



---

NATIONAL COUNCIL FOR AIR AND STREAM IMPROVEMENT

**COMPENDIUM OF LONG-TERM WILDLIFE  
MONITORING PROGRAMS IN CANADA**

**SPECIAL REPORT NO. 10-02**

**OCTOBER 2010**

by  
**Sonya Lévesque**  
**Saguenay, Quebec**

**Introduction by Darren Sleep, Ph.D.**  
**NCASI**  
**Montreal, Quebec**

## **Acknowledgments**

The author acknowledges the assistance of the various program managers across Canada, who were kind enough to take some of their time to answer questions and to review, comment upon, and edit project descriptions. A special thanks to Denis Lepage, from Bird Studies Canada, for his collaboration and interest. The author also thanks Darren Sleep and Kirsten Vice, from the National Council for Air and Stream Improvement, for their trust and help.

### **For more information about this research, contact:**

Darren J.H. Sleep, Ph.D.  
Senior Forest Ecologist  
NCASI  
P.O. Box 1036, Station B  
Montreal, QC H3B 3K5 Canada  
(514) 286-9690  
dsleep@ncasi.org

Kirsten Vice  
Vice President, Canadian Operations  
NCASI  
P.O. Box 1036, Station B  
Montreal, QC H3B 3K5 Canada  
(514) 286-9111  
kvice@ncasi.org

### **For information about NCASI publications, contact:**

Publications Coordinator  
NCASI  
P.O. Box 13318  
Research Triangle Park, NC 27709-3318  
(919) 941-6400  
publications@ncasi.org

### **Cite this report as:**

National Council for Air and Stream Improvement, Inc. (NCASI). 2010. *Compendium of long-term wildlife monitoring programs in Canada*. Special Report No. 10-02. Research Triangle Park, N.C.: National Council for Air and Stream Improvement, Inc.

## PRESIDENT'S NOTE

Wildlife monitoring can be a reliable source of information that contributes to effective forest management. That said, it can sometimes be costly and/or lack specific orientation or focus, which can undermine its utility. Further, different companies may duplicate efforts across management areas, or reinvent monitoring efforts that are already in operation by outside agencies, unnecessarily increasing costs. Coordination among monitoring efforts would be useful.

In Canada, various agencies, non-governmental organizations (NGOs) and industry partners are actively engaged in wildlife monitoring. Programs may be limited to one or a few species, or may include as many species as can be documented by staff or volunteers (e.g., biodiversity monitoring). In order to help members of the forest industry access and harness these various programs, NCASI has compiled information on these initiatives into this *Compendium of Long-Term Wildlife Monitoring Programs in Canada*. The *Compendium* documents over 100 programs from across Canada, including pan-Canadian, multi-provincial, and provincial scale efforts.

The great majority of wildlife monitoring programs in Canada (~71%) focus on bird species. Further, most programs are based in single provinces, although some of these may be linked by a national-level organization (e.g., Bird Studies Canada).

The *Compendium* includes a detailed description of each program (scope and purpose, spatial extent, time since initiation), contact information and, where possible, information on whether or not data are publicly available, and if so, how to make a request. The *Compendium* may be a valuable tool for managers seeking data for use in their operations, seeking partners to help develop monitoring programs in their regions, or seeking repositories for data collected from monitoring efforts on forest tenures.



Ronald A. Yeske

October 2010



## MOT DU PRÉSIDENT

Le suivi des espèces fauniques peut s'avérer être une source fiable d'information contribuant une gestion efficace des forêts. Par ailleurs, ces suivis peuvent parfois être onéreux et/ou manquer de focus ou d'orientation précise, diminuant ainsi leur utilité. En outre, différentes sociétés peuvent dupliquer des travaux de suivi de même nature dans certaines zones de gestion ou réinventer des efforts de suivi déjà effectués par des organismes externes, ce qui accroît inutilement les coûts de ces suivis. Une coordination entre les travaux de suivis serait utile.

Au Canada, divers organismes, organisations non-gouvernementales (ONG) et partenaires de l'industrie sont activement engagés dans la surveillance des espèces fauniques. Les programmes de surveillance peuvent être limités à une ou quelques espèces, ou peuvent inclure autant d'espèces que du personnel ou des bénévoles sur le terrain peuvent répertorier (par exemple, surveillance de la biodiversité). Afin d'assister les membres de l'industrie forestière à accéder et à utiliser le contenu de ces différents programmes, NCASI a compilé, dans ce *Recueil* des programmes de suivis à long terme des espèces fauniques au Canada, des informations à propos de plusieurs initiatives sur le sujet. Ce *Recueil* documente plus de 100 programmes de suivi partout au Canada, incluant des programmes à l'échelle pancanadienne, multi-provinciale et provinciale.

La grande majorité des programmes de suivi des espèces fauniques au Canada (~ 71%) se concentrent sur les espèces d'oiseaux. De plus, la plupart des programmes sont limités à des territoires provinciaux individuels, bien que certains d'entre eux peuvent être reliés par une organisation au niveau national (par exemple, Études d'Oiseaux Canada).

Ce *Recueil* comprend une description détaillée de chaque programme (portée et objectif, étendue spatiale, date de lancement du programme), les coordonnées de la personne en charge du programme, et, si possible, des informations sur si oui ou non les données sont accessibles au public, et si oui, comment en faire la demande. Le *Recueil* peut s'avérer un outil utile aux gestionnaires désirant : obtenir des données qu'ils utiliseront dans le cadre de leurs activités d'exploitation, rechercher des partenaires potentiels pour le développement de programmes de suivi dans leur région ou trouver des références à propos des données recueillies lors de travaux de suivi des espèces fauniques dans les tenures forestières.



Ronald A. Yeske

Octobre 2010



# COMPENDIUM OF LONG-TERM WILDLIFE MONITORING PROGRAMS IN CANADA

SPECIAL REPORT NO. 10-02  
OCTOBER 2010

## ABSTRACT

This compendium details the various wildlife monitoring programs in existence or, if appropriate, previously in existence, across Canada that deal with vertebrate species in the wild. The compendium is a tool to help forest researchers and managers better harness the value in these datasets, and to identify sources of information, gaps, redundancies, and opportunities for industry collaboration. For every program in the compendium, the reader will find a detailed description, contact information, and, when possible, a map of the area covered by the program in question.

Three criteria were evaluated for each program: program duration, spatial extent, and number of species surveyed. Program duration was defined as an absolute criterion, meaning that all programs in the compendium must have a minimum of three years of data, or at least long-term monitoring expectations. Spatial extent and the number of species surveyed were described as accessory criteria. Ideally, monitoring programs found in the compendium are primarily large-scale surveys that follow more than one species. However, large-scale and long-term programs monitoring a single species were included (e.g., Canadian Peregrine Falcon Survey and Canadian Lakes Loon Survey), as well as small-scale long-term monitoring programs following multiple species (e.g., Beaver River Drainage Basin Historical Fishing Survey). Programs were rejected if they were both small-scale and single-species monitoring programs. Projects hosting databases from potentially compendium-pertinent programs (monitoring programs or other) were also added to the compendium (e.g., NatureCounts, Northwest Territories Wildlife Management Information System, etc.).

## KEYWORDS

adaptive management, amphibians, birds, herpetofauna, mammals, monitoring, national, provincial, wildlife

## RELATED NCASI PUBLICATIONS

Special Report No. 06-05 (November 2006). *Synthesis of large-scale bird conservation plans in Canada: A resource for forest managers.*

Technical Bulletin No. 885 (August 2004). *Managing elements of biodiversity in sustainable forestry programs: Status and utility of NatureServe's information resources to forest managers.*





# RECUEIL DES PROGRAMMES DE SUIVIS À LONG TERME DES ESPÈCES FAUNIQUES AU CANADA

RAPPORT SPÉCIAL NO 10-02  
OCTOBRE 2010

## RÉSUMÉ

Le présent document se veut un recueil des divers programmes de suivi des espèces fauniques au Canada. Le recueil a été conçu comme un outil pour les chercheurs en foresterie et les gestionnaires de la ressource forestière afin qu'ils soient à même d'utiliser les données dans le cadre de leurs propres projets. De plus, le recueil leur permettra d'identifier les sources d'information, les faiblesses, les redondances, et les opportunités de collaboration avec l'industrie. Pour tous les programmes réunis dans ce recueil, le lecteur trouvera une description du suivi, les coordonnées de la personne en charge du programme, et, lorsque disponible, une carte de la région couverte par le programme en question.

Par contre, le recueil a ses limites. Trois critères ont été utilisés pour évaluer la pertinence des programmes réunis dans le recueil: la durée, l'étendue spatiale et le nombre d'espèces suivies. La durée du programme a été considérée comme un critère absolu, ce qui veut dire que tous les programmes présents dans ce recueil comportent de longues séries temporelles de données (au moins trois ans), ou ont l'ambition d'y arriver. L'étendue spatiale et le nombre d'espèces suivies ont été considérés comme critères accessoires. Idéalement, tous les programmes de suivi répertoriés dans le recueil couvriraient un large territoire et suivraient plusieurs espèces à la fois. La réalité étant souvent autre, les programmes de suivi à long terme d'une seule espèce sur un grand territoire ont été inclus (par exemple, le programme de suivi du faucon pèlerin et le suivi du plongeon huard dans les lacs canadiens), tout comme les suivis à long terme de plusieurs espèces sur un petit territoire (par exemple, suivi historique des pêches dans le bassin versant de la rivière Beaver). Les programmes se concentrant à la fois sur une seule espèce et sur un petit territoire ont été écartés.

Finalement, des projets qui hébergent les bases de données de programmes (suivis ou autres) pouvant être pertinents pour les utilisateurs du recueil ont aussi été ajoutés au recueil (par exemple, NatureCounts, le *Wildlife Management Information System* des Territoires du Nord-Ouest, etc.).

## MOTS-CLÉS

gestion adaptative, amphibiens, oiseaux, herpétofaune, mammifères, surveillance, national, provincial, faune

## AUTRES PUBLICATIONS

Rapport spécial n° 06-05 (novembre 2006). *Synthesis of large-scale bird conservation plans in Canada: A resource for forest managers.*

Bulletin technique n° 885 (août 2004). *Managing elements of biodiversity in sustainable forestry programs: Status and utility of NatureServe's information resources to forest managers.*



## CONTENTS

1.0	INTRODUCTION AND OBJECTIVES .....	1
2.0	METHODS .....	2
3.0	RESULTS .....	2
3.1	PanCanadian/North American .....	4
3.2	Alberta .....	37
3.3	British Columbia .....	49
3.4	Manitoba .....	60
3.5	New Brunswick .....	64
3.6	Newfoundland and Labrador .....	72
3.7	Northwest Territories .....	73
3.8	Nova Scotia .....	81
3.9	Nunavut .....	82
3.10	Ontario .....	84
3.11	Quebec .....	101
3.12	Prince Edward Island .....	113
3.13	Saskatchewan .....	113
3.14	Yukon .....	118
	REFERENCES .....	120



## FIGURES

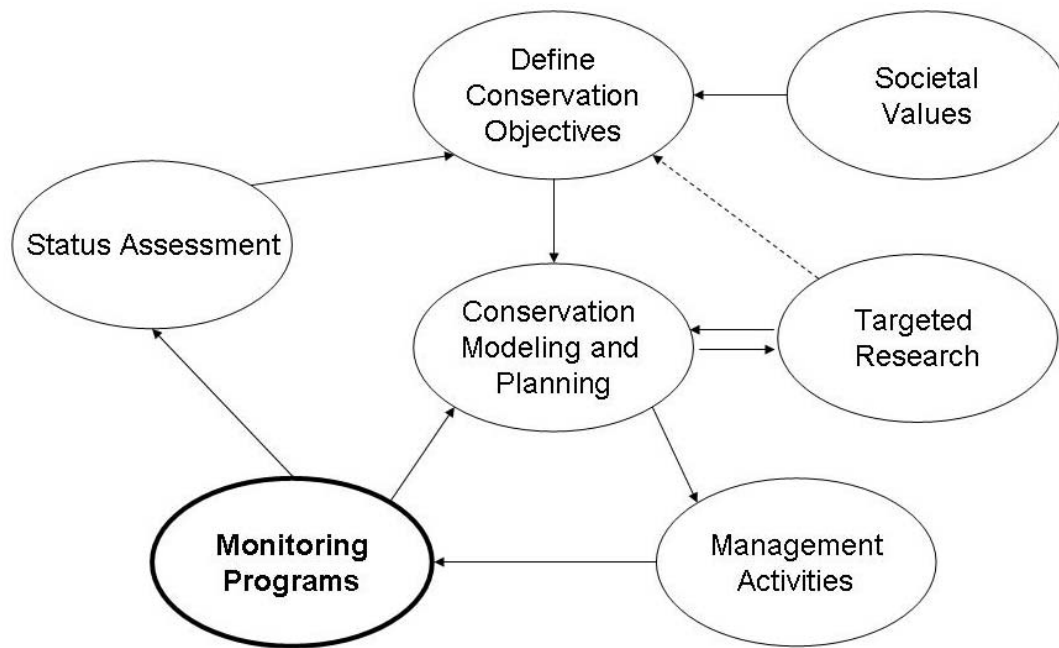
Figure 1.1	Information Gathered through Bird Population Monitoring Contributes to an Adaptive Management Cycle in Several Ways Including Assessing the Status of Species, Defining Conservation Objectives, Developing Conservation Plans, and Evaluating Management Actions .....	1
Figure 3.1	Distribution of Wildlife Monitoring Programs between Various Taxa .....	3
Figure 3.2	Number and Percent of All Programs Identified That Are Classified as National, Multi-Provincial, or Provincial in Scope .....	3
Figure 3.3	Provincial Participation in Wildlife Monitoring Programs, by Percent of Total .....	4
Figure 3.4	Black Duck Distribution in North America .....	7
Figure 3.5	Avian Modelling Project Data Location throughout Boreal Region of Canada .....	9
Figure 3.6	Canadian Migration Monitoring Network’s Bird Observatory Locations across Canada .....	13
Figure 3.7	The American Robin Record Frequency, an Example of Map Output from eBird .....	16
Figure 3.8	Representation of Counts of Observers at a Location after Two days (out of four) of the 2009 Great Backyard Bird Count Edition .....	18
Figure 3.9	The Important Bird Areas in Canada Are Shown in Red .....	21
Figure 3.10	Map of the Continental U.S. and Canada Showing the Eight MAPS Regions .....	22
Figure 3.11	MAPS Station Locations: Locations of the 873 MAPS Stations That Were Operated One or More Years between 1992-2003 .....	22
Figure 3.12	Map of Records from Transcribed Cards .....	30
Figure 3.13	Breeding Bird Survey Route Sites in Canada .....	31
Figure 3.14	Map of the 2009-2010 Feeder Locations .....	33
Figure 3.15	Strata and Transects of the Waterfowl Breeding Population and Habitat Survey .....	36
Figure 3.16	Sampling Sites of the Alberta Biodiversity Monitoring Institute .....	39
Figure 3.17	Map of the Beaver River Drainage Basin, Fishing Locations of Surveyed Anglers Are Marked .....	45
Figure 3.18	The Ferruginous Hawk Project Area and Survey Quadrants .....	47
Figure 3.19	Flyaway Map of the Pacific Black Brant .....	50
Figure 3.20	Map of the Various Regions of the British Columbia Breeding Bird Atlas .....	52
Figure 3.21	Focal Species Sightings by Monitoring Locations in the Brookwood/Fernridge Study Area in 2008 .....	59
Figure 3.22	Bicknell Thrush Breeding Range .....	67

Figure 3.23 An Output of the 2006-2010 Maritimes Breeding Bird Atlas, the American Robin Breeding Evidence .....	70
Figure 3.24 The Northwest Territories Regions .....	76
Figure 3.25 Some Small Mammals and Hare Survey Sites through Northwest Territories .....	80
Figure 3.26 Red Dots Represent Colonial Waterbirds of the Canadian Great Lakes Study Sites .....	86
Figure 3.27 Orange Dots Represent Study Sites of the Forest Bird Monitoring Program .....	87
Figure 3.28 Marsh Monitoring Program Route Locations within the Great Lakes Basin and Surrounding Areas .....	88
Figure 3.29 An Example of Output from the Atlas of the Breeding Birds of Ontario: The Bald Eagle 2001-2005 Breeding Evidence .....	92
Figure 3.30 Distribution of the Eastern American Toad Based on Records from the OHS Database .....	93
Figure 3.31 Spring 2009 Hummingbird Migration Arrivals Map .....	95
Figure 3.32 Distribution and Status of Red-shouldered Hawk and Spring Woodpecker Survey Routes in 2005 .....	99
Figure 3.33 Dark Blue Dots Represent Northern Ontario Breeding Waterfowl Pairs Surveys, While Pale Dots Represent Southern Ontario Breeding Waterfowl Pair and Habitat Survey.....	101
Figure 3.34 An Example of an Output from the Quebec Amphibian and Reptiles Atlas: Sites across Quebec Where Mink Frogs Were Observed.....	102
Figure 3.35 Tadoussac’s Situation along the Migration Pathway. Birds from Northeast Peninsula of Québec and Labrador Converge to the Closest Site Narrow Enough to Allow Easy Crossing .....	105
Figure 3.36 Location of Marshes Surveyed in the 2008 Edition of the Québec Marsh Monitoring Program.....	108
Figure 3.37 Routes Completed during the 2009 Nocturnal Owl Survey.....	110
Figure 3.38 The Combined Diversity and Abundance Index of St. Lawrence Seabirds .....	111
Figure 3.39 The Burrowing Owl Distribution Shrinkage – A 1970s and 2004 Comparison .....	114
Figure 3.40 Overlay of Ecoregions within the Prairie Habitat Joint Venture Delivery Area (coloured area), the Canadian Portion of Bird Conservation Region 11 (hashed area), and Study Area Locations for the Prairie and Parkland Marsh Monitoring Network.....	115

# COMPENDIUM OF LONG-TERM WILDLIFE MONITORING PROGRAMS IN CANADA

## 1.0 INTRODUCTION AND OBJECTIVES

The science of conservation is, in part, founded on long-term surveying and monitoring (British Trust for Ornithology 2009) and these tools are therefore vital to sound development of guidelines, standards, and policies for natural resource management. In an adaptive management context, monitoring plays a vital role in observing the effects of policies and guidelines, providing the necessary information for assessment (Figure 1.1).



**Figure 1.1** Information Gathered through Bird Population Monitoring Contributes to an Adaptive Management Cycle in Several Ways Including Assessing the Status of Species, Defining Conservation Objectives, Developing Conservation Plans, and Evaluating Management Actions (adapted from Francis, Blancher, and Phoenix 2009)

While useful, implementation of monitoring programs can sometimes be found lacking, particularly when programs operate in ignorance of one another, resulting in duplication of effort. Monitoring programs may also be used in an inductive manner, identifying problems with populations that are attributed to various causal factors without deductive evidence to confirm the relationship (Nudds and Villard 2009), potentially resulting in ineffective conservation programs. Francis, Blancher, and Phoenix (2009) argued bird monitoring in Ontario could be enhanced by clearly defining the information required for management, conservation, and decision making in the context of an adaptive management cycle, then determining the most cost-effective means to obtain that information.

Across Canada, a number of wildlife monitoring programs gather data on a wide range of species. Some of these programs are linked to national-level organizations (e.g., Bird Studies Canada), while others may be much smaller in scope. As many of these efforts take place on forested landscapes,

opportunities exist for forest industry involvement to provide support for these programs, or to use data derived from these programs to further understanding of key species. However, many of these programs are not well known, and may be duplicating efforts in several jurisdictions.

The purpose of this report is to document and compile information on the various long-term wildlife monitoring programs in Canada. This will provide forest managers and policy makers with a resource that will help meet a number of objectives. First, the compendium will help identify the various sources of data that can be used to explore wildlife management issues for a number of vertebrates across Canada. Second, it may help managers identify monitoring programs that they would like to incorporate into their own monitoring schemes, and thus contribute new data to existing databases. It may also help identify what sort of monitoring programs are still needed in Canada, without unnecessarily reinventing the proverbial wheel. Lastly, the compendium may also be used by monitoring programs themselves to identify ways that they can combine their efforts in the hopes of reducing the overall cost of gathering data across the vast Canadian geography.

## **2.0 METHODS**

Programs were identified for consideration in the compendium through searching Internet websites, published sources (e.g., newsletters, peer-reviewed publications, or reports), communication with conservation programs (e.g., Bird Studies Canada, Wildlife Habitat Canada), government representatives (e.g., Canadian Wildlife Service staff) and academics, or through networking with contacts in the wildlife field.

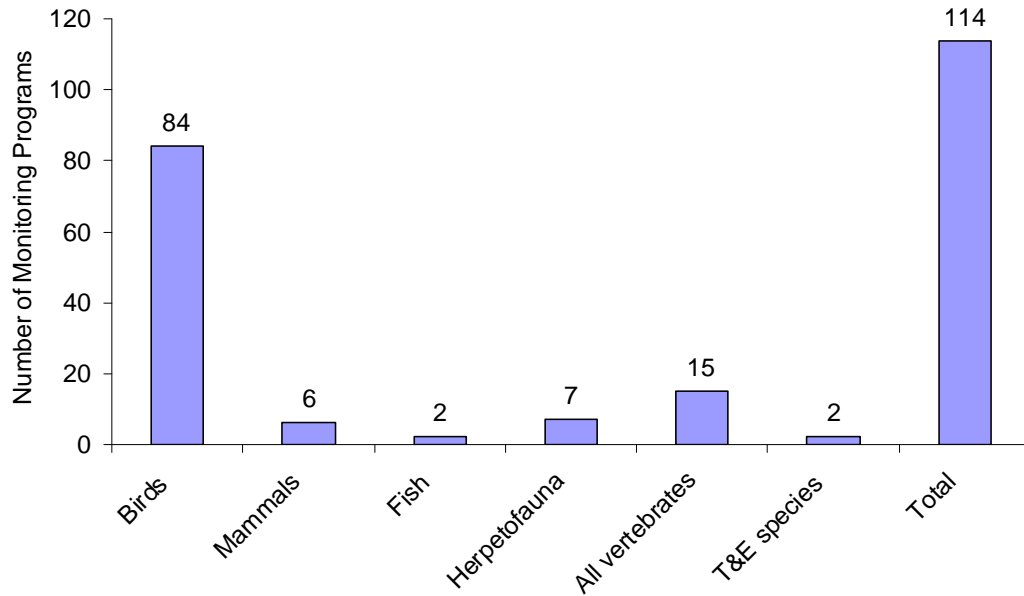
The compendium includes programs focused on vertebrates only, except where programs include invertebrate data collection in conjunction with a vertebrate program (e.g., Alberta Biodiversity Monitoring Institute, Long Point Bird Observatory Monarch Butterflies Census).

Three criteria were evaluated for each program to determine its suitability for inclusion in the compendium: time coverage, space coverage, and number of species surveyed. Time coverage was defined as an absolute criterion, meaning that all programs in the compendium must have at least three years of data, or at minimum longer-term monitoring expectations. Space coverage and the number of species surveyed were described as accessory criteria. Ideally, monitoring programs found in the compendium should proceed to large-scale surveys and follow more than one species. However, large-scale and long-term programs monitoring a single species were included (e.g., Canadian Peregrine Falcon Survey and Canadian Lakes Loon Survey), as well as small-scale long-term monitoring programs following multiple species (e.g., Beaver River Drainage Basin Historical Fishing Survey). Programs were not included if they were primarily both small-scale and single-species monitoring programs.

## **3.0 RESULTS**

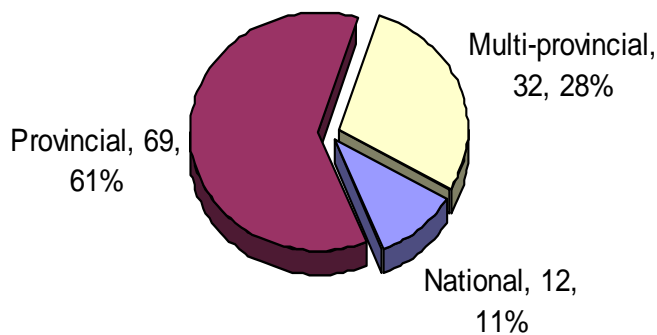
A total of 114 wildlife monitoring programs were identified from across Canada. A large majority (81, or 71%) of all monitoring programs are dedicated solely to bird species, and an additional three programs focus on birds and one or two additional taxa [e.g., birds and amphibians (one), or mammals (two)]. See Figure 3.1.





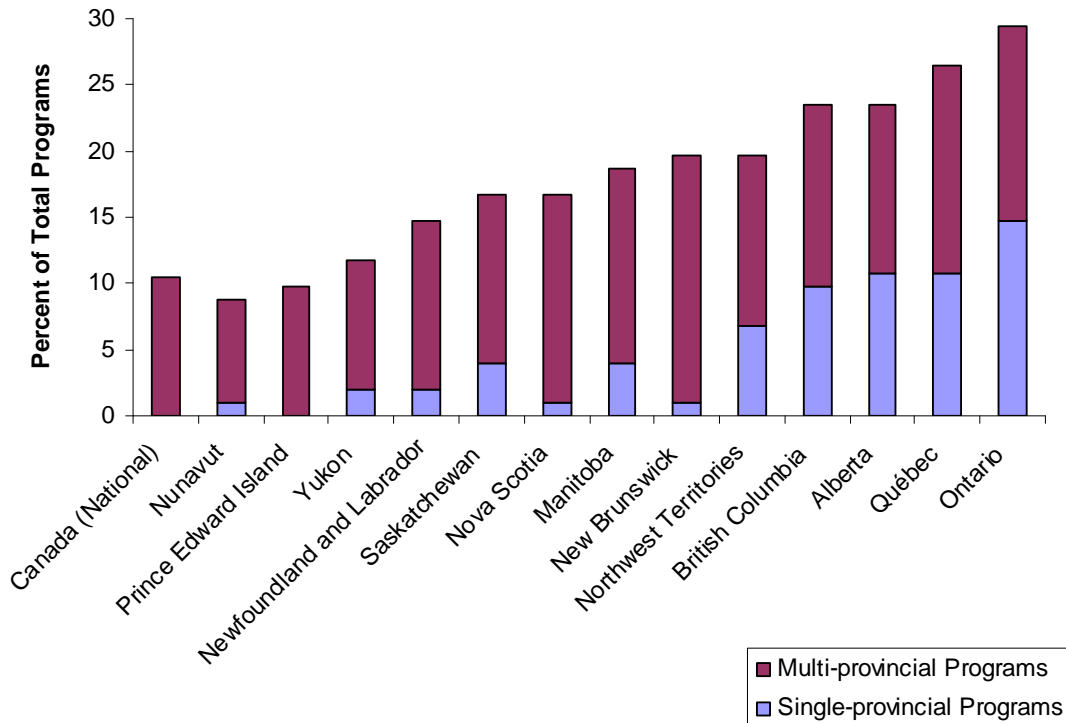
**Figure 3.1** Distribution of Wildlife Monitoring Programs between Various Taxa [T&E=threatened and endangered]

Irrespective of the type of monitoring program, species monitored, or organization/agency in charge, programs are not consistent in their geographic scope. Monitoring programs may be national in scope (encompassing all provinces and territories, 11%), regional or multi-provincial (28%), or single-province (61%, see Figure 3.2). However, some provincial programs, although run and managed on a province-by-province basis, are coordinated by a national organization that ensures consistency in methods and houses the data (e.g., provincial nocturnal owl programs, coordinated by Bird Studies Canada).



**Figure 3.2** Number and Percent of All Programs Identified That Are Classified as National, Multi-Provincial, or Provincial in Scope

Further, some multi-provincial programs cannot be conducted in particular provinces or territories because the monitoring target is not present in the particular jurisdiction (e.g., Canadian Peregrine Falcon Survey; peregrine falcons are not present in PEI). As a result, provinces and territories are included in a variable number of programs, both multi-provincial and single province (see Figure 3.3).



**Figure 3.3** Provincial Participation in Wildlife Monitoring Programs, by Percent of Total

It is important to note that this compendium of wildlife programs does not evaluate the quality of the programs listed. While others have commented on the appropriate purpose and placement of monitoring programs in scientific inquiry, adaptive management, and public policy (e.g., Francis, Blancher, and Phoenix 2009), this compendium provides details of their purpose, scope, data collected and contact information of each program.

### 3.1 PanCanadian/North American

#### 3.1.1 *Arctic Goose Joint Venture*

The Arctic Goose Joint Venture (AGJV) is a multi-agency partnership established under the North American Waterfowl Management Plan. The goal of the AGJV is to foster greater research and monitoring of Arctic, sub-Arctic and boreal nesting of geese for the purpose of improving and refining population management from a breeding ground perspective. In order to reach its goals, the AGJV facilitates research and monitoring of Arctic goose populations by working cooperatively to implement a coordinated and cost-effective approach to meeting high priority information needs. All data from banding are gathered in a centralized database, available by request to the bird banding office in the U.S. or Canada. However, this is not the case with project data, which are housed by

individual project leaders. Contact information of a particular project leader may be obtained from Deanna Dixon ([Deanna.Dixon@ec.gc.ca](mailto:Deanna.Dixon@ec.gc.ca)), Joint Venture Coordinator.

