



Cyprus Barn Owl Project Report 2024



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Cover Photo: Zoltán Tölgyesi

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Key Actions Completed

This report focuses on actions carried out by BirdLife Cyprus during 2024, but it must be noted from the outset that these actions were carried out in collaboration with relevant government departments and services, as part of the relevant National Action Plan (see below).

National Action Plan

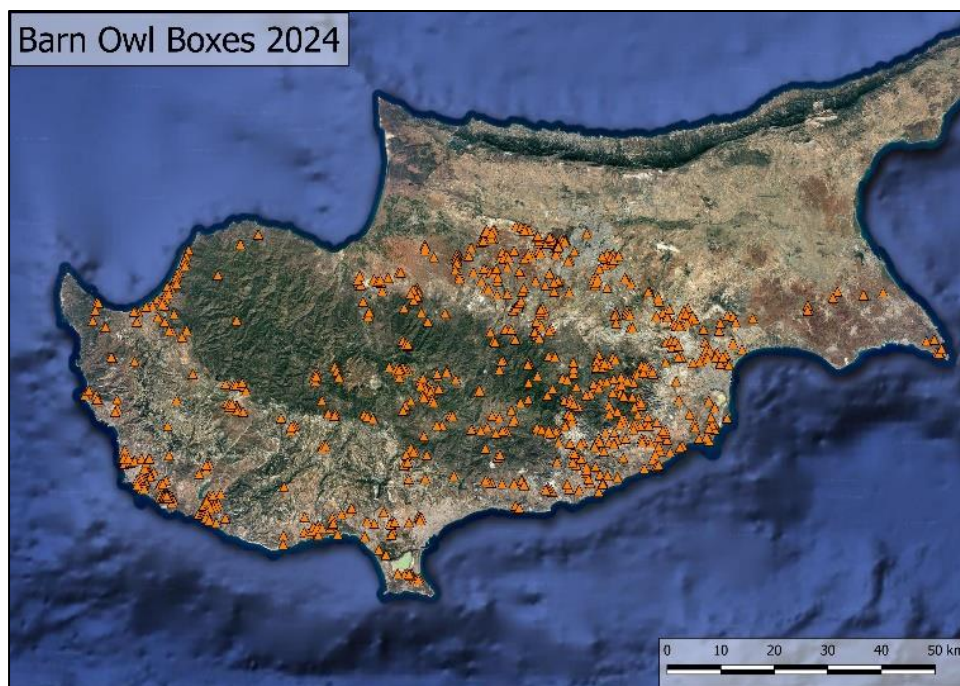
This was another successful year for the project. The ‘working group’ set up by Ex-minister Prof. Costas Kadis back in 2018, kept collaborating with experts from Israel, Greece and Switzerland, on the promotion of the National Action Plan (NAP) for the Barn Owl as a biological control for rodent populations in Cyprus. The NAP is based on the idea that through a collaborative effort, the Barn Owl can be used as an effective biological control agent, to tackle the rodent problems in certain agricultural crops and therefore reduce impacts on produce and, especially, help minimize use of rodenticides, which have negative ecological, environmental and human health impacts.

The working group consists of local experts from the Agricultural Department, the Forestry Department (FD), the Game and Fauna Service (GFS), the Veterinary Services (VS) and BirdLife Cyprus (BC). Ex-minister Prof. Kadis had dedicated a state budget -from the Ministry of Agriculture and Rural Development- of €35,000 for 2021 to move this project forward and based on the success of the working team, this support budget almost doubled to €65,000 for 2023 from Ex-minister Mr. Petros Xenophontos. The same budget was approved by Minister Dr. Maria Panayiotou for 2024.

GIS Database

The GIS database that was created last year, was updated by external assistant to the NAP team, Mr Zoltán Tölgyesi this year. It now includes 861 nest boxes¹ that parties of the “working group” have installed so far (Map 1, Table 1), as well as layers of land use, crop type, water bodies, road network, national forests and Natura 2000 areas. These layers are overlaid with data from the monitoring seasons of 2022, 2023 and 2024. This is an important work and enables the team to collect all the data in one common mapping system. This also allows the team to identify gaps in coverage and expand the nest box network strategically and in a more targeted manner.

