



# Migration Monitoring Protocol

5<sup>th</sup> Edition Fall 2019



**BIRD STUDIES**  
**ÉTUDES D'OISEAUX CANADA**

Canadian Migration  
Monitoring Network



Réseau canadien  
de surveillance  
des migrations

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## Introduction

Welcome to the Long Point Bird Observatory (LPBO). As an LPBO Cooperator (volunteer, guest, research collaborator, or staff), you're joining a 60+ year lineage that have delivered a wide variety of LPBO programs to an exceptionally high standard. From day one, our mantra has been that a number of dedicated volunteers working together can accomplish more than a few professionals working alone. That philosophy continues to this day and we can't thank you enough for the time and effort you've dedicated to LPBO.

This protocol provides detailed descriptions of our day to day activities which deliver the highest quality data in the most consistent form possible from year to year. The protocol is designed to provide a thorough understanding of LPBO programs, the methods used, and how cooperators can maximize their enjoyment and contribution to the organization.

It also outlines the rules and guidelines that keep all volunteers safe and comfortable. Whether you're a new volunteer or a returning one, everyone is required to read this manual. It is essential that everyone know how we do things, and that everyone follows the LPBO routine, regardless of how things might be done at other observatories, or how things might have been done in the past.



FRONTISPIECE. Black-and-white Warbler (*Mniotilta varia*), Northern Cardinal (*Cardinalis cardinalis*), and Blue-headed Vireo (*Vireo solitarius*); among species captured at the Long Point Bird Observatory. By Megan Wilcox, volunteer bander.

## Long Point Bird Observatory

In October 1959, six members of the [Ontario Bird Banding Association](#) made the first expedition to the Tip of Long Point in search of an ideal location to study bird migration. In the spring of 1960, the [Long Point Bird Observatory](#) (LPBO) and its Migration Monitoring Program were born. LPBO is the oldest bird observatory in the Western Hemisphere and houses one of the largest data sets on migratory birds in the world.

In addition to work on Long Point, LPBO implemented numerous regional, provincial and national bird monitoring, research, and conservation programs such as the Canadian Lakes Loon Survey, Project FeederWatch, and the Marsh Monitoring Program, and initiating North



America's first sponsored bird count fundraiser: the Baillie Birdathon (now Great Canadian Birdathon). The organization continued to grow with the initiation and coordination of a wider range of provincial, national and international programs and initiatives. In 1998, in recognition of the organization's national breadth and future aspirations, LPBO membership voted to create [Bird Studies Canada](#) (BSC). LPBO was then reinvented as a program of BSC operating research, education, and training programs that focus on ornithology, conservation, and other aspects of natural history at Long Point.

Within the larger context of BSC, LPBO programs include: the Migration Monitoring Program, the [Doug Tarry Natural History Fund](#) (Young Ornithologists` Workshop and Internship), the Tree Swallow Project, the Latin American Training Program, Long Point Breeding Bird Census, and an active and diverse program of public education, professional training, and collaborative research.

## Bird Studies Canada

BSC is the country's leading science-based bird conservation organization. BSC's mission is to conserve the wild birds of Canada through sound science, on-the-ground actions, innovative partnerships, public engagement, and science-based advocacy.

BSC is a national charity built on the contributions of thousands of supporters and citizen scientists. Using data from our volunteer monitoring programs and targeted research, our scientists identify significant population changes and direct conservation planning. We are a strong partner in [BirdLife International](#), the world's largest conservation alliance for nature and people, active in more than 120 countries and territories.

## Canadian Migration Monitoring Network (CMMN)

Long Point Bird Observatory is a founding member of the [Canadian Migration Monitoring Network \(CMMN\)](#). The CMMN consists of a network of independent bird migration monitoring and research stations operated by volunteers and/or paid staff. It is a collaborative initiative among the member stations: Bird Studies Canada (BSC) and Environment Canada's Canadian Wildlife Service (CWS). The mission of the CMMN is to contribute to conservation, knowledge, and public understanding of Canadian migrant birds and bird migration through a collaborative network of independent migration monitoring and research stations.

CMMN has identified two types of goals needed to carry out its mission and achieve its vision:

### 1. Science and Conservation Goals

- a. To generate high quality research and monitoring information on population trends, catchment basins, bird migration corridors/routes, migration/dispersal windows, stop-over sites and other aspects of the ecology of migrant birds.

- b. To influence bird conservation by making results readily accessible to the scientific community, decision makers, the general public and to CMMN member stations, including their staff and volunteers.

## 2. Institutional Goals

- a. To strengthen and expand the network of independent migration monitoring and research stations.
- b. To enhance sustainability of its monitoring programs.
- c. To increase organizational capacity for science, research and fundraising.

## Life at LPBO

We all take tremendous pride and pleasure from our work at LPBO; no matter how tedious or minor a task may be, it's important! All cooperators are encouraged to immerse themselves in all aspects of the day to day life at LPBO. Maximize your experience here by learning all there is to learn and participating in as many aspects of the operation as possible. In the process, you will build many new friendships and learn more about people, birds, science, conservation, handy-skills, technology, and yourself than you ever expected.

During migration periods, the normal day consists of getting up just before first light, beginning six hours of intensive bird monitoring and banding, and running the daily census. The afternoons are filled with additional observations, supplementary censuses, daily chores and maintenance tasks, participation in other observatory monitoring or research activities, and rest. The evenings are devoted to last-minute evening watches, and after what is preferably, a communal supper, the data collected for the day are compiled in our daily log books. The procedure on any given day will depend upon the personnel available, weather conditions, the number of birds around, and the logistical needs of the station. It all makes for a long but fulfilling day.

## Required Reading

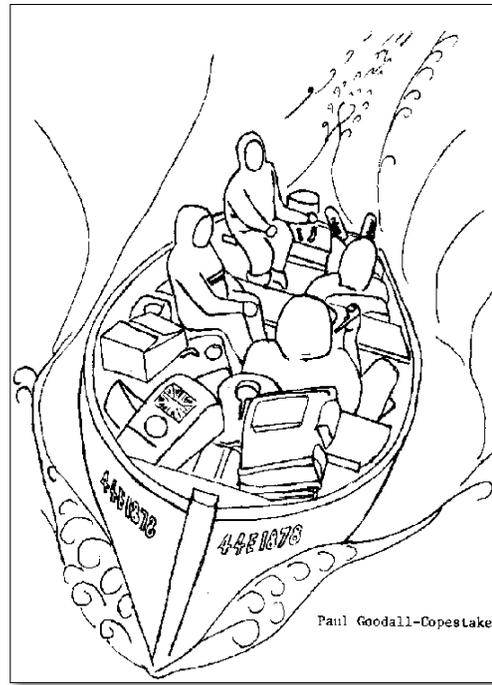
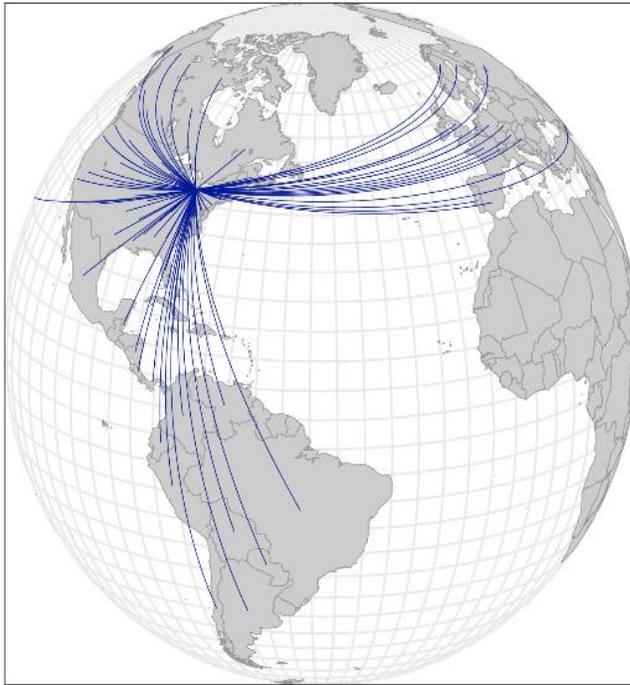
In addition to this manual, all cooperators participating in the Migration Monitoring Program must read the following, all of which (except for the excerpts from Pyle) will be provided in an email before the beginning of the banding season. Hard copies of all of these materials are also available at LPBO:

- *LPBO Migration Monitoring Protocol*
- *LPBO Cooperators Fact Sheet*
- *North American Banding Council Banders' Study Guide and Guide to Passerines*
- The Introduction and special sections of *Identification Guide to North American Birds, Part I*, by Peter Pyle.

Other important manuals:

- [Understanding Molt: A Bander's Perspective](#)
- Wolfe Ryder Pyle Papers –
- LPBO Health and Safety Manual

- LPBO Boat Manual
- Tree Swallow Protocol
- Northern Saw-whet Owl Protocol
- Bird Observatories: An Underutilized Resource for Migration Study



*Origin of LPBO Co-operators.*

## LPBO Staff and the Chain of Command

At any given time there are 2-4 LPBO staff on duty. The **Program Coordinator, Assistant Program Coordinator(s), or Bander-In-Charge (BIC's -see below)** are responsible for all of the day-to-day operations at LPBO. They are always available to answer questions and address any concerns you might have. In addition, the Program Coordinator, in consultation with the assistants, oversees the general operations of all three stations, coordinates the movement of volunteers between stations, supply runs, and other administrative needs.

The Program Coordinator and Assistant Program Coordinators report to the Director of Migration Ecology who oversees the entire LPBO program, as well as [Thunder Cape Bird Observatory](#), aspects of the Canadian Migration Monitoring Network, the [Motus Wildlife Tracking System](#), and other migration related science at BSC.

From time to time other BSC staff will visit the field stations. Every effort should be made to introduce yourself to BSC staff, and engage with them. Many of them have decades of experience as banders and birders, and many have very colourful personalities.

## The Bander-In-Charge (BIC)

The Program Coordinator is normally the Bander-In-Charge at Old Cut, and the Assistant Program Coordinator(s) are normally BICs at the Tip and Breakwater though the positions switch locations periodically. Other BSC staff, or more experienced volunteers, may also be designated as the BIC on any given day. It is a great honour and responsibility to be a BIC.

The BIC is in charge of the day to day migration monitoring operations at their respective stations, and are responsible for deriving the estimated totals for the day. They decide how many nets and traps are to be run and for how long on any given day. The BIC is ultimately responsible for the safety of all cooperators, birds, and the quality of data being collected. They generally decide who does what and when (i.e., who will do net runs, who will band, who will do data entry, as well as coordinating other activities such as daily chores, cleaning the lab, washing bird bags, etc). The BICs also implement training, logistics, maintenance, inter-station communication, and generally ensure that the program is exceptionally well organized and conducted at exceedingly high standards.

## Migration Monitoring Program

Migration Monitoring is a standardized scientific method used to monitor bird populations through a combination of banding and counting migratory birds. Migration monitoring was pioneered at LPBO in the 1960's and remains in use today as a fundamental tool for gathering data on the population trends of migratory birds all across Canada. A great deal of effort goes into counting or estimating exactly how many individuals of each species pass through each station every day. After the migration monitoring seasons are over, these data are statistically corrected for various factors and used to generate an index of species abundance. The present year's data are combined with past years' data to develop long-term population trends that show which species are increasing or decreasing over time. Since many of our migrant songbirds breed and winter in inaccessible areas where other kinds of monitoring, such as Breeding Bird Surveys, can't readily be done, our population monitoring program is one of the most important bird population monitoring datasets in the entire world! Results from Long Point and other CMMN stations across Canada are available through [NatureCounts](#).

Our data are also used for documenting migration timing, routes, and longevity. The recovery rate for songbirds is very low. For most LPBO species, less than one percent of all birds banded are ever recovered elsewhere. Large numbers must therefore be banded before we get enough recoveries to document where these birds breed, migrate and winter, and how long they live. The age and sex data obtained during banding can be combined with estimated totals (ETs) to show dates of migration for each age and sex class within a species, and can be used to gauge annual productivity. The collection of various morphometric data allow for measuring body condition corrected for body size.

There are many things to be learned about migratory behaviour. For example, an analysis of banding data has shown that immature warblers are usually far more common at the Breakwater station in fall

than at inland banding sites. This difference in abundance was found to be true for other Great Lakes coastal sites as well, except in the vicinity of lighted anthropogenic structures. These findings led to publication of original hypotheses about different migratory behaviours in immature and adult warblers.

Birds have high metabolic rates and must eat frequently to maintain health. The weight and fat measurements we record are good indicators of a bird's condition. Our banding data can be used to document weight changes according to season, or time of day, and show how much weight birds gain while stopping over at each of Long Point's field stations during migration. Weights of birds found dead at the lighthouse were used to provide the first estimates of energy use during migration — information previously not obtainable in any other way.

LPBO data and cooperators have been involved in a wide variety of ornithological and natural history research resulting in more than 200 peer-reviewed publications in almost every ecology-based journal. This work is not limited to birds as LPBO regularly contributes to studies on migratory bats, insects, such as monarch butterflies, reptiles, amphibians, and other species at risk. Other examples of integrated collaborative research include using Estimated Totals in studies correlating migration to weather conditions; colour-banding in studies of behaviour and breeding biology of resident birds; studying patterns of moult; studies of migration timing with respect to climate change, assessing existing techniques for ageing and sexing and discovering new ones; studying parasites and illnesses of birds; energetics and physiology of migration, and understanding short and long-distance movements of birds between LPBO banding stations, and more regional movements, etc. A complete list of LPBO publications can be found in our [annual report](#), or in our [publications repository](#).

## The Research Stations

LPBO operates three permanent research stations on Long Point: the Tip, Breakwater and Old Cut. BSC headquarters is located in Port Rowan, just north of Long Point (Figure 1). While each station can gather meaningful data if only one person is present, this is not highly desirable and generally only occurs when logistical factors, such as boat trips or personnel movements come into play. Each station is somewhat different in its personnel needs due to area of coverage and other factors.

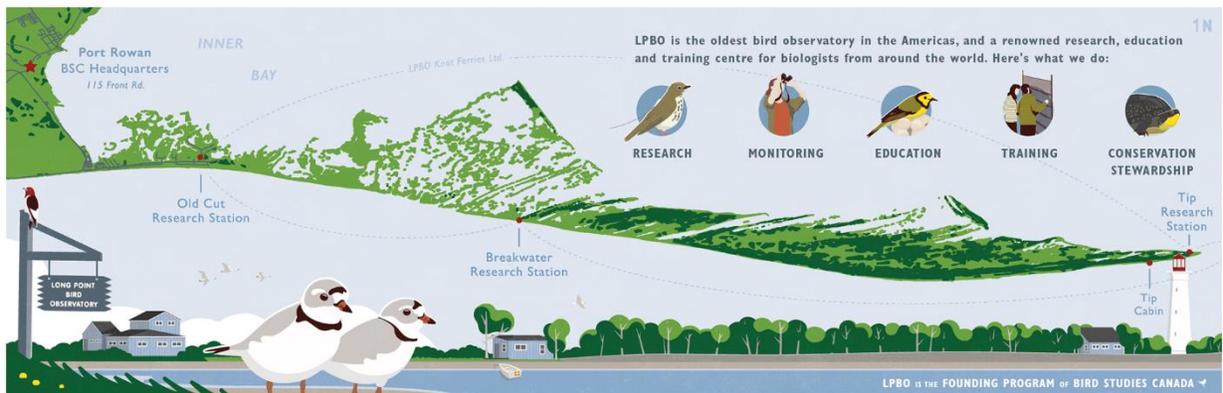


Figure 1: Long Point, with the locations of the three research stations and the BSC headquarters.

## The Tip

The Tip (Area 01), LPBO's (and the Western Hemisphere's) first and longest-running research station, was established in 1960. Given its long history, operation of the Tip takes priority over Breakwater and Old Cut. With data stretching back six decades, the Tip is the most important site for migration monitoring in all of Canada. As the name suggests, it is situated at the eastern tip of Long Point, on property owned by the Canadian Coast Guard and Ontario Ministry of Natural Resources and Forestry. Apart from the lighthouse, LPBO owns all of the buildings and rents scientific privileges for the use of the land on which we operate our programs. Access to the Tip is by a 30 km boat trip, which usually takes between one and 1.5 hours depending on the weather and the amount of cargo onboard. Most of the land at the Tip is contained within a Provincial Nature Reserve, for which LPBO also acts as the primary steward. The reserve is characterized by ponds and wet meadows, set among rolling sand dunes covered with an open Eastern Cottonwood and Eastern Red Cedar savannah. Migration oscillates between heavy influxes of birds and very slow periods with few to no migrants. When migration is in full swing, the number of birds can be astounding, and rarities show up frequently. Over 350 species have been recorded at the Tip, including Canada's only Chihuahuan Raven (May 1976).

*Coverage Strategy* – The Tip is the Olympics of migration monitoring. Net rounds and census' are long and sandy, birds can be plentiful and conditions are generally challenging, harsh and unpredictable. There is no room or patience for complacency at the Tip. Every cooperators needs to be at the top of their game at all times, especially the BIC! The Tip runs optimally with five or six people but can run satisfactorily with three to four people. Under optimal conditions: two to three will be in the banding laboratory, two to three monitoring the nets and traps, and one to two conducting census, observing and rotating between positions as needed. While some training takes place at the Tip, the personnel who reside there are typically the most experienced volunteers.

Someone should be stationed at or near the extreme Tip, but not in close proximity to the nets, at all times during the standard six hour migration monitoring period! This individual can spend the time between net rounds observing waterbirds off the Tip and is otherwise 'at the ready' in case weather, birds, or other conditions require immediate attention at the nets. Whoever is stationed at the Tip should rotate every net round or two. It takes discipline, particularly on the part of the BIC, in order to ensure this process is maintained, but it is the best way to safely operate the Tip. The Tip will always have three to four portable radios. The BIC will always have a radio and radios will be present in the banding lab, with an extractor team, and with the person stationed at the Tip. The BIC should know where everyone is at all times – make their job easy by communicating with them regularly. Daily minimum field hours should be in the range of 6-10 hours/day/person.

## Breakwater

Breakwater (Area 02, aka B-Dub) was established in 1962 and is the second highest priority station. Breakwater is located about twelve kilometres from the base of Long Point on property owned by the Long Point Company, a private hunting club. Access to Breakwater is only by boat on the south shore of Long Point. It's either a 12 km long trip from Old Cut or an 18 km trip from the Tip. The habitat is an oak-maple-hackberry dune ridge with lots of grassy savannah. Small ponds abound, and the site is fringed by

a huge marsh complex. Although still very episodic, migration here is generally more consistent day-to-day than at the Tip and is at the apex of a major diurnal flyway for passerines leaving or entering Long Point – one way or another, everything has to fly past Breakwater. Nearly 300 species have been recorded at Breakwater, including Canada's first ever Black-capped Vireo (April 1991).

*Coverage Strategy* – Breakwater is probably one of the easiest research stations in the world to operate, but the honour should not be taken lightly. Among all the stations, Breakwater is often the most esteemed among experienced LPBO alumni. Breakwater can sleep up to six people, but rarely sees this many people as facilities can get cramped with any more than three or four. The area of coverage at Breakwater is much smaller than at the Tip and two experienced people can easily run the station though three is optimal. Generally, the BIC here is a qualified volunteer and one or both of the other volunteers have had a reasonable amount of training (at least a week) at the Tip or Old Cut. There is really no reason to ever be inside at Breakwater, so the average field hours should be in the range of 10-12 hour/day/person. Someone should be on the deck counting the passage of passerines overhead or through the bushes and scanning over the marsh or lake with some regularity throughout the day.

## Old Cut

Old Cut (Area 13) was established in 1983, and is located near the base of Long Point proper. Despite consistently being the busiest station both from a monitoring/research and public outreach perspective, it is the observatory's lowest priority in terms of migration coverage. It doesn't happen often but sometimes the operation at Old Cut needs to be sacrificed in order to keep the other stations and projects running.