**Group of interest:** Birds

Species: Geese (Greater White-fronted Goose, Emperor Goose, Snow Goose, Ross's Goose, Brant Goose, Cackling Goose, Canada Goose; respectively *Anser albifrons*, *Chen canagica*, *Chen caerulescens*, *Chen rossii*, *Branta bernicla*, *Branta hutchinsii*, *Branta canadensis*)

**Partner institutions and sponsoring organizations:** Canadian Wildlife Service; U.S. Fish and Wildlife Service; Governments of Canada, the United States and Mexico; the four flyways (Atlantic, Mississippi, Central and Pacific); various states and provinces (see detailed list on the website); and Ducks Unlimited

**Governmental organization (Y/N):** Y

**Active since:** 1989

**Province:** All arctic provinces where nesting occurs

**Region:** The AGJV generally encompasses all of arctic Canada (north of 60° latitude), Alaska, and most northern areas of Canadian provinces south of 60°. The only goose populations that are currently excluded from the AGJV are temperate-nesting Canada geese in southern Canada and the U.S.

**Website(s):**

Arctic Goose Joint Venture [www.agjv.ca](http://www.agjv.ca)

Bird Banding Office [www.pwrc.usgs.gov/bbl/default.htm](http://www.pwrc.usgs.gov/bbl/default.htm)

**Contact:**

Jim Leafloor, Canadian Co-Chair of the AGJV Technical Committee  
[jim.leafloor@ec.gc.ca](mailto:jim.leafloor@ec.gc.ca); [agjv@ec.gc.ca](mailto:agjv@ec.gc.ca)

**3.1.2 Avian Knowledge Network**

The Avian Knowledge Network (AKN) is an organization led by the Cornell Lab of Ornithology focusing on understanding the patterns and dynamics of bird population across the Western Hemisphere. The goal of AKN is to educate the public on the dynamics of bird populations, provide decision-making tools for land managers, increase availability of data for scientific research, and advance new exploratory analysis techniques to study bird populations. In order to achieve this goal, AKN organizes data and makes databases freely accessible on their website.

**Group of interest:** Birds

**Species:** All

**Partner institutions and sponsoring organizations:** National Science Foundation; National Biological Information Infrastructure; Leon Levy Foundation; Cornell Lab of Ornithology; Cornell University's Departments of Computer Science and Statistics; Point Reyes Bird Observatory; Redwood Science Lab of the United States Forest Service; and Bird Studies Canada

**Governmental organization (Y/N):** N

**Province:** All

**Region:** Western Hemisphere

**Website(s):**

Avian Knowledge Network [www.avianknowledge.net/content](http://www.avianknowledge.net/content)

### **3.1.3 Black Duck Joint Venture**

The Black Duck Joint Venture's mission is to promote and coordinate the gathering and sharing of scientific information among Flyway Councils, universities, and wildlife agencies in Canada and the U.S. Such action is essential for the maintenance of sustained populations of Black Duck and other waterfowl that share their breeding range. The program uses aerial surveys (fixed wing transects and helicopter plots) to follow status and trends in Black Duck and other duck species populations. Surveys are repeated every year. Some data are available upon request.

**Group of interest:** Birds

**Species:** Primary focus is put on Black Duck, but Mallard Duck, Green-winged Teal, Blue-winged Teal, Wood Duck, and Ring-necked Duck are also monitored (respectively *Anas rubipes*, *Anas platyrhynchos*, *Anas carolinensis*, *Anas discor*, *Aix sponsa*, and *Aythya collaris*).

**Partner institutions and sponsoring organizations:** Canadian Wildlife Service; Department of environmental conservation of the New York State; Ducks Unlimited Canada; Government of New Brunswick; Government of Ontario; New Jersey Division of Fish and Wildlife; Nova Scotia Natural Resources; Ohio Division of Wildlife; Prince Edward Island Fish and Wildlife Division; Société de la faune et des parcs Québec; and the U.S. Fish and Wildlife Service

**Governmental organization (Y/N):** Y

**Active since:** 1990

**Provinces:** New Brunswick, Newfoundland and Labrador, Nova Scotia, Ontario, Prince Edward Island and Québec (see Figure 3.4)



**Figure 3.4** Black Duck Distribution in North America [Source: Longcore et al. (2000)]

**Region:** Black Duck distribution, i.e., Eastern Canada

**Website(s):**

Black Duck Joint Venture [www.blackduckjv.org/index.html](http://www.blackduckjv.org/index.html)

North American Bird Monitoring Network [www.bsc-eoc.org/nabm/index.jsp?lang=EN&proj=33](http://www.bsc-eoc.org/nabm/index.jsp?lang=EN&proj=33)

Environment Canada [www.qc.ec.gc.ca/Faune/sauvagine/html/surveys.html](http://www.qc.ec.gc.ca/Faune/sauvagine/html/surveys.html)

**Contact:**

Brigitte Collins, Coordinator  
Black Duck Joint Venture, Environment Canada  
335 River Road  
Ottawa, ON K1A 0H3 (Mail: K1V 1C7)  
tel 613-949-8264; fax 613-949-8307  
[Brigitte.Collins@ec.gc.ca](mailto:Brigitte.Collins@ec.gc.ca)

### 3.1.4 *Boreal Avian Modelling Project*

The Boreal Avian Modelling Project has a vision oriented towards conservation of boreal birds and the use of integrated data and analysis to inform conservation and management decisions. The project involves collaboration of researchers and agencies across the country, and has collated a widespread range of studies into a comprehensive, national boreal bird and habitat database. Analytical methods have been developed to standardize datasets from different surveys. BAM's database is being used to build statistical models of bird species distributions, habitat occupancy, and densities. These results are to be regularly updated as new data are contributed and new analytical techniques are developed or applied. Future efforts include analyses to assess avian response to ecological change (habitat, climate, land use). BAM's work will be available to all interested parties to aid in the support of conservation planning across the Canadian boreal and taiga.

The project's objectives are to

- assemble and maintain the most complete and current repository of spatially referenced data for boreal birds and their habitats;
- apply and develop state-of-the art analytical methods;
- improve the efficacy of avian data collection in Canada;
- provide a conservation legacy for avian data collected in Canada's boreal forest, beyond the scope of individual research projects;
- build support from academia, industries, governments, non-governmental organizations and other interested parties for further development and testing of models of boreal bird distribution, populations, and habitats, and for the proactive application of such models to the conservation of boreal forests and biodiversity; and
- encourage public awareness and education.

Currently, the data are not public due to various data sharing agreements, but are used in collaboration with data partners.

**Group of interest:** Birds

**Species:** All boreal species

**Partner institutions:** Acadia University; Alberta Biodiversity Monitoring Institute; Alberta Pacific Forest Industries Inc.; AMEC Earth & Environmental; AREVA Resources Canada Inc.; AXYS Environmental Consulting Ltd.; Bighorn Wildlife Technologies Ltd.; Bird Studies Canada; Canadian Natural Resources Ltd.; Canfor Corporation; Daishowa Marubeni International Ltd; Canada Centre for Remote Sensing and Canadian Forest Service, Natural Resources Canada; Canadian Wildlife Service and Science & Technology Branch, Environment Canada; Global Land Cover Facility; Golder Associates Ltd.; Government of British Columbia; Government of Yukon; Hinton Wood Products; Hydro-Québec Équipement; Kluane Ecosystem Monitoring Project; Komex International Ltd.; Louisiana Pacific Canada Ltd.; Manitoba Hydro; Manitoba Model Forest Inc.; Manning Diversified Forest Products Ltd.; Matrix Solutions Inc. Environment & Engineering; MEG Energy Corp.; Mirkwood Ecological Consultants Ltd.; Numerical Terradynamic Simulation Group; Ontario Ministry of Natural Resources; OPTI Canada Inc.; PanCanadian Petroleum Limited; Parks Canada; Petro Canada; Principal Wildlife Resource Consulting; Rio Alto Resources International Inc.; Saskatchewan Environment; Shell Canada Ltd.; Suncor Energy Inc.; Tembec Industries Inc.; Tolko Industries Ltd.; Université de Moncton; Université du Québec à Montréal; Université du Québec en

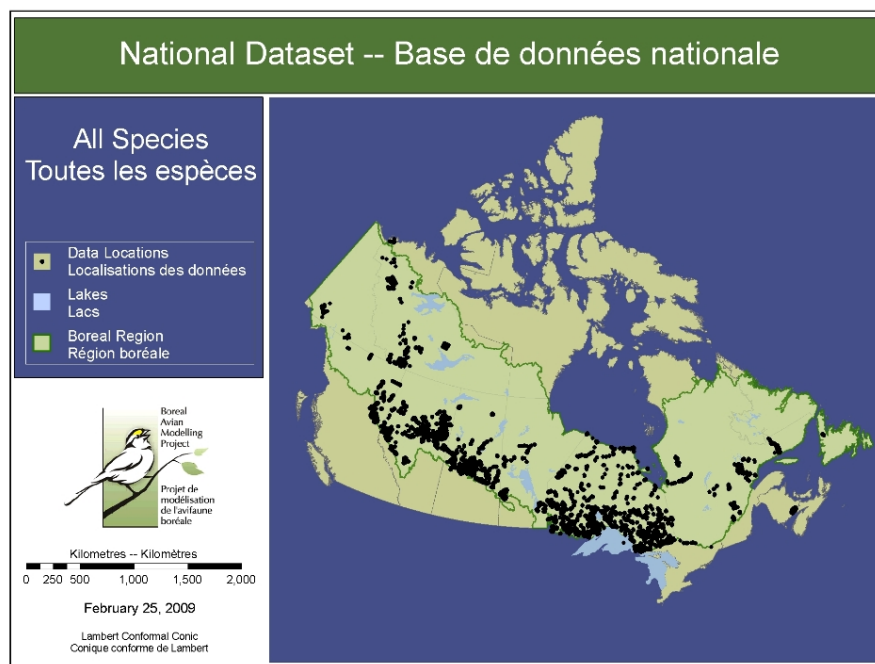
Abitibi-Témiscamingue; Université Laval; University of Alberta; University of British Columbia; University of Guelph; University of New Brunswick; University of Northern British Columbia; URSUS Ecosystem Management Ltd.; West Fraser Timber Co. Ltd.; Weyerhaeuser Company Ltd.; Wildlife Resource Consulting Services MB Inc.

**Sponsoring organization:** U.S. Fish and Wildlife Service - Neotropical Migratory Bird Conservation Act Grants Program; Canada Foundation for Innovation; Canada Research Chairs; Ducks Unlimited Canada; Université Laval; Forest Products Association of Canada; Canadian Boreal Initiative; Alberta Research Council Inc.; Environmental Studies Research Fund; Fonds québécois de la recherche sur la nature et les technologies; Natural Sciences and Engineering Research Council; and Sustainable Forest Management Network

**Governmental organization (Y/N):** N

**Active since:** 2004

**Provinces:** Alberta, British Columbia, Manitoba, New Brunswick, Newfoundland and Labrador, Northwest Territories, Nunavut, Ontario, Québec, Saskatchewan, and Yukon (see Figure 3.5).



**Figure 3.5** Avian Modelling Project Data Location throughout Boreal Region of Canada  
[Source: [www.borealbirds.ca/index.php/avian\\_data](http://www.borealbirds.ca/index.php/avian_data)]

**Region:** Boreal forest

**Website(s):**

Boreal Avian Modelling Project [www.borealbirds.ca](http://www.borealbirds.ca)

Eco-Index [www.eco-index.org/search/results.cfm?projectID=1353](http://www.eco-index.org/search/results.cfm?projectID=1353)

**Contact:**

Trish Fontaine, GIS and Spatial Database Manager  
 Boreal Avian Modelling Project, University of Alberta  
 751 General Services Building  
 Edmonton, AB T6G 2H1  
 tel 780-492-1497  
[trish.fontaine@ales.ualberta.ca](mailto:trish.fontaine@ales.ualberta.ca); [borealbirds@ales.ualberta.ca](mailto:borealbirds@ales.ualberta.ca)

**3.1.5 Canadian Biodiversity Information Facility**

Through its participation in the Global Biodiversity Information Facility (GBIF), Canada has access to structures improving the organization, exchange, correlation, and availability of primary data on biological species in Canada. The Canadian Biodiversity Information Facility (CBIF) allows people to reach a wide collection of data and information about Canada's biodiversity. The CBIF is made up of four research tools:

- Integrated Taxonomic Information System – a catalogue of common and scientific names leading to a resource file for each species
- Species Access Canada – allows Internet access to information associated with specimens housed in the world's natural history collections
- Online Mapping – online GIS applications
- SpeciesBank – a collection of digital information (distribution maps, identification guidance, photographs, etc.) about groups of species

**Group of interest:** All living species in Canada

**Species:** All living species in Canada

**Partner institutions and sponsoring organizations:** CBIF regroups the four federal natural resource departments (Agriculture and Agri-Food Canada, Environment Canada, Health Canada, and Natural Resources Canada), and some other partners (Canadian Food Inspection Agency, Canadian Museum of Nature and Parks Canada).

**Governmental organization (Y/N):** Y

**Number of years of data:** Varies from program to program

**Province:** All

**Region:** All

**Website(s):**

Canadian Biodiversity Information Facility [www.cbif.gc.ca/home\\_e.php](http://www.cbif.gc.ca/home_e.php)

**Contact:**

[cbif@agr.gc.ca](mailto:cbif@agr.gc.ca)

**3.1.6 Canadian Lakes Loon Survey**

Human activity has reduced the abundance and breeding range of the Common Loon in North America. The Canadian Lake Loon Survey was founded to monitor the numbers and breeding success



of Loons on lakes across Canada through a network of volunteer surveyors. Lakes are selected by users/volunteers. Volunteers are asked to survey three times over the summer. The first survey takes place in June when volunteers watch for pairs of Loons occupying the lake (with or without expectation of a pair of Loons). The second survey is in July to look for newly hatched chicks. A third visit is in August to record the number of chicks that have survived the summer. Data are available on both the NatureCounts and Canadian Biodiversity Information Facility websites.

**Group of interest:** Birds

**Species:** Common Loons (*Gavia immer*) and other common waterbirds

**Partner institutions and sponsoring organizations:** Bird Studies Canada; Shell Environmental Fund; Canada Trust Friends of the Environment Canada Fund; Canadian Wildlife Service (Ontario and Atlantic Regions); Nova Scotia Habitat Conservation Fund; Helen McCrea Peacock Foundation; Northern Reflections; North American Loon Fund; Common Loon Resources (Gregory M. Nelson); Backwoods Art (Marc Arbez)

**Governmental organization (Y/N):** N

**Active since:** 1981

**Province:** Southern part of most provinces

**Region:** All

**Website(s):**

Bird Studies Canada [www.bsc-eoc.org/cllsmain.html](http://www.bsc-eoc.org/cllsmain.html)

North American Bird Monitoring Project Database [www.bsc-eoc.org/nabm/index.jsp?lang=EN&proj=45](http://www.bsc-eoc.org/nabm/index.jsp?lang=EN&proj=45)

NatureCounts [www.birdscanada.org/birdmon/default/datasets.jsp?code=CLLS](http://www.birdscanada.org/birdmon/default/datasets.jsp?code=CLLS)

**Contact:**

Steve Timmermans, Aquatic Surveys Scientist  
tel 519-586-3531; email [stimmermans@bsc-eoc.org](mailto:stimmermans@bsc-eoc.org)

Kathy Jones, Aquatic Surveys Officer  
[aqsurvey@bsc-eoc.org](mailto:aqsurvey@bsc-eoc.org)

Canadian Lakes Loon Survey  
Bird Studies Canada  
P.O. Box 160  
Port Rowan, ON N0E 1M0  
tel 888-448-2473; fax 519-586-3532

### 3.1.7 Canadian Landbird Monitoring Strategy

The Canadian Landbird Monitoring Strategy (CLMS) provides a guideline for the long-term monitoring of Canada's landbirds and some waterbirds. The goal of the CLMS is to monitor the status of all Canadian landbirds, and ensure that results are available for research and conservation.

Here are some surveys recommended and promoted by the CLMS:

- Breeding Bird Atlas

- Bbird
- Bird Checklist Programs
- Breeding Bird Survey (BBS)
- Christmas Bird Count (CBC)
- Forest Bird Monitoring Program (FBMP)
- Marsh Monitoring Program (MMP)
- Migration Monitoring
- Hawk Survey
- Monitoring Avian Productivity and Survivorship (MAPS)
- Nest Records Scheme (NRS)
- Owl Surveys
- Project FeederWatch (PFW)

The Canadian Landbird Monitoring Strategy is currently reviewed by Environment Canada.

**Group of interest:** Birds

**Species:** Loons, grebes, raptors grouse, ptarmigan, and quail, herons, egrets, and bitterns cranes, rails, and coots, pigeons and doves, cuckoos, nighthawks, swifts, hummingbirds, kingfishers, woodpeckers, and passerines

**Partner institutions and sponsoring organizations:** Canadian Wildlife Service

**Governmental organization (Y/N):** Y

**Active since:** 2000

**Province:** All

**Region:** All

**Website(s):**

CWS [www.cws-scf.ec.gc.ca/nwrc-cnrf/default.asp?lang=en&n=1B53541E](http://www.cws-scf.ec.gc.ca/nwrc-cnrf/default.asp?lang=en&n=1B53541E)

**Contact:**

Constance M. Downes  
National Wildlife Research Centre, Canadian Wildlife Service  
Carleton University Campus  
Raven Road  
Ottawa, ON K1A 0H3  
tel 613-998-0490  
[Connie.Downes@ec.gc.ca](mailto:Connie.Downes@ec.gc.ca)

### 3.1.8 Canadian Migration Monitoring Network

The Canadian Migration Monitoring Network is a network of over 20 independent bird observatories spread across Canada in which birds are counted and banded during spring and fall migrations, following a unified protocol. The network data processing is supported by Bird Studies Canada's NatureCounts, although datasets are also available via the Canadian Migration Monitoring Network's website. In 2008 a ten-year report was released on Monitoring Landbird Population Change. The CMMN's network is particularly useful for its coverage of bird species breeding in northern forests of Canada, usually excluded from most of monitoring programs.

**Group of interest:** Birds

**Species:** Over 150 species of landbirds (among them 80 species are otherwise not well monitored by established breeding bird surveys, due to breeding located in Canada's northern forests)

**Partner institutions and sponsoring organizations:** Bird Studies Canada; Canadian Wildlife Service; the Canada Trust Friends of the Environment Foundation; Canada Fund; the James L. Baillie Memorial Fund; hundreds of private donors; naturalist clubs; provincial governments; academic institutions; and corporate donors

**Governmental organization (Y/N):** N

**Active since:** 1998, but some data go as far back as 1960.

**Province:** All, except Northwest Territories, Nunavut, and Newfoundland and Labrador (see Figure 3.6)



**Figure 3.6** Canadian Migration Monitoring Network's Bird Observatory Locations across Canada  
[Source: [www.bsc-eoc.org/volunteer/cmmn/index.jsp?lang=EN&targetpg=index](http://www.bsc-eoc.org/volunteer/cmmn/index.jsp?lang=EN&targetpg=index)]

**Region:** All, except far North

**Website(s):**

Bird Studies Canada [www.bsc-eoc.org/volunteer/cmmn/index.jsp?lang=EN&targetpg=index](http://www.bsc-eoc.org/volunteer/cmmn/index.jsp?lang=EN&targetpg=index)

North American Bird Monitoring Projects Database  
[www.bsc-eoc.org/nabm/index.jsp?lang=EN&proj=46](http://www.bsc-eoc.org/nabm/index.jsp?lang=EN&proj=46)

Report on Monitoring Landbird Population Change  
<http://www.bsc-eoc.org/download/CMMNReport2008.pdf>

Various Bird Observatory banding and daily estimates data, NatureCounts  
[www.birdscanada.org/birdmon/default/datasets.jsp](http://www.birdscanada.org/birdmon/default/datasets.jsp)

**Contacts:**

Jon McCracken, Ontario Program Manager  
tel 888-448-2473 #205  
[jmccracken@bsc-eoc.org](mailto:jmccracken@bsc-eoc.org)

Audrey Heagy  
tel 888-448-2473  
[aheagy@bsc-eoc.org](mailto:aheagy@bsc-eoc.org)

Bird Studies Canada  
C.P. 160, 115 Front  
Port Rowan, Ontario  
N0E 1M0

**3.1.9 Canadian Peregrine Falcon Survey**

The Canadian Peregrine Falcon Survey's objectives are to determine nest site occupancy and productivity with the goal of monitoring the recovery and long-term population trends of the Peregrine Falcon across Canada. Ideally, sites are visited twice a year (once to determine nest occupancy and once to evaluate nest productivity), every five years. Data are published in publicly accessible journals, while raw data are retained by each provincial and territorial agency.

**Group of interest:** Birds

**Species:** Peregrine Falcon (*Falco peregrinus*)

**Partner institutions and sponsoring organizations:** National Peregrine Falcon Recovery Team; Canadian Wildlife Service/Environment Canada; provincial and territorial wildlife departments; conservation agencies and other NGOs

**Governmental organization (Y/N):** Y

**Active since:** 1970

**Province:** All except Prince Edward Island (there are no Peregrine Falcons recorded in that province).

**Region:** Must contain Peregrine Falcon breeding site features

**Website(s):**

North American Bird Monitoring Projects Database  
[www.bsc-eoc.org/nabm/index.jsp?lang=EN&proj=47](http://www.bsc-eoc.org/nabm/index.jsp?lang=EN&proj=47)

**Contact:**

Geoffrey L. Holroyd, Research Scientist  
Environment Canada  
tel 780-951-8689  
[geoffrey.holroyd@ec.gc.ca](mailto:geoffrey.holroyd@ec.gc.ca)

**3.1.10 Christmas Bird Count**

The Christmas Bird Count is a Pan-American early-winter tradition. One day between December 14<sup>th</sup> and January 5<sup>th</sup> from dawn to dusk, volunteers are asked to note every bird seen or heard while visiting pre-defined circular plot sites. The Christmas Bird Count holds more than a century of data, providing information about long-term trends in bird populations, at local as well as global scale. Data are available online on the Audubon Society website.

**Group of interest:** Birds

**Species:** All species

**Partner institutions and sponsoring organizations:** National Audubon Society

**Governmental organization (Y/N):** N

**Active since:** 1900

**Province:** All

**Region:** All

**Website(s):**

National Audubon Society [www.audubon.org/Bird/cbc](http://www.audubon.org/Bird/cbc)

NatureCounts [www.birdscanada.org/birdmon/default/datasets.jsp?code=CBC](http://www.birdscanada.org/birdmon/default/datasets.jsp?code=CBC)

**Contact:**

[cbcadmin@audubon.org](mailto:cbcadmin@audubon.org)

**3.1.11 eBird**

The eBird program is a real-time, online checklist providing data sources for basic information on bird abundance and distribution at various spatial and temporal scales. eBird aims to maximize the utility and accessibility of the large amount of bird observations made every year by recreational and professional bird watchers across North America. Bird watchers have to register to be allowed to record their observations (when, where, how they went birding; a checklist of all the birds seen and heard during the outing). Data quality is ensured by automated filters and expert reviews. Data are accessible to anyone via the eBird website. Furthermore, eBird data are shared with the Avian Knowledge Network and the Global Biodiversity Information Facility.

**Group of interest:** Birds

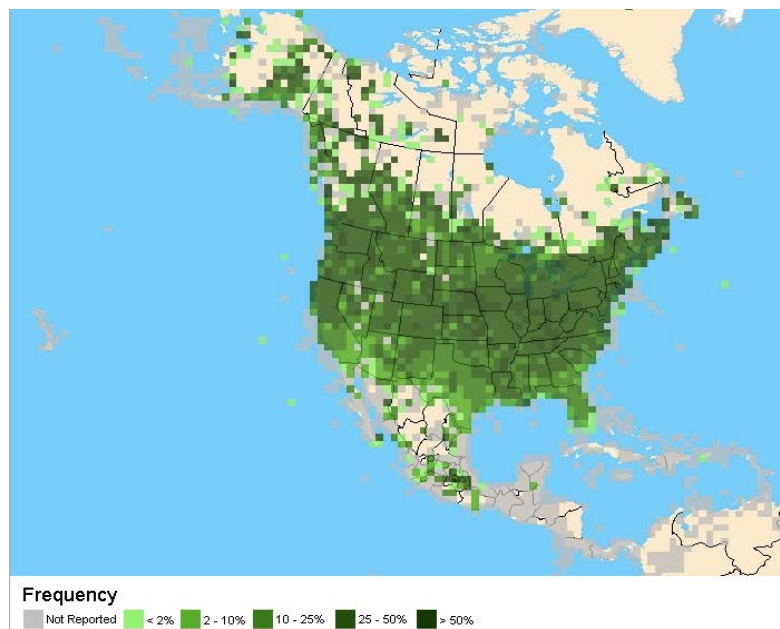
**Species:** All

**Partner institutions and sponsoring organizations:** Cornell Lab of Ornithology; and Audubon Society

**Governmental organization (Y/N):** N

**Active since:** 2002

**Province:** All (see Figure 3.7)



**Figure 3.7** The American Robin Record Frequency, an Example of Map Output from eBird  
 [Source:[ebird.org/ebird/GuideMe?cmd=quickPick&speciesCode=&bMonth=01&bYear=2006&eMonth=12&eYear=2010&getLocations=northAmerica&reportType=species&speciesCodes=amerob&continue.x=71&continue.y=10&continue=Continue](http://ebird.org/ebird/GuideMe?cmd=quickPick&speciesCode=&bMonth=01&bYear=2006&eMonth=12&eYear=2010&getLocations=northAmerica&reportType=species&speciesCodes=amerob&continue.x=71&continue.y=10&continue=Continue)]

**Region:** North America

**Website(s):**

eBird [ebird.org/content/ebird](http://ebird.org/content/ebird)

NatureCounts [www.birdscanada.org/birdmon/default/datasets.jsp?code=EBIRD](http://www.birdscanada.org/birdmon/default/datasets.jsp?code=EBIRD)

Avian Knowledge Network [www.avianknowledge.net/content/datasets/projects/ebird\\_can](http://www.avianknowledge.net/content/datasets/projects/ebird_can)

**Contact:**

eBird

Cornell Lab of Ornithology  
 159 Sapsucker Woods Road  
 Ithaca, NY 14850  
[eBird@cornell.edu](mailto:eBird@cornell.edu)

### 3.1.12 *FrogWatch Canada*

Because of their sensitivity to pollution and changes in their environment, frogs and toads are often considered indicator species. FrogWatch is part of a broader program, NatureWatch. Each province and territory has its own version of FrogWatch, all available on a single website. Monitoring sites are chosen by volunteers. Ideally, participants should monitor mating calls once or twice a week, at dusk or after rain, and record their observations using the FrogWatch Observation Form. Audiovisual support is offered on the website to help in frog and toad identification. Data and results are also available on the website.

**Group of interest:** Amphibians

**Species:** Solely frogs and toads

**Partner institutions and sponsoring organizations:**

Nature Canada, Ecological Monitoring and Assessment Network; University of Guelph

**Governmental organization (Y/N):** Y

**Active since:** 2000

**Province:** All

**Region:** All

**Website(s):**

NatureWatch [www.naturewatch.ca/english/select\\_province.html](http://www.naturewatch.ca/english/select_province.html)

**Contact:**

NatureWatch  
tel 613-949-7754  
[eman@ec.gc.ca](mailto:eman@ec.gc.ca)

### 3.1.13 *Great Backyard Bird Count*

The Great Backyard Bird Count (GBBC) is an annual four-day event of bird watching event in February. Birders of all ages and experience compile observations on online checklists, in order to create a mid-winter snapshot of the number, species, and distribution of birds across North America. Results are shared on the GBBC website, and the database is available via the Avian Knowledge Network website. This program complements other winter bird monitoring projects such as the Christmas Bird Count, Project FeederWatch, and eBird.

