A PROTOCOL FOR MONITORING THE MIGRATION OF NORTHERN SAW-WHET OWLS AT LONG POINT BIRD OBSERVATORY

Version 2.1

September 2018

INTRODUCTION

Fall Northern Saw-whet Owl migration at Long Point has been observed for many years. The Long Point Bird Observatory has had good success in capturing owls over the last few decades, but banding effort has been highly variable and conducted mostly on a casual basis. The first attempts were passively conducted in the Long Point Provincial Park, but in fall 1998, a more intensive, standardized owl migration monitoring program at Long Pont was initiated which involves the use of audio lures to attract Northern Saw-whet Owls. Basically, owls are captured in nets as they approach a playback system which broadcasts the call of a saw-whet owl. Audio luring has shown itself to be a very effective way of attracting saw-whets for capture and very few owl banding stations operate without them.

The owl migration monitoring program is run in a similar fashion to the operation at Thunder Cape Bird Observatory and, in fact this protocol is a modification of that stations' protocol.

It is hoped that information gathered through this standardized program will give insight into the migration of owls through Long Point and over the years, reveal population trends, or the frequency of migration that typically corresponding with productive breeding years.

1. LOCATION OF TAPE LURE AND NETS

At both the Tip and the Old Cut research stations, the main catching area is a triangular net array located within the census area of each station. Net location maps for each station are provided at each station. Several "passive" nets (no audio lure) may also be used at each station. These nets may be of different mesh sizes, their number and mesh sizes are recorded nightly. Trapping location at the Tip may vary depending on erosion, tree and dune position. Each season the position and coordinates of nets need to be carefully documented in the daily LPBO logs.

2. SPECIFICATION OF NETS

The nets in the triangle array are 12 m, 60mm mesh four panel nets. The passive nets are a combination of standard 12m ~32mm, and non-standard hawk nets - ~60mm, and 100mm nets.

3. SPECIFICATION OF AUDIO LURE AND SPEAKERS

The audio lure is typically comprised of an mp3 player and computer speakers both plugged into a power inverter that is connected to a 12-volt supply (deep cycle battery) at the Tip, and /or plugged in at Old Cut.

Self-contained FoxPro speakers can also be used when available with recordings already stored on board. These units are very expensive (~$400), and although they should be, they are **not waterproof!**

Speakers should be placed around head height properly affixed to a stand or in a tree. They are never to be left out overnight, or in the rain. Monitor radar carefully whenever owling to ensure that the

owls or the equipment do not get wet. They are very loud. At the Tip, the horn speaker should be aimed to the west, at Old Cut it should be facing the east.

The FoxPros can run off of AA batteries as a backup, but should primarily be connected to a 12V deep cycle battery through the proper FoxPro adapters and connections. Extreme care needs to be taken whenever switching batteries or plugging in the units (see below). You can cause permanent, irreparable damage, and it could be days at a minimum before a replacement is found, if at all.

IMPORTANT NOTE: When connecting the stereo to the battery, ensure that the red clip (+) is connected to the (+) terminal of the battery and the black clip (-) is connected to the (-) terminal. If the polarities are reversed, at the very least a fuse will be blown, at worst, irreparable damage will be done to the equipment. **Consult the Bander-in-Charge (BIC) if in doubt.**

The deep cycle batteries should be properly recharged every 3-4 nights depending on the number of hours of use. Deep-cycle batteries should never dip below 50% charge. Both stations should have suitable battery chargers on hand. Manuals or the BIC should be consulted on their operation. In the case of old batteries being used, or batteries being used for all-nighters, they should be charged daily in order to avoid ruining the batteries or running out of juice mid-owling.

4. SPECIFICATION OF SAW-WHET OWL CALL TAPE

The lure used is a combination of recordings that covers most variation in Northern Saw-whet Owl calls. They are to be played on repeat throughout the night. The call used is the familiar whistle repeated approximately 95 times a minute.

