LIFE ilhas barreira

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LIFE18 NAT/PT/000927

After-LIFE Conservation Plan

2025 – 2030

July | 2025

COFINANCIAMENTO COORDENAÇÃO PARCEIROS

After-LIFE Conservation Plan – LIFE Ilhas Barreira 2025 - 2030

LIFE19 NAT/PT/000927

Credit: Luis Ferreira

Location: Ria Formosa, Algarve, Portugal

Natura 2000 site: SPA Ria Formosa PTZPE0017

Start date: 01/09/2019

End date: 31/07/2025

Duration: 71 meses

Total budget: 2 278 736 €

EU Contribution: 1 681 939 €

% elegible costs: 75%

Coordinating Beneficiary: Sociedade Portuguesa para o Estudo das Aves

Associated Beneficiaires: Associação Acção, Liberdade, Desenvolvimento, Educação, Investigação, Ambiente
Animaris Animação Turística Unipessoal LDA
Instituto da Conservação da Natureza e das Florestas, I. P.
Universidade do Algarve
Universidade de Coimbra

COFINANCIAMENTO COORDENAÇÃO PARCEIROS

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1 | Introduction

This After-LIFE Plan was developed within the framework of the project LIFE Ilhas Barreira – Conserving the Barrier Islands in Algarve to protect priority species and habitats (LIFE18 NAT/PT/000927), co-financed by the European Union's LIFE Programme, and implemented between 2019 and 2025 in the Ria Formosa Special Protection Area (SPA) (PTZPE0017).

Ria Formosa is a coastal lagoon system of high ecological importance, comprising a set of barrier islands that support priority habitats, such as grey dunes, and significant populations of seabirds, including species of high conservation concern such as Audouin's Gull and Little Tern. This area is subject to multiple pressures, namely the presence of invasive alien species, disturbance associated with tourism activities, predation by introduced mammals, and interactions with human activities, particularly fisheries.

The LIFE Ilhas Barreira project made a significant contribution to improving the conservation status of these habitats and species through an integrated approach combining on-the-ground conservation actions, scientific research, stakeholder engagement, and support to conservation policy development. However, maintaining and consolidating these results depends on the continuation of the implemented actions and the capacity to address ongoing and emerging challenges.

In this context, the present After-LIFE Plan sets out the strategy for the 2025 - 2030 period, defining conservation priorities, actions to be implemented, monitoring mechanisms, and funding needs, with the aim of ensuring the long-term sustainability of the achieved results and their integration into Natura 2000 management instruments.

Credit: Luis Ferreira

2 | Project Summary & Current Status

The project LIFE Ilhas Barreira – Conserving the Barrier Islands in Algarve to protect priority species and habitats (LIFE18 NAT/PT/000927) had the overall objective of improving the conservation status of priority habitats and species in the Ria Formosa Special Protection Area (SPA) (PTZPE0017), by reducing the main threats affecting the barrier island system, both in terrestrial and marine environments.

2.1 Conservation objectives

Specifically, the project aimed to: (i) increase knowledge on the distribution, ecology and threats affecting target seabird species and dune habitats, including their at-sea distribution, foraging behaviour and interactions with human activities; (ii) restore and improve the conservation status of the priority grey dune habitat through the control of invasive alien species, vegetation management and the mitigation of disturbance factors; and (iii) improve breeding conditions and the conservation status of seabird populations, namely Audouin's Gull and Little Tern, by reducing predation pressure, human disturbance and other limiting factors.

In parallel, the project sought to: (iv) assess and mitigate interactions between seabirds and fisheries, including bycatch and dependency on discards, through data collection, stakeholder engagement and the testing of mitigation measures; (v) strengthen the knowledge base and management framework required for the expansion of the marine component of the Ria Formosa SPA, ensuring better protection of key foraging areas; and (vi) promote awareness and stakeholder engagement, encouraging more sustainable practices among local communities, the fisheries sector and tourism operators.

Overall, the project adopted an integrated, ecosystem-based approach, combining scientific research, on-the-ground conservation actions, stakeholder engagement and decision support, with the aim of ensuring the long-term sustainability of the results achieved.

2.2 Main results

The LIFE Ilhas Barreira project enabled significant progress in the conservation of dune habitats and seabirds in Ria Formosa through the implementation of an integrated set of management, monitoring and stakeholder engagement actions.

At the habitat level, the effective control of the main invasive plant species on Barreta (Deserta) Island stands out, with the removal and management of extensive areas occupied by *Carpobrotus edulis*, *Acacia saligna* and *Agave americana*, allowing the recovery of native vegetation and improving the conservation status of grey dunes. In parallel, habitat management measures were implemented, including the establishment of gull exclusion areas, the restoration of trail infrastructure and improved signage,

contributing to the reduction of trampling and disturbance associated with human presence.