**Group of interest:** Birds

**Species:** All

**Partner institutions and sponsoring organizations:** Wild Birds Unlimited; Cornell Information Technologies; Natural Resources Conservation Service; National Science Foundation; Cornell Lab of Ornithology; and Audubon Society

**Governmental organization (Y/N):** N

**Active since:** 1998

**Province:** All (see Figure 3.8)

**Region:** Canada and U.S.

**Website(s):**

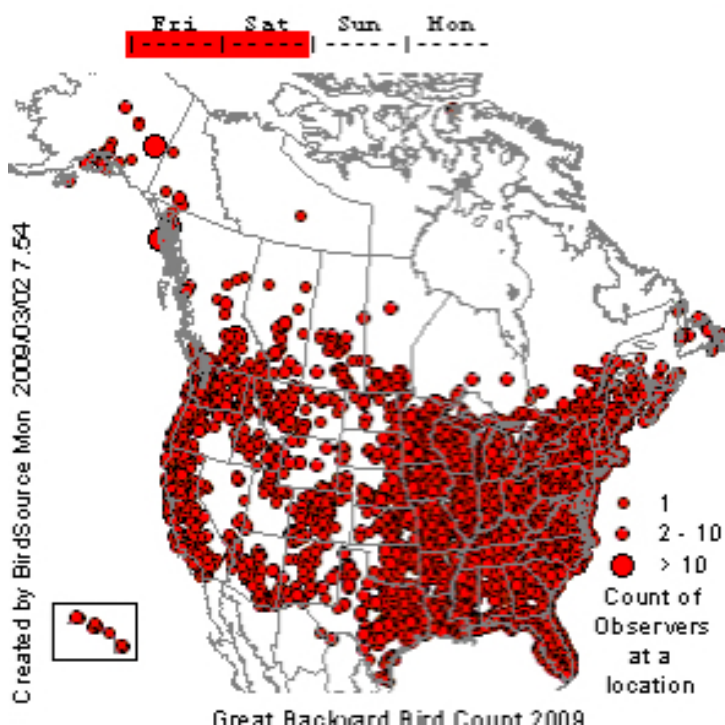
Great Backyard Bird Count [www.birdsource.org/gbbc](http://www.birdsource.org/gbbc)

NatureCounts [www.birdscanada.org/birdmon/default/datasets.jsp?code=GBBC](http://www.birdscanada.org/birdmon/default/datasets.jsp?code=GBBC)

Avian Knowledge Network [www.avianknowledge.net/content/datasets/projects/gbbc](http://www.avianknowledge.net/content/datasets/projects/gbbc)

**Contact:**

Steve Kelling, Director of Information Science  
[stk2@cornell.edu](mailto:stk2@cornell.edu)



**Figure 3.8** Representation of Counts of Observers at a Location after Two Days (out of four) of the 2009 Great Backyard Bird Count Edition  
 [Source [www.birdsource.org/gbbc](http://www.birdsource.org/gbbc)]

### 3.1.14 *HawkCount*

HawkCount is an initiative of Hawk Migration Association of North America, an organization committed to the conservation of raptors through the scientific study, enjoyment, and appreciation of raptor migrations. HawkCount provides a near-real-time database of Hawk counts across the continent. North American Hawk watch sites input their raptor counts records every day in HawkCount, creating an enormous and precise database. Here are Canadian Hawk watch sites:



- Beamer Conservation Area (Ontario)
- Cranberry Marsh (Ontario)
- Eagle Crossing (Québec)
- Field of Grand-Métis (Québec)
- Greenlaw Mountain (New Brunswick)
- Hawk Cliff Hawkwatch (Ontario)
- High Park (Ontario)
- Holiday Beach Conservation Area (Ontario)
- Innisfree (Ontario)
- Iroquois Shoreline (Ontario)
- Kitsilano (British Columbia)
- Montreal West Island Hawkwatch (Québec)
- Observatoire d'oiseaux de Tadoussac (Québec)
- Pembina Valley (Manitoba)
- Plateau de Beaupré (Québec)
- Rocky Point Bird Observatory (British Columbia)
- St. Adolphe Hawkwatch (Manitoba)
- Thunder Cape Bird Observatory (Ontario)
- Whytewold Hawkwatch (Manitoba)

HawkCount data are used in several programs, such as the Raptor Population Index ([www.rpi-project.org/index.php](http://www.rpi-project.org/index.php)) and the Avian Knowledge Network (p. 2).

**Group of interest:** Birds

**Species:** Raptors

**Partner institutions and sponsoring organizations:** Hawk Migration Association of North America

**Governmental organization (Y/N):** N

**Active since:** 2001, as a near real-time multi-sites database. Some historical data are available.

**Province:** British Columbia, Manitoba, New Brunswick, Ontario, and Québec

**Region:** All

**Map:** See interactive map on website <http://hawkcount.org/sitesel.php>

**Website(s):**

HawkCount <http://hawkcount.org/>

**Contact:**

Jason Sodergren, HawkCount Database Administrator  
tel 907-399-2330  
[jason@taiga.com](mailto:jason@taiga.com)

Laurie Goodrich, Hawk Migration Association of North America  
tel 570-943-3411 #106; fax 570-943-2284  
[goodrich@hawkmtn.org](mailto:goodrich@hawkmtn.org); [data@hmana.org](mailto:data@hmana.org)

**3.1.15 Important Bird Areas Canada**

Canada's Important Bird Areas Program (IBA) is a science-based initiative to identify, conserve, and monitor a network of sites that provide essential habitat for Canada's bird populations. In addition to the IBA Caretakers tools and a News section, the IBA website hosts a powerful search engine that can be used to access maps, identify bird populations, habitat types, and land use activities across Canada. Bird monitoring records are available for every Important Bird Area.

**Group of interest:** Birds

**Species:** All

**Partner institutions:** BirdLife International; Bird Studies Canada; and Nature Canada

**Sponsoring organizations:** TransCanada; U.S. Fish and Wildlife Service - Neotropical Migratory Bird Conservation Act; and the McLean Foundation

**Governmental organization (Y/N):** N

**Active since:** 1996, but there are older records.

**Province:** All (see Figure 3.9)

**Website(s):**

IBA [www.ibacanada.com](http://www.ibacanada.com)

**Contact:**

Nature Canada  
75 Albert St., Suite 300  
Ottawa, ON K1P 5E7  
tel 613-562-3447, 800-267-4088  
fax 613-562-3371  
[iba@naturecanada.ca](mailto:iba@naturecanada.ca)

Bird Studies Canada  
P.O. Box 160, 115 Front St.  
Port Rowan, ON N0E 1M0  
tel 519-586-3531, 888-448-2473  
fax 519-586-3532



**Figure 3.9** The Important Bird Areas in Canada Are Shown in Red  
[Source: [www.ibacanada.com/mapviewer.jsp?lang=EN](http://www.ibacanada.com/mapviewer.jsp?lang=EN)]

### **3.1.16 Monitoring Avian Productivity and Survivorship**

The Monitoring Avian Productivity and Survivorship Program (MAPS) is one of the seven major programs driven by the Institute for Bird Populations, a California-based non-profit corporation dedicated to research, dissemination of information about birds, and conservation of birds and their habitats. The objective is to assess and monitor vital rates and population dynamics of North American landbirds, using netting and banding protocols. Annual reports are available online, as well as most of MAPS's results.

**Group of interest:** Birds

**Species:** Landbirds

**Partner institutions and sponsoring organizations:** The Institute for Bird Populations

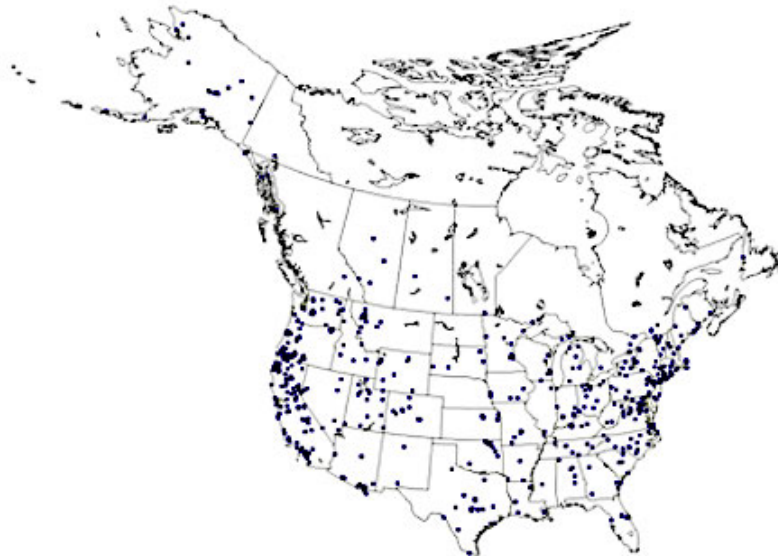
**Governmental organization (Y/N):** N

**Active since:** 1989

**Province:** All except Northwest Territories, Prince Edward Island and Nova Scotia (see Figures 3.10 and 3.11)



**Figure 3.10** Map of the Continental U.S. and Canada Showing the Eight MAPS Regions [AK = Alaska Region, B&AC = Boreal & Arctic Canada Region, NW = Northwest Region, SW = Southwest Region, NC = North-central Region, SC = South-central Region, NE = Northeast Region, SE = Southeast Region.  
Source: [www.birdpop.org/nbii/NBIIHome.asp](http://www.birdpop.org/nbii/NBIIHome.asp)]



**Figure 3.11** MAPS Station Locations: Locations of the 873 MAPS Stations That Were Operated One or More Years between 1992-2003 [Some of the larger “individual” squares can represent as many as 11 stations.  
Source: [www.birdpop.org/nbii/NBIIHome.asp](http://www.birdpop.org/nbii/NBIIHome.asp)]

**Region:** All

**Website(s):**

Institute for Bird Populations [www.birdpop.org/maps.htm](http://www.birdpop.org/maps.htm)

**Contact:**

Danielle Kaschube, MAPS Coordinator  
tel 609-625-0767  
[dkaschube@birdpop.org](mailto:dkaschube@birdpop.org)

### **3.1.17 National Harvest Survey**

The National Harvest Survey, sent annually to a sample of purchasers of the Migratory Game Bird Hunting Permit, assists in the management of migratory bird populations. The survey is two-fold, including the Harvest Questionnaire Survey and the Species Composition Survey (SCS or Wingbee). The Questionnaire is sent to approximately 45,000 randomly chosen hunters to estimate the harvest of migratory game birds. A smaller subsample participates in the SCS. Hunters must submit one wing from each duck and the tail of each goose that they shoot during the hunting season, from which experts will identify species, age, and sex (over 15,000 wings annually). Some data can be found on the CWS Harvest Survey Query Website.

**Group of interest:** Birds

**Species:** Game birds (Mallard, American Black Duck, Wood Duck, Green-winged Teal, Canada Goose, Snow Goose, etc.)

**Partner institutions and sponsoring organizations:** Canadian Wildlife Service

**Governmental organization (Y/N):** Y

**Active since:** 1967

**Provinces:**

British-Columbia, Saskatchewan, Ontario, Quebec, New Brunswick, Newfoundland and Labrador

**Website(s):**

CWS [www.cws-scf.ec.gc.ca/nwrc-cnrf/default.asp?lang=Fr&n=78B1DA3D-1](http://www.cws-scf.ec.gc.ca/nwrc-cnrf/default.asp?lang=Fr&n=78B1DA3D-1)

Harvest Survey Query [www.cws-scf.ec.gc.ca/nwrc-cnrf/default.asp?lang=en&n=CFB6F561](http://www.cws-scf.ec.gc.ca/nwrc-cnrf/default.asp?lang=en&n=CFB6F561)

**Contact:**

Michel H. Gendron, Harvest Surveys Biologist  
National Wildlife Research Centre, Canadian Wildlife Service  
1125 Colonel By Drive (Raven Road)  
Ottawa, ON K1A 0H3  
[michelh.gendron@ec.gc.ca](mailto:michelh.gendron@ec.gc.ca)

### **3.1.18 NatureCounts**

NatureCounts is an initiative of Bird Studies Canada, through which data are gathered from programs they coordinate. Regrouping databases onto a unique platform facilitates collection, management, analysis, and sharing of monitoring data. In addition, NatureCounts hosts databases from a wider origin, focusing on birds and other vertebrates such as amphibians, reptiles, and bats. NatureCounts

offers a common but easily customizable structure for participant surveyors to enter their data, for project coordinators to process results, and for visitors to have rapid access to the database, although all projects are managed independently. Here is a list of programs found on the NatureCounts website:

- Acadian Flycatcher Survey
- Beached Bird Survey (Atlantic, British Columbia)
- Bald Eagle Nest Program
- Barn Owl Recovery Program
- Breeding Bird Atlas (British Columbia, Maritimes, Ontario)
- Breeding Bird Survey
- British Columbia Coastal Waterbirds Survey
- Canadian Lakes Loon Survey
- Canadian Migration Monitoring Network' Observatories data
- Christmas Bird Counts
- eBird
- Forest Bird Monitoring Program
- Golden-winged Warbler
- Great Backyard Bird Count
- High Elevation Landbird Program
- Hooded Warbler Survey
- Long Point Bird Observatory Monarch Butterflies Census
- Long Point Waterfowl Census
- Marsh Monitoring Program
- Nest Record Scheme (Maritimes, Ontario, Prairie, Québec)
- New Brunswick Forest Hawk and Woodpecker Survey
- Nocturnal Owls Survey (Alberta, Atlantic, British Columbia, Manitoba, Ontario, Québec)
- Nova Scotia Piping Plover Conservation Program
- Ontario Bird Feeder Survey
- Ontario Heronry Inventory
- Project FeederWatch

- Prothonotary Warbler Nest Productivity
- Raptor Population Index
- Red-shouldered Hawk and Spring Woodpecker Survey
- Short-eared Owl Census

**Group of interest:** Birds

**Species:** All bird species

**Partner institutions and sponsoring organizations:** Bird Studies Canada

**Province:** All

**Region:** All

**Governmental organization (Y/N):** N

**Active since:** January 2008, but datasets are older.

**Website(s):**

NatureCounts [www.birdscanada.org/birdmon/default/](http://www.birdscanada.org/birdmon/default/)

**Contact:**

Denis Lepage

[dlepage@birdscanada.org](mailto:dlepage@birdscanada.org)

### **3.1.19 *NatureServe Canada***

The NatureServe Canada network comprises the eight Conservation Data Centres (CDC) found in Canada: The Alberta Natural Heritage Information Centre (p. 47); the Atlantic Canada Conservation Data Centre (p. 80); the British Columbia Conservation Data Centre (p. 64); the Manitoba Conservation Data Centre (p. 74); the Ontario Natural Heritage Information Centre (p. 114); the Centre de données sur le patrimoine naturel du Québec (p. 131); the Saskatchewan Conservation Data Centre (p. 148); and the Yukon Conservation Data Centre (p. 152). NatureServe Canada provides a reliable source of information and analysis on the distribution and conservation status of Canada's plants, animals, and ecological communities. One can get data using various portals, such as NatureServe Explorer, or submit a custom request. NatureServe may charge a fee, depending on the nature of the request.

**Group of interest:** All

**Species:** All

**Partner institutions and sponsoring organizations:** Nature Conservancy; and Canadian Conservation Data Centres.

**Governmental organization (Y/N):** N

**Active since:** 1999

**Province:** All except Northwest Territories and Nunavut

**Website(s):**

NatureServe Canada [www.natureserve-canada.ca/](http://www.natureserve-canada.ca/)

**Contact:**

NatureServe Canada  
K.W. Neatby Building, Room 2091  
960 Carling Avenue  
Ottawa, ON K1A 0C6  
Tel 888-277-5265

## Conservation Data Centres:

Alberta Natural Heritage Information Centre  
Alberta Community Development Parks and Protected Areas Division  
2nd Floor, Oxbridge Place  
9820-106 Street  
Edmonton, AB T5K 2J6  
tel 780-427-0350

Atlantic Canada Conservation Data Centre  
P.O. Box 6416  
146 Main Street  
Mount Allison University  
Sackville, NB E4L 1G6

British Columbia Conservation Data Centre  
Ministry of Sustainable Resource Management  
P.O. Box 9358 Station Provincial Government  
Victoria, BC V8W 9M2  
tel 250-356-0928

Manitoba Conservation Data Centre  
Manitoba Conservation  
Box 24, 200 Saulteaux Crescent  
Winnipeg, MB R3J 3W3  
tel 204-945-7743

Ontario Natural Heritage Information Centre  
Ministry of Natural Resources  
P.O. Box 7000  
300 Water Street, 2<sup>nd</sup> Floor, North Tower  
Peterborough, ON K9J 8M5  
tel 705-755-2159

Centre de données sur le patrimoine naturel du Québec



*Flora*

Ministère du Développement durable et des parcs  
 Édifice Marie-Guyart, 4<sup>e</sup> étage, Bte 21  
 675 boul. René-Lévesque Est  
 Québec, QC G1R 5V7  
 tel 418-521-3907 #4794

*Fauna*

Ministère des Ressources naturelles et de la Faune  
 930, chemin Ste-Foy, 3<sup>e</sup> étage  
 Québec, QC G1S 2L4  
 tel 418-627-8694; fax 418-646-5179

Saskatchewan Conservation Data Centre  
 Resource Stewardship Branch, Saskatchewan Environment  
 3211 Albert Street  
 Regina, SK S4S 5W6  
 tel 306-787-7196

NatureServe Yukon  
 Fish and Wildlife Branch, Yukon Department of the Environment  
 P.O. Box 2703  
 Whitehorse, YT Y1A 2C6  
 tel 867-667-3684

**3.1.20 Nocturnal Owl Monitoring Program**

Up until fairly recently, nocturnal owls were poorly monitored by existing multi-species surveys, such as the Breeding Bird Survey, Migration Monitoring, and Christmas Bird Counts. The Nocturnal Owl Monitoring Program, a North America-wide initiative, was developed to fill these knowledge gaps on nocturnal owls. Objectives of the program are to obtain information on owl distributions, estimate relative abundance and trends of owl populations, and determine habitat associations of owls. The program shares provincial initiatives with independent databases. Some data are available on the NatureCounts website (p. 25). However, there are national standards and managers who are responsible for a central database. Methodology for the survey generally involves surveyors listening for calling owls along a predetermined route made of a minimum number of evenly spaced stations, with or without playback.

**Group of interest:** Birds

**Species:** Nocturnal Owls

**Partner institutions and sponsoring organizations:** Bird Studies Canada; Mountain Equipment Co-op

**Governmental organization (Y/N):** N

**Active since:** 1999

**Province:** Alberta, Atlantic Canada, British Columbia (teamed up with Yukon), Manitoba, Northwest Territories, Ontario, Québec, Saskatchewan

**Region:** All

**Website(s):**

Bird Studies Canada [www.bsc-eoc.org/national/nationalowls.html](http://www.bsc-eoc.org/national/nationalowls.html)

NatureCounts [www.birdscanada.org/birdmon/default/datasets.jsp](http://www.birdscanada.org/birdmon/default/datasets.jsp)

**Contact:**

Debbie Badzinski, Ontario Program Manager  
 Bird Studies Canada  
 P.O. Box 160  
 Port Rowan, ON N0E 1M0  
 tel 888-448-2473  
[dbadzinski@bsc-eoc.org](mailto:dbadzinski@bsc-eoc.org)

**3.1.21 North American Bird Banding Program**

Bird banding is a valuable tool for use in the study of the movement, survival, and behaviour of birds. Over the last 90 years, the North American Bird Banding Program has been banding birds, delivering banding permits, training banders, and collecting data from bands found on live or dead birds throughout the U.S. and Canada. Data are available upon request (see [www.cws-scf.ec.gc.ca/nwrc-cnrf/default.asp?lang=en&n=95E2C7CC-1](http://www.cws-scf.ec.gc.ca/nwrc-cnrf/default.asp?lang=en&n=95E2C7CC-1)).

**Group of interest:** Birds

**Species:** All, except grouse, quail, turkey, and pheasant

**Partner institutions and sponsoring organizations:** U.S. Department of the Interior; and the Canadian Wildlife Service

**Governmental organization (Y/N):** Y

**Active since:** 1923 as joint initiative, some records are as old as 1908 in Canada

**Province:** All

**Region:** All

**Website(s):**

CWS [www.cws-scf.ec.gc.ca/nwrc-cnrf/default.asp?lang=En&n=B197CA34-1](http://www.cws-scf.ec.gc.ca/nwrc-cnrf/default.asp?lang=En&n=B197CA34-1)

USGS [www.pwrc.usgs.gov/bbl](http://www.pwrc.usgs.gov/bbl)

**Contact:**

Migratory Bird Population Division,  
 National Wildlife Research Centre  
 Canadian Wildlife Service  
 1125 Colonel By Drive (Raven Road)  
 Ottawa, ON K1A 0H3  
[BBO-CWS@ec.gc.ca](mailto:BBO-CWS@ec.gc.ca)

**3.1.22 North American Bird Monitoring Projects Database**

The North American Bird Monitoring Projects Database lists and describes most bird monitoring programs in North America, without itself being a monitoring program. The North America Bird Monitoring Projects Database is a catalogue of bird projects, with research tools and browsing

options. Program descriptions are submitted by program managers and approved by the website administrator before being added to the catalogue.

**Group of interest:** Birds

**Species:** All

**Partner institutions and sponsoring organizations:** Bird Studies Canada; Commission for Environmental Cooperation; Comisión nacional para el conocimiento y uso de la biodiversidad; NABCI Mexico; and USGS

**Province:** All

**Region:** All

**Governmental organization (Y/N):** N

**Active since:** 2004

**Website(s):**

North American Bird Monitoring Projects Database  
<http://www.bsc-eoc.org/nabm/index.jsp?lang=EN>

### **3.1.23 North American Bird Phenology Program**

From 1881 to 1970, over six million Migration Observer Cards had been completed and submitted to the North American Bird Phenology Program. These handwritten cards hold records of North American birds' past migrations. The objective of the North American Phenology Program is to transcribe the card collection into a modern database, allowing analysis. Program managers are interested in long-term migration patterns and population status across multiple years in relation to climate. In a context of global climate change, the intent is that this set of historical data could provide a better understanding of how climate changes will affect bird populations across North America. So far, over 228,000 cards have been transcribed online. Most data are from the U.S., but a portion of the observation reports were made in Canada. The database is not yet available on the web, but it is expected to be publicly accessible on the National Phenology Network's website soon (<http://www.usanpn.org/home>).

**Group of interest:** Birds

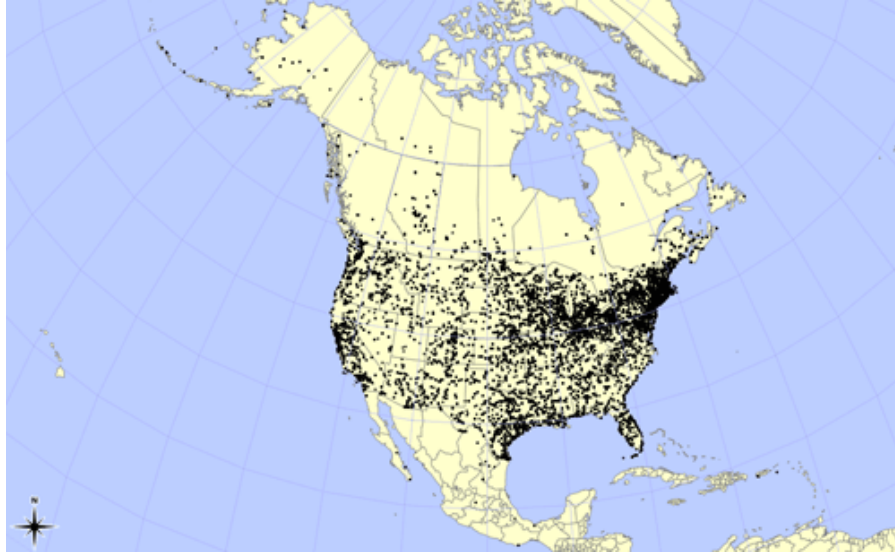
**Species:** All migratory birds

**Partner institutions and sponsoring organizations:** U.S. Geological Survey (USGS)

**Governmental organization (Y/N):** Y

**Active from:** 1881 to 1970

**Province:** All, with the exception of Nunavut (see Figure 3.12)



**Figure 3.12** Map of Records from Transcribed Cards  
[Source: [www.pwrc.usgs.gov/bpp/DataAndStats.cfm](http://www.pwrc.usgs.gov/bpp/DataAndStats.cfm)]

**Region:** All

**Website(s):**

USGS [www.pwrc.usgs.gov/bpp/](http://www.pwrc.usgs.gov/bpp/)

**Contact:**

Jessica Zelt  
United States Geological Survey, Patuxent Wildlife Research Centre  
BARC-East, Bldg. 308- RM 113  
10300 Baltimore Avenue  
Beltsville, MD 20705  
tel 301-497-5745; fax 301-497-5624  
[jzelt@usgs.gov](mailto:jzelt@usgs.gov)

### **3.1.24 North American Breeding Bird Survey**

The North American Breeding Bird Survey (BBS) is a long-term, large-scale avian monitoring program tracking the status and trends of North American bird populations. Initially implemented to monitor pesticide effects on bird populations, BBS is now used as a bird population level sentinel. If significant declines are detected, possible causes are identified and appropriate actions are taken to reverse the tendency before populations reach critically low levels. Every year, volunteer surveyors collect bird population data along roadside survey routes at the peak of the avian breeding season. Each survey route is 24.5 miles long with stops at 0.5 mile intervals. A three-minute point count is conducted at each stop. Every bird seen within a 0.25 mile radius or heard is recorded. Raw data are available on the main website (requires a password), and on the Avian Knowledge Network, while the database for Canada can be found on the Canadian Wildlife Service website ([www.cws-scf.ec.gc.ca/mgbc/trends/index.cfm?lang=e&go=home.page&CFID=9933006&CFTOKEN=29257266](http://www.cws-scf.ec.gc.ca/mgbc/trends/index.cfm?lang=e&go=home.page&CFID=9933006&CFTOKEN=29257266)). In addition, the North American Breeding Bird Atlas Explorer allows mapping of BBS results.

**Group of interest:** Birds

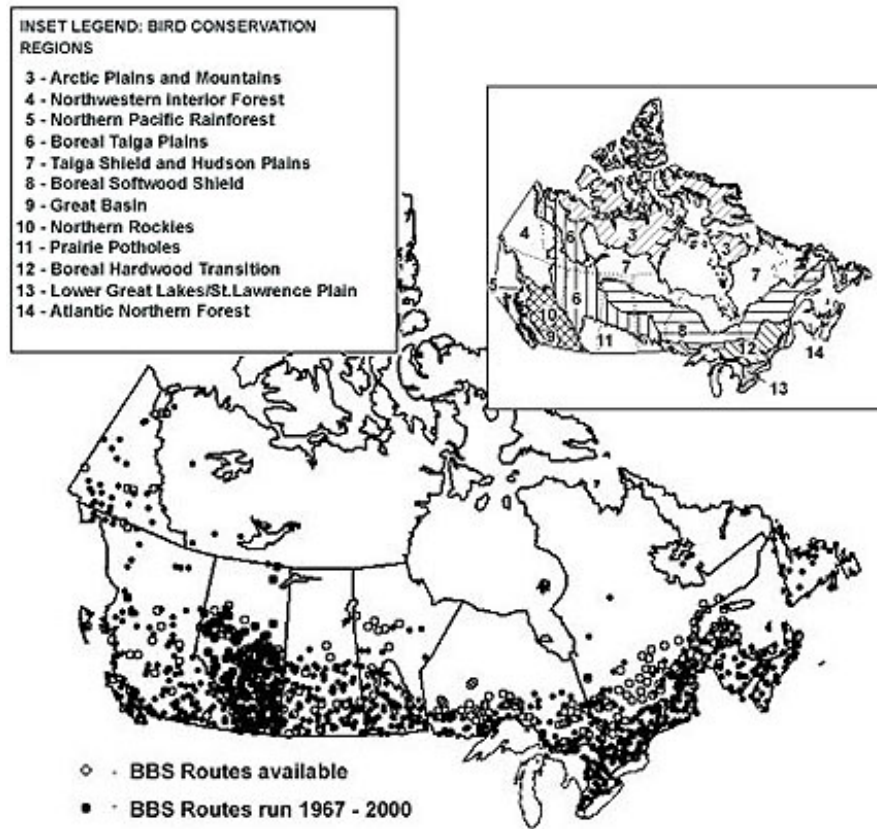
**Species:** All

**Partner institutions and sponsoring organizations:** USGS's Patuxent Wildlife Research Centre; the Canadian Wildlife Service's National Wildlife Research Centre; and CONABIO

**Province:** All but Nunavut (See Figure 3.13)

**Region:** All

**Governmental organization (Y/N):** Y



**Figure 3.13** Breeding Bird Survey Route Sites in Canada  
 [Source: [www.cws-scf.ec.gc.ca/nwrc-cnrf/default.asp?lang=en&n=9B16F4B4](http://www.cws-scf.ec.gc.ca/nwrc-cnrf/default.asp?lang=en&n=9B16F4B4)]

**Active since:** 1966

**Website(s):**

USGS [www.pwrc.usgs.gov/bbs](http://www.pwrc.usgs.gov/bbs)

CWS [www.cws-scf.ec.gc.ca/nwrc-cnrf/default.asp?lang=en&n=416B57CA](http://www.cws-scf.ec.gc.ca/nwrc-cnrf/default.asp?lang=en&n=416B57CA)

Avian Knowledge Network [www.avianknowledge.net/content/datasets/projects/bbs](http://www.avianknowledge.net/content/datasets/projects/bbs)

North American Breeding Bird Atlas Explorer [www.pwrc.usgs.gov/bba/](http://www.pwrc.usgs.gov/bba/)

**Contact:**

Constance Downes, National Coordinator  
National Wildlife Research Centre, Canadian Wildlife Service  
Carleton University Campus  
Raven Road  
Ottawa, ON K1A 0H3  
tel 613-998-0490  
[connie.downes@ec.gc.ca](mailto:connie.downes@ec.gc.ca)

**3.1.25 Project FeederWatch**

Project FeederWatch is a winter-long survey of birds that visit feeders. From November through early April, FeederWatcher participants periodically count and identify the birds they see at their feeders. Project FeederWatch compiles the data in order to track broad scale movements of winter bird populations, as well as long-term trends in bird distribution and abundance. Some data are available on the Project FeederWatch website and on the Avian Knowledge Network, while most raw data are available upon request.