¹ The total number of nesting boxes installed is 1,328, however not all of these are digitised.



Map 1: Map showing the geographical spread of the 861 nest boxes that are currently digitized.

Table 1: Shows the number of nestboxes installed by each partner that we were able to digitise so far. The table also includes nestboxes installed by private owners and the Cyprus Hunting federation, which even though are not part of the working team; they were advised on the designs and installations by members of the working team.

Nestbox Owner	Number of Nestboxes
Game and Fauna Service	374
Department of Agriculture	199
Department of Forests	152
BirdLife Cyprus	98
Private Owners	22
Cyprus Hunting Federation	14
Photovoltaic Company	2
TOTAL	861

Barn Owl nest boxes currently in Cyprus

By December of 2024, there are over 1,328 Barn Owl boxes across the country, installed by the members of the 'Barn Owl working group' only in clearly agricultural areas, i.e. not in areas dominated by natural habitats. Out of those 1,328 boxes, Birdlife Cyprus has installed a total of 96 Barn Owl boxes and 14 Common Kestrel boxes.

Based on the previous work done by the "Barn Owl working group", installations of new boxes is done based on the geographical spread of the boxes throughout Cyprus and a list of other criteria. These criteria include "close to communities with boxes", "inside or very close to IBA/Natura 2000 areas" and "inside or very close to the buffer zone". This helps the team target the spread and fill in any gaps in areas where not as many boxes had already been installed.

This year we saw a slight decrease in the use of rodenticides across Cyprus, compared to 2023 (0,8%). This could be due to a stable or a lower rodent population (anecdotal evidence from conversations with farmers). If we compare the rodenticide use to the start of the project numbers, there is a 22% decrease since the start of this project in 2014 (Figure 1) and a 42% decrease since 2020, which is the year that the project started receiving funding through the Ministry of Agriculture and Rural Development. When we take a closer look, it is obvious that we should focus on Paphos and Famagusta district, to put more pressure on organised groups, arrange more awareness events and try to get them involved in the project and thus decrease rodenticide use. Famagusta district is the district with the lower amount of boxes (Map 1) due to very low interest and high poaching levels. Individuals and organised groups in this district are reluctant to allow environmentalists inside their orchards, as they are often used for illegal trapping or shooting.

