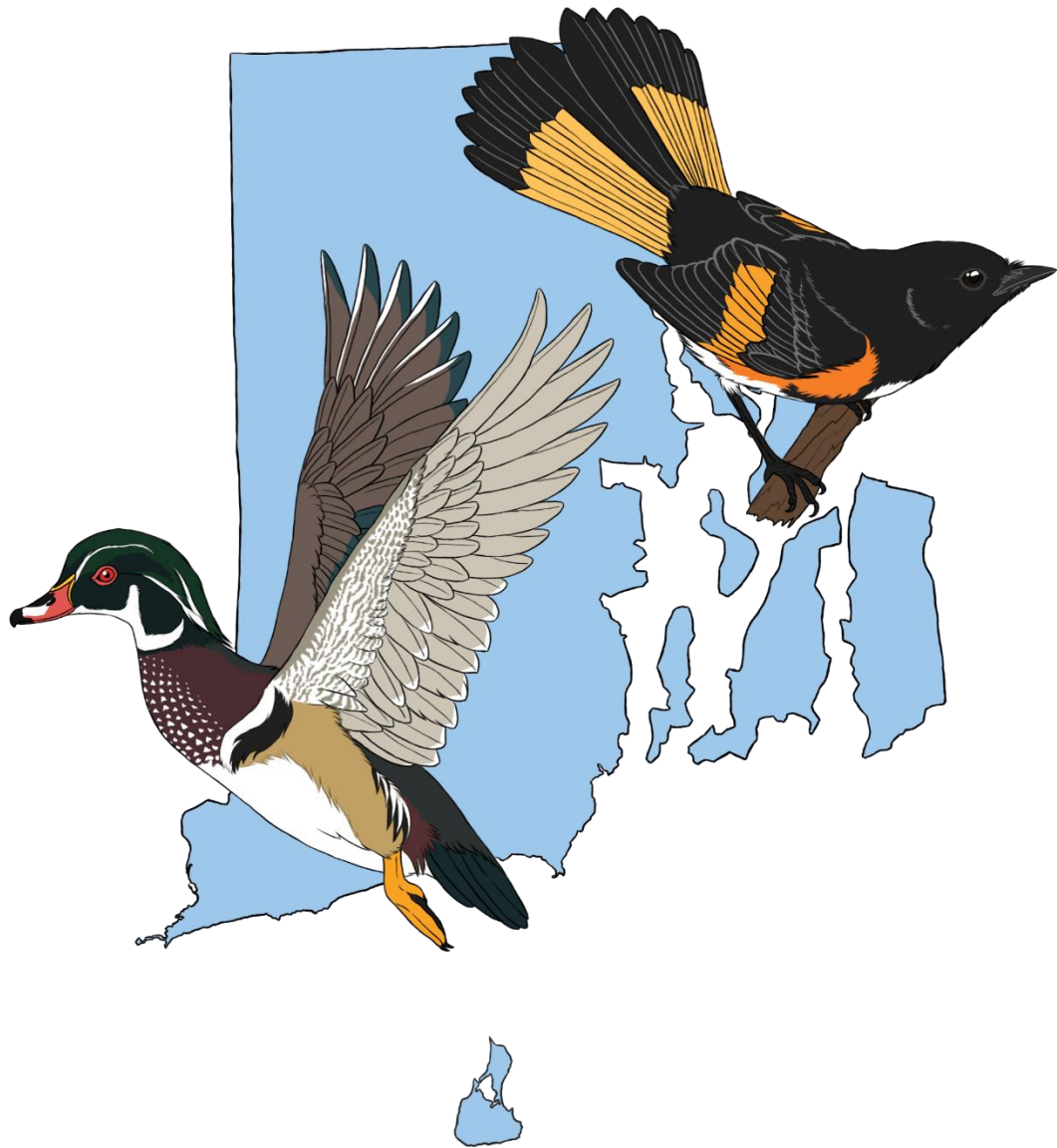


Rhode Island Bird Atlas 2.0



Owl Survey Protocol

The Rhode Island Bird Atlas 2.0 is funded by the Rhode Island Department of Environmental Management, Division of Fish and Wildlife and is a joint project with the University of Rhode Island, Department of Natural Resources Science. Project directors for the atlas are Peter Paton (URI) and Jay Osenkowski (DEM). Charles Clarkson (DEM-URI) is the project coordinator.

