Wildlife Watchers Report on MONITORING

Issue 9 | Supplement to Seasons | Spring 2003

The Lasting Rewards of Watching Wildlife

by Lyle Friesen, Canadian Wildlife Service

Conducting a survey of amphibians, birds, or other organisms is a satisfying experience. There's an undeniable sense of accomplishment that comes with, say, discerning an Alder Flycatcher's song from a Willow's, or a Leopard Frog's snore from a Wood Frog's quack. Surveys are inherently full of surprises, since no one can predict which species may turn up, or conversely, may unexpectedly be absent.

As in any art, practice makes perfect – by getting into the field in the company of nature, surveyors invariably refine their listening and observational skills. And surveys require intense concentration, such that the participant can be virtually transported in time and place. A farm field on a calm, spring morning charms like an arctic meadow; a woodland interior sings with equatorial fervor; and the choral intensity of roadside peepers deafens and dazes like a rock concert.

Rewarding and enjoyable as surveying can be to individuals, it also performs a valuable scientific service. Surveys provide important data on the abundance and distribution of wildlife and such information has not always been available. Indeed, when concerns arose in the latter part of the past century about the possible declines of migratory songbirds, there were only a handful of census data sets in all of eastern North America going as far back as the 1940s with which to compare abundance estimates.

Now, thanks to wildlife monitoring projects in Ontario and elsewhere, a solid benchmark of data has been established for many species. These benchmarks will help us to better evaluate the ecological impacts of natural disturbances such as storms and disease, and human-induced perturbations such as habitat loss and fragmentation, chemical contamination, and climate change.

So, to all you current and potential Wildlife Watchers, hold to your path, steadfast in the knowledge that the data you collect not only have current value but may live on through eternity in the form of comparative studies conducted in the 22nd century and beyond!

Project NestWatch

New monitoring program tracks productivity for nesting birds

John Mitchell

Kingbird at the nest

by Catherine Poussart, Bird Studies Canada

Bird Studies Canada launched Project NestWatch in May 2002, inviting anyone with access to the Internet to find and monitor bird nests – particularly those in backyards or other easily observable locations. The program, which tracks bird productivity, complements existing schemes across Canada, such as the Ontario Nest Records Scheme which has been gathering data for over 40 years.

By offering on-line data entry, Project NestWatch is increasing volunteer participation in the collection of valuable observations for bird conservation efforts. In the survey's first season, 390 nests of 85 species were recorded throughout Canada. In Ontario, the American Robin came in first position (58 nests), followed by the Eastern Phoebe (12), and the American Kestrel (9).

When a nest is found, observers are asked to report:

- the identity of the species;
- nest location; and,
- the contents of the nest (number of eggs or young) at each visit.

Volunteers are also encouraged to describe briefly the nesting habitat.

We thank everyone who submitted nesting observations in 2002, and we are looking forward to counting many new contributors. Visit the Project NestWatch Web site to join the survey, then find an active nest (or two or three!), watch as a miracle of nature unfolds, and submit your observations.

More information is available on-line:

Project NestWatch
www.bsc-eoc.org / national / nestwatch.html (English)
www.bsc-eoc.org / national / nestwatchfr.html (French)
Ontario Nest Records Scheme
www.birdsontario.org / onrs / onrsmain.html

For contact information, see *Wildlife Watchers Project Descriptions & Contacts.*

Canadian Lakes Loon Survey

Higher productivity shown among Western Loons

by Steve Timmermans, MSc., Bird Studies Canada

Contributions from thousands of dedicated Canadian Lakes Loon Survey (CLLS) participants have enabled us to track Common Loon breeding success on lakes throughout Canada. So, how successfully are loons breeding and producing young? We examined results collected through the survey from 1990 to 2000, in Canadian regions and across Canada as a whole.

For each region, we calculated proportions of loon pairs reported to have successfully raised at least one large chick, and used this as a measure of productivity. Productivity was compared among regions, and to the Canada-wide average.

On average, from 1990 to 1997, there was decrease in loon productivity throughout Canada, but from 1997 on, average success increased. This pattern was quite consistent among all regions. Because Ontario CLLS data account for 73 percent of the sample size, we expected the pattern of loon productivity in the Ontario/Quebec region to closely track the Canada-wide pattern (see Figure 1A on page 2).

