Green Turtles, and crabs.



Coral reef restoration process © GNPD

## NEW BREEDING SITE FOR HAMMERHEAD AND BLACK TIP SHARKS

Galapagos sharks are apex predators that regulate populations of fish and other marine species and attract over 18,000 divers yearly to observe these amazing creatures in the Galapagos Marine Reserve. Despite the importance of sharks to marine ecosystems and Galapagos tourism, we know very little about the location and status of shark breeding sites.

In 2022, Galapagos Conservancy, the Galapagos National Park Directorate, and researchers from the Universidad San Francisco de Quito launched a project to learn more about Hammerhead and Black Tip Shark breeding sites, and to collect data on juvenile shark movements at these sites and their migration throughout the Galapagos Marine Reserve.

Expeditions to Santiago, Fernandina, and Isabela Islands confirmed breeding activity in several sites previously identified by fishermen and marine scientists and discovered a new site at Cartago Chico on Isabela Island. At each site, the movements of individual sharks were tracked for 48 and 72 hours using acoustic telemetry and satellite technology.

In 2023, the analysis of this data, plus blood, tissue, and fecal samples collected at each site, will tell us much about the health status of sharks and their behavior in the primary breeding locations in Galapagos.



Monitoring of a juvenile Hammerhead Shark © GNPD





## HOPE DIMINISHED BUT NOT LOST FOR THE SAN CRISTÓBAL FLYCATCHER

The San Cristóbal Flycatcher was abundant on San Cristóbal Island from its discovery by Charles Darwin to the early 20th century. However, invasive plants, especially blackberries, and the decline of Giant Tortoises upon which the flycatchers depend, damaged the habitats of this endemic species. Sightings became less frequent over the last several decades, and a six-month expedition conducted in 1998 did not spot a single specimen.

In 2022, intrigued by anecdotal reports from residents who are confident they continue to hear the San Cristóbal Flycatcher in the wild, 23-year-old Galápagos-born biologist Pablo Escarabay sought funding from Galápagos Conservancy to mobilize a team of park wardens, local youths, and a respected Ecuadorian ornithologist to find flycatchers and to develop strategies for their protection.

The team used traditional techniques, such as visual sightings and mist nets, as well as newer approaches, including acoustic monitoring, field cameras, and drone photography and video, that made it possible to explore large tracts of previously inaccessible parkland.

The project involved three field expeditions spanning just under three months. While the team did not observe any flycatchers, they interviewed residents in the island's highlands who insist they have heard flycatchers in recent years. These reports, combined with the local capacity built by this project to continue the search, leave the community hopeful of eventually spotting a flycatcher population and initiating conservation measures to allow it to rebound.

Pablo's passion and professionalism have earned him new funding from the local municipal government to continue the search. According to Pablo, "it is important to build local capacity among young people from Galápagos to conduct this kind of work and to make use of the deep local knowledge of park wardens who know our island like the back of their hands."



"I think it is important to build local capacity among young people from Galápagos to conduct this kind of work and to make use of the deep local knowledge of park wardens who know our island like the backs of their hands."

**- Pablo Escarabay**

## "DE-EXTINCTION" OF THE FLOREANA TORTOISE GAINS STEAM

Beginning in 2008, researchers conducted genetic testing on 1,600 tortoises living on Wolf Volcano in northern Isabela Island. To their surprise, the results revealed many tortoises with strong affiliation to the Floreana lineage, including several young tortoises that could be the offspring of a pure Floreana Tortoise. These Floreana survivors are likely descendants of tortoises that arrived with the help of mariners in the early 19th Century, who had collected them for food but later released them on the shores of Isabela's Wolf Volcano.

The discovery of these Floreana survivors set in motion a major program to re-establish this species, which has been extinct on its native island since the mid-1800s. Over the past 6 years, the Galápagos National Park Directorate received many of these descendants at the Giant Tortoise Breeding Center in Santa Cruz, where the first cohort of hatchlings hatched in 2018.

