

Saving the Yelkouan Shearwater

A bird's eye view

LIFE Arcipelagu Garnija project report

LIFE14 NAT/MT/991





LIFE14 NAT/MT/991 LIFE Arčipelagu Garnija
Securing the Maltese Islands for the Yelkouan
Shearwater *Puffinus yelkouan*.

This report presents the results of the EU-funded LIFE
Arčipelagu Garnija project led by BirdLife Malta between
2015 and 2020. The project partnership consists of BirdLife
Malta, Transport Malta and the Royal Society for the
Protection of Birds (RSPB).

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Jose Manuel Arcos and Maltese cliffs by Victor Xok.



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LIFE Arċipelagu Ġarniġa



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The Yelkouan Shearwater

The Yelkouan Shearwater, *Puffinus yelkouan*, is a medium-sized seabird, 34-39 cm of body length and 78-90 cm across the wing. It has a straight bill with hooked tips, tube-shaped nostrils and can also be identified by its dark upper body and light underparts. Glands in these tube-shaped nostrils secrete excess salt from seawater allowing them to spend their life at sea without needing freshwater.

The Yelkouan Shearwater depends entirely on marine resources for food and feeds on small fish, crustaceans and squid. It spends most of its time out at sea and land is only visited by the Yelkouan Shearwater for nesting purposes. There are 1,795 to 2,635 pairs of Yelkouans breeding in the Maltese Islands, which together make up 10% of the global population.

The shearwater breeds along the coast of the Maltese Islands, deep in burrows, among boulders and in cliffs. It is not easy to spot them as they visit land only at night but their eerie sounds can be heard in dark nights around cliffs between February and May.

The global population lives in the Mediterranean and the Black Sea, making the species endemic to the area.

The species is globally threatened meaning that the Yelkouan Shearwater is at high risk of extinction as a result of population decline. The Yelkouan Shearwater is listed as Vulnerable by the International Union for Conservation of Nature.

The distribution of Yelkouan Shearwater breeding colonies

The global population lives in the Mediterranean and the Black Sea, making the species endemic to the area.



A Year in the Life of the Yelkouan Shearwater

The Return

Between October and mid-January, Yelkouans start returning to the cliffs usually to the very same area they were born or had been nesting. Established pairs find their nest sites and set about strengthening pair bonds.



Mating and Pre-laying exodus

January and February is peak mating season, with both males and females sending calls along the cliffs to attract mates. Younger birds even compete with older birds for prime nesting locations.

Following mating, the female Yelkouan makes a long trip (pre-laying exodus) to productive waters between Malta and Africa to feed on abundant marine resources to form its egg. This trip takes approximately two weeks.



Laying and Incubation

Early spring between March and April females return from their pre-laying exodus and lay a single egg in their chosen cliff burrow. Then a long incubation period starts, taking around 50 days. Both male and female work in shifts to keep the egg warm in the nest during incubation.



Hatching

Around late April and early May the eggs begin to hatch. The chicks are kept company by one of the adults for the first week.



Chick rearing

Between May and mid-June, parents take it in turns to find food for themselves and the chick, travelling long distances (285 km longest distance recorded). Chicks are fed an average of 30 g of food each night until they are ready to fledge.



Fledging

As early as June to July, 10-week-old juveniles have typically already fully developed their plumage and are ready to leave the nest and take their first flight. Adults stop returning to the cliffs around this time, forcing juveniles to leave and find food for themselves.



Migration

Between July and October, adults vacate the cliffs and spread in the Mediterranean and the Black Sea to recover from the demanding breeding period. Young and newly-fledged Yelkouans, on the other hand, take a few years to discover the Mediterranean waters and then come back for breeding when they are ready.



Threats to the Yelkouan Shearwater in the Maltese Islands

1 Predation of eggs and chicks by rats



Rats were historically introduced to the Maltese Islands. Their populations are partly maintained by available organic matter from littering and insufficient waste collections and facilities. Rats frequently enter Yelkouan colonies and predate on eggs and young chicks. High predation rates result in a drop in the population as Yelkouans lay a single egg per season and if it is lost, they don't lay a second one. The threat is prevalent at almost all Yelkouan colonies.