Although these patterns were similar among regions, productivity in western regions (Prairie provinces and British Columbia/Yukon) has been consistently higher than in other regions and Canada-wide (see Figure 1B on page 2). Western regions appear to successfully raise more chicks than their eastern counterparts. Moreover, although annual productivity and temporal trends in productivity have been similar between the Atlantic (NS, NB, NF, and PE) and Ontario/Quebec regions, since 1998 breeding success has been markedly higher in the Atlantic region.

John Mitchell

Common Loon

Why has breeding success been higher for loons in western regions than the rest of Canada?

Two questions come to mind: Why has breeding success been higher in western regions than the rest of Canada? Why are patterns of annual productivity similar across regions?

The answer to the first question is not obvious; however, loon breeding success in Ontario is known to be lower on lakes of higher acidity. High acid lakes could cause reduced prey availability and quality, and/or higher mercury exposure for breeding loons since fish-mercury levels are higher on acidic lakes. High burdens of mercury in loons can cause reproductive impairment or failure.

A recent Canadian Wildlife Service study of loon eggs collected through the CLLS from failed or abandoned nests has shown that mercury concentrations are higher in eggs collected from eastern Canada lakes; some with loadings that exceed lethal levels to birds. If western lakes are, on average, less acidic and/or have lower mercury levels than eastern lakes, either or both of these might account for observed differences between western and eastern Canada loon productivity. Also, western Canada lakes, on average, likely have higher nutrients (phosphorus and nitrogen) and are therefore more productive.

Answering the second question requires knowing what factors have caused loon chick survival to vary similarly over time across Canada. Perhaps large-scale annual climatic factors could explain regional similarities in these patterns.

One thing seems certain: regional consistency in temporal loon productivity patterns provides confidence that CLLS participants have collected data consistently nationwide. Our ability to report on long-term productivity of Canada's most cherished and familiar symbol of northern lakes has been made possible by the continued and dedicated participation of CLLS volunteers and their commitment to monitoring Canada's Common Loons.

Cont'd on page 2

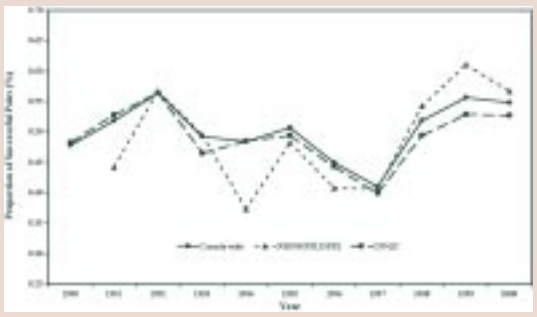
Environment Canada | Environnement Canada

Cont'd from page 1

Canadian Lakes Loon Survey

More information is available on-line:
www.bsc-eoc.org / clls main.html (English)
www.bsc-eoc.org / icphprinc.html (French)

For contact information, see *Wildlife Watchers Project Descriptions & Contacts.*



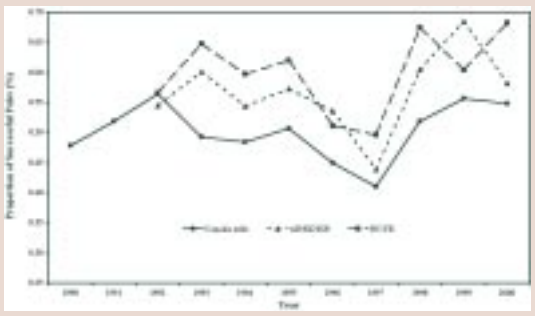


Figure 1: *Mean annual proportions of loon pairs observed with at least one large young for (A) Atlantic Canada (N = 939) and Ontario/Quebec (N = 7,128) regions, and (B) Prairie provinces (N = 605) and British Columbia/Yukon (N = 431) region, compared to Canada-wide trends (N = 9103).*

	Canada-wide	NB / NS / NFLD / PEI	Nova Scotia	ON / QC	AB / SK / MB	BC / YK	Western Canada	Eastern Canada
1990	0.478			0.483				0.478
1991	0.519	0.442	0.413	0.528				0.519
1992	0.564	0.567	0.591	0.564	0.545	0.566	0.555	0.565
1993	0.493	0.495	0.499	0.465	0.601	0.648	0.627	0.474
1994	0.484	0.373	0.377	0.485	0.544	0.597	0.564	0.466
1995	0.507	0.483	0.472	0.494	0.573	0.620	0.587	0.492
1996	0.450	0.408	0.439	0.443	0.536	0.511	0.524	0.438
1997	0.410	0.406	0.487	0.399	0.439	0.496	0.463	0.401
1998	0.519	0.542	0.567	0.494	0.605	0.675	0.633	0.498
1999	0.557	0.611	0.627	0.529	0.685	0.604	0.649	0.537
2000	0.548	0.567	0.576	0.527	0.582	0.682	0.625	0.531

