

Cabot Head Research Station Migration Monitoring Spring 2012 Report

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Introduction

Cabot Head is a promontory of the northeast headland of the upper Bruce Peninsula in south-central Ontario. Cabot Head Research Station (CHRS) is situated on the western side of Wingfield Basin (at 45°15'N, 81°18'W) near the community of Dyer's Bay. In 2001, Cabot Head was designated as an Important Bird Area (IBA) by Birdlife International for its significant concentrations of migratory bird species (Cheskey and Wilson, 2001). Ontario Parks and Bruce Peninsula Bird Observatory (BPBO) manage Cabot Head Research Station.

The Breeding Bird Survey (BBS) is the principle method for monitoring bird populations in the United States. However, breeding ranges of many species in northern Canada are inaccessible to roadside surveys and are therefore poorly monitored by the BBS method. The Canadian Migration Monitoring Network (CMMN) is a nationwide Bird Studies Canada initiative, enacted to assess changes in populations during migration. There are 21 stations across Canada where data are being collected for each bird species during the spring and fall migrations, typically through a standardized capture and observation protocol. Bruce Peninsula Bird Observatory has demonstrated through data collection since 1998 that Cabot Head is a significant site for monitoring migrating land birds. In recognition of its importance and established migration monitoring effort, BPBO became a member of the CMMN in fall 2003.

Bruce Peninsula Bird Observatory was incorporated as a non-profit charitable organization in 2001 to initiate and direct ornithological assessments and monitoring at Cabot Head and surrounding areas. Migration monitoring has been the primary focus of bird research at Cabot Head since 1998. A standard migration monitoring protocol has been implemented since 2002 and this year we collected data for our 11th spring. This spring BPBO banded 1286 individuals of 65 species bringing the grand total since 2002 to 33,936 birds.

Executive Summary

In this document are summarized the results of migration monitoring at Cabot Head for spring, 2012. Spring fieldwork began on April 16th and ended on June 7th for a total of 55 consecutive days of coverage yielding 3571 net hours with a catch rate of 36.0 birds/100 net hours. A total of 170 species and forms were detected during the monitoring period. A total of 1,286 birds of 65 species were banded and

81 birds of 12 species were recaptured. Weather was dry with very few days of rain and early spring binging warm temperatures. As a consequence, early migrants such as Ruby-crowned Kinglets, Goldencrowned Kinglets and Brown Creepers were banded much lower numbers than normal bring the season total down. The season banding total was the 4th lowest in 10 years. Four species, American Redstart, Myrtle Warbler, Magnolia Warbler and Black-and-white Warbler represent 35% of the banding total, contributing 15%, 8%, 7% and 5% respectively. For most species, banding totals were around average compared to previous springs (see Appendix). There were 8 days with banding total over 50 birds, with the highest day for the spring being May 18th with 93 birds of 21 species banded including 13 warbler species. Three new species were added to the Cabot Head checklist this spring and one species new for the spring season. An Eastern Tufted Titmouse seen on May 2nd, an adult Swainson's hawk seen on May 6th, a Le Conte's Sparrow seen on May 15th and a Yellow-billed Cuckoo banded on May 28th was a season first for this species.

Methods

The migration monitoring program at Cabot Head like all CMMN stations follows a field protocol (established by Heagy et al, 2003, modified from Heagy 2002) as it is essential for the production of population indices that data collection be consistent over the long term. At Cabot Head Research Station, fifteen mist nets are operated for 6 hours starting a half hour before sunrise, weather permitting. Personnel also complete a census done for one hour along a fixed route starting an hour after sunrise, where all birds seen or heard are recorded. Throughout a 7 hour period starting when nets open personnel also record any observations of birds during the morning.

The addition of birds banded, re-captured, daily observations and census create a value called the detected total (DT) which is the total number of a certain species that was observed in the census area for a given day. Estimated totals (ET) are also calculated which allows the personnel to estimate the number of birds likely to have moved through the area despite not physically counting every individual. The estimated total (ET) is used for calculating population trends by the Canadian Migration Monitoring Network from year to year. Supplemental surveys such as visible migration counts and bay watches are completed when circumstances permit.