4 Disturbance by site users



Tourists, campers, climbers, jet skiers, boat users, quad bikers, rambblers, dog walkers and picnickers can cause physical and noise disturbance. Some activities are known to have a direct impact on the survival rate of Yelkouan adults, chicks and eggs. In addition, picnicking and camping are both sources of littering which support rat populations and increase the predation rates on eggs and chicks.

2 Light pollution



Light pollution arises from inappropriate use of lights. High levels of light pollution in the Maltese Islands alter the behaviour of both adult and young Yelkouans. Adult Yelkouans are reluctant to attend to their nests when the cliff-face is illuminated by artificial lights. This reduces their success of raising the chick. Light pollution lures young Yelkouans towards land when they are taking their first flight and can cause them to become grounded. They struggle to take off again as their anatomy is not adapted to land. Subsequently they become prone to predation and starvation. Light pollution is a prevalent problem for Yelkouans throughout the Maltese Islands.

5 Cliff-top fishing



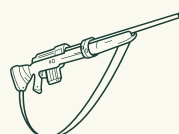
Cliff-top fishing is a tradition practised by a small number of people in Malta. Seabirds can get caught in fishing lines that hang in front of their cliff-face nests, although such incidences are reported in low levels for Yelkouans. This can occur when fishing with rods at night and also when fishing gear is left unattended overnight. Cliff-top fishing can affect both adult and young Yelkouans throughout the breeding season.

3 Disturbance from maritime activities



Boat-based tourism, including boat parties around cliffs is common in Malta. These activities cause disturbance to Yelkouans when large boats enter small caves and when boat parties gather near the colonies. The disturbance impacts the successful breeding of the Yelkouans. The disturbance is particularly a problem at popular tourism sites like Comino, Cominotto, St Paul's Island and L-Ahrax cliffs among others.

6 Illegal killing



Whilst it is illegal to hunt Yelkouan Shearwaters in Malta, there are a small number of incidents each year where these birds are found discarded with gun pellets. Illegal killing occurs both out at sea where Yelkouans rest on water and at coastal cliffs where they nest and court for mates. Even in low instances, given the low reproductive rate of the species, the killing of healthy and strong individuals hinders the rate of recovery of this species. Instances occur mostly in the spring and early summer as Yelkouans typically vacate Maltese waters during late summer and autumn months.



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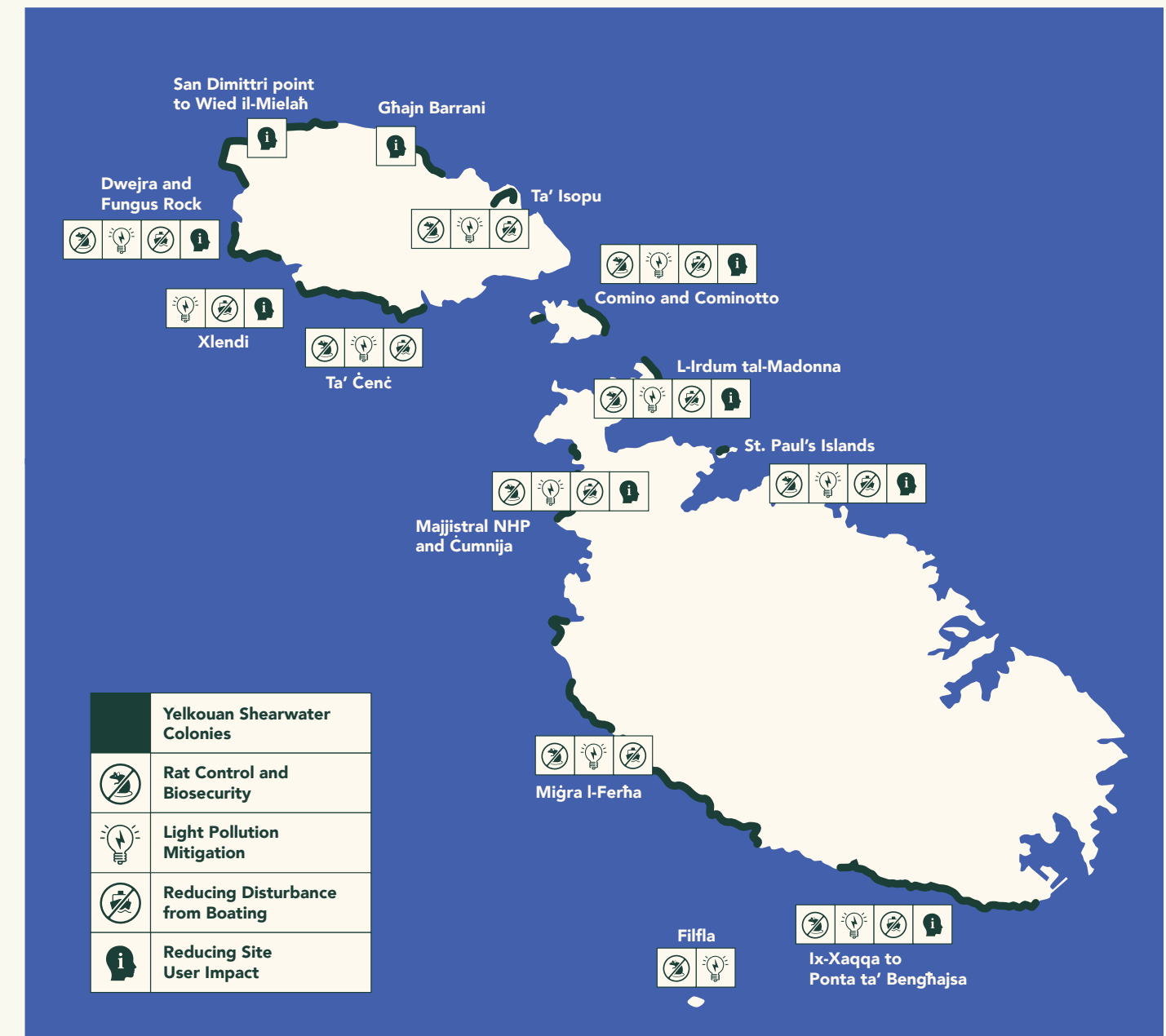
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Our Mission with LIFE Arcipelagu Garnija

- Survey all known Yelkouan Shearwater breeding sites in the Maltese Islands to assess the number of breeding pairs, breeding success and threats they are facing at each site.
- Safeguard all feasible Yelkouan breeding colonies from rat predation and improve breeding success.
- Reduce light pollution at breeding colonies by working with local stakeholders to increase the survival of young Yelkouans.
- Reduce noise and light disturbance in colonies from maritime activity through partnership with Transport Malta.
- Increase public awareness of species and threats in Malta through public engagement activities to receive support for the conservation of Yelkouans.

The EU-funded LIFE Arcipelagu Garnija project aimed to secure the Maltese Islands for the breeding Yelkouan Shearwaters by reducing the main threats to the species at 13 project sites.

The project was implemented by BirdLife Malta in partnership with Transport Malta and Royal Society for the Protection of Birds and co-financed by the Ministry for the Environment, Planning and Climate Change.



What have we achieved in five years?

Started closing knowledge gaps on the species for better conservation

We surveyed the coast of the Maltese Islands to confirm or identify Yelkouan Shearwater breeding sites. During these surveys, we estimated the number of pairs breeding at each site, measured how successfully they are breeding and assessed the threats they are facing.

We estimated that 1,795 – 2,635 pairs of Yelkouans are breeding in Malta, with very low breeding success at colonies where rats are present. We found that most of Yelkouan colonies are facing the same threats; rats, light pollution and disturbance by human activities.

