

Rock Point Bird Banding Station Protocol

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Caveat: Protocol and Operations Manual

The purpose of this document is to summarize the protocol for the Spring and Fall Migration Monitoring Program at Rock Point Bird Banding Station. It does contain general operations criteria but is not a technical manual on bird banding. It builds upon the original document prepared by John Miles for Selkirk and on the draft protocol document prepared for Rock Point Bird Banding Station in Fall 2001. We also acknowledge borrowing heavily in relation to format and where applicable to Rock Point, content from the Innis Point Bird Observatory “Field Protocol For The Spring Migration Monitoring Program”.

2. Introduction

The purpose of the Spring and Fall Migration Monitoring Program at Rock Point is to obtain data on neotropical migrants and landbird species, in a scientifically rigorous manner, in order to contribute to continent wide efforts to monitor changes in population levels of these species.

Specifically we want to narrow our focus to look at the neotropical and landbird species which use Haldimand County as part of their migration route.

Since the protocol document is intended to be a practical field manual, it emphasizes what procedures should be followed and how, and places little stress on why particular approaches have been chosen. The purposes of migration monitoring generally, and recommended methods of running a migration monitoring program, are explained in detail in Blancher et al (1994) and Hessel and Ralph (1996).

The written field protocol for Rock Point is designed to indicate how generally-accepted principles of migration monitoring are applied to the study site, and to spell out procedures which are specific to the monitoring program at Rock Point. A written field protocol is necessary to ensure that staff follow the same procedures from day to day and year to year, despite changes in the people involved.

Both the Spring and Fall Migration Monitoring Program consists of standardized banding, a standardized census which will continue for 10 days through the 2008 season at which time it will cease, general observations of birds and calculation of a standardized Detected Total (See note in relation to Detected Total versus Estimated Daily Total) for each species for each day covered by the program.

High priority species for the monitoring program at Rock Point are listed in Figure 1.

Figure 1

Priority list for migration monitoring

Priority list for migration monitoring of regularly migratory Canadian landbird species. Note that raptors are not listed, as they are best monitored using different protocols from other landbirds.

A. Species with <50% of North American (Canada & U.S. only) breeding range covered by BBS, and <60% of their winter range in U.S. and Canada.

Alder Flycatcher
Bay_breasted Warbler
Blackpoll Warbler
Cape May Warbler
Connecticut Warbler
Gray_cheeked Thrush
Lincoln's Sparrow
Magnolia Warbler

Northern Waterthrush
Orange_crowned Warbler
Swainson's Thrush
Tennessee Warbler
Wilson's Warbler
Yellow_bellied Flycatch

B. Species with <50% of North American breeding range covered by BBS, but 60% of winter range in U.S. and Canada..

American Tree Sparrow Dark_eyed Junco
Fox Sparrow
Myrtle Warbler
Ruby-crowned Kinglet
Swamp Sparrow
White-crowned Sparrow
White-throated Sparrow
Palm Warbler

C. Species with <60% of their Canadian and Alaskan breeding range (but 50% of North American range) covered by BBS, and <60% of their winter range in U.S. and Canada.

American Redstart
Black_and_white Warbler
Black_throated Gray Warbler
Black_throated Green Warbler
Canada Warbler
Chipping Sparrow
Common Yellowthroat
Least Flycatcher
Mourning Warbler
Ovenbird

Philadelphia Vireo
Red_eyed Vireo
Solitary Vireo
Tree Swallow
Warbling Vireo
Yellow Warbler

Figure 1 continued

D. Species with <60% of their Canadian and Alaskan breeding range (but >50% of North American range) covered by BBS, but >60% of their winter range in U.S. and Canada (includes some irruptive species and irregular migrants)

American Crow	Hermit Thrush
American Robin	Marsh Wren
Black_capped Chickadee	Northern Flicker
Brown Creeper	Northern Saw_whet Owl
Cedar Waxwing	Pine Siskin
Common Grackle	Purple Finch
Downy Woodpecker	Red_breasted Nuthatch
Eastern Phoebe	Red_winged Blackbird
European Starling	Song Sparrow
Golden_crowned Kinglet	Winter Wren
Hairy Woodpecker	

E. Species with >60% of both their Canadian and North American breeding range covered by BBS, and <60% of their winter range in U.S. and Canada.