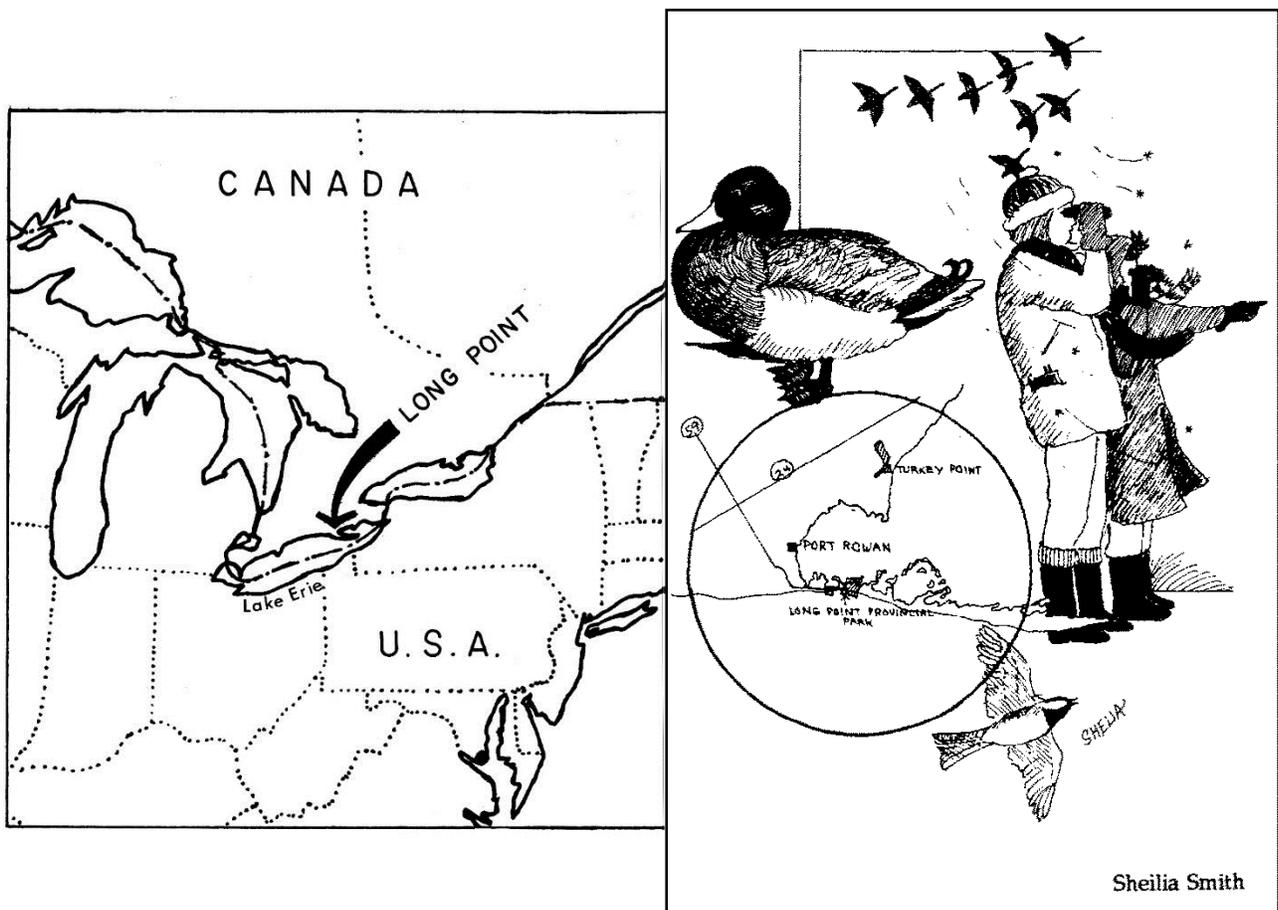
LPBO owns the immediate grounds and buildings at Old Cut but most of the net lanes and adjacent lands are owned by the Ministry of Natural Resources and Forestry. Old Cut is very much a multi-functional facility. It is the public face of LPBO, providing educational opportunities to school groups and opportunities for visitors to view banding. It is not uncommon for local experienced banders to pop by, unannounced, for the morning's banding. Introduce yourself to them if they haven't already. Their assistance is quite helpful. The majority of training is conducted at Old Cut before anyone is shipped out to the other stations and it is also the main logistical hub and supply depot for all of the observatory's work on Long Point. The vast majority of LPBO's collaborative research is also conducted at Old Cut which provides cooperators with a wide range of potential experiences to take advantage of. Because Old Cut is the jumping off point for the remote stations, living conditions are almost always congested. A dozen or more people may be living on site, especially during the busy spring/summer period. Privacy is impossible. Stress levels are higher. But somehow, almost everyone manages to fit in and acclimate. Another major benefit of Old Cut, compared to the other stations, is access to the mainland. If you are interested in exploring some of the most biologically diverse habitats in all of Canada, you can find them a short drive away from Old Cut.

The Old Cut woodlot is comprised of native Eastern Cottonwood, White Spruce, Red-osier Dogwood and River Grape, as well as many naturalized non-native species such as Scots Pine. The woodlot is situated between a neighbourhood with lush gardens and large expanses of marsh. On average, Old Cut bands

the greatest numbers of birds per day in comparison to the two other research stations and often has the highest landbird diversity. Just like the other stations, bird migration here can be quite phenomenal, and over 300 species have been recorded, including LPBO's only Violet-green Swallow (Aug 2014).

*Coverage Strategy* – Old Cut nets are fairly close together and the coverage area is small. The migration program can easily be run by two to three experienced people. However, the immediate contact with the public usually means that more people are needed to ensure net rounds are done frequently and the public is dealt with in a hospitable manner. Old Cut is best managed with a crew of four to five cooperators depending on the time of year and number of birds. This allows for a rotation of two people in the laboratory processing, two people regularly attending to nets and traps, and one person on the observation platform, conducting census, observing birds, or available for other station duties. Old Cut can be incredibly busy with birds, people, and additional research activities so, like the Tip, the BIC must be on high alert and know where everyone is at all times.

The two most active times for visible migration is the hour before/after sunrise and the hour before sunset. Following net setup, someone should be stationed on the platform at the Dyke until census. It does not have to be the same person, so people can rotate in between net rounds. Someone should also be stationed on the platform in the hour before sunset. The minimum expectation of field hours at Old Cut is 4 to 6 hours/day/person.



## The Friends of LPBO

The Friends of LPBO are a group of more than 20, mostly local, volunteers who greet and inform visitors to the Old Cut Research Station while running the LPBO Shop and helping with a myriad of other tasks around the station, including scribing, extracting, and gathering observations. Revenue from the shop provides critical support for LPBO programs. The presence of the Friends dramatically increased the quality of our visitor and education services at Old Cut and takes a great deal of pressure off of the BICs and cooperators. Take the time to introduce yourself to the Friends and help with their duties. Do not assume that the Friends will greet everyone, clean up, or take care of everything in the visitor centre. Everything at LPBO is a team effort.

## Integrated Collaborative Research

Collaborative research is a common fixture at LPBO. It usually occurs at Old Cut but can be conducted to varying degrees at each station with a variety of topics and taxa. The value of those birds involved in collaborative research is often far greater than those associated with the regular monitoring program (banding, counting, or training). While our general migration monitoring protocol needs to be strictly adhered to, modifications are often made at the discretion of the BIC to accommodate collaborative research needs. The BIC will carefully communicate these modifications to every cooperator so there is no confusion. We often accommodate many needs of various projects in parallel.

## General Rules, Policies, and Information

The following is a summary of the most important policies, rules and guidelines at LPBO. If you don't understand why we have a particular rule or policy, please ask. The first priority for all LPBO staff, volunteers, researchers, and visitors is personal safety. If you ever feel your personal safety is at risk or is about to be put at risk, immediately talk to the BIC, who will take immediate action to help solve the issue.

**LPBO's Cardinal Rule:** Treat every person (colleague, member of the public, or guest) in a respectful and courteous fashion. Always leave a place (room, kitchen, bathroom, research station or field site), or thing (equipment, boat, or vehicle) in better condition than when you found it. Please don't ever leave a field station without cleaning up your own and, sometimes, other people's mess. **All personnel** must help with daily clean-up and other chores. All stations must be presentable daily and immaculate weekly. At best, uncooperative or chronic slackers likely won't be allowed back; nor will they receive a particularly favourable job reference if they want to use their LPBO experience on their resumes.

## Communal Living

Communal living is as ubiquitous at LPBO as birds. Cooperators share close quarters with anywhere from 1 to 16 people at a time. As such, everyone should be equally prepared to cook, clean, organize, and be friendly and courteous with up to 16 people. Each cooperator (staff, volunteers, researchers, guests), whether they're staying at LPBO, paying guests or not, has equal responsibility for the day to day upkeep, cleaning and maintenance of the facilities. Much of what is required should be common sense

but, if you're ever uncertain about what could be done, ask the BIC. This manual also outlines various day to day tasks that should become instinctual to LPBO cooperators.

## General Housekeeping and Maintenance

- All personnel (volunteer, staff and guests) must help keep the stations looking exceptionally well-kept on a daily basis.
- Personnel who do not participate in regular maintenance and cleaning will not be invited back to LPBO in the future (nor should they expect a favourable job reference).
- Immediately report all facility repairs, equipment breakdowns, supply deficiencies, or any minor problems to the coordinators.
- All LPBO facilities are communal spaces, so please take care of your personal belongings and do not leave them in common areas.

## Garbage and Recycling

All garbage and recycling generated at the Tip and Breakwater must be brought to Old Cut - don't let it accumulate. At Old Cut, garbage and recycling pickup happens **early Monday morning** (one day later following holidays). Garbage and recycling are to be placed out at the end of the driveway immediately after nets are open. Do not put the garbage and recycling out the night before because animals will rip open bags and create a mess. There are garbage storage containers at all stations. Larger items that require disposal at the dump can be stored in the compound beside the boat garage at Old Cut. Similar items at the Tip or Breakwater should be brought to Old Cut as soon as possible. Do not let junk accumulate! Each station has a composter to deal with organic waste.

## Departing LPBO

Before you leave, make sure that you've squared up all of your accounts with the BIC. Short-term volunteers and researchers can pay by cash or cheque at any time. Credit card payments should be done at BSC headquarters in Port Rowan during business hours (Monday to Friday, 8:30 am to 4:30 pm), or you can leave your card details with the BIC. Ensure your room is cleaned and make sure you leave with everything you brought to LPBO. We cannot mail left behind items at the end of the season.

## Security

In general, Long Point is a safe place for you and your belongings. Break-ins are rare, but they do occur. More serious crimes are almost unheard of. The main house at Old Cut is usually left unlocked throughout the field season because personnel are coming and going at all hours of the day and night. However, the banding lab, workshop, shed, garage, and LPBO Shop are to be locked at all times when not in use. There are no locks on the facilities at Breakwater. All buildings at the Tip are to be locked when left unattended even if you think there is no one around. LPBO is not responsible for your personal belongings left in the facilities or, in personal vehicles. If you need to store personal belongings in a secure location, notify the BIC and they can store them somewhere safe.

## Fire

Fire is a major danger - we've already lost one cabin to fire.

- Do not leave lit stoves, fires, propane lights, heaters or other heat sources unattended.
- Do not unhook or remove batteries from smoke detectors. Notify one of the coordinators if your room does not have a working smoke detector and replacements will be found immediately.
- Do not use candles!
- At Old Cut, use space heaters only when absolutely necessary and do not leave them unattended when in use. Do not put anything on or near heaters.
- Smoking is not permitted inside any LPBO facility.

## Pests

We have a zero tolerance policy when it comes to pests. Kill or remove all spiders, woodroaches, ants, and mice you find indoors! **No exceptions!** If you are not willing to do this yourself, find somebody who is. Mice are the primary vector of Lyme Disease (~90% are infected), and may also carry Hanta Virus. Keeping a clean living space, workspace, and banding lab at all times will minimize problems with pests.

## Phones and Internet

Landlines at Old Cut are available for use as needed, local and long-distance (North America). Internet is freely available to all but, there is one important caveat. If the internet is not working tell the BIC immediately. Under no circumstances is anyone except the BIC allowed to touch any routers or connections. Please be considerate of others and avoid using high bandwidth activities such as FaceTime, Skype or other video chat services at Old Cut but they can be used sparingly when needed. **Video streaming or downloading of media is prohibited at any time.**

Cell coverage at Breakwater and Old Cut is usually reliable. Cell coverage at the Tip is usually unreliable. If you are going to the Tip, it is best to consider yourself out of cell/data contact. **Personal phone use is prohibited during standard monitoring hours except for photos, eBird, iNaturalist, and bird guides, etc. BIC's are exempt for inter-station communication and logistics purposes.**

## Substance Abuse

Everybody is responsible for maintaining a safe and productive alcohol and drug free environment during active work and monitoring periods. We don't mind you enjoying yourself and having a few drinks but, under no circumstances should anyone handle any birds or operate any equipment or machinery under the influence of alcohol or drugs.

## Boating

Boats are operated only by the coordinators and other authorized personnel that have a Coast Guard Pleasure Craft Operators Card.

- All operators must read the LPBO Boaters' Manual and Safety Manual before every season.

- Radios at all stations must be monitored whenever a trip is underway.
- The first priority when getting on shore at the end of your trip is to let everyone know when you've arrived safely. Everything else is secondary to communicating your arrival at your destination.
- Do not leave gas tanks, oars, life jackets, safety boxes, oil, garbage, or other valuables unattended in beached or docked boats.
- Always offer assistance to any LPBO personnel before or after any boat trip. Help is **always** needed to launch boats, or carry cargo to and from the dock/water.
- Do not allow sand to enter the boat gas lines. Inspect, wash off and shake sand from gas lines prior to hook up. Inspect and wash off the tops of the gas tanks too. Keep equipment out of the sand!

## Vehicles

- Cooperators driving LPBO vehicles must read the Health and Safety manual before every season.
- Vehicles are only to be used for LPBO business.
- Fill out the mileage log at the beginning and end of each trip.
- Only drivers who are insured by BSC are permitted to drive any LPBO vehicles or boats.
- Regularly inspect oil, transmission fluid, and tire pressure.
- Obey all traffic laws.
- Do not leave any garbage in vehicles.
- Smoking is not permitted inside any LPBO vehicle.
- **LPBO ATV's and boats can only be driven by authorized personnel insured by BSC.** A helmet must be worn by the ATV driver and all passengers. Passengers can only be taken in the trailer, never on the ATV itself. Drive only on designated pathways, never over dunes or through vegetation. When driving on the beach, stay close to the water line so that wave action will wash away the tracks. Anyone found to be using the ATV or boats in an unsafe or disrespectful manner either to LPBO, other cooperators, or wildlife and the biosphere, will be banned from their use immediately.

## Trespassing

Never trespass on the Long Point National Wildlife Area (LPNWA) or the Long Point Company property. Failure to comply will result in immediate dismissal. It is everyone's responsibility to know where they are in relation to the boundaries at each station. If you are unsure where the acceptable boundaries are, ask the BIC to show you. Note that, contrary to other locations, you do not have free access to the beach below the high water line on Long Point.

- At the Tip, LPBO personnel can travel as far west as the posted signs marking the boundary of the LPNWA, about 2 km from the very Tip. On the south shore, look for a large white sign on the dune, among the Marram Grass. There may or may not be smaller white and blue signs on the beach itself. On the north shore, look for a small white and blue sign on the beach or atop the adjacent small dune near a clump of Eastern Red Cedars. The boundary across the interior of the point is not marked; if you are unsure of your location, do not go any further.
- At Breakwater, you can walk the length of Courtright Ridge up to the posted signs before the Long

Point Company warden's residence, but you cannot venture off of the ridge or take extended walks in any direction on the beach. Do not walk west on the dirt road in front of the station.

- At Old Cut, you have much more freedom of movement. It goes without saying that you must stay out of neighbours' yards. You can walk into Long Point Provincial Park on the road or on the beach. You can also walk along the beach, but not among the dunes, of the Thoroughfare Unit of the LPNWA. Do not go past the line of Long Point Company's signs posted across the beach.
- In certain circumstances access to the LPNWA will be permitted (e.g., Breeding Bird Census or shorebird surveys). In these cases, all personnel must have a valid permit. If you forget your permit, go back and get it. You cannot be on the LPNWA without a permit - it's the same as trespassing.
- The land at the Tip and at Old Cut is publicly accessible. Thus, visitors are not trespassers, and should be treated with respect and friendliness. At Breakwater, if you see someone you don't recognize or who looks completely out of place (i.e., obviously not an employee or member of the Long Point Company), notify the BIC immediately. Do not try to enforce any kind of trespassing rules upon them, you never know, they may actually have permission to be there.

## Migration Monitoring and the Daily Routine

LPBO operates research stations, not banding stations. We combine standardized counts of migratory birds, daily census, and banding data to monitor bird populations. Counting birds outside of the nets and banding lab is just as important, if not more important than banding! Consider banding to be an added bonus to your day. If you are not counting birds outside of the nets and lab, then you are only doing part of your job as a cooperater at LPBO. A breakdown in the daily routine for each station to help you with this goal can be found in Appendix I.

### Inter-station communication

Each station is equipped with a VHF radio for inter-station communication, every BIC has a cellular phone, and the Tip has a satellite communication device.

### Radios

The BICs are usually the ones to talk on the radio and communicate between stations; however, it is important that everyone receives instruction on radio use and care for safety reasons. Instructions for radio operation are posted by each radio. The Old Cut radio must be left on all day and night. If remote stations miss two calls in a row, and communication cannot be made with the In Reach Satellite device, or a cell phone, emergency procedures will be set in motion to find out what has happened out there. This could involve sending out the Coast Guard.

### LPBO Operations WhatsApp

LPBO staff communicate primarily through an LPBO Operations WhatsApp group. All communications should be sent through the group so that everyone knows what's going on at all times. Do not have side conversations. Post all reports, bird sightings, information, lists, requests and questions to the whole group. This keeps everyone in the loop. It is mandatory for each BIC to send out two summaries of daily

activities that are to be shared with the entire operations team including facilities and equipment maintenance:

1. Immediately following census: provide a summary including information such as number of species, which species were most common, and any unusual species observed. Also include a general description of migration so far that morning (e.g., how many birds captured on an average net round, what species are most abundant in the woodlot, is the weather cooperating, etc).
2. Immediately following the completion of ET's: provide a summary of the number of birds and species banded and recaptured as well as the total number of species ET's for the day. Summarize which species were the most common, highlight any high counts, low counts or rarities. These summaries are invaluable for keeping everyone informed of what is going on at the other stations so please make sure to make them comprehensive and send them daily.

## The Public and Birds

The Old Cut Research Station is open to the public 24/7, 365 days a year. This requires staff and volunteers to be especially diligent and pragmatic in every aspect of the operation and communication with the public.

LPBO's non-negotiable policy and ubiquitous practice is that **EVERY VISITOR TO LPBO, IN THE BANDING LAB OR OTHERWISE, NEEDS TO BE PROACTIVELY GREETED IMMEDIATELY AND GIVEN A BASIC EXPLANATION OF WHAT IS GOING ON.**

- The default reaction to visitors is to embrace and educate them. Ignoring them or assuming that they have already been here or know what's going on is wrong.
- Never turn your back to visitors in the banding lab. Your default reaction in the banding lab should be to pivot toward them and share with them everything that you're doing.

Do not allow the public to handle birds. Do not allow the public to hold, pet, release, or otherwise touch the birds. Do not allow the public to extract birds from the nets. Be polite but very firm. Only banders that have been trained or otherwise approved by BICs may touch birds. This means that experienced banders from other stations who are visiting LPBO may not handle birds unless the BIC explicitly says they can. Remember that LPBO gives hands-off demos only! Visitors are not permitted to handle the birds and should be discouraged from touching them. We are not a petting zoo. Emphasize that we are always sensitive to the physical and emotional health of the birds we handle. We do not put them through any more stress than is absolutely necessary. Photography of birds in the hand is fine, just as long as it doesn't get out-of-hand and over-stresses the bird or keeps you away from more pressing concerns. Keep it as brief as possible and avoid the use of flash photography. LPBO enforces a **one-minute photo-limit**. No matter what!

Sometimes, past LPBO personnel arrive on site and start to extract birds unannounced (they should always introduce themselves first but often they don't!). Approach these mysterious helpers and politely ask them to step aside. Then you should take over, explaining to them how important it is that people wishing to assist communicate with the BIC first. They're usually only trying to help. Direct them to the

BIC if they have further questions. Also, pay attention to any of the public's concerns. Visitors sometimes come rushing to tell you that a bird has been caught or that one seems to be having a problem (e.g., dangling by a foot or tongue). Quickly attend to things and reassure them as best you can. Don't just shrug and nod. You should actually demonstrate to them that you take their concerns seriously and that you are on top of things. Personnel should consult the *'Birding with the public manual and guidelines'*.