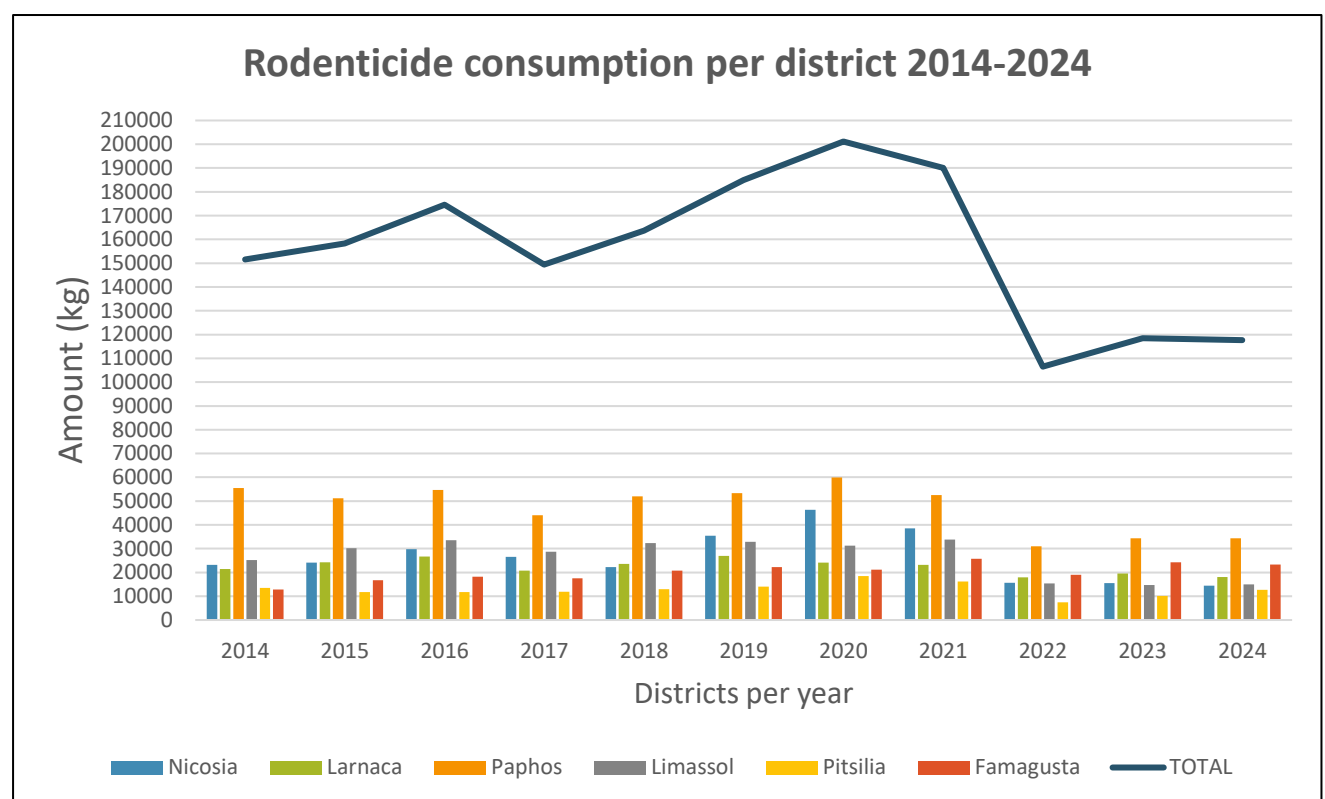
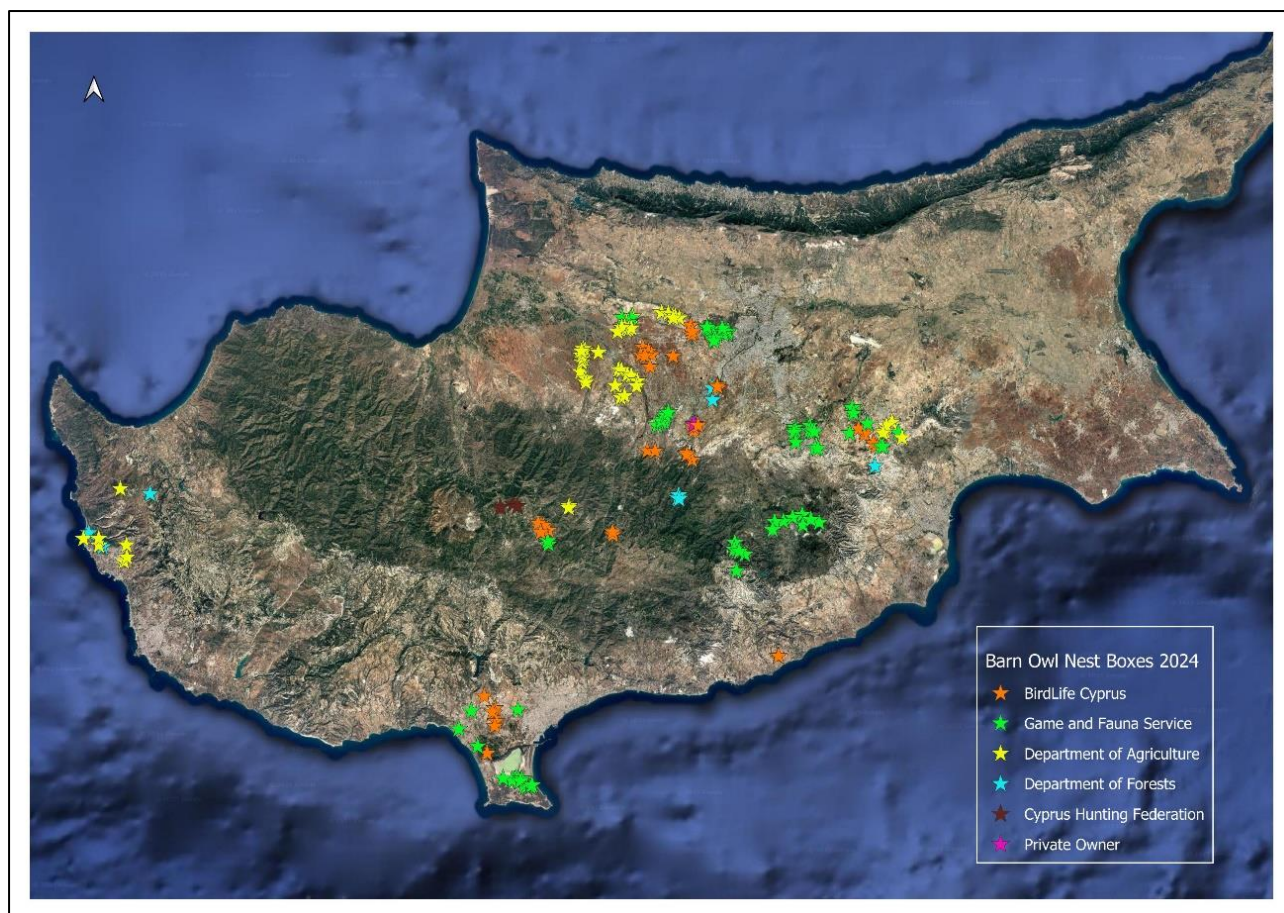