Acadian Flycatcher (Do Not Band)

Baltimore Oriole	Indigo Bunting
Bicknell's Thrush	Louisiana Waterthrush
Black_billed Cuckoo	Nashville Warbler
Black_throated Blue Warbler	Northern Parula
Blackburnian Warbler	Northern Rough_winged Swallow
Blue_gray Gnatcatcher	Orchard Oriole
Blue_winged Warbler	Prairie Warbler
Bobolink	Prothonotary Warbler (Do Not Band)
Cerulean Warbler	Purple Martin
Chestnut_sided Warbler	Rose_breasted Grosbeak
Eastern Wood_Pewee	Ruby_throated Hummingbird
Golden_winged Warbler	Scarlet Tanager
Grasshopper Sparrow	Veery
Gray Catbird	Whip_Poor_Will
Great_Crested Flycatcher	White_eyed Vireo
Hooded Warbler (Do Not Band)	Willow Flycatcher
House Wren	Wood Thrush
	Yellow_billed Cuckoo
	Yellow_breasted Chat
	Yellow_throated Vireo

Figure 1 continued

F. Species with >60% of both their Canadian and North American breeding range covered by BBS, and >60% of their winter range in U.S. and Canada.

American Goldfinch

Bewick's Wren

Blue Jay

Brown Thrasher

Brown_headed Cowbird

Eastern Bluebird

Eastern Meadowlark

Evening Grosbeak

Field Sparrow

House Finch

Mourning Dove

Pine Warbler

Red_headed Woodpecker

Eastern/Spotted Towhee

3. Staffing

Rock Point can be run by one person providing the restrictions in relation to open nets and catch totals are adhered to. (See Pg.) It is a matter of law that when only one person is running the station the person be a licensed bander, and capable of acting as Bander in Charge (BIC).

When two or more people are available then all nets can be opened but adherence to provisions in relation to catch totals must still be followed. (See Pg.) Besides a licensed Bander in Charge it is essential that at least one other person be competent in extraction.

A few additional staff will make it easier to run the program, and can help to obtain better coverage of the study site. Staff not essential to the banding program at any particular moment are encouraged to make more or less continuous observations in the count area.

If insufficient staff are available on a particular day to run the full protocol (i.e. to run all net groups), the top priority is the banding, followed by more intensive casual observations during net runs, washroom runs etc. When rain or high winds make banding impossible, staff should spend more time making general observations.

Personnel should be assigned responsibilities commensurate with their skill, knowledge and experience. Training to bring individuals up to required skill levels should not interfere with the protocol but become an integral part of all activities. Limited visitor time is specified in the Rock Point Newsletter in order that staff are not hampered by visitors during the busiest period

of the day.

4. Migration Monitoring Dates

The monitoring program will run six days a week during the period from approximately:

Spring: March 31 to June 10 which is approximately 60 days

Summer: July 21 to Aug. 30 which is approximately 34 days.

Fall: Sept. 1 to Nov. 7 which is approximately 60 days

Total coverage for the year is approximately 150 days.

If an additional licensed bander is available Rock Point would be able to have daily coverage including the Sundays excluded from the above, adding 27 days to the above coverage.

Annual coverage should continue indefinitely into the future.

