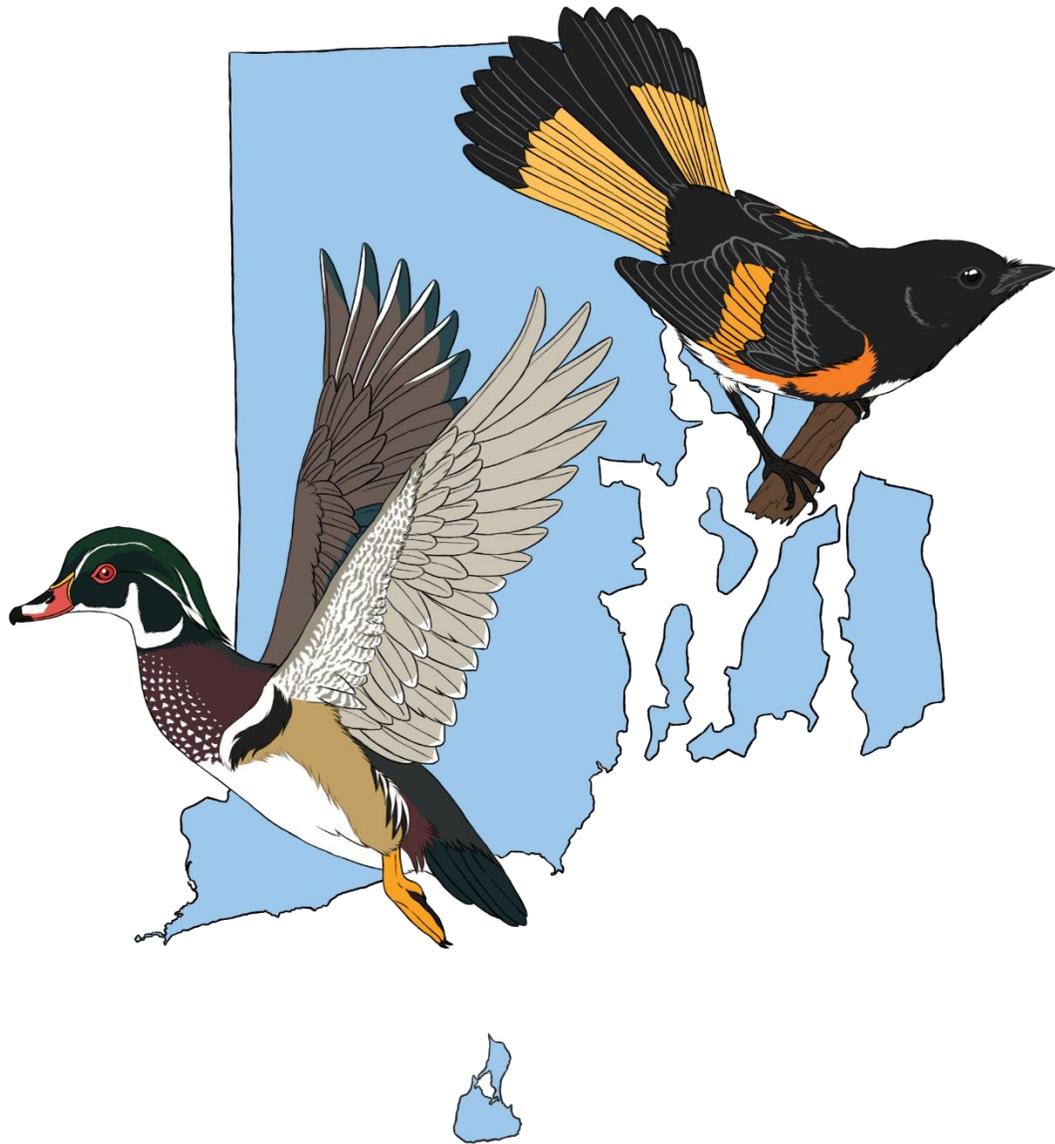


# Rhode Island Bird Atlas 2.0



## Nightjar 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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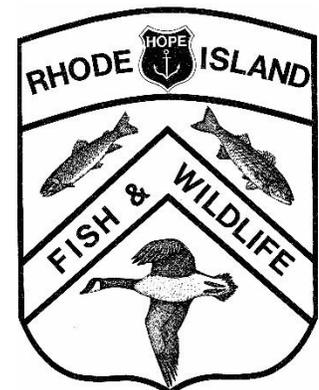
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## **Objectives**

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.

## **Nightjar Survey Methods**

The nightjar-specific surveys will take place from May 25 – June 15. This window coincides with the beginning of the Safe Dates for all nightjar species breeding in the state. 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 nightjar 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 nightjar species, the peak of calling activity occurs between moonrise 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 at moonrise and lasting until midnight. Once again, it is important that all survey routes are sampled within this window so as to reduce bias. You can find moonrise times for Rhode Island by visiting [http://aa.usno.navy.mil/data/docs/RS\\_OneDay.php](http://aa.usno.navy.mil/data/docs/RS_OneDay.php)

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 6-minute silent listening period. It is essential that ALL volunteers observe this time limit so as to standardize our results across all survey stations.

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

Over the course of the nightjar 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 nightjar 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. Nightjar calling activity is reduced considerably when the moon is still below the horizon or is obscured by cloud cover. Therefore, **be sure to conduct surveys only after moonrise and only on nights without cloud cover.**

At the start of each survey route, you will record the route number and name, the names of the surveyors in the group and the date. Temperature will be recorded at the beginning and end of each route and any precipitation will be noted. At each point along the route, you will record an odometer reading, a wind-level, a noise-level, the sky condition and whether the moon is visible. Then you will record the start time and begin the 6-minute survey. During this period,

you will note all species of nightjar detected. Each bird will be given its own line on the datasheet and you will record the distance (<50m or >50m) and direction to the bird when it is first detected. Then, during the 6-minute count, you will keep track of a “history” of each bird. Place a “1” in each of the time blocks in which the bird was vocalizing.

## 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
Common Nighthawk	<i>Chordeiles minor</i>	CONI
Eastern Whip-poor-will	<i>Caprimulgus vociferus</i>	EWPW
Chuck-will’s-widow	<i>Antrostomus carolinensis</i>	CWWI

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

Sky Code	Sky	Description
0	Clear	Cloudless sky, can see moon and stars clearly
1	Mostly Clear	Few clouds, less than 25% cloud cover
2	Mostly Cloudy	Many clouds, 25-50% cloud cover
3	Overcast	Dense cloud cover. <b>DO NOT CONDUCT SURVEY</b>