Figure 1: Bar and line graph. Line graph shows the initial fluctuation and recent stability in the use of rodenticides. Bar graph shows the differences between districts in terms of rodenticide consumption in Cyprus.

Results of Monitoring Season 2024, carried out by BirdLife Cyprus

The monitoring season this year was done in the same manner as in 2022 and 2023. As a “working team”, we decided to monitor a sample of 205 boxes, from all four partners. This meant selecting around 50 boxes from each partner (Map 2). The checks were performed by BirdLife Cyprus staff; Antaia Christou, Markos Charalambides, and Zoltán Tölgyesi (external assistant), and thanks to funding by the Ministry of Agriculture.



Map 2: Map showing the geographical spread of the sample of 205 nest boxes that were checked in 2024. Those marked in Orange were installed by BC, Green were installed by GFS, Yellow were installed by DoA, Blue were installed by DF, Brown were installed by the Cyprus Hunting Federation, Pink were installed by private owners.

Results

The checks started in mid-February and were completed by mid-August 2024. “Occupancy” / “Confirmed breeding” in this report is defined by signs such as eggshells, feathers, pellet substrate, an incubating adult bird, or the presence of chicks inside the box at the time of the monitoring. Overall, 2024 saw an increase in the use of nest boxes by Barn Owls (52%; see Figure 3 below) in comparison to 2023. We speculate that the reason for this high occupancy is a potential small increase in the Barn Owl population or the species being accustomed to using artificial nest boxes (anecdotal observations by “Barn Owl working team”). For comparison, signs in the boxes indicated that only 20% of those boxes had been occupied by Barn Owls in 2022 and 46% in 2023.

Barn Owl Occupancy of nest boxes 2024

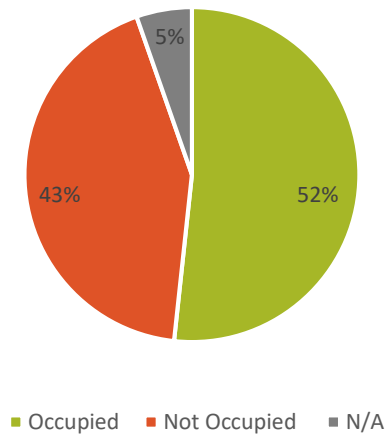


Figure 3: Pie chart showing the numbers and the percentages of boxes that were occupied or not by Barn Owls during the 2024 monitoring season. "Occupied" means confirmed breeding (i.e. eggshells, feathers, pellet substrate, the bird was incubating, or there were chicks sitting in the box) at the time of the monitoring. N/A means they were broken, lost / stolen, burned by fires or shot by hunters.

Within the sample of 205 nest boxes, we also recorder species other than Barn Owls occupying nest boxes. In the graph below (Figure 4), you can see the variety of species that made use of nest boxes in the 2024 breeding season.