5. Count Area

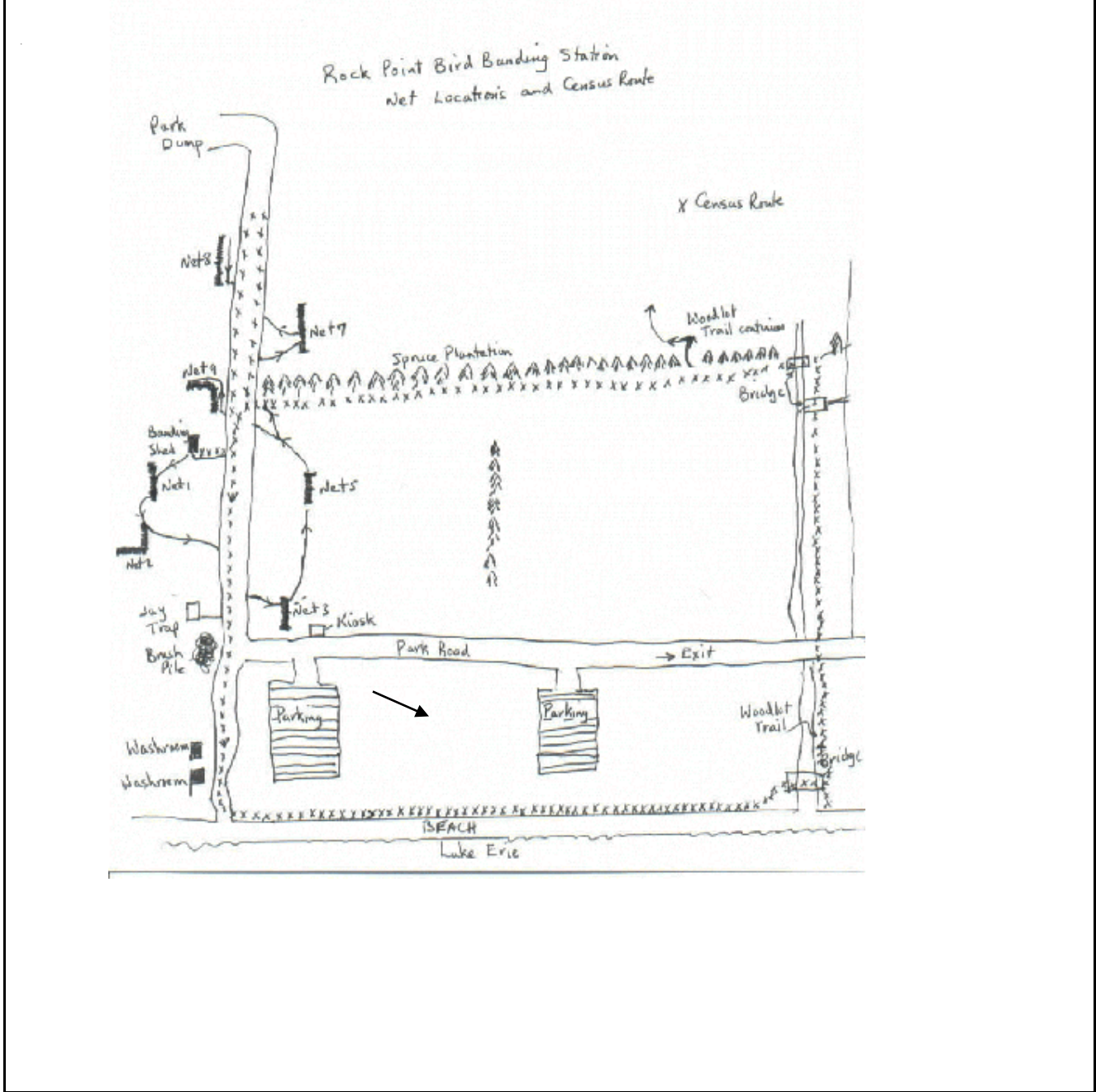
The count area consists of the following: To the south east is Lake Erie, to the east is the Woodlot Trail, to the north the hardwood bush lot, to the west is the No Access Road and the net lanes going west from the Road. (See Figure 2).

For the purpose of General Observations and Detected Totals, any and all birds visible or audible from within this area are countable. In other words, any bird seen or heard by an observer within the zone is countable, regardless of whether the bird is inside or outside the zone and no matter how far outside the zone the bird is. Any individual outside the count area can not contribute bird information obtained while they were not in the count area. (No tip information, or identifications made while leaving or entering the count area.)

6. Daily Count Period

The daily count period begins before sunrise, and concludes 7 hours later, i.e. 6.5 hours after sunrise. This can be modified according to weather, sun as explained further. If weather conditions permit, nets start to be opened when the count period begins, and start to be closed 6 hours later. In other words, the closing net round normally begins 5.5. hours after sunrise, or 1 hour before the end of the count period. Nets should generally be closed in the same order in which they were opened.

Rock Point Net locations



Net 4 is not shown but is located just east past net 3

Key Event of the Day

Figure 3. Summarizes the schedule of **key events** during the count period when there is no adverse weather.

Figure 3. Summary of Key Events during Count Period in relation to Sunrise

Event	When	Example 1: April 26	Example 2: May 31
Count period begins	½ hour before sunrise (rounded to nearest 5 minutes)	5:30	4:50
Nets start to be opened	same as above	5:30	4:50
Sunrise		5:59	5:18
Nets start to be closed	5.5 hours after sunrise	11:30	10:50
Count period ends	6.5 hours after sunrise	12:30	11:50

The log book tally cannot begin until all birds captured in the closing net round have been processed. Extra time from the end of processing to the end of the count period should be used for general observations.

An extended banding period applies when weather or other factors prevent banding throughout the first 6 hours, but weather is suitable for banding during the last hour of the count period when nets would ordinarily be closed. The amount of additional banding that takes place is the lesser of (a.) The time lost because of weather and (b.) one hour.

No birds detected after the count period ends may be included in the Detected Totals. Birds captured but not processed by the end of the count period will be included in the Detected Totals.

8. Net Lane Locations

There are 16 nets in 8 standard net locations (Figure 2) allocated to net groups. A, B, C, D. Except as indicated below, all nets in a group are opened and closed at the same time. Grouping nets is a compromise between the need to minimize (for data analysis purposes) the independent opening and closing of nets, and the need to close some nets in windy conditions or when insufficient staff are available. The decision on which nets to group together reflects considerations such as similarity of exposure.

Group A consists of Nets 1 and 2

Group B consists of Nets 3, 4, and 5

Group C consists of Net 7,8,9

- All nets are 4 or 5 shelf, tethered, black, nylon nets with 30 mm mesh of 70 or 110 denier and 2 ply, deployed to a height of about 2.5 meters. All nets are 12 meters in length with generous pockets. Three types of nets are used:
- Finnish- which have 4 pockets and more bag.
- Polish-which have 5 pockets.
- North Ronaldson which are finer and have 5 pockets.

Opening and closing net lanes takes place in the context of the net group. Times are recorded on the log sheet on the basis of net lane. Mist net captures are also recorded in the data sheet by the specific net lane not by individual net.

Figure 4 Net Groupings

Group	Individual Net #	Number of Nets	Group Total	# to close
A	1	2	4	Any 2
	2	2		
B	3	2	5	Any 2
	4	2		
	5	1		
C	7	2	7	All or none
	8	3		
	9	2		

Banders are primarily responsible for the safety and welfare of the birds they study so that stress and risks of injury and death are minimized.

Net Protocol

1. Open only as many nets as you have help in order to complete processing and net runs within maximum 35 minutes but preferable no more than 30 minutes.

One person- Nets, 1, 2, 3, 4, 5 (9 nets or less).

Two or more People- Nets 1, 2, 3, 4, 5, 7, 8, 9 (All nets ,16).

The number of nets open is dependent upon the experience of the people in extracting birds rather than those who just scribe.