Region	N	% of Total	# of Consecutive Yrs Surveyed
NB / NS / NFLD / PEI	939	10	10
ON / QC	7128	78	11
AB / SK / MB	605	6	9
BC / YK	431	4	10
Eastern Canada	8067	88	11
Western Canada	1036	11	10
Canada-wide	9103	100	11

Project FeederWatch

An Ontario brainchild grows up

Rhoda Crandall

White-winged Crossbill

With over 16,000 participants continent-wide, Project FeederWatch is a survey of birds that come to backyard feeders. It might surprise some Ontarians to learn that FeederWatch began in 1976, as the Ontario Bird Feeder Survey. Despite its widespread growth throughout North America, Ontario is still the national FeederWatch stronghold, with about 50 percent of Canadian participants located in this province.

Last winter (2001-2002), Ontario FeederWatchers noted that Common Redpolls and Red and White-winged Crossbills arrived at feeders in droves. Boreal finches, such as crossbills and redpolls, usually come to feeders in large numbers every other year. These 'irruptions' are most likely a result of fluctuations in the birds' natural food supply, which consists of tree seeds.

When food is low in the north, these birds flock south in search of food, with many showing up at feeders. Last winter was, in fact, the best ever for seeing Red and White-winged crossbills at bird feeders. While opening sunflower seeds with their unique crossed bills looks like a chore, these bills are actually designed to quickly pry open conifer cones and lift the seeds free with their tongues.

White-wings visited 3 percent of 699 participating feeders in Ontario, while Red-wings visited 1 percent of feeders in 2001-2002. Common Redpolls were also abundant last winter, visiting 61 percent of participating feeders in Ontario in groups averaging 11 individuals, compared with only 15 percent of feeders visited in the previous winter (see graph).

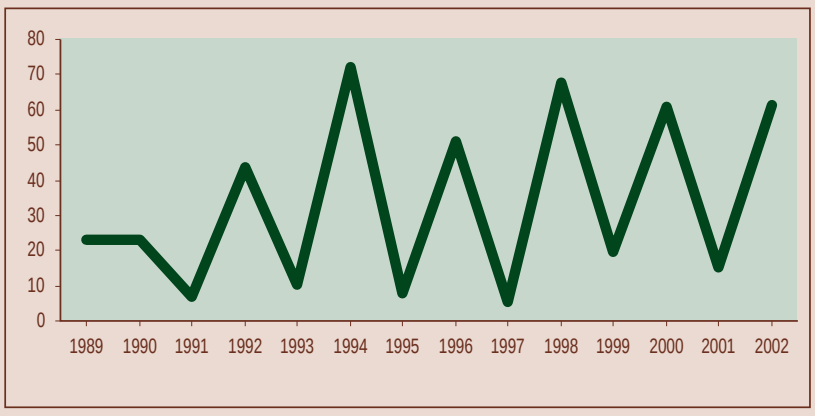
What else has Project FeederWatch taught us over the years? We've learned how FeederWatch data are comparable to those collected in the 103-year-old Christmas Bird Count, lending credence to both projects as accurate methods of monitoring winter bird populations. We've learned about the spread of house finch eye disease amongst birds that visit feeders. And we may, in time, be able to use FeederWatch data to learn about how other diseases, such as the West Nile Virus, are affecting bird populations.

Note: Project FeederWatch participants are asked to become members of Bird Studies Canada, a non-profit conservation organization dedicated to birds and their habitat, for a $25 annual fee.