5. LOUDNESS STANDARDIZATION AND SPECIFICATION OF PLAYBACK SETTINGS

Volume of the speaker will have to be adjusted on a nightly basis to counter wind/wave noise.

Given the residential location of Old Cut, neighbor's peace should be respected and the volume level should be moderate. The volume should be set so that the lure can be easily heard anywhere within the census area. It should not hurt your ears at the net, but you should be able to hear it from the parking lot. Should there be complaints from neighbors, the volume should be lowered and the BIC should be notified of any incidents. The horn speaker should be aimed to the east away from all neighbors.

At the Tip station, you can be more liberal with the volume, but it should not hurt your ears at the net. Volume should be set so that you can hear the lure being played anywhere at the Tip.

The lure should never hurt your ears at the Net. If it hurts your ears it is causing damage, and will certainly be causing irreparable damage to the owls.

6. NET OPERATING PROCEDURE

At Old Cut, the owl triangle is situated in the middle of the woodlot with nets surrounding a small dogwood stand surrounded by conifers. Other nets to be set up regularly are nets 3,4,7,13,14, and the Hawk Net adjacent to Net 7. Additional standard nets should be set at waist height to create large bag and ensure that owls do not touch the ground.

At the Tip, the owl triangle surrounds the tight group of cedars along the south dune directly south of the house. Other nets that can be opened are MXY, the hawk nets, and nets 5,6,7 when conditions dictate. Other Tip nets can be opened opportunistically.

In general, trapping should occur on all suitable nights beginning around September 25 through to the end of the season (generally second week of November). Nets should be opened as quickly as possible, preferably using two or more people, half an hour after official sunset until 4 hours thereafter. All nets should be set with the lowest panel about waste height and should be exceptionally tight to carry the weight of owls and remain high enough.

On the opening and subsequent net rounds, the triangle should be visited first. After those nets are emptied, the "passive" nets should be checked. Removing leaves and debris from the nets is incredibly important! In general, nets should be checked every three-quarters of an hour, can be reduced to ½ hour, but never extend beyond 1 hour. A check must be done at or near the end of the standard four hour period if cooperators plan to continue after the period. **Only** the saw-whet lure may be played during the standard period but after the period a switch may be made to other species.

Two people are recommended on each net round, for speedier extraction, for help on tricky birds and summoning further help, if necessary. **Increased activity (noise, light, people) in the woodlot reduces the chances of owls being captured.** Except on the busiest of nights there should never be more than two people on a net round. Other useful hints to increase the chances of owl capture are: 1) reduce the use of headlamps and flashlights whenever possible using moon, star, or lighthouse light to navigate the trails, 2) use headlamps or flashlights in their lowest possible setting, especially when extracting owls, 3) there should be no talking or unnecessary noise of any kind!

Owl extractors should aspire to be the stealthiest of beings.

7. CONDITIONS PREVENTING OPERATION

Trapping should not commence in rain, wet snow (light dry snow is acceptable) or very strong winds or in the presence of a predator. It is difficult to set absolute rules for wind interference as the effect depends on wind direction and bareness of the surrounding trees, but Beaufort Force 5 or more is too strong at any time. Netting should stop if leaves are being blown into nets almost as fast as they can be removed. Very heavy wave action may drown out the tape and under these circumstances netting may be excused. Predation of owls by birds or mammals should be dealt with immediately. If avian predation occurs, operations should be terminated for the remainder of the night if the predator

appears to be staying in the area. Mammalian predators should be dealt with by trapping and removal.

8. SHUTTING DOWN

The procedures for shutting down are similar to the end of morning banding. The lure should be shut off first then the owl triangle closed followed by all standard nets. The owl system should be **NEATLY** packed away inside a waterproof box and the lid should be secured tightly, or the system should be brought inside. Ensure that no wires or metal pieces are touching the exposed terminals on the battery. **Ensure the system is properly waterproofed at shut down and regularly throughout each day.** *We have lost at least 6 setups over the years, probably more, due to improper storage and negligence.*

Ensure that all nets are furled and securely tied.