The results of these surveys established a baseline of data for future monitoring and identified the conservation needs for each site, which we acted upon in the second half of the project.



Taken steps to reduce populations of predatory species, to increase the breeding success of the Yelkouan Shearwater

We implemented rat control at seven sites to suppress rat populations and to significantly increase the breeding success of Yelkouans. We also carried out frequent biosecurity checks on the rat-free island of Filfla and caves where Yelkouans are known to breed, to ensure that these sites remain rat free.

With the help of Malta Tourism Authority and the Environment and Resources Authority we improved waste management to reduce available food resources to rats on Comino and at L-Ahrax tal-Mellieħa.

Managing rat populations vastly improved the reproductive success of this seabird species, which will safeguard its future in the Maltese Islands if continued.

66% of the monitored chicks fledged on St Paul's Island colony after rat abundance is suppressed, in comparison to 39% before rat control

Percentage of monitored Yelkouan chicks making it to fledgling stage following rat control

1	Rdum tal-Madonna (Mellieħa)	80%
2	Majjistral Park (Mellieħa)	51%
3	St Paul's Island	66%
4	Comino and Cominotto	81%
5	Wied Babu (Żurrieq)	90%



Begun to reduce light pollution at breeding colonies to increase the survival of young Yelkouan Shearwaters

We started reducing light pollution at the pilot project site, Ċirkewwa Ferry Terminal, by changing the existing lights with better alternatives. The pilot project helped us to understand the complexity of light pollution mitigation.