**Group of interest:** Birds

**Species:** All bird species visiting feeders in wintertime

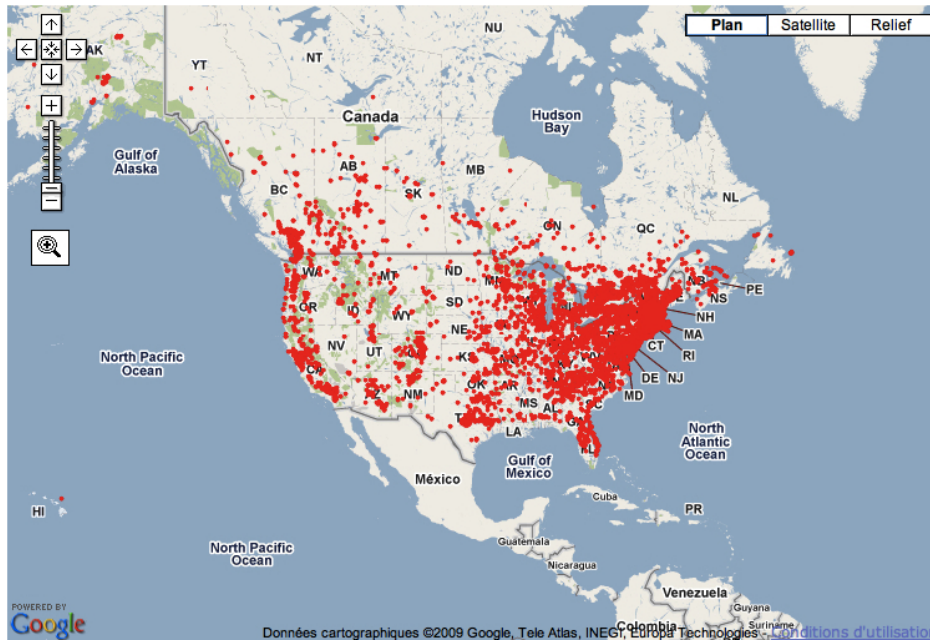
**Partner institutions and sponsoring organizations:** The Cornell Lab of Ornithology; Bird Studies Canada; and project participants

**Governmental organization (Y/N):** N

**Active since:** 1976 in Ontario, expanded to the rest of Canada and U.S. in 1987

**Province:** All, may vary across years (See Figure 3.14)

**Region:** Rural and/or suburban



**Figure 3.14** Map of the 2009-2010 Feeder Locations  
 [See website for maps of former years of the project at  
<http://watch.birds.cornell.edu/PFW/ExploreData?cmd=participantMap>]

**Website(s):**

Project FeederWatch [www.birds.cornell.edu/pfw](http://www.birds.cornell.edu/pfw)

NatureCounts [www.birdscanada.org/birdmon/default/datasets.jsp?code=PFW](http://www.birdscanada.org/birdmon/default/datasets.jsp?code=PFW)

Bird Studies Canada [www.bsc-eoc.org/volunteer/pfw/index.jsp?lang=EN&targetpg=index](http://www.bsc-eoc.org/volunteer/pfw/index.jsp?lang=EN&targetpg=index)

Avian Knowledge Network [www.avianknowledge.net/content/datasets/projects/pfw](http://www.avianknowledge.net/content/datasets/projects/pfw)

**Contact:**

Project FeederWatch, Bird Studies Canada

P.O. Box 160

Port Rowan, ON N0E 1M0

tel 519-586-3531

toll free 888-448-2473

[pfw@bsc-eoc.org](mailto:pfw@bsc-eoc.org)

**3.1.26 Project NestWatch**

Project NestWatch offers online support (online data entry and national database) to the various independently run Nest Record Schemes in Canada. Volunteers are asked to find bird nests, follow them through the nesting season, and report their observations. The goals of the project are to

- involve amateur bird watchers, naturalists, and young people in studies related to birds;
- gather long-term data on bird populations throughout Canada;
- inform the general public of existing Nest Record Schemes across Canada; and
- provide direct feedback to project participants and the general public regarding bird population trends.

At the moment, permission is required to access data. However, there is an intent to make the data available to the Avian Knowledge Network.

**Group of interest:** Birds

**Species:** Mostly American Robin (*Turdus migratorius*) and other common species

**Partner institutions and sponsoring organizations:** Bird Studies Canada; and the George Cedric Metcalf Foundation

**Governmental organization (Y/N):** N

**Active since:** 2002

**Province:** All provinces, and Yukon Territory

**Website(s):**

Bird Studies Canada [www.birdscanada.org/volunteer/pnw/](http://www.birdscanada.org/volunteer/pnw/)

**Contact:**

Denis Lepage  
Bird Studies Canada  
[dlepage@bsc-eoc.org](mailto:dlepage@bsc-eoc.org)

Each region has its own coordinator.

### **3.1.27 Waterbird Monitoring Partnership**

The Waterbird Monitoring Partnership was created following a recommendation of the Waterbird Conservation for the Americas (an independent partnership of individuals and institutions having interest and responsibility for conservation of waterbirds and their habitats in the Americas), in response to the lack of uniformity between the various waterbird surveys across the continent. This situation had made it impossible to compare datasets between existing waterbird surveys. The Partnership between the Caribbean, Mexico, the U.S. and Canada is hosted by USGS's Patuxent Wildlife Research Centre. The goal of the partnership is to develop a continental network of collaborators sharing comparable population monitoring techniques (standardized methods, protocols and forms) and contributing to a centrally managed waterbird database. The database is available on the website.

**Group of interest:** Birds

**Species:** Waterbirds

**Partner institutions and sponsoring organizations:** USGS

**Governmental organization (Y/N):** Y



**Data since:** 1982

**Province:** All but Yukon and Northwest Territories

**Region:** All regions with marsh and wetlands, as well as coastal regions

**Website(s):**

USGS [www.pwrc.usgs.gov/cwb/](http://www.pwrc.usgs.gov/cwb/)

**Contact:**

Bruce Peterjohn  
Patuxent Wildlife Research Centre, USGS  
12100 Beech Forest Road  
Laurel, MD 20708-4038  
tel 301-497-5841  
[bpeterjohn@usgs.gov](mailto:bpeterjohn@usgs.gov)

Garry Donaldson  
Canadian National Waterbird Coordinator  
Canadian Wildlife Service  
819-953-3166  
[garry.donaldson@ec.gc.ca](mailto:garry.donaldson@ec.gc.ca)

### **3.1.28 Waterfowl Breeding Population and Habitat Survey**

The Waterfowl Breeding Population and Habitat Survey is an annual survey leading to the estimation of the abundance of certain North American duck species. The survey data help in the annual establishment of hunting regulations, and provide a long-term time series allowing the identification of key variables in conservation planning for waterfowl. Aerial surveys cover more than 2.1 million square miles, including most of the primary duck nesting areas in North America. An air crew counts ducks along transect lines flown at low altitude, while a ground crew validates and completes the air crew counts. Information is compiled and reported nationally in Canada and the U.S. on an annual basis. Two databases derived from the Waterfowl Breeding Population and Habitat Survey are available at the U.S. Fish and Wildlife Service website. However, more specific data can be obtained upon request to the appropriate CWS regional offices.

**Group of interest:** Birds

**Species:** Mallard Ducks (*Anas platyrhynchos*), but other waterfowl species are surveyed.

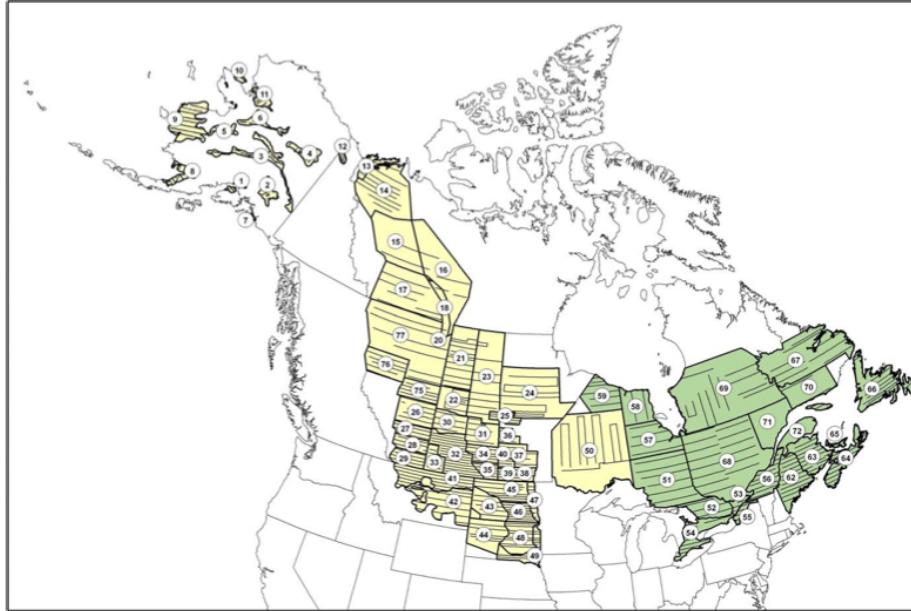
**Partner institutions and sponsoring organizations:** Canadian Wildlife Service; U.S. Fish and Wildlife Service; and state, provincial and regional agencies

**Governmental organization (Y/N):** Y

**Active since:** 1955

**Province:** Alberta, Manitoba, New Brunswick, Newfoundland and Labrador, Nova Scotia, Northwest Territories, Ontario, Prince Edward Island, Québec, and Saskatchewan (See Figure 3.15)

**Region:** Waterfowl habitat



**Figure 3.15** Strata and Transects of the Waterfowl Breeding Population and Habitat Survey  
[Yellow = traditional survey area, Green = eastern survey area.  
Source: U.S. Fish and Wildlife Service (2009)]

**Website(s):**

U.S. Fish and Wildlife Service [migbirdapps.fws.gov/mbdc/databases/mas/maydb.asp](http://migbirdapps.fws.gov/mbdc/databases/mas/maydb.asp)

**Flyways**

[www.flyways.us/surveys-and-monitoring/waterfowl-population-surveys/may-breeding-population-and-habitat-survey](http://www.flyways.us/surveys-and-monitoring/waterfowl-population-surveys/may-breeding-population-and-habitat-survey)

**Contact (derived databases):**

Mark Koneff, Chief, Population and Habitat Assessment Branch  
Division of Migratory Bird Management, USFWS  
11510 American Holly Drive  
Laurel, MD 20708  
tel 301-497-5648; fax 301-497-5871  
[mark\\_koneff@fws.gov](mailto:mark_koneff@fws.gov)

## Contacts of Regional Directors, CWS, Environmental Stewardship Branch:

Atlantic Region	17 Waterfowl Lane P.O. Box 6227 Sackville, NB E4L 1G6
Ontario Region	4905 Dufferin Street Downsview, ON M3H 5T4
Pacific and Yukon Region	5421 Robertson Road R.R. #1 Delta, BC V4K 3N2
Prairie and Northern Region	Joel Ingram Population Management 150-123 Main Street Winnipeg, MB R3C 4W2 <a href="mailto:joel.ingram@ec.gc.ca">joel.ingram@ec.gc.ca</a> tel 204-984-6670; fax 204-983-5248
Québec Region	1141 Route de l'Église P.O. Box 10100 Sainte-Foy, QC G1V 4H5

**3.2 Alberta****3.2.1 Aerial Ungulate Survey**

Aerial surveys provide valuable information for Alberta Sustainable Resource Development wildlife managers to determine population trends, size, and community composition of ungulates across the province. Survey measurements monitor the effects of previous management actions, and confirm and allocate the number of hunting tags issued. Data and reports since 2008 are available on the website.

**Group of interest:** Mammals

**Species:** Moose, white-tailed deer, mule deer, pronghorn antelope, bighorn sheep, mountain goats, bison and caribou

**Partner institutions and sponsoring organizations:** Alberta Conservation Association (ACA); and Alberta Sustainable Resource Development (ASRD)

**Governmental organization (Y/N):** ACA (no), ASRD (yes)

**Active since:** 2007

**Province:** Alberta

**Region:** All

**Website(s):**

Alberta Conservation Association  
[www.ab-conservation.com/go/default/index.cfm/programs/wildlife/aerial-ungulate-surveys/](http://www.ab-conservation.com/go/default/index.cfm/programs/wildlife/aerial-ungulate-surveys/)

**Contact:**

877-969-9091  
[info@ab-conservation.com](mailto:info@ab-conservation.com)

**3.2.2 Alberta Biodiversity Monitoring Institute**

The Alberta Biodiversity Monitoring Institute (ABMI) conducts biodiversity monitoring of species and habitats of Alberta. The purpose of the ABMI is to measure biodiversity, so that it can be considered in planning and decision making. The ABMI collects data and makes it available to stakeholders and the Alberta government, without being involved in decision making. The ABMI program protocol divided Alberta into 1,656 evenly spaced monitoring sites. It takes five years to survey the entire province, using site visits, aerial photography, and satellite imagery. Raw data are accessible on the website, but there is an obligation to create a user account.

**Group of interest:** Animals, plants and lichens

**Species:** Most (but not all) species in Alberta

**Partner institutions and sponsoring organizations:**

Government of Alberta; Alberta-Pacific Forest Industries; Canadian Association of Petroleum Producers; ConocoPhillips; Devon Canada; EnCana; Environment Canada; Federation of Alberta Naturalists; Long Lake Project; Petro-Canada; Suncor Energy; and Total E&P Canada

**Governmental organization (Y/N):** Y

**Active since:** 2003 (2003-2006, prototype phase; 2007-2012, rotation 1)

**Province:** Alberta (see Figure 3.16)

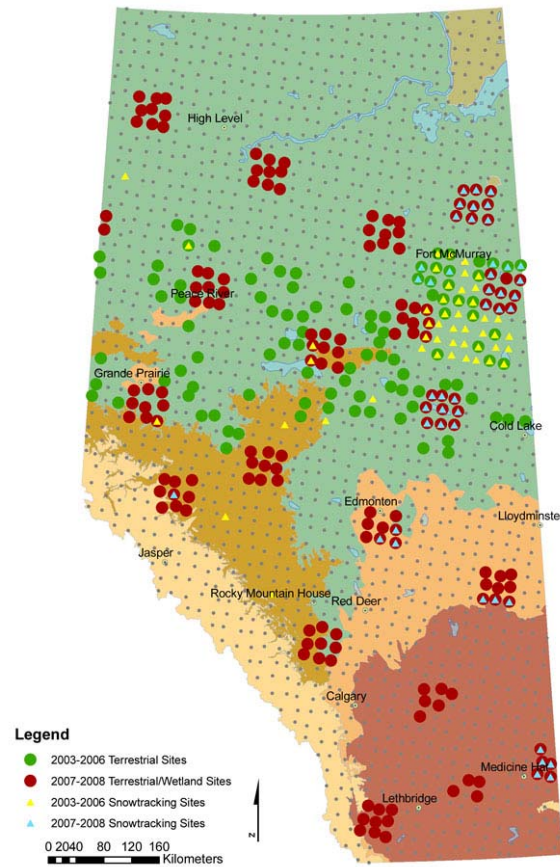
**Region:** All

**Website(s):**

Alberta Biodiversity Monitoring Institute [www.abmi.ca/abmi/home/home.jsp](http://www.abmi.ca/abmi/home/home.jsp)

**Contact:**

Alberta Biodiversity Monitoring Institute  
CW 405 Biological Sciences Building  
University of Alberta  
Edmonton, AB T6G 2E9  
tel 780-248-1592; fax 780-492-7635  
[abmiinfo@ualberta.ca](mailto:abmiinfo@ualberta.ca)



**Figure 3.16** Sampling Sites of the Alberta Biodiversity Monitoring Institute  
 [Source: [www.abmi.ca/abmi/aboutabmi/aboutabmi.jsp?categoryId=184](http://www.abmi.ca/abmi/aboutabmi/aboutabmi.jsp?categoryId=184)]

### 3.2.3 Alberta Bird Atlas Project

The goal of the Alberta Bird Atlas Project, led by the Federation of Alberta Naturalists, is to survey and record the current relative abundance and geographical distribution of each breeding bird species in Alberta. Data collection is performed by volunteer bird watchers, following a validated and uniform protocol. An atlas is considered to be a valid snapshot of bird species distribution, helping in the understanding and management of breeding birds. The four main goals of the program are to

- involve the community in a conservation project while increasing public awareness and understanding of Alberta's natural history;
- gain current data on the distribution and relative abundance of Alberta's breeding bird species;
- conduct data analysis to determine recent changes and patterns in the distribution and abundance of breeding bird species in Alberta; and
- provide baseline data for research, wildlife management plans, and environmental impact assessments.

Two atlases were produced since 1987, both covering a five-year period. The Bird Atlas Database contains over 120,000 records from the first Atlas (1987 to 1991). It is accessible upon request.

**Group of interest:** Birds

**Species:** All breeding bird species in Alberta

**Partner institutions and sponsoring organizations:**

Federation of Alberta Naturalists; Ainsworth Engineered; Alberta Conservation Association; Alberta Sport, Recreation Parks and Wildlife Foundation; Sustainable Resource Development; Metcalf Foundation; North American Waterfowl Management Plan; Weyerhaeuser; Sundance Forest Industries; Alberta-Pacific Forest Industries; Alberta Ecotrust; and Suncor Energy

**Governmental organization (Y/N):** N

**Active since:** 1987; two atlases: 1987-1992 and 2000-2005

**Province:** Alberta

**Region:** All

**Website(s):**

Federation of Alberta Naturalists

<http://naturealberta.ca/alberta-natural-history/bird-projects/the-alberta-bird-atlas-project>

**Contact:**

Philip Penner

Bird Atlas Project Coordinator

tel 780-427-8124; fax 780-422-2663

[philipp@fanweb.ca](mailto:philipp@fanweb.ca)

### **3.2.4 Alberta Birdlist Program**

The Alberta Birdlist Program was implemented following the completion of the first Alberta Bird Atlas Project, in reaction to the general popularity among birders of the Atlas Project. Birders record their observations for one location, on one day, using the Personal Birdlist Software. Data are validated and regrouped in the provincial database, allowing easy access for all users via the Personal Birdlist Software. The software is provided by the Federation of Alberta Naturalists. It allows queries, data exploration and data exportation. However, to access the entire database, one must submit a formal request.

**Group of interest:** Birds

**Species:** All bird species found in Alberta

**Partner institutions and sponsoring organizations:**

Federation of Alberta Naturalists; Alberta Conservation Association; Alberta Ecotrust; Alberta Sport, Recreation Parks and Wildlife Foundation; ESRI Canada; Shell Environmental Fund

**Governmental organization (Y/N):** N

**Active since:** 1995

**Province:** Alberta

**Region:** All

**Website(s):**

Federation of Alberta Naturalists

<http://naturealberta.ca/alberta-natural-history/bird-projects/the-alberta-bird-atlas-project>

**Contact:**

Philip Penner

Bird Atlas Project Coordinator

tel 780-427-8124; fax 780-422-2663

[philipp@fanweb.ca](mailto:philipp@fanweb.ca)

### **3.2.5 Alberta Natural Heritage Information Centre**

The Alberta Natural Heritage Information Centre (ANHIC) provides accurate and accessible biodiversity information necessary for making informed decisions concerning conservation, natural resource management, and development planning. The ANHIC collects, continually updates, analyzes, and disseminates information about the location, condition, status, and trends of species and plant communities. The ANHIC is working in association with NatureServe Canada. Data are available on the website or upon custom request. Fees may be charged.

**Group of interest:** All

**Species:** All

**Partner institutions and sponsoring organizations:** Alberta Tourism, Parks and Recreation; Canadian Heritage; and The Nature Conservancy of Canada

**Governmental organization (Y/N):** Y

**Active since:** 1996

**Province:** Alberta

**Website(s):**

Government of Alberta <http://tpr.alberta.ca/parks/heritageinfocentre/default.aspx>

**Contact:**

Lorna Allen, Coordinator

Alberta Natural Heritage Information Centre

Alberta Tourism, Parks and Recreation

2nd Floor, Oxbridge Place, 9820 - 106 Street

Edmonton, AB T5K 2J6

tel 780-427-5209; fax 780-427-5980

[Lorna.Allen@gov.ab.ca](mailto:Lorna.Allen@gov.ab.ca)

### 3.2.6 *Alberta Nocturnal Owl Survey*

Because of their high trophic status owls are considered indicator species of environmental health. However, most species of nocturnal owls are poorly monitored by existing surveys. The Beaverhill Bird Observatory (BBO) developed, organizes, and administers the Alberta component of the Nocturnal Owl Monitoring Program along with a diurnal owl survey for Northern Pygmy Owl and Northern Hawk Owl, in the boreal and edge of aspen parkland (species habitat).

The goals of the Alberta Nocturnal Owl Survey are to

- obtain information on distribution of nocturnal owls in Alberta;
- estimate relative abundance of owls;
- collect information leading to an estimation of population trends of nocturnal owls at regional and provincial scales, as well as to contribute to a North America-wide program; and
- determine habitat associations of nocturnal owls.

Volunteers perform broadcast surveys along predefined survey routes, two nights between March and early May. The database is available upon request, depending on the project. The BBO also coordinates a Northern Saw-whet Owl fall migration monitoring program.

**Group of interest:** Birds

**Species:** Nocturnal owls, but also some diurnal species (Northern Pygmy Owl – *Glaucidium californicum*, and Northern Hawk Owl – *Siurnia ulula*)

**Partner institutions and sponsoring organizations:** Beaverhill Bird Observatory; Bird Studies Canada; Alberta Sustainable Resource Development; and Canadian Wildlife Service

**Governmental organization (Y/N):** N

**Active since:** 2002 (some data since 1998)

**Province:** Alberta

**Region:** Mostly forested landscapes

**Website(s):**

Alberta Owl Survey [www.bsc-eoc.org/birdmon/abowls/main.jsp](http://www.bsc-eoc.org/birdmon/abowls/main.jsp)

Beaverhill Bird Observatory [www.beaverhillbirds.com/owl\\_surveys.php](http://www.beaverhillbirds.com/owl_surveys.php)

Bird Studies Canada [www.birdscanada.org/volunteer/natowls/index.jsp?targetpg=abowl](http://www.birdscanada.org/volunteer/natowls/index.jsp?targetpg=abowl)

NatureCounts [www.birdscanada.org/birdmon/default/datasets.jsp?code=ABOWLS](http://www.birdscanada.org/birdmon/default/datasets.jsp?code=ABOWLS)



**Contact:**

Lisa Priestley  
Beaverhill Bird Observatory  
Box 1418  
Edmonton, AB T5J 2N5  
tel 780-918-4804  
[lisa@beaverhillbirds.com](mailto:lisa@beaverhillbirds.com)

**3.2.7 Alberta Piping Plover Predation Exclosure and Population Monitoring Program**

The Piping Plover (*Charadrius melodus*) is an endangered species that builds its nests and rears its young on gravel-strewn beaches. Consequently, piping plover nests are very vulnerable to nest predation. The Alberta Piping Plover Predation Exclosure and Population Monitoring Program aims to increase nest hatching success by erecting predator exclosures over piping plover nests. Furthermore, banding of young plovers helps to monitor chick survival and piping plover movements. Population data from this program are available in the Fisheries and Wildlife Management Information System (FWMIS) database maintained by the Alberta Sustainable Resource Development. The Alberta Piping Plover Predation Exclosure and Predation Monitoring Program also contribute to the International Piping Plover Census, which takes place every five years. Data from the 2006 census can be found on the USGS website (<http://pubs.er.usgs.gov/usgspubs/ds/ds426>).

**Group of interest:** Birds

**Species:** Piping Plover (*Charadrius melodus*)

**Partner institutions and sponsoring organizations:**

Alberta Conservation Association; Alberta Employment and Immigration; Alberta Sustainable Resource Development; Alberta Tourism, Parks and Recreation; Environment Canada; Mountain Equipment Co-op; TD Friends of the Environment Foundation; and World Wildlife Fund Canada

**Governmental organization (Y/N):** N

**Active since:** 2002

**Province:** Alberta

**Region:** East-central Alberta in the Parkland and Grassland natural regions. Main breeding lakes are Handhills, Dowling, Killarney, Muriel and the western most of the Reflex Lakes.

**Website(s):**

Alberta Conservation Association [www.ab-conservation.com/go/default/index.cfm/programs/program-report-details/?summaryID=37B485A9-188B-E6AA-12F5E2D66955F511](http://www.ab-conservation.com/go/default/index.cfm/programs/program-report-details/?summaryID=37B485A9-188B-E6AA-12F5E2D66955F511)

**Contact:**

Lance Engley  
Alberta Conservation Association  
#101 – 9 Chippewa Road  
Sherwood Park, AB T8A 6J7  
[lance.engley@ab-conservation.com](mailto:lance.engley@ab-conservation.com)

### **3.2.8 *Alberta Volunteer Amphibian Monitoring Program***

The first goal of the Alberta Volunteer Amphibian Monitoring Program (AVAMP) is to provide data on the abundance and distribution of amphibians and some reptile species in Alberta. However, AVAMP also plays an important role in increasing public awareness of the conservation issues facing amphibians. Participants (volunteers) are supplied with instructions before conducting surveys. Data are validated by the program coordinator and stored in the Fisheries and Wildlife Management Information System. Note: AVAMP and FrogWatch Alberta are different and independent programs, even though they share a positive and cooperative working relationship.

**Group of interest:** Amphibians

**Species:** Mainly frogs and toads, some incidental reptile observations

**Partner institutions and sponsoring organizations:** Alberta Conservation Association; Alberta Sustainable Resource Development; and other agencies

**Governmental organization (Y/N):** N

**Active since:** 1992

**Province:** Alberta

**Website(s):**

Alberta Conservation Association

[www.ab-conservation.com/go/default/index.cfm/programs/wildlife/avamp/](http://www.ab-conservation.com/go/default/index.cfm/programs/wildlife/avamp/)

Government of Alberta

[www.srd.alberta.ca/ManagingPrograms/FishWildlifeManagement/AmphibianMonitoring/Default.aspx](http://www.srd.alberta.ca/ManagingPrograms/FishWildlifeManagement/AmphibianMonitoring/Default.aspx)

**Contact:**

Kris Kendell  
Alberta Conservation Association  
101-9 Chippewa Road  
Sherwood Park, AB T8A 6J7  
tel 780-410-1978, 877-777-FROG (3764)  
fax 780-464-0141  
[kris.kendell@ab-conservation.com](mailto:kris.kendell@ab-conservation.com)

### **3.2.9 *Beaver River Drainage Basin Historical Fishing Survey***

The historical fishing survey of the Beaver River watershed aims to serve as a reference value for the newly developed ecosystem health monitoring program of the Beaver River drainage basin. The program was launched by the Beaver River Watershed Alliance (BRWA). Historical data were gathered from three sources: archival publications, historical fisheries and basin photographs, and angler interviews. Ultimately, these data will be compared to recent biological data collection. Historical data are available upon request.

