

LIFE14 NAT/MT/991 After-LIFE Conservation Plan

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LIFE Arċipelagu Garnija, BirdLife Malta

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LIFE Arċipelagu Garnija (LIFE14 NAT/MT/991)

Securing the Maltese Islands for the Yelkouan Shearwater *Puffinus yelkouan*

Action F.3 Develop After-LIFE Conservation Plan





LIFE14 NAT/MT/991 After-LIFE Conservation Plan

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Data Beneficiary

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Front cover illustrations: Yelkouan Shearwater fledgling, released after found grounded by the public
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Introduction

The LIFE Arċipelagu Garnija Project is the third LIFE project on Malta's seabirds, being carried out by BirdLife Malta in partnership with Transport Malta and Royal Society for the Protection of Birds between 2015 and 2020.

The first project, the LIFE Yelkouan Shearwater Project (2006-2010) had also focused on the conservation, research and awareness of the Yelkouan shearwater, with a special focus on the largest colony in Malta at I-Irdum tal-Madonna in Mellieħa. The project aimed to manage the major threats for the species at this colony and produce a management plan. Over the course of the project, a predator management programme was initiated at the largest colony, which led to increased reproductive success. An area in front of this colony was designated to limit the activities of commercial boats, specifically loud music and lights through a Notice to Mariners. An assessment on the impact of light pollution at this colony was carried out and mitigation measures presented to relevant government authorities. The project, through the implementation of a number of actions anticipated in the After-LIFE plan (LIFE06 NAT/MT/097) has ensured a continued yet somehow limited management of the SPA, continuing a rat control programme over the years, and ensuring the continued reproductive success of breeding Yelkouan shearwaters through continued monitoring of the colony.

The second project, the LIFE+ Malta Seabird Project (2011-2016) focused on all resident seabird species in Malta and aimed at identifying the marine sites important for the survival of these species to ensure their full protection is extended at sea. The project used extensive and innovative research and created an inventory of marine Important Bird Areas (IBAs), which shortly after the project, were designated as Malta's first marine Special Protection Areas (SPAs) in 2016. The Maltese Government then started the process of producing the management plans for these SPAs and also published the management plans for terrestrial Natura 2000 sites in 2017.

The LIFE Arċipelagu Garnija project focused once more on the Yelkouan Shearwater *Puffinus yelkouan*, and aimed at closing the knowledge gaps on the species and reduce the main threats at all sites to secure its breeding population in the Maltese Archipelago. The project carried out extensive site and threat assessment surveys to identify the breeding range, population size, reproductive success and major threats at all known colonies. Then through conservation actions, the project tackled four major threats to the species: **predation of eggs and chicks by rats, light pollution, disturbance by maritime activities and disturbance by site-user activities.**

The project used a wide variety of methods and technologies to manage these major threats to the species and helped BLM and its partners gain extensive transferable experience. The project resulted in a much better understanding of the breeding extent, numbers and reproductive success of the Yelkouan Shearwater and a better management of threats with immediate conservation outcomes. However, the conservation of the breeding Yelkouan Shearwaters in Malta requires a continued long-term effort which needs to expand further into monitoring for unknown threats/factors. Therefore the project needs to be followed by a series of actions.

This After-LIFE plan of the project provides a list of actions that need to be continued and suggests a framework to carry them out. The focus of this After-LIFE plan is the continuation of the effective management of the sites where Yelkouan Shearwaters are breeding and a continued research and monitoring of colonies to ensure the continued protection of the species in the Maltese Archipelago.

Overview of the LIFE Arċipelagu Garnija Project: Current Status

The goal of the LIFE Arċipelagu Garnija Project was to secure the coast of Maltese Archipelago for the breeding Yelkouan Shearwaters for the long term recovery of the species. To achieve this, the project first closed all the knowledge gaps on the species in the Maltese Islands; colony locations, population size, reproductive success and threats at each sites. Then the project focused on four concrete conservation objectives to achieve the main goal: reducing the predation by rats, reducing light pollution, reducing disturbance from maritime activities and disturbance from site users.