Barn Owl Nest Boxes Occupants 2024

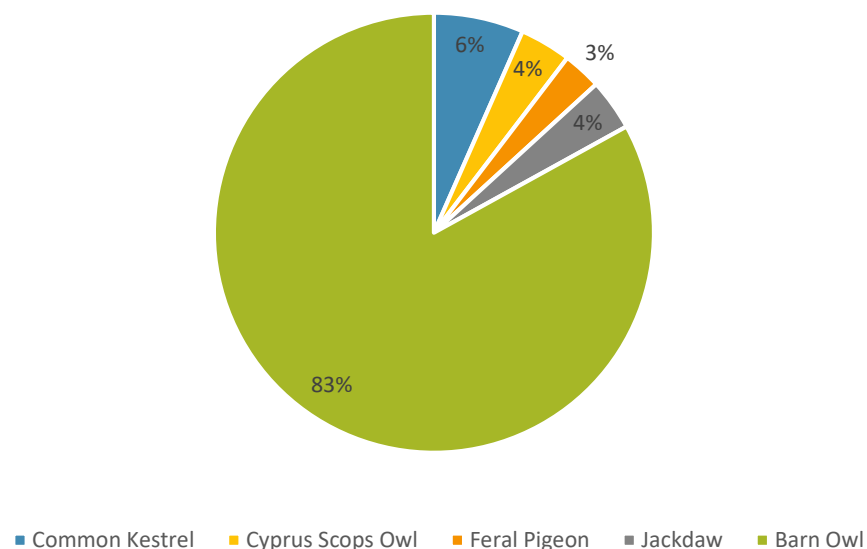


Figure 4: Pie chart showing the species of occupants inside the sample of boxes from all partners of the working team during the monitoring season of 2024. Note that "Occupants" means confirmed breeding (i.e. eggshells, feathers, pellet substrate, the bird was incubating, or there were chicks sitting in the box) at the time of the monitoring.

Barn Owls in BirdLife Cyprus boxes

As BirdLife Cyprus, we have data from monitoring efforts of our boxes since 2016. As mentioned above, for all boxes, this year we observed a small increase in the occupancy numbers in our nest boxes compared to the previous years (41% in 2024, 40% in 2023, and 36% in 2022) as shown in Figure 5. We always need to take into account the monitoring effort that takes place each year and calculate the relative occupancy based on the number of boxes that were monitored, rather than calculate occupancy in relation to all boxes installed. The adjusted percentages of occupancy (when we adjust the percentages to how many boxes are installed) are 39,4% in 2024, 35,6% in 2023 and 29,9% in 2022. Occupancy in this report is defined by signs of breeding activity, i.e. the presence of a bird incubating, or of eggs, eggshells, feathers or thick pellet substrate in the box.

Occupancy could be related to a variety of factors, such as an increase in rodent population that might result in the increase of the Barn Owl population or productivity, or it could be related to climatic conditions that may have affected the owl's breeding cycle, or other factors. However, more research and more data is needed to understand the variations in occupancy levels between years. The following bar chart (Figure 5) provides an overview of the number of nest boxes that had been installed each year by BirdLife Cyprus and how many of them have shown signs of Barn Owl presence.

