

Barn Owls of the Patuxent River

Number of Volunteers: 27 volunteers

Volunteer Hours: 347 hours

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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 affect 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 data sheets.
- 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.



Newly installed box at Al Tucker's Farm March 2021

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 2022.

Summary of 2021 Activities

Unfortunately, due to Covid 19, some annual activities had to be conducted with more limited participation. The annual nest box checks were somewhat modified with fewer volunteers able to participate. Despite this, the project continued with successful nest monitoring.

Key 2021 Activities

- Continued project coordination with Anne Arundel and Prince Georges Counties
- Dedicated volunteers worked over 336 hours checking 69 boxes, among other activities
- Banded 6 chicks in Calvert county and 3 chicks in Anne Arundel county (Jug Bay Wetland Sanctuary)
- Continued and expanded a study on adult owls – using key body measurements to help determine taxonomic status of barn owls in the U.S.

- Patuxent River Barn Owl Collaborative continued.
- In early 2021, boxes that had active nests in 2020 were cleaned out and fresh wood shavings added so they were ready for the 2021 nesting season.
- After a successful nesting, one nest box on a pole was relocated away from the river's edge to a safer location.
- In March, two new nest boxes were installed at Al Tucker's Farm in Lothian. In addition, a new box was installed at Aquasco Farm.
- 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, a more limited number of volunteers checked all 69 nest boxes to determine if there were any active nests. In Calvert and Anne Arundel Counties, 5 active nests were found and 9 chicks were banded; in Calvert this included two nests at Smoky Road and one on the Ewalt property. Unfortunately, one of the 5 nests failed (in Anne Arundel). In Prince Georges and Charles Counties, 11 chicks were banded in 5 active nests; 1 additional nest failed.
- 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 June 6 at Smoky Road; naturalists banded 3 chicks and volunteers recorded data.
- Three chicks in the Ewalt property box were banded in early June 2021.
- 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. Twelve new adults were captured and measured bringing the total to 20 (13 females and 7 males). This included the expansion of the study to the eastern shore (Monie Bay) where 4 adult owls were captured and measured. In addition, Andy worked with David H. Johnson of the Global Owl Project to measure 75 study skins at the Academy of Natural Science in Philadelphia PA.
- Barn owl volunteer appreciation gathering– September 11. A very small gathering of volunteers took place outdoors at Kings Landing Park. Although not present at the gathering, Kevin Donahue was later



*Eastern shore
morphology work*

recognized for all his work on this project, including helping install and move many boxes. Andy Brown discussed activities that were accomplished in 2021 as well as some project goals for the near future.

- Andy consulted and assisted with the installation of nest boxes at Janes Island State Park in October – Liz Sanders donated predator guards.
- On November 1st, 10 volunteers built over a dozen faux traps that will be fitted to the front of active nest boxes to be used in conjunction with the morphology study.
- Despite the limitations on holding work events, more than 30 volunteers donated over 336 hours to the project.

Band Recoveries

- A female that fledged from Ewalt in 2020 was found nesting in a box at the Dix Wildlife Management Area in Greenwich New Jersey.
- A banded female was recovered nesting at Buena Vista as a third-year bird, banded as a nestling from Allen's Fresh in 2019.
- A banded female was recovered nesting at Merkle Sanctuary as a second-year bird, banded as a nestling from Allen's Fresh in 2020.
- A banded female was recovered nesting in the same box at Nottingham for the 3rd known consecutive season.
- All four captures at Monie Bay (Eastern shore) were recoveries banded as hatchlings from boxes at that location. One pair mated pair were siblings banded as nestlings on the same date in the same box.

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. Analyze habitat richness to determine relationship to breeding success.
4. Determine diet composition through pellet analysis.
5. Catalog nest box profiles, including: box type, location, photo documentation and habitat analysis to analyze most successful boxes over time.
6. 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.
7. Compare used and unused nest boxes, including box type and habitat composition to add to data on nest selection theory.

8. 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 2022 which means expanding the trap area to Montgomery and Frederick Counties and possibly Virginia, Pennsylvania, Delaware and New Jersey.
3. Plan to measure collections at the Smithsonian, Carnegie, and the Harvard Museums of Natural History.

Work Activities to be accomplished in 2022

- Identify Natural Resources Staff to assume responsibilities due to Andy's retirement.
- Clean out boxes that had nests
- Move/remove marsh boxes
- Re-install box at Wheeley
- Repair and clean Lloyd Bowen
- Trim vegetation around selected boxes
- Remove silo box at Watson
- Build additional boxes as needed

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

2021 Annual Report

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