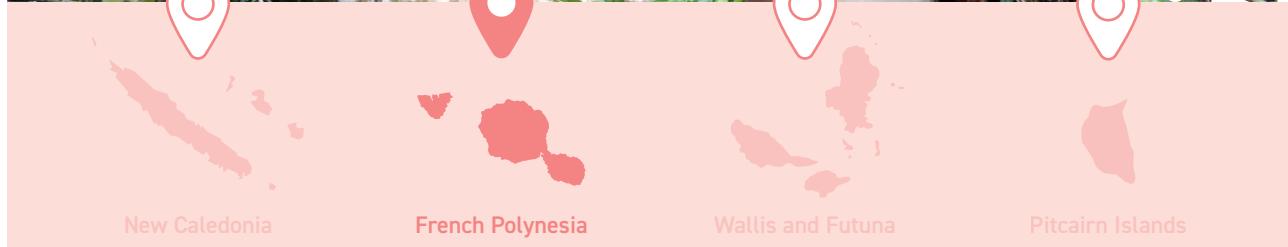


# INVASIVE PLANT SPECIES CONTROL AND BIODIVERSITY MANAGEMENT





New Caledonia      French Polynesia      Wallis and Futuna      Pitcairn Islands

 **BUDGET:** €569,000 (XPF 68 million)

 **PARTNERS:**

 **ACTION TIME PERIOD:** January 2020 – July 2024

**Direction de la Culture et du Patrimoine  
Te papa hiro'a'e faufa'a tumu**

- Associated communes of Opoa and Puohine
- Opoa and Puohine schools

## BRIEF SUMMARY

 Actions to control invasive plant species and restore biodiversity were carried out at the Taputapuātea UNESCO site located on the island of Raiatea in French Polynesia. By promoting the link between natural and cultural heritage, the project has stimulated an ecological management approach aimed at strengthening native, and even endemic, flora.

Thanks to the coordination work of an ecologist who has been on site for four years, awareness-raising and training activities have strengthened the skills and commitment of local communities. Based on a survey of local biodiversity and the invasive species present, removal actions were carried out on four target plant species before reinstalling heritage plants. One of the restored sites has also been enhanced by the creation of an educational trail, set up by a local association.

**“Ecological management of  
the Taputapuātea sacred site”**

Today, local stakeholders have enhanced skills and can rely on the equipment and greenhouses provided by PROTEGE to continue producing heritage plants. The revision of the UNESCO site management plan could thus benefit from their capacities, while one-off funding opportunities have been identified to support short-term actions.



