

# Barn Owls of the Patuxent River

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## Purpose and Objectives

Calvert Steward volunteers participate in a variety of activities that increase and support maximum nesting potential for Barn Owls in the Patuxent River corridor of Maryland. The data collected by this project will increase the profile of the Patuxent River corridor as an important resource where continued conservation action will help increase barn owl survivorship as well as a wide variety of birds.

## Skills Needed

- Reliable transportation to nest box sites
- Ability to walk through fields, forests, and wetlands to access boxes
- Ability to lift and carry 25 pounds
- Ability to use small power tools and hand tools
- Ability to keep accurate records

## Volunteer Duties and Expectations

- Assist with construction, installation and maintenance of wooden nest boxes on barns or on poles in appropriate open habitat.
- During the late spring, monitor the nest boxes via Go-Pro camera inspection and document the activity with photos and submit monitoring data via email to coordinators.
- Participate in our annual banding session where our Naturalist, with aluminum tags, band the young and adult birds and record their vital information.
- Assist with data recording and photo documentation during banding.
- Maintain confidential and sensitive information about locations of barn owl nests.
- Assist with trapping and banding adult barn owls for ongoing morphology study.



*Install of box in new upland location*

## Training and Qualifications

- Orientation or training to learn more about this program. Some activities are for volunteers who have been trained and have earned their Qualifications certificate. There is a separate training for participation in the morphology study.
- Qualifications: Once trained, volunteers will receive a certificate and can then respond to be a volunteer in different opportunities, particularly for nest box checks. Volunteers who attended the morphology training will be able to participate in that study in 2023.

## Summary of 2022 Activities

Volunteers performed the annual nest box checks of boxes in Calvert, Anne Arundel, Prince Georges, and Charles counties.

### **Key 2022 Activities**

- Continued project coordination with Anne Arundel and Prince Georges Counties
- Dedicated volunteers worked over 380 hours checking 67 boxes, among other activities
- Banded 4 chicks in Calvert County
- Continued and expanded a study on adult owls – using key body measurements to help determine taxonomic status of barn owls in the U.S.



*Eastern shore morphology work*

- Patuxent River Barn Owl Collaborative continued.
- In early 2022, boxes that had active nests in 2021 were cleaned out and fresh wood shavings added so they were ready for the 2022 nesting season.
- In February and March two marsh boxes were moved to upland locations on the edge of the marsh, one box was reinstalled on a barn, faux porches were installed on boxes that had active nests in 2021 to assist with adult trapping, and other maintenance activities were completed.
- The Maryland Bird Conservation Partnership continued efforts to conserve Barn Owls throughout the state. Andy continued to assist with the Farmland Raptor Project Committee.
- During May, volunteers checked all 67 nest boxes to determine if there were any active nests. In Calvert 2 active nests at Smoky Road were found and 4 chicks were banded. Unfortunately, one adult female, who had been banded in 2020, was found dead in a previously active nest in Anne Arundel County. Additional boxes were checked in Prince Georges County but the data is unavailable.
- Data from the nest box checks was entered in to NestStory, an online nest data collection application; this is a repository for all standardized barn owl nest data throughout Maryland. Plans are to add historical data.
- A Barn Owl banding event was held for volunteers that helped with box checks on May 31 at Smoky Road; naturalists banded 4 chicks and volunteers recorded data.
- Adult barn owls at several active nest boxes were safely trapped, banded as needed, and had extensive body and feather measurements taken for the continuing study to help determine the taxonomic status of barn owls in the U.S. 11 new adults were captured bringing the total to 31, 18 females and 13 males. This included trapping owls on the eastern shore (Monie Bay) where 7 adult owls were captured and measured. In Prince Georges County at Milltown Landing, trapping was done on 2 nights with one adult male captured; this bird was banded as a nestling from one of the boxes in the county approximately 5 miles north.
- Andy and several volunteers measured barn owl study skins at the Smithsonian Natural History Museum to contribute data to the morphology study. In addition, collections at Carnegie and the Harvard Museum of Natural History were also measured.

## Band Recoveries

- An adult female was captured nesting for her second year at Smoky Road and an adult male mentioned above captured at Milltown Landing.

## Future Plans and Goals

The mission of this project is to increase and support maximum nesting potential for barn owls in the Patuxent River corridor of Maryland. The overarching goal of this project is to create collaborative support among agencies within the targeted areas to accomplish project goals. Future plans and goals for 2022 aim to continue toward accomplishing the following specific goals activities.

### **Specific goals and activities for the nesting box aspect of the project include:**

1. Install and maintain new and old nest boxes.
2. Establish protocols for box monitoring and installation.
3. Develop standardized data collection procedures.
4. Expand and organize volunteer team efforts via recruitment, training and scheduling.
5. Pursue partnerships with private landowners for site selection, and with businesses for donated materials and installation assistance.
6. Provide guidance to Southern Maryland Audubon Society for expansion of the project into St. Mary's County.
7. Expand Barn Owl adoption fundraising program, with proceeds allocated to the project.

### **Specific goals and activities for research aspects of the project include:**

1. Band all nestlings and as many adult owls as possible.
2. Track reproduction and mortality of adults and nestlings through banding and report annual trends.
3. Continue to trap adult owls in Calvert County beyond the morphology study to gather data on population demographics.
4. Analyze habitat richness to determine relationship to breeding success.
5. Determine diet composition through pellet analysis.
6. Catalog nest box profiles, including: box type, location, photo documentation and habitat analysis to analyze most successful boxes over time.
7. Create a method for determining habitat composition within a one-mile radius of the nest site in order to establish parameters for the best locations for brood success.
8. Compare used and unused nest boxes, including box type and habitat composition to add to data on nest selection theory.
9. Create and employ standardized call back detection surveys at targeted locations.

### **Specific goals for gaining a more detailed understanding of barn owl ecology of the Patuxent River corridor through radio-tracking technology**

1. Deploy tracking tags on fledglings and adults.
2. Identify habitat usage and range for hunting and roosting.
3. Identify periods of maximum activity.
4. Determine natal dispersal.
5. Track seasonal movements.
6. Install MOTUS tracking towers for maximum Patuxent River corridor coverage.

### **Specific goals for the continuation of the morphology study**

1. Trap and collect body measurements on a minimum of 30 pairs of owls from the Mid-Atlantic region. Plans are to start earlier in the nesting season.
2. Will need to complete trapping in 2023 which means expanding the trap area to Montgomery and Frederick Counties and possibly Virginia, Pennsylvania, Delaware and New

Jersey. Adult trapping for the morphology study will continue until a robust data set is achieved.

3. Plan to measure collections at the National Museum of Natural History in New York City in early 2023.

**Work Activities to be accomplished in 2023**

Clean out boxes that had barn owl nests and other boxes with non-barn owl nests

Move one marsh box (Idol)

Move box off of Freeland barn – look for new location

Remove silo box (Watson)

Repair boxes as needed (Cage, Lloyd Bowen)

Trim vegetation around selected boxes as needed

Build an additional box

*Supporting Calvert County's nature parks and natural spaces*



# CALVERT STEWARDS

## VOLUNTEER PROGRAM

*A partnership between Calvert Nature Society and Calvert County Natural Resources Division*

# 2022 Annual Report

Date of Issue March 2023

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