In 2022, Galápagos Conservancy and the Galápagos National Park ramped up capacity to breed Floreana Tortoises. We prepared additional nesting sites, increased the capacity of egg incubators from 200 to 600, and completed a genetic analysis of 45 adult tortoises to expand the size and number of reproduction groups. As a result of these measures, we expect the number of hatchlings produced for release back to Floreana Island each year to increase from 80 to 180.



Juvenile tortoise to be released after the invasive species eradication process in Floreana © Galápagos Conservancy



Tortoise in its natural state in Wolf Volcano from where the tortoises with Floreana lineage were extracted © Joshua Vela

Breeding male tortoise, descendant of the Floreana Island giant tortoise species © Galápagos Conservancy / Jorge Carrión





## EMPOWERING WOMEN ECO-ENTREPRENEURS

Based on our shared belief in women's essential roles in building healthier and more sustainable communities, Galápagos Conservancy and Goldman Sachs invested in 40 new projects in 2022 through the Women in Sustainable Entrepreneurship Program (WISE). By providing seed funding and targeted technical assistance, WISE empowers women to play more active roles in building businesses, developing their communities, and conserving Galápagos. We salute the creativity and hard work of current WISE participants and highlight a few examples of recent projects:

- ▶ On Santa Cruz Island, Lucía Galarza's new business will produce smoked tuna in olive oil, preserved in attractive recycled glass jars. Lucía is obtaining all the necessary permits to sell her products in town, on cruise ships, and on Ecuador's mainland.
- ▶ On Isabela Island, Johanna Quinto Leal is generating income and contributing to local food security through a new business that processes locally produced cassava, sweet potato, and corn.
- ▶ In the highlands of Santa Cruz Island, Emilia Bravo, a Galápagos schoolteacher, is establishing a small hydroponic vegetable operation that will generate income while providing hands-on opportunities for Galápagos teachers and students to learn about this innovative technology.



Support of waste management on Isabela Island, transforming recyclable waste into art  
© Galápagos Conservancy

Santa Cruz Island entrepreneur makes artisanal crafts from recyclable materials collected in coastal areas (top left); Children learn about conservation issues at the Santa Cruz Public Library with the help of an educator (top right); Women from the OMCA organization (bottom left); A Galapagueña promotes the care of native and endemic plants through the Native Gardens project (bottom right) © Xavier Castro/Galápagos Conservancy



# PRIORITIES FOR 2023 AND BEYOND



Achieving our ambitious conservation goals in Galápagos will require effective strategies and long-term commitment. In 2023, we will continue researching and developing conservation action plans for various endangered species, including the Pink Iguana, sharks, penguins, and corals. We will continue to invest in the innovative ideas of women entrepreneurs and other community members who present ingenious solutions to priority conservation challenges. We will also redouble our efforts to transform PreK-12 education in ways that shape generations of young people with a deep understanding of and commitment to preserving the special place they live.

In addition to these critical initiatives, we will:



Mating Waved Albatross on Española Island © Joshua Vela

**Launch a multi-year effort to restore the nesting habitat for the Waved Albatross on Española Island.** The Waved Albatross – the only tropical albatross in the world – nests almost exclusively on Galápagos' Española Island. The collapse of the island's endemic giant tortoise population in the 1800's triggered an invasion of woody vegetation that degraded the albatross nesting habitat. This initiative will evaluate and monitor the island's changing vegetation via satellite imagery secured under a cooperative agreement with NASA. We will remove woody vegetation from 45 critical albatross nesting areas, improving nesting conditions across an estimated 20% of the species' nesting range. Giant Tortoises will be released as "ecosystem engineers" to manage vegetation growth in these preferred nesting sites.