**Group of interest:** Fish, crayfish and freshwater clams

**Species:** Walleye, Northern Pike, Sucker, Yellow Perch, Burbot, Sauger, Lake Whitefish, Freshwater Crayfish, and Freshwater Clams (respectively *Sander vitreus*, *Esox lucius*, *Catostomus spp.*, *Perca flavescens*, *Lota lota*, *Sander canadensis*, *Coregonus clupeaformis*, *Orconectes virilis*, and *Bivalvia*)

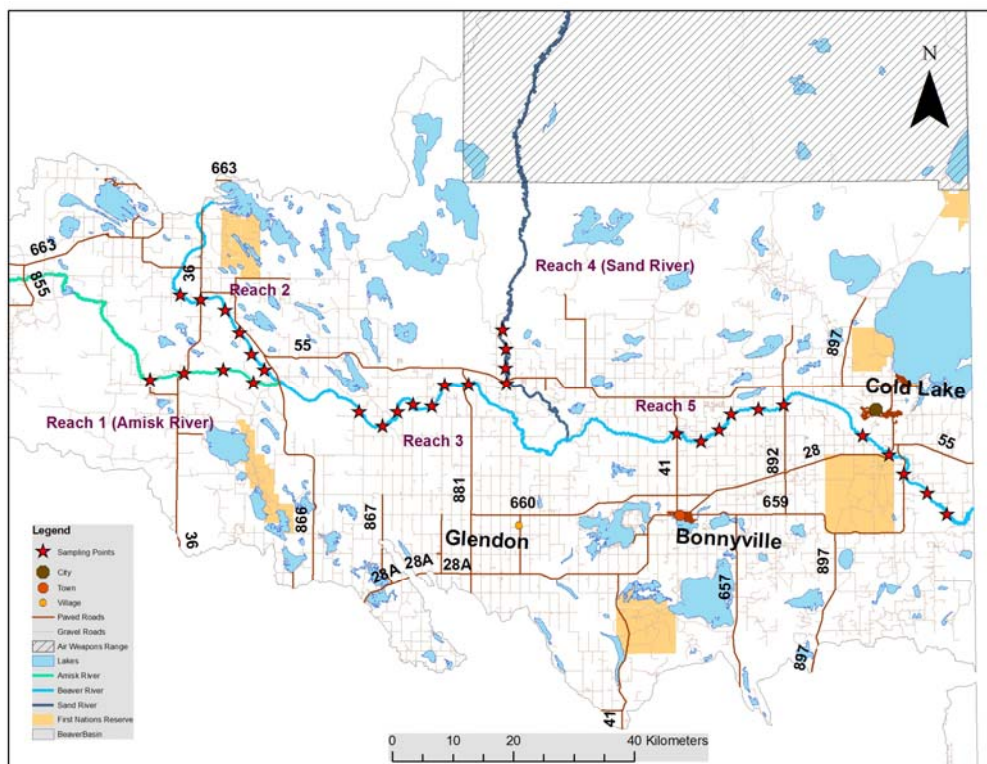
**Partner institutions and sponsoring organizations:** Alberta Conservation Association; and the Lakeland Industry and Community Association (LICA)

**Governmental organization (Y/N):** N

**Active since:** 1940 (to 2009)

**Province:** Alberta (See Figure 3.17)

**Region:** Beaver River drainage basin



**Figure 3.17** Map of the Beaver River Drainage Basin, Fishing Locations of Surveyed Anglers are Marked [Source: van Huystee and Furukawa (2009)]

**Website(s):**

Alberta Conservation Association [www.ab-conservation.com/go/default/index.cfm/programs/fisheries/results-of-historical-fishing-survey/](http://www.ab-conservation.com/go/default/index.cfm/programs/fisheries/results-of-historical-fishing-survey/)

**Contact:**

Stephanie van Huystee  
 Alberta Conservation Association  
[stefanie.vanhuystee@ab-conservation.com](mailto:stefanie.vanhuystee@ab-conservation.com)

**3.2.10 Ferruginous Hawk Survey**

The Ferruginous Hawk is designated “Endangered” under Alberta’s *Wildlife Act*. The Ferruginous Hawk Survey monitors population fluctuations in Alberta using a quadrat approach. Surveyors record all observations of Ferruginous Hawk: adult activity, nest location, number of young in the nest, etc. They also note habitat characteristics and the presence of other grassland species. All data are analyzed and stored by the Alberta Fish and Wildlife Division in Lethbridge. The database can be accessed upon request to the Fisheries and Wildlife Management Information System (p. 56).

**Group of interest:** Several predatory birds (primarily the Ferruginous Hawk) and Richardson’s ground squirrel

Species: Ferruginous Hawk (*Buteo regalis*), and some other grassland species such as the Burrowing Owl (*Athene cunicularia*), Loggerhead Shrike (*Lanius ludovicianus*), Swainson's Hawk (*Buteo swainsoni*), Upland Sandpiper (*Bartramia longicauda*), and Richardson's Ground Squirrel (*Spermophilus richardsonii*)

**Partner institutions and sponsoring organizations:** Project initiated and funded by the Alberta Fish and Wildlife Division – Species at Risk Program, and administered by the Alberta Conservation Association – Southern Business Unit

**Governmental organization (Y/N):** Y

**Active since:** 1982, with complete surveys every five years (more or less: 1982, 1987, 1992, 2000 and 2005)

**Province:** Alberta (See Figure 3.18)

**Region:** Grasslands

**Website(s):**

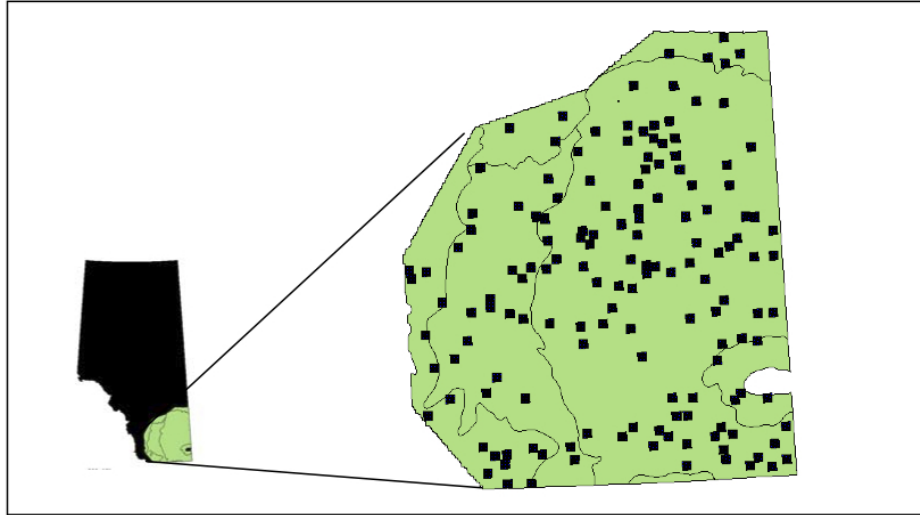
North American Bird Monitoring Project Database [www.bsc-eoc.org/nabm/index.jsp?lang=EN&proj=195](http://www.bsc-eoc.org/nabm/index.jsp?lang=EN&proj=195)

Alberta Conservation Association <http://www.srd.alberta.ca/BioDiversityStewardship/SpeciesAtRisk/DetailedStatus/documents/fhawk.pdf>

**Contact:**

Brandy Downey, Sr. Species at Risk Biologist  
 Alberta Sustainable Resource Development  
 2<sup>nd</sup> Floor, YPM Building  
 530 8<sup>th</sup> Street South  
 Lethbridge, AB T1J 2J8  
 tel 403-381-5526; fax 403-381-5723  
[brandy.downey@gov.ab.ca](mailto:brandy.downey@gov.ab.ca)

Lonnie Bilyk  
 Fish & Wildlife Division  
 Alberta Sustainable Resource Development  
 2<sup>nd</sup> Fl, Great West Life Bldg.  
 9920 108 Street  
 Edmonton, AB T5K 2M4  
 tel 780-427-8136; fax 780-422-9559  
[lonnie.bilyk@gov.ab.ca](mailto:lonnie.bilyk@gov.ab.ca)



**Figure 3.18** The Ferruginous Hawk Project Area and Survey Quadrants  
[Source: Downey (2005). Inset is a map of Alberta, Canada.]

### **3.2.11 Fisheries and Wildlife Management Information System**

The Fisheries and Wildlife Management Information System (FWMIS) is the Government of Alberta's Fisheries and Wildlife database. It was created to store and organize data from government, industry, and the public. FWMIS welcomes data on vertebrate species from all sources. However, there is a four-step data entry and submission process that guarantees uniformity between datasets. All datasets are represented spatially on the Internet Mapping Framework (IMF), a tool allowing map customization to each user's needs. Raw data are available upon request.

**Group of interest:** Vertebrates

**Species:** All

**Partner institutions and sponsoring organizations:** Alberta Sustainable Resource Development

**Governmental organization (Y/N):** Y

**Province:** Alberta

**Region:** All

**Website(s):**

Government of Alberta

[www.srd.alberta.ca/ManagingPrograms/FishWildlifeManagement/FisheriesWildlifeManagementInformationSystem/Default.aspx](http://www.srd.alberta.ca/ManagingPrograms/FishWildlifeManagement/FisheriesWildlifeManagementInformationSystem/Default.aspx)

**Contact:**

See Fisheries Management Area Contacts

[www.srd.alberta.ca/AboutUs/SRDContacts/documents/SRDContacts-FisheriesManagementAreasContacts-Nov26-2009.pdf](http://www.srd.alberta.ca/AboutUs/SRDContacts/documents/SRDContacts-FisheriesManagementAreasContacts-Nov26-2009.pdf)

See Wildlife Management Area Contacts

<http://www.srd.alberta.ca/AboutUs/SRDContacts/documents/SRDContacts-WildlifeManagementAreaContacts-June2010.pdf>

**3.2.12 Prairie Nest Records Scheme (AB, MB, NT, NU, and SK)**

The Prairie Nest Records Scheme (PNRS) is a collection of cards describing one or more visits to a nesting activity (occupied bird nest, nest under active construction, or active nesting colony). Ideally, there is more than one record submitted for each nesting site throughout the nesting season. Volunteers find nests, complete data cards, and send them to the Federation of Alberta Naturalists (or enter them online). Some results (number of nests from each species) are published in the PNRS annual report, while complete datasets are available upon request.

**Group of interest:** Birds

**Species:** All

**Partner institutions and sponsoring organizations:**

Federation of Alberta Naturalists; Ainsworth Engineered; Alberta Conservation Association; Alberta Sport, Recreation Parks and Wildlife Foundation; Sustainable Resource Development; Metcalf Foundation; North American Waterfowl Management Plan; Weyerhaeuser; Sundance Forest Industries; Alberta-Pacific Forest Industries; Alberta Ecotrust; and Suncor Energy

**Governmental organization (Y/N):** N

**Active since:** Developed during the 1950s and 1960s

**Province:** Alberta, Manitoba, Northwest Territories, Nunavut, and Saskatchewan

**Region:** All

**Website(s):**

Federation of Alberta Naturalist

<http://fanweb.ca/projects-and-programs/prairies-nest-records-scheme-pnrs>

Royal Saskatchewan Museum [www.royalsaskmuseum.ca/about/museum\\_history\\_lifesciences.shtml](http://www.royalsaskmuseum.ca/about/museum_history_lifesciences.shtml)

**Contact:**

Alberta Federation of Alberta Naturalists  
tel 780-427-8124; fax 780-422-2663  
[pnrs@fanweb.ca](mailto:pnrs@fanweb.ca)

Manitoba, Northwest Territories, and Nunavut Manitoba Museum  
tel 204-988-0659

Saskatchewan Royal Saskatchewan Museum  
tel 306-787-2859

**3.3 British Columbia****3.3.1 International Brant Monitoring Project**

The International Brant Monitoring Project is an educational project for high school students within the migratory corridor of this species on the Pacific coast. The Brant Geese migrate from nesting sites in the Arctic tundra of Alaska, Russia, and Canada to wintering grounds in the estuaries and lagoons of southern British Columbia, the United States and Mexico, with a feeding halt at the Izembek Lagoon on the Alaska Peninsula. The Brant Geese journey offers a great opportunity for environmental education for the involved students. Observation logs are available online.

**Group of interest:** Birds

**Species:** Brant Goose (*Branta bernicla nigricans*)

**Partner institutions:**

Izembek National Wildlife Refuge; Cold Bay, Alaska, USA; Parksville/Qualicum Beach (Qualicum Beach Middle School), B.C. Canada; Richard Swanston, Delta B.C. Canada; Padilla Bay National Estuarine Research Reserve, Washington, USA; Yaquina Birders and Naturalists, Oregon USA; South Slough National Estuarine Research Reserve, Oregon, USA; Rod Hug, Northern California coast, USA; John Roser, Morro Bay, California, USA; Pro Esteros, A.C., México; REBIVI Team, Reserva de la Biosfera el Vizcaino; GEECO Team, Punta Abreojos, B.C.S. México; GELSI Team, Laguna San Ignacio, B.C. México; BRAMISANQUI85 Group, San Quintín Bay, B.C.S. México; El Vizcaino Biosphere Reserve, Guerrero Negro, B.C.S., México; Villa Jesús María

**Sponsoring organizations:**

International Fund for Animal Welfare; Lannan Foundation; and U.S. Fish and Wildlife Service–North American Wetlands Conservation Act (NAWCA)

**Governmental organization (Y/N):** N

**Active since:** 1996

**Province:** British Columbia (See Figure 3.19)

**Region:** Pacific Coast and Arctic



**Figure 3.19** Flyway Map of the Pacific Black Brant  
 [Source: [www.padillabay.gov/brant/monitors.html](http://www.padillabay.gov/brant/monitors.html)]

**Website(s):**

The International Brant Monitoring [www.padillabay.gov/brant/](http://www.padillabay.gov/brant/)

Eco-Index [www.eco-index.org/search/results.cfm?projectID=177](http://www.eco-index.org/search/results.cfm?projectID=177)

Pro Esteros, A.C. [proesteros.cicese.mx/](http://proesteros.cicese.mx/)

**Contact:**

Glen Alexander  
 Padilla Bay Reserve  
 10441 Bay View - Edison Rd  
 Mount Vernon, WA 98273  
[alex@padillabay.gov](mailto:alex@padillabay.gov)

**3.3.2 British Columbia Beached Bird Surveys**

The idea behind the British Columbia Beached Bird Surveys (BCBBS) is to collect baseline information on the causes and rates of seabird mortality. BCBBS was initially launched by Dr. Alan Burger of the University of Victoria in the mid-eighties, and following a five-year hiatus was re-initiated by Bird Studies Canada in late 2002. Once a month, volunteers walk specific portions of



beaches (selected by participants in collaboration with the program coordinator), systematically searching the wrack and upper high tide lines for dead birds, identifying species, sex, and age wherever possible, and recording measures of beach dynamics and oiling on the beaches and the birds. Such long-term monitoring allows detection of trends in oiling occurrence, and bird species' vulnerability to oiling. Since 2008, volunteers have been permitted to collect carcasses for post-mortem analysis (conducted by Environment Canada and other program partners) to investigate causes of death in multiple-bird stranding events. Data are available through the Bird Studies Canada British Columbia Program (contact below).

**Group of interest:** Birds

**Species:** Marine and coastal birds

**Partner institutions and sponsoring organizations:** Bird Studies Canada; and Environment Canada's Canadian Wildlife Service

**Governmental organization (Y/N):** N

**Active from:** 1986 to 1997, restarted in 2002

**Province:** British Columbia

**Region:** Coastal B.C.

**Website(s):**

Bird Studies Canada [www.bsc-eoc.org/volunteer/bcbeachbird/index.jsp](http://www.bsc-eoc.org/volunteer/bcbeachbird/index.jsp)

NatureCounts [www.birdscanada.org/birdmon/default/datasets.jsp?code=BCBEACH](http://www.birdscanada.org/birdmon/default/datasets.jsp?code=BCBEACH)

North American Bird Monitoring Projects Database  
[www.bsc-eoc.org/nabm/index.jsp?lang=EN&proj=41](http://www.bsc-eoc.org/nabm/index.jsp?lang=EN&proj=41)

**Contact:**

Peter Davidson / Karen Barry  
B.C. Project Coordinators  
Bird Studies Canada  
5421 Robertson Road, RR 1  
Delta, BC V4K 3N2  
[bcprograms@birdscanada.org](mailto:bcprograms@birdscanada.org); [pdavidson@birdscanada.org](mailto:pdavidson@birdscanada.org)

### **3.3.3 British Columbia Breeding Bird Atlas**

The British Columbia Breeding Bird Atlas is an online Atlas, continuously updated by volunteer observers. Those volunteers visit a 10 km<sup>2</sup> atlas square somewhere in B.C., and record observations of breeding birds in online forms. Once incorporated into the database, records are mapped and analysed. Some data are available on the website (through the Atlas Data Summary retrieving tool), while datasets of raw breeding evidence, highest breeding evidence per square, point count data, and rare species and colonial data are hosted on the NatureCounts website.

**Group of interest:** Birds

**Species:** All

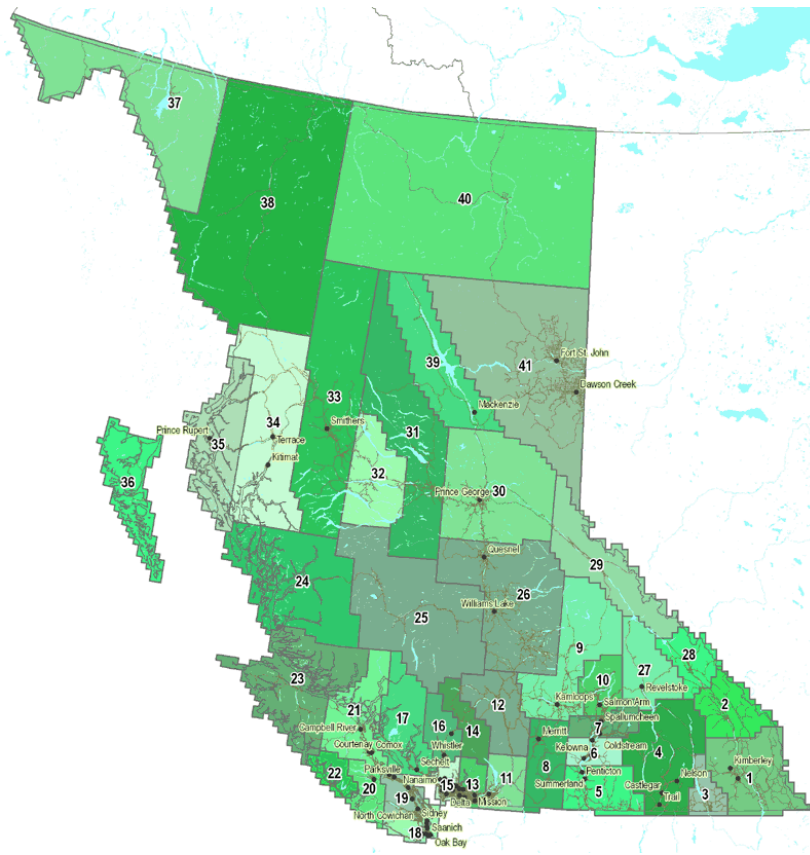
**Partner institutions and sponsoring organizations:**

Bird Studies Canada; Environment Canada, Canadian Wildlife Service; British Columbia Ministry of Environment; British Columbia Field Ornithologist; BC Nature; Biodiversity Centre for Wildlife Studies; Louisiana-Pacific Canada Ltd.; Pacific Wildlife Foundation; Vancouver foundation; Fish and Wildlife Compensation Program, Columbia Basin; British Columbia Waterfowl Society; The British Columbia Conservation Foundation; Columbia Basin Trust; BC Transmission Corporation; Habitat Conservation Trust Foundation; The Brant Wildlife Festival; Jacques Whitford AXYS; Bailie Fund; Robertson Environmental Services Ltd.; Junco Technologies; and Wild Birds Unlimited

**Governmental organization (Y/N):** N

**Active since:** 2008

**Province:** British Columbia (see Figure 3.20)



**Figure 3.20** Map of the Various Regions of the British Columbia Breeding Bird Atlas  
[Source: [www.birdatlas.bc.ca/bcdata/regions.jsp?lang=en](http://www.birdatlas.bc.ca/bcdata/regions.jsp?lang=en)]

**Website(s):**

British Columbia Breeding Bird Atlas [www.birdatlas.bc.ca/english/index.jsp](http://www.birdatlas.bc.ca/english/index.jsp)

NatureCounts, various datasets (24, 30) [www.birdscanada.org/birdmon/default/datasets.jsp](http://www.birdscanada.org/birdmon/default/datasets.jsp)

**Contact:**

Rob Butler, Coordinator  
 BC Breeding Bird Atlas, Bird Studies Canada  
 Delta, BC V4K 3N2  
 tel 604-940-4672; 877-592-8527  
[rbutler@bsc-eoc.org](mailto:rbutler@bsc-eoc.org)

**3.3.4 British Columbia Coastal Waterbird Survey**

The B.C. Coastal Waterbird Survey is an ongoing assessment of distribution and abundance, and long-term trends in waterbird populations, in particular within the Strait of Georgia, where pressure from industrial, residential, and recreational development are now imposing unprecedented physical, chemical, and biological stress on the ecosystem. This program provides data to assess the impacts of natural and human-induced environmental change on the B.C. coast's nationally and internationally important bird populations. At regular intervals (once every month) at approximately 180 survey sites, observers count the number of individuals of every waterbird species they see within specific distance bands from the high water mark. Surveys are conducted as close to high tide as possible, following a rigid protocol. The database is available on the NatureCounts website.

**Group of interest:** Birds

**Species:** Coastal Waterbirds (Loons, Grebes, Cormorants, Herons, Swans, Geese, Ducks, Shorebirds, Gulls, Alcids, etc.)

**Partner institutions and sponsoring organizations:** Bird Studies Canada; and Environment Canada's Canadian Wildlife Service (Pacific-Yukon Region)

**Governmental organization (Y/N):** N

**Active since:** 1999

**Province:** British Columbia

**Region:** British Columbia coast

**Website(s):**

Bird Studies Canada [www.bsc-eoc.org/volunteer/bccws/index.jsp?lang=EN&targetpg=index](http://www.bsc-eoc.org/volunteer/bccws/index.jsp?lang=EN&targetpg=index)

NatureCounts [www.birdscanada.org/birdmon/default/datasets.jsp?code=BCCWS](http://www.birdscanada.org/birdmon/default/datasets.jsp?code=BCCWS)

North American Bird Monitoring Project Database  
[www.bsc-eoc.org/nabm/index.jsp?lang=EN&proj=42](http://www.bsc-eoc.org/nabm/index.jsp?lang=EN&proj=42)

**Contact:**

Pete Davidson/Karen Barry  
 Bird Studies Canada  
[bcprograms@birdscanada.org](mailto:bcprograms@birdscanada.org); [pdavidson@birdscanada.org](mailto:pdavidson@birdscanada.org)

**3.3.5 British Columbia Conservation Data Centre**

The Conservation Data Centre (CDC) goal is to assist in preserving the biodiversity of the province by providing accurate information on species and ecological communities at risk. It is part of the Wildlife Species Inventory (p. 59) and is included in the NatureServe Canada initiative (p. 27). The CDC acts as a centralized data source. It regroups screened and verified information from museums,

herbaria, universities, published and unpublished reports, theses, scientists, natural history groups, and the ongoing work of its own staff and contractors. Custom data sets are available upon written request (fees may be charged), while mapped data are available on the website. There are four methods for accessing CDC mapped known occurrences of species and ecosystems at risk:

1. CDC Internet Mapping Service, to view and print occurrences records;
2. Land and Resource Data Warehouse, to download Land and Resource Data;
3. CDC Web Mapping Service, to display CDC occurrences real-time using GIS software; and
4. BC Species and Ecosystems Explorer, to view generalized locations using Google Maps.

**Group of interest:** All

**Species:** All species at risk in British Columbia

**Partner institutions and sponsoring organizations:** B.C. Ministry of Environment

**Governmental organization (Y/N):** Y

**Active since:** 1991, but historical data (>40 years old) are solely available upon request.

**Province:** British Columbia

**Website(s):**

B.C. Ministry of Environment [www.env.gov.bc.ca/cdc/about.html](http://www.env.gov.bc.ca/cdc/about.html)

**Contact:**

B.C. Conservation Data Centre  
Ecosystems Branch, Ministry of Environment  
P.O. Box 9358 Stn Prov Gov  
Victoria, BC V8W 9M2  
tel 250-356-0928; fax 250-387-2733  
[cdcdata@gov.bc.ca](mailto:cdcdata@gov.bc.ca)

### **3.3.6 *British Columbia Fisheries Inventory***

The B.C. Fisheries Inventory is an online information retrieval tool for fisheries inventory contractors, government biologists, and fisheries researchers. Information is divided following four main themes:

- Fisheries Information Summary System, providing spatially represented summary level fish and fish habitat data for waterbodies throughout B.C. and the Yukon;
- Survey Data, retrieving subsets of survey data for lakes, streams, and wetlands (including bathymetric maps);
- Watershed Atlas Maps and Documents, giving access to digital maps for display of fisheries data, identification of waterbodies and stream network analysis, and documentation;
- Methods, hosting Fish and Fish Habitat data collection and reporting standards documents, and tools.

A more general public map display tool, FishWizard, is also available on the website.

**Group of interest:** Fish

**Species:** All fish species

**Partner institutions and sponsoring organizations:** British Columbia Environmental Stewardship Division, Ecosystems Branch; B.C. Fisheries; and Fisheries and Oceans Canada

**Governmental organization (Y/N):** Y

**Active since:** at least 80 years of data collected (more in some areas)

**Province:** British Columbia

**Region:** All BC regions

**Website(s):**

B.C. Ministry of Environment [www.env.gov.bc.ca/fish/index.html](http://www.env.gov.bc.ca/fish/index.html)

**Contact:**

[fish.issues@gov.bc.ca](mailto:fish.issues@gov.bc.ca)

### **3.3.7 *British Columbia FrogWatch Program***

Relying on public contributions, the B.C. FrogWatch Program collects information on B.C. frog and toad population health. Many projects are run by the B.C. FrogWatch Program, making use of various types of received records. The Program is building up an Atlas from observation records, in collaboration with the Community Mapping Network. In addition, the program gathers first amphibian calls reports, in order to document the initiation of the breeding season across years. Furthermore, B.C. FrogWatch is developing the Pondwatching program, a wetland monitoring project for communities and schools. Finally, B.C. FrogWatch is planning a Road Call Counts, with listening stops along predetermined routes. In every case, participants record their observations using online forms. B.C. FrogWatch data are available on the FrogWatch website.

**Group of interest:** Amphibians and some reptiles

**Species:** Frogs, toads, salamanders, and some turtles (Western Painted Turtle and Slider Turtle)

**Partner institutions and sponsoring organizations:** B.C. Environmental Stewardship Division; Habitat Conservation Trust Fund; Ecological Monitoring and Assessment Network; and B.C. Conservation Data Centre

**Governmental organization (Y/N):** Y

**Active since:** 2000

**Province:** British Columbia

**Region:** All

**Website(s):**

NatureWatch [www.naturewatch.ca/english/frogwatch/bc/](http://www.naturewatch.ca/english/frogwatch/bc/)

B.C. Ministry of Environment [www.env.gov.bc.ca/wld/frogwatch/index.htm](http://www.env.gov.bc.ca/wld/frogwatch/index.htm)

**Contact:**

Purnima Govindarajulu  
Small Mammal and Herpetofauna Specialist  
Ecosystems Branch, Wildlife Science Section, B.C. Ministry of Environment  
P.O. Box 9338 Stn Prov Govt  
Victoria, BC V8W 9M1  
tel 250-387-9755; fax 250-356-9145  
[Purnima.Govindarajulu@gov.bc.ca](mailto:Purnima.Govindarajulu@gov.bc.ca)

**3.3.8 British Columbia Nest Record Scheme**

The B.C. Nest Record Scheme is managed by the Biodiversity Centre for Wildlife Studies. Other provincial schemes are coordinated by Bird Studies Canada (meaning they have common standards, and datasets are hosted by BSC's national database). Potential data users must submit an online Data and Information Request Form. Some fees are charged for data extraction and analysis when needed.

**Group of interest:** Birds

**Species:** All

**Partner institutions and sponsoring organizations:** Biodiversity Centre for Wildlife Studies

**Governmental organization (Y/N):** N

**Active since:** 1955

**Province:** British Columbia

**Website(s):**

Biodiversity Centre for Wildlife Study [www.wildlifebc.org/index.php?pageid=16](http://www.wildlifebc.org/index.php?pageid=16)

**Contact:**

Michael Preston, Data Manager  
Biodiversity Centre for Wildlife Studies  
P.O. Box 32128  
3651 Shelbourne Street  
Victoria, BC V8P 5S2  
tel 250-477-0465  
[datamanager@wildlifebc.org](mailto:datamanager@wildlifebc.org)

**3.3.9 British Columbia - Yukon Nocturnal Owl Survey**

Nocturnal owls were poorly monitored by existing multi-species surveys, such as the Breeding Bird Survey, Migration Monitoring, and Christmas Bird Counts. The British Columbia-Yukon Nocturnal Owl Survey monitors trends in owl populations. Once a year in spring, volunteer surveyors listen for calling owls along a predetermined route, with two-minute listening stops every 1.6 km. Surveyors record all owls seen or heard. Data are available upon request.

**Group of interest:** Birds

**Species:** Nocturnal Owls

**Partner institutions and sponsoring organizations:** Bird Studies Canada

**Governmental organization (Y/N):** N

**Active since:** 2000

**Province:** British Columbia and Yukon Territory

**Website(s):**

North American Bird Monitoring Projects Database  
[www.bsc-eoc.org/nabm/index.jsp?lang=EN&proj=40](http://www.bsc-eoc.org/nabm/index.jsp?lang=EN&proj=40)

NatureCounts [www.birdscanada.org/birdmon/default/datasets.jsp?code=BCOWLS](http://www.birdscanada.org/birdmon/default/datasets.jsp?code=BCOWLS)

**Contact:**

Dick Cannings  
Bird Studies Canada  
1330 Debeck Road, S.11, C.96, RR#1  
Naramata, BC V0H 1N0  
tel 250-496-4049  
[dickcannings@shaw.ca](mailto:dickcannings@shaw.ca)

### **3.3.10 *British Columbia Wildlife Species Inventory***

The Wildlife Species Inventory includes all surveys undertaken to determine the presence or abundance of any wildlife in B.C. The Inventory receives and manages data, maps and reports from various registered sources. Reports and datasets are available through seven specific programs:

1. Species Inventory Database (SPI), regrouping data and reports available for each and every species;
2. Ecocat, a catalog of reports;
3. Conservation Data Centre, for species at risk (see p. 64);
4. EIRS Biodiversity e-Library, a catalogue of publications;
5. Ministry Library, a browser for publications and databases;
6. iMapBC, a wildlife inventory observations map; and
7. GeoBC, comprehensive spatial views of the SPI for use in GIS analysis.