The following actions were carried out during the project:

Comprehensive assessment of Yelkouan Shearwater breeding extent, population size and reproductive success carried out throughout the Maltese islands

Outputs

- Breeding range of Yelkouan Shearwater is updated.
- New population size estimates obtained using combination of methods and technologies. This information provides the baseline estimate to monitor the population and the impact of the project conservation actions on the breeding Yelkouan Shearwaters. The data also used in MSFD reporting by ERA.
- Reproductive success of Yelkouan Shearwaters measured at 6 project sites and provided baseline information before the implementation of conservation actions.
- All survey data is stored as spatial data to enable the ease of share and comparison with other LIFE projects and with international databases.
- Based on assessment, two SACs are proposed for SPA designation: Majjistral Nature and History Park (part of MT0000024) and il-Gżejjer ta' San Pawl (MT0000022) and an existing SPA is proposed for extension to incorporate Yelkouan Shearwater breeding colonies: MT30 Rđumijiet ta' Għawdex: Il-Ponta ta' San Dimitri sal-Ponta ta' H̄arrux SPA to reach to Wied il-Għasri.
- A wide variety of methods (trail cameras, thermal imaging camera, automated sound recording units etc.) were tested in colony assessments and their efficiency is evaluated to enable the **transferability of best practices**.

Deliverables

- Site assessment report for Yelkouan Shearwater populations in the Maltese islands.

Assessment of major threats operating at 13 Yelkouan Shearwater breeding colonies in the Maltese islands

Outputs

- Major threats operating at 13 Yelkouan Shearwater colonies were identified.
- Four major threats; predation of eggs and chicks by rats, permanent light pollution, temporary light pollution and disturbance from recreational activities are quantified in detail and project conservation actions detailed accordingly.

Deliverables

- Threat assessment report for Yelkouan Shearwater populations in the Maltese Islands.

Predator management and biosecurity are implemented at all feasible colonies

Outputs:

- Rat populations were suppressed yearly at 5 to 7 colonies between 2018 and 2020.
- Regular biosecurity checks were carried out at rat-free project sites. Most of the sites remained rat-free and for those rats detected rapid response was taken or proposed to the relevant management authorities.
- 55% of the breeding Yelkouan Shearwater population secured from predation by rats.
- Biosecurity plan for Filfla was prepared. Filfla kept predator free through regular biosecurity checks and the implementation of this plan. The plan was approved by ERA.
- Breeding success increased to 70% on average for all rat control colonies.
- Waste management was improved at two sites: Comino by the second collection in tourism season and L'Ahrax Camp Sites by replacing the open bins with rat-proof, metal bins with lid.
- A novel approach in predator management (localized control, seasonal eradications and E2-traps at colonies) has been tested and proved to be efficient. The method will be further optimized to ensure **transferring the best practices**.

Deliverables:

- Predator Management and Biosecurity Report
- Filfla Biosecurity Plan

Light pollution at Yelkouan Shearwater breeding colonies addressed by utilizing policy and legislation

Outputs:

- Light pollution at Ċirkewwa Ferry Terminal reduced, impacting at least three colonies. This study provided a good understanding of the complexity or the light pollution mitigation.
- 6 light pollution point sources around Yelkouan Shearwater breeding colonies rectified or mitigated: Torri Xutu, (Din l'Art Hełwa), Qammiegh VTS (Transport Malta), Xlendi (Ministry for Gozo), Wied iż-Żurrieq (Qrendi local council), Għar Lapsi Reverse Osmosis Plant (Water Services Corporation), Qortin Army Base (AFM).
- Increased awareness on light pollution and its impact on breeding Yelkouan Shearwaters among policy decision-makers, lead to the involvement of project in preparing the national guidelines to reduce the light pollution by the PA and ERA, GPP consultation and the Conference on the parties to the Convention on the Conservation of Migratory Species of Wild Animals (COP13).
- Policy recommendations on reducing coastal light pollution were produced with the feedback from policy decision-makers.

Deliverables:

- Report on measurements of road surface illuminance and mitigation proposals at Ċirkewwa Ferry Terminal, Mellieħa.
- Policy recommendations for coastal light pollution in Malta.
- Best Practices Guideline for Seabird Friendly Lighting.

Impact of maritime activities on the breeding Yelkouan Shearwater reduced

Outputs:

- Maritime policy is revised for nine colonies to regulate the activities of commercial tourist boats impacting the breeding Yelkouan Shearwater.
- A Notice to Mariners issued for seven sites and Notice to Mariners 02 of 2010 upgraded with new measures to regulate the activities of commercial tourist boats, reducing the disturbance at 51% to 57% of the Yelkouan Shearwater breeding population, and covering up to 74-76% of the national Yelkouan Shearwater population.
- Notice to Mariners No 02 2010 kept in enforcement throughout the project.
- The relationship between the light pollution from bunkering activities and bird colony attendance were quantified at one of the largest colonies.
- A Notice to Mariners published to collect data from mariners on light-induced seabird vessel strikes to better understand the extent and scale of the problem.