2. When at least 36 birds are caught on a net round the birds will be put into the banding

shed and immediately the nets will be cleared and pulled together until all birds are processed.

3. Summer banding- July and August- the nets will be open from just before dawn until no later than 10 with closing starting no later than 9:30 unless the weather is cool.

Be aware of the sun on nets since some birds can cook if they are upside-down and hanging in the sun. Preferable to have no more than 15 to 20 min. between net runs with reduced nets in hot humid weather.

4. Be aware of approaching weather conditions. Close nets if thunderstorm is threatening.

5. Close nets if nets become wet enough to bead and/or the temperature drops or birds become wet.

6. Close nets if consistent wind has the nets blown out so no bag is present in the net.

Nets

1. During the day, nets that are closed are just pulled down and up so that no birds can be caught.

2. At the end of the banding day nets are pulled up and down towards the middle of the pole, the top panel is then raised about 15 to 20 cm. and the bottom bunched net is then twirled so that it goes into the top panel the net is then hand twirled in the middle and tied.

BEFORE CLOSING NETS MAKE SURE NO BIRDS, LEAVES, TWIGS ETC. ARE IN THE NET. The birds needs no explanation but leaves and twigs makes it very difficult to open the nets in the predawn hours of the next day.

3. Make sure that all nets are properly tied in the middle and that all nets are down. A mental count and conformation from anyone who did nets on their own is needed and/or personally check.

4. Nobody should close nets by themselves at the end of the day unless they have been shown the proper procedure for both furling and tying the nets.

5. Opening nets in the morning should not be difficult if they have been closed properly. Untie the middle tie and the net will twirl then raise the top panel on one pole and lower the bottom panel then move along to the next pole and repeat. If the net does not raise then go back and tweak the net to make it open.

Extracting

IT IS NOT ACCEPTABLE TO HAVE INJURIES OR DEATHS!

This is the most difficult thing done at the banding station. It is also the area where the most casualties occur. Casualties include both injuries and deaths.

Only people who have observed for at least a day and who have been supervised for at least a week should attempt to extract birds by themselves and then only with the approval of the Bander in Charge. Your comfort level and ability will be evaluated but at all times you should be willing to ask for help.

1. Although injuries and deaths do occur in rare cases without any person being around; as when the bird hits a tether line or predation from another source occurs it is NOT acceptable to have injuries or deaths in extracting birds from the net.

2. Deaths are most likely to occur because of the inexperience of the person removing the bird. It is no achievement to spend so much time on one bird that it goes into shock and died just as you get it out of the net. **ASK FOR HELP!**

3. IF YOU FEEL THAT THE BIRD IS TOO DIFFICULT AND THAT YOU HAVE SPENT MORE THAN TWO MINUTES REMOVING IT FROM THE NET THEN ASK FOR HELP FROM THE BANDER IN CHARGE!

4. If a particular species such as Black-Capped Chickadee or some of the biting birds such as Cardinal or Grosbeak are something you do not want to take out of the net then leave them for someone with more experience..

5. Unless you have experience with hawks do not remove them from the net. Pull the panel up where the hawk is positioned and tie it so the hawk can not get away.

6. Injuries occur most often in the wings and the legs. Be aware of the tension on the tether lines of the net. If you are working on one bird you may be pulling on the net which contains another bird and so causing injury or death to that bird.

7. As you remove mesh from the bird be aware of tension on the legs so that you are not pulling sideways to a leg. It will break. If a leg is broken make sure it is brought back to the banding shed for medical attention.

8. Tongues can sometimes be wrapped with thread. If possible loosen the thread and move the loop back and over the arrow points of the tongue. If the threads can not be loosened then use a small twig to loosen them. **AT NO TIME IS IT ACCEPTABLE TO PULL ON THE TONGUE SO THAT THE BIRD LOSES ANY PART OF THE TONGUE. ASK FOR HELP!**

9. All birds should be placed in one of the banding bags and a note made of the net number where the bird was caught. All birds should be brought back to the banding shed. Only the Bander in Charge can decide if a bird should be released without any processing.

10. and ALL INJURIES OR DEATHS SHOULD BE REPORTED TO THE BANDER IN ANY CHARGE.

PROCESSING BIRDS

1. All birds are to be brought back to the banding lab in one of the small mesh bags. An exception are hawks which should not be put into the bags and should be brought back using the ice cream grip and processed immediately.
2. Birds are placed on hooks according to the net where they were caught. Do not crowd the bags together since smaller birds can suffocate in the bag if too many are on one hook. Use lower or higher hooks for that net number.
3. No bird can be banded without the presence of a Licensed Bird Bander.
 - I. Bird is removed from the bag and species is identified for proper band size.
 - II. Net where bird was caught is recorded along with species on proper page for that band size in the Field Data Book.
 - III. Band is placed on banding pliers and number checked to make sure it is next in the sequence and the band is opened.
 - IV. Band is then put onto the right leg of the bird making sure that no other band is present on either leg and closed so the ends of the band meet.
 - V. Sex of the bird is recorded either by plumage or cloicial or brood patch.
 - VI. Age of the bird by using skull ossification or plumage characteristics is recorder.
 - VII. Fat level of the bird may be recorded
 - VIII. Wing chord of the bird is measured and recorded.
 - IX. Molt characteristics on the wing are looked at and recorded.
 - X. Bird put into tube and weighed.
 - XI. Bird is released and time of release is recorded.
 - XII. Any bird with wing strain upon release should be, if possible, recaptured and placed in the injury cage for later release. Only compatible species can be placed together.
4. Make sure time for next net round is observed. Time from beginning of previous plus 30 minutes means another net round. If too many birds are left from previous net round and only basic information was recorded (Ring and Fling) then close nets if many birds are present as you proceed on the next round.

Canadian Migratory Monitoring Network Responsibilities

1. That a daily census be taken along a prescribed route which takes at a leisurely walk around 60 minutes to complete. This has been revised and the census route will be reduced and/or eliminated.

1. A record of all birds seen casually through the banding day is also kept and note should be made of this after each net round. These records are entered into the Species Total of the Daily Log under the heading Obs.
2. Special note should be made of birds known to be breeding in the area and they should not be included in the daily total.

Weather Information

Weather information is taken as log book entries are made for net opening.

Dawn information has the following data placed in the Log Book.

Temperature: See the thermometer on the outside of the shed next to the door measure in Celcius.

Rainfall: General comment as to past night as to whether it rained or not.

Wind: Use the chimney smoke as you come into the park to determine wind direction. This can be seen as you turn onto Downey Road.

Wind Speed: Weather station gives a good estimate of wind velocity. An anemometer is also available.

Cloud Cover: Estimate in 10ths.

Data Processing

Field data report is checked over when a sheet is finished. The data is then entered on the computer in the Bandit file. Generally the bander in charge does this data entry. These entries are made as sheets are filled.

Retrapped Birds

A sheet at the front of the field record book is to be used for Retrapped birds. Birds are not recorded if banded on that day or from the previous day. The number must be checked and only the bander in charge makes the decision not to process a bird.

Information on this sheet should be entered without access to the previous data. The time of first banding is later recorded after being looked up at home.

Data Processing CMMN

Information on the daily log sheets is recorded on the CMMN program with all columns being

entered under the appropriate date. Normally the bander in charge is responsible for these entries. They are made as time allows..

. Procedure for Determining Resident and Stopover Individuals

Analysis of migration monitoring data to determine population changes in migrant species requires that newly-arrived migrants be distinguished from non-migrants. In practice, this requires that resident species, and those migrants who have stopped overnight, be estimated.

. What is Resident?