**Group of interest:** Animals

**Species:** B.C.'s wildlife

**Partner institutions and sponsoring organizations:** B.C. Ministry of Environment's Environmental Stewardship Division

**Governmental organization (Y/N):** Y

**Province:** British Columbia

**Website(s):**

B.C. Ministry of Environment [www.env.gov.bc.ca/wildlife/wsi/index.htm](http://www.env.gov.bc.ca/wildlife/wsi/index.htm)

**Contact:**

[SPI\\_Mail@gov.bc.ca](mailto:SPI_Mail@gov.bc.ca)

**3.3.11 Brookwood/Fernridge Wildlife Monitoring Program**

Due to particularities of the neighbourhood, the Brookwood/Fernridge Wildlife Monitoring Program is one of the rare existing wildlife monitoring programs in an urban environment. The objectives of this program are to

1. document habitat most frequently used by focal species (Pileated Woodpecker, Douglas Squirrel, Black-tailed Deer and Wood Duck);
2. map habitat patches and corridors used by focal species prior to urban development;
3. monitor how these species adapt to an urban environment, to identify trends over time;
4. encourage community members to provide wildlife habitat in their yard; and
5. encourage municipal policies that will conserve wildlife habitat patches and corridors.

Habitats are classified using the Sensitive Habitat Inventory and Mapping (SHIM) method. A Citizen Science approach is used in monitoring focal species, and is undertaken by volunteers residing in the subject area.

All data collected are uploaded to the Community Mapping Network ([www.cmn.bc.ca](http://www.cmn.bc.ca)). At the culmination of this project, a Wildlife Monitoring Program Tool-Kit will be developed and made available online at [www.leps.bc.ca](http://www.leps.bc.ca) to assist resource managers in other areas to develop similar programs. In the meantime, data are available upon request.

**Group of interest:** Birds and Mammals

**Species:** Pileated Woodpecker (*Dryocopus pileatus*), Douglas Squirrel (*Tamiasciurus douglasii*), Black-tailed Deer (*Odocoileus hemionus ssp. Columbianus*) and Wood Duck (*Aix sponsa*)

**Partner institutions and sponsoring organizations:** Langley Environmental Partners Society; Habitat Conservation Trust Foundation; Vancouver Foundation; Vancity; and the Township of Langley

**Governmental organization (Y/N):** N

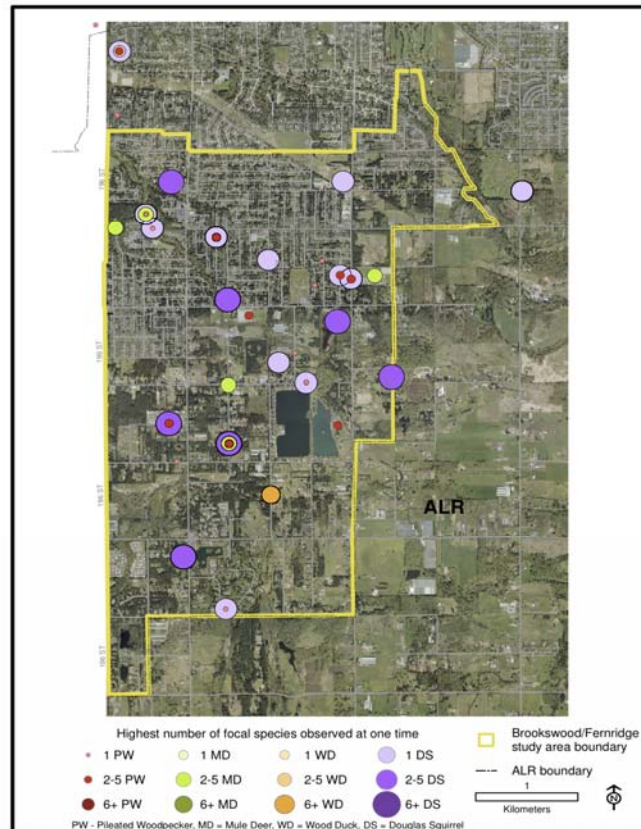
**Active since:** 2008

**Province:** British Columbia (see Figure 3.21)

**Region:** Langley Township



**Focal Species Sightings by Monitoring Locations  
in the Brookwood/Fernridge Study Area - Feb. 2008**



**Figure 3.21** Focal Species Sightings by Monitoring Locations in the Brookwood/Fernridge Study Area in 2008

[Source: [www.leps.bc.ca/images/pdfs/mailoutmap.pdf](http://www.leps.bc.ca/images/pdfs/mailoutmap.pdf)]

**Website(s):**

Langley Environmental Partners Society  
[www.leps.bc.ca/brookwoodfernridge-wildlife-monitoring-program](http://www.leps.bc.ca/brookwoodfernridge-wildlife-monitoring-program)

**Contact:**

Nichole Marples, Executive Director  
 Langley Environmental Partners Society  
 4700 - 224<sup>th</sup> Street  
 Langley, BC V2Z 1N4  
 tel 604-532-3511; fax 604-534-6593 [nmarples@tol.bc.ca](mailto:nmarples@tol.bc.ca)

### 3.3.12 *Hummingbird Monitoring Network*

The Hummingbird Monitoring Network is a science-based, project-driven, non-profit organization dedicated to the conservation of hummingbird diversity and abundance throughout the Americas. Objectives of the Network are to:

- support habitat preservation efforts;
- support and conduct research;
- maintain long-term population monitoring; and
- educate.

Some monitoring results and most publications are found on the website.

**Group of interest:** Birds

**Species:** Hummingbirds

**Partner institutions and sponsoring organizations:**

National Park Service; U.S. Forest Service; U.S. Fish and Wildlife Service; Department of Defense; Bureau of Land Management; Arizona Department of Game and Fish; The Nature Conservancy; Arizona Sonora Desert Museum; The American Museum of Natural History; Cuenca Los Ojos; National Audubon Society; Earthwatch; Pacifica Graduate Institute; George Walker House; Chuparosa Inn; Ramsey Canyon Inn; Indian Peak Ranch; and the Rocky Point Bird Observatory

**Governmental organization (Y/N):** N

**Active since:** 2002

**Province:** British Columbia (U.S. – Arizona, California, Colorado, New Mexico, Texas – and Mexico)

**Website(s):**

Hummonnet [www.hummonnet.org/](http://www.hummonnet.org/)

North American Bird Monitoring Project Database  
[www.bsc-eoc.org/nabm/index.jsp?lang=EN&proj=95](http://www.bsc-eoc.org/nabm/index.jsp?lang=EN&proj=95)

**Contact:**

Alison Moran  
British Columbia Coordinator, Rocky Point Bird Observatory  
Victoria, BC  
[ajmoran@telus.net](mailto:ajmoran@telus.net)

## 3.4 **Manitoba**

### 3.4.1 *Big Game Monitoring*

Manitoba's Big Game Monitoring Program was implemented in order to ensure sustainable big game hunting management. There are three data collection methods.

- Winter aerial inventories: Key populations are surveyed by aircraft (estimation of abundance, sex and age composition, recruitment and geographical distribution).
- Hunter questionnaires: Estimates of the number of animals taken during big game hunting season are derived from questionnaires sent to hunters after the close of seasons.
- Biological specimen collection: Black bears only. Hunters are asked to submit the animal's pre-molar tooth, and in case of a female bear, its reproductive tract.

Data are then integrated into computer models for big game species population dynamic simulations. Data are available upon written request only. Some summary data can be found on the website.

**Group of interest:** Mammals

**Species:** Big game (Black Bear, *Ursus americanus*; Grey Wolf, *Canis lupus*; Coyote, *Canis latrans*; Moose, *Alces alces*; White-tailed Deer, *Odocoileus virginianus*; Caribou, *Rangifer tarandus*; and Elk, *Cervus canadensis*)

**Partner institutions and sponsoring organizations:** Manitoba's Wildlife and Ecosystem Protection Branch

**Governmental organization (Y/N):** Y

**Active since:** Aerial surveys since 1950s, questionnaire program since 1980s and black bear monitoring since 1990s

**Province:** Manitoba

**Website(s):**

Government of Manitoba [www.gov.mb.ca/conservation/wildlife/spmon/gamesp/index.html](http://www.gov.mb.ca/conservation/wildlife/spmon/gamesp/index.html)

**Contact:**

Ken Rebizant, Big Game Manager  
Wildlife and Ecosystem Protection Branch  
Box 24, 200 Saulteaux Crescent  
Winnipeg, MB R3J 3W3  
tel 204-945-7753  
[krebizant@gov.mb.ca](mailto:krebizant@gov.mb.ca)

### 3.4.2 *Manitoba Conservation Data Centre*

The Manitoba Conservation Data Centre (MBCDC) is part of a wider initiative, the NatureServe network (p. 27). The MBCDC regroups and stores information on Manitoba's biodiversity, with particular focus on endangered species. The MBCDC stores information (conservation status rank, element occurrence) on most plant and animal species found in Manitoba. A data request form can be found on the website.

**Group of interest:** All

**Species:** All, particular focus on endangered species

**Partner institutions and sponsoring organizations:** Manitoba's Wildlife and Ecosystem Protection Branch; and NatureServe

**Governmental organization (Y/N):** Y**Active since:** Established in 1994**Province:** Manitoba**Website(s):**Government of Manitoba <http://www.gov.mb.ca/conservation/cdc/>**Contact:**

Manitoba Conservation Data Centre  
 Box 24, 200 Saulteux Crescent  
 Winnipeg MB R3J 3W3  
 tel 204-945-7775; fax 204-945-3077  
[cdc\\_wildlife@gov.mb.ca](mailto:cdc_wildlife@gov.mb.ca)

**3.4.3 Manitoba Nocturnal Owl Survey**

The Manitoba Nocturnal Owl Survey was established to shed some light on the otherwise poorly monitored nocturnal owl populations. The objectives are to

- determine relative owl species abundance and distribution;
- determine species-specific habitat association;
- determine multi-annual population fluctuations; and
- provide an opportunity for volunteers to contribute to our understanding of owl ecology.

During an evening in April, surveyors follow pre-determined routes, stopping at 1.6 km intervals along the roadside, and recording every owl they see or hear. Datasets are available on NatureCounts website.

**Group of interest:** Birds

**Species:** Nocturnal owls (Barn Owl, Barred Owl, Boreal Owl, Eastern Screech Owl, Great Gray Owl, Great Horned Owl, Long-eared Owl, Northern Hawk Owl, Northern Saw-whet Owl, and Short-eared Owl; respectively *Tyto alba*, *Strix varia*, *Aegolius funereus*, *Otus asio*, *Strix nebulosa*, *Bubo virginianus*, *Asio otus*, *Surnia ulula*, *Aegolius acadicus*, and *Asio flammeus*)

**Partner institutions and sponsoring organizations:** Bird Studies Canada**Governmental organization (Y/N):** N**Active since:** 1991**Province:** Manitoba**Website(s):**Bird Studies Canada [www.birdscanada.org/volunteer/natowls/index.jsp?targetpg=mbowl](http://www.birdscanada.org/volunteer/natowls/index.jsp?targetpg=mbowl)Government of Manitoba [www.gov.mb.ca/conservation/wildlife/spmon/birds/owl.html](http://www.gov.mb.ca/conservation/wildlife/spmon/birds/owl.html)NatureCounts [www.birdscanada.org/birdmon/default/datasets.jsp?code=MBOWLS](http://www.birdscanada.org/birdmon/default/datasets.jsp?code=MBOWLS)

North American Bird Monitoring Projects Database  
[www.bsc-eoc.org/nabm/index.jsp?lang=EN&proj=114](http://www.bsc-eoc.org/nabm/index.jsp?lang=EN&proj=114)

**Contact:**

Heidi E. den Haan  
 Delta Marsh Bird Observatory  
 Box 38, R.R.#2  
 Portage la Prairie, MB R1N 3A2  
 tel 204-239-4287  
[hdenhaan@dmbo.org](mailto:hdenhaan@dmbo.org)

Jim Duncan  
 Manitoba Conservation  
 Box 24, 200 Saulteaux Crescent  
 Winnipeg, MB R3J 3W3  
 tel 204-945-7465  
[jduncan@gov.mb.ca](mailto:jduncan@gov.mb.ca)

**3.4.4 Manitoba Piping Plover Monitoring**

The Piping Plover (*Charadrius melodus*) is an endangered species that builds its nest and rears its broods on gravel strewn beaches. The Manitoba Piping Plover Monitoring program is part of a wider initiative repeated every five years, the International Piping Plover breeding census (see <http://pubs.er.usgs.gov/usgspubs/ds/ds426> for 2006 census data). The aim of the program is to assess the current status and distribution of the Piping Plover, and provide a measure of the success of recent recovery efforts. During the 2009 Piping Plover nesting season, 20 nesting sites were surveyed.

**Group of interest:** Birds

**Species:** Piping Plover (*Charadrius melodus*)

**Partner institutions and sponsoring organizations:** Manitoba's Wildlife and Ecosystem Protection

**Governmental organization (Y/N):** Y

**Active since:** 1991 (every five years from 1991 to 2006, every year since 2006)

**Province:** Manitoba

**Region:** Lake Winnipeg, Lake Manitoba, and other inland lakes such as West Shoal Lake

**Website(s):**

Government of Manitoba [www.gov.mb.ca/conservation/wildlife/spmon/birds/index.html](http://www.gov.mb.ca/conservation/wildlife/spmon/birds/index.html)

**Contact:**

Alex Froese, Assistant Piping Plover Survey Coordinator  
 tel 204-945-6817  
[alex.froese@gov.mb.ca](mailto:alex.froese@gov.mb.ca)

**3.4.5 Woodcock Singing-ground Survey (MB, ON)**

The Woodcock Singing-ground Survey evaluates status and population trends of American Woodcock in the U.S. and Canada. Roadside counts are used to survey singing males. The Office of Migratory Bird Management of the USFWS assigns survey routes and procedures for each state. Each route includes 10 two-minute listening stops (one every 0.6 km). Beginning shortly after sunset, participants count the number of woodcock heard "peenting" (vocalization of displaying male woodcock on the ground) at each stop. Data are available on the USFWS Migratory Bird Data Centre website.

**Group of interest:** Birds**Species:** American Woodcock (*Scolopax minor*)**Partner institutions and sponsoring organizations:** U.S. Fish and Wildlife Service; and Canadian Wildlife Service**Governmental organization (Y/N):** Y**Active since:** 1968**Province:** Manitoba, Ontario, and various U.S. states (Indiana, Minnesota, Wisconsin, Michigan, Illinois, and Ohio)**Website(s):**

North American Bird Monitoring Projects Database

[www.bsc-eoc.org/nabm/index.jsp?lang=EN&proj=6](http://www.bsc-eoc.org/nabm/index.jsp?lang=EN&proj=6)USFWS Migratory Bird Data Centre <http://migbirdapps.fws.gov/>**Contact:**

Rebecca Rau, Data Administrator

Branch of Population &amp; Habitat Assessment, Division of Migratory Bird Management

U.S. Fish and Wildlife Service

11510 American Holly Drive, Laurel, MD 20708

tel 301-497-5862; fax 301-497-5871

[rebecca\\_rau@fws.gov](mailto:rebecca_rau@fws.gov)**3.5 New Brunswick****3.5.1 Atlantic Canada Beached Bird Survey (NB, NS, PE)**

The Atlantic Canada Beached Bird Survey collects baseline information on the causes and rates of seabird mortality. Once a month, volunteers walk specific portions of beach, count the number of dead birds found, and record levels of oiling on these birds. Such long-term monitoring allows detection of trends in oiling occurrence, and bird species vulnerability to oiling. Data are available upon request.

**Group of interest:** Birds**Species:** Waterfowl and pelagic seabirds**Partner institutions and sponsoring organizations:** Bird Studies Canada; Canadian Wildlife Service; Ecoaction; Go for Green; and Gulf of Maine Council on the Marine Environment**Governmental organization (Y/N):** N**Active since:** 2001**Province:** New Brunswick, Nova Scotia, and Prince Edward Island**Region:** Prince Edward Island, Cape Breton, and Bay of Fundy

**Website(s):**

Bird Studies Canada [www.bsc-eoc.org/volunteer/acbeachbird/index.jsp](http://www.bsc-eoc.org/volunteer/acbeachbird/index.jsp)

NatureCounts [www.birdscanada.org/birdmon/default/datasets.jsp?code=ATBBS](http://www.birdscanada.org/birdmon/default/datasets.jsp?code=ATBBS)

**Contact:**

Greg Campbell, Project Biologist  
Bird Studies Canada - Atlantic Region  
P.O. Box 6227, 17 Waterfowl Lane  
Sackville, NB E4L 1G6  
tel 506-364-5025; fax 506-364-5062  
[gcampbell@bsc-eoc.org](mailto:gcampbell@bsc-eoc.org)

**3.5.2 Atlantic Canada Conservation Data Centre (NL, NB, NS, PE)**

The Atlantic Canada Conservation Data Centre (Atlantic CDC) is part of a wider initiative, the NatureServe network (p. 27). The Atlantic CDC maintains comprehensive lists of plant and animal species, with a rarity rank and legal status for each, along with element occurrence records. Similarly to other CDCs, the Atlantic CDC's mission is to assemble and provide objective and understandable data and expertise about species and ecological communities of conservation concern, including those at risk, and to undertake field biological inventories to support decision-making, research, and education in Atlantic Canada. Data are available upon request. Fees may be charged.

**Group of interest:** All

**Species:** All, mostly rare or at risk species

**Partner institutions and sponsoring organizations:**

Canadian Wildlife Service; Atlantic Forestry Centre; Government of New Brunswick; Government of Nova Scotia; Government of Newfoundland and Labrador; Government of Prince Edward Island; Parks Canada; and The Nature Conservancy

**Governmental organization (Y/N):** N

**Active since:** 1999

**Province:** Newfoundland and Labrador, New Brunswick, Nova Scotia, and Prince Edward Island

**Website(s):**

Atlantic Canada Conservation Data Centre [www.accdc.com/](http://www.accdc.com/)

**Contact:**

R.A. Lautenschlager, Executive Director  
 P.O. Box 6416  
 Sackville, NB E4L 1G6  
 tel 506-364-2661; fax 506-364-2656  
[rlautenschlager@mta.ca](mailto:rlautenschlager@mta.ca)

Stefen Gerriets, Data Manager Atlantic  
 P.O. Box 6416  
 Sackville, NB E4L 1G6  
 tel 506-364-2657; fax 506-364-2656  
[sgerriets@mta.ca](mailto:sgerriets@mta.ca)

Adam Durocher, Data Manager Newfoundland &  
 Labrador  
[adamdurocher@gov.nl.ca](mailto:adamdurocher@gov.nl.ca)

**3.5.3 Atlantic Canada High Elevation Landbird Program (NB, NS)**

Because of its secretive and elusive nature, little is known about the Bicknell's Thrush, except for its sensitivity to disturbance. The species was classified as "Species of Special Concern" by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC). The High Elevation Landbird Program (HELP) was designed to monitor Bicknell's Thrush, and some other bird species populations. Each survey route is 1 km long, and has five stops 250 m apart. At each stop, surveyors spend 10 minutes listening silently for target species. Each route is monitored at least once per year during the month of June, one hour before sunrise or at sunset. Data are available upon request.

**Group of interest:** Birds

**Species:** Bicknell's Thrush, Swainson's Thrush, Winter Wren, Blackpoll Warbler, White-throated Sparrow and Fox Sparrow; respectively *Catharus bicknelli*, *Catharus ustulatus*, *Troglodytes troglodytes*, *Dendroica striata*, *Zonotrichia albicollis*, and *Passerella iliaca*

**Partner institutions and sponsoring organizations:**

Bird Studies Canada; Government of Canada Habitat Stewardship Program for Species at Risk; Canadian Wildlife Service; New Brunswick Environmental Trust Fund; World Wildlife Fund; Parks Canada; Nova Scotia Habitat Conservation Fund; Nova Forest Alliance; and Nova Scotia Species at Risk Conservation Fund

**Governmental organization (Y/N):** N

**Active since:** 2002

**Province:** New Brunswick and Nova Scotia (see Figure 3.22)

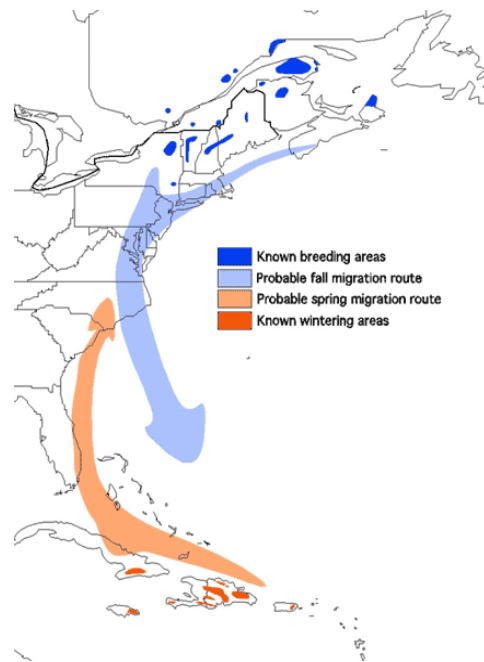
**Region:** High elevation habitats, and scrubby boreal forest

**Website(s):**

Bird Studies Canada [www.bsc-eoc.org/volunteer/achelp/index.jsp](http://www.bsc-eoc.org/volunteer/achelp/index.jsp)

NatureCounts [www.birdscanada.org/birdmon/default/datasets.jsp?code=HELP](http://www.birdscanada.org/birdmon/default/datasets.jsp?code=HELP)





**Figure 3.22** Bicknell Thrush Breeding Range

[Source: [www.ns.ec.gc.ca/wildlife/bicknells\\_thrush/e/ultimate\\_thrush.html](http://www.ns.ec.gc.ca/wildlife/bicknells_thrush/e/ultimate_thrush.html)]

**Contact:**

Greg Campbell  
 Bird Studies Canada - Atlantic Region  
 P.O. Box 6227, 17 Waterfowl Lane  
 Sackville, NB E4L 1G6  
 tel 506-364-5025; fax 506-364-5062  
[gcampbell@bsc-eoc.org](mailto:gcampbell@bsc-eoc.org)

**3.5.4 Atlantic Canada Nocturnal Owl Survey (NB, NS, PE)**

The goals of the Atlantic Canada Nocturnal Owl Survey are to determine population trends of owls (especially Barred Owls) in Atlantic Canada, to gather location information on rare or little-known owl species (especially Boreal and Long-eared Owls), and to involve volunteer birders from across the region in active wildlife monitoring. Once a year during April, volunteers survey pre-defined routes consisting of ten stops spaced 2 km (NB and PEI) or 1.6 km (NS) apart. At each stop, participants perform a broadcast survey, and record the species and numbers of owls that respond to playback at each stop. Data are available on NatureCounts website.

**Group of interest:** Birds

**Species:** Barred Owl, also Northern Saw-whet, Great-horned Owl, Boreal Owl and Long-eared Owl; respectively *Strix varia*, *Aegolius acadicus*, *Bubo virginianus*, *Aegolius funereus*, and *Asio otus*

**Partner institutions and sponsoring organizations:**

Bird Studies Canada; New Brunswick Department of Natural Resources and Energy; New Brunswick Wildlife Trust Fund; New Brunswick Environmental Trust Fund; Prince Edward Island Wildlife Conservation Fund; and Stora-Enso Port Hawkesbury Ltd. (Nova Scotia)

**Governmental organization (Y/N):** N

**Active since:** 2001

**Province:** New Brunswick, Nova Scotia and Prince Edward Island

**Website(s):**

Bird Studies Canada [www.bsc-eoc.org/volunteer/atowls/index.jsp?lang=EN&targetpg=index](http://www.bsc-eoc.org/volunteer/atowls/index.jsp?lang=EN&targetpg=index)

NatureCounts [www.birdscanada.org/birdmon/default/datasets.jsp?code=ATOWLS](http://www.birdscanada.org/birdmon/default/datasets.jsp?code=ATOWLS)

**Contact:**

Becky Whittam  
Bird Studies Canada  
P.O. Box 6227, 17 Waterfowl Lane,  
Sackville, NB E4L 1G6  
tel 506-364-5047  
[bwhittam@bsc-eoc.org](mailto:bwhittam@bsc-eoc.org)

Greg Campbell  
Bird Studies Canada  
P.O. Box 6227, 17 Waterfowl Lane  
Sackville, NB E4L 1G6  
tel 506-364-5047  
[gcampbell@bsc-eoc.org](mailto:gcampbell@bsc-eoc.org)

**3.5.5 Atlantic Canada Shorebird Survey (NB, NL, NS, PE)**

The Atlantic Canada Shorebird Survey (ACSS, formerly Maritimes Shorebird Survey) is a volunteer-based shorebird monitoring program coordinated by Environment Canada's Canadian Wildlife Service (CWS). It is a partner survey to the International Shorebird Survey (ISS) in the northeastern U.S. and the monitoring programs of other Canadian regions. The goals of the survey are to monitor migrating shorebirds and identify areas of importance to shorebirds in Atlantic Provinces. Surveyors follow a specific protocol and visit sites of their choosing at 10-day intervals during the survey period. Observers send in their survey data to CWS. The ACSS is designed to identify important shorebird stopover sites, document seasonal use of these areas, and monitor trends in numbers of shorebird species over time. Data are available upon request.

**Group of interest:** Birds

**Species:** Shorebirds

**Partner institutions and sponsoring organizations:** Canadian Wildlife Service; Prince Edward Island Government; Government of Newfoundland and Labrador; Government of New Brunswick; and Government of Nova Scotia

**Governmental organization (Y/N):** Y

**Active since:** 1974

**Province:** New Brunswick, Newfoundland and Labrador, Nova Scotia, Prince Edward Island

**Region:** Atlantic Canada

**Website(s):**

North American Bird Monitoring Projects Database  
[www.bsc-eoc.org/nabm/index.jsp?lang=EN&proj=121](http://www.bsc-eoc.org/nabm/index.jsp?lang=EN&proj=121)

**Contact:**

Environment Canada – CWS  
 Atlantic Canada – Newfoundland and Labrador  
 6 Bruce Street  
 Mount Pearl, NL A1N 4T3  
 tel 709-772-5585; fax 709-772-5097  
[cws.nf&lab@ec.gc.ca](mailto:cws.nf&lab@ec.gc.ca)

Environment Canada – CWS  
 Atlantic Canada - Maritimes  
 17 Waterfowl Lane  
 Sackville, NB E4L 1G6  
 tel 506-364-5044; fax 506-364-5062  
[nature@ec.gc.ca](mailto:nature@ec.gc.ca)

**3.5.6 Maritimes Breeding Bird Atlas (NB, NS, PE)**

The Maritimes Breeding Bird Atlas is a scientifically designed five-year field project to assess the status, distribution, and abundance of bird species that breed within the three Maritime Provinces, repeated at 20-year intervals. Three sampling methods are used for the Bird Atlas:

1. finding evidence of breeding for as many species as possible in a delimited square;
2. estimating the relative abundance of bird species in different squares (point counting); and
3. collecting more precise information on the breeding sites of rare and colonial species.

Raw data are available on the NatureCounts website, as well as on the Avian Knowledge Network website, while processed and mapped information can be found on the Maritimes Breeding Bird Atlas website.

**Group of interest:** Birds

**Species:** All breeding bird species

**Partner institutions:**

Bird Studies Canada; Canadian Wildlife Service; Government of New Brunswick; Government of Nova Scotia; Government of Prince Edward Island; Nature NB; Nova Scotia Bird Society; and Natural History Society of Prince Edward Island Ltd.