Deliverables:

- Notice to Mariners
- Reports on the impact of maritime activities on the breeding Yelkouan Shearwater

Increased awareness leading reduced impact of site-users at Yelkouan Shearwater breeding colonies

Outputs:

- 310 outreach visits carried out throughout the project to inform site-users on main threats to the breeding Yelkouan Shearwaters in Malta. Circa 20 thousand brochures were distributed.
- Climbers started to integrate impact assessment for cliff-side climbing.
- Three major commercial boat operators agreed to follow Code of Conduct to reduce the disturbance to the breeding Yelkouan Shearwaters.
- One of the major boat operators cooperated in disseminating information leaflets on litter to tourists visiting the Maltese Islands.
- Increased awareness among the general public of the Yelkouan Shearwater and threats its facing.

Deliverables:

- Project brochures
- Code of Conduct for commercial boat operators
- Report on Public Attitudes and Understanding the Impact of Relevant Actions

AS A RESULT OF THESE ACTIONS:

- **Main threats reduced across most colonies**

LIFE AG has assessed colony locations, population size and reproductive success as well as site-based threats to breeding Yelkouan Shearwaters under Action A2 and identified the relevant conservation actions to reduce these threats accordingly. At the end of the project the main threats (rat predation, light pollution and disturbance) reduced by one third at least and even more at some sites.

- **The number of breeding birds increased by 10%**

Following the successful implementation of the conservation actions Yelkouan Shearwater population has seen a 17% increase. This is probably due to increased chance of breeding at colonies so more nests occupied by birds. This data should be evaluated cautiously as the genuine increase in seabird populations requires long-term conservation and monitoring.

- **Reproductive success increased at main breeding colonies by 25%**

Following the successful implementation of conservation actions, mainly predator control and biosecurity, reproductive success of the breeding Yelkouan Shearwaters increased more than 25% at colonies where these actions were implemented.

- **LIFE Arcipelagu Garnija data contributed to reporting under relevant EU Directives**

Site assessment and monitoring data collected throughout the project has been used for MSFD and Bird's Directive (Article 12) reporting, as well as in designation of new SPAs in Malta.

SWOT Analysis of the Current Situation of the Yelkouan Shearwater Conservation in Malta

A SWOT analysis carried out to assess the impact of the project and the challenges with the aim of assisting the implementation of After-LIFE objectives.

The following table presents the details of this analysis with **Strengths** being attributes that contributed towards the project's objectives and unique resources the project produced that can be draw on; **Weakness** being attributes that impeded the project's potential to achieve its objectives; **Opportunities** being the trends after the project that can be taken the advantage of and **Threats** being external conditions that may impede further progress after the project.

Table 1 SWOT Analysis of the Project

Strengths	Weakness
Significantly improved knowledge on the species in Malta: Baseline information to monitor the change in the population.	Weak connection with some of the local communities (boat-owners, farmers, hunters, fishers) who challenged some of the actions.
Established monitoring methods and technologies: Following the same monitoring methods as bare minimum will allow monitoring long term changes in the population.	Loose internal procedures and policies of partners created challenges in decision-making and caused delays.
Expertise on the species' biology and behaviour within BLM and in Malta: Advanced stage at the conservation of the species.	Changes in staff delivering the project limited momentum.
Increased capacity and established network in light pollution mitigation and predator management.	Weak enforcement of nature conservation policies and legislations in Malta.
Increased network and collaborations on the species within the Mediterranean, which already led to another LIFE project on the species.	Limitations felt with some government authorities which could have contributed more into the project.
Possession of a RIB and monitoring equipment is an advantage in carrying out future surveys	Lack of financial incentives prevented light pollution mitigation on some occasions.

Opportunities	Threats
<p>Expertise on the species within BirdLife Malta allows taking role in future management of the species in the Maltese Islands and in the Mediterranean.</p> <p>Established network and trust relationship with local and international stakeholders makes the continuation of collaboration possible.</p> <p>Another successful management of a LIFE project strengthens BLM's commitment in protecting seabird populations in the Maltese Archipelago.</p> <p>Increasing recognition of light pollution as a problem helps taking the project impact in light pollution one step further.</p>	<p>Unstable political agenda in Malta: Changes in authorities, quick turnovers, unclear or erroneous role and responsibility sharing (WBRU under Gozo Ministry) impedes practical conservation work.</p> <p>Challenges in accessing Yelkouan Shearwater breeding sites requires a skilled and experienced team to carry out the work.</p> <p>Dependency of BLM on project-based funding for seabird conservation</p> <p>High tourism activity and therefore high demand for the use of coastal and marine areas in Malta creates more conflict for seabird conservation.</p> <p>Reluctance of stakeholders in taking conservation measures for seabirds due to assumed public opposition</p> <p>Low knowledge on seabird ecology and conservation needs among the general public challenges obtaining public support for seabird conservation.</p>