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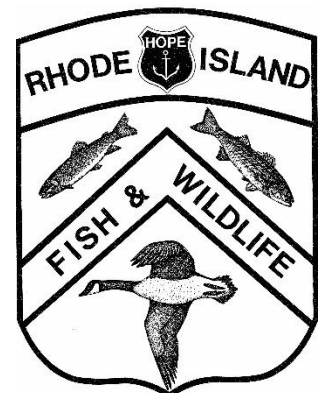
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Objectives

Nocturnal birds (woodcock, nightjars and owls) are often underrepresented in state bird atlases. This is largely due to the fact that most states are too large to devote a specific effort to sampling these cryptic species. The Rhode Island Bird Atlas 2.0 aims to sample these species in an effort to accurately reflect their distribution within the state. Specifically, we hope to:

- 1) Obtain data on the distribution of nocturnal species within Rhode Island.
- 2) Establish a baseline distribution and relative abundance for all species that can be used with future efforts to determine population trends through time.
- 3) Establish habitat associations for each species detected.

A specific effort will be expended for each group of nocturnal species that nests in the state of Rhode Island. Each of these efforts will be timed with the peak activity levels of a given taxa in an effort to maximize detections. For most taxa, this period will coincide with the earliest Safe Dates for a given species, which typically will overlap with the period when vocal activity is at its highest.

Driving routes will be established throughout the state of Rhode Island that sample a variety of habitats. Most routes will be placed along roadways with low traffic volume in an effort to increase detection rates and safety for our volunteers.

Owl Survey Methods

The owl-specific surveys will take place from April 1 – April 20. This window coincides with the beginning of the Safe Dates for all owl species breeding in the state with the exception of the Great Horned Owl (a separate survey will take place for this species). It is during this period that you can expect an increase in vocal activity as birds establish territories and pair bonds.

Survey routes will be randomly selected from the possible habitat types within the state and will sample multiple habitats. Each route will be 10 miles in length and will consist of 10 sampling stations (1 per mile). This represents the minimum distance in which you can confidently avoid detecting the same owl at two locations. It also minimizes the distance and amount of time that volunteers will have to drive in between each survey station.

Each route will be sampled once during the survey window and the order in which each route will be sampled will be randomized to reduce bias caused by sampling date. While sampling each route more than once during the survey window would allow us to monitor differences in the timing of peak calling rates for each species, it would also require twice as much effort on the part of volunteers. By sampling each route only once, we can reduce the amount of time

spent surveying and encourage more volunteers to participate in the effort. A single volunteer would also be able to survey >1 route within a single season, thereby increasing coverage within the state.

Each survey route will be georeferenced and located using a GPS. All volunteers will be trained in the use of a GPS for this effort. It is essential that routes are recorded precisely so future surveys can replicate the study design.

For most owl species, the peak of calling activity occurs between sunset and midnight (after waking) and again early in the morning prior to roosting. Generally speaking, call rates are the lowest from midnight to 4am. Surveys should therefore be run beginning one half-hour after sunset until midnight. Once again, it is important that all survey routes are sampled within this window so as to reduce bias.

At each stop along a survey route, volunteers will pull their car as far as safely possible off the road and turn off their engine. If hazard lights must be used to increase safety, volunteers should turn them on and step far enough away from the road so that their hearing is not impaired by road noise. Once in a safe and quiet location, volunteers will begin a 3-minute silent listening period. It is essential that ALL volunteers observe this time limit so as to standardize our results across all survey stations. Multiple studies have demonstrated that adding more time to the silent listening period does not result in an appreciable increase in owl detections. In addition, by limiting each station stop to 3-minutes, we can maximize the total number of survey routes that a volunteer can complete.

***Tape Playback is not permissible for this survey. While commonly used as a tool to increase detection during owling, tape playback has a large number of negative consequences that negates any benefit of its use. The effects can include disrupting courtship, foraging and nesting activities and increasing predation risk.**

Over the course of the owl survey period, multiple organized “blockbuster” events will be held. During these events, multiple survey routes will be completed in a single concerted effort. The blockbuster events and any independent owl surveys need to be performed during periods of ideal environmental conditions. Unfavorable conditions are typically those weather events that could potentially lead to decreased rates of detection (high wind speeds, precipitation, extreme temperatures). If conditions deteriorate over the course of a survey route, volunteers should decide whether the route will need to be surveyed again on another evening. Data on weather conditions should be recorded at each survey station prior to beginning a survey.