**Sponsoring organizations:**

New Brunswick Wildlife Trust Fund; New Brunswick Environmental Trust Fund Nova Scotia Habitat Conservation Fund, Atlantic Industries Limited; Jacques Whitford; Canada Habitat Stewardship Program for Species At Risk; Bailie Fund; Nova Scotia Tourism, Culture and Heritage; Shell Environmental Fund; BMO Nesbitt Burns; The Harold Crabtree Foundation; The Harrison McCain Foundation; Stevens Group; McInnes Cooper; Scotiabank; and Friends of the Environment Foundation

**Governmental organization (Y/N):** N

**Active since:** First Atlas (1986-1990) Second Atlas (2006-2010)

**Province:** New Brunswick, Nova Scotia and Prince Edward Island (see Figure 3.23)

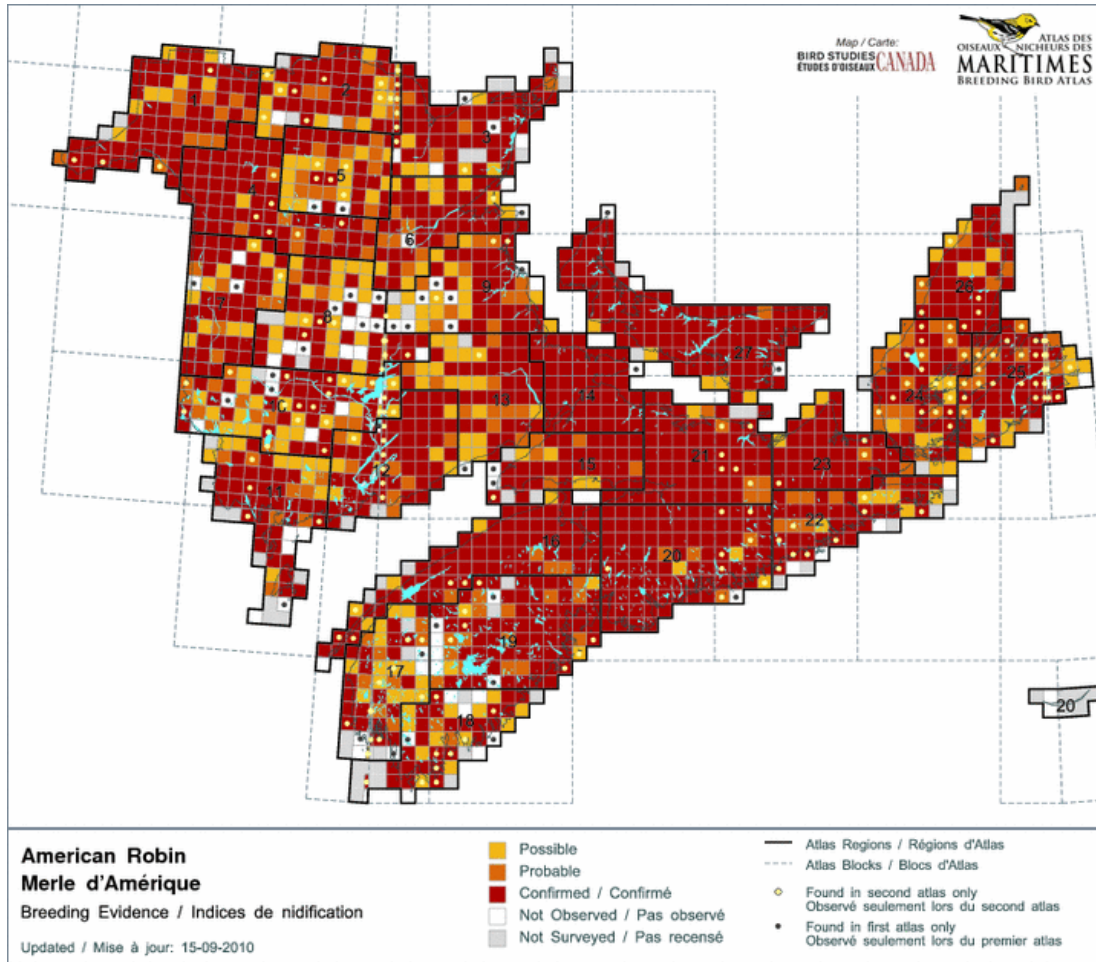
**Region:** Maritimes

**Website(s):**

Maritimes Breeding Bird Atlas [www.mba-aom.ca/english/index.html](http://www.mba-aom.ca/english/index.html)

NatureCounts, various datasets, [www.birdscanada.org/birdmon/default/datasets.jsp](http://www.birdscanada.org/birdmon/default/datasets.jsp)

Avian Knowledge Network [www.avianknowledge.net/content/datasets/projects/mbba2be\\_raw](http://www.avianknowledge.net/content/datasets/projects/mbba2be_raw)



**Figure 3.23** An Output of the 2006-2010 Maritimes Breeding Bird Atlas, the American Robin Breeding Evidence

[Source: <http://www.mba-aom.ca/jsp/map.jsp?lang=en>]

**Contact:**

Atlas Coordinator  
Maritimes Breeding Bird Atlas, Bird Studies Canada  
17 Waterfowl Lane  
Sackville, NB E4L 4N1  
tel 866-5ATLAS5 (866-528-5275)  
[atlasmaritimes@gmail.com](mailto:atlasmaritimes@gmail.com)

### 3.5.7 *Maritimes Nest Record Scheme (NB, NS, PE)*

The Maritimes Nest Record Scheme Project is a collection of cards filled by volunteers, describing one or more visits to a nesting activity (occupied bird nest, nest under active construction, or active nesting colony). Although independently run, the Maritimes Nest Record Scheme is taking advantage of the online support offered by Bird Studies Canada's Project NestWatch. At the moment, permission is required to access data. However, there are plans to make the data available via the Avian Knowledge Network. Data are also published in an annual report by the CWS.

**Group of interest:** Birds

**Species:** All

**Partner institutions and sponsoring organizations:** Canadian Wildlife Service; Bird Studies Canada; and George Cedric Metcalf Foundation

**Governmental organization (Y/N):** Y

**Active since:** 1960

**Province:** New Brunswick, Nova Scotia and Prince Edward Island

**Region:** Maritimes

**Website(s):**

NatureCounts [www.birdscanada.org/birdmon/default/datasets.jsp?code=MNRS](http://www.birdscanada.org/birdmon/default/datasets.jsp?code=MNRS)

**Contact:**

Tony Erskine  
Canadian Wildlife Service  
P.O. Box 6227, 17 Waterfowl Lane  
Sackville, NB E4L 1G6  
[tony.erskine@ec.gc.ca](mailto:tony.erskine@ec.gc.ca)

Denis Lepage  
Bird Studies Canada  
[dlepage@bsc-eoc.org](mailto:dlepage@bsc-eoc.org)

### 3.5.8 *New Brunswick Machias Seal Island*

The Machias Seal Island monitoring project objective is to understand seabird responses to long-term changes in their marine ecosystem. Every summer since 1995, students from University of New Brunswick have been monitoring the demographics (population size, productivity, and survival) and feeding behaviour (feeding rate, quantity and quality of diet) of a small community of four seabird species. Each species feeds on a different section of the oceanic food web. If climatic or oceanographic change happens, each species is expected to behave differently. Data can be found in annual Progress Reports, on the project website.

**Group of interest:** Birds

**Species:** Atlantic Puffin, Razorbill, Arctic Tern, Common Tern; respectively *Fratercula arctica*, *Alca torda*, *Sterna paradisaea*, *Sterna hirundo*

**Partner institutions and sponsoring organizations:**

Atlantic Laboratory for Avian Research (University of New Brunswick); Canadian Wildlife Service; New Brunswick Wildlife Trust Fund; Environment Canada's Ecological Monitoring and Assessment Network; Science Horizons programs; and Atlantic Cooperative Wildlife Ecology Research Network

**Governmental organization (Y/N):** N

**Active since:** 1995

**Province:** New Brunswick

**Region:** Grand Manan archipelago

**Website(s):**

Atlantic Laboratory for Avian Research [www.unb.ca/acwern/msi.htm](http://www.unb.ca/acwern/msi.htm)

North American Bird Monitoring Project Database  
[www.bsc-eoc.org/nabm/index.jsp?lang=EN&proj=120](http://www.bsc-eoc.org/nabm/index.jsp?lang=EN&proj=120)

**Contact:**

A.W. Diamond  
Atlantic Laboratory for Avian Research, University of New Brunswick  
[diamond@unb.ca](mailto:diamond@unb.ca)

**3.6 Newfoundland and Labrador****3.6.1 Murre Harvest Survey**

In Newfoundland and Labrador, Murres were commonly hunted. The Murre Harvest Survey was a survey sent to Murre hunters, to allow biologists to monitor harvest, hunting activity, and trends in Murre populations. The survey also provided insight into regional hunting habits as well as additional data on issues such as Eider hunting and oil pollution. Data are stored by the National Wildlife Research Centre and are available upon request.

**Group of interest:** Birds

**Species:** Thick-billed Murres (*Uria lomvia*) and Common Murres (*Uria aalge*)

**Partner institutions and sponsoring organizations:** Canadian Wildlife Service

**Governmental organization (Y/N):** Y

**Active since:** 1977, now terminated

**Province:** Newfoundland and Labrador

**Website(s):**

Canadian Wildlife Service [www.cws-scf.ec.gc.ca/nwrc-cnrf/default.asp?lang=en&n=629F6EA8](http://www.cws-scf.ec.gc.ca/nwrc-cnrf/default.asp?lang=en&n=629F6EA8)

North American Bird Monitoring Projects Database  
[www.bsc-eoc.org/nabm/index.jsp?lang=EN&proj=141](http://www.bsc-eoc.org/nabm/index.jsp?lang=EN&proj=141)

**Contact:**

Michel H. Gendron,  
Harvest Survey Biologist  
Canadian Wildlife Service  
1125 Colonel By Drive (Raven Rd)  
Ottawa, ON K1A 0H3  
tel 613-998-0475; fax 613-998-0458  
[michelh.gendron@ec.gc.ca](mailto:michelh.gendron@ec.gc.ca)

**3.6.2 Newfoundland and Labrador Nest Record Scheme**

The Newfoundland and Labrador Nest Record Scheme is a small collection of cards filled by volunteers, describing one or more visits to a nesting activity (occupied bird nest, nest under active construction, or active nesting colony). Although independently run, the Newfoundland and Labrador Nest Record Scheme is using the online support offered by Bird Studies Canada's Project NestWatch. At the moment, permission is required to access data. However, the intent is to make the data available to the Avian Knowledge Network. Data are also published in an annual report by CWS.

**Group of interest:** Birds

**Species:** Mostly American Robin (*Turdus migratorius*) and other common species

**Partner institutions and sponsoring organizations:** Bird Studies Canada

**Governmental organization (Y/N):** N

**Active since:** 1920

**Province:** Newfoundland and Labrador

**Website(s):**

Bird Studies Canada [www.bsc-eoc.org/national/nw\\_regcoord.html](http://www.bsc-eoc.org/national/nw_regcoord.html)

**Contact:**

Denis Lepage  
[dlepage@bsc-eoc.org](mailto:dlepage@bsc-eoc.org)

**3.7 Northwest Territories**

A list of wildlife-related monitoring programs in the Northwest Territories is available in Appendix 1 of the Northwest Territories Biodiversity Action Plan at [http://www.enr.gov.nt.ca/live/documents/content/NWT%20BAP%20Report%201\\_Complete.pdf](http://www.enr.gov.nt.ca/live/documents/content/NWT%20BAP%20Report%201_Complete.pdf).

**3.7.1 Arctic Program for Regional and International Shorebird Monitoring – Arctic PRISM (NT, NU, QC, YT)**

The Arctic Program for Regional and International Shorebird Monitoring (Arctic PRISM), also known as the Arctic Shorebird Monitoring Program, was implemented to understand the recent population declines noted in many shorebird species breeding in Canada. Arctic PRISM is estimating the population size of approximately 17 breeding shorebird species across the North American Arctic, to produce maps of distribution and abundance of shorebirds and identify high quality habitats for each species.

The Arctic PRISM is composed of three types of surveys:

- Tier 1, an extensive survey, carried out at 10-20 year intervals, that estimates abundance across all arctic regions of North America;
- Tier 2, surveys at 10-20 permanent shorebird sites; and
- Tier 3, checklist data annually collected by the NTW/Nunavut Bird Checklist Survey.

Interim data and results from Tier 1 and Tier 2 surveys are expected to be published in a monograph in 2010. At any point they are available from the Arctic PRISM contact. Data for Tier 3 surveys are available from <http://ebird.org>.

Arctic PRISM is one component of the larger Program for Regional and International Shorebird Monitoring. PRISM is being implemented through a Canada – U.S. collaboration.

**Group of interest:** Birds

**Species:** Shorebirds

**Partner institutions and sponsoring organizations:** Polar Continental Shelf Program; Canadian Wildlife Service; and U.S. Fish and Wildlife Service/U.S. Geological Survey

**Governmental organization (Y/N):** Y

**Active since:** 2002

**Province:** Yukon, Northwest Territories, Nunavik (northern Quebec), Nunavut and Alaska

**Region:** Arctic

**Website(s):**

Environment Canada <http://www.ec.gc.ca/scorn-nscs/default.asp?lang=En&n=2DBFF46F-1#b>

U.S. Fish and Wildlife Service [www.fws.gov/shorebirdplan/Prism.htm](http://www.fws.gov/shorebirdplan/Prism.htm)

**Contact:**

Jennie Rausch  
 Shorebird Biologist  
 Canadian Wildlife Service  
 P.O. Box 2310, 5019 - 52nd Street, 4th Floor  
 Yellowknife, NT X1A 2P7  
 tel 867-669-4709  
 fax 867-873-6776  
[jennie.rausch@ec.gc.ca](mailto:jennie.rausch@ec.gc.ca)

### **3.7.2 Monitoring Boreal Forest Birds**

The Monitoring Boreal Forest Birds project initiated bird monitoring activity in Fort Liard in combination with various baseline data collection initiatives across the Northwest Territories. The Fort Liard Boreal Forest Bird Monitoring project gathered about 400 point counts per year, over seven years of data collection (1998-2002, 2005, 2008). Results are expected to be published in 2010. Data are shared with the Boreal Avian Modelling Project, and could be available upon request. Collections of baseline information on bird distribution and population status were performed in Fort Liard, near Fort Simpson, Norman Wells, Colville Lake, and south of Inuvik. These are one-year



datasets of either eight or 12 plots each 12.25 ha in size with full bird territory mapping data associated with them. These data are also available upon request.

**Group of interest:** Birds

**Species:** Songbirds

**Partner institutions and sponsoring organizations:** Canadian Wildlife Service; Indian and Northern Affairs Canada; and Government of the Northwest Territories

**Governmental organization (Y/N):** Y

**Active since:** 1998

**Province:** Northwest Territories

**Region:** Fort Liard, near Fort Simpson, Norman Wells, Colville Lake, and south of Inuvik

**Website(s):**

CWS-Prairie and Northern Regions [www.pnr-rpn.ec.gc.ca](http://www.pnr-rpn.ec.gc.ca)

**Contact:**

Craig Machtans

[craig.machtans@ec.gc.ca](mailto:craig.machtans@ec.gc.ca)

### **3.7.3 Northwest Territories Cumulative Impact Monitoring Program**

The Northwest Territories Cumulative Impact Monitoring Program (NWT CIMP) aims to look at how all uses of land and water and deposits of waste affect the environment of the Northwest Territories. Doing so requires baseline information sourced from various monitoring programs. Datasets are available on the website, from long-term trends in Barren-Ground Caribou Herds, to Lake Trout Harvest in Great Bear Lake, and organochlorines in Eider Ducks.

**Group of interest:** All

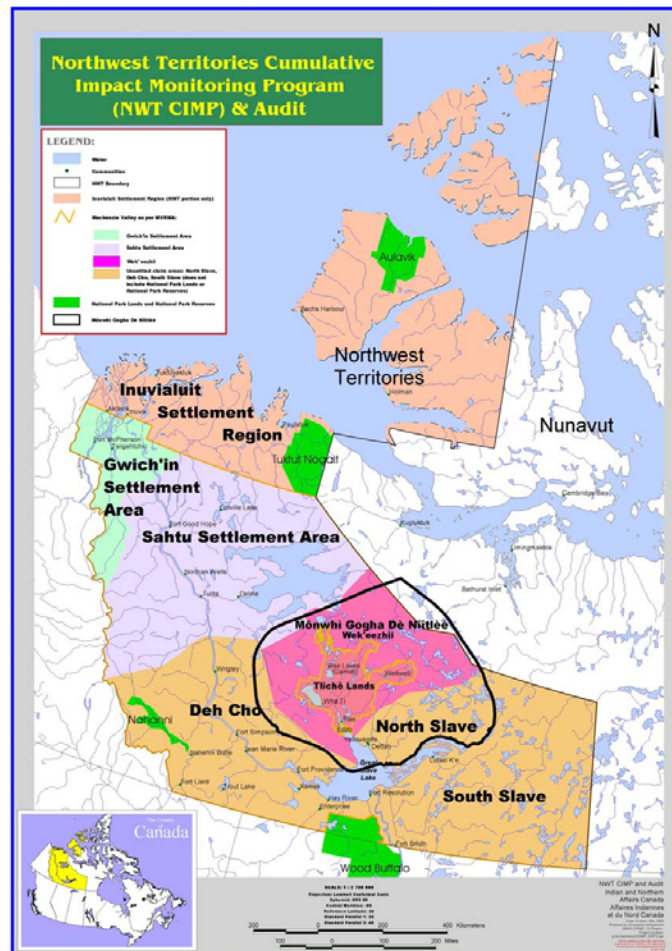
**Species:** Various (mammals, birds and fish)

**Partner institutions and sponsoring organizations:** Northwest Territories Aboriginal Governments; Government of Canada; and Government of the Northwest Territories

**Governmental organization (Y/N):** Y

**Active since:** 2009, but earlier records exist

**Province:** Northwest Territories (see Figure 3.24)



**Figure 3.24** The Northwest Territories Regions  
 [Source: [www.nwtcimp.ca/SiteImages/NWTMap.pdf](http://www.nwtcimp.ca/SiteImages/NWTMap.pdf)]

**Website(s):**

NWT Cumulative Impact Monitoring Program (NWT CIMP)  
[www.nwtcimp.ca/reports\\_wildlife/landmam\\_all.html](http://www.nwtcimp.ca/reports_wildlife/landmam_all.html)

**Contact:**

NWT CIMP Coordinators  
 Department of Indian Affairs & Northern Development  
 Box 1500  
 Yellowknife, NT X1A 2R3  
[cimp@inac-ainc.gc.ca](mailto:cimp@inac-ainc.gc.ca)

### 3.7.4 Northwest Territories/Nunavut Bird Checklist Survey

The Northwest Territories/Nunavut Bird Checklist Survey is a volunteer-based bird monitoring program. It was implemented following the recommendation of the Canadian Landbirds Monitoring Strategy. The checklist survey aims to collect formerly scarce records and observations of bird distribution, abundance, and breeding status in the Northwest Territories and Nunavut. The database now serves as baseline information for other studies, and is expected to allow detection of major bird population changes. Custom and raw data are available upon request, while some data can be found via the Canadian Biodiversity Information Facility (p. 10) and from eBird Canada (p. 16).

**Group of interest:** Birds

**Species:** All

**Partner institutions and sponsoring organizations:** Canadian Wildlife Service; Indian and Northern Affairs Canada; and Northern Ecosystem Initiative

**Governmental organization (Y/N):** Y

**Active since:** 1995

**Province:** Northwest Territories and Nunavut

**Region:** Arctic and Canada's northern regions

**Website(s):**

CWS-Prairie and Northern Region

<http://www.ec.gc.ca/reom-mbs/default.asp?lang=En&n=60E48D07-1>

North American Bird Monitoring Projects Database

[www.bsc-eoc.org/nabm/index.jsp?lang=EN&proj=158](http://www.bsc-eoc.org/nabm/index.jsp?lang=EN&proj=158)

**Contact:**

Craig Machtans

NWT Nunavut Bird Checklist Survey, Canadian Wildlife Service

4<sup>th</sup> Floor, 5109-52<sup>nd</sup> Street

Yellowknife, NT X1A 1T5

tel 867-669-4771; fax 867-873-8185

[craig.machtans@ec.gc.ca](mailto:craig.machtans@ec.gc.ca)

[nwtchecklist@ec.gc.ca](mailto:nwtchecklist@ec.gc.ca)

### 3.7.5 Northwest Territories Nocturnal Owl Survey

The Northwest Territories Nocturnal Owl Survey is the most recent initiative to join Bird Studies Canada's Nocturnal Owl Survey network. The goal of the survey is to collect otherwise scarce information on the distribution, abundance, and trends of nocturnal owls in the Northwest Territories. Data should be available on BSC's central database, or requests can be submitted to the project coordinator.

**Group of interest:** Birds

**Species:** Owls (Great Horned, Great Gray, Long-eared, Boreal and Barred Owl, Short-eared, Snowy Owl, and Northern Hawk Owl; respectively *Bubo virginianus*, *Strix nebulosa*, *Asio otus*, *Aegolius funereus*, *Strix varia*, *Asio flammeus*, *Bubo scandiacus*, and *Surnia ulula*)

**Partner institutions and sponsoring organizations:** Bird Studies Canada

**Governmental organization (Y/N):** N

**Active since:** 2003

**Province:** Northwest Territories

**Website(s):**

Bird Studies Canada [www.birdscanada.org/volunteer/natowls/index.jsp?lang=EN&targetpg=ntowl](http://www.birdscanada.org/volunteer/natowls/index.jsp?lang=EN&targetpg=ntowl)

**Contact:**

Tracy Hillis  
3510 McDonald Drive  
Yellowknife, NT X1A 2H1  
[tuktuamuit@hotmail.com](mailto:tuktuamuit@hotmail.com)

Debbie Badzinski  
Bird Studies Canada  
P.O. Box 160  
Port Rowan, ON N0E 1M0  
tel 888-448-2473  
[dbadzinski@bsc-eoc.org](mailto:dbadzinski@bsc-eoc.org)

### **3.7.6 Northwest Territories Species Monitoring Infobase**

The Northwest Territories Species Monitoring Infobase holds and organizes information on most living species in the Northwest Territories. For each species, information on general biology, habitats, distribution, and population status is available, as well as references.

**Group of interest:** All

**Species:** All

**Partner institutions and sponsoring organizations:** Northwest Territories Department of Environment and Natural Resources

**Governmental organization (Y/N):** Y

**Active since:** 2001

**Province:** Northwest Territories

**Website(s):**

Government of the Northwest Territories [www.enr.gov.nt.ca/live/pages/wpPages/NWT\\_Species\\_Monitoring\\_Infobase.aspx](http://www.enr.gov.nt.ca/live/pages/wpPages/NWT_Species_Monitoring_Infobase.aspx)

**Contact:**

Suzanne Carrière  
Ecosystem Management Biologist, Wildlife Division  
Department of Environment and Natural Resources, Government of the Northwest Territories  
600, 5102 50<sup>th</sup> Ave., Scotia Centre - 5<sup>th</sup> floor  
Yellowknife, NT X1A 3S8  
tel 867-920-6327; fax 867-873-0293  
[suzanne\\_carriere@gov.nt.ca](mailto:suzanne_carriere@gov.nt.ca)

### 3.7.7 *Small Mammal and Hare Surveys*

As suggested by the title, Small Mammal and Hare Surveys monitor cyclic fluctuations in arctic and boreal ecosystem prey species. Small mammals and hare are sampled on various sites across all ecozones of the Northwest Territories using standard protocols (see website for site descriptions). Raw data for a location are kept by a local contact. Data are available upon request to every local contact.

**Group of interest:** Mammals

**Species:** Voles, Mice, Lemmings, Shrews, and Hares

**Partner institutions and sponsoring organizations:** Government of Nunavut; Government of the Northwest Territories Gwich'in Renewable Resource Board; Sahtu Renewable Resource Board; Université Laval; and University of British Columbia

**Governmental organization (Y/N):** Y

**Active since:** the late 1980s

**Province:** Northwest Territories (see Figure 3.25)

**Website(s):**

Government of the Northwest Territories

[www.enr.gov.nt.ca/live/pages/wpPages/small\\_mammal\\_and\\_hare\\_surveys.aspx](http://www.enr.gov.nt.ca/live/pages/wpPages/small_mammal_and_hare_surveys.aspx)

**Contact:**

Suzanne Carrière, Survey Coordinator

Ecosystem Management Biologist, Wildlife Division

Department of Environment and Natural Resources, Government of the Northwest Territories

600, 5102 50<sup>th</sup> Ave., Scotia Centre - 5<sup>th</sup> floor

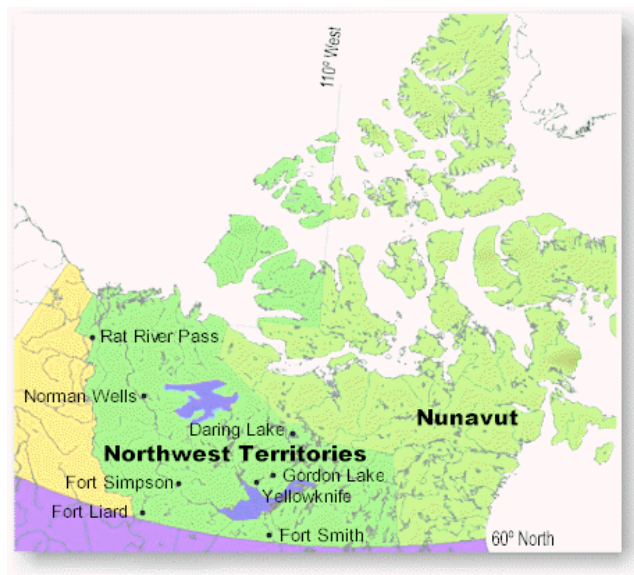
Yellowknife, NT X1A 3S8

tel 867-920-6327; fax 867-873-0293

[suzanne\\_carriere@gov.nt.ca](mailto:suzanne_carriere@gov.nt.ca)

Contact information for each location:

[www.enr.gov.nt.ca/live/pages/wpPages/surveys\\_in\\_the\\_nwt.aspx](http://www.enr.gov.nt.ca/live/pages/wpPages/surveys_in_the_nwt.aspx)



**Figure 3.25** Some Small Mammals and Hare Survey Sites through Northwest Territories  
 [Source: [www.enr.gov.nt.ca/ live/pages/wpPages/surveys\\_in\\_the\\_nwt.aspx](http://www.enr.gov.nt.ca/live/pages/wpPages/surveys_in_the_nwt.aspx)]

### 3.7.8 White Goose Collar Observation Project (NT, NU)

White Geese populations are currently (2010) at record high levels. The overabundance of geese means an increased pressure on fragile arctic breeding habitat, but also important crop damage in staging and wintering areas. The White Goose Collar Observation Project was launched to find out more about the migration patterns of Arctic White Geese. Observers from the public are invited to report collared geese sightings. Information found on the neck collars of geese can be entered on the project website. Data are available under written request to the Canadian Banding Office, or to Kathy Meeres (CWS).

**Group of interest:** Birds

**Species:** Lesser Snow Geese and Ross's Geese

**Partner institutions and sponsoring organizations:** Environment Canada; Canadian Wildlife Service; U.S. Fish and Wildlife Service; and the Central, Pacific and Mississippi Flyway Councils

**Governmental organization (Y/N):** Y

**Active since:** 1997, collaring ceased in 2005

**Province:** Northwest Territories and Nunavut

**Region:** Arctic

**Website(s):**

CWS-Prairie and Northern Regions

[www.pnr-rpn.ec.gc.ca/nature/migratorybirds/sg-on/wgcop-pocob/index.en.html](http://www.pnr-rpn.ec.gc.ca/nature/migratorybirds/sg-on/wgcop-pocob/index.en.html)

Bird Banding Office [www.cws-scf.ec.gc.ca/nwrc-cnrf/default.asp?lang=en&n=95E2C7CC-1](http://www.cws-scf.ec.gc.ca/nwrc-cnrf/default.asp?lang=en&n=95E2C7CC-1)

**Contact:**

Kathy Meeres  
Canadian Wildlife Service  
[kathy.meeres@ec.gc.ca](mailto:kathy.meeres@ec.gc.ca)

**3.7.9 Wildlife Management Information System**

The Wildlife Management Information System (WMIS) provides a central repository where government staff, industry, and the public can store and access standardized raw wildlife data to support the conservation and management of Northwest Territories wild species and their habitat. A list of the hosted monitoring programs is available on the website. Data can be requested by emailing WMIS with a description of data requested and a description of the study purpose.

**Group of interest:** Wildlife

**Species:** All

**Partner institutions and sponsoring organizations:** Northwest Territories Department of Environment and Natural Resources

**Governmental organization (Y/N):** Y

**Active since:** Earliest database in WMIS is NWT/NU Raptor nests (1928 to present)

**Province:** Northwest Territories

**Website(s):**

Government of the Northwest Territories [www.enr.gov.nt.ca/live/pages/wpPages/wmis.aspx](http://www.enr.gov.nt.ca/live/pages/wpPages/wmis.aspx)

**Contact:**

[wmisteam@gov.nt.ca](mailto:wmisteam@gov.nt.ca)

**3.8 Nova Scotia****3.8.1 Nova Scotia Piping Plover Conservation Program**

The Atlantic Coast Piping Plover is an endangered species that builds its nests and rears its young on sandy and pebbly coastal beaches. The Nova Scotia Piping Plover Conservation Program coordinates a network of volunteers and partners towards reversing the decline of Piping Plovers through population monitoring, habitat protection, and stewardship actions. Volunteers help biologists monitor Piping Plover pairs, nests, and chicks. When needed, breeding habitats and nests are protected against disturbance, predation and flooding. Monitoring efforts associated with this project include annual surveys of plover breeding sites and participation in the International Piping Plover Breeding Census, which occurs every five years (see <http://pubs.usgs.gov/ds/426/> for data from the 2006 International Piping Plover Census). Long-term data requests for the Atlantic Coast Piping Plover should be submitted to Environment Canada's Canadian Wildlife Service - Sackville, NB.