At Old Cut, it is often necessary to scale back the banding operation during peak visitor periods, especially on weekends and holidays. In general, on any day we are open to the public, both the bird and the visitor situation should be gauged. If there are lots of birds and/or visitors, then the netting operation **must** be scaled back accordingly. If there are few birds and/or visitors, then a full netting operation may be continued or extra traps and nets set to catch a bird or two for the demonstration. It will be a daily judgement call on the part of the BIC and what they decide must be followed. At times, the BIC will decide to close any number of nets, sometimes even the whole set.

The reason behind this is obvious—a full-blown netting operation simply cannot function efficiently or safely when there are lots of visitors. To put it bluntly, there is a much greater risk of birds being injured if there are visitors present. This is not only very hard on the birds but is extremely bad for public relations! Hence, attempting to operate a netting operation at capacity, when visitors are present, is completely unacceptable. At Old Cut, Nets 5, 6, and 8 through 11 are permanently closed to the public. These trails should be signed and gated at all times during the monitoring period, but they should be opened to the public at other times of day.

Remember, under no circumstances are you to sacrifice a bird's safety in the name of banding as many birds as possible. In order of priority, our banding operation puts the bird's safety first, followed by data quality, followed by "quantity". If this simple rule is followed, visitors will sense where our priorities are and things will be fine!

### **Banding Demos for the General Public**

Formal banding demonstrations are conducted in the viewing area set up in the banding lab (and occasionally outside if circumstances dictate). With few exceptions, visitors are not permitted inside the portion of the room where the banding is actually going on. Visitors are only permitted in the Visitor Section of the laboratory.

Only well-trained, experienced banders should give the demos; trainees can scribe and generally help out until they're sufficiently adept at the entire process. Banding in front of the public is just part of life at LPBO – get used to it.

### **Banding Demos for School Groups**

Group visits (if they aren't too large) can be a lot of fun. They are also a very efficient way of educating a lot of people in a short time. Groups are booked in as space and time permit. Group size is generally limited to a maximum of 30 people (split into 2 teams); 15 is a nice size to work with at one time.

Groups are typically handled for 1-2 hours (almost never longer), during which time they are invited into the Visitor Centre and given a brief introduction about Long Point, LPBO's history and mandate, the role of bird banding and migration monitoring, and trapping methods. A short slide show may also be warranted. This is usually followed by a demonstration and talk about different bird catching methods, a

guided walk around the net lanes and finishes off with a banding demo. Some school groups are taken on a census as well, but this depends on what the teachers want, the number of kids involved, and time constraints of staff.

When groups are scheduled, make sure that there are not too many nets open, keeping in mind that groups take time and that you don't want to get a back-log of birds. In general, scale the netting operation back by one-half (unless there are so few birds around that it looks as if you may not get any for "show-and-tell"). Don't let visitors (especially kids) handle or touch birds, though they can photograph them while you hold them. Some people insist on poking their fingers at the bird and before you know it everyone is doing it and it really is quite upsetting to the bird. Moreover, the bird will probably bite. Again, only the most experienced banders should be doing the hands-on work in front of groups.

At least two people are required to handle a group, and three is nice. When giving a tour of the net lanes, politely remind the group **frequently** not to touch the nets or the birds. They should watch that their buttons don't get caught up in the nets. Also, because of poison ivy and ticks, they should stay on the trails.

The net-lane tour generally requires two people, unless the group is really small. An experienced person acts as the leader, does most of the talking and most (or all) of the bird extractions. The other person generally helps out, often bringing up the rear to make sure there are no laggards and to keep an eye on the people who inevitably get buttons caught on the nets poke at the birds or nets, or try to venture off by themselves. While the leader is stopped for a while at a particular net, the other person should take a quick dash alone around some upcoming nets, to make sure there are no "difficult" birds caught. Any upcoming difficulties can then be relayed quietly to the leader who might choose to avoid a particular net. If the other person can extract difficult birds quickly before reporting back to the leader, then so much the better.

"Difficult" birds include ones that are tongued, exceedingly tangled, caught by a foot, etc. We know that they are really quite OK and are not harmed but visitors can understandably get a different impression. The person "riding shotgun" on the net check should also be on the lookout for nets that are catching too many birds, and should start to extract the birds and/or close more nets if necessary. Again, it is important that not too many nets are open when visitors are present and to remember that visitors are going to slow you down so that you won't be able to process nearly as many birds as quickly as you could otherwise. You definitely want to avoid getting a backlog of birds.

Back in the banding lab, an experienced bander runs through the process slowly at first, gradually speeding up with each successive bird. At first, describe everything that's going on as well as interesting things about the birds themselves. The bird's safety should be stressed at all times. If you think that the actual banding demo is eating into valuable time that should normally be devoted to a net check, get someone to do a quick net run. Remember that nets must be checked a minimum of once every half hour. If you've got more than a half dozen birds on hand, speed up the operation so that by the end you are processing birds as quickly as you normally would. Point out that, ideally, the bird is handled for about a minute before being set free! Get the visitors to time you!

## Neighbours and Visitors

Maintaining good relations with our neighbours is essential! Be friendly, courteous, and helpful at all times, no matter how someone else is acting towards you. Our neighbours include home and small business owners near Old Cut and in Port Rowan, employees and members of the Long Point Company, cottagers at Gravelly Bay (located about 4 km from the Tip on Long Point's north shore), employees of the Canadian Wildlife Service, Transport Canada, the Canadian Coast Guard, and the Ontario Ministry of Natural Resources and Forestry.

- Avoid any questionable or loud social activities that might offend other personnel or neighbours.
- Do not allow dogs or bicycles into the net lanes at the Tip or Old Cut. Politely ask visitors to secure their pets away from the net lanes. Sometimes pet owners insist on doing what they want despite your most polite pleas. In that case, let them go ahead, but keep a close watch on things.
- At Old Cut, keep day visitors informed and made to feel welcome as much as possible. Introduce them to the Friends of Long Point, who will provide much of what they need, besides a banding demo. Point out the sightings board for interesting sightings, direct them to the Visitor Centre, be friendly, and let them know about memberships and items for sale (e.g., checklists, bird finding guides, clothing, etc.).
- VIP's regularly arrive at Old Cut unannounced. You're not likely to be able to distinguish them from the regular public. Hence, you simply treat all visitors as VIPs. VIPs include employees of government agencies, all of our benefactors, members of the BSC Board of Directors, the BSC President, all neighbours, anyone who helped construct the facilities, and indeed all past LPBO volunteers: there are over 1000 of them.
- Treat all local store owners and businesses with friendliness and respect. We rely heavily on their support, and we do try to support them as much as possible.
- Never put traps or nets within the view of neighbours or general passers-by (e.g. no traps or nets are permitted on the west or south side of the Old Cut buildings).

## Social Media

Please be very careful when posting photographs of bird banding operations on social media. There is a small but vocal group of people who believe bird banding is unethical and will seize upon any photo or story posted on social media that will discredit our profession. We follow the North American Banding Council's (NABC) [Photographic Guidelines](#):

- The primary uses of photography of birds in the hand are for documentation and education. Standardized documentary poses of the birds clearly demonstrate key features that identify species, age and sex, and they should be used to document: rarities; individual markers; specific rare conditions such as indicators of disease, malformations, or injury; and molt.
- Banders are also encouraged to contribute to [Piranga](#), an educational website that provides photographic guidelines and a forum for banders to upload, share, discuss and peruse photographs of birds in the hand.
- To minimize time in the hand, photographers should arrange their shots before the bird is posed. Birds should be held no more than one minute for photographic purposes.

- Birds should be held by an experienced bander in a grip that is appropriate to the species and that considers bird and handler safety. For example, passerines with powerful pectoral muscles held in a photographer's grip without additionally securing the wings could risk some injury. Species with weak legs such as shorebirds, hummingbirds, and goatsuckers should not be held by the legs.
- Birds should only be photographed when they show no signs of stress such as closed eyes, gaping, fluffed or ruffled plumage, or continual flapping wings.
- Avoid flash photography. If flash must be used, it would be best to ensure that the bird's eyes have time to adjust before it is released.
- LPBO considers selfies with birds no longer appropriate. Pictures of you working safely with birds as part of the normal handling process are acceptable, however.
- Consider carefully what images are appropriate to take and share. If you are uncertain about the appropriateness of a particular photograph, it is best not to use it.
- While any photograph can potentially be misinterpreted, this can be minimized by thoughtful commentary. Information associated with posted images and videos should be factual and professional, and provide context that enables viewers to appreciate the value of banding.
- Ensure that all commentary captured on video is appropriate.
- LPBO appreciates the generosity of cooperators to lend their photos to LPBO for promotional use. We will always make the greatest effort to acknowledge the photographer.

We do not monitor your postings on social media but inappropriate photos have a way of grabbing the attention of BSC staff and, worse, concerned members of the public. Think carefully before you post and, if in doubt, don't!

## Binoculars and Notepads

Always wear your binoculars and carry a notepad! This is a bird observatory after all. If you are at one of the research stations you should be looking for and recording birds constantly. Note taking is an essential part of the life at LPBO. Our general rule of thumb is that **if it isn't written down, it doesn't exist**. No matter how good you think your memory is, days blend together and you will forget things! This is a bird **observatory after all**; you should be looking for **and recording** birds!

## Bird Feeders

Standard bird feeders should be filled everyday immediately after the nets are opened. It is prudent not to operate full feeders in close proximity to traps. You may wish to keep some feeders out of operation when you're relying on ground traps as birds will not respond to traps. Do not stock the feeders with cracked corn, instead use an Armstrong seed mix or black oil sunflower seed. Cracked corn can be spread on the ground, or tables under the feeders and on platform feeders. You may not bait nets during the standard banding period. Hummingbird and oriole feeders should have new food made every two or three days. Do not let the sugar water go bad or become contaminated by insects. All feeders should be cleaned with hot water and bleach at least once per season to reduce the transmission of diseases. During the off season every attempt should be made to keep the feeders full. Feeders attract

birders and their donations, which is more important than attracting birds. Empty feeders are a sign of negligence more than a sign of hungry birds.

## eBird and iNaturalist

eBird and iNaturalist are used regularly by all LPBO cooperators. It should not be hard to track the whereabouts of LPBO cooperators through their eBird checklists or iNaturalist sightings.

While not mandatory, LPBO cooperators are strongly encouraged to track all bird observations on [eBird Canada](#), and other wildlife observations in iNaturalist. For those unfamiliar with these platforms, they are enormous public databases that thousands of birders and naturalists around the world contribute their sightings to. The data are publicly available and used not only by birders to locate wildlife they want to see but also by scientists who are interested in many kinds of population and ecological questions.

Please take time to read the [instructions and protocols](#) for submitting checklists on eBird Canada. Ideally, one should keep separate daily eBird checklists at the research stations. One for all activities (net checks, extraction time, banding time, etc.) related to banding using the eBird Banding protocol for a daily list. And two, for periods when the primary focus is birding using the Complete Checklist protocol. Each period devoted to birding during the day should be submitted as a separate checklist. The daily census should be submitted as a separate checklist by the census taker(s). Unless you spend the entire day concentrating on birding and nothing else, do not submit a list for an entire day or lengthy period of time as a Complete Checklist.

eBird checklists must only include actual birds and numbers seen and counted (or carefully estimated visually) and never an estimated total of birds that were probably present.

Please use the provided hotspots when birding at the Tip, Breakwater, and Old Cut.

Please provide [complete descriptions](#) of rare or flagged birds, regardless of how relevant you think the flag is. Describe the identifying field marks first and the circumstances second. Keep in mind that these descriptions will potentially be scrutinized many years from now and if they are inadequate they may not be accepted by future ornithologists. Descriptions don't need to be exhaustive but should be detailed enough to document how you identified the bird or came to the number that you did.

**If you are not prepared to use eBird properly or, are unwilling to properly document your sightings carefully, we would prefer that it not be used at all.**

## Rare Birds

You should expect to find rare birds at Long Point. If you find one, informing as many people as possible should be your immediate reaction! Do not wait until the ET's at the end of day, make spreading the word the top priority after confirming the identification and properly documenting the bird through photos, a field sketch or a written description. At the very least, you must tell the BIC who will pass on the information to others immediately. **RED LIST birds**, any that are **red** on the Long Point checklist available at every station, must be reported to the BIC, Coordinators, and Director, immediately. Any bird out of season should also be considered rare. If the species you observed is on the Ontario Field Ornithologists, Ontario Bird Review Committee [South Review List, a report is required if you want it to be considered part of the official record.](#)

**LPBO cooperators are prohibited from sharing information about rare birds on Long Point proper (ie. Breakwater, Tip, other remote locations on Long Point) on eBird Canada, social media, or other means, without explicit permission from the BIC, or until it has been shared through LPBO's channels.** Cooperators can then share information provided from LPBO accounts. We do this to limit the disturbance to birds and ecosystems, to manage relationships with our neighbours and landowners, and to ensure that LPBO is properly acknowledged in rare bird reports, OntBirds or eBird Canada posts, social media and (as occasionally happens) news reports.

### LPBO Bird Alert WhatsApp Group

All regional bird sightings of interest are tracked and shared using the LPBO Bird Alert. This group is the primary source of real-time information about the occurrence, location, and details of significant bird life in Norfolk County. While some general chit-chat and banter is expected, please use discretion when posting to the group. Four and six-letter species codes are acceptable - <http://www.birdpop.org/pages/birdSpeciesCodes.php> . As with eBird and social media, sightings of rare birds from remote locations should not be shared to this group without explicit permission from a BIC.

If you want to join the LPBO Bird Alert, ask a BIC to add you, or use this link – <https://chat.whatsapp.com/2XjR8Ayx37Mqrvd2ixg>.

## The Paper Work – Completing the daily log!

Making sure that all data are completed, accurately and neatly, is one of the most important things you will do all day. **Never** leave daily logs and ETs until the **next** day. **Failure of BICs to ensure the proper completion of daily logs, including daily narratives, will result in immediate removal of their BIC responsibilities and may result in expulsion from LPBO.**

### Rules of using scannable forms

LPBO's logs are scannable forms. Therefore utmost care must be taken to neatly and accurately record all data.

- The angles at each corner of the page, along with the numbers at one corner of the page CANNOT be written on or destroyed. If this happens the form WILL NOT SCAN! And some poor soul will have to enter it manually!!! Maybe You!
- Please keep your printing **very neat** and in block capital letters. A **BLACK** pen should be used (no felt tips, no blue!).
- The scanner can only read letters and numbers. Do **NOT** put any value in (parentheses)!
- Keep all letters/numbers within each box provided. Please do not allow any lines to run outside the box.
- Do not strike out fields when there is no value. The scanner reads these lines and this slows down the process. Leave these fields blank (except in the case of *Volunteer Effort*)
- In case of mistakes, do not write over with dark pen. Neatly apply correction fluid and re-write the correct entry.
- If you have notes or comments of a certain field, place them in the "Narrative" section
- Ensure **ALL** information is filled out and accurate. If there is a box, chances are it requires data.

### Codes and rules for daily logs

#### Weather:

- 1) Wind: N, NE, E, SE, S, SW, W, NW
- 2) Wind Strength: 0, 1, 2, 3, 4, 5, 6, 7, 8, 9.
- 3) Cloud: (10ths) 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10
- 4) Temp(C): 0-99 [Indicate a negative by adding "-" to the first box. Leave it blank if +ve, as the "+" is not recognized by the scanner]
- 5) Precipitation: Rain = RA, Fog = FO, Snow = SN

#### Banding Effort:

- 1) All times are in 24 hr clock (2:30 pm = 14:30)
- 2) The "Ditto" box can be filled in when preceding Open and Close times are the same  
Note: The "Check Box" for the Ditto field can either be filled with a small "x" or fully filled in.  
Total net hours for each net need to be filled out individually.

### **Volunteer Effort:**

- 1) Before filling in volunteer initials, even if you have volunteered in the past, verify initials with the “observer” table posted at the front of the binder. Various codes have had to be changed because of duplicates. A combination of up to 4 letters and numbers may be used. Use middle initials instead of numbers whenever possible (i.e. ECK instead of EK2). List any new entries at the bottom of the table, which will be updated during data entry.
- 2) Enter volunteer initials starting in the left-most box (this helps the scanner recognize the volunteer without having to delete the 1<sup>st</sup> space).
- 3) “Field hours” for volunteers must contain a value or else the scanner omits this record. Enter “99.9” if no value is available.

**General:** The scanner recognizes zeros with diagonal lines through it, but often mistakes zeros that are not completely closed for sixes.

### **Coverage Code: Record as per the following code definitions:**

**0 – No coverage** at all bird wise. Use of this code should occur only rarely

**1 – Casual observations and/or casual banding only** (no census or ETs). Similar to “0”, but some casual observations were made within the recording area. Casual banding might involve Tree Swallows, or a few nestlings, or educational banding at Old Cut.

**2 – Census only** (no ETs). Can occur if travel needs result in early departure from a field station, or if other activities preclude any banding or other observations.

**3 – Fair coverage**, including census and ETs (may or may not include some banding). Inexperienced observers may use this code if they feel that some species were missed; or it may apply if experienced observers spend most their time on activities such as construction/maintenance; or transporting personnel.

**4 – Good coverage**, including census/ETs, and 6 hr of banding (weather permitting). Observer(s) active for much of the day. This is the code most frequently used.

**5 – Excellent coverage**, including census/ETs, banding (weather permitting), and a lake watch, and/or supplementary census, and/or visible migration watch. Two or more observers, active for virtually the entire day. Note that a score of “5” can’t occur with just a single contributing observer.

**Old Cut Estimated # of Visitors:** During each day of the season, the number of visitors at Old Cut is estimated. This includes visitors to the banding lab and Visitor Centre, as well as people wandering in the wood lot.

**Old Cut Total # of Visitor Groups:** The number of **organized** groups (school groups, field naturalist outings, etc.) visiting the Old Cut station is entered here. Do not count families as organized groups! An organized group will always have some sort of official leader.

**Tip Total # of boats on Shore:** The estimated total number of boats on or moored off the Tip's shore during the day. A count of sightseers, not passersby, or fisherman.

**Lighthouse Attraction:** This should be done every morning on census at the Tip; however, since the lighthouse bulb was changed in the mid-90's, we do not have many lighthouse casualties anymore, but events do occur. Attractions and deaths occur most often in fall, on moonless nights with poor weather, especially on foggy nights. In fact, if you wake up for a night-pee, take a quick check on the weather outside and then on what may be illuminated by the lighthouse beam. If it's foggy, pay special attention.

Check the area around the base of the lighthouse at the Tip each morning (during the census is a convenient time) to see if there are any dead birds. Pick up all bodies, and bring them back to the station for identification, measuring, weighing, etc. After recording all of the information, dispose of the bodies (bury if there are a lot). Save unusual specimens for skinning by wrapping in a plastic bag, labelling with date, place and circumstances of death, and putting into the freezer. Better yet, if you know how to prepare study skins, then skin them on the spot (and sex and age them based upon internal characters too if you can)! It is worthwhile checking the lighthouse each evening, particularly foggy ones, to see if any birds are flying around the lighthouse beam.

Record the following information into the daily log (on a separate sheet if necessary):

- Date of death
- Names(s) of people identifying and recording species.
- List of species, the number of deaths and if possible, the age and sex. Note how the birds were aged and sexed.
- Any other comments

Example documentation of a lighthouse attraction:

*"Sept. 26-27, 1988. Collected by E. Dunn, analysed by D. Hussell and E. Dunn. All birds aged by skulling.*

*26 Blackpoll Warbler: 5 AHY male, 3 AHY female, 2 AHY unknown sex, 6 HY male, 2 HY female, 8 HY unknown sex (sex by internal examination).*

*2 American Redstart: 2 AHY female (sexed by plumage).*

*Total = 28 Birds killed, 2 species. 3 more birds unidentifiable because were partially eaten, and about 5 more were inaccessible and not included in the total counted."*

**Narrative:** Observations of other animals, especially herps and butterflies, are to be noted in the narrative portion of the log sheets. The narrative should also note any Checklist Highlights (e.g. additions, extreme early and late records), notes on any colour-marked birds seen in the area, notes about station maintenance, personnel switches, general highlights of the day, etc. Naturally, it is most important that you also include a summary description of the kind of migration day it was in general (e.g. the progression of events, principal migrants, etc.)! Please **underline** all species names. This makes it much easier to find details of unusual/interesting species, species highlights, etc. by just skimming through the logs, without having to read all about the preparation of someone's gourmet supper! Additionally, make sure you record **who** observed any unusual species, so that they can be given the proper credit in our published migration summary reports. Finally, long (informative!) narratives are much more valuable than short

ones, so don't be afraid to use up the space, or to append an additional sheet. At the same time, avoid blah, blah, blah or general insanity. The narrative certainly doesn't need to be terribly creative or particularly literary, but feel free to express yourself however you like!