For each owl detected, you will note in which minute the detection was made and place a check mark in the appropriate time interval. All owls will be denoted as time of first detection and only one check mark per owl is necessary. In addition to recording owl numbers, the direction and estimated distance to each owl detected should be recorded. This will allow for more accurate assessment of habitat association and will allow for statistical accounting of detection probability.

Field Equipment

Prior to each night of field work, volunteers should ensure they have the following equipment:

- Datasheets/pens/pencils
- Warm clothing
- Flashlight
- Thermometer (to record temperature)
- Compass (to determine direction to calling owls)
- Watch/stopwatch
- Vehicle safety supplies (ex.-spare tire, jumper cables, road flares)

Data Codes

Common Name	Scientific Name	ALPHA Code
Barred Owl	<i>Strix varia</i>	BDOW
Eastern Screech Owl	<i>Megascops asio</i>	EASO
Northern Saw-whet Owl	<i>Aegolius acadicus</i>	NSWO
Barn Owl	<i>Tyto alba</i>	BNOW
Great Horned Owl	<i>Bubo virginianus</i>	GHOW

Beaufort #	Wind Speed (mph)	Indicators
0	<1	Smoke rises vertically
1	1 to 3	Wind direction shown by smoke drift
2	4 to 7	Wind felt on face, leaves rustle
3	8 to 12	Leaves, small twigs in constant motion
4	13 to 18	Raises dust, small branches move
5	19 to 24	Small trees in leaf sway

Noise Level	Description
1	Quiet
2	Some noise, but not distracting
3	Significant noise that may reduce detectability
4	Constant noise

Route Number: _____ Route Name: _____

Surveyors: _____

Date: ____/____/____

Temperature (°F): Start _____ End _____ Cloud Cover (%): Start ____% End ____%

Precipitation: NONE Light Medium

Distances: 1: 0-50m; 2: >50m

Station Odometer: _____ Start time: _____ Wind: 0 1 2 3 >3

1 Noise Level: 1 2 3 4

Species	Owl Number	Distance/ Direction	During 1 st minute	During 2 nd minute	During 3 rd minute	Comments

Station Odometer: _____ Start time: _____ Wind: 0 1 2 3 >3

2 Noise Level: 1 2 3 4

Species	Owl Number	Distance/ Direction	During 1 st minute	During 2 nd minute	During 3 rd minute	Comments

Station Odometer: _____ Start time: _____ Wind: 0 1 2 3 >3

3 Noise Level: 1 2 3 4

Species	Owl Number	Distance/ Direction	During 1 st minute	During 2 nd minute	During 3 rd minute	Comments

Station Odometer: _____ Start time: _____ Wind: 0 1 2 3 >3

4 Noise Level: 1 2 3 4

Species	Owl Number	Distance/ Direction	During 1 st minute	During 2 nd minute	During 3 rd minute	Comments

Station Odometer: _____ Start time: _____ Wind: 0 1 2 3 >3

5 Noise Level: 1 2 3 4

Species	Owl Number	Distance/ Direction	During 1 st minute	During 2 nd minute	During 3 rd minute	Comments

Station Odometer: _____ Start time: _____ Wind: 0 1 2 3 >3

6 Noise Level: 1 2 3 4

Species	Owl Number	Distance/ Direction	During 1 st minute	During 2 nd minute	During 3 rd minute	Comments

Station Odometer: _____ Start time: _____ Wind: 0 1 2 3 >3

7 Noise Level: 1 2 3 4

Species	Owl Number	Distance/ Direction	During 1 st minute	During 2 nd minute	During 3 rd minute	Comments

Station Odometer: _____ Start time: _____ Wind: 0 1 2 3 >3

8 Noise Level: 1 2 3 4

Species	Owl Number	Distance/ Direction	During 1 st minute	During 2 nd minute	During 3 rd minute	Comments

Station Odometer: _____ Start time: _____ Wind: 0 1 2 3 >3

9 Noise Level: 1 2 3 4

Species	Owl Number	Distance/ Direction	During 1 st minute	During 2 nd minute	During 3 rd minute	Comments

Station Odometer: _____ Start time: _____ Wind: 0 1 2 3 >3

10 Noise Level: 1 2 3 4

Species	Owl Number	Distance/ Direction	During 1 st minute	During 2 nd minute	During 3 rd minute	Comments