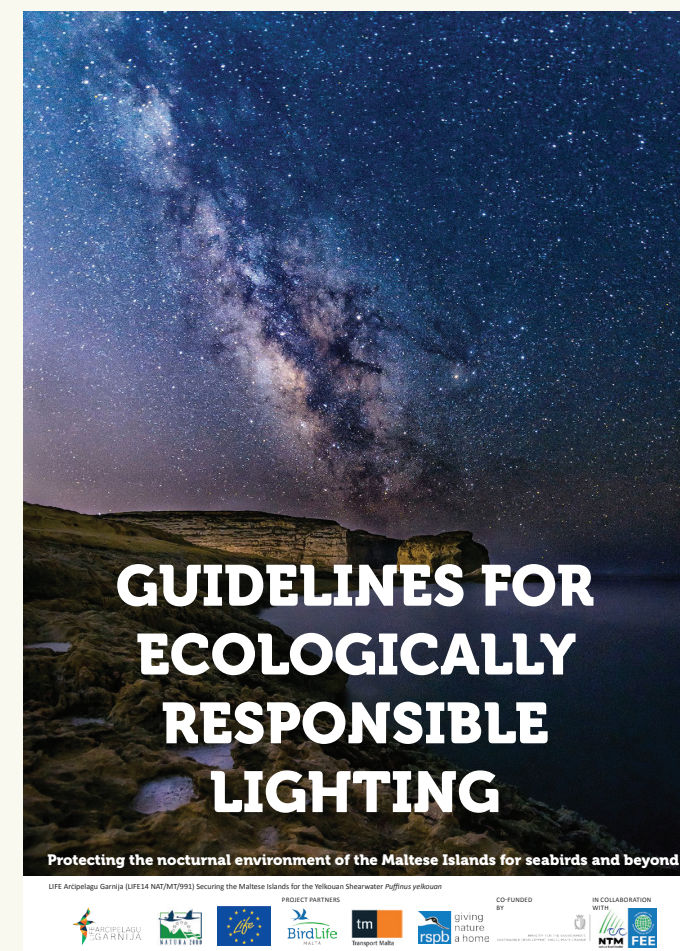
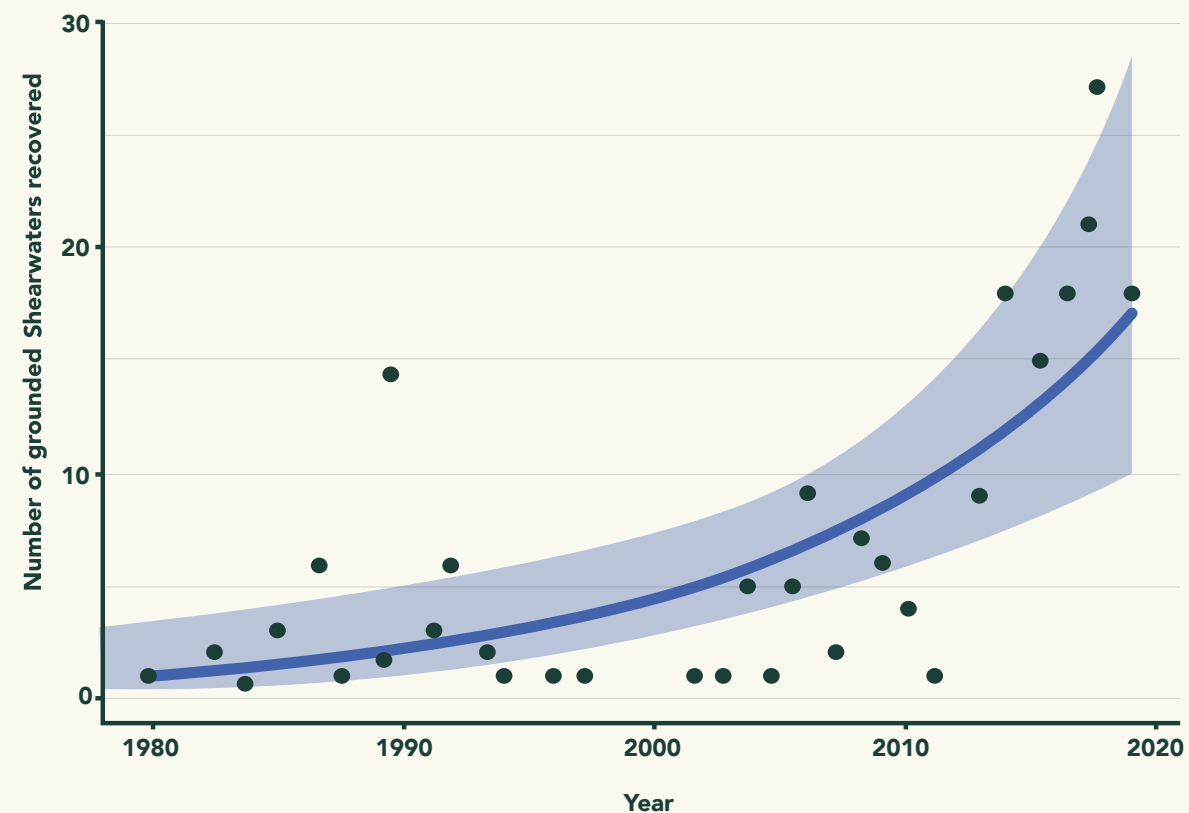
At the beginning of the project, we measured light pollution at the sites of all Yelkouan Shearwater colonies. By working with local and national authorities and using the experience from Ċirkewwa pilot project, we reduced light pollution around some of the colony sites. Positive results have been seen at Wied iż-Żurrieq, Rđum il-Qammieh, Għar Lapsi, Nadur and Xlendi to date.

We also reviewed the existing policy on lighting to understand the gaps for light pollution mitigation. Our policy review helped us write policy recommendations to develop Maltese law on light pollution.

We monitored light induced shearwater groundings yearly, with the help of the general public. The continued monitoring and increasing number of reports helps us to better understand the most problematic areas in Malta.

Reducing light pollution across the Maltese Islands will ensure that young Yelkouans are reaching the sea safely, therefore increasing their chance of survival. Reducing light pollution will also provide safe conditions for adult Yelkouans to attend their nests.