**Unusual Species:** These include any species not listed on p.3 and p.4 of the daily log. They should be written in at the bottom of p.2 and included in all totals. Record who saw the unusual species in the narrative.

**Daily Totals** Sheets (pages 3 &4): The Band, Rec, Cens, Obs columns are straightforward. The sub-total rows can be used for helping with addition, but are not required. The Total # and # of Species rows are required to be filled in.

**Note: There are two special cases you need to be aware of in the "Band" column. First, because we don't band hummingbirds or gnatcatchers, but do catch them, we keep track of how many were caught during the day in the Band column (as if they were banded). Another special case is owls. Because an evening's owl-banding activities can span two dates, we pool the evening's owling results in the daily logs. This makes sense since the birds in question are really part of the same night's movement.**

## Census

**Census Rules Them All!** Census is the most important part of the day at LPBO and is the highest priority over all other monitoring activities. This is because it is the most standardized component of our protocol. Because census is conducted at virtually the same time every day, along the same route, using the same counting methods, by LPBO's best birders, it represents the most reliable data for generating population trends. ET's cannot be completed without a census, thus census must be done every day, even if it is raining or snowing.

If the station does not have enough skilled cooperators to complete the banding protocol and census, census wins! Nets will have to be shut with enough time to start census unimpeded, and remain shut until census is completed. Figuring out how census is going to be completed should be on the BICs mind first thing in the morning and not leave their attention until it is completed.

## Time

Census begins exactly one hour after sunrise. Census can be delayed until later in the morning because of heavy rain or heavy snow, but it must be completed as soon as possible thereafter. Record the start and end times on the daily log datasheet. Census at Breakwater and Old Cut should take exactly one hour to complete. Because the route at the Tip is longer, census at the Tip should take exactly 1.25 hours. Do not exceed these times. On days when there are large numbers of birds present, you must be careful not spend too long on census. You should try to count as many birds as possible, but on very busy days you may have to miss some, but that's acceptable because you are conforming to the standardized protocol.

## Observers

**Census is always conducted by the most skilled birder(s) at each station!** Census can be done as a group, but normally one person is sufficient to give good coverage. During group census the most skilled birder will be the leader. Record only the lead observer's initials on the daily log datasheet. Other observers will not be entered into the database, so there is no point in writing them down on the margins of the datasheet, but you can include this info in the narrative if you like.

## Single Unit

Census should always be done as a single unit on any given day. For example, if it starts to rain, abort the census and start it over again when the rain stops. Do not complete half the census at one time and the other half later on. At Old Cut you may find that neighbours, or birders, will want to stop and talk to you while you are on census. You can either politely tell them that you are doing a standard count that requires your full attention and you should be on your way, but you'll be happy to talk to them afterwards, or you can subtract the time spent talking from your total census time.

## Routes

Maps of the Tip (Figure 3), Breakwater (Figure 4), and Old Cut (Figure 5) census routes are included in this protocol and are posted at each research station. All census start and end at the respective house at each station. When conducting the census, stay on the standardized route. At the Tip and Breakwater every bird that is seen or heard from the census area is counted. That includes waterbirds far out over the lake, or raptors soaring in the distance. At Old Cut there are additional rules about what species you can count and where:

- All non-passerines (waterfowl, gallinaceous birds, loons, grebes, cormorants, herons, vultures, raptors, shorebirds, gulls, terns, doves, pigeons, owls, nightjars, swifts, kingfishers, woodpeckers, and falcons) must be counted whether they are inside or outside the boundaries of the census area.
- Passerines are counted only if they occur inside the boundaries of the census area, including flyovers. If you find an unusual species outside the census area at Old Cut, it should be recorded in the narrative section of the daily log datasheet, and reported through other means

## Spotting Scopes

A scope should either be carried around the Tip census route for use in scanning the lake and the sandspit at the end of the point, or left at the Shanty for use there. At Breakwater, a scope can be used to scan the marsh and the lake from the cabin. At Old Cut a scope should be left on the platform for scanning the bay and the marsh. Binoculars are of course mandatory on a census.

## Weather Data

At the beginning of census record the air temperature (°C), precipitation, wind speed using the Beaufort Scale, and cloud cover (out of 10), on the daily log datasheet.

## Counting Data

- Count all birds that are identified by sight and sound: count flyovers, birds at feeders, and even very distant birds over the lake or soaring farther down the point (keeping in mind the restrictions of counting passerines at Old Cut).

- Bird normally. Don't ignore common birds and don't concentrate on finding rarities.
- Do not get distracted by texting or other things. Concentrate on birding.
- Do not count the same birds more than once.
- Estimate numbers in large flocks rather than trying to count every single bird before the flock gets out of sight; do this by counting all the birds in one section of the flock, then extrapolate by counting the number of similarly sized sections in the whole flock.
- Seek agreement about identifications and numbers of individuals among observers if you are in a group.
- Record every single bird that you count on a notepad or put it directly into your eBird app.
- There is no such thing as an unidentified species on census. Every bird needs to be counted and assigned to a species – see instructions on Estimated Totals above. Skilled observers will always be able to assign unidentified species to groups and then extrapolate what the likelihood of identification was. This is most common for diurnal migrants, or high flying warblers. Many can be identified in flight, but sometimes there are simply too many to identify and count at the same time. At the end of census, unidentified species can be divided up proportionately among the species that were identified.
- If you can't identify a species, do not guess. However, try to identify it as closely as possible (e.g., dowitcher species or *Empidonax* species). A census of the species you do know is better than no census at all, but write a note in the narrative section of the daily log sheet if you feel that you missed identifying a large proportion of the birds.

## Reporting Census Results

Reporting census results, a general summary of migration, and any other important information is required following census each morning from all stations. Census is not complete until the BIC has submitted this report to the LPBO Operations WhatsApp group.

## Other Observations

Throughout the day (even in bad weather) you should be looking for and seeing many birds in the station area **in addition to** the ones you've **already** counted on census or captured during banding operations. It is important that the whole area is covered on foot more often than just on census — supplementary birding treks around the census area are an important part of the day's activities.

A brief count of visibly migrating birds (a "vis mig") should be done close to dawn each day to determine if there is a movement; otherwise you might miss it. Of course, some movements (e.g. hawks) may not be seen until later. In any case, on days when numbers of birds are observed actually moving through an area (i.e. they are engaged in diurnal migration), pick a good observation spot and record this passage for a fixed-period of time (e.g. 15 minutes), preferably at hourly intervals through the morning. Record the species involved, the numbers, weather conditions that might be prompting the flight, direction of the flight, and the amount of time you spent recording.

In early spring and late fall, particularly at the Tip, it is always a good idea to devote a half-hour, or much more early in the morning to a Lake Watch. This is best done from the Tip of the point, or on top of the Block-building, and is best done with the aid of a spotting scope. Count/estimate all waterbirds observed — there may be thousands moving. It is also standard procedure to conduct lake watches at

Breakwater. Bad, on-shore weather is often a great time to conduct a Lake Watch, since it is apt to push birds near shore and bring in a rarity!

**Don't** rely on mental notes for these other observations. **Write them down!** If it's not written down, it doesn't exist. If you leave before the day's records are written up, be sure to leave a copy of your records behind for those compiling the daily logs and ETs.

### Supplementary Census

A supplementary census can be done any time during the day, including in the morning before or after the official census, but it is usually done in the afternoon. Supplementary censuses are not standardized, like the official census is. You can walk the route backwards or take more or less time. Beyond that though, most other rules apply, such as which types of birds you can count and where (at Old Cut), or that you must count all the birds you observe. Supplementary census results are recorded as obs, and are reported during ETs at the end of the day (i.e., they don't have their own column on the daily log sheet). Supplementary census' can often be combined with other station activities such as Monarch census. Therefore, supplementary census is completed every day during fall migration.

### Monarch Census

In fall, tens of thousands of Monarch Butterflies pass through Long Point. At the Tip and Breakwater stations, Monarchs are counted daily during a special mid-afternoon census. Monarch Butterfly population trends in Canada are then derived in a similar fashion to birds, but we do so exclusively with data from a daily census. These results are tabulated on page 2 of the daily log sheet. Use the comment section to elaborate on other butterfly sightings or what the monarch activity was like during the entire day. Feel free to include further summary in the narrative. The Monarch census follows the same route as the bird census, so it should be combined with a supplementary bird census. The census takes place between 2:00 p.m. and 5:00 p.m. Record the total Monarchs seen on census on the daily log datasheet.

Identification of Monarchs is pretty straight forward. The Viceroy is the only other Ontario butterfly that is very similar. Viceroys have a black line across the hindwing, a feature that Monarchs lack (Figure 2). Sometimes Viceroy numbers can be impressively large, particularly in June or August as they migrate, but usually they are far less common than Monarchs at the Tip and Breakwater. Other large orange butterflies like Great Spangled, Aphrodite, and the very uncommon Variegated Fritillaries all lack the strong black venation of Monarchs and Viceroys.



Figure 2. The Monarch (left) has no line across the hindwing. The Viceroy (right) has a line across the hindwing.



Figure 3. Census route at the Tip. The census route is outlined in red. The arrows show the direction of travel.



Figure 4. Census route at Breakwater. The census route is outlined in red. The arrows show the direction of travel.

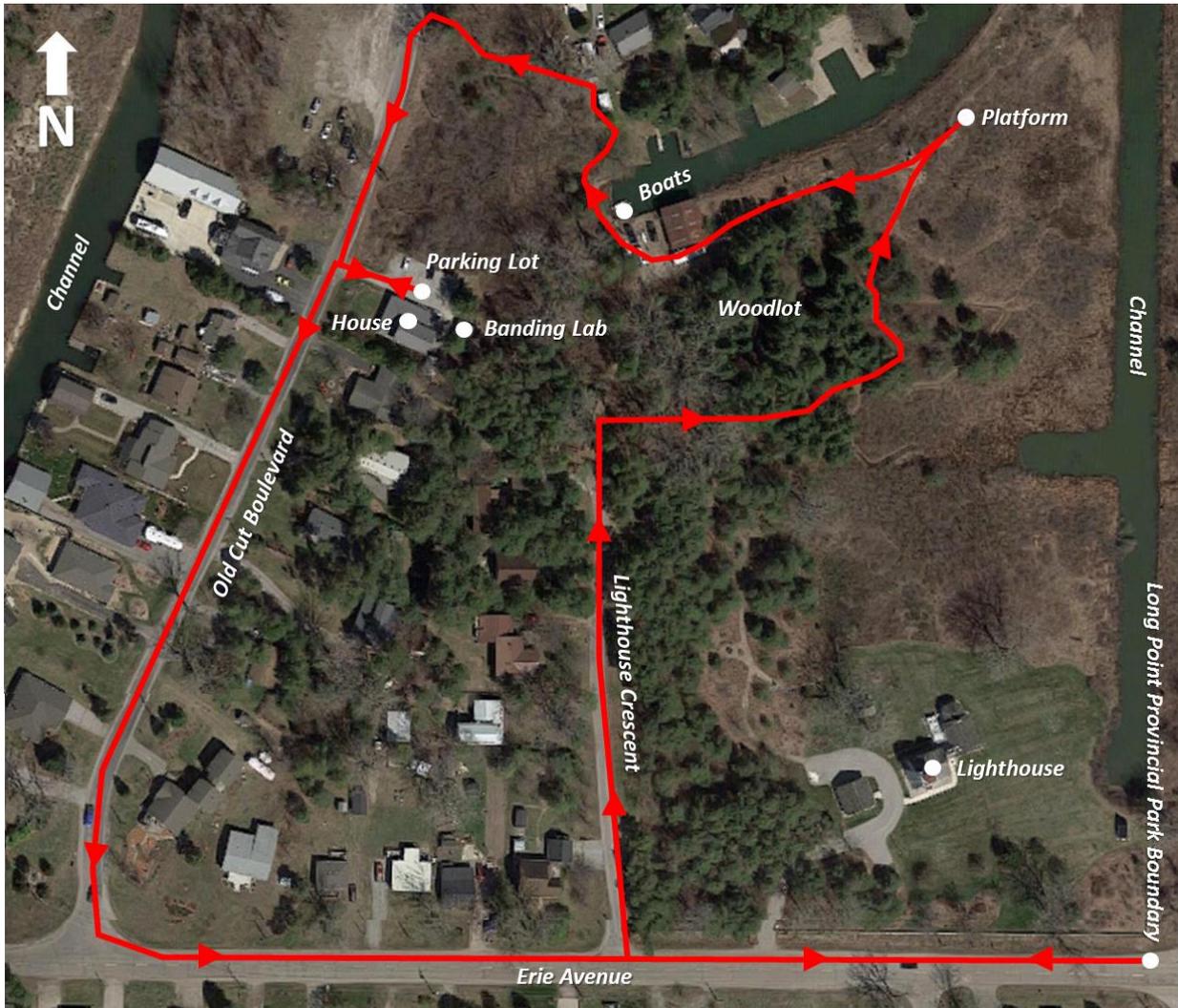


Figure 5. Census route at Old Cut. The census route is outlined in red. The arrows show the direction of travel.

## Daily Estimated Totals (ET's)

The Daily Estimated Totals are our best estimate of the total number of each species present in the station areas each day. Although estimates, they are more realistic than banding totals or census counts alone. Because we use these data to estimate population size, they **MUST BE DONE CAREFULLY**. They should be educated estimates, not guesses.

ETs should be recorded every day during the migration season and for any other day on which reasonably representative observations were made (a census **plus** several hours of observation and/or banding). Note that a census is a prerequisite for ETs; they **cannot** be derived without a census. With the exception of owls, ETs are for daylight hours only. Nocturnal observations (e.g. calling thrushes migrating at night, deaths at the lighthouse) **must not be included**. The ETs should be compiled after all other record-keeping for the day has been completed, and should be done with **all** personnel present. Try to arrive at a consensus. [If you have real difficulties with a decision, write the details in the log]. This job makes a pleasant after-dinner occupation, and allows everyone to catch up on what was seen during the day. It is also important training for new personnel.

### How to Arrive at Estimated Totals:

1. On log sheets, first record the numbers of each species banded, re-trapped, and seen on census in the appropriate spaces.
2. Next, run down the list of species, summarizing the observations for each species that day. Skilled observers can quickly breeze through groups of birds that are less likely to have occurred that day. When species already have data present, banding, re-traps, or census, the BIC shares this information with the entire team. For example, "American Robin — 8 banded, 2 retrapped, 20 censused — any additional observations?". The daily estimated total (ET) is derived from data that appear in the columns of the daily log sheet (number banded, number retrapped, number censused, other observations). Inspect all of these numbers together, and along with all of the other participants, try to derive the best **estimate** of the number of birds that were **known** to be present in the area on that day. On days when there is very little bird traffic or for species that are uncommon or rare, the ET will often simply be a sum of the other columns. Otherwise, if you have good evidence that birds were not accounted for in the other columns, then the ET can and should be adjusted upward. For example, if there was a steady movement of hawks overhead for an hour in the afternoon and you conducted two 15-minute counts during this period, then the actual count totals would be inserted into the Obs column, while you'd add a corresponding number into the ET column to reflect the half hour period when you weren't actually out there counting the traffic.
3. Some judgments must be made, and these should be conservative (but not too conservative). Again, it is important to keep in mind that Other Observations ("Obs") is a **count** of birds (seen or heard) that are most likely **different** from those detected during the census and banding operations. These can include good estimates of flock size, but not extrapolations (e.g. just because you saw one cuckoo, you really have no evidence to think that there must be more around). Nor can it include repeated counts of what were probably the same birds, whether seen by you repeatedly or by someone else. Take behaviour, time of day, and any other relevant circumstances into account. Keep in mind that birds do fly from place to place, so the cuckoo that you saw at the

outhouse at 0900 hrs could easily be the same one that someone else saw near the Heligoland trap (HT) at 1330 hrs.

4. The ET column cannot be less than Banded +Retrapped +Observed **or** less than Censused +Observed.  
**Hence, you can't ET fewer birds than were observed.**
5. Do not count broods of dependent young (e.g. Canada Geese) in the ETs.

#### **Some Additional Helpful Hints for Deriving ETs:**

1. If you are netting all day and none or very few of the birds are being caught again during the course of the day, then this is a strong indication that there are probably a lot of birds present. Conversely, if the day's repeats start accounting for a sizeable fraction of the birds being caught, then you can assume that you are indeed banding a high percentage of the birds present in the area (i.e. new birds **are not** arriving or moving through the area).
2. ETs should be conservative, but you should not be afraid of arriving at high numbers. It is just as bad to grossly underestimate as to grossly overestimate. Remember too that the nets cover only a small portion of the sample area. They catch only a fraction of all birds present, particularly if birds are moving through the area. Don't forget that the nets do not adequately sample species that tend to forage in the tree-tops, or tend to fly-bys.
3. While it is important that the ETs be firmly based upon observations, and therefore reliable estimates, it is not important that a lot of time is spent arguing over whether there were 22 Dunlin or 26. It is extremely important that the ETs are reliable at least to the nearest natural logarithm (e.g. 1, 3, 10, 20, 50, 150, 400). In most cases, however, ETs should be more accurate than this.
4. It is often helpful to cross-check the day's ET for a particular species against those derived for other species for the same day as well as those derived for previous days. Such comparisons can be quite useful for fine-tuning your ETs so that they reflect your general impressions about relative bird numbers. For example, you should ask yourself whether there are more White-throated Sparrows today than there were yesterday? Or the day before that? Are there fewer White-throats than White-crowns today?
5. In most cases, particularly for less common birds, it will be easy to come up with ETs. Special cases are as follows:
  - a) If every time you looked out, birds were passing through the area in one direction, but you did not observe continuously, you may extrapolate from your observations to cover periods when you were not watching closely, but were aware that a sustained movement was in fact occurring. Be conservative. Remember that many birds may mill around the same area all day, rather than pass through. And consider that most species' movements peak at a certain period of the day; seldom is there ever a sustained passage. Also, keep in mind that migrating hawks and many other diurnal migrants at the Tip station may fly east off the tip over the lake for a few hundred meters and then promptly turn around and fly back west. Don't count them twice!
  - b) In the event that you saw birds you could not identify, but could classify to group (e.g. "warbler"), you could try to assign them to actual species in the ETs, based on other data. For example: there were 12 unidentified warblers on the census. Of 8 warblers banded, 6 were Bay-breasted Warblers and 2 were Blackpolls. The 12 unidentified could therefore be assumed to have been 3/4 Bay-breasted, and could appear as such in the ETs. There should be no unidentified birds (i.e. UNBI) in the ETs. On the other hand, if you cannot comfortably assign the unknowns to a species, it is best to leave them out of the ETs entirely, since the procedure described above prejudices things towards catchable species. With warblers, you have to be especially cautious

during the passage of Myrtles, since this is often a diurnal migrant that migrates through at tree-top level, while other species are being captured in your nets/traps.

In spite of the difficulties you occasionally have in coming up with ETs, you'll find you quickly get the hang of them, and your ETs will be similar to those derived independently by other observers. One of the reasons for all of the personnel being involved in deriving ETs is to encourage discussion and uniformity of approach. Ultimately though, the final judgement is up to the BIC.

Even if you're an inexperienced birder, **please** don't excuse yourself from the ET process! It's important that everyone feels involved and contributes, so please sit in, if only to hear how the day panned out. You'll also learn a lot!

