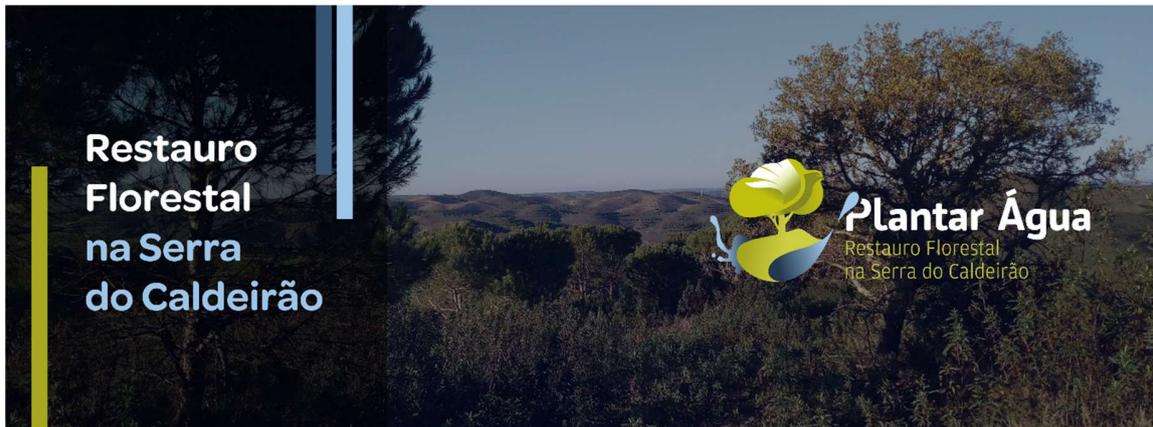


# Plantar Água - Final Report



**Project ID:** IG-2018-35591

**Reporting Period:** Oct. 2019 – Jun. 2022

**AQUA-FENIX – Post Fire Mediterranean Forestry Restoration for an Improved Water Cycle and Aquifer Recharge (renamed Planting Water – Forest Restoration in the Caldeirão Mountain Range)**

**Core Activity:** Restoration to natural forest in area damaged by forest fires

**Location:** Caldeirão Hills (Serra do Caldeirão), Algarve region, Portugal (ca. 30km north of Faro city) – see Fig. 1 below

**Core objective:** Restore fire-damaged forest to its original condition and biodiversity, and restore the natural infiltration to groundwater to benefit the volume and quality of aquifers and surface water

**Overall outcomes:** Recuperate the original Mediterranean forest and its biodiversity, disseminate such best practices locally, improve the water cycle and contribute to the replenishment and improved water quality of major regional aquifers and reservoirs, thus improving the water availability for key regional water uses (agriculture, urban supply, tourism)

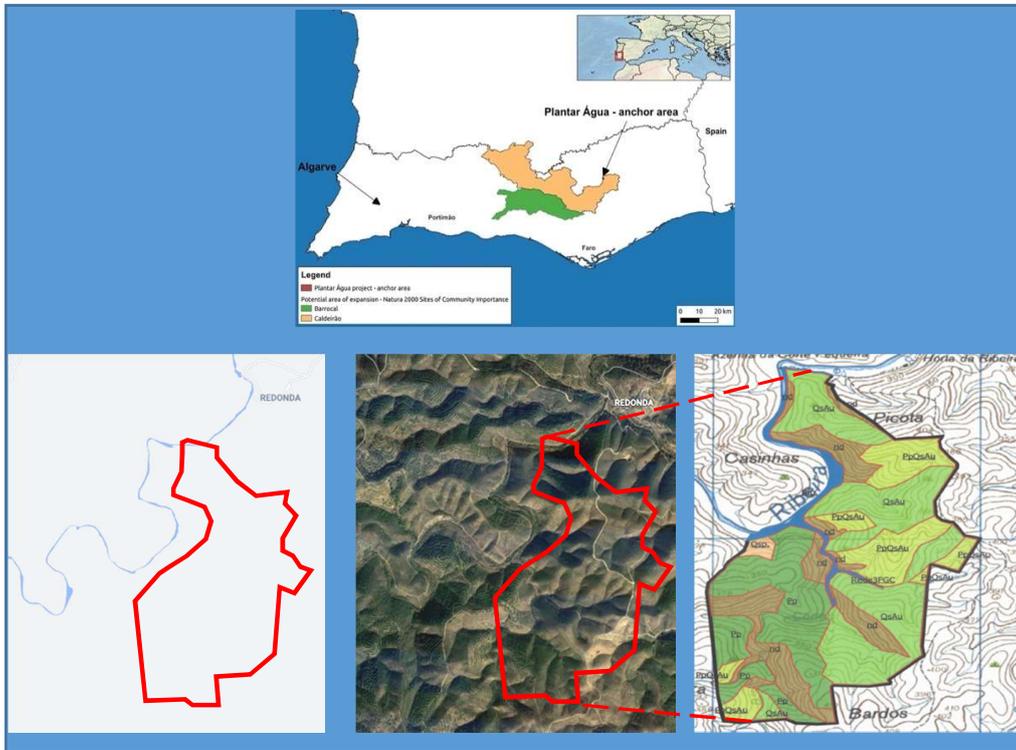


Figure 1. Project location

### Background and Activity description:

Although forest fires are part of Mediterranean ecosystems, recent land use trends (rural abandonment, shrub encroachment, lack of forest management) associated with extreme climatic events have increased the severity of wildfires impacts in Mediterranean regions. In Portugal, the 2017 wildfires burnt over 500.000 hectares and caused the loss of 112 human lives, in addition to significant economic losses. This is partly due to significant changes in land use that have progressively replaced the original Mediterranean forest, which dominated most of the country (predominantly in the south and inland north) and is more resilient to wildfires, by monoculture plantations (mostly pines and eucalyptus).