Migration Monitoring Summary

BPBO opened its nets on April 16th kicking off its 11th spring of migration monitoring at Cabot

Head Research Station. Spring came early to Ontario this year with a mild winter and a heat wave in March. Bruce County saw early migrants moving through before the season opening date of April 16th. On the 14th when nets were being erected, large movements of Golden-crowned Kinglets, Ruby-crowned Kinglets and Brown Creepers were detected on census but moved through quickly due to favorable southerly winds over the next couple days. On the 15th the winds shifted from south to north and blew in a cold front that slowed migration down to crawl for some time. From April 16th to April 30th less than 200 birds were banded. Sharp-shinned Hawks moved through in good numbers during the latter part of April. Only 55 Ruby-crowned Kinglets and 9 Golden-crowned Kinglets were banded this spring, significantly lower than the average. By the time the nets were set up Pine Warblers and Myrtle Warblers were already present in low numbers, only a single Fox Sparrow was observed all season on the 14th before the official start. Throughout April, May and June Ring-necked ducks were observed almost every day during the season, these were probably local breeders nesting at a nearby lake.

Large movements of American Robins, Common Grackles and Red-winged Blackbirds were observed on April 16th with hundreds moving through. Unusual waterfowl seen on Wingfield Basin include Pied-billed Grebe on the 17th as well as 3 Green-winged Teals and 2 Wood Ducks were on the 19th, Raptor movement picked up on the 19th with Red-tailed Hawks, Red-shouldered Hawks seen, as well Turkey Vultures, Osprey and American Kestrel over the next couples days and a Peregrine Falcon on the 21st. Good movements of Ruby-crowned Kinglets and other early migrants were seen on April 19th and one of only a handful of White-winged Crossbills for the season was also seen. A pair of Common Goldeneyes showed up on April 21st and were seen throughout the season, Buffleheads were also seen throughout April. A flock of 40 Pine Siskins was seen during census on the 23rd and an adult male Merlin was banded. A pair of Northern Harriers was seen on the 24th and occasionally through April. The 25th saw large movements of waterfowl including Long-tailed duck, Red-necked Grebe, Horned Grebe and one of only a few Northern Shovelers for the spring. The last few days of April were characteristically rainy and windy but birds started to move through in larger numbers. On the 27th over a hundred Common Loons flew by as well as good numbers of Long-tailed ducks, White-winged Scoters and 7 Red-throated Loons, only the second time this species has been seen at Cabot Head. On the 29th over 100 Lesser Scaup were seen as well as Long-tailed ducks, White-winged Scoters and a Northern Pintail as well as the first Rough-legged and Broad-winged hawks of the season. On April 30th Myrtle Warblers moved through the area with a vengeance, over 2200 were counted for the day and 50 were banded along with the only Yellow-bellied Sapsucker of the season with a total of 69 birds banded for the day it was the busiest day of April. 2 Eastern Meadowlarks were also seen fly over the area on census only one of a handful of days they were observed this spring.

The temperature began to warm up a bit but for the first part of May a large cold front from the west cooled things down but kept birds moving north. We banded the bulk of our birds this spring in May, more than 1000. The morning of May 2nd started off with an ominous cloudbank looming over Cabot Head and light South winds the perfect combination for bird fallout. We observed 63 species and banded 19 birds of 10 species, including: Nashville Warbler, Black and White Warbler, Ovenbird and Cape May Warbler. Blue Gray Gnatcatcher, Scarlet Tanager and Blue Headed Vireo were also seen. But the highlight of the day was an Eastern Tufted Titmouse, a new species for Cabot Head and North Bruce. Myrtle warbler continued they're mass movement with around 500 moving through. We also managed to get in some hawk watching saw a single Cooper's hawk. The following day we observed over 50 Broadwinged Hawks and 23 Rough-legged Hawks. On the 4th we banded 91 birds of 18 species including: Ruby Crowned Kinglet, Black throated Green Warbler, Magnolia Warbler, Nashville Warbler, Chipping Sparrow, Slate Coloured Junco, Western Palm Warbler, Black and White Warbler, Myrtle Warbler, Ovenbird, Blue Headed Vireo, Swamp Sparrow, Song Sparrow and a Golden-winged Warbler. We also observed our first Common Tern, White Crowned Sparrows, Eastern Towhee and Tennessee Warblers. Hawk migration really got going mostly after the standard count period with close to 100 Turkey Vultures, over a hundred Broad Winged Hawks, Sharp Shinned Hawks, Rough Legged Hawks and 2 Peregrine Falcons. The first Swainson's hawk for Cabot Head was seen on the 6th along with more than 600 Broad-winged Hawks and other buteos. A second-year Golden Eagle was also seen as well as 3 Black Scoters mixed in a flock of over 100 White-winged Scoters. The only Bank Swallow and House Wren for the season were also seen.