With regard to seabirds, the project significantly improved knowledge on the ecology, distribution and interactions of target species, both on land and at sea. Concrete conservation measures were implemented, including the protection of breeding colonies, control of introduced predators and reinforcement of population monitoring. These efforts contributed to improved breeding conditions, particularly for Audouin's Gull and Little Tern, species of high conservation importance within the project area.

In terms of interactions with human activities, the project provided a detailed characterisation of seabird - fisheries interactions, including the assessment of bycatch and dependency on discards. Mitigation measures were tested in collaboration with the fisheries sector, alongside awareness-raising and dialogue with fishers, establishing a solid basis for the future adoption of best practices.

The project also contributed to strengthening the knowledge base required for integrated area management, including the development of a proposal to expand the marine component of the Ria Formosa SPA, aimed at protecting key seabird foraging areas. At the same time, engagement with a wide range of stakeholders - including tourism operators, local communities, schools and institutional entities - was promoted, increasing awareness of the importance of conserving these ecosystems.

Despite the results achieved, several challenges remain that require continued intervention. These include the risk of reinvasion by invasive species, the need to maintain predator control and habitat management measures, ongoing pressures associated with tourism, and the need to strengthen the implementation of effective measures to reduce seabird bycatch. In addition, the consolidation of management and protection instruments (namely the formal expansion of the SPA) remains a critical element to ensure the long-term protection of target species and habitats.

2.3 Current Status & SWOT Analysis

Following the actions implemented under the LIFE Ilhas Barreira project, an overall improvement in the conservation status of dune habitats and seabird populations in Ria Formosa can be observed, together with a significant strengthening of scientific knowledge and the technical capacity of the entities involved. Methodologies, protocols and partnerships were established, providing a solid basis for the continuation of conservation actions in the after-LIFE period.

At present, the areas intervened on Barreta Island show clear signs of ecological recovery, with the regeneration of native vegetation following the control of invasive species and the implementation of public use management measures. Target seabird populations benefit from improved breeding conditions, supported by colony protection measures and predator control. In parallel, a collaborative network involving scientific institutions, management authorities and other stakeholders - including the fisheries sector and tourism operators - has been consolidated.

However, the sustainability of these results depends on the continuity of interventions and the capacity to address a set of persistent challenges. Reinvasion by invasive species, limited human and financial resources, increasing pressure associated with tourism, and difficulties in implementing management measures and legal instruments, such as the expansion of the SPA, represent critical factors that may compromise the gains achieved. In addition, challenges remain in raising awareness and engaging certain key groups, as well as in the effective implementation of mitigation measures to reduce interactions with fisheries.

Based on this analysis, a SWOT assessment was carried out, summarising the main internal and external factors influencing the continuity and effectiveness of conservation actions in the after-LIFE period:

Strengths

- Strong and multidisciplinary partnership between conservation organisations, academia and management authorities;
- High technical expertise of the teams involved;
- Demonstrated positive results in seabird recovery;
- Strong cooperation, information sharing and joint decision-making;
- Accumulated experience in invasive species control and ecological monitoring.

Weaknesses

- Limited human resources for the continued implementation of actions;
- Reinvasion by invasive plant species and limited effectiveness of some control techniques;
- Difficulties in raising awareness among visitors and engaging local communities;
- Slow administrative and institutional processes;
- Absence of some key stakeholders in the initial partnership.

Opportunities

- Consolidation of synergies between regional and national entities;
- Increasing engagement of the fisheries sector and private stakeholders;
- Access to new funding mechanisms (e.g. Environmental Fund);
- Development of new LIFE or complementary projects;
- Strengthening of co-management of Ria Formosa.

Threats

- Increasing tourism pressure and disturbance of sensitive areas;

- Insufficient medium- to long-term funding;
- Lack of enforcement and broader institutional engagement;
- Social resistance to certain management measures (e.g. removal of invasive species);
- Potential future changes in the institutional or political framework.

2.4 After-LIFE challenges and needs (2025-2030)

Based on the analysis of the current situation and the SWOT assessment, a set of priority challenges and needs has been identified to guide the implementation of the After-LIFE Plan for the 2025 - 2030 period.

One of the main challenges is to ensure the continuity of active habitat management actions, particularly the control of invasive alien species and the maintenance of the ecological conditions of grey dunes. Despite the positive results achieved, the risk of reinvasion and the need for regular interventions require sustained operational capacity, including human resources, logistical means and adequate funding.