After-LIFE Conservation Objectives and Methodology

Following the information revealed and experienced gained after the LIFE Arcipelagu Garnija Project and based on the current status of seabird conservation in Malta, the goal should be **sustaining the effective conservation of the species to prevent population declines and to keep the local population stable or increasing**. Future actions should seek to provide the full protection to the species in the Maltese Islands, by focusing on sea-based threats as well.

The following objectives are recommended to reach these goals:

Integrating the project outcomes and know-how in Natura 2000 Management Plans and fulfill the key conservation needs at all feasible colonies

The Maltese Government published the management plans for 34 terrestrial Natura 2000 sites in 2017. Management plans for the marine Natura 2000 sites are in the process of finalization and the aim is to publish them in 2021.

Site-based project outcomes (conservation needs) should be included in the Natura 2000 management plans to ensure the continuous management of the species on the Maltese Islands and waters. These outcomes should also lead the designation of a few more SPAs with the updated information in SDF on the species. BirdLife Malta has already submitted a request for the designation of new SPAs and will be discussing with the MECP regarding integrating the project outcomes to the management plans.

Enforcement of Notice to Mariners issued at the end of the project should be an immediate priority to prevent the disturbance to the breeding Yelkouan Shearwaters under the management plans of marine SPAs (in preparation). It is noted that Transport Malta is in the process of increasing the capacity of their Maritime Enforcement Unit and this should help achieving this goal after the project. More research on the impact of boat-based tourism on breeding seabirds and more involvement of the boat operator community in the management of marine protected areas should be sought.

Effective management of the species at Natura 2000 sites will indirectly provide protection to the other species and habitat as well.

Continuing to implement effective predator management at all feasible Yelkouan Shearwater colonies

Eradicating the invasive rodents from the Maltese Islands is not feasible with the current technologies and resources. To prevent population declines of the Yelkouan Shearwater, predator management must continue at all feasible sites using the best practices obtained through the project. Where feasible, seasonal or complete eradication of rodents should be carried out on small islets. Moreover, biosecurity surveillance and rapid response should be in place for rat-free caves and islets.

To increase the efficiency of predator management effort, waste management should be improved at colony sites through regular and frequent waste collection and placing large rubbish bins with lid to prevent rodents accessing the organic litter. Greater emphasis on waste management at rural or protected sites should be given in the Waste Management Plans for the Maltese Islands (a new plan is in preparation) and in the annual budget of Local Councils that are responsible for the waste management in such sites.

Under LIFE PanPuffinus project (2020-2025), BirdLife Malta will be working on the optimization of localized rat control methods and seasonal eradications at four sites in order to reduce the impact of

poison in the environment, which will then be transferred to authorities responsible for the management of Natura 2000 sites. The remaining feasible sites should be covered by the Maltese Government under the management plans of Natura 2000 sites.

Mitigating light pollution through holistic approach and nation-wide policies

Maltese Government recently published guidelines for the reduction of light pollution in the Maltese Islands, which details the type of lights and the lighting schemes that need to be used. Although it is a good start, the guideline is voluntary to follow. Light pollution work under LIFE Arcipelagu Garnija Project showed that the best solution is to tackle this problem through nation-wide policies. The policy recommendations produced under the project should ideally be taken on board to create the national law on light pollution. BirdLife Malta will be running advocacy campaigns for the policy uptake of these recommendations.

More research is needed to refine the understanding of the impact of light pollution on seabirds in the Maltese Islands and waters, especially quantifying the rate of light-induced groundings, vessel strikes and mortalities to understand the impact on the populations.

Monitoring the species using the baseline data established via the project to identify population trends and conservation needs

LIFE Arcipelagu Garnija collected valuable monitoring data from several colonies, which some of them were poorly monitored before the project. Moreover the project identified best practices for monitoring each colony using the available technology and resources. Monitoring of the colonies with these best practices and using new technologies as they emerge is important to collect the long term data on the demography of the species. This long term data is essential in monitoring the success of conservation actions as well as identifying the new conservation needs.