Mid-may continued to warm up and southerly winds blew in a lot of birds. Flycatchers showed up with Least Flycatchers and Eastern Phoebe seen and banded. On the 9th 7 species of sparrow were banded including Savannah Sparrow and a late American Tree Sparrow. On the 10th the only Cliff Swallows of the season were observed a flock of 15. A Black-backed Woodpecker was seen during census on the 12th and was seen the following day this is only the 5th record at Cabot Head. On the 15th another first for the station was observed during census, a Le Conte's Sparrow as well as the 4th record of Vesper Sparrow and the only record for the season. On the 18th a Green Heron was observed perched in a tree across the basin, one of only two sightings for this spring. We banded 90 birds of 21 species our best banding day of the season. Over the next week we banded more than 400 birds. The next few days saw the first Traill's Flycatchers, Eastern-Wood Pewees and Wilson's Warblers. On the 19th a small flock of Bobolinks was observed as well as over 100 Cedar Waxwings and several flocks of American Pipits, only one of two days they were observed. On the 21st we banded our only Tennessee warbler of the season and a Black-

billed Cuckoo was observed on census, only the second record for May. On the 24th the only Semipalmated Sandpiper was seen flying over Georgian Bay, only the 7th record over 11 years. The 24th was another good hawk day with over 200 Broad-winged hawks seen and 7 Red-shouldered hawks, as well as Red-tailed hawk, Northern Harrier, American kestrel, Cooper's hawk and many Sharp-shinned Hawks. A Great-horned Owl was seen perched in branch most of the day on the 25th. A Yellow-billed Cuckoo was banded on the 28th the first ever record of one in the spring at Cabot Head. We also banded the only Warbling Vireo of the season.

Early June was dominated by northwest winds that blew in bad weather on June 1st and continued to storm with high winds until the 3rd. Two Whip-Poor-Wills were heard singing from mid-May to the end of the season from the Jack Pine Barrens. Over 7 days in June 76 birds were banded. Afterwards the last push of birds came through though most of the birds banded or observed were likely local birds not moving to much further north. We had a flock of 13 Cedar Waxwings hit a net on the 4th and we also banded our only Purple Finch, Red-breasted Nuthatch and Winter Wren over the last few days. On the 6th the only Olive-sided Flycatcher of the season was observed. The last day of coverage was the 7th. For a complete inventory of the birds banded and re-captured birds see the appendix.

Table 1: Top 10 banded species divided by age ratios at BPBO in spring 2012.

Species	Number	% Second	% After Second	% After Hatch
	Banded	Year	Year	Year
American Redstart	192	62.0	22.4	15.6
Myrtle Warbler	108	73.1	22.2	4.6
Western Palm Warbler	95	15.8	7.4	76.8
Magnolia Warbler	88	45.4	45.4	9.2
Black-and-White Warbler	67	58.2	41.8	0.0
Ruby-crowned Kinglet	55	14.5	65.5	2.0
White-throated Sparrow	53	62.3	11.3	26.4
Blue Jay	41	46.3	53.7	0.0
Swainson's Thrush	37	46.0	46.0	8.0
Black-throated Green Warbler	32	84.4	15.6	0.0

Bay Watch Data Analysis

This spring a new <u>migration monitoring</u> project was undertaken <u>at CHRS</u>. A standardized watch of Georgian Bay looking from Grebe Lodge facing east was completed for 33 days from April 27th

through until June 1st. The idea behind the project was to make the coverage of the observations more complete by observing birds that are seldom seen because of the restraints of running nets. There were no data for April 28th, May 1st or May 3rd due to very poor visibility caused by fog. There was a full complement (4 persons) of qualified personnel for most of the spring thus Bay Watch could be completed without difficulty. The protocol is to watch Georgian Bay facing east for 1 hour beginning at sunrise with a scope and binoculars and count all birds seen over the water. Land birds can be counted but only birds that migrating over the water not individuals that are on shore. The results were quite promising as over 50 species of passerines, were counted, as well as 25 species of water birds (ex. waterfowl, gulls, and shorebirds). Many species were detected that have been rarely detected at CHRS before. Red-throated Loon, Black Scoter, Semipalmated Sandpiper, Northern Pintail, Green-winged Teal and Upland Sandpiper have fewer than 10 sightings over the 10-year period. Bay watch was the only count for which Black Scoter, Red-throated Loon and Semipalmated Sandpiper were detected for spring 2012. Counts during the end of May and early June produced few migrants. Birds observed during this period were probably local breeding birds making short-distance feeding movements. The survey period for future Bay Watching would likely be April 16th through until the end of May, since migration of water birds seemed to drop even in the latter half of May. The Bay Watch will be continued for 1 complete year then analyzed at the end of the year. It is possible to fine tune the period so that we are watching for an appropriate time to count migrant birds but not counting pointlessly. If personnel are available this count could potentially be included in the standard observations and contribute to the estimated total. The data for bay watch is presented in Table 2. Species totals are presented in 3-day blocks, due to space limitations, but the averages are generated using the data from all 33 days.

