



November 2019 Fernandina Expedition FAQ

When and where is the expedition?

Members of the expedition will depart on the evening of November 8, 2019 for Fernandina Island, the westernmost island in the Galapagos. The duration of the expedition will be eight days in total; two days of travel and six days of fieldwork.

Who will be conducting this expedition?

Washington Tapia will lead the project. Tapia is director of the Giant Tortoise Restoration Initiative (GTRI), a joint program between Galapagos Conservancy and the Galapagos National Park Directorate (GNPD), and the primary effort currently advancing tortoise restoration in Galapagos. The search will be conducted by 30 rangers from the Galapagos National Park Directorate organized into 10 groups.

What is the goal of the expedition?

Fernandina tortoises were thought to have gone extinct in the early 1900s. Only one had ever been found on the island over 100 years ago, until this year when another was discovered on a short expedition in February. The expedition in November 2019 represents the first comprehensive search for tortoises ever undertaken on Fernandina Island. Although the island has three coastal access points and a rough trail to its summit, much of it has never been explored. We hope to find more tortoises, and indeed expect to find more given that signs of other tortoises were found in February.

For any tortoises found, genetic analyses from blood samples will be done to confirm if they are members of the “thought to be extinct” Fernandina species. There is a possibility that any tortoises on Fernandina have been introduced from other islands. If other tortoises are found, the team will make informed decisions on the spot as to whether to leave them on the island or take a subset into captivity to join the tortoise found in February. This decision will be based on the numbers of tortoises found, how dispersed they are across the island, and their sex ratio.

What does it mean for Fernandina Island’s tortoise population if others are found?

Across all of the Galapagos Islands, a total of 15 tortoise species have been identified. According to the IUCN Red List, six are considered Critically Endangered, three Endangered, three Vulnerable, two Extinct, and one that was never officially described because no complete specimen has ever been



recorded. In the case of the Fernandina tortoise, it was considered extinct until the field team of this year's earlier expedition located a female tortoise on the island. This expedition will clarify for the first time how many tortoises still occur on the island, if those tortoises are native or introduced, and if a breeding program or other management action is warranted protect an endangered species.

Why are you trying to save Galapagos tortoises?

The long-term goal of the Giant Tortoise Restoration Initiative (GTRI), a collaborative effort led by Galapagos Conservancy and the Galapagos National Park Directorate (GNPD), is to restore tortoise populations to their historical distribution and numbers across Galapagos, including on islands where tortoises went extinct. This historic effort is composed of four main components:

- 1) Research and conservation on tortoises, vegetation, etc., on targeted islands
- 2) Breeding and rearing tortoises of threatened species
- 3) Repopulation of islands where tortoises went extinct
- 4) Research and management of tortoise-human interactions and conflicts

Having healthy tortoise populations in Galapagos is also critical for the health of many of Galapagos' other plant and animal species. Tortoises are very large herbivores and can be very abundant and act as important ecosystem engineers. Given that the historical population of all 15 tortoise species throughout the Archipelago was between 200,000–300,000 tortoises, and the current population is 10–15% of that, this recovery is a long, slow process but is now well underway.

Why are you returning to Fernandina?

In February 2019, Washington Tapia, Galapagos Conservancy's director of the Giant Tortoise Restoration Initiative, conducted a very short search of the lower, northwestern flank of the Fernandina volcano. In just a few days in the field, searching a fragment of the habitat available, he discovered a female tortoise with the help of Galapagos National Park Ranger Jeffrey's Málaga.

This was the first tortoise found on the island in more than 100 years, as Fernandina tortoises were believed to have gone extinct in the early 1900s. The team also encountered signs of tortoises near where the female tortoise was discovered that could not be attributed to her, suggesting more tortoises remain on Fernandina. With this expedition, we plan to explore all suitable habitats available to tortoises (every patch of vegetation on the island) and, hopefully, find more tortoises.



What work does the expedition involve?

- Identifying patches of vegetation suitable for giant tortoises.
 - Over the last year satellite imagery has been used to develop detailed vegetation maps that delineate possible tortoise habitats on Fernandina island.
- Developing a search plan.
 - Suitable habitat has been divided up into units of about 2 square kilometers– the most area that can be effectively searched in one day by a search group. These search zones have been uploaded to handheld GPS units so that searchers can know in real-time where they are on the island and use the GPS and field maps in combination to efficiently navigate to vegetation patches to search for tortoises and other wildlife.
- Exploring all aforementioned vegetation patches.
 - An exploration team of highly experienced park guards (10 teams of three park guards each over the course of six days) will be helicoptered into search zones to look for tortoises. Critical data will be collected on each tortoise found. Search groups will convene at night at a base camp to share what they learned each day, before departing again the next day. Over the course of six days all patches of vegetation and low areas of lava nearby them that might collect water and attract tortoises will be searched systematically.
- Capturing data on other species.
 - Because Fernandina Island has never been thoroughly explored but is known to be home to many species, park guards will be recording observations of a large number of other species – especially land birds, native rats, land iguanas, rare plants, and any invasive species as they travel around the island, while also visiting 300 fixed plots to measure plants and animals and establish a baseline for the future.
- Exploring caves.
 - On other islands of Galapagos, scientists have found the remains of giant tortoises that either fell into a cave or entered to shelter from the sun and became trapped.
- After the expedition, any tortoise blood samples obtained will be exported for expert analysis to confirm species identity.

When will findings be released?

We will have live reports from the field via satellite phone and satellite text message for short updates at least once per day on what the search teams are finding. A more comprehensive field report of the expedition will be provided to the Ecuadorian Ministry of Environment within several weeks of the expedition.