

Where is the project?

North Isabela

Restoration of the population of *Galvesia leucantha* ssp. *leucantha* from a population of 4 remaining individuals.

Baltra

Ecological restoration in 6 sites with current planning of the 'Baltra Verde 2050' subproject, which places emphasis on restoration in arid landscapes.

Plaza Sur

Ecological restoration of the populations of *Opuntia echios* var. *echios*.

San Cristóbal

Urban ecological restoration through the creation of ecological gardens in collaboration with local institutions.

Santa Cruz

Rural and urban ecological restoration, including the population of the emblematic *Scalesia affinis*. This is in addition to actions for sustainable agricultural practices on local farms.

Española

Ecological restoration of the populations of *Opuntia megasperma* var. *orientalis* on the island.

Floreana

Rural and urban ecological restoration, including special use zones such as a rubbish dump. This is in addition to actions for sustainable agricultural practices.

Our work so far

As of 2019, the project has developed about 80 study sites where over 10,000 plants of 76 different species are planted and have been monitored more than 78,000 times on seven islands: **Santa Cruz, Floreana, Baltra, Plaza Sur, Isabela Norte, San Cristóbal and Española.**

Some highlights of our results include the increase in populations of endangered keystone species, such as *Opuntia echios*, *Galvesia leucantha* and *Scalesia affinis* by 134%, 80% and 115% respectively. In Baltra more than 4000 plants from 12 endemic and native species have been planted, with each species playing a key ecological role in the arid ecosystem.

In agriculture, the use of water-saving technology has shown a positive return on investment and a saving of up to 40% more water than the traditional irrigation methods. For example, tomato plants grown with the technologies produce significantly larger and heavier tomatoes.

By 2018, GV2050 has created 12 ecological gardens for people across the archipelago to enjoy. In addition, a black granite mine has been completely restored to a native forest within just four years on Floreana island, as seen below.



Promoting biodiversity conservation of the Galapagos islands and the well-being of its human population through ecological restoration and sustainable agricultural practices



www.GalapagosVerde2050.com



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Galapagos Verde 2050 Project

Galapagos Verde 2050 is a multi-institutional and interdisciplinary project that actively contributes to the conservation of the natural assets of the Galapagos Islands and the well-being of its human population. This is done primarily through the use of water-saving technologies as tools for implementing successful ecological restoration and sustainable agricultural practices, helping the local community to live in harmony with nature.

The project is divided into two main research components:

-  **Ecological restoration** of degraded ecosystems in urban, rural, and protected areas.
-  **Sustainable agricultural practices** focused on family-run farms and the improvement of productivity of the farmland.

Objectives

-  Contribute to the restoration of degraded ecosystems with the aim of recovering and/or maintaining their ability to generate services for the population.
-  Contribute to the restoration of threatened or endangered plant species populations.
-  Contribute to the control and/or eradication of invasive species in high ecological value areas, both in natural and rural areas.
-  Reduce the risk of entry of exotic species through sustainable agriculture production that increases local sourcing.



Ecological Restoration

The project works to restore keystone species such as *Opuntia megasperma* on Española and emblematic species such as *Scalesia affinis* on Santa Cruz.

In urban areas we work closely with local institutions to create ecological gardens. Currently we have gardens located on four islands (Floreana, San Cristóbal, Baltra and Santa Cruz). These gardens help restore the ecosystem, increase pollinators and add to landscape enjoyment.

In rural areas we work on the restoration of agricultural areas invaded by non-native plants, eliminating and replacing them with endemic and native species.



Sustainable Agricultural Practices

We work with local farmers in agriculture zones in the highlands of Santa Cruz to help reduce dependency on imported products. In this way we help reduce the risk of invasive species introductions. We do this through the use of water-saving technologies that increase the survival and productivity of crops.



Water-Saving Technologies



Groasis Waterboxx® retains water and feeds it to the area surrounding the plant's roots, ensuring a constant water supply even in periods of drought. This facilitates accelerated growth, stimulates vertical growth of the main root and increases the overall survival rate of the plants.



Cocoon box works similarly to Groasis, but is composed of 98% biodegradable material (recycled paper, cardboard and wax).



Hydrogel is a super-absorbent and biodegradable powder, that increases soil water-holding capacity. By retaining water near the plant roots, it reduces the need for irrigation by up to 70% for five years.

The Future

In August 2027, the project will enter Phase 3.

This will encompass continuing the work started in Phases 1 and 2, but will introduce restoration to Santiago island, and more extensive work on San Cristóbal.

Within the sustainable agricultural practices component, the project plans to deploy an extensive use of technologies across the farmlands of the four inhabited islands, helping to increase self-sustainability by 2050.