More information is available on-line:
www.bsc-eoc.org / national / pfw.html (English)
www.bsc-eoc.org / national / pfwfr.html (French)

For contact information, see *Wildlife Watchers Project Descriptions & Contacts.*

Year	Percent of Feeders Visited by Common Redpolls
1989	22.9
1990	23.1
1991	6.8
1992	43.9
1993	10.4
1994	72
1995	7.8
1996	51.2
1997	5.4
1998	67.5
1999	19.4
2000	61.1
2001	15.1
2002	61.4



Percent of feeders visited by Common Redpolls in Ontario (1988-89 to 2001-2002)

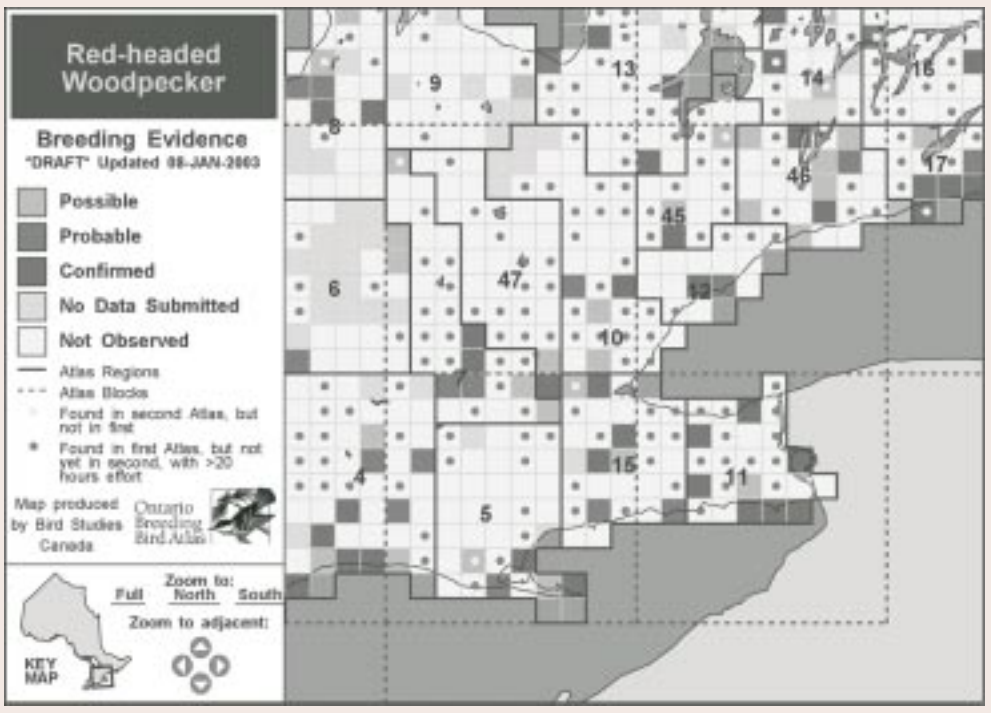
Second Ontario Breeding Bird Atlas (2001-2005)

First two years of data collection yield striking results

by Mike Cadman, Canadian Wildlife Service

Thanks to a tremendous effort by Ontario's birders, the second Atlas project is going very well. After two years of field work, the more than 300,000 records provided allow an examination of how bird distributions and abundances have changed since the first Atlas, which took place from 1981-1985. Although we are comparing two years of data from the current Atlas with five years of data from the first (so caution is needed in interpreting results – particularly apparent declines), there are already some marked changes evident, and some of the highlights are included here.

Seven of the species showing the largest proportional increases have been the object of successful reintroduction programs, or otherwise are benefiting directly from human assistance. The Peregrine Falcon has gone from three squares in the first Atlas to 49 in the current project. The Trumpeter Swan was not found in any squares in the first Atlas, but has been reported in 49 in the new Atlas; while the Mute Swan is up from 17 squares in the first Atlas to 84 squares reported to date, and the House Finch has increased from 187 squares to 615 in this Atlas. Canada Goose is up to 1,233 squares already, compared to 944 in the first Atlas; and the Eastern Bluebird, benefiting from nest box programs, is already up to 792 squares, compared to 737 in the first Atlas. A big increase is apparent for Turkeys, from 19 squares in the last Atlas to 351 so far!



Poor showing for species at risk

On the other hand, several species at risk have shown marked contractions. The Red-headed Woodpecker has been reported in only 174 squares, compared to 732 in the first Atlas. Loggerhead Shrikes have been reported in only 31 squares, compared to 145 in the first Atlas, and Northern Bobwhite has been reported in 17 squares, compared to 79. Henslow's Sparrow is down from 38 squares to only seven so far. These latter three species use grassland habitat, and their continuing apparent declines may be indicative of more wide-

Ontario Nocturnal Owl Survey

Owls and Wolves and Bears, Oh My!

by Jessie Allair and Debbie Badzinski,
Bird Studies Canada

A lone timber wolf pauses for a moment, glancing down the highway toward your vehicle, before he quietly slips back into the woods. The night sky is dancing above you, alive with the aurora borealis. When you realize the cold air is gnawing at your extremities, you desperately wish you had remembered an extra pair of socks. Then suddenly, a low whoo resonates from the dark woods – ah, yes, the task at hand! Much more invigorating than watching Titanic for the fifth time on a Friday night!