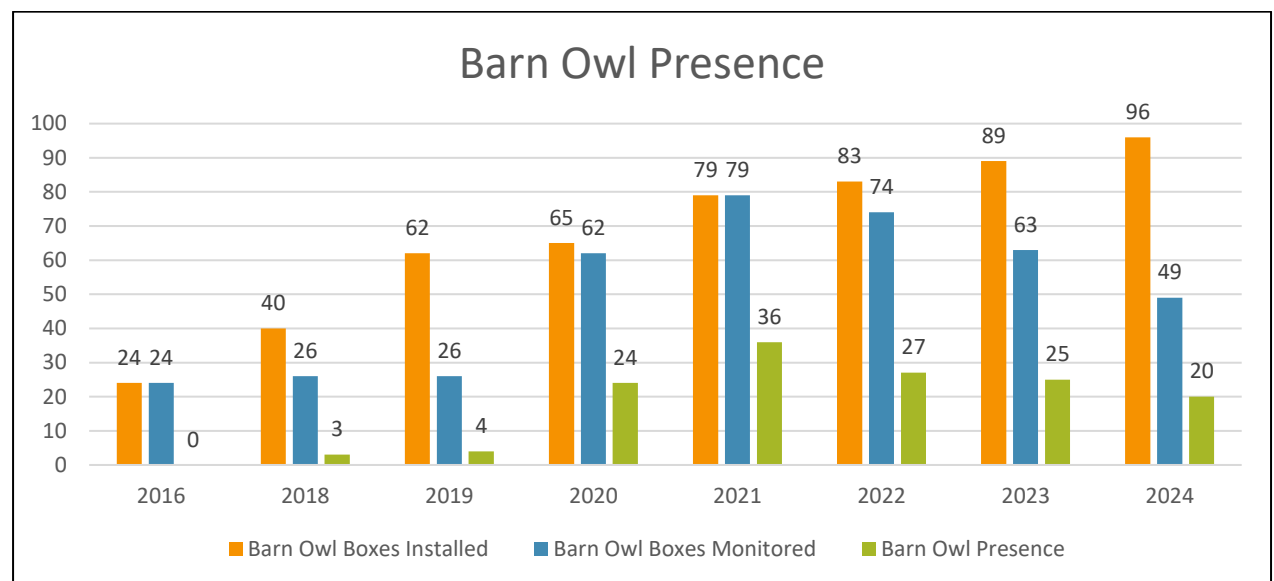


Figure 5: Bar chart illustrating Barn Owl presence and the number of nest boxes installed every year, as well as how many of them were monitored every year up to 2023 by BirdLife Cyprus only. Note that "Presence" is defined here by presence of fresh pellets, eggs, Barn Owl adult birds or chicks.

Finally yet crucially, we stress that as in the previous years, the checks and ringing efforts of owls in BirdLife Cyprus boxes, were carried out together with either the field owners / farmers or with representatives of communities (Athienou hunting club, Deneia and Ypsonas municipalities, Agros forestry club, Kambia and Pera Orinis farmers, UN officials, etc). This is crucial in our efforts to keep the farmers and communities engaged. The people involved really appreciate this approach. It gives them a more tangible experience (especially when they get to hold a bird during the ringing procedure) and therefore they are more likely to stay engaged in the efforts, as well as promote the project and spread the word to other locals and nearby communities.

Please find photos from the monitoring and ringing activities in Annex I.

Summary

In summary, the results from the monitoring season of 2024 are the following:

- Sample of 205 Barn Owl nest boxes checked, around 50 from each partner of the “Barn Owl working group” in Cyprus
- 6% of the boxes were damaged or lost
- 52% of the boxes were occupied by various species
- 43% of the boxes were occupied by Barn Owls
- 40 Barn Owl adults ringed
- 77 Barn Owl chicks ringed
- 2 Cyprus Scops Owl adults ringed
- 4 Cyprus Scops Owl chicks ringed
- 1 Common Kestrel adult ringed
- 5 Common Kestrel chicks ringed
- 0,8% decrease in rodenticide use across the island in 2024 compared to 2023.
- 22% decrease in rodenticide use across the island since the beginning of the project

Additional Project Activities

Awareness-raising

With support from the A. G. Leventis Foundation, BirdLife Cyprus was able to raise awareness about the project together with communities and organised groups, by using different platforms to reach a wider audience. These included events with communities, posts on our social media pages and interviews for documentaries. The local communities still show an appreciation and support for this project and it still remains popular with online and print media. This support is shown by the amount of mentions in the local media about the Barn Owl project. Some of these can be found in the links below.

- <https://science.cyi.ac.cy/en/event/birdlife-cyprus/>
- <https://reporter.com.cy/article/2024/4/1/766433/to-programma-pou-lunei-to-problema-me-ta-troktika-stis-kalliergeies-me-ten-sumbole-anthropopoulion/>
- <https://www.pio.gov.cy/%CE%B1%CE%BD%CE%B1%CE%BA%CE%BF%CE%B9%CE%BD%CF%89%CE%B8%CE%AD%CE%BD%CF%84%CE%B1-%CE%AC%CF%81%CE%B8%CF%81%CE%BF.html?id=42143#flat>
- <https://reporter.com.cy/article/2024/4/17/770292/pholies-anthropopoulion-gia-katapolemese-troktikon-dinei-to-up-georgias/>