Resident is more difficult to determine and is based on experience in knowing what is usual for the site and what constitutes a migrating bird. Such clues as brood patches and full cloacal protuberance are indicators of breeding birds and are resident to the site. Frequently caught birds are also resident.

Casual observation and census will also determine resident birds in relation to singing in the same location over a period of days.

Seeing the same species day after day may not constitute a resident but a number of individuals moving through the site.

What is a Stopover?

A stopover is a bird that decides for reasons of weather, food, or habitat that Rock Point is a good place to migrate to and stay for a few days. Again a knowledge of what is resident helps to determine what species is a stopover.

Birds that are recaptured the day after being banded are stopovers. Since Rock Point allows 24 hours for a bird to leave the area those birds that are not processed should be included as stopovers. In some situations, such as with Black-capped Chickadees, birds that are frequently caught in the same location may, at the discretion of the Bander in

Charge, not be processed but should be included as Resident or Stopover.

Any recaptured bird which is recaptured within a week of first being banded needs to be evaluated as either a Stopover or as a possible Resident. This can be done by knowing what is probable for resident and what is more probable for a migrant.

Data collected on the above will be entered into the computer data for CMMN under the heading of PKS for each day.

Status Codes and Training at Rock Point

It is understood that training is an ongoing endeavor where individuals with more experience encourage and give information to volunteers and visitors to the Banding Station.

Rock Point has as a secondary to migration monitoring, an educational aspect. This takes the form of:

- public presentations of slides and information outside the banding site such as clubs and classrooms.
- presentations outside the site to campers and other visitors to the Park
- newspaper and magazine articles about seasonal migration within the mark
- banding demonstrations to small groups at the banding lab
- training for students from Colleges and University settings willing to stay at least a week.

In addition to the above is the ongoing training of those individuals who wish to volunteer at the site. This very much takes the form of the willingness of the individual to learn new skills but also and more importantly the individual is given skill advancement providing they demonstrate care and attention for the well being of the birds they may handle.

This advancement goes through the following stages and is coded accordingly.

Skill	Description	Skill Level
Observer	Keen interest in all aspects to do with birds and demonstrates a limited knowledge of bird identification.	0
Observer	Keen interest in all aspects to do with birds and demonstrates a good to very good knowledge of bird identification such that they are a help on observations.	1
Observer/Scribe	Same as 1 above but they prove to be proficient in recording the data given by the bander.	2
Observer/Scribe	Same as 2 above plus they are proficient in recording data and they can properly identify some test birds during banding.	3
Scribe/Extractor	Is proficient at scribing and can with limited assistance safely remove birds from the mist nets but has poor identification skills	4
Scribe/Extractor	Is proficient at scribing and seldom needs assistance in safely removing birds from the mist nets. Has a high degree of accuracy in identifying birds on census and during banding.	5
Scribe/Extractor /Bander	Is proficient in scribing and in extracting such that they can instruct others. Is able to band birds with excellent identification skills and to do all steps required in the	6

	data collection and banding protocol. Contributes to daily observations.	
Sub permit holder	A licensed bander able with no supervision to do all aspects involved in being Bander in Charge. All aspects of Scribe/Extractor/Bander are covered. Identification skills are superb. Able to enter data into computer.	7
Master Bander	All of the above plus overall responsibility in ordering bands and submitting schedules at any banding station.	8

It is hoped that volunteers would wish to reach at least a 6 level although some people never seem to develop the level of identification skills necessary to achieve this level. Those individuals who are willing to commit the time necessary to running the station will be encouraged to apply for a sub banding permit. Ultimately the training hinges on safety to the birds and proper skill development in relation to all aspects of the banding operation. Some people are content just to extract birds, others wish only to scribe, some are excellent at identifying birds in the field but not good with birds in the hand, some prove to be a danger to the birds in relation to extracting. All aspects are evaluated and for those who prove to be a danger, restrictions are put on what they are allowed to do.