9. OPERATIONS OUTSIDE STANDARD PERIOD AND NET SET

The unspoken rule around LPBO is that we never close on a round that caught an owl. However, this can lead to very long, slow nights. Cooperators may, and indeed are encouraged to, continue beyond the standard period on busy nights. In these circumstances, a check must be made at the end of the standard period (4 hours), before continuing. More nets may then be put up and the tape changed, if desired, but this needs to be noted on the data sheets.

10. DATA RECORDING PROCEDURE

A data sheet is shown in Figure 1. It **must** be completed for every owl banding session, even if it is terminated early, or no owls are caught.

When recording weather for the set-up round (check 0), the observed dusk wind strength and direction may be used, as may cloud cover (in tenths). "Sky" should subsequently be based more subjectively on the following scale:

Clear - all stars visible
Broken - some stars obscured by cloud
Obscured - no stars visible, but quite bright
Heavy overcast - obvious very dense cloud

"Light" is a combination of cloud and moon:
Ultra bright - you could read a book, normally only occurs at full moon under a clear sky, flashlight not required for walking in the woods
Bright - generally better than average, flashlight not required in the open
Average - flashlight may or may not be required
Dark - flashlight definitely required
Very dark - you can hardly see your hand in front of your face, usually encountered only under a heavy overcast with no background moon

Temperature should be that recorded by the thermometer at the stations.

The band recording and totaling section is fairly self-explanatory, with one exception. New recaps are individuals that might be recaptures, but are new to the area, i.e. not banded at that site, or foreign recaptures. Retraps are those that are recaptured from the site, and repeats are those that were captured, but already banded that night. Birds caught outside the standard period should be noted as such by writing NSB (Non-Standard Banding) in the comments section of the banding sheets.

Moult records are to be completed for every adult owl! See instructions in the owl binder, or on the moult sheets provided in the owl logs.

Reference : LPBO Guide to Ageing NSWO in Fall.

Table 1. LPBO NSWO Effort Log Sheet.

Long Point Bird Observatory

NSWO Banding Log

Location: ☐ Tip ☐ Old Cut **Date:** _____

Name (Primary Banders)	Initials	Notes

Nets Opened (24 hrs)	Number of Nets	Audio Playing	Wind		Temperature (˚C)	Cloud	Precipitation
	_____ ON _____ MN _____ HN	☐ Yes ☐ No	Direction	Beaufort Scale		_____/10	☐ Rain ☐ Snow ☐ Fog

Net Check	Time (24 hrs)	NSWO				Other Species
		Banded	New Recaptures	Same Night Repeats	Total	
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
Totals						

Nets Closed (24 hrs)	Number of Nets	Audio Playing	Wind		Temperature (˚C)	Cloud	Precipitation
	_____ ON _____ MN _____ HN	☐ Yes ☐ No	Direction	Beaufort Scale		_____/10	☐ Rain ☐ Snow ☐ Fog

Visitors: _____

Table 2. Another Sample Effort Data Sheet

COOPERATORS	Initials	VISITORS/ASSISTANTS

START TIME (CHECK 0)	# of NETS OPENED	LURE	WIND Direction & Speed	TEMP.	SKY Conditions	CLOUD	PRECIP.	NOISE
__ __: __ __				^{0} C		/10ths		

NOTES ON SET UP:

NET CHECKS		LIGHT	WIND	TEMP	NSWO CAPTURES					OTHER SPECIES
Check No.	Time Start of check				BAND	NEW RECAPS	RETRAPS	REPEATS	NSWO TOTAL	
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
SUB-TOTALS FOR THE NIGHT								--		

END TIME (CHECK C)	# of NETS at CLOSE	LURE	WIND Direction & Speed	TEMP.	SKY Conditions	CLOUD	PRECIP.	NOISE
__ __: __ __				^{0} C		/10ths		

NOTES: