

## MOON 2023 Monitoring Instructions

Based on previous research conducted throughout the U.S. and Canada we know that there are certain criteria that are important when monitoring for owls and nightjars. This protocol was formulated in collaboration with a number of partner organizations including Bird Studies Canada, Midwest Nocturnal Bird Monitoring Program, Northeast Nightjar Survey Network, United States Nightjar Survey Network, and the Wisconsin Bird Conservation Initiative.

### \*Monitoring Times:

- 1) Routes are surveyed two times each year. These surveys should be conducted at least 30 minutes following sunset (when the moon is above the horizon) and end no later than 15 minutes prior to sunrise.
- 2) Surveys should only be completed during times when the moon is 50% or greater illumination. **2022 monitoring windows are April 28 – May 12 and May 28 – June 10. We ask that monitors monitor one time during each of these windows.** Weather is a great determining factor when deciding which day to monitor during the open windows. **If you can only monitor during one of the two windows, we ask that you choose the second window, if possible.** If possible, monitoring should be performed when the moon is above the horizon and not obstructed by clouds. Nightjars call less frequently when the moon is below the horizon or hidden by cloud cover.

### \*Route Selection:

Many of you may already have routes, but for those of you new to the program please read on: Each route should consist of 10 stopping points where you stop, get out of your vehicle, and listen for nightjars and owls. Each stopping point should be at least one mile apart. The starting point of your route will be named stop #1 and so on until you get to stop #10. At this time you will have driven at least a nine mile route. Note: If needed, it is better to add space rather than shortening space between stops to avoid double counting. Also, given the topography of the state and the layout of many roads we realize that some will have to turn down different roads to complete their routes. **Scouting your route is always a good idea.**

**\* Other Species:** We are encouraging volunteers to record any species they hear calling while monitoring. If you are not sure of the call than do not record anything, but, for instance, if you know the call is a Sedge Wren, or a Henslow's Sparrow, please record the species in the same format that you would an owl or nightjar.

\*The following items are what you will need to monitor:

1. Owl and Nightjar data collection sheet
2. Owl and Nightjar route description sheet (not necessary to fill out if you are completing the same route and have already filled one out before and sent it to me)

Optional Items:

3. Audio playing device with Eastern Screech-Owl and Barn Owl call (if using playback)
4. Playback instructions and data form (if using playback)
5. Placard (Available upon request for your car window)

### \*When completing the data forms

**Be sure to fill in all of the data on the top of the Survey Data form, such as whether you used a playback, or the moon was above the horizon.**

\*See below for instructions on filling out WIND, SKY, and NOISE data.

Wind: Do not conduct surveys during strong winds. High winds diminish your ability to hear Nightjars or Owls.

Code	Wind Speed	Description
0	Calm (<1 mph)	smoke rises vertically
1	Light (1-7 mph)	smoke drifts, weather vane inactive, leaves rustle, light air movement
2	Moderate (8-18 mph)	leaves, twigs, and thin branches move around, small flags extend, raises loose papers.
3	Strong (19 mph or greater)	small trees begin to sway. <b>Should not conduct survey.</b>

Sky Condition: Do not begin a survey if the sky is completely overcast, during heavy fog, or persistent rain. All of these conditions will diminish calling rates of Nightjars and hamper your survey.

Code	Sky	Description
0	Clear	Cloudless sky, can stars and moon 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, entire sky covered. <b>Should not conduct survey.</b>

Background Noise: Codes indicate the level of background noise that impairs your ability to hear Nightjars.

Code		Description
0	None	There is no effect of background noise on your ability to hear nocturnal birds.
1	Slight	Noise slightly affects your ability to hear nocturnal birds (e.g. distant traffic, 1-2 car passing during a stop's counting period).
2	Medium	Noise moderately affects your ability to hear nocturnal birds (e.g. nearby traffic, 3-6 cars passing during survey period, airplane flying overhead).
3	Excessive	Noise seriously affects your ability to hear nocturnal birds (e.g. continuous traffic nearby, construction noise, frog chorus)

Mile: Enter odometer/tripometer to nearest tenth mile at each stop. Begin with a value of 0 for first stop.

### Counting Owls and Nightjars:

Monitoring should be done from a stationary position outside of your automobile. Most importantly, be consistent. Use the same technique at each stop including how you focus your listening for nearby birds and distant birds.

Record the time each stop begins. Record the detection history of each individual seen or heard from the time of their first detection through their last detection in the appropriate 1-minute block of the data sheet (each individual bird detected will have their own row on the data sheet). Use a value of 1 for a detection and if there is not a detection the minute column can be left blank. Even if an individual calls more than one time during a one minute block it is still only recorded as a 1 for that block (See below table). Birds will sometimes move during the counting period. Use your best judgment to distinguish new individuals from those individuals you may have already detected. Remember; if you think you have already counted an individual do not record it again on a new row.