Table 2: 3-day totals of "Bay Watch" by species for a 33 day period (April 27th – June 1st) excluding days with no coverage. Season total and average have been calculated also.

Species												Total	Avg.
Black Scoter	0	0	3	0	0	0	1	0	0	0	0	4	>1
Bufflehead	0	5	0	0	0	0	1	0	0	0	0	6	>1
Canada goose	0	1	0	2	0	0	0	6	344	22	0	375	11
Common Goldeneye	0	0	0	1	0	0	0	0	0	0	0	1	>1
Common Loon	123	22	27	47	45	57	41	11	8	10	14	405	12
Common Merganser	9	4	7	3	6	18	6	2	15	2	5	77	2
Double-crested Cormorant	26	14	12	2	31	17	18	8	16	2	1	147	4
Duck Spp.	12	0	0	0	0	18	0	0	0	0	0	30	>1
Great Blue heron	1	0	1	3	0	0	0	0	0	0	0	5	>1
Greater Yellowlegs	0	0	0	0	6	0	0	0	0	0	0	6	>1
Green-winged Teal	0	2	0	0	0	0	0	0	0	0	0	2	>1

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Herring Gull	12	12	18	15	2	8	3	1	1	1	0	73	2
Hooded Merganser	0	0	0	0	0	0	0	0	1	0	0	1	>1
Horned Grebe	59	7	5	0	0	0	0	0	0	0	0	71	2
Lesser Scaup	124	7	0	0	0	0	0	0	0	0	0	131	4
Long-tailed Duck	39	35	29	0	0	0	28	0	0	0	0	131	4
Mallard	2	0	0	0	1	0	4	0	5	0	0	12	>1
Merganser Spp.	3	0	0	0	0	0	0	0	0	0	0	3	>1
Northern Pintail	5	0	0	0	1	0	0	0	0	0	0	6	>1
Red-breasted Merganser	76	30	19	14	57	49	17	8	3	0	0	273	8
Red-necked Grebe	12	4	6	3	1	3	0	0	0	0	0	29	>1
Red-throated Loon	7	0	0	0	0	0	0	0	0	0	0	7	>1
Ring-billed Gull	198	39	38	60	21	43	54	15	48	35	38	589	18
Scaup Spp.	4	0	0	0	0	0	0	0	0	0	0	4	>1
Semipalmated Sandpiper	0	0	0	0	0	0	0	0	1	0	0	1	>1
Spotted Sandpiper	0	0	0	1	2	0	1	1	2	2	0	9	>1
Upland Sandpiper	0	0	0	0	0	2	0	0	0	0	0	2	>1
White-winged Scoter	38	44	268	24	4	18	45	0	0	0	0	441	13
Wood Duck	0	1	0	0	0	0	0	0	1	0	0	2	>1

Personnel

This spring, nine volunteers from 4 countries logged over 1500 person-hours monitoring migration at Cabot Head Research Station. Special thanks go out to all the volunteers to dedication and contribution to BPBO's Migration Monitoring program this spring.

Long Term Volunteers (> 3 weeks): Pat Burri (Luzern, Switzerland), Martin Scott (Isle of Lewis, Scotland)

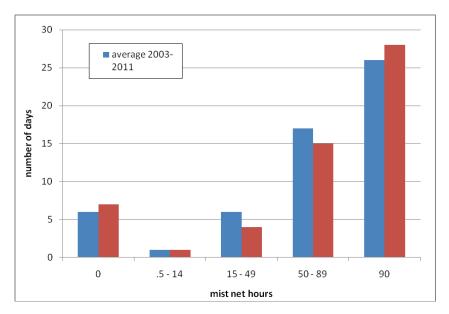
Short Term Volunteers (< 3 weeks): Brad Bloemendal (Acton, ON), Hugh McArthur (Fisher's Glen, ON), Bill McMartin (Toronto, ON), Mandi Miles (Flesherton, ON), Salvadora Morales (Nicaragua), Josh Shea (Kitchener, ON), Keelin Stanbury (Burlington, ON)

Coverage

Mist net coverage began on April 16th and ran through until June 7th. Census and observations were also collected for April 14th and 15th. A total of 3571 net hours were completed this spring yielding 3571 net hours with a catch rate of 36.0 birds/100 net hours. This represents 70% of full coverage that is 55 days with 90 hours each. There were only 7 days in which no nets could be opened due to inclement weather or personnel absence. We had a slightly above average number of full coverage days. For the

period we had good weather with only a couple of days of rain and several days of high winds. Most days with no mist net coverage this spring were at the beginning of the period during early April when high winds were prominent.