Last but not least, derivation of ETs is **not** a competitive process. There's sometimes a temptation to maintain that "your" birds were different from someone else's, or that you saw a species that others didn't, just so that your observations can be included. Let your ego go! If you don't have good reason to believe that 100% of the blackbirds you saw have been accounted for by other people, keep quiet. It really isn't necessary for everyone to chime in their "other obs" as each and every species is called out. Only chime in if you can **add** anything to the total. That way ETs will go much quicker and the process will be less confused (and you'll get to bed at a reasonable hour). At the same time, don't feel that your "redundant" observations aren't appreciated. They are! They help **confirm** what took place in the field. That's important!

## The Banding Routine

Banding at LPBO is for the most part conducted in a highly standardized fashion. The goal is not to break records for the number of birds banded in a day or a season. Instead, banding is meant to be one avenue of data collection for tabulating ETs and ultimately, generating population trends. Because of day-to-day limitations imposed by weather, bird volume, staffing, and visitor traffic, it can be challenging to operate a completely standardized banding operation at LPBO but we do our best.

See Appendix V: The Basic LPBO Bander Training Protocol

The birds' health and welfare take precedence over everything else (except for the safety of personnel and visitors). LPBO operates within a well-developed ethical framework, which has been adopted by the North American Banding Council. All staff and volunteers must read and adhere to guidelines within the [North American Banders' Study Guide](#) before each field season (it is provided by email to all volunteers and hard copies are available at each station). Each year we strive for zero casualties, but given that LPBO bands between 20,000 and 30,000 birds every year, there are inevitably a few injuries and mortalities (usually less than 0.01% of all birds handled annually).

Any birds that are injured or die during the trapping or banding operation must be noted on the casualty reporting sheet (Appendix IV) by the BIC. All injuries and casualties need to be reported to the BIC immediately. The BIC will then decide the best course of action for caring for or euthanizing a casualty in accordance with the LPBO animal care protocol (available as a separate document). Do not band a sick or injured bird (unless the injury is old and healed). Never subject a bird to any more stress than is absolutely necessary (see photography guidelines).

## Dead or Injured Birds

The general public frequently brings in dead or injured birds that they have picked up on the road or in their yards. We are not a rehabilitation centre and will not accept injured or abandoned birds. If LPBO cooperators choose to do so, they accept personal responsibility for the animal. BICs have access to a list of local animal rehabilitators that visitors or guests can be referred to.

Whatever their source, never leave dead birds lying in public view. Perfect specimens may be kept for educational purposes and will be kept in the small chest freezer at Old Cut. Do not store dead birds in food freezers. Specimens should include a note indicating the date, location, finder, cause of death, species. Dispose of less than perfect specimens in the garbage. Always be discrete. We don't want to give the public the wrong idea when they see a dead bird in our possession.

## Too Many Birds

During the standard banding period we try to catch as many birds as we can safely handle. If you can safely run all traps and all nets at the site, then do it. On some days it will not be possible to run all nets and traps because of weather, predators, limited personnel, or too many birds to deal with in a safe and timely manner. On these days, keep in mind that the goal is to make sure that we catch a good representative sample of what species are passing through. Because the nets and Heligoland trap (HT) are less biased in what species they catch compared to the J-traps (JTs) and ground traps (GTs), priority should always be given to nets and HTs (i.e., JT and GT effort should be scaled back or closed on big bird days if they are interfering with running the nets and HT trap). If you're exceptionally bogged down with too many birds, don't hesitate to remove birds from nets and release them unbanded (except for rarities and recaptures which should always be processed). If you're letting birds go, make sure you write down the species and numbers involved to be incorporated into ET's. Moreover, all birds you decide to band should be properly processed — avoid "ringing and flinging" (putting bands on, but not recording all the measurements, age or sex) whenever possible. We are not trying to set records at LPBO, especially if data quality or bird welfare are compromised. Remember, LPBO is a migration monitoring station, meaning that banding is only one component of what we do here!

**All cooperators, especially BICs, should be intimately familiar with the [Guidelines for prioritizing bird safety during high capture events.](#)**

## A Clean and Orderly Lab

The banding lab needs to be thoroughly cleaned after every bird banding session. All surfaces and equipment are to be wiped with bleach sanitizing wipes. All floors swept, all items and resources organized and, generally, the laboratories are to be left in immaculate condition — no exceptions. At all times work spaces are to be free of clutter, personal belongings, or anything that is not needed for the banding activities. There is no tolerance for clutter or disorganization in any laboratory, and a banding lab is no exception. **Food and drink are strictly prohibited from the banding laboratory and BICs will indiscriminately remove them if present.**

## Standard and Non-Standard Banding

Standard banding is any banding that uses only the standard compliment of nets and traps, takes place during a prescribed migration monitoring season, and occurs from 0.5 hours before sunrise until six hours after that. Any other banding is considered non-standard banding (NSB). It is possible for NSB to happen during standard banding hours, such as when House Wren nestlings are banded from a box in the Old Cut yard. Although this banding took place during the standard season and during the standard six hour period, the birds were captured in a nest box, which is not one of the standard nets or traps so it is NSB. There is a column on the banding datasheet for marking all NSB birds. The BIC must give explicit permission before any non-standard banding can take place. Permission may be given to conduct NSB if personnel would like additional practice time, if there is a significant migration event that extends beyond the standard six hour period, or for other reasons at the discretion of the BIC.

## Mist Net and Trap Etiquette

Operating mist nets and traps is by far the most dangerous part of LPBO operations with respect to bird safety. Nets and traps have to be operated with an exceptional level of attention, scrutiny, and thoroughness. Nets are always to be in **perfect** operating conditions – furled tightly, and tied properly when closed, with proper bright guy lines set at correct angles, proper tension, proper height, proper distance between trammel lines, and free of holes and imperfections.

A net round is not just about extracting birds from nets. They are a detailed inspection of the entire netting area. The condition of each net needs to be meticulously examined, every little piece of debris removed, and any imperfection in nets, or net lanes needs to be corrected! **There is zero tolerance for imperfect nets or traps as they increase the chance of bird injury or potential biases to data. An imperfectly set net or trap might as well stay closed!**

All nets should be inspected at random whenever appropriate throughout the day to ensure that nets haven't been opened or that they remain properly furled. Immediately report any instances of improper net etiquette or vandalism at any station to the BIC.

Always take more bird bags than you think you'll need and every member of the net round crew should have their own bags and their own net stick. Never lower a net without one!

**Be Quiet!** Every time someone walks by or makes noise by a net, it's effectively 'burned' for a certain period of time. Therefore every effort needs to be made to minimize traffic around the nets. Only the minimum number of people required should ever be on net rounds, and those on net rounds should refrain from conversation, chit-chat, or shenanigans of any kind. You are extracting birds, inspecting nets, and monitoring the passage of migrants, that is the only thing you should be thinking about. You should never have more people than birds captured on a net round. If it's a slow day and each round only needs 1 or 2 people, than that's how many people should go on a net round.

Lastly, it is extremely important that someone, preferably the BIC, conduct a thorough inspection of the netting area immediately after each banding session to inspect the nets, look for birds or bags that may have been left behind, traps that were accidentally left set, or vandalism. Banding in the morning is not complete until this is done!

## Net and Trap Operation

On a typical standard operating day, all nets are to be opened 20 minutes before sunrise. That means all nets open and ready to go which means starting to setup nets 10-20 minutes before that. After which, net checks start at sunrise and are repeated **every 20 minutes** for the next six hours. Frequency of net checks can be increased depending on weather conditions and bird activity but nets or traps are never to be left unattended for more than 30 minutes.

Nets are always checked in the same order, numerically at Old Cut (1 to 14) and Breakwater (1 to 13). Net rounds at the Tip tend to be less orderly but they should always be checked in the same order as not to duplicate effort and traffic around the nets. Splitting net rounds for efficiency is not acceptable except during extreme circumstances during very busy days or when a group has been gone for a long time.

The types of nets and traps that are opened change depending on the time of year (see below). Nets may need to open late or close early depending on weather, bats, insects, personnel available, and station logistics. As long as net hours are properly listed on the daily log datasheet then any deviation from standard net hours can be statistically accounted for. Make sure to record net hours accurately to the nearest net round (20 minute interval).

### Weather Conditions

The netting effort should always be maximized according to the conditions of the day. There are no definitive rules as to when nets should or should not be open and conditions need to be assessed continually. Opinions will often differ between BICs but the final decision about when nets should or should not be operated is up to the BIC at the time.

Mist nets should not be used in rain or heavy/wet snow. Very light precipitation may be acceptable for short periods of time (such as a brief but very light rain shower or snow) but in general, nets should be closed before rain begins. With modern day radar there is no excuse to be caught off-guard. Keep an eye on the clouds, the distant horizon and the radar.

Mist nets can be used safely in light to moderate winds, but constant strong winds and gusts are dangerous for the birds. Because Long Point is an inherently windy place, there will almost always be some breeze to consider when operating nets. The best way to assess whether a net is too windy, is to open it. It's easy to close nets if necessary. The default should be to open first, then assess whether or not it's too windy.

Generally mist nets should not be used when the temperature, or wind-chill is below 0 degrees C but this depends on the conditions at the time and the birds that are present or being captured. For instance, hardy sparrows and over-wintering birds can handle much colder conditions than migrants and small kinglets and flycatchers that depend on constant movement and feeding to stay alive. Sheltered nets on a sunny day can be perfectly safe in sub-zero temperatures, just as a damp, cold, or slightly windy net may not be safe on a warmer day. Conditions are often most borderline before sunrise. Waiting for the sun to be up before opening nets under these conditions is often a smart compromise.

If it's too cold for you to extract birds without getting cold fingers, it's probably too cold to be mist-netting. The frequency of net checks can always be increased to every 15, 10, 5 minutes, or having nets under constant supervision in order to maximize capture effort depending on weather conditions.

## **Bats**

LPBO regularly captures bats as a part of the regular monitoring program, especially in fall, or as part of special collaborative research projects. **BICs must be notified immediately of all bat captures. Only personnel with up-to-date rabies titres can handle and extract bats from mist nets.** All LPBO BICs will have up to date rabies vaccinations. If such a person does not exist, thick leather gloves, or otherwise impenetrable gloves must be worn. If you are bitten, or scratched by a bat, and are not inoculated it is strongly advised that you seek medical attention for post-exposure treatment for rabies.

## **Extraction**

At LPBO we train and preach “a bag of tricks” techniques for extraction. Trainees will learn the “feet first method” first, and then advance to the “body grasp” method. The body grasp is most efficient extraction technique, but cannot be used on all birds. The most efficient use of this method requires dexterity and experience handling a wide variety of birds in different scenarios. If you have any questions about these methods, one of the BICs will gladly discuss.

When approaching a mist net, first assess all the birds in it. Look for birds that are in the most distress, or causing the most distress in others and extract them first. Any bird that is dangling by a leg, wing or tongue should be extracted first. If all the birds are safely caught in the net, then remove the easy to extract birds first (so that they don't get more badly tangled), then move to the more difficult ones. Do not cut a net to extract a bird unless you have no other recourse. If a net must be cut make sure to cut only as few strings as necessary to minimize the size of the hole you create in the net. Notify the BIC anytime you have a badly tangled bird or the net needs to be cut.

During busy days or periods, the operation may be modified so that we can safely handle the number of birds. If you're exceptionally bogged down with too many birds, don't hesitate to remove birds from nets and release them unbanded (except for rarities and recaptures which should always be processed). Make sure you write down the species and numbers involved. BICs will make operational decisions based on the guidelines and considerations provided within the publication [Guidelines for prioritizing bird safety during high volume events.](#)

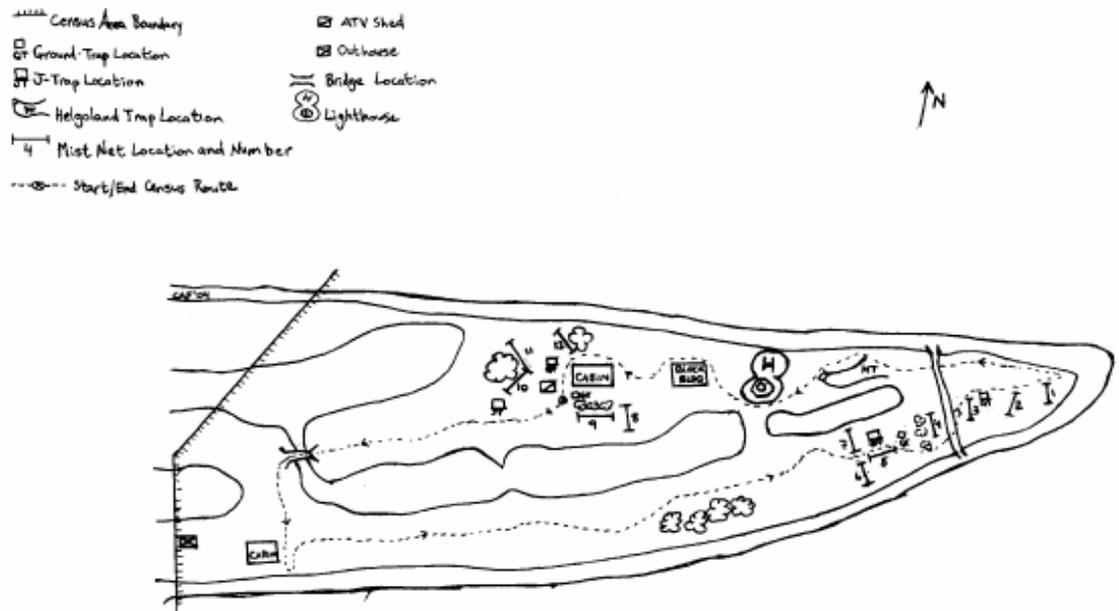


Figure 6. *Tip net locations*

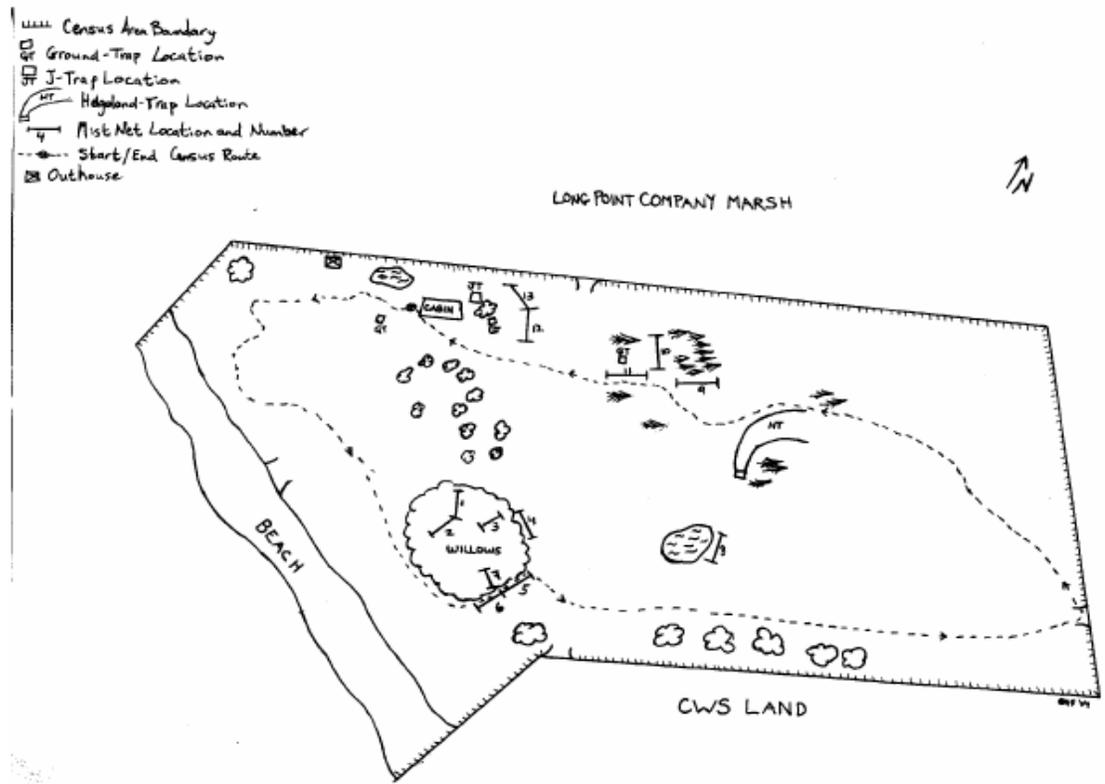


Figure 7. Breakwater net locations

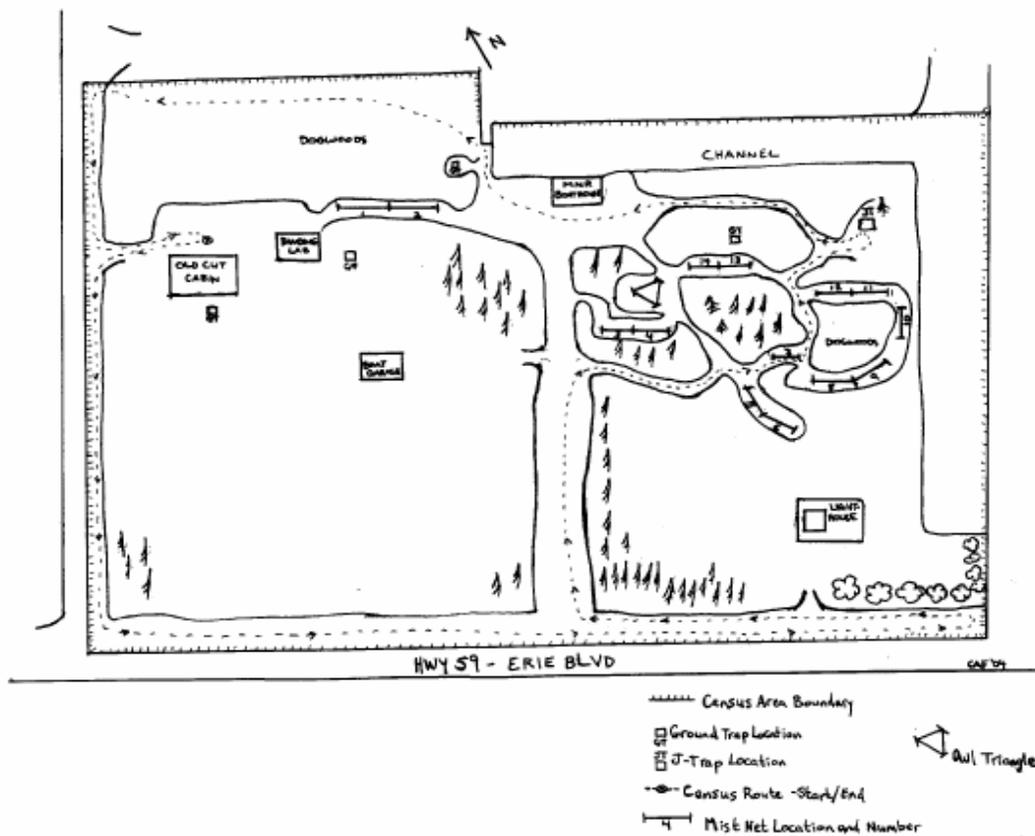


Figure 8. Old cut net locations

## Passerine Nets

LPBO focuses its banding efforts on near-passerines and passerines, using 12 m long, 32 mm (1.25 in) mist nets. Net set up should follow the example given in the Long Point Technical Series [video](#). Each net is numbered to allow us to track variation in capture rate between nets and seasons. Each bird extracted should be assigned to a specific net with a numbered clothes peg. This also allows for better tracking of birds and net rounds through the banding lab.

Each station has a different compliment of nets:

- Tip = usually 12 standard nets. 2-4 Extra non-standard nets;
- Breakwater = 13 standard nets; and
- Old Cut = 14 standard nets.

## Heligoland Trap

There is one HT at the Tip (Figure: 9). Historically there were two at the Tip, and one at Breakwater. The minimum number of HT runs each day is six, but you should try to complete as many runs as possible. Always check and open the nets at the Tip in such a way as to not disturb the HT trap. Start off every morning with a good healthy HT run.

HT runs should involve 2 or 3 people; one is not sufficient to do a proper run, but you can still catch some birds alone. Personnel should begin the run by spreading out about 50 metres from the mouth of the trap, and then simultaneously walk towards the trap, clapping and shouting to herd birds into the trap. As the banders approach the trap the distance between them decreases. As you enter the trap, pick up the speed and chase the birds to the capture room at the end. The door should be pulled closed behind one person so that no birds can escape. The birds are then ushered into the capture box. Personnel can then exit the trap from the adjacent side door. The birds are then removed from the capture box and taken back to the lab.