If there are no birds detected at a stop enter **NONE** in the species column on the data sheet on the same line as that stop number. Do not forget to enter a stop # in the appropriate column of your data sheet beginning with #1 for your first stop and sequentially numbering others as 2 through 10. Also, please enter the time you begin listening at each stop.

**\*If you are NOT using playback:**

You only need to listen for 6 minutes at each stop recording detections at each one minute block of the 6 minutes.

**\*If you ARE using playback (Optional):**

If you are using playback, at the end of the 6 minute block you will first play the Eastern Screech-Owl call for (20 seconds) and listen for an additional 2 minutes. Following the Screech owl playback listening period a Barn Owl call (20 seconds) will be played. Listen passively for an additional 2 minutes following this playback.

**Because** we want to be consistent with our data collecting, playbacks should not be played until the initial 6 minute passive listening period is over. Also, **DO NOT** use alternate mechanisms to look for birds, such as flashlights. These practices will bias your survey and make it difficult to compare your data to that of other volunteers. Record birds as you hear them, rather than waiting for the end of the six minute period to avoid data omission errors.

**Sample Data Entry** for an observer at 4 stops: Each line represents an individual bird’s detection history and a value of 1 indicates that an individual bird was heard during that respective minute. Use a new line for each new bird detected at a stop. This table includes 10 minutes because that used playbacks after 6 minutes.

Stop#	Time	Species	Time blocks (minutes of survey)										
			1	2	3	4	5	6	7**	8**	9**	10**	
1	9:05	EASO								1	1		
1	9:05	CWWI			1	1	1	1					
1	9:05	BDOW										1	
2	9:22	NONE											
3	9:39	EWPW	1	1	1						1		
3	9:39	EWPW		1	1	1	1	1			1		
4	9:44	EASO								1			
4	9:44	CONI				1			1				

\*\* Indicates Eastern Screech-Owl and Barn Owl playback listening periods (optional).

Please use species alpha codes when recording data:

EWPW = Eastern Whip-poor-will	BDOW = Barred Owl	BNOW = Barn Owl
CWWI = Chuck-will’s-widow	GHOW = Great Horned Owl	*AMWO = American Woodcock
CONI = Common Nighthawk	EASO = Eastern Screech-Owl	**other species

\*If you detect this species please record it as you would an owl or a nightjar.

\*\*If you detect another species that is not a target species and you can correctly identify it please record it.

***\*\*Surveys should not be conducted under overcast skies, strong wind conditions, or when there is persistent rain. Be sure to check the forecast before monitoring\*\****

If you have any questions please contact Tara Beveroth at [beveroth@illinois.edu](mailto:beveroth@illinois.edu).

## Playback Instructions (optional)

Research has shown that Eastern Screech-owls respond very well to playback (using a man-made device that has a pre-recorded bird call to try and elicit a response from a targeted bird) or any whistle eliciting even the slightest likeness to their own call. Barn Owls in some cases have also been shown to respond to playback. Also, after having consulted with researchers working on monitoring projects involving owls, and researchers that study owls, I have decided that we will not use playbacks for Barred or Great-horned Owls.

If you need a CD with the Eastern Screech-Owl and Barn Owl call on it contact me and I will provide you with one. At the end of the 6 minute period the Eastern Screech-Owl call should be played followed by a 2 minute listening period. After this listening period play the Barn Owl call and listen for an additional 2 minutes. Your listening time at each stop will be 10 minutes.

To do this you will need a CD player or MP3 player with speakers. If you do not have a CD player or an MP3 player than check "no" on the Used Playback section of the Owl and Nightjar Survey Data Sheet. Since players vary in their volume it is important to test your player to see its boundaries without distortion.

### **\*\*\*TO TEST YOUR PLAYERS:**

It is important for us to know the range of your player, to give us an estimate of variability of the broadcast volume produced by different players. Make sure to perform this test when there is little or no wind, low or no background noise, and no precipitation. Players should be played at the loudest volume without distortion.

Note: This is the volume that should always be used for the playback as well. Eastern Screech-Owl playback calls should be played at 1/10 of a mile, 2/10 of a mile, and 3/10 of a mile. This will probably be easiest with your car and perhaps someone to help you that can stay with the player. One person stays with the player to make sure that the player is functioning.

### **\*\*PLEASE FILL IN THE INFORMATION BELOW AND RETURN WITH DATA FORMS**

Route Name: \_\_\_\_\_

Date: \_\_\_\_\_

Observer Name: \_\_\_\_\_

### **TEST:**

Type of player: \_\_\_\_\_

Brand/Model of Player: \_\_\_\_\_

Power/Wattage (if known): \_\_\_\_\_

Audible at (please check all that apply): \_\_\_ 1/10 mile \_\_\_ 2/10 mile \_\_\_ 3/10 mile