**Search for Giant Tortoises on San Cristóbal Island and redesign and renovate the island's Tortoise Breeding Center.** We are gearing up for a two-month expedition to explore the entire highland area of San Cristóbal Island in search of giant tortoises. A small remnant population survived in the highlands until 1905-1906, with the last specimens believed to have been slaughtered by settlers in 1933. In 2022, DNA extracted from the remains of tortoises found in highland caves revealed that they represent a distinct but now extinct species. Recently, park guards and farmers have provided anecdotal reports of tortoises still living in the highlands area of the island. Any tortoises found will be brought into captivity to establish a breeding colony to restore tortoises in the highlands where they once thrived. In parallel, we will redesign and renovate the island's Breeding Center to receive any newly discovered highland tortoises and to continue to breed tortoises

of the lowland species. The new design will provide visitors to the center – the most popular tourist destination on the island – a more rewarding experience.

**Establish a Tortoise Reserve to scale up efforts to breed and rewild Giant Tortoises on Isabela Island.**

In 2023 we will lay the groundwork for a tortoise reserve in farmlands on the slopes of the Sierra Negra Volcano on Isabela Island, where what was once the largest giant tortoise population in the Islands has been pushed to the point of extinction by the expansion of farming and poaching. The reserve will provide habitat for endangered tortoises and will allow us to conduct community outreach and education activities to raise public awareness about tortoises and the threats they face. It will serve as a staging ground for developing techniques to recover Isabela Island's tortoise habitats, and will also provide an additional safe location to rear tortoises before their release into the wild. Once the reserve is fully restored, it will be annexed to the National Park to expand the footprint of the protected area.

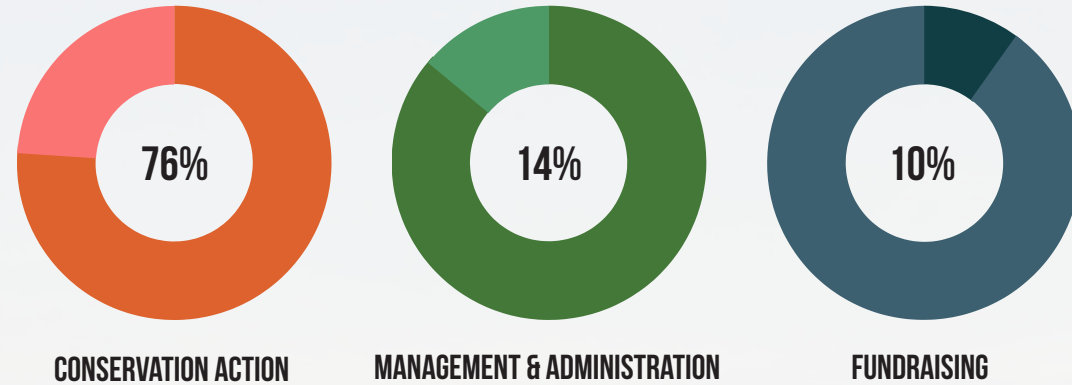




## 2022 FINANCIALS\*

### In 2022:

- Our donations and revenue totaled \$4,889,421
- Our expenditure totaled \$5,306,990
- 76% of our funding directly supports conservation action



1. Pre-audited numbers.
2. Surplus funds from FY2021 were applied to Conservation Action in 2022.

## CONSERVATION PARTNERS

Conservation is a team effort and we are grateful for the collaboration of our many partners who help us achieve our mission of a healthy future for Galápagos.

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 Fundación Scalesia  
 Fundación Un Cambio por la Vida  
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 International Union for Conservation of Nature  
 Island Conservation  
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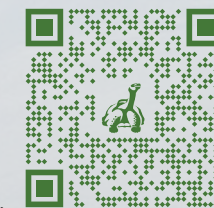
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Scan the QR code to help save the Galápagos Islands.

[galapagos.org/impactreport2022](https://galapagos.org/impactreport2022)



**The Galápagos Archipelago is one of the most remarkable places on earth.**

It is a living laboratory for evolution, conservation, and sustainability that teaches us daily about the power of focused science, locally led conservation, and informed philanthropy.

Galápagos Conservancy is grateful to the growing community of scientists, conservation managers, community leaders, and donors, whose shared vision and commitment will ensure the long-term protection of this world treasure.

Thank you for your enduring support.