BirdLife Cyprus also co-organised a successful event together with the Athienou hunting club and the local nursery school on Earth Day. This is was the second year we organize this event, after requests from the locals. The participants were able to witness the successful monitoring of the

Barn Owl boxes that were installed in their area. They also had the chance to see both chick and adult Barn Owls, touch them and observe them closely. A short talk was given about the National Action Plan (NAP) project, our efforts across Cyprus, as well as the Barn Owl's diet and thus their importance as a farmers ally. Another similar event took place with the local school of Paliometochos, where we monitored a nest together with highschoolers from Cyprus and an Erasmus group of high school students from Europe. Additionally, pellet dissection events were organized in the area of Ypsonas and Lazanias, co-organised with the municipality and a local school respectively. Kids are always reluctant to touch the Barn Owl pellets at first, but soon overcome this feeling and their curiosity takes over. It is always interesting to see the children, sparking their curiosity, but also challenging them to discover what the Barn Owls had eaten. This year we also participated in a science fair and set up a "Barn Owl station", where participants could learn more about the project, the species ecology and the research that is carried out in Cyprus on the Barn Owls.

This year BirdLife also participated at the 1st Sustainable Pedieos Festival, which was organised by the Environment Commissioner and the Cyprus Sustainable Tourism Initiative. Together with local communities and schools, we organized various awareness raising activities. One of the activities was Barn Owl pellet dissection and the other was the release of two rehabilitated Barn Owls back in the wild. Adults and children were able to learn more about the ecology of the Barn Owl and the threats it's facing. Additionally, they were able to observe the process of bird ringing and experience the rewarding moment of two previously injured birds finally flying free and healthy.

Thanks to these awareness-raising actions, during 2024, 24 people called, emailed, or messaged BC through Facebook to express their interest in installing Barn Owl boxes in their fields, gardens or holiday homes. The working team has already created a guide in Greek and English regarding the project, including some nest box designs and advice for people who are not "eligible" to receive a box under our project (non-farmers or organized communities). This guide was shared with everyone who expressed interest in our project.

Regional Efforts Documentary – filming in Cyprus

We were delighted to host a small team from Israel and Switzerland in Cyprus this spring. Professor Yossi Leshem, Professor Alexandre Roulin and filmmakers Eyal Bartov and Guy Bartov visited Cyprus in March 2024. The main aim of the visit was to film the team in Cyprus as part of a 30-minute documentary titled "The Barn Owl has replaced the Dove of peace". This documentary covers the regional collaboration between Israel, Switzerland, Greece, Cyprus and Morocco, explains how the project started, how it is expanding and it also includes interviews with government officials who express their support for this project.

The documentary that was produced is available [here](#).

Please find photos from the awareness raising and the making of the regional documentary activities in Annex I.

Research

During the 2024 monitoring season, we had the opportunity to continue our intense ringing efforts on Barn owls, including both adults and chicks, since we had increased capacity through the funding by the Ministry of Agriculture and Rural Development and the help of an external licensed

ringer, Mr Zoltán Tölgyesi who also performed the monitoring efforts together with BC staff. We have managed to ring 129 birds, including Barn Owls, Common Kestrels and Cyprus Scops Owls. These data will add to the research aspect of this project in the coming years with recoveries and re-sightings of the birds. Ringing birds during this project also gives the unique tangible experience to the community, to actually touch or hold the birds that are using their boxes, which helps to build a bond and appreciate these animals further.

Recaptures

We had eleven recaptures of birds in 2024, which were birds that were ringed as part of this project in the last four years, all of them Barn Owls. One bird was ringed in 2021, 1 in 2022, 6 ringed in 2023 and 3 ringed in 2024. Most of the birds were found within a 5km range of the box they were ringed at. The most interesting recapture is that of a female bird that was recaptured on the 21/06/2024 and was ringed as a breeding female in a nearby box in 2021.