At the same time, there is a continued need to ensure favourable breeding conditions for seabirds through the ongoing implementation of colony protection measures, control of introduced predators and population monitoring. The consolidation of these results also requires the maintenance of scientific monitoring programmes to assess population trends and respond to environmental changes or emerging pressures.

In terms of interactions with human activities, there is a need to strengthen the implementation of effective bycatch mitigation measures, while promoting engagement with the fisheries sector and the adoption of best practices. Despite the progress achieved, challenges remain in the operationalisation and acceptance of these measures, making it essential to ensure continued close collaboration with fishers.

Another critical challenge relates to the management of tourism pressure and public use, which continues to pose a significant threat to sensitive habitats and breeding areas. It is necessary to reinforce awareness-raising actions, improve communication mechanisms with visitors and operators, and ensure the maintenance of adequate infrastructure and signage.

At the institutional and governance level, the finalisation and implementation of the expansion of the Ria Formosa SPA constitutes a strategic priority. It is essential to ensure the appropriate legal framework and management instruments to protect marine areas critical for target species. In addition, it is important to strengthen coordination among entities and promote the integration of After-LIFE actions into existing management instruments, including co-management mechanisms.

Finally, ensuring sustainable funding and qualified human resources is identified as a cross-cutting need to support the continuation of actions beyond the LIFE funding period. The identification of complementary funding sources and the development of strategic partnerships will be key to the plan’s long-term viability.

3 | Conservation Objectives

Based on the results achieved by the LIFE Ilhas Barreira project and the challenges identified for the after-LIFE period, the following objectives were defined:

1. Maintain the monitoring and ecological functionality of dune habitats, with a particular focus on Deserta Island;
2. Ensure the continuity of monitoring and management of seabird populations;
3. Control invasive alien species and prevent recolonisation;
4. Reduce human disturbance and bycatch in fishing gears;
5. Ensure the continuity of environmental education and communication actions.

Credit: Mauro Hilário

4 | After-LIFE Conservation Actions

The actions to be maintained after the end of the project are organised in the following table, identifying priorities, responsibilities, funding, indicators and timeline (2025 - 2030).

Actions	Priority	Responsible Entity	Funding	Indicator	Remarks	Timeline					
						2025	2026	2027	2028	2029	2030
1. Maintain habitat restoration on Deserta Island											
1.1 Monitoring of dune habitat											
1.1.1 Annual monitoring of dune habitat using high-resolution aerial images	medium	CIMA	Own resources			x	x	x	x	x	x
1.1.2 Periodic monitoring of degraded areas using drone surveys	low	CIMA	Own resources		2 monitoring surveys during the After-LIFE period			x			x
1.2 Maintenance of biosecurity measures for mammals											
1.2.1 Maintenance and continuous monitoring of Goodnature traps for rodent control	high	ICNF; SPEA	Own resources; Private funds	Nº of visits	4 times per year; ensure replacement of bait and CO_2 canisters	x	x	x	x	x	x
1.2.2 Systematic surveillance of invasive mammals (cats and rodents) on Deserta Island	medium	ICNF; SPEA	Own resources; Private funds	Contacts with staff and Mr. Alves		x	x	x	x	x	x
1.2.3 Activation of response measures to reinvasions, in accordance with the biosecurity plan	high	ICNF; SPEA; Animaris	Own resources; Private funds	Nº of actions implemented	As needed						
1.3 Monitoring and control of non-native and invasive plant species in the areas intervened during the project											
1.3.1 Monitoring and maintenance of intervened areas, ensuring the removal of regrowth and early detection of new invasions	high	ICNF; SPEA	Own resources	Nº of visits	Once per year (4 days)	x	x	x	x	x	x

Actions	Priority	Responsible Entity	Funding	Indicator	Remarks	Timeline					
						2025	2026	2027	2028	2029	2030
1.4 Maintenance of trails and board signs											
1.4.1 Continuous maintenance of trails and associated infrastructure	high	Animaris	Own resources	Nº of interventions		x	x	x	x	x	x
1.4.2 Replacement of damaged interpretative panels, ensuring their functionality	low	SPEA	Environmental Fund	Nº f replacements	Activate warranty if necessary						
2. Monitor and conserve seabird populations											
2.1 Annual census of Audouin's Gull and Yellow-legged Gull on Deserta and Culatra islands	high	ICNF; Univ. Coimbra; SPEA	Own resources; Private funds	Nº of breeding pairs/species		x	x	x	x	x	x
2.2 Annual census of Little Tern in Ria Formosa	high	ICNF; Univ. Coimbra	Own resources	Nº of breeding pairs		x	x	x	x	x	x
2.3 Deployment of individual tracking devices on Audouin's Gull and Yellow-legged Gull	medium	Univ. Coimbra	Own resources; Research funding applications	Nº of devices		x	x	x	x	x	x
2.4 Annual ringing campaign for Audouin's Gull and Yellow-legged Gull	medium	ICNF; SPEA	Own resources; Private funds	Nº of ringed individuals		x	x	x	x	x	x
2.5 Signage and fencing of Little Tern colonies	high	ICNF	Own resources	Nº of fenced colonies		x	x	x	x	x	x
2.6 Maintenance of seabird rehabilitation at RIAS and assessment of causes of mortality	high	RIAS	Own resources; Environmental Fund	Nº of seabirds released		x	x	x	x	x	x