Figure 9. Heligoland Trap run.

## J-Traps and Ground Traps

As part of the standard protocol, JT and GT are only run for part of the spring and fall migration monitoring seasons (Table 1). Standard GT operation is intended for passerines only. Ground traps for shorebirds or waterbirds is considered non-standard banding. Traps should be baited with a modest amount of cracked corn in the centre of the trap with very little in the doorways to help birds find the entrances.

**Table 1.** J-trap and ground trap schedules.

Trap	Station	Number of Traps	Spring	Fall
JT	Tip	2	Apr 10 -May 21	Sep 15 - Nov 15
GT	Tip	4	Apr 10 -May 21	Sep 15 - Nov 15
JT	Breakwater	2	Apr 10 -May 21	NA
GT	Breakwater	4	Apr 10 -May 21	NA
JT	Old Cut	1	Apr 10 -May 21	Oct 1 - Nov 15
GT	Old Cut	4	Apr 10 -May 21	Oct 1 - Nov 15

## Speciality Trapping

All specialty trapping is a form of NSB and can be done only at the discretion of the BIC. It should never interfere with the standardized protocol. You must have supervision, or special training beyond what LPBO normally provides in order to safely capture and accurately age and sex waterfowl, large raptors, and shorebirds. Hummingbirds are not currently banded at LPBO. All cooperators **must** read the related [NABC manuals](#) pertaining to the taxa of birds they wish to band.

## Northern Saw-whet Owl Nets

During the fall (September 25 to December 31), a special effort is made to monitor the migration of Northern Saw-whet Owls (and the occasional Long-eared) at the Tip and Old Cut. This consists of netting the birds at night, using special lure tapes. The regular nets are often used too, but they are supplemented by a special array of owl nets. Details of this operation are covered in the Northern Saw-whet Owl Monitoring Protocol.

## Hawk Nets

LPBO uses passive hawk nets (mesh size of 60, 80 or 100 mm) in the fall to capture migrating raptors. They are raised as high as practical both to keep heavy-bodied hawks off the ground and to intercept low flying birds. There are typically four hawk nets at the Tip and one at Old Cut in the fall. The operation of hawk nets must not interfere with normal migration monitoring. Hawk nets can be operated in slightly windier conditions than passerine mist nets, because raptors tend to be more robust and less prone to injury. Pay very close attention to hawk nets as smaller birds can become extremely tangled in the large mesh size, and hawk nets can even capture birds as small as Brown Creepers.

## Shorebirds

Shorebirds are usually caught using mist nets or GTs. Shorebird nets must be monitored constantly as shorebirds are much more prone to exhaustion and injury than almost any other kind of bird. Extract

birds as soon as they hit the net. Always keep the feet supported to avoid capture myopathy. Be especially careful removing netting from around the carpal joint. Also, make very certain that your lowest panel will not dip into the water when a bird gets caught. All shorebirds (excluding American Woodcock) are banded above the tarsal joint, as indicated on the chart in the banding lab. GTs can also be effective for shorebirds. A good shorebird GT has stiff wire leads which help guide the birds inside. They are typically placed right on the shoreline, but not submerged. Do not leave shorebird GTs on the beach unattended: they will wash away or birds will become stressed in them if left too long. This same trap design can also work well to catch shoreline foraging passerines such as Snow Buntings, and American Pipits.

## Banding Operation

LPBO strongly adheres, and actively contributes to the guidelines set by **the [North American Banding Council](#)**. This protocol does not elaborate on all the details of all aspects of banding. For that information, read the [North American Banding Council Banders' Study Guide](#), the introduction of *Identification Guide to North American Birds, Part I* (hereafter, *Pyle*), and other reference materials referenced within. Some elaboration on banding methods is found below, but the details must be taken from those documents. You may not participate in any banding until it is clear that you have read and understand the information in those documents. Here is the basic method for banding a bird at LPBO:

1. Remove it from the bag using the bander's grip (or other acceptable grip depending on the species);
2. Check for a band. If there is no band present then proceed to 3. If a band is present, the bird is a recapture and must be handled differently (see below).
3. Identify the species;
4. Select the appropriate band size based on species or leg gauge, if needed;
5. Read the band number to the scribe;
6. Open, apply and, close the band;
7. Ensure the band fits properly;
8. Age the bird first (skull in fall!), and then attempt to sex the bird where appropriate;
9. Measure fat, measure wing and other metrics, inspect for ticks;
10. Put the bird in the weighing tube and weigh it;
11. Release it.

## Identification

Never band, or release a bird if the species is in doubt – let the BIC know immediately if you can't identify something. Do not release a bird that you can't identify without permission from the BIC! For most birds we identify them to the species level, but for a handful of species it is done differently. In some cases we identify them to subspecies (or subspecies group), for example, Northern Flickers are banded as either Yellow-shafted Flicker (YSFL), Intergrade Flicker (INFL), or Red-shafted Flicker (RSFL). In

other cases, two cryptic species are combined into one for banding purposes. For example, Willow Flycatcher and Alder Flycatcher are banded as Traill's Flycatcher (TRFL). In unusual cases, hybrids are given their own codes. The only species for which this commonly occurs at LPBO are hybrids and backcrosses of Golden-winged Warbler x Blue-winged Warbler: Brewster's Warbler (BRWA) and Lawrence's Warbler (LAWA).

## Bird Bags

At LPBO we use lightweight, breathable cloth bird bags with muted colours. Bags are used twice before washing them: once right-side out, once-inside out. Bags are washed by hand at the Tip and Breakwater, and at the laundromat in Port Rowan at Old Cut. Use a capful of bleach with every bag wash! Once a month, the Tip and Breakwater should exchange their bags for machine-washed bags. Keep dirty, once-used, and clean bags separate; this is important to limit the potential spread of disease between birds. Bags are to be flipped between uses during the day, and flipped, and organized at the end of every banding session (see a Clean and Orderly Lab).

## Band Sizes

Band sizes for all of the commonly encountered species at LPBO are listed on a chart in the lab. The first size listed on the chart is the preferred size, the one that will fit most members of that species. Some species can take a wide range of band sizes. Sex may also influence band size. If the chart indicates a sex difference in band size, then make sure you determine the sex before selecting the band. Use the leg gauge if needed and indicate its use in the remark column on the banding datasheet (use remark 25). Because Northern Cardinals require a difficult to use stainless steel band, only the BIC may band them, or authorize others to do so. If you use an incorrect band size you must notify the BIC immediately so they can assess and rectify the situation if needed. Note all incorrectly used bands in the remark column of the banding datasheet (use remark 02).

## Band Numbers

Most LPBO bands have nine numbers (some have eight or seven digits). For most birds, the bander only needs to read the final two digits on the band to the scribe. The scribe will then confirm if the number follows in the sequence required on the datasheet/program. If the number isn't correct, the scribe will ask the bander to double check the number. At the beginning and end of each banding datasheet, the bander is required to read the entire band number. Sometimes bands go missing or are not actually placed on the previous bird. In these cases, confusion will usually follow; notify the BIC immediately to help sort out the discrepancy. It's important to figure out what the problem is before making it worse by using more bands in the wrong order. Indicate lost or destroyed bands on the banding datasheet by writing ``band lost`` or ``band destroyed`` in the species name column.

## Ageing

All birds that are banded are also aged (Table 2). Most birds cannot be properly aged without a complete understanding of moult. In addition to the aforementioned documents, all LPBO cooperators that want to become independent and competent banders must read and understand the moult and special sections of Pyle, [Understanding Molt: a Bander's Perspective](#), and the [Wolfe-Ryder-Pyle](#) cycle-based approach to molt and ageing. These resources will provide the best treatment of the topic of aging birds by plumage and moult that you can find. Generally LPBO uses the Humphrey—Parks moult

and ageing system because it is straightforward and easily applied to the majority of birds we encounter. However, the Wolfe-Ryder-Pyle method cycle-based method is a more comprehensive approach to ageing that requires a more in depth understanding of moult. LPBO cooperators are expected to know both and use them interchangeably.

Table 2. Simplified [Humphrey-Parkes \(1959\)](#) and [Wolfe-Ryder-Pyle \(2010\)](#) age codes used on LPBO banding datasheets. Codes don't always correspond.

Age (H-P)	Code	Definition
Unknown	0	Cannot determine age; usually only used in the fall.
Local	4	Nestling.
Hatch Year	2	Hatched in the current calendar year.
After Hatch Year	1	Did not hatch in current calendar year.
Second Year	5	Hatched in the previous calendar year.
After Second Year	5	Hatched before the previous calendar year.
Third Year	7	Hatched three calendar years ago.
After Third Year	8	Hatched at least four calendar years ago.

1st Position	1st Position Definition	2nd Position	2nd Position Definition	3rd Position	3rd Position Definition
U	Unknown Molt Cycle	C	Not Molting ('C' for <i>cycle</i> )	U	Unknown Plumage
D	Definitive Molt Cycle	P	Molting ('P' for <i>pre</i> )	J	Juvenile Plumage
F	First Molt Cycle	A	After a Given Plumage	S or X	Supplemental or Auxillary-Formative Plumage
S	Second Molt Cycle			F	Formative Plumage
T	Third Molt Cycle			B	Basic Plumage
4	Fourth Molt Cycle			A	Alternate Plumage

WRP Code	Definition	Explanation
UCU	Unknown Cycle Unknown	Molt cycle and plumage of the bird is completely unknown.
FCU	First Cycle Unknown	Within the 1st molt cycle, but plumage is unknown. This code is commonly used for birds with incomplete skulls with ambiguous formative and juvenile plumage (e.g. many woodcreepers in the Neotropics).
UCB	Unknown Cycle Basic	Molt cycle unknown, but plumage can be positively identified as basic. This code can be expanded to UCA (Unknown Cycle Alternate) when appropriate.
FCJ	First Cycle Juvenile	Juvenile/1st basic plumage - juvenile plumage only occurs within the 1st molt cycle
FPF	First Preformative Molt	Molting from juvenile plumage into the formative plumage which only occurs within the 1st molt cycle.
FCF	First Cycle Formative	Formative plumage - formative plumage only occurs within the 1st molt cycle.
FPA	First Prealternate Molt	Molting from formative plumage into 1st alternate plumage.
FCA	First Cycle Alternate	Alternate plumage within the 1st cycle.
SPB	Second Prebasic Molt	Molting from formative or 1st-alternate plumage into 2nd basic plumage.
DPB	Definitive Prebasic Molt	Molting into definitive basic plumage.
DCB	Definitive Cycle Basic	Definitive basic plumage
DPA	Definitive Prealternate Molt	Molting into definitive alternate plumage.
DCA	Definitive Cycle Alternate	Definitive alternate plumage.
FAJ	After Juvenile Plumage	Birds can not be aged more precisely than after juvenile plumage. This code is commonly used with species that have complete preformative molts (indistinguishable from definitive basic plumage, e.g. many woodcreepers and furnarids in the Neotropics).
SAB	After Second Basic Plumage	Has at least surpassed the second basic plumage - the 'A' for 'after a given plumage' is commonly used for birds that have incomplete prebasic molts such as woodcreepers, large seabirds, and large raptors. This code can be expanded to TAB, 4AB, 5AB, etc.

## Sexing

All birds that are banded are also sexed (Codes: unknown = 0; male = 4; female = 5). Do not guess at a bird's sex; if you're not certain ask the BIC. If no one can decide on the bird's sex, record it as unknown. Use the probable sex column on the banding datasheet to record an educated guess, if you have one. Sexing criteria for each species can be found in *Pyle*.

## Unknowns

Do not guess at a bird's age or sex; if you're not certain ask the BIC who will likely be diligently watching over your shoulder or in close proximity. If no one can decide on the bird's age/sex, record it as unknown. Use the probable age/sex columns on the banding datasheet to record an educated best guess, if you have one. When describing the age of birds at LPBO, stick to the banding terminology and avoid the somewhat imprecise terminology found in most field guides (e.g., say hatch year, not juvenile or immature, for a bird that hatched in the present year). Aging criteria for each species can be found in *Pyle and WRP* literature.

If the species you are banding can only be sexed by cloacal protuberance or a brood patch and neither are evident, the bird should be recorded as code 0 (unknown) x 9 (Other). If the species can be sexed by plumage but the individual is intermediate or unknown by plumage it should be recorded as 0 (unknown) x 1 (plumage). This is the same for species that can be sexed by wing length. Individuals that have wing lengths within the overlap should be recorded as 0 (unknown) x 4 (wing length).

## Fat

Birds use fat as fuel to sustain migratory flight, stay warm during the cold, or to survive for short periods when food isn't available. A visual assessment of fat can indicate whether a particular bird has just completed a migratory flight (has little or no fat) or is about to depart on one (has a large amount of fat). To measure fat, hold the bird in the customary grip and part the feathers by blowing on the furcular hollow in front of the breast-bone, under the wing, and at the base of the belly. The feathers will part along their natural tracts. Look at the amount of distinct yellow or orange fat deposits, contrasting with the adjacent red muscle tissue. Compare what you see with the chart in the banding lab to determine a fat score (0 to 7; Figure: 10). One has not properly assessed fat level if the entire bird has not been inspected.

## Checking for Ticks

LPBO collaborates on a number of projects tracking the spread of ticks and related infectious diseases through birds. This is usually of greatest interest in spring and on Neotropical migrants. Checking for ticks is easiest while inspecting the fat levels on birds. Ticks are most commonly found around the bills, eyes, and in and around the ear cavity. If one or more ticks are discovered, remove them by grabbing the tick as close to the skin as possible and pulling firmly. Do not remove ticks from inside the ear as you may cause more damage than you intended. Once removed you can store the tick following the instructions and receptacles provided in each banding lab.

## Wing Chord

Wing chord measurements can be useful for identifying some cryptic species (e.g., *Empidonax* flycatchers), and for separating the sexes in selected species. See the table of accepted wing cut-offs posted in each laboratory. The wing chord measurements in *Pyle* are generally not considered reliable for sexing birds, but can be used as helpful guidelines. Wing chord is measured using un-flattened wing, as opposed to the flattened wing used in Europe. At LPBO, the only exceptions when flattened wing is used is for shorebirds, and when identifying *Geothlypis* (formerly *Oporornis*) warblers (e.g., Connecticut, MacGillivray's, and Mourning warblers). Tail and other measurements may be taken for special species. See the NABC manuals and *Pyle* for more information on those techniques.

## Skulling

Skulling takes practice, but once you get it, you'll be able to age virtually every passerine in the fall with complete confidence. The degree of skull development (pneumatization) is scored between 0 and 6 (Figure: 11). Sometimes skull and plumage or moult don't match up. In these cases, skull should take precedence over plumage or moult, because skull is generally considered to be a more reliable and less plastic characteristic. See *Pyle* for a more through explanation skulling. Irrespective of other ageing criteria, LPBO strives for a minimum of 75% of birds skulled during fall.

## FAT SCORES

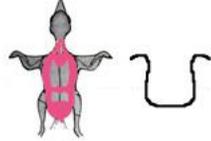
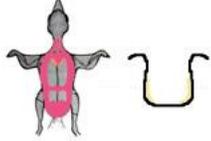
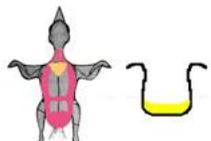
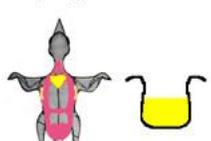
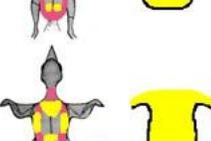
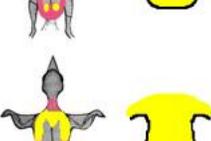
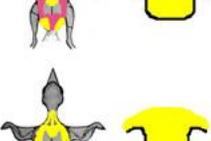
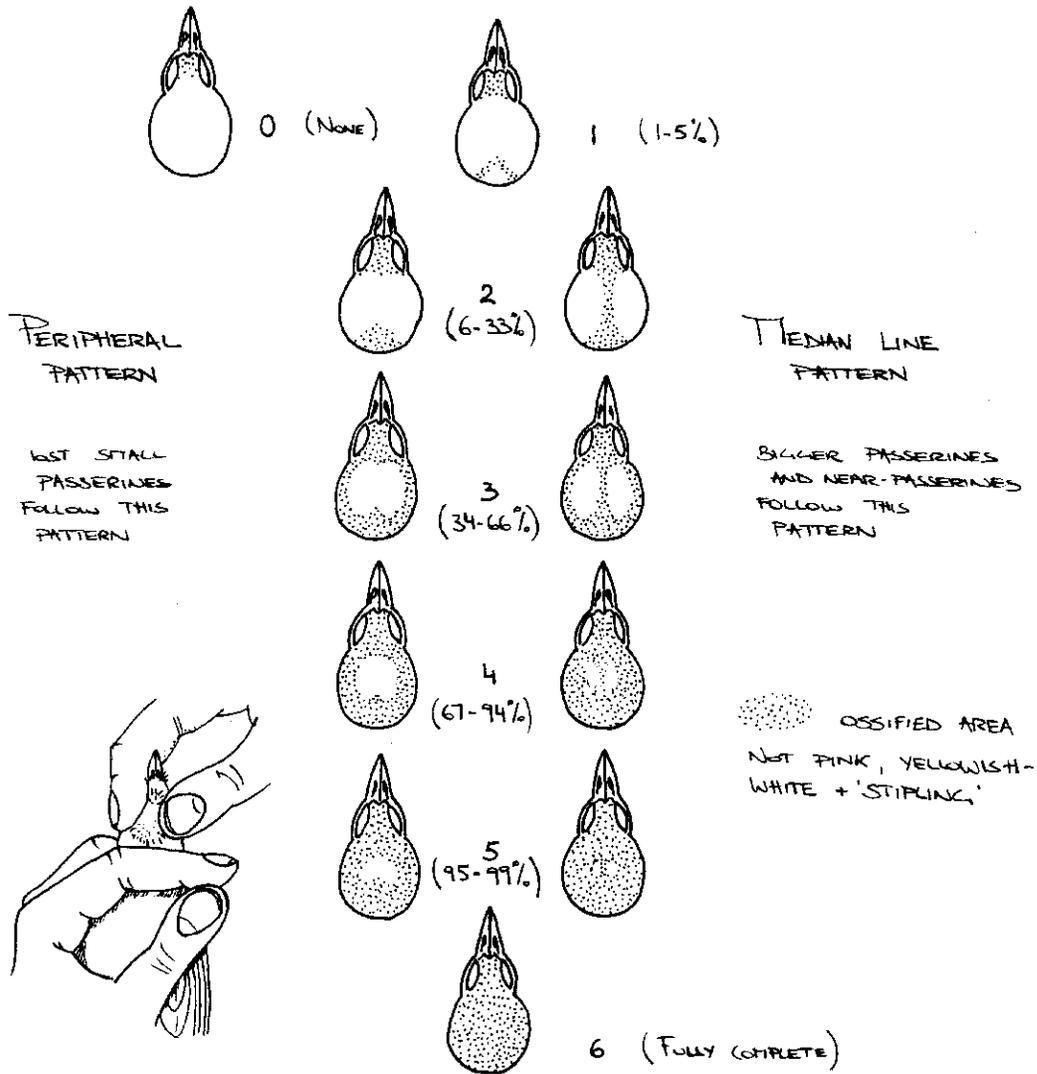
	SCORE	FURCULUM	ABDOMEN
	0	No fat	No fat
	1	Trace, furcular hollow less than 5% full	None or a trace
	2	Thin layer, less than one third full (5 - 33%)	Trace or thin layer
	3	One-half full (50%)	Small patches, but not covering some areas
	4	Furcular hollow full (100%) fat in wingpits	Covering pad, slightly mounded
	5	Fat slightly bulging above furcular hollow and wingpits	Well mounded
	6	Fat greatly bulging in all areas	Greatly distended
	7	Excessive; fat nearly joined from all areas	Excessive, meets furcular hollow

Figure 10: Fat Chart

# Skull Pneumaticization Codes



(See back for detailed instructions and descriptions)

Figure 11: Skulling Chart

## Measuring Weight

LPBO weighs all birds in a specially-made tube on an electronic balance with a maximum capacity of 1200 g; do not weight birds that are heavier than this on the balance. Birds are weighed with the band on. After the band is on, put the bird in the appropriate-sized tube upside down, making sure that its feet are tucked in. With the bird in the tube and on the scale, tare the balance, and when it reads 0, then release the bird. Placing the empty tube back on the scale will reveal the exact “negative” weight. Weighing the birds this way will ensure that a weight is never lost accidentally if not recorded, and puts the tube back on the scale ready for the next bird. Cavity-nesters and Winter Wrens in particular are prone to escaping from the sleeves, so keep one hand over the top of the sleeve to catch them if they wiggle out. Weigh the bird as the last step in the banding process so it can be released out of the banding lab's hatch directly from the sleeve. Large birds such as Common Grackles, Mourning Doves, and Northern Flickers need to be released by hand. If it is necessary to remove a bird from the sleeve manually, **do not pull on its tail**; you'll pull it off. Be gentle and shake the bird down far enough in the sleeve for you to get a grip on the legs or body. If this doesn't work, try dumping it into a bird bag. If a bird escapes before being weighed (or otherwise measured), make a note in the comments column on the banding datasheet.