The significant ecologic impacts of severe wildfires and associated vegetation loss include: increased soil erosion, reduced rainwater infiltration and run-off of contaminated water to water bodies and aquifers. Overall the natural water cycle is disrupted. In the major wildfires of 2012 which impacted more than 25,000 hectares of the Serra do Caldeirão (in Portugal's southernmost region, the Algarve), such degradation seriously

affected the freshwater ecosystems downstream and associated aquifers. This was in a region already dominated by semi-arid and water-scarce conditions.

The project is using the best practices and knowledge gained from another Coca-Cola-supported project in Iberia - the Restoration Project Guadiana Basin (Factsheet 70, years 2008-2013). The project is contributing to restoration of the original Mediterranean forest and its biodiversity.

Additional qualitative benefits include soil formation, capacity building and educational value. The two latter are achieved through demonstrative field trips with regional landowners, decision makers and other key stakeholders. In addition, communication activities are targeting the region's general public to raise awareness and disseminate the project results.

The main part of the project is the planting of seedling trees. They are distributed according to slope/exposure, soil type and water availability, and clustered in order to promote its survival rate. The loss rate is reviewed with more planting to compensate for losses when appropriate.

The need for clearances of shrubs and other competing plants resulted in less total biomass on the land for the first year. This will progressively be compensated by the growth of the newly installed plants (both trees and shrubs). The condition will improve progressively year by year, until the Mediterranean forest is fully restored to reach a state of full maturity around year 2050.



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**Figure 2. Landscape and tree planting**

### **Success Metrics to Date for Primary Goal or Objective:**

200 million litres / year of water replenishment upon mature growth of planted forest (expected 2050)

## Progress towards meeting Overall Expected Outcomes and timeline:

- Oct. 2019: Project initiation
- Winter 2019/20: Target territory identification, target landowners (6) screened for social and environmental safeguards, landowners' agreements signing, regional partnership build-up
- 2020: Preparatory meetings with Coca-Cola Iberia, selection of field work contractor (SuberPinus)
- May 2020: Contingency planning and project Comms redesign due to Covid-19 pandemic and national emergency state
- Summer 2020: 8 meetings with local partners to present the project and to define partnerships - Local Forestry Producers Association (APFSC), Cachopo Parish Council (JFC), Municipalities of São Brás de Alportel, Tavira and Loulé (CMSBA, CMT and CML), Regional Directorate for Nature Conservation (ICNF), Algarve Tourism Region (RTA) and In Loco Association; 2 High-level presentation meetings with national partners, the State Secretary for the Enhancement of the Interior (Ministry of Territorial Cohesion) and the Portuguese Environment Agency (APA)
- Summer 2020: Key communication pieces created for the launch event in October: "Save the Date" and Program, leaflet and poster, website page, Video motion graphics, newsletter layout
- Winter 2020/21: Partnership protocols prepared and agreed with key partners - ALTRI (major national forestry company that will support and co-finance the project by providing part of the nursery plants needed), RTA (Algarve Region Tourism Agency, supporting the project through communication tools and upscaling intermediation), and ARHA (the regional department of the Portuguese Environment Agency, that will provide the water quality sampling kits and laboratorial analysis)
- Winter 2020/21: Land preparation, 35,000 seedling trees and shrubs planted across the 100 hectare target area. The plants were distributed according to slope/exposure, soil type and water availability, clustered in order to promote its survival rate
- 2021: 6 follow-up meetings with Coca-Cola Iberia (Jan, Mar, May, Jul, Sep, Nov); project renamed *PLANTAR ÁGUA – Restauro Florestal na Serra do Caldeirão* and media contents redesigned
- 2021: several media clips filmed and interviews, including the 3 main national TV channels (RTP, SIC and TVI)
- September 2021: Review of plant survival rates and losses



- Winter 2021/22: Replanting of 15,000 seedling trees and shrubs to make up for the losses
- 7 Dec. 2021: Field visit with regional partners, media and local students
- July, 2022: Project completion
- Project close-out date: September 2022

**Anticipated benefit duration end date:** Benefits are anticipated to continue for up to 28 years after the project close-out date, provided benefit duration requirements are met. Therefore, the benefit duration end date is 2050.

**Monitoring and maintenance:** Associação Natureza Portugal / WWF as a conservation NGO will continue to maintain interest in the project and in ensuring it remains in the intended condition. The 7 natural capital indicators (wildberries, pine cones and cork production, water quality, soil moisture, canopy cover, birds' diversity) will be monitored continuously until the end of the project, and continuity will be sought through other post-project complementary funding.

Presently, a \$20.000 donation is ensured with a Canadian private donor, and 3 proposals were submitted to major international funders (ARCADIA Foundation, EEA Grants, EU REACT Fund).