Secondary poisoning

Together with the Game and Fauna Service, BirdLife Cyprus is participating in a LIFE IP project (LIFE *Pandoteira*), where one of the actions relates to secondary poisoning of raptors. Through this action, we aim to understand the extent of secondary poisoning on the island. In 2024, 58 samples (including some Barn Owls specimens) were collected and handed over to the State General Laboratory for analysis. These will be added in the database of the 72 already analysed raptor samples (collected between 2018-2023). This analysis is a qualitative one and is testing for traces of four rodenticides; Bromadiolone, Brodifacoum, Flocoumafen and Difenacoum. A deliverable report for this study will be finalised in December 2025.

Next steps for the project in Cyprus

The following activities will take place before the end of 2025:

- Provide input for the finalization of a documentary produced through NAP efforts and funding that highlights the teams' successes so far and raises awareness.
- Organise a visit from Prof. Alexandre Roulin to train the Cyprus "working team" on placing GPS tags Barn Owls. We will aim to tag at least four adult birds to get information about their hunting grounds especially during egg incubation and chick rearing periods.
- Co-organize events to screen the above-mentioned documentary to different communities and schools across Cyprus.
- Follow up with the relocation ²/ maintenance of installed boxes where needed.
- Installation of a nest camera to run live for the next breeding season.
- Present the preliminary results of the study on secondary poisoning under LIFE *Pandoteira* at the European Bird Census Council (EBCC) in April 2025.
- Finalise the deliverable study on secondary poisoning under LIFE *Pandoteira*, together with Game and Fauna Service.

² Where nestboxes have not been occupied for a few years or we observe disturbance from people (ie. boxes destroyed by illegal hunters, new houses or roads were constructed close to the nestboxes), or they are destroyed by natural processes (ie. Fires), we reassess the location and we decide whether a replacement or a relocation is needed.

ANNEX I

Photos

Monitoring



Photo 1: Barn Owl chicks inside a nestbox. Credit: Antaia Christou.



Photo 2: Common Kestrels sometimes breed in Barn Owl boxes. Credit: Zoltan Tolgyesi.



Photo 3: Cyprus Scops Owls sometimes breed in Barn Owl boxes. Credits: Antaia Christou.

Ringling



Photo 4: Ringing of a Barn Owl nestling. Credits: Antaia Christou.



Photo 5: Ringing of an adult Cyprus Scops Owl, which sometimes breed in Barn Owl boxes. Credits: Zoltan Tolgyesi.



Photo 6: Plumage differences in Barn Owl nestlings can indicate the sex of the individual. Credits: Antaia Christou.

Awareness-raising



Photo 7: Presenting the Barn Owl project to the Science Fair, organized by the Cyprus Institute.



Photo 8: Tree planting event in memory of our beloved Martin Hellicar and symbolic rehabilitated Barn Owl release in Pera Orinis.



Photo 9: Barn Owl nest box monitoring with Paliometochi Lyceum and Erasmus students.



Photo 10: Earth Day event co-organized with the local school and hunting club of Athienou. Credits: Despo Gavriilidou.



Photo 11: Performing the monitoring with local farmers provides them with a tangible experience, creates a bond with Barn Owls and strengthens their support towards the project. Credits: Markos Charalambides.



Photo 12: Member of Kyperounda hunting club, proudly holding a recaptured Barn Owl. Credits: Antaia Christou



Photo 13: Barn Owl pellet dissection event, organized together with Ypsonas municipality. Credits: Antaia Christou.



Photo 14: A Barn Owl pellet dissection event, continued into the night, as children were very keen and wanted to keep discovering what prey animals the Barn Owls had consumed. Credits: Antaia Christou

Regional Efforts Documentary – filming in Cyprus



Photo 15: Nikos Kassinis, senior officer from the Game and Fauna Service (Left), together with two UN officials giving an interview for the regional documentary. Credits: Antaia Christou.



Photo 16: Professor Alexandre Roulin (Centre) demonstrating aging techniques on an Adult Barn Owl that was captured from a nest box which is installed in the buffer zone. Haris Hadjistyllis, senior officer from the Game and Fauna Service (Left), UN official (Right). Credits: Eyal Bartov.



Photo 17: Members of the working team and visitors Professor Yossi Leshem and Professor Alexandre Roulin, discussing with the current Minister of Agriculture and Rural Development Dr Maria Panayiotou about ways to expand the project.