Electronic balances are very delicate and very expensive, please be gentle with them. Turn balances off at the end of the day.

## Recaptured Birds

Recaptured birds (recaps) are birds that are captured but already have a band. They are treated similarly to newly banded birds (above) but with a few important distinctions; the first being that they're more important than an unbanded bird. The phrase *'just a recap'* is never to be uttered at LPBO. Recaptured birds fall into three categories:

1. Repeats;
2. Returns; and
3. Foreign recoveries.

A repeat bird is one that has been caught for at least a second time at the same location at which it was originally banded. It describes birds that that have apparently not left the neighbourhood in the past 90 days. A return bird is a bird which has been captured at the same location it was originally banded at after more than 90 days. A foreign recovery refers to a bird that was originally banded elsewhere and was subsequently recovered at Long Point.

## Processing Recaptures

Even when a captured bird is already banded, it must always be brought back to the banding lab to be processed. Never release an already banded bird unless you are 100% sure that it is a same day repeat. Foreign recoveries are extremely rare and we can't afford to have them accidentally released because of an erroneous assumption. The most organized banders will have a list of the day's first banded birds in the lab or, on their person, so that numbers can be consulted in the field and same-day recaptures can

be released at the net. The basic method for processing recaptures at LPBO is exactly the same as for newly banded birds except for the following:

- Check for a band. If there is a band then proceed, below;
- Read the entire band number twice (forward and backward) to the scribe (who will write it on a note pad);
- The scribe will determine if the bird is a same day repeat. If it is a same day repeat, it can be released immediately.
- If it is not a same day repeat, the scribe will create a new record for the bird on the recapture.
- Make sure the existing band fits properly and adjust as required;
- Photograph the bird if it is a rare species, unusual plumage or thought to be a foreign recapture;

## Reading Band Numbers

Unlike with newly banded birds, where often only the last two digits on the band need to be read, with recaptures the whole band number must be read, twice. Read it left to right and right to left, forward, and backward, and if time permits, the scribe should repeat the number to the bander. Do not make a mistake reading the band number on a recaptured bird. Ask for help or utilize a magnifier if you are having trouble reading the numbers. Missing a foreign recapture because of a misread band number is unacceptable.

## Recapture Records

Recaptures are a perfect opportunity to double-check the ID, age, sex and measurements. Banders should not reference original capture data or let it influence their decision until after all the data has been recorded. If there is a discrepancy between the original banding data and recapture data, make the best assessment given the information you have at the time but do not correct original data without authorization of the BIC. If a banded bird is found dead or is brought to the observatory by a member of the public, create a recapture record for the bird. Record all the usual information, plus how the bird died and the name and address of the person who brought it in (if it was a member of the public). LPBO will submit the record on the finder's behalf.

## Recording Banding Data

During any banding operation, the following essential information **must** be recorded: band number, species, age, sex, location, and date. At LPBO, we also routinely record wing chord, weight, fat condition, time trapped and time weighed, and trapping device. Brief notes on plumage aberrations, parasites, age, infections, etc. are also recorded. Any modifications from the normal protocol or special data collected on any bird needs to be recorded in the comments. For birds that are in active moult, a full description of the moult pattern is often recorded on a separate card/spreadsheet tab (Appendix VI).

Banding sheets, or spreadsheets, are filled in as you band. Codes are given on the back of each sheet (Figure 12). Black, ball-point pen is only acceptable on these sheets and cards. Pencil does not photocopy clearly and the ink from felt tip pens tends to run. Liquid White-out is used to correct mistakes. Print everything legibly! Right-justify all data in the spaces provided. Record the full band number at the top of the sheet and underline the prefix.

Do **not** use ditto marks on the banding sheets when information is repeated on successive data lines (they can be misinterpreted as the number "11"). Instead, denote repeated entries with a solid horizontal line (Figure 12). This **greatly** facilitates computer entry later on. For retraps, always record everything in full with the exception of date.

If a partial string of bands is to be used (e.g. because it was started in the previous season), then record the first band number on the appropriate line on the banding sheet, not at the top of the sheet. Previously used bands should be indicated by filling in "Bands Previously Used" in the blank space (Figure 12).

Record lost or destroyed bands as "Band Lost" (BALO) or "Band Destroyed" (BADE) on the appropriate line for that band. The next data line must be filled out **completely** (e.g. re-enter the data as if you were starting a new sheet), with no ditto lines (Figure 12). This avoids confusion for the proofers and key-punchers, who are frequently non-birders/non-banders and can't second-guess you (again, make sure they can decipher your printing too!).

Note that the species names and [4 and 6-letter species codes](#) used in the banding operation are not always the same as those conventionally used by birders, or in field guides, etc. Only the codes provided by the bird banding office are acceptable. These match up with the codes that are imbedded in the data entry program, and are also the same as those used for ET computerization. It is important that all banders use the same codes!



**Banding Data Form Codes**

<b>Age</b>	<b>Sex</b>	<b>How Aged and Sexed</b>	<b>Trap Type</b>			<b>Moult (Active Moult)</b>	
0 Unknown	0 Unknown	1 Plumage	MN	Mist net	MX	Non-standard MN	P Present (moult card required)
1 After hatch year	4 Male	2 Skull	HN	Hawk net	GX	Non-standard GT	A Absent
2 Hatch year	5 Female	3 Eye colour	GT	Ground trap	JX	Non-standard JT	
4 Local (nestling)		4 Wing length	JT	Jay trap	HX	Non-standard HT	
5 second year		5 Cloacal protuberance	HT	Heligoland trap			
6 After second year		6 Brood Patch	NB	Nest Box			
7 Third year	(NOTE: Probable Age/Sex	7 Mouth/Bill colour	HA	Hand			
8 After third year	field uses same codes)	8 Culmen length	BW	Bow net			
		9 Other (specify in notes)	PT	Potter trap			
			OT	Other (specify in notes)			

<b>Status</b>	<b>Location</b>		
300 Normal banded bird	01 Eastern Tip of Long Point	23	Sewage Lagoons TRES grid
301 Colour banded bird	02 Breakwater	28	Rondeau Prov. Park-10 km E of Blenheim
302 Equipped with a neck collar	03 Backus Woods	43	St. Williams forest
318 Blood sample taken	11 Tip Tree Swallow grid	53	Mud Creek TRES grid
389 Equipped with radio transmitter	13 Old Cut/LP Prov. Park	09	Other (specify in notes)
500 Injured released in under 24 hours	14 S. Walsingham/Hahn Woods		
700 Injured, rehabilitated, released. Held for more than 24 hours			
685 Combination of two or more codes			

**Remark Code- to be used only by data proofers**

** Reserved for Custom Remark	08 Injured, held for less than 24 hrs, released healthy
DO Date sequence OK	09 Injured, held for greater than 24 hrs, rehabilitated, released healthy
01 Could not age or sex - released	21 Radio transmitter attached
02 Band size used in error, fit ok	25 Measured Leg for Correct Band Size
03 Sex not recorded	
04 Age not recorded	
07 (MSWO ONLY) Sex determined using the wing-mass DFavailable from Project OwlNet	

Figure 12. Example of LPBO's banding sheet.

1575562685

# LPBO Daily Log

Day Month Year Area  
 10/10/2004 0.1

Volunteer Effort			
Vol Initials	Observers(Migration Program)	Field hrs	cd
CAF	BIC: Christian Fris	8	01
RWW	Ross Wood	8	01
D.R.R	Dave Restivo	6	02
ETAW	Anne Wynn	5	02
D.J.G	Derek Grnar	6	01
T.A.B	T. Tanya Beachy	5	02
Other Station Personnel (swallows, BBC, etc)			

Coverage Code 4

	Weather			
	Dawn	Cens.	Noon	Dusk
Wind Direction	N	N.W	N	N
Wind Strength	3	3	2	1
Cloud(10ths)	7	8	9	2
Temp. (C)	11	11	10	16
Precipitation				
Synopsis:				

Census			
Start Time (24hr)	End Time (24hr)	Duration(min)	Initials
8:31	9:46	75	R, W, W
Supplementary Censuses? (Y/N)			
Y			

Trap	# Traps	Trap	
		Hrs	Min
JT	2	12	00
GT	4	24	00
Other			
Drives			
HT	0	7	

Extra Nets	# of Nets	Hrs Min	
		Hrs	Min
30mm	4	13	15
>30mm	2	4	50
Owl Nets			

Migration Monitoring Summary			
	Band	Census	ET
# individuals	47		
# spp	19	35	74
Season-to-Date Banding Total		15,37	

Net	Open	Close	Ditto	Re-Open	Re-Close	Ditto	Re-Open	Re-Close	Ditto	Total	
										Hours	Min
1											
2			<input type="checkbox"/>			<input type="checkbox"/>			<input type="checkbox"/>		
3	10:20	12:45	<input type="checkbox"/>			<input type="checkbox"/>			<input type="checkbox"/>	2	25
4	06:45	12:45	<input type="checkbox"/>			<input type="checkbox"/>			<input type="checkbox"/>	6	00
5	10:20	12:45	<input type="checkbox"/>			<input type="checkbox"/>			<input type="checkbox"/>	2	25
6	06:45	10:15	<input type="checkbox"/>			<input type="checkbox"/>			<input type="checkbox"/>	3	30
7			<input type="checkbox"/>			<input type="checkbox"/>			<input type="checkbox"/>		
8	11:00	12:45	<input type="checkbox"/>			<input type="checkbox"/>			<input type="checkbox"/>	1	45
9	06:45	08:10	<input type="checkbox"/>	11:00	12:45	<input type="checkbox"/>			<input type="checkbox"/>	3	10
10			<input type="checkbox"/>			<input type="checkbox"/>			<input type="checkbox"/>		
11			<input type="checkbox"/>			<input type="checkbox"/>			<input type="checkbox"/>		
12			<input type="checkbox"/>			<input type="checkbox"/>			<input type="checkbox"/>		
13			<input type="checkbox"/>			<input type="checkbox"/>			<input type="checkbox"/>		
14			<input type="checkbox"/>			<input type="checkbox"/>			<input type="checkbox"/>		
Grand Total										12	15
Net Hr/Min											

LPBO Daily Log

Day Month Year Area  
 10/10/2004 01

Narrative:

Summary of Bird Migration:

Today started off slow because of wind & cold, but things sped up a bit throughout the morning. our MX nets pulled thru for us again, Yay! we banded a beautiful Savannah Sparrow - a lifer for me! Later that afternoon, after some time at the Tip, I took a wonderful walk which ended in a very "enlightening" venture out to the tippy tip of the Tip - I took advantage of its desertedness - not a gull or a cormorant there - except for some dead Ringers, a dead sanderling, & a poor lonely Greater Black-backed gull dying of Botulism -- Real life, raw & out in the open - w/ a gorgeous landscape surrounding me - It reminded me of the Galapagos & the lovely ision

Facilities & Site Changes/Activities:

of Española... ~~so~~ so it was an absolutely gorgeous sunset behind the lighthouse - I watched a Dunlin, some sanderlings, & a Black-bellied plover scamper around before heading back - fun stuff.

Other Remarks:

Yay Stars! I learned several new constellations tonight - \*

Signature: *Tiffany Beachy*

Unusual Species						
Species Code	Species Name	Band	Rec	Cens	Obs	ET
RWBK	Rusty Blackbird			12	15	22
CCSP	Clay-Coloured Sparrow			1		1
OLWA	Orange-crowned Warbler				1	1

Old Cut Estimated # Visitors	
Old Cut Total # Visitor Groups	
Tip Total # of boats on Shore	1
Lighthouse Attraction Put details in Narrative	
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Not Checked	

Monarch Butterfly Summary	
Afternoon Census	43
Comments:	

2738562687

8376440912

## Species Totals

Day 1,0 / Month 1,0 / Year 2004 / Area 0,1

Species	Band	Rec.	Cens	Obs	ET
Common Loon				6	6
Pied-billed Grebe					
Double-cr. Cormorant			9500	15600	20000
American Bittern					
Great Blue Heron			1		1
Green Heron					
Tundra Swan					
Mute Swan					
Canada Goose				2	2
Wood Duck					
Green-winged Teal					
American Black Duck					
Mallard			3	1	4
Northern Pintail					
Blue-winged Teal					
Gadwall					
American Wigeon					
Canvasback					
Redhead				6	6
Ring-necked Duck					
Greater Scaup			650	100	250
Lesser Scaup				1	1
Unid. Scaup				18	18
White-winged Scoter					
Common Goldeneye					
Bufflehead					
Common Merganser					
Red-br. Merganser					
Unid. Merganser				40	40
Ruddy Duck					
Turkey Vulture				1	1
Osprey					
Northern Harrier					
Sharp-shinned Hawk				12	12
Cooper's Hawk					
Broad-winged Hawk					
Red-tailed Hawk				1	1
American Kestrel				1	1
Merlin				1	1
Black-bellied Plover			4		4
Semipalmated Plover					
Killdeer					
Greater Yellowlegs					
Lesser Yellowlegs					
Sub-total (1)					

Species	Band	Rec.	Cens	Obs	ET
Unid. Yellowlegs					
Solitary Sandpiper					
Spotted Sandpiper					
Ruddy Turnstone					
Sanderling			9		9
Semipalmated Sandpiper					
Least Sandpiper					
Pectoral Sandpiper					
Dunlin			4	1	5
Short-billed Dowitcher					
Unid. Dowitcher					
Common Snipe				4	4
American Woodcock				1	1
Bonaparte's Gull					
Ring-billed Gull			1200		1200
Herring Gull			10	40	50
Gr. Black-backed Gull			4	1	5
Caspian Tern				1	1
Common Tern					
Forster's Tern					
Black Tern					
Rock Dove					
Mourning Dove				6	6
Black-billed Cuckoo					
Yellow-billed Cuckoo					
Great Horned Owl					
N. Saw-whet Owl					
Common Nighthawk					
Chimney Swift					
Ruby-thr. Hummingbird					
Belted Kingfisher				1	1
Red-headed Wdpr					
Yellow-bd. Sapsucker			1	3	4
Downy Woodpecker				1	1
Yellow-sh. Flicker			1	2	3
Eastern Wood-Pewee					
Yellow-bd. Flycatcher					
Alder Flycatcher					
Willow Flycatcher					
Trail's Flycatcher					
Least Flycatcher					
Eastern Phoebe	1		4	2	7
Gr. Crested Flycatcher					
Eastern Kingbird					
Sub-total (2)					

Day Month Year Area  
 10/10/2004 01

Species Totals

6701440912

Species	Band	Rec.	Cens	Obs	ET
Purple Martin					
Tree Swallow				8	8
N. Rough-w Swallow					
Bank Swallow					
Cliff Swallow					
Barn Swallow					
Blue Jay			3	3	6
American Crow					
Black-cp. Chickadee					
Red-br. Nuthatch			1	3	4
White-br. Nuthatch				1	1
Brown Creeper	3			5	8
House Wren				2	2
Winter Wren				6	6
Carolina Wren					
Marsh Wren				5	5
Golden-cr. Kinglet	1		5	10	16
Ruby-crowned Kinglet	2		2	6	10
Blue-gray Gnatcatcher					
Veery					
Gray-cheeked Thrush				1	1
Swainson's Thrush				1	1
Hermit Thrush	1	1	4	10	16
Wood Thrush					
American Robin			3	12	15
Gray Catbird	1			1	2
Brown Thrasher					
American Pipit					
Cedar Waxwing			4	10	14
European Starling			7	5	12
Blue-headed Vireo				1	1
Warbling Vireo					
Philadelphia Vireo					
Red-eyed Vireo					
Tennessee Wa					
Nashville Wa	1			2	3
Yellow Wa					
Chestnut-sided Wa					
Magnolia Wa					
Cape May Wa				1	1
Black-thr Blue Wa					
Myrtle Wa	6		45	69	120
Black-thr Green Wa	1		1	1	3
Blackburnian Wa					
Sub-total (3)					

Species	Band	Rec.	Cens	Obs	ET
Western Palm Wa	3		2	20	25
Bay-breasted Wa					
Blackpoll Wa					
Black-and-white Wa					
American Redstart					
Ovenbird					
Northern Waterthrush	1				1
Mourning Warbler					
Common Yellowthroat				1	1
Wilson's Wa					
Canada Wa					
Scarlet Tanager					
Northern Cardinal					
Rose-br Grosbeak					
Indigo Bunting					
Eastern Towhee			1	2	3
Am Tree Sparrow					
Chipping Sparrow			2	7	9
Field Sparrow	1		1	6	8
Vesper Sparrow				1	1
Savannah Sparrow	1			2	3
Fox Sparrow					
Song Sparrow	2		2	7	11
Lincoln's Sparrow					
Swamp Sparrow	1			8	9
White-thr Sparrow	4		12	25	41
White-cr Sparrow	2		2	10	14
Slate-colored Junco	2		3	5	10
Bobolink					
Red-winged Blackbird			70	220	290
Eastern Meadowlark			1		1
Common Grackle				4	4
Brown-hd Cowbird					
Baltimore Oriole					
Purple Finch					
House Finch				7	7
Pine Siskin				31	31
American Goldfinch	13		55	122	180
House Sparrow					
Sub-total (4)					
Total #	47				
# of Species	19		35		24

Figure 13. Example of Daily Log Sheets

## Appendix I: The Daily Routine

### Daily Migration Monitoring Schedule - Old Cut

		Spring		Fall
0.5 hr before sunrise	Banding (20 min net rounds) and birding	<b>Open mist nets and set traps</b> <ul style="list-style-type: none"> <li>• 14 mist nets</li> <li>• 4 ground traps and J-trap (April 10-May 21 only)</li> </ul>	Banding (20 min net rounds) and birding	<b>Open mist nets and set traps</b> <ul style="list-style-type: none"> <li>• 14 mist nests</li> <li>• 1 hawk net</li> <li>• 4 ground traps and J-trap (October 1-Nov 15 only)</li> </ul>
Sunrise		<b>Morning watch*</b> <ul style="list-style-type: none"> <li>• Platform for 1 hr</li> </ul>		<b>Morning watch*</b> <ul style="list-style-type: none"> <li>• Platform for 1 hr</li> </ul>
1 hr after sunrise		<b>Census</b> <ul style="list-style-type: none"> <li>• 1 hr maximum</li> <li>• 1-3 people</li> <li>• Add data to daily log sheet</li> <li>• Report census results to the Tip and Breakwater</li> </ul>		<b>Census</b> <ul style="list-style-type: none"> <li>• 1 hr maximum</li> <li>• 1-3 people</li> <li>• Add data to daily log sheet</li> <li>• Report census results to the Tip and Breakwater</li> </ul>
5.5 hr after sunrise		<b>Close all nets and flip open all traps</b> <ul style="list-style-type: none"> <li>• Clean banding lab</li> <li>• Flip bird bags</li> <li>• Record banding and recapture totals, and effort data on daily log sheet</li> <li>• Double check nets</li> </ul>		<b>Close all nets and flip open all traps</b> <ul style="list-style-type: none"> <li>• Clean banding lab</li> <li>• Flip bird bags</li> <li>• Record banding and recapture totals, and effort data on daily log sheet</li> <li>• Double check nets</li> </ul>
2 PM to 5PM	Chores and additional birding	<b>Supplementary census</b> <ul style="list-style-type: none"> <li>• No limits on time or observers</li> </ul> <b>Data entry</b> <ul style="list-style-type: none"> <li>• Enter completed and proofed banding datasheets and today's recapture cards in Band Manager</li> </ul> <b>Additional Chores</b>	Chores and additional birding	<b>Supplementary census</b> <ul style="list-style-type: none"> <li>• No limits on time or observers</li> </ul> <b>Data entry</b> <ul style="list-style-type: none"> <li>• Enter completed and proofed banding datasheets and today's recapture cards in Band Manager</li> </ul> <b>Additional Chores</b>