BirdLife Malta will continue monitoring of four major colonies of the Yelkouan Shearwater under LIFE PanPuffinus project. Monitoring programmes for the remaining colonies should be designed/implemented/supported by ERA.

Further communication actions to raise awareness about the Yelkouan Shearwater, breeding sites and threats

LIFE Arcipelagu Garnija was successful in raising the awareness of the species, and the threats among the general public and site users. To reduce the impact of recreational activities on breeding Yelkouans, awareness campaigns should continue at locations where site user disturbance is high.

Site managers for Natura 2000 sites would contribute to outreach activities, especially at MT09 Rđum tal-Madonna, MT17 Comino and MT24 Qammiegh to Ras il-Pellegrin where the visitor activity is high.

Research on marine-related threats to the species in the Maltese waters and beyond

LIFE Arcipelagu Garnija focused mainly on the breeding colonies of the Yelkouan Shearwater and threats operating at these sites. Although previous LIFE projects focused on marine-related threats such as fisheries bycatch in the Maltese waters, more effort should be invested to understand extend and scale of marine threats.

After-LIFE Plan: Framework of Actions

Type of Action	Action Description	Responsibility	Relevant LIFE AG Action	Timeline for the Action	Funds and Resources Needed or Available
Conservation	Continue predator management and biosecurity actions at all feasible Yelkouan Shearwater breeding colonies	ERA, Ambjent Malta, BLM	C1	Ongoing	Funding for the Implementation of Natura 2000 Management Plans, Future LIFE projects, to be continued under LIFE PanPuffinus
Conservation	Ensure emergency rapid response for rat free sites	ERA, BLM	C1	Ongoing	To be completed under LIFE PanPuffinus
Research	Investigate the effect of secondary poisoning on other bird species at feasible predator management sites	BLM, ERA	C1	By 2025	To be completed under LIFE PanPuffinus
Legislative Administrative	Improve waste management policy/strategy for rural areas	MECP, Ministry for Gozo	C1, C4	By 2025	Local Councils own funding
Conservation	Improve lighting in areas identified through the project	MECP, Enemalta, Infrastructure Malta, TM, Planning Authority, Local Councils	C2	By 2025	Funding for the replacement of light pollution sources needed. PA funds and ESCO can be options for these projects
Conservation	Keep implementing lighting recommendations from the project in future change and maintenance at Ċirkewwa Ferry Terminal	TM, GozoChannel, Infrastructure Malta	C2	Ongoing	No
Conservation	Continue recovery campaigns for light-induced grounding cases	BLM	C2	Ongoing	No
Research	Refine the understanding of light attraction in fledgling shearwaters and petrels in the Maltese Islands	BLM	C2	By 2025	To be continued by BLM's own funds and under umbrella of continued seabird projects

Type of Action	Action Description	Responsibility	Relevant LIFE AG Action	Timeline for the Action	Funds and Resources Needed
Communication	Carry out awareness raising campaigns on light pollution for the general public	MECP, Planning Authority, BLM	C2	Ongoing	BLM communication staff is available to carry out communication campaigns.
Communication	Carry out Capacity building for Local Councils, Architects and private sector (hotels and restaurants) on light pollution, its negative impacts and solution.	Planning Authority, MECP	C2		BLM communication staff is available to carry out communication campaigns
Legislative Administrative	Policy uptake of recommendations on coastal lighting within 5 years	MECP, Ministry for Energy	C2	By 2025	No
Conservation	Enforcement of the limits of bunkering area 1 and 6 with minimum required lights on ships.	TM	C2	Ongoing	No
Research	Understand the extend and scale of light-induced seabird strikes on vessels in the Maltese waters	BLM	C2	Ongoing	No
Legislative Administrative	Enforcement of notice to mariners issued under the project	TM	C3	Ongoing	No
Communication	Capacity building among boat-operators towards more seabird-friendly boat trips	BLM, MTA, TM	C3	By 2025	BLM communication staff is available to carry out communication campaigns
Research	Quantifying the impact of boat based disturbance on breeding Yelkouan Shearwater	BLM	C3	By 2025	Continued colony monitoring under LIFE PanPuffinus
Communication	Awareness campaigns on YS at locations where site user disturbance is high: sensitive colonies where boat-based tourism is high, rat control areas, illegal hunting area, cliff-top fishing areas, climbing areas etc.	BLM, ERA, Ambjent Malta, TM	C3, C4	By 2025	Can be integrated in Natura 2000 management. BLM's communication staff is available for a communication strategy on this. TM MEU can support outreach activities while enforcing Notice to Mariners issued under the project.

