


# ENVIRONMENTAL RESTORATION OPERATIONS



## BRIEF SUMMARY

 **Environmental restoration operations were implemented at five sites that are key for biodiversity and ecosystem services in Wallis and Futuna, through the removal of invasive plant species (IPS) and the reintroduction of heritage plants.**

The project's contribution aimed to provide technical expertise on appropriate methods of combating IPS present in order to target efforts, and to finance the human and material resources necessary to carry out actions in support of local services.

Thanks to the involvement of Taao, a local association, the edges of a trail on Mount Puke have been restored by cultivating and planting local plant species. This reintroduction helps to reconnect fragments of natural forests and, in so doing, to restore ecosystem services linked to water resources by combating runoff and promoting water catchment.


The development of the resources and skills of the Territorial Environment Service (STE) has also made it possible to combat invasive plant species in three Key Biodiversity Areas, prioritised during previous studies.

### **“Removal of invasive plant species and introduction of heritage plants”**

At the end of the project, although the results in terms of eradicating invasive species were not completely conclusive due to land holding and political constraints, the feedback led to a reflection on other approaches that had previously been excluded from the range of solutions.



## BACKGROUND

 The development of invasive plant species (IPS) has taken on such proportions in Wallis and Futuna that they threaten the survival of native, and even endemic, species. In some contexts, IPS reduce vegetation cover, compromising soil structure and affecting water catchment ecosystem services.

The Wallis and Futuna Ecosystem Profile, developed in 2016, identified Key Biodiversity Areas (KBA) characterised by the presence of globally threatened species and the ecosystem services they provide. The rapid development of invasive species, which compete with and gradually replace local plants, endangers native ecosystems.


**“A threat to native, even endemic, plant species”**

Initial actions to combat invasive plant species had been carried out prior to the PROTEGE project, including by the Directorate of Agriculture Services (DSA). These actions targeted *Falcataria molucana* in 2016 on Wallis, the giant sensitive (*Mimosa diplotricha*) on Futuna, and the creeper *Merremia peltata* on Wallis. Despite some positive results, the lack of resources for long-term follow-up and the involvement of the local community have limited the sustainability of the benefits obtained. However, the BEST 2.0 project, carried out between 2017 and 2018, had restored four hectares through the planting of 28 native species.

In order to continue the efforts already undertaken, the Territorial Environment Service has targeted areas threatened by the spread of invasive alien species for priority management and restoration action. PROTEGE's contribution was designed as part of this approach, complementing the actions carried out by other partners in the territory, such as the French Office for Biodiversity.



## ISSUES & OBJECTIVES

 Restoring water catchment areas and high biodiversity sites affected by the development of invasive plant species requires both knowledge of methods adapted to the metabolism of each targeted plant, and significant human resources to remove these plants and monitor the sites. The Territory's determination not to use herbicides represents an additional challenge, requiring a constant mobilisation of human resources to prevent the return of targeted plants.

**“Removal operations and lessons learned for the future”.**

As a result, the project was designed to focus on a limited number of sites, characterised by their significance, in order to facilitate skills development in the face of IPS.




### THE ACTIVITIES HAVE 2 MAIN GOALS:

- ☒ Restoring ecosystem services in Futuna's watersheds
- ☒ Protecting Wallis' biodiversity by managing priority sites





## OUTCOMES

 Over the past four years, five sites that are key for biodiversity and conservation of ecosystem services have been the subject of restoration actions. Although these actions have not always led to a complete restoration of the targeted sites due to technical and regulatory constraints, they have helped to refine the solutions that can be mobilised to meet these challenges.

At the Mount Puke site on Futuna, the project has helped create a forest environment in areas occupied by fern savannahs in the presence of invasive alien species, by planting 3120 tree seedlings along the trail. This operation will ultimately reconnect fragments of natural forests with native species and limit the runoff effects following heavy rainfall.

At the Poma site on Futuna, uprooting and clean-up actions targeting the giant sensitive were carried out in 2021, followed by monitoring missions to organise site follow-up. Public awareness has been raised on the risk of spreading the plant, which is particularly harmful to local agriculture.

On Mount Lulu on Wallis, the Territorial Environment Service conducted operations to remove American agaves on three sites totaling 400m<sup>2</sup>. After the first operations to remove 30 adult individuals (measuring 2m in height and 1.5m in diameter), 120 medium-sized individuals and more than 1500 seedlings were also removed. Important follow-up work

has been carried out to monitor the regrowth. Between 2022 and 2023, 984 juvenile agave plants were removed.