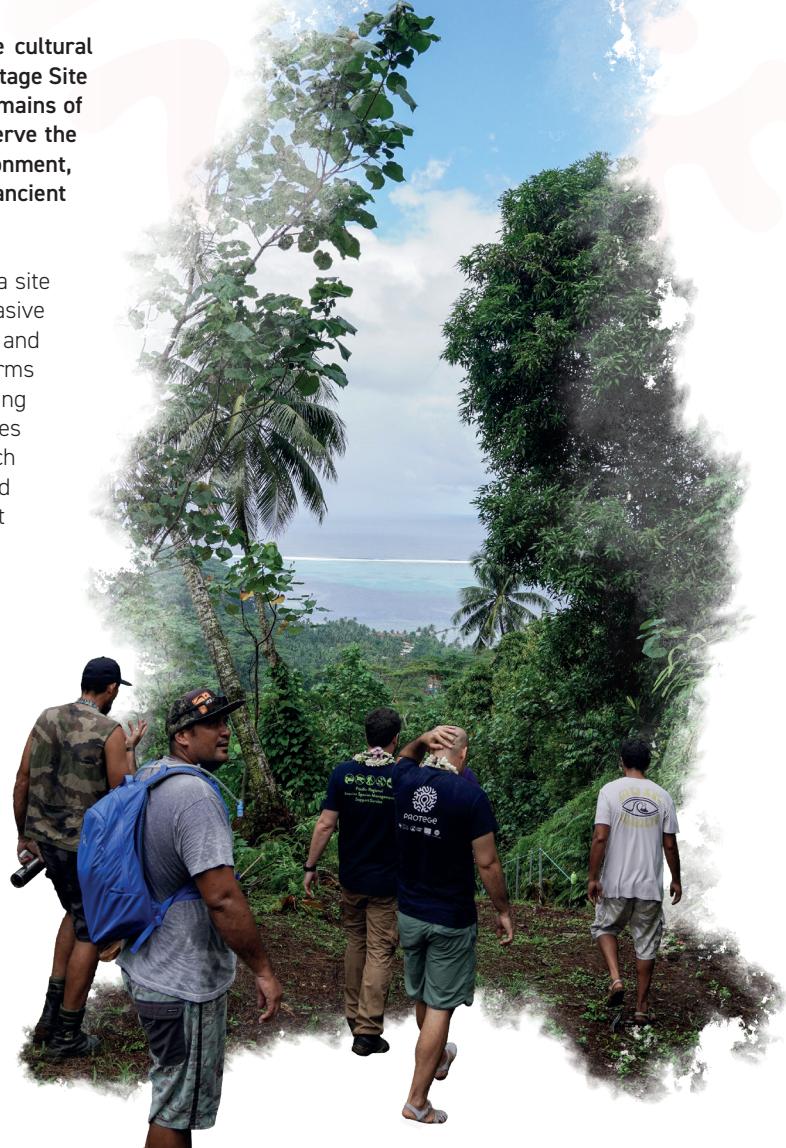
## BACKGROUND

Since 9 July 2017, the archeological complex of the cultural landscape of Taputapuātea has been declared a World Heritage Site (UNESCO). In addition to preserving the archaeological remains of the marae, the site's management plan also aims to preserve the Polynesian man-made forests and the terrestrial environment, considered to be places of memory bearing witness to the ancient mā'ohi civilisation.

Preserving the biodiversity that makes up the Taputapuātea site is a major challenge, however, given the pressure from invasive alien species (IAS). A total of 23 IAS, including 16 plants and 7 animals, have been recorded in the Aratā'o valley, which forms the core area of the cultural landscape. These fast-growing species threaten the survival of native and endemic species and disrupt the proper functioning of ecosystems. Trees such as *Falcataria* and *Cecropia*, for example, compete with and replace native species to form monospecific canopies that exacerbate soil erosion.

### “Support for the implementation of the World Heritage Site management plan”

French Polynesia wanted the PROTEGE project to support the Directorate of Culture and Heritage (DCP), responsible for managing the site, to help achieve the environmental preservation objectives set out in the management plan. The project was therefore designed to provide technical and financial support for the management plan.



## ISSUES & OBJECTIVES

Success in the fight against invasive alien species (IAS) requires long-term action, led by organised and engaged local stakeholders. In a context where the action to control IAS and restore environments were relatively new, a key challenge for the project was to raise awareness, encourage participation and train local stakeholders.

In this sense, the project was designed with the aim of training and calling on local associations and service providers, with a view to contributing to economic development around the UNESCO-listed site. Collaboration with the Directorate of Culture and Heritage is also a factor for sustainability, as this department has the skills and resources to maintain the site over the long term.



### ACTION WITHIN THE CULTURAL LANDSCAPE HAS 3 OBJECTIVES:

- Raising awareness and training local stakeholders
- Removing invasive alien species
- Driving restoration actions



## OUTCOMES

 An ecologist worked for four and a half years on invasive plant species (IPS) control and ecological management of the Taputapuātea Cultural Landscape, a UNESCO World Heritage Site since 2017. It coordinated and supported local stakeholders in awareness-raising and training activities, surveys, IPS control and forest restoration.

The project focused on raising awareness among local communities about invasive plant species issues, with **1,200 people reached directly and more than 2,400 people reached on social networks**. This awareness raising was supported by three locally recruited and trained facilitators, who carried out various activities for different audiences: six events in primary and secondary schools, ten educational workshops with associations, technical services and community service providers, and seven door-to-door days involving 286 households. These initiatives, sometimes accompanied by technical training courses, have played a key role in getting local stakeholders to take ownership of the project, thus contributing to its success.

At the same time, **survey work was carried out over more than 450 hectares to gain a deeper understanding of the World Heritage sites**. This characterisation of the native and invasive species present in the "core" and "buffer" areas of the listed perimeter has enabled us to target ecological control and restoration actions. This resulted in two key documents: a "Species Identification Field Guide", and a detailed mapping inventory.

**"Raising awareness, training and mobilising local stakeholders are key to making our actions sustainable"**

Plant species control focused on four specific invasive species (*Falcataria Moluccana*, *Spathodea campanulata*, *Cecropia peltata*, *Merremia peltata*), and led to the removal of more than 2,880 trees

and 7,958m<sup>2</sup> of invasive vines. These species threatened the native vegetation cover that is crucial for soil structure and stabilisation, and thus for preventing landslides in case of extreme climatic events.



**Restoration efforts were then initiated with the production and planting of more than 700 heritage plants.** The reintroduction of these native species aims to restore degraded ecosystem services critical to the resilience of ecosystems, notably soil structuring and water catchment. Maintaining heritage trees within the cultural landscape also commemorates the traditional practices associated with them, such as the Mapé (*Inocarpus fagifer*), whose trunk was used to transmit information by way of percussion.

Actions focused mainly on 3 hectares of sites managed by the Directorate of Culture and Heritage, which will maintain them to avoid the return of IPS. The prioritisation of these cultural sites, characterised by the presence of archeological structures, thus contributes to the sustainability of the project's results. The combined approach of preserving natural and cultural heritage aims to strengthen the resilience of ecosystems and communities in the long term.

To ensure sustainability of these initiatives, **three greenhouses were installed for the benefit of a municipality, an association and the UNESCO site manager.** Their purpose is to facilitate the continued production of heritage plants. In addition, the "Tamari'i Puohine" association was supported for its efforts to maintain biodiversity in Puohine, in particular for the creation of an agroecological tourism trail promoting restoration actions.

**The project's success relied on the mobilisation of local stakeholders.** Right from the programming phase, the desire to contribute to the structuring of a local network of stakeholders engaged in invasive species has been at the heart of the project. With this in mind, an ecologist was recruited to help local stakeholders develop their skills throughout the project. The absence of previous similar projects on the island of Raiatea drove the development of training courses, particularly for the logging company and the members of the "Tamari'i Puohine" association, on the safe use of herbicides and outdoor first aid and safety. The three facilitators responsible for the door-to-door awareness campaigns also benefited from training in mediation and local consultation.

## **"Removing invasive species and reintroducing native species"**

The inauguration of the project's achievements, held on 10 July 2024 in the presence of local elected officials, service providers, association members and residents, demonstrates this local engagement. It also made it possible to communicate the project's successes to local stakeholders and on the Taputapuātea municipality's social networks, as well as in the main French Polynesia media.



## **PROSPECTS AND SUSTAINABILITY**

 **The experience acquired during the PROTEGE programme is integrated into the ongoing evaluation of the management plan for the "Taputapuātea Cultural Landscape" UNESCO site and will help to guide its updating for the next five years.** The actions carried out as part of the project have played an important role in the implementation of the former action plan, which had previously been progressing rather slowly.

**At the inauguration of the project's achievements in July 2024, the stakeholders involved reaffirmed their commitment to continuing the actions initiated.** The Tamari'i Puohine association and the DCP should be able to maintain the sites concerned, in particular thanks to the greenhouses delivered for the production

of heritage plants. Although it has not been possible to secure a permanent post for an ecologist, Mr Raimana Teriitehau, who was the ecologist in charge of monitoring the project as part of PROTEGE, has been recruited by the DCP as the site manager from 19 August 2024, which should ensure a degree of continuity in the actions undertaken.

In the longer term, there are plans to engage with tourism stakeholders to integrate the visit to restored sites into ecotourism offers, in order to provide sustainable funding for maintenance work. The presence of trained service providers will facilitate the extension of actions in the event of additional funding.