The number of grounded seabirds recovered shows an increase by time, potentially with increasing light pollution



Regulated commercial boat activities at sensitive Yelkouan Shearwater breeding sites to reduce disturbance

We partnered with Transport Malta to identify the conflict areas where boat-based tourism is impacting breeding Yelkouan Shearwaters. By consulting with commercial boat operators and with the Environment and Resources Authority, we produced solutions to reduce this impact. As a result, Transport Malta issued a Notice to Mariners that reduces light and noise pollution, like boat parties and high speeds at eight sensitive colony sites.

Project partner Transport Malta continued enforcing 'Notice to Mariners No 02 of 2010' at the Rdum tal-Madonna colony that bans boat parties and high levels of noise and light pollution to ensure the successful breeding of Yelkouans at the site. We presented a voluntary code of conduct for mariners to follow and have undertaken outreach work with boat owners to educate them about the impacts of certain activities on seabird colonies. Four major commercial boat operators agreed to follow our code of conduct.

We found that improved awareness and understanding of the issues can incentivise mariners to minimise their impact, and make boat-based tourism more seabird-friendly in Malta.



Areas where boating activities are regulated to reduce the disturbance to breeding Yelkouans. Notices to Mariners covering these areas were published by Transport Malta



Aron Tanti



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Increased the awareness of the species among site users to reduce disturbance from recreational activities at sensitive colony sites

We engaged with site users at key colony sites to inform them about Yelkouans and raise the profile of the species. This has resulted in an increased level of awareness within the general public and among stakeholders.

Increased awareness among the general public helped us to save Dwejra from further light pollution and save more young Yelkouans that became grounded and recovered by local people. Increased awareness also helped us improve waste management at two locations.

Increased awareness can incentivise the public and stakeholders to minimise their impact at Yelkouan Shearwater colonies. It also provides more support for the conservation of the seabirds in Malta.



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What are our future directions?

- ➡ We will continue monitoring the health of the Maltese Yelkouan Shearwater population to detect changes and follow conservation needs.
- ➡ We will continue to raise awareness about Yelkouans as we need the support of the public in the conservation of seabirds in Malta.
- ➡ We will continue suppressing the rat populations around large Yelkouan Shearwater colonies in the Maltese Islands to ensure they continue breeding successfully.
- ➡ We will advocate for light policy law in Malta to protect existing colony sites, improve availability of nesting sites and increase survival of young Yelkouans.
- ➡ With the help of project partners and stakeholders, we will ensure the protection of the breeding caves from disturbance and make boat-based tourism more seabird-friendly.
- ➡ We will continue our research on Yelkouans by focusing on other threats out at sea such as incidental capture in fishing gear.
- ➡ We will share our experience and knowledge with other conservationists in the Mediterranean to ensure the protection for the Yelkouans across their whole range.

What can you do to contribute?

With thousands of species in the world under threat, nature needs all the support it can get. Despite living out-of-sight, Yelkouans are all around the Maltese Islands and being impacted by our activities. Together as individuals, we can help protect our local Yelkouan Shearwater by embracing small changes to the way we move around our coastlines.

As an individual you can help this species by:

- 1 **Being aware of local seabird populations and spreading the word!**
- 2 **Leaving no trace of disturbance when using costal protected areas such as Natura 2000 sites.**
- 3 **Minimising noise disturbance when visiting costal caves by boat.**
- 4 **Abiding by Notices to Mariners, issued specifically for the protection of seabirds.**
- 5 **Reporting grounded young seabirds throughout summer.**
- 6 **Taking organic food waste home after visiting coastal areas.**
- 7 **Writing to your local MP to reduce coastal light pollution and improve waste collection.**
- 8 **Volunteering for seabird and nature conservation.**



LIFE Arcipelagu Ġarniġa (LIFE14 NAT/MT/991) project is an EU funded initiative with partners BirdLife Malta, Transport Malta and Royal Society for the Protection of Birds.

The project is financed by the EU (60%) and by the Maltese Government (25%).

Visit birdlifemalta.org for more information.