On the islet of Nukufotu in Wallis, actions to remove the devil's ivy (*Epipremnum cv aureum*) have been carried out to preserve the islet's littoral and supralittoral forest, home to numerous bird and reptile species. With the removal of 2500m<sup>2</sup> of ivy, 80% of the site has been taken care of. On the Liku coastal forest, a 3000m<sup>2</sup> area overrun by the devil's ivy has been cleared, enabling the species to be removed from 65% of the site. However, these areas have not been monitored, due to a lack of engagement from the local community and insufficient resources from the Territorial Environment Service.

Preparatory meetings and visits were made to the Pointe Vele site on Futuna and the Mata'Utu forest site on Wallis. While these visits allowed exchanges with local chiefdoms and the identification of invasive species present, they did not lead to restoration operations. In view of the invasive species identified, and the determination of local authorities not to use any herbicides, the manual control methods available were not deemed sufficient to achieve conclusive results. In agreement with the authorities part of the funds allocated to this activity have been reallocated to other components of the project, in particular for the trapping of wild pigs and rat control in Wallis and Futuna.





## PROSPECTS AND SUSTAINABILITY

 The actions carried out as part of the project have highlighted the limits of IPS control when restricted to manual methods. Consequently, a reflection was initiated to explore other approaches that had so far been excluded from the range of solutions. As a matter of fact, the use of mechanical means requires considerable human resources, both for uprooting and for regular monitoring, in order to prevent regrowth from existing seeds.

A meeting with Manaaki Whenua - Landcare Research, an expert in biocontrol solutions based on natural enemies, was organised with three agents of the Territorial Environment Service as part of their participation in the PRISMSS programme study tour. This exchange provided an opportunity to discuss issues specific to Wallis and Futuna and to learn more about this approach, as well as receive feedback on similar projects carried out in other Pacific countries, with a view to organise discussions with the Territory's elected officials.

**“Regional experts shed light on more efficient methods”**





**5 sites**



**3,120**  
heritage  
plants

**300**  
mature  
individuals

2,500 m<sup>2</sup>

A man with a beard, wearing a blue t-shirt and khaki pants, is using a machete to clear dense vegetation. He is standing in a field with large green leaves in the foreground and a dense forest in the background. The image is part of a presentation slide, as indicated by the text at the bottom.



## FIRST-HAND ACCOUNTS



### **FAINUMAUMAU SILIAKO VIKENA**

*Taoo-Alo-Futuna Village Chief*

*I would like to thank you for the funding of the Mount Puke Trail replanting project. This is an interesting initiative with a view to reforesting degraded areas.*

### **ANTONY TALBONE**

*Technician at the Environmental Technical Service in Wallis*

*With the nursery, our project is to fight the vines by reforestation. What we do is collect plants or seeds, germinate them and return them to their natural environment.*





## DOCUMENTARY RESOURCES



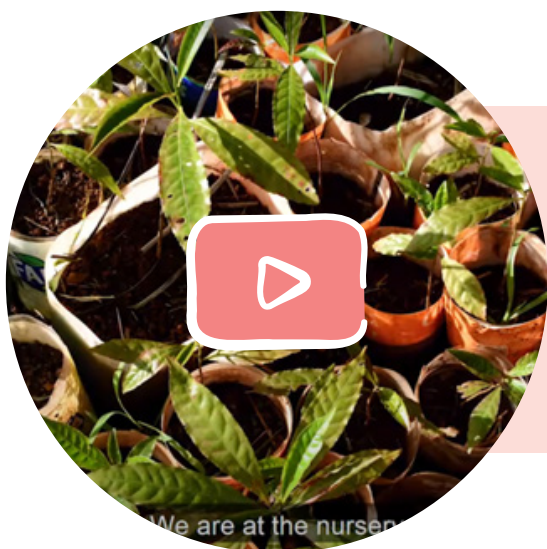
PROTEGE



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**Eradication of invasive plant species, the STE in action**



**Reforestation, an action to protect biodiversity against invasive vines**



VIDEOS

## REPORTS

- Territorial Environmental Service, Wallis and Futuna Biodiversity Strategy, 2016
- Ecosystem profile of Wallis and Futuna – Pacific Region. 2016 European Union Outermost Regions and Overseas Countries and Territories, Selma Haouet & Jean-Christophe Lefeuvre; BEST, service contract 07.0307.2013/666363/SER/B2, European Commission, 2016, 85 p +3 appendices

DOCUMENTS





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



PACIFIC TERRITORIES REGIONAL PROJECT FOR  
SUSTAINABLE ECOSYSTEM MANAGEMENT

[protege.spc.int/en](https://protege.spc.int/en)



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