1 hr before sunset		<b>Evening watch</b> <ul style="list-style-type: none"> <li>Platform for 1 hr</li> </ul>		<b>Evening watch</b> <ul style="list-style-type: none"> <li>Platform for 1 hr</li> </ul>
0.5 hr after sunset		<b>Daily wrap-up</b> <ul style="list-style-type: none"> <li>Lock buildings and check nets</li> <li>Radio call</li> <li>Listen for nocturnal birds</li> <li>ETs</li> </ul>	Owl Banding (60 min net rounds)	<b>Begin standard owl banding protocol</b> <ul style="list-style-type: none"> <li>3 owl nets</li> <li>Mist nets 2, 3, 7, 13, 14</li> <li>1 hawk net</li> </ul>
4.5 hr after sunset				<b>Daily wrap-up</b> <ul style="list-style-type: none"> <li>Lock buildings and check nets</li> <li>Radio call</li> <li>Listen for nocturnal birds</li> <li>ET's</li> </ul>
				<b>End standard owl banding protocol</b> <ul style="list-style-type: none"> <li>Close nets or continue banding until up to 1 hr before sunrise</li> <li>Recharge MP3 player</li> </ul>

**\*Monday is garbage day:** Put all garbage and recycling at the bottom of the driveway immediately after opening nets.

## Daily Migration Monitoring Schedule - Breakwater

		Spring		Fall
<b>0.5 hr before sunrise</b>	Banding (30 min net rounds) and birding	<b>Open mist nets and set traps</b> <ul style="list-style-type: none"> <li>• 13 mist nets</li> <li>• 2 ground traps and J-trap (April 10-May 21 only)</li> </ul>	Banding (30 min net rounds) and birding	<b>Open mist nets and set traps</b> <ul style="list-style-type: none"> <li>• 14 mist nests</li> <li>• 1 hawk net</li> <li>• No ground traps or J-trap</li> </ul>
<b>Sunrise</b>		<b>Morning watch</b> <ul style="list-style-type: none"> <li>• Deck and/or lake for 1 hr</li> </ul>		<b>Morning watch</b> <ul style="list-style-type: none"> <li>• Deck and/or lake for 1 hr</li> </ul>
<b>1 hr after sunrise</b>		<b>Census</b> <ul style="list-style-type: none"> <li>• 1 hr maximum</li> <li>• 1-2 people</li> <li>• Add data to daily log sheet</li> <li>• Report census results to the Tip and Old Cut</li> </ul>		<b>Census</b> <ul style="list-style-type: none"> <li>• 1 hr maximum</li> <li>• 1-2 people</li> <li>• Add data to daily log sheet</li> <li>• Report census results to the Tip and Old Cut</li> </ul>
<b>5.5 hr after sunrise</b>		<b>Close all nets and flip open all traps</b> <ul style="list-style-type: none"> <li>• Clean banding lab</li> <li>• Flip bird bags</li> <li>• Record banding and recapture totals, and effort data on daily log sheet</li> <li>• Double check nets</li> </ul>		<b>Close all nets and flip open all traps</b> <ul style="list-style-type: none"> <li>• Clean banding lab</li> <li>• Flip bird bags</li> <li>• Record banding and recapture totals, and effort data on daily log sheet</li> <li>• Double check nets</li> </ul>
<b>2 PM to 5PM</b>	Chores and additional	<b>Supplementary census</b> <ul style="list-style-type: none"> <li>• No limits on time or observers</li> </ul> <b>Data proofing</b> <ul style="list-style-type: none"> <li>• Proof completed banding datasheets,</li> </ul>	Chores and additional	<b>Supplementary/Monarch census</b> <ul style="list-style-type: none"> <li>• No limits on time or observers</li> <li>• Record all Monarchs on daily log sheet</li> </ul> <b>Data proofing</b>

		retrap cards and past daily log sheets  <b>Additional Chores</b>		<ul style="list-style-type: none"> <li>• Proof completed banding datasheets, retrap cards and past daily log sheets</li> </ul> <b>Additional Chores</b>
<b>1 hr before sunset</b>		<b>Evening watch</b> <ul style="list-style-type: none"> <li>• Deck for 1 hr</li> </ul>		<b>Evening watch</b> <ul style="list-style-type: none"> <li>• Deck for 1 hr</li> </ul>
<b>0.5 hr after sunset</b>		<b>Daily wrap-up</b> <ul style="list-style-type: none"> <li>• Radio call</li> <li>• Listen for nocturnal birds</li> <li>• ETs</li> </ul>		<b>Daily wrap-up</b> <ul style="list-style-type: none"> <li>• Radio call</li> <li>• Listen for nocturnal birds</li> <li>• ETs</li> </ul>

## Daily Migration Monitoring Schedule - Tip

	Spring	Fall
0.5 hr before sunrise	<b>Open mist nets and set traps</b> <ul style="list-style-type: none"> <li>15 mist nets</li> <li>4 ground traps and 2 J-traps (April 10-May 21 only)</li> </ul>	<b>Open mist nets and set traps</b> <ul style="list-style-type: none"> <li>15 mist nests</li> <li>4 hawk nets</li> <li>4 ground traps and 2 J-traps (Sep 15-Nov 15 only)</li> </ul>
Sunrise	<b>Morning watch</b> <ul style="list-style-type: none"> <li>Block building for 1 hr</li> <li>Shanty for 30 min</li> </ul>	<b>Morning watch</b> <ul style="list-style-type: none"> <li>Block building for 1 hr</li> <li>Shanty for 30 min</li> </ul>
1 hr after sunrise	<b>Census</b> <ul style="list-style-type: none"> <li>1.25 hr maximum</li> <li>1-3 people</li> <li>Add data to daily log sheet</li> <li>Report census results to Old Cut and Breakwater</li> </ul>	<b>Census</b> <ul style="list-style-type: none"> <li>1.25 hr maximum</li> <li>1-3 people</li> <li>Add data to daily log sheet</li> <li>Report census results to Old Cut and Breakwater</li> </ul>
5.5 hr after sunrise	<b>Close all nets and flip open all traps</b> <ul style="list-style-type: none"> <li>Clean banding lab</li> <li>Flip bird bags</li> <li>Record banding and recapture totals, and effort data on daily log sheet</li> <li>Double check nets</li> </ul>	<b>Close all nets and flip open all traps</b> <ul style="list-style-type: none"> <li>Clean banding lab</li> <li>Flip bird bags</li> <li>Record banding and recapture totals, and effort data on daily log sheet</li> <li>Double check nets</li> </ul>
2 PM to 5PM	<b>Supplementary census</b> <ul style="list-style-type: none"> <li>No limits on time or observers</li> </ul> <b>Data entry</b> <ul style="list-style-type: none"> <li>Enter completed and proofed banding datasheets and today's recapture cards in Band Manager</li> </ul> <b>Birding</b> <ul style="list-style-type: none"> <li>Lake watch at Shanty</li> <li>Raptor watch at Cabin</li> <li>Shorebird Survey in NWA</li> <li>TRES grid monitoring</li> </ul> <b>Additional Chores</b>	<b>Supplementary/Monarch census</b> <ul style="list-style-type: none"> <li>No limits on time or observers</li> <li>Record all Monarch data on daily log sheet</li> </ul> <b>Data entry</b> <ul style="list-style-type: none"> <li>Enter completed and proofed banding datasheets and today's recapture cards in Band Manager</li> </ul> <b>Birding</b> <ul style="list-style-type: none"> <li>Lake watch at Shanty</li> <li>Raptor watch at Cabin or BB</li> <li>Shorebird Survey in NWA</li> <li>TRES grid monitoring</li> </ul>

			<b>Additional Chores</b>
<b>1 hr before sunset</b>		<b>Evening watch</b> <ul style="list-style-type: none"> <li>• Block building or Tip for 1 hr</li> </ul>	<b>Evening watch</b> <ul style="list-style-type: none"> <li>• Block building or Tip for 1 hr</li> </ul>
<b>0.5 hr after sunset</b>		<b>Daily wrap-up</b> <ul style="list-style-type: none"> <li>• Radio call</li> <li>• Listen for nocturnal birds</li> <li>• ETs</li> </ul>	<b>Begin standard owl banding protocol</b> <ul style="list-style-type: none"> <li>• 3 owl nets</li> <li>• Mist nets 2, 3, 7, 13, 14</li> <li>• 1 hawk net</li> </ul>
<b>4.5 hr after sunset</b>			<b>Daily wrap-up</b> <ul style="list-style-type: none"> <li>• Radio call</li> <li>• Listen for nocturnal birds</li> <li>• ET's</li> </ul> <b>End standard owl banding protocol</b> <ul style="list-style-type: none"> <li>• Close nets or continue banding until up to 1 hr before sunrise</li> <li>• Recharge MP3 player/batteries</li> </ul>
			Owl Banding (60 min net rounds)

## Appendix II: Rarity Report



### **Bird Studies Canada/ Long Point Bird Observatory**

P.O. BOX 160, Port Rowan, Ontario, Canada N0E 1M0 Tel: (519) 586-3531

#### **RARITY REPORT**

In order that any sight record or banding of a rare species can be accepted for the historical record, it must be properly documented. LPBO cooperators are therefore asked to complete a form in every case where a rarity is being claimed. Guidance as to which species are considered rare in the Long Point area may be obtained from the Migration Program Manager. Each observer should prepare his/her description independently and preferably before consulting any field guides or other literature. PLEASE PRINT.

Species claimed:

No. of birds:

Age:

Sex:

Date(s):

Place:

Time(s) of Observation:

---

Who first saw the bird(s):

Who first identified it:

Other observers (names and addresses):

Any who disagree:

Your previous experience with the species:

Your previous experience with any closely similar species:

(a) Formerly:

(b) Same day:

**Circumstances:**

**Description:**

**Give separate description for (a) in the field (b) in the hand. Include full measurements and wing formula with hand descriptions.**

(Continue on extra sheet if required)

---

Did you refer to any guides/other literature:

(a) at the time:

(b) afterwards:

Finally, is this record 100% certain?

## Appendix III. Sick and Injured Birds

Please refer to the Study Guides for a more thorough treatment of this topic.

"Orphaned" birds should simply be left alone unless they are faced with imminent destruction. Parents will care for many birds on the ground so, unless you are sure the young bird is abandoned, its chances are better if left alone. Pass this information on to people who call in about an "orphan". Fledglings may be carefully placed in a tree to get them beyond the reach of predators. Contrary to popular lore, the parents can't "smell" human scent and will not desert a bird that has been handled by humans.

We often encounter (or are brought) sick and injured birds. Evaluate the bird's condition and determine a likely prognosis. Is it likely to die? Is it just stunned or suffering wing strain? Is a limb broken? There are no easy decisions to make about what steps should be taken. Decisions to employ euthanasia are always difficult but it should be kept in mind that it is often the most humane step to take, especially when dealing with hopelessly mutilated birds. Bear in mind that most birds brought into rehab centres will be euthanized anyway if they can't be released back into the wild. We shouldn't pass birds onto rehab clinics unless survival to release looks like a realistic possibility.

If the bird appears to be reasonably healthy (e.g. stunned), keep it in a warm (very warm), dark, quiet place for at least a half hour and periodically monitor its condition. Wing-strained and stunned birds often make amazing recoveries under such circumstances.

**Injured or sick birds should not be intentionally released with a band, unless the injury is old and healed or unless removing the band is likely to cause the bird more harm.** Note any old injuries in the Notes section on the banding sheets. Always record the details of any new injury on the bird Casualty Report Forms supplied at each station, regardless of whether the bird was banded. These forms must be filled out for all types of injuries except feather loss.

For obvious reasons, euthanasia is always done well away from the public eye. The best method used for larger birds is to suddenly separate the spinal cord by grabbing the head and body and sharply pulling the head away. As gruesome as it sounds, if the head happens to come off in the process, rest assured that the bird died instantly, which is always the most humane objective. Or you can sharply swing the bird by its legs and bang the head hard against a tree trunk or rock. Ducks, etc., should be swung from the head, breaking the neck quickly.

For small birds, you can snap the neck as above, or place the bird in a zip lock bag and fill it with CO<sub>2</sub> (canisters are in Old Cut garage), or depress the sternum by squeezing hard from the sides and pressing downwards. The latter "squeeze" method (once "the" way of euthanasia of small birds) prevents breathing and at the same time stops the heart from beating. While reasonably effective, death is not instantaneous (and birds sometimes revive if you make a half-hearted attempt) and so it is no longer advocated by Animal Care Committees. If in doubt, ask an experienced person to show you exactly how to euthanize a bird.

**Note:** White-throated and White-crowned sparrows are prone to leg "dislocation", for no apparent reason. Usually, the leg will pop back in if you straighten it. Release the bird unbanded.

**Note:** Some birds experience "wing strain" due to the netting operation. In this condition, one wing is slightly bruised or strained. The bird may or may not let it droop a bit or favour it. In any case, the bird will not fly more than a couple of feet, presumably because the wing is sensitive and the bird is favouring it. These birds should be retrieved and held in a quiet, warm (very warm), dark place (up to an hour or more, depending on fat level) before being released. The condition is seldom serious, and nearly always corrects itself fairly quickly. **Always** hand release any bird suspected of having wing strain from ground level (i.e. as low as possible), so that it doesn't come crashing down, injuring itself more seriously.

If a limb is broken and the bird is sufficiently large, healthy and likely to respond to professional treatment, the bird can be brought to any one of the following centres, but phone ahead:

1. Hobbitstee Wildlife Refuge. 1226 concession 4 Walpole, Jarvis, Ontario, Canada. NOA 1J0  
519-587-2980 | chantal@hobbitstee.com
2. University of Guelph's Wild Bird Clinic; about 2 hr drive (tel: 519-824-4120; ext. 4162)
5. Owl Rehabilitation Research Foundation (specialize in owls); Kay McKeever, R.R. #1, Vineland, Ont.; about 2 hr drive (phone 416-562-5986).
6. Margaret Cunningham; waterbird specialist living near Wainfleet near Niagara; about 1.5 hr drive (tel: 905-899-1660)

# Appendix IV: Casualty Report Form



Long Point Bird Observatory  
**Casualty Reports**

Location:  Tip

Year: \_\_\_\_\_

Breakwater

Old Cut

Date	Species			Describe Circumstances	Describe Actions Taken
		<input type="checkbox"/> Injury <input type="checkbox"/> Mortality	<input type="checkbox"/> MN/HN/ON <input type="checkbox"/> GT <input type="checkbox"/> JT <input type="checkbox"/> Lab <input type="checkbox"/> Bird Bag <input type="checkbox"/> Other		
		<input type="checkbox"/> Injury <input type="checkbox"/> Mortality	<input type="checkbox"/> MN/HN/ON <input type="checkbox"/> GT <input type="checkbox"/> JT <input type="checkbox"/> Lab <input type="checkbox"/> Bird Bag <input type="checkbox"/> Other		
		<input type="checkbox"/> Injury <input type="checkbox"/> Mortality	<input type="checkbox"/> MN/HN/ON <input type="checkbox"/> GT <input type="checkbox"/> JT <input type="checkbox"/> Lab <input type="checkbox"/> Bird Bag <input type="checkbox"/> Other		
		<input type="checkbox"/> Injury <input type="checkbox"/> Mortality	<input type="checkbox"/> MN/HN/ON <input type="checkbox"/> GT <input type="checkbox"/> JT <input type="checkbox"/> Lab <input type="checkbox"/> Bird Bag <input type="checkbox"/> Other		
		<input type="checkbox"/> Injury <input type="checkbox"/> Mortality	<input type="checkbox"/> MN/HN/ON <input type="checkbox"/> GT <input type="checkbox"/> JT <input type="checkbox"/> Lab <input type="checkbox"/> Bird Bag <input type="checkbox"/> Other		

## Appendix V. The Basic LPBO Bander Training Protocol

*The following serves only as a very brief summary of our training program. It is not meant to supplement the banders' study guides! Read the Guides thoroughly, more than once!*

Some people are natural-born bird-banders, while others are "all thumbs". If you happen to fall into the latter category, please try to be satisfied at learning at even a slower pace than outlined, or maximizing your contributions to the observatory in other ways. Few people can learn the fine art of bird-banding in a week — many who try often wind up with a succession of heartbreaking disasters! It takes a minimum of one intense month of training to learn to become a competent, independent, bander and it takes years to become proficient. Please take the time to develop the necessary skills.

Casual visitors and novices in general are **never** permitted to extract birds from mist-nets, hold birds or band them, without express consent of the BIC. For example, visitors of **any** kind are **not** permitted to hold birds (this includes school groups). **WE DO HANDS OFF DEMOS ONLY!** However, they are welcome to watch.

Only **authorized** personnel are permitted to handle birds. Authorization comes only from the BIC. At LPBO, your training is almost always conducted by 2 or 3 BICs. BIC's will regularly share details about individuals training progress and their current skill level. No BIC will ever run an operation blind or without receiving a detailed report from the previous BIC about the entire teams skill level, strengths, weaknesses, and how well they work together.

Novices and newcomers are **not** permitted to solo at the banding operation before receiving proper training from a BIC. Indeed, their activities should be closely supervised by an experienced bander. They are usually not permitted to hold, band, or extract birds without first becoming fully acquainted with the banders' study guide.

The following step-wise training procedure is a very rough guide only; some people may proceed slower or faster depending upon their talents and skills. It is more important to ascertain whether the individual has mastered each level, before she/he moves on to the next activity.

**Day 1:** Learn to "scribe" and watch banders in action. Learn the basics of how to set nets properly and how to close them properly, **before** handling any birds! Read over the entire Operations Manual thoroughly. And then read over the entire *Canadian Bander's Study Guide* and the *North American Banders' Study Guide* thoroughly.

**Day 2:** Continue to scribe and watch others in action. Try reading the band numbers on the small band sizes. If your eye-sight and/or coordination are/is bad, perhaps you should consider staying at day #1? Bird-banding takes great hand/eye coordination as well as good eyesight. Never fear though, a good **Scribe** is a wonderful asset and much appreciated! Assuming you and the trainer feel comfortable, this is the first day you'll be permitted to handle (not band) some "easy" birds using the all-important standard "banders grip". You might also be introduced to the "photographer's grip", if not today, then certainly tomorrow.

**Day 3:** Continue with scribing, practice holding easy birds in various grips, and watching the pros in action. Now it's time to try your skill at actually banding an "easy" bird and attempting some ageing, sexing and measuring. REMEMBER, up until now, you are not permitted to extract ANY bird from a mist-net. We'll get to all that tomorrow. Please have patience!

**Day 4:** You've displayed your proficiency at handling birds in various grips, and so now you're given the opportunity to have a crack at extracting some easy birds from mist nets! It's not so hard after all, but aren't you glad you got the basics down first before reaching this step?

**Day 5:** Like Day #4, except your trainer might have you try your hand at extracting progressively more difficult birds (**with** supervision of course!). You'll see how each bird gets tangled in slightly unique (and initially baffling) ways!

**Day 6:** So let's put them all together now—mist-net maintenance, recording data, holding, extracting, banding, measuring, etc. You ought to be feeling fairly confident. But not cocky! The whole process only becomes an "assembly line" after you've banded several hundred birds. Within a month or two, you'll have become a reasonably skilled bird bander.

**Day 7:** You should not "solo" until you've mastered all of the above and only in consultation with the person in charge. Even then, you must always seek and get help from more experienced banders whenever you run into difficulties. And be sure to stick around and watch how the difficulty is resolved, so you'll know how to handle it next time. Over the following weeks (and perhaps months) of practice, you'll suddenly find that the bird that you once thought was "absolutely impossibly" tangled in a net, will be magically extracted in a matter of a minute or two.