In 2002, 133 Ontario Nocturnal Owl Survey volunteers surveyed 148 routes, recording 630 owls of nine different species. The Barred Owl was the most common owl recorded in central Ontario, while Northern Saw-whet Owl numbers sky-rocketed in northern Ontario making it the most commonly observed owl (see Table 1).

Contrary to popular belief, nocturnal owl surveys aren't just for the birds. The citizen scientists who conduct the roadside surveys claim that the owls are only part of the appeal. In fact, we are quite amazed at the number of other interesting observations reported by owl surveyors. Although it was very hard to choose, we put together a list of the most unusual sightings associated with the survey.

The Ontario Nocturnal Owl Survey was initiated in 1995, and is a cooperative project between Bird Studies Canada and the Ontario Ministry of Natural Resources' Wildlife Assessment Program.

Table 1 - *Number of individuals of each owl species and number of routes on which each species was detected during the 2002 Ontario Nocturnal Owl Survey in central and northern Ontario.*

	Central Ontario		Northern Ontario	
Species	Individuals	Routes	Individuals	Routes
Boreal Owl	5	3	125	27
Northern Saw-whet Owl	27	23	145	33
Barred Owl	228	59	16	6
Great Gray Owl	1	1	12	8
Great Horned Owl	22	15	38	17
Long-eared Owl	1	1	2	2
Eastern Screech Owl	3	3	0	0
Northern Hawk-Owl	0	0	3	2
Short-eared Owl	2	2	0	0

Top 10 Unusual Sightings from the Ontario Nocturnal Owl Survey

10 Beaver
Many participants see signs of beavers, but only a few get to catch a glimpse of this buck-toothed rodent.

9 Moose
Although southerners think this is a pretty neat sighting, northerners know better and are generally happy not to encounter these gigantic creatures on the road while driving their owl surveys at night!

8 Aurora borealis
Gazing at the northern lights on a cold April evening makes you feel truly Canadian. Words cannot describe this wondrous phenomenon.

7 Salamanders
If you shine your flashlight into the ditch, you may be surprised to find slippery, slimy salamanders of all sorts.

6 Coyote
They've been likened to ghosts, demons and devils, but they don't scare us! These beautiful animals are often heard on owl routes, but occasionally one or two will appear out of the night to snack on a road kill.

5 Northern Flying Squirrel
One participant had a flying squirrel 'fly' in to check out the Northern Saw-whet Owl calls that were being broadcast.

4 Black Bear
Another good reason to stick close to your car and hold on to your hot chocolate!

3 Wolves
Howling wolves are commonly heard on northern owl surveys, but few participants have had the good fortune to see them.

2 Hale Bop comet
In 1997, Ontario owl surveyors got great looks at the comet.

1 Canadian Lynx
Only a handful of owl surveyors have been lucky enough to see one of these wild cats.

John Mitchell

Northern Saw-whet Owl

Backyard Frog Survey and Amphibian Road Call Count

Growing bigger all the time

by Glenn Barrett and Shane deSolla,
Canadian Wildlife Service

Eleven years old and look how big we have become! The Canadian Wildlife Service's (CWS) amphibian monitoring programs, begun in 1992, have been steadily gaining in volunteers and data. This year's analysis of data collected to date has revealed some impressive numbers.

The Backyard Frog Survey database contains data from over 325 different locations and an incredible 984 'location-years' of data. The Amphibian Road Call Count database boasts data from over 179 routes, representing an equally impressive 422 'location-years' of data. Databases of this size and importance would not be possible without the interest and dedication of volunteers: our "citizen scientists".

More than 15 amphibian monitoring volunteers will see 2002 as their fifth year of contributing data for their respective locations. These volunteers join 90 others who have reached who have reached (and surpassed) the five-year mark. With the submission of his 2001 Road Call Count data, James Kamstra became our first amphibian monitoring volunteer to reach the 10-year milestone. The 2002 data-year saw a number of Backyard surveyors reach this same impressive anniversary.

Many thanks to all volunteers who contribute data toward amphibian monitoring efforts and, in particular, those who have stayed with CWS programs for several years. The amphibian data collected by our volunteers is beneficial to CWS conservation science; also, researchers within the federal and provincial governments (e.g., Canadian Forestry Service, Ontario Ministry of Natural Resources) and universities have used the data in their programs.

Eric dresser

Bullfrog

Our sincere hope is that volunteers stay with the amphibian monitoring programs for as long as possible, since long-term datasets can be used in many ways:

- to assess changes in species richness (biodiversity);
- to determine annual trends in most amphibian populations, as well as species abundance;
- to capture elusive species and habitat data such as explosive breeders and ephemeral ponds;
- for multiple-scale geographic analysis relating to changes in habitat and land use (i.e., local, regional, Great Lakes basin-wide, or provincial).

We are always looking for new volunteers to survey amphibians. If you are interested, please contact us and we can provide you with data sheets and instruction packages.

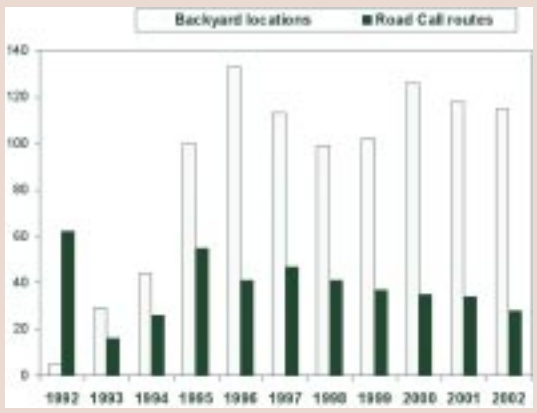


Figure 1. *Number of Backyard Frog Survey locations and Amphibian Road Call Count routes surveyed by volunteers (1992-2002).*

spread declines in birds using this habitat.

Some southern species are expanding north into the province. For example, Carolina Wren, Hooded Warbler, Orchard Oriole, Northern Mockingbird, Cardinal, Red-bellied Woodpecker and Tufted Titmouse have all already been reported in more squares in this Atlas than they were in the first.

Although 2002 was just the second of five project years, already there is a wealth of information in the new Atlas. However, we still need much more data to complete the picture. More complete coverage will tell us more about the current distribution and status of Ontario's birds, and the better it will be as a bird conservation tool.

More information is available on-line:
www.birdsontario.org
Click on *Ontario Breeding Bird Atlas*
Learn more about atlassing by contacting your local Regional Coordinator through the list on the Atlas Web site.

For contact information, see *Wildlife Watchers Project Descriptions & Contacts.*

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Wildlife Watchers Project Descriptions & Contacts

Program	Time commitment	Skills required	Location	Contacts	Mail	E-mail and Web site addresses
Amphibian Road Call Count	3 evenings each spring March to July	Ability to learn about 10 frog calls	7 km routes on back roads; done by car	Glenn Barrett Tel: 905-336-4952 Fax: 905-336-6434	Canadian Wildlife Service Environment Canada 867 Lakeshore Road, Box 5050 Burlington, ON L7R 4A6	Glenn.Barrett@ec.gc.ca http://wildspace.ec.gc.ca/project.cfm
Backyard Frog Survey	3 minutes each evening April to August	Ability to learn about 10 frog calls	Your own backyard	Glenn Barrett Tel: 905-336-4952 Fax: 905-336-6434	Canadian Wildlife Service Environment Canada 867 Lakeshore Road, Box 5050 Burlington, ON L7R 4A6	
Breeding Bird Atlas	1 or more days spring or summer	Beginner to experienced birders	Anywhere in Ontario	Mike Cadman Tel: 1-866-700-9100 (toll free) or (519) 826-2094 Fax: (519) 826-2113	Ontario Breeding Bird Atlas Blackwood Hall, Room 211 University of Guelph Guelph, ON N1G 2W1	atlas@uoguelph.ca www.birdsontario.org
Breeding Bird Survey	1 morning per year - June	Ability to identify breeding birds by song and sight	40 km routes on back roads; done by car	Debbie Badzinski **Bird Studies Canada ***		dbadzinski@bsc-eoc.org
Canadian Lakes Loon Survey	Check lake(s) once per month June, July and August	Ability to identify Common Loon; good observational skills	Anywhere in Ontario	Kathy Jones **Bird Studies Canada ***		aqsurvey@bsc-eoc.org
Christmas Bird Count	1 day per year near Christmas	Beginner to experienced birders	About 80 cities and towns participate in Ontario	Contact your local naturalist club to find the CBC coordinator in your area. $5 participation fee		www.birdsource.org
Forest Bird Monitoring Program	2 mornings per year late May or June	Ability to identify forest birds by song and sight	In wooded areas; done on foot	Mike Cadman Tel: (519) 826-2094 Fax: (519) 826-2113	Forest Bird Monitoring Program Canadian Wildlife Service Blackwood Hall, Room 211 Guelph, ON N1G 2W1	FBMP@ec.gc.ca http://wildspace.ec.gc.ca/project.cfm
Hawk Watching	1 or more days in spring or fall	Ability to identify raptors; all are welcome to assist	Grimsby, Oshawa, Toronto, Port Stanley, Amherstburg	Holiday Beach Conservation Area County Road 50 Essex County, ON		www.hbmo.org
Greater Toronto Raptor Watch **High Park Raptor Watch**	September 1 to December 31			Don Barnett Tel: 416-588-9724	217 Grenadier Road Toronto, ON M6R 1R9	
Cranberry Marsh Raptor Watch				Douglas Lockrey	215 Reedaire Court, #116 Whitby, ON L1N 6A2	lockrey33@rogers.com
Niagara Peninsula	March 1 to May 15			Glenn Barnett Beamer Conservation Area Ridge Road, Grimsby, ON)	87 Highland Park Drive Dundas, ON P9H 6G5	www.freenet.hamilton.on.ca/link/niaghawk
Marsh Monitoring Program	2 or 3 evenings in spring April to June	Ability to identify frog calls and/or marsh birds	Throughout Ontario; emphasis on marshes in the Great Lakes Basin	Kathy Jones **Bird Studies Canada ***		aqsurvey@bsc-eoc.org
Migration Monitoring	Days to weeks (longer term volunteers preferred)	All levels; beginners can be trained over several weeks	Long Point, Thunder Cape	Landbirds Programs Coordinator **Bird Studies Canada *** Long Point Bird Observatory Nick Escott, TCBO Chair Thunder Cape Bird Observatory Tel: (807) 345-7122 Fax: (807) 344-1911	 133 South Hill Street Thunder Bay, ON P7B 3T9	lpbo@bsc-eoc.org escott@loon.norlink.net
Nocturnal Owl Survey	1 evening in March, 1 evening in April	Ability to identify about 5 owl calls	Central and northern Ontario	Debbie Badzinski **Bird Studies Canada ***		dbadzinski@bsc-eoc.org
Ontario Birds At Risk	Variable, depending on activity	Beginner to experienced birders	Throughout Ontario	Debbie Badzinski **Bird Studies Canada ***		dbadzinski@bsc-eoc.org
Ontario Nest Records Scheme	1 or more visits to an active nest or nests	Ability to identify any bird's (active) nest	Anywhere in Ontario	George Peck Tel: 416-586-5523 Fax: 416-586-5863	ONRS/Ornithology Centre for Biodiversity and Conservation Biology Royal Ontario Museum 100 Queen's Park Toronto, ON M5S 2C6	mpeck@rom.on.ca www.birdsontario.org
Ontario Shorebird Survey	4 visits during spring migration, 8 visits in fall	Experienced birders	Throughout Ontario	Ken Ross / Barbara Campbell Tel: (613) 952-2415 Fax: (613) 952-9027	Canadian Wildlife Service Environment Canada 49 Camelot Dr. Nepean, ON, K1A 0H3	Barbara.Campbell@ec.gc.ca http://wildspace.ec.gc.ca/project.cfm
Project Feeder Watch	Observe twice every 2 weeks November to March	Ability to recognize about 25 common feeder birds	Anywhere in Ontario	Becky Whittam **Bird Studies Canada ***		pfw@bsc-eoc.org
Project NestWatch				**Bird Studies Canada ***		generalinfo@bsc-eoc.org
Red-shouldered Hawk & **Spring Woodpecker Survey**	1 morning in May	Ability to identify raptors and woodpeckers by sight and sound; training tape provided	Central Ontario	Debbie Badzinski **Bird Studies Canada ***		dbadzinski@bsc-eoc.org
*** Bird Studies Canada**				**Tel: 1-888-448-BIRD** **or (519) 586-5352** **Fax: (519) 586-5352**	**P.O. Box 160** **Port Rowan ON** **N0E 1M0**	**www.bsc-eoc.org**

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