## FIRST-HAND ACCOUNTS

### RAIMANA TERIITEHAU TEINA

*Ecologist on the Taputapuātea site*

**PROTEGE has enabled the implementation of the UNESCO management plan regarding IAS within the Taputapuātea Cultural Landscape.**

*Wherever PROTEGE has gone, a message has remained. Today we can see families setting an example by removing IAS from their homes. This is already a small victory, but it's still not enough given the scale of the task.*

*Today, I still monitor the projects implemented under the PROTEGE umbrella, thanks to my recruitment by French Polynesia Directorate of Culture and Heritage.*



### NINI TEINA

*Farmer in Taputapuātea*

*I'm very happy that I can see the archaeological site again. God willing, we will continue to protect and clean up around it.*



## KEY FIGURES

**1,200**

people reached by awareness campaigns

**7,958m<sup>2</sup>**

of invasive vines removed

**464ha**

surveyed for wildlife identification



**2,882**

invasive trees removed

**700**  
heritage plants

produced and planted



**336m<sup>2</sup>**

of greenhouses installed for the production of heritage plants

## DOCUMENTARY RESOURCES



PROTEGE



Scan or  
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resources

## REPORTS

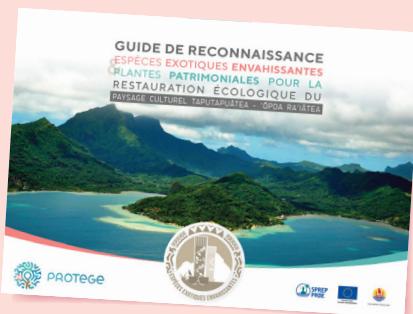
- DIREN/DCP: Teriitehau, R., (2020), Workbook: Taputapuātea Cultural Landscape
- Government of French Polynesia, (2016), Plan for the management and promotion of the Taputapuātea Cultural Landscape
- Raromatai Environment, Moana Environment, Fred Jacq, Créacom, (2021), Plan to raise awareness on invasive alien species and the importance of preserving the heritage flora of the "Taputapuātea Cultural Landscape"

## OPERATION SHEETS

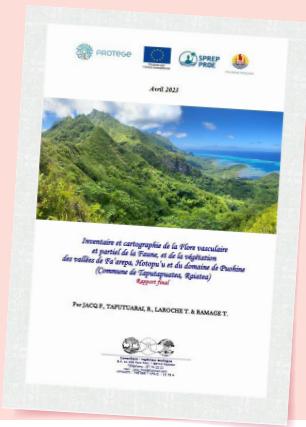
- Tamari'i Puohine Association, (2024), Safety work on the Matapura Trail
- Tahiti Wood Work, (2021), Removal of invasive plants from the Mariari plot (Ōpōa)
- Tahiti Wood Work, (2021), Removal of invasive plants from the Hirivari plot (Ōpōa)
- Tahiti Wood Work, (2023), Control of invasive plants at the Matapura site
- Tahiti Wood Work, (2024), Control of invasive plants at LC22 site "Platforms and Old Structures"
- Tahiti Wood Work, (2024), Revisits to the Matapura and LC22 sites

DOCUMENTS

GUIDES AND INVENTORIES



- Invasive alien species and heritage plants identification guide for the ecological restoration of the Taputapuātea Cultural Landscape



- Inventories and mapping of the vascular flora and part of the wildlife of the Fa'arepa and Hotopu'u valleys and the Puohine area (Taputapuātea commune, Ra'iātea), JACQ F., TAPUTUARAI T., LAROCHE T. & RAMAGE T., 2023



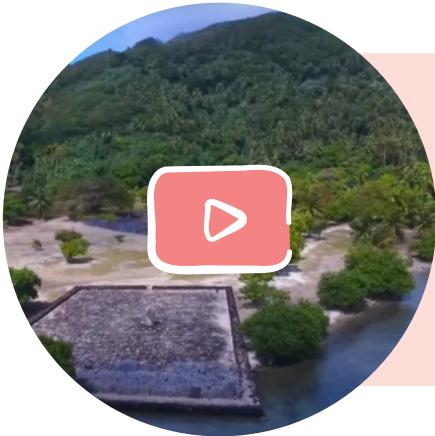
## DOCUMENTARY RESOURCES



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**"Resilience" series – Episode 4:**  
Invasive species, a threat to  
biodiversity.



**On 10 July 2024, inaugurations welcomed by the Town Hall of Taputapuātea and its associated communes**



VIDEOS

PRESS RELEASE



Find all the project lessons-learned factsheets on invasive alien species **freely available on our website.**



**PROTEGE**

PACIFIC TERRITORIES REGIONAL PROJECT FOR  
SUSTAINABLE ECOSYSTEM MANAGEMENT

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