Actions	Priority	Responsible Entity	Funding	Indicator	Remarks	Timeline					
						2025	2026	2027	2028	2029	2030
3. Reduce seabird bycatch in fishing gears											
3.1 Monitoring of bycatch in Olhão and Quarteira	medium	CCMAR	Own resources; Research grants	Nº of questionnaires; Nº of onboard surveys	Involve undergraduate/Master's students	x	x	x	x	x	x
3.2 Promotion of best practices as a mitigation measure	high	CCMAR	Own resources	Nº of meetings with fisheries associations			x		x		x
4. Raise awareness and inform visitors and other stakeholders											
4.1 Live streaming of colony images through an online camera	medium	Animaris; SPEA	Own resources; Private funds	Nº of views		x	x	x	x	x	x
4.2 Promotion of training actions for maritime tour operators	high	ICNF	Own resources	Nº of actions	In collaboration with RTA	x	x	x	x	x	x
4.3 Organisation of awareness raising activities at regular events	high	ICNF; CIMA; SPEA; RIAS	Own resources; Private funds	Nº of actions	DMZH, PNRF Open Day, Ria Formosa Week, Sagres Festival	x	x	x	x	x	x
4.4 Maintenance and updating of the project website	medium	SPEA	Own resources	Nº of users		x	x	x	x	x	x
4.5 Implementation of awareness raising actions targeting local residents	medium	ICNF; CCMAR	Own resources	Nº of actions		x	x	x	x	x	x
4.6 Organisation of one meeting with the Project Monitoring Committee	low	SPEA	Own resources	Nº of entities					x		
5. Raise awareness among the school community											
5.1 Implementation of training sessions for teachers based on the teacher-student dossier	high	SPEA; ICNF; RIAS	Own resources; Environmental Fund	Nº of teachers involved	Twice a year	x	x	x	x	x	x

Actions	Priority	Responsible Entity	Funding	Indicator	Remarks	Timeline					
						2025	2026	2027	2028	2029	2030
5.2 Promotion of training sessions for lower secondary (3rd cycle) and upper secondary students	medium	CIMA; ICNF	Own resources	Nº of students involved	Programmes available for schools (e.g. UAlg team)	x	x	x	x	x	x
5.3 Integration of project topics into environmental education sessions promoted by RIAS	medium	RIAS	Own resources	Nº of students involved		x	x	x	x	x	x
5.4 Organisation of project educational games and activities at events and other initiatives	low	ICNF; SPEA; RIAS	Own resources; Environmental Fund	Nº of events	At least 3 per year	x	x	x	x	x	x
5.5 Promotion of seabird release events for rehabilitated individuals	low	RIAS	Own resources	Nº of events		x	x	x	x	x	x

5 | Resources & Financial Sustainability

The implementation of the After-LIFE Plan will be ensured by the project partners, based on the mobilisation of their own human and technical resources, the established institutional collaboration, and the mobilisation of complementary funding. ICNF will ensure coordination at the level of protected area management, including surveillance actions, predator control and the implementation of biosecurity measures. SPEA will be responsible for seabird monitoring, maintenance and control of invasive plants, and for awareness-raising and communication activities. Animaris will continue to ensure visitor management, trail maintenance and support to on-the-ground conservation actions, while ALDEIA, through RIAS, will continue seabird rehabilitation and environmental education activities. The universities (UALG and UC) will contribute to scientific monitoring, research and technical support to conservation actions.

The financial sustainability of the actions will be ensured through a combination of sources, including the partners' own budgets, access to national funds (such as the Environmental Fund), and applications to new national and European funding programmes. In addition, the involvement of volunteers and the establishment of partnerships with private entities will be promoted, contributing to strengthening implementation capacity. Whenever necessary, funding gaps will be identified and specific strategies developed to ensure the continuity of actions and their medium- and long-term sustainability.

Credit: Luis Ferreira