Figure 1: Coverage (by mist net hour) at Cabot Head Research Station spring 2012



Acknowledgements

As a non-profit, volunteer-based initiative, the Bruce Peninsula Bird Observatory would not be operable without the overwhelming support of its membership, financial supporters and volunteers.

BPBO wishes to thank Ontario Park and Parks Canada (Bruce National Park), for their continued support.

The author wishes to thank all the members of the Bruce Peninsula Bird Observatory, as well as Bob Lesperance of Ontario Parks for their support during the field season. I would also like to thank the 9 volunteers who helped make the field season efficient and enjoyable.

Appendix 1. Spring 2012 Bruce Peninsula Bird Observatory re-captures Summary.

Species	Within-year Re-captures	Between-year Re-captures
American Redstart	9	37
Black-and-White Warbler	3	0
Black-capped Chickadee	2	4
Black-throated Green Warbler	2	0
Common Yellowthroat	1	0
Golden-crowned Kinglet	1	0
Gray Catbird	0	1
Magnolia Warbler	1	0
Red-eyed Vireo	6	8
Song Sparrow	2	0
Swainson's Thrush	1	0
White-throated Sparrow	3	0
Total	31	50

Appendix 2. Spring 2012 Bruce Peninsula Bird Observatory banding summary.

Species	Banded 2012	Average (2002 - 2011)	
American Redstart	192	190	
American Robin	5	8	
American Tree Sparrow	2	6	
Bay-breasted Warbler	3	4	
Black-and-White Warbler	67	52	3 rd Highest spring total.
Blackburnian Warbler	6	5	
Black-capped Chickadee	30	67	
Blackpoll Warbler	3	2	
Black-throated Blue Warbler	27	29	
Black-throated Green Warbler	32	24	2 nd Highest spring total.
Blue Jay	41	29	

Blue-headed Vireo	4	3	_
Brown Creeper	11	34	
Brown Thrasher	5	6	
Canada Warbler	13	18	
Cape May Warbler	3	3	
Cedar Waxwing	13	3	2 nd Highest spring total.
Chestnut-sided Warbler	9	15	
Chipping Sparrow	17	17	
Common Yellowthroat	23	40	
Eastern Phoebe	1	4	
Eastern White-crowned Sparrow	14	25	
Eastern Wood-Pewee	2	2	
Golden-crowned Kinglet	9	121	2 nd lowest spring total (3 in 2008).
Golden-winged Warbler	4	<1	Record High, previous of 3 in 2002.
Gray Catbird	8	12	
Gray-cheeked Thrush	3	4	
Hermit Thrush	14	13	
Indigo Bunting	1	3	
Least Flycatcher	14	14	
Lincoln's Sparrow	4	13	
Magnolia Warbler	88	105	
Merlin	1	<1	2 nd banded for BPBO.
Mourning Warbler	7	10	
Myrtle Warbler	108	64	3 rd Highest spring total.
Nashville Warbler	59	55	
Northern Parula	4	2	2 nd Highest spring total.
Northern Waterthrush	3	5	
Orange-crowned Warbler	8	10	
Ovenbird	26	30	
Purple Finch	1	<1	
Red-breasted Nuthatch	1	7	
Red-eyed Vireo	17	14	
Rose-breasted Grosbeak	4	3	
Ruby-crowned Kinglet	55	123	Lowest spring total ever.
Savannah Sparrow	2	2	
Sharp shinned Hawk	25	20	3 rd highest spring total.
Slate-colored Junco	22	55	

Song Sparrow	5	13	
Swainson's Thrush	37	25	3 rd highest spring total.
Swamp Sparrow	5	5	
Tennessee Warbler	1	1	
Traill's Flycatcher	22	18	
Veery	10	10	
Warbling Vireo	1	<1	Our 6 th banded in spring.
Western Palm Warbler	95	77	
White-throated Sparrow	53	57	
Wilson's Warbler	12	18	
Winter Wren	1	2	
Wood Thrush	1	2	
Yellow bellied Sapsucker	1	1	
Yellow Warbler	7	11	
Yellow-bellied Flycatcher	21	14	
Yellow-shafted Flicker	2	5	
Yellow-billed Cuckoo	1		1 st ever banded in Spring.
Total Individuals	1286	1552	4 th lowest spring banding total.
Total Species	65	62	Slightly above average of 62.