**Group of interest:** Birds

**Species:** Piping Plover (*Charadrius melodus melodus*)

**Partner institutions and sponsoring organizations:**

Bird Studies Canada, Canadian Wildlife Service; The Government of Canada's Habitat Stewardship Program for Species at Risk; Nova Scotia Department of Natural Resources; and Parks Canada Agency

**Governmental organization (Y/N):** N

**Active since:** 2006 under BSC's coordination, but the project is older

**Province:** Nova Scotia

**Region:** Beaches of Nova Scotia's South Shore

**Website(s):**

Bird Studies Canada [www.birdscanada.org/volunteer/nsplover/](http://www.birdscanada.org/volunteer/nsplover/)

NatureCounts [www.birdscanada.org/birdmon/default/datasets.jsp?code=SAR-NSPIPL](http://www.birdscanada.org/birdmon/default/datasets.jsp?code=SAR-NSPIPL)

**Contact:**

Sue Abbott  
Bird Studies Canada World 45 Alderney Dr., 16<sup>th</sup> floor  
Darmouth, NS B2Y 2N6  
tel 902-426-4055  
[nsplovers@gmail.com](mailto:nsplovers@gmail.com)

**3.9 Nunavut****3.9.1 Arctic Seabird Monitoring Project (NU, QC)**

The Arctic Seabird Monitoring Project allows data gathering on arctic seabird population health. Various sampling methods are used, including ground counts of nests and colony boundary delineation from aerial photographs. Population increases and/or decreases of selected colonies are monitored by comparing the population data over time. Sampling occurs at five-to-ten year intervals, rotating among colonies. From these data, scientists can establish management priorities. Data are kept in the Canadian Wildlife Service Arctic Seabird Colony Registry. They will be added to the Circumpolar Seabird Monitoring Database being developed by the Circumpolar Seabird Group of Conservation of Arctic Flora and Fauna. Data are available upon request.

**Group of interest:** Birds

**Species:** Seabirds (Northern Fulmar, Thick-billed Murre, Atlantic Puffin, Black-legged Kittiwake, Glaucous Gull, Iceland Gull, Sabine's Gull, Thayer's Gull, and Arctic Tern; respectively *Fulmarus glacialis*, *Urina lomvia*, *Fratercula arctica*, *Rissa tridactyla*, *Larus hyperboreus*, *Larus glaucoides*, *Larus sabini*, *Larus thayeri*, *Sterna paradisaea*)

**Partner institutions and sponsoring organizations:** Canadian Wildlife Service; Polar Continental Shelf Program; and NCD

**Governmental organization (Y/N):** Y

**Active since:** the 1970s

**Province:** Québec and Nunavut



**Region:** Arctic

**Website(s):**

North American Bird Monitoring Projects Database  
[www.bsc-eoc.org/nabm/index.jsp?lang=EN&proj=10](http://www.bsc-eoc.org/nabm/index.jsp?lang=EN&proj=10)

**Contact:**

Antony Gaston, Seabird Researcher  
Environment Canada  
1125 Colonel By Drive/Raven Road  
Ottawa, ON K1A 0H3  
tel 613-998-9662; fax 613-998-0458  
[tony.gaston@ec.gc.ca](mailto:tony.gaston@ec.gc.ca)

Mark Mallory, Seabird Biologist  
Canadian Wildlife Service – Prairie and Northern  
Region  
P.O. Box 1714  
Iqaluit, NU X0A 0H0  
tel 867-975-4637  
[mark.mallory@ec.gc.ca](mailto:mark.mallory@ec.gc.ca)

**3.9.2 Migration of Common Eider (NT, NU)**

Since the late 1970s, the Pacific Common Eider population declined by more than 50%. Little was known about the species' ecology, making it impossible to explain the decrease. The Migration of Common Eider Project objective is to identify distribution of Eiders while at sea, including migration routes and location of moulting and wintering areas. Transmitters are implanted into Eider abdominal cavities, allowing researchers to follow via satellites each duck over approximately one year. Results are available on the website.

**Group of interest:** Birds

**Species:** Pacific race of Common Eider (*Somateria mollissima v nigra*)

**Partner institutions and sponsoring organizations:**

Sea Duck Joint Venture; Canadian Wildlife Service, Environment Canada; U.S. Fish and Wildlife Foundation; Nunavut Wildlife Management Board; Inuvialuit Wildlife Management Advisory Council; and Polar Continental Shelf Project

**Governmental organization (Y/N):** Y

**Active since:** 2001 to 2004

**Province:** Nunavut, Northwest Territories

**Region:** Arctic, eiders were captured in Cambridge Bay, Nunavut (nesting ground).

**Website(s):**

CWS-Prairie and Northern Regions [www.pnr-rpn.ec.gc.ca/nature/migratorybirds/eider/index.en.html](http://www.pnr-rpn.ec.gc.ca/nature/migratorybirds/eider/index.en.html)

**Contact:**

Environment Canada  
 Canadian Wildlife Service - Prairie and Northern Region  
 Room 200, 4999-98 Avenue  
 Edmonton, AB T6B 2X3  
 tel 780-951-8600; fax 780-495-2615

Questions and comments:

[www.pnr-rpn.ec.gc.ca/contact-contactez/index.en.asp?KeyId=contact\\_nature](http://www.pnr-rpn.ec.gc.ca/contact-contactez/index.en.asp?KeyId=contact_nature)

**3.9.3 Nunavut Wildlife Resource Centres Coalition**

The Nunavut Wildlife Resource Centres Coalition is a shared catalogue between Nunavut agencies. The collection regroups documents, reports, and surveys on wildlife research and management, fisheries research and management, environmental protection, conservation, contaminants, sustainable development, social research, and economic development. Registration is mandatory (but free) to search through the catalogue. Photocopying may be possible upon request.

**Group of interest:** All wildlife

**Species:** All

**Partner institutions and sponsoring organizations:**

Nunavut Wildlife Management Board; Department of Environment (Government of Nunavut); Nunavut Research Institute; Fisheries and Oceans Canada; Canadian Wildlife Service; and Department of Economic Development and Transportation (Government of Nunavut)

**Governmental organization (Y/N):** N

**Active since:** reports include research done in Nunavut since 1995

**Province:** Nunavut

**Region:** Arctic

**Website(s):**

Nunavut Wildlife Resource Centres Coalition [www.nwrcc.ca/english/index.php](http://www.nwrcc.ca/english/index.php)

**Contact:**

Resource Centres Manager  
[librarian@nwmb.com](mailto:librarian@nwmb.com)

**3.10 Ontario****3.10.1 Breeding Ground Surveys of Northern Canada Geese**

The Breeding Ground Surveys of Northern Canada Geese is an annual estimation of the Canada Goose population size. Bird counts are performed in late May and early June. Year after year, the program monitors population trend and relates it to rates of recruitment and mortality. Two datasets can be found on Project WILDSPACE: *Mississippi Valley*, and *James Bay Population Canada Goose Breeding Ground Survey Databases*. Data are available upon request.

**Group of interest:** Birds

**Species:** Canada Goose (*Branta canadensis*)

**Partner institutions and sponsoring organizations:** Canadian Wildlife Service

**Governmental organization (Y/N):** Y

**Active since:** 1989

**Province:** Ontario

**Region:** Hudson Bay region

**Website(s):**

Project WILDSPACE <http://wildspace.ec.gc.ca/project.cfm?HoldID=I61&Lang=e>

**Contact:**

Jim Leafloor  
Canadian Wildlife Service  
[jim.leafloor@ec.gc.ca](mailto:jim.leafloor@ec.gc.ca)

Rich Russell  
Canadian Wildlife Service  
335 River Road  
Ottawa ON K1A 0H3  
tel 613-949-8265  
[rich.russell@ec.gc.ca](mailto:rich.russell@ec.gc.ca)

### **3.10.2 Colonial Waterbirds of the Canadian Great Lakes**

The Colonial Waterbirds of the Canadian Great Lakes project was designed to monitor the changes in populations of colonial waterbirds in the Canadian portions of the Great Lakes. The CWS – Ontario Region has performed nest censuses of the shoreline marshes and island three to four years in a row, every ten years since the late 1970s. See the *Atlas of Colonial Waterbirds of the Canadian Great Lakes*, the *Egg Size Monitoring*, and the *Historical Database* on Project WILDSPACE website. Data are available upon written request.

**Group of interest:** Birds

**Species:** Colonial Waterbirds (Tern, Heron, Egret, Gull, and Cormorant)

**Partner institutions and sponsoring organization:** Canadian Wildlife Service – Ontario Region; and Environment Canada’s Environmental Protection Branch

**Governmental organization (Y/N):** Y

**Active since:** 1976

**Province:** Ontario (see Figure 3.26)

**Region:** Great Lakes Region

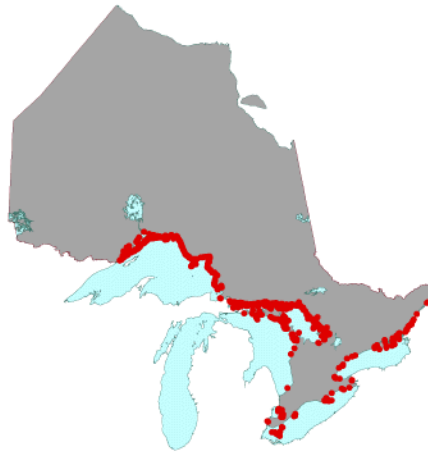
**Website(s):**

Project WILDSPACE <http://wildspace.ec.gc.ca/project.cfm?HoldID=I8&Lang=e>

**Contact:**

Rich Russell  
 Canadian Wildlife Service  
 335 River Road  
 Ottawa ON K1A 0H3  
 tel 613-949-8265  
[rich.russell@ec.gc.ca](mailto:rich.russell@ec.gc.ca)

**Colonial Waterbirds of the Canadian  
 Great Lakes / Oiseaux aquatiques coloniaux  
 des Grands Lacs au Canada**



**Figure 3.26** Red Dots Represent Colonial Waterbirds of the Canadian Great Lakes Study Sites  
 [Source: <http://wildspace.ec.gc.ca/wsimages/ws-map-cwbs.gif>]

### 3.10.3 *Forest Bird Monitoring Program*

The Forest Bird Monitoring Program (FBMP) aims to:

- compile a habitat-specific baseline inventory of forest songbirds;
- describe changes over time in their numbers in relation to habitat and landscape characteristics; and
- contribute to an understanding of population trends for forest birds in Ontario.

The FBMP relies on volunteer participation for data gathering. Volunteers perform a 10-minute point count at each station of a forested transect, twice between late May and early July. Birds are identified by song or sight. See *Forest Bird Monitoring Program* and *Forest Bird Productivity Databases* on Project WILDSpace website. Data are available upon written request.

**Group of interest:** Birds

**Species:** Landbirds

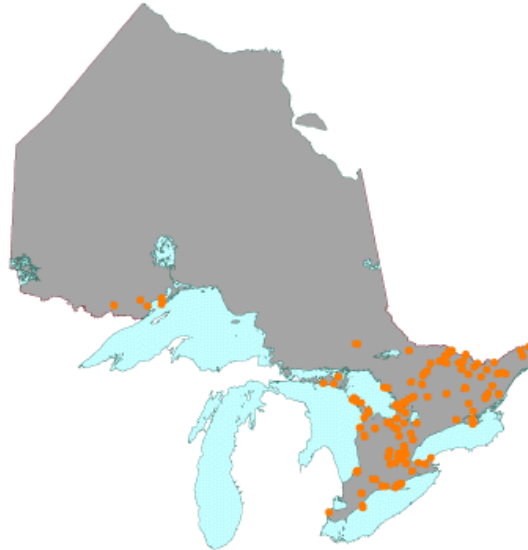
**Partner institutions and sponsoring organizations:** Canadian Wildlife Service – Ontario Region; Ontario Ministry of Natural Resources; and Parks Canada

**Governmental organization (Y/N):** Y

**Active since:** 1987

**Province:** Ontario (see Figure 3.27)

**Forest Bird Monitoring Program /  
Programme de surveillance des oiseaux de forêt**



**Figure 3.27** Orange Dots Represent Study Sites of the Forest Bird Monitoring Program  
[Source: <http://wildspace.ec.gc.ca/wsimages/ws-map-fbmp.gif>]

**Region:** Undisturbed mature woodlots.

**Website(s):**

CWS-Ontario Region [www.on.ec.gc.ca/wildlife/newsletters/fbmp06-e.html](http://www.on.ec.gc.ca/wildlife/newsletters/fbmp06-e.html)

North American Bird Monitoring Projects Database  
[www.bsc-eoc.org/nabm/index.jsp?lang=EN&proj=77](http://www.bsc-eoc.org/nabm/index.jsp?lang=EN&proj=77)

**Contact:**

Forest Bird Monitoring Program  
Canadian Wildlife Service  
335 River Road  
Ottawa, ON K1A 0H3  
tel 866-900-7100  
[FBMP@ec.gc.ca](mailto:FBMP@ec.gc.ca)

Rich Russell  
Canadian Wildlife Service  
335 River Road  
Ottawa ON K1A 0H3  
tel 613-949-8265  
[rich.russell@ec.gc.ca](mailto:rich.russell@ec.gc.ca)

### 3.10.4 Great Lakes Marsh Monitoring Program (Birds)

Marsh and wetlands are essential components of natural systems. They also provide habitat for various animal and plant species. However, the number, quality, and size of marshes have been decreasing over recent decades. The Great Lakes Marsh Monitoring Program was developed in order to monitor the situation by means of waterbird and anuran surveys. Volunteers follow bird survey routes with one to eight 100 m radius semi-circular listening stations, 250 m apart. Stations are visited twice, 10 days apart, between May 20<sup>th</sup> and July 5<sup>th</sup>. A 15-minute survey (five-minute silent listening, five-minute call broadcast period, five-minute silent listening) is performed at each station. Some data can be found in *The Marsh Monitoring Program Annual Report, 1995-2007* on BSC's publications website, and more complete datasets are available on the NatureCounts website.

**Group of interest:** Birds

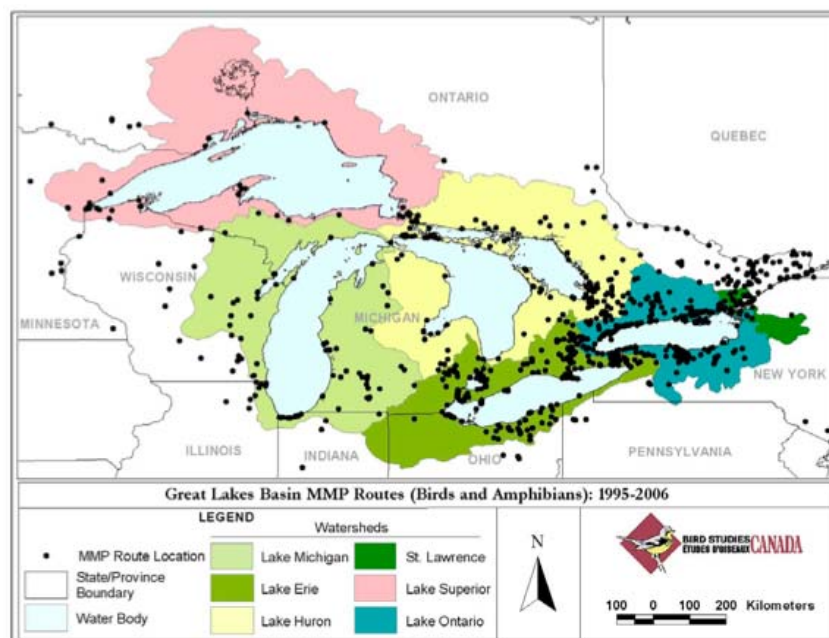
**Species:** All waterbirds, but focal species are American Bittern, American Coot, Black Rail, Common Moorhen, King Rail, Least Bittern, Pied-Billed Grebe, Sora, and Virginia Rail (respectively *Biotaurus lentiginosus*, *Fulica americana*, *Laterallus jamaicensis*, *Gallinula chloropus*, *Rallus elegans*, *Ixobrychus exilis*, *Podilymbus podiceps*, *Porzana carolina*, and *Rallus limicola*)

**Partner institutions and sponsoring organizations:** Bird Studies Canada; Wildlife Habitat Canada; Environment Canada; and USEPA

**Governmental organization (Y/N):** N

**Active since:** 1994

**Province:** Ontario (see Figure 3.28)



**Figure 3.28** Marsh Monitoring Program Route Locations within the Great Lakes Basin and Surrounding Areas

[Source: Archer and Jones (2009); [www.bsc-eoc.org/download/mmpannualreport.pdf](http://www.bsc-eoc.org/download/mmpannualreport.pdf)]

**Region:** Great Lakes basin

**Website(s):**

Avian Knowledge Network [www.avianknowledge.net/content/datasets/projects/mmp](http://www.avianknowledge.net/content/datasets/projects/mmp)

Bird Studies Canada [www.bsc-eoc.org/volunteer/glmp/index.jsp](http://www.bsc-eoc.org/volunteer/glmp/index.jsp)

NatureCounts [www.birdscanada.org/birdmon/default/datasets.jsp?code=MMPBIRDS](http://www.birdscanada.org/birdmon/default/datasets.jsp?code=MMPBIRDS);  
[www.bsc-eoc.org/birdmon/default/searchquery.jsp](http://www.bsc-eoc.org/birdmon/default/searchquery.jsp)

North American Bird Monitoring Project Database  
[www.bsc-eoc.org/nabm/index.jsp?lang=EN&proj=124](http://www.bsc-eoc.org/nabm/index.jsp?lang=EN&proj=124)

Project WILDSPACE <http://wildspace.ec.gc.ca/project.cfm?HoldID=I62&Lang=e>

*The Marsh Monitoring Program Annual Report, 1995-2007*  
[www.bsc-eoc.org/download/mmpannualreport.pdf](http://www.bsc-eoc.org/download/mmpannualreport.pdf)

**Contact:**

Kathy Jones  
Bird Studies Canada  
Port Rowan, ON N0E 1M0  
tel 888-448-2473; fax 519-586-3532  
[aqsurvey@bsc-eoc.org](mailto:aqsurvey@bsc-eoc.org)

**3.10.5 Great Lakes Marsh Monitoring Program (Frogs and toads)**

Marsh and wetlands are essential components of natural systems. They also provide habitat for various animal and plant species. However, the number, quality, and size of marshes have been decreasing over the latest decades. The Great Lakes Marsh Monitoring Program was developed in order to monitor the situation by means of waterbird and anuran surveys. Volunteers follow bird survey routes with one to eight 100 m radius semi-circular listening stations, 250 m apart. Stations are visited twice, 10 days apart between May 20<sup>th</sup> and July 5<sup>th</sup>. A 15-minute survey (five minute silent listening, five-minute call broadcast period, five-minute silent listening) is performed at each station. Some data can be found in *The Marsh Monitoring Program Annual Report, 1995-2007* on BSC's publications website, and more complete datasets can be available on NatureCounts website.

**Group of interest:** Amphibians

**Species:** Frogs and toads

**Partner institutions and sponsoring organizations:** Bird Studies Canada; Wildlife Habitat Canada; Environment Canada; and USEPA

**Governmental organization (Y/N):** N

**Active since:** 1994

**Province:** Ontario

**Region:** Great Lakes basin

**Website(s):**

Bird Studies Canada [www.bsc-eoc.org/volunteer/glmp/index.jsp?targetpg=glmpfrog&lang=EN](http://www.bsc-eoc.org/volunteer/glmp/index.jsp?targetpg=glmpfrog&lang=EN)

NatureCounts [www.birdscanada.org/birdmon/default/datasets.jsp?code=MMPFROGS&sec=bmdr](http://www.birdscanada.org/birdmon/default/datasets.jsp?code=MMPFROGS&sec=bmdr)

Project WILDSPACE <http://wildspace.ec.gc.ca/project.cfm?HoldID=I62&Lang=e>

**Contact:**

Kathy Jones  
 Bird Studies Canada  
 Port Rowan, ON N0E 1M0  
 tel 888-448-2473; fax 519-586-3532  
[aqsurvey@bsc-eoc.org](mailto:aqsurvey@bsc-eoc.org)

**3.10.6 Natural Heritage Information Centre**

The mission of the Natural Heritage Information Centre (NHIC) is to acquire, maintain, update, and make available data on the province's rare species, vegetation communities, and natural areas in order to generate a permanent and dynamic atlas and data bank on the character, distribution, and conservation status of natural areas, critical flora and fauna, communities, and special features in Ontario. The NHIC regroups information from various sources such as museums, universities, naturalist groups and monitoring programs. Data can be gathered using the Biodiversity Explorer tool, or be requested. Fees may be charged. The NHIC is a member program of NatureServe Canada.

**Group of interest:** All livings (focus on rare and endangered species)

**Species:** All (focus on rare and endangered species)

**Partner institutions and sponsoring organizations:** Ontario Ministry of Natural Resources; The Nature Conservancy of Canada; Natural Heritage League; and The Nature Conservancy

**Governmental organization (Y/N):** Y

**Active since:** 1993

**Province:** Ontario

**Website(s):**

Ontario Ministry of Natural Resources <http://nhic.mnr.gov.on.ca/>

**Contact:**

Natural Heritage Information Centre  
 300 Water Street, 2<sup>nd</sup> Floor, North Tower, P.O. Box 7000  
 Peterborough, ON K9J 8M5  
 tel 705-755-2159; fax 705-755-2168  
[nhicrequests@ontario.ca](mailto:nhicrequests@ontario.ca)

**3.10.7 Northern Ontario Songbird Research**

Surveys of the Northern Ontario Songbird Research program were conducted to determine songbird occurrence, abundance and/or species density for various study areas in northern Ontario, in order to relate this information to other factors within the forest ecosystem, such as habitat type, successional stage, or spruce budworm population levels. The goal of the research was to relate songbird



populations to the forest ecosystem classification for northern Ontario. See databases of *Northern Ontario Forest Succession Songbird Studies*, of *Songbird / Spruce Budworm Relationships*, of the *Hudson Bay Lowland Songbird Surveys*, and of the *Northern Ontario Songbird Research* on Project WILDSpace website. Data are available upon written request.

**Group of interest:** Birds

**Species:** Landbirds

**Partner institutions and sponsoring organizations:** Canadian Wildlife Service – Ontario Region; and Ontario Ministry of Natural Resources

**Governmental organization (Y/N):** Y

**Active since:** 1975 to 1994

**Province:** Ontario

**Region:** Northern Ontario

**Website(s):**

Project WILDSpace <http://wildspace.ec.gc.ca/project.cfm?HoldID=I4&Lang=e>

**Contact:**

Rich Russel  
Canadian Wildlife Service  
335 River Road  
Ottawa, ON K1A 0H3  
tel 613-949-8265  
[rich.russel@ec.gc.ca](mailto:rich.russel@ec.gc.ca)

### **3.10.8 Ontario Breeding Birds Atlas**

The Ontario Breeding Bird Atlas is a large-scale volunteer-based mapping effort of bird populations and distributions. Each Atlas summarizes the state of Ontario birds. In addition, the 20-year time lag between the first (1981-1985) and the second (2001-2005) atlas allowed analysis of changes in bird populations and distributions. Most components of the Ontario Breeding Bird Atlas can be downloaded through NatureCounts and the Avian Knowledge Network. However, one should submit a written request if planning a significantly sized use of the Breeding Bird Atlas database. Customized requests can be submitted although fees may be charged.

**Group of interest:** Birds

**Species:** All Ontario breeding birds

**Partner institutions:**

Bird Studies Canada; Ontario Field Ornithologists; Canadian Wildlife Service, Ontario Nature; and Ontario Ministry of Natural Resources

**Sponsoring organizations:**

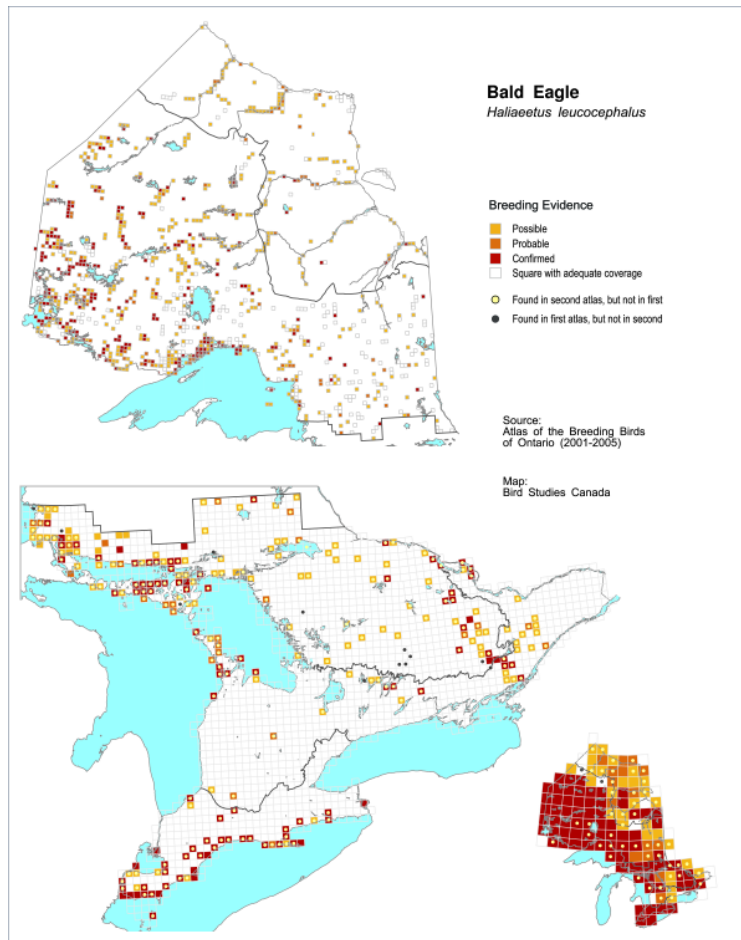
Environment Canada; Living Legacy Trust; Metcalf Foundation; Ontario Trillium Foundation; Volunteer Action, BHP Billiton; Canadian Boreal Initiative; Edwards Charitable Foundation; Human

Resources and Skills Development Canada's Summer Career Placement Program; Baillie Fund; McLean Foundation, De Beers Canada Inc.; and Eagle Optics

**Governmental organization (Y/N):** N

**Active since:** first atlases, 1981-1985; second atlas, 2001-2005

**Province:** Ontario (see Figure 3.29)



**Figure 3.29** An Example of Output from the Atlas of the Breeding Birds of Ontario:  
The Bald Eagle 2001-2005 Breeding Evidence  
[Source: [www.birdsontario.org/atlas/maps.jsp?lang=en](http://www.birdsontario.org/atlas/maps.jsp?lang=en)]

**Website(s):**

Atlas of the Breeding Birds of Ontario [www.birdsontario.org/atlas/index.jsp](http://www.birdsontario.org/atlas/index.jsp)

Various versions in NatureCounts [www.birdscanada.org/birdmon/default/datasets.jsp](http://www.birdscanada.org/birdmon/default/datasets.jsp)

AKN point count data [www.avianknowledge.net/content/datasets/projects/obba2pc](http://www.avianknowledge.net/content/datasets/projects/obba2pc)

AKN raw breeding evidence [www.avianknowledge.net/content/datasets/projects/obba2be\\_raw](http://www.avianknowledge.net/content/datasets/projects/obba2be_raw)

**Contact:**

Denis Lepage  
[dlepage@bsc-eoc.org](mailto:dlepage@bsc-eoc.org)

**3.10.9 Ontario Herpetofaunal Summary**

The primary objective of the Ontario Herpetofaunal Summary (OHS) project was to produce detailed distribution maps of the province's amphibians and reptiles. Volunteers record their observations on printed cards. The information is entered into a computer database by compilers. Some historic distribution data have also been compiled. Once in the database, observations are mapped. Access to the record database is limited. One must contact the project lead for specific information. Note that fees may be charged for complicated or time-consuming database searches. The Atlas website is hosted by the Natural Heritage Information Centre.

**Group of interest:** Herpetofauna

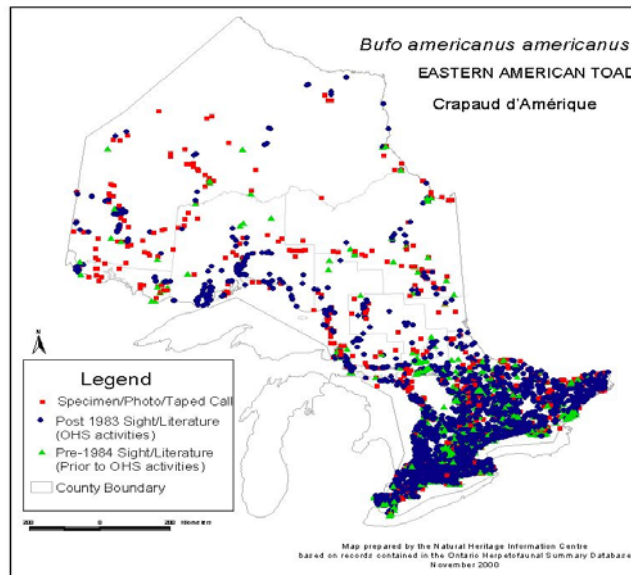
**Species:** All amphibians and reptiles found in Ontario

**Partner institutions and sponsoring organizations:** Richard Ivey Foundation; Ontario Ministry of Natural Resources; World Wildlife Fund; Essex Region Conservation Authority; and Canadian Amphibian and Reptile Conservation Society

**Governmental organization (Y/N):** Y

**Active since:** 1984

**Province:** Ontario (see Figure 3.30)



**Figure 3.30** Distribution of the Eastern American Toad Based on Records from the OHS Database  
 [Source: [http://nhic.mnr.gov.on.ca/MNR/nhic/herps/All\\_Ont/frogs/amto.jpg](http://nhic.mnr.gov.on.ca/MNR/nhic/herps/All_Ont/frogs/amto.jpg)]

**Website(s):**

Ontario Ministry of Natural Resources <http://nhic.mnr.gov.on.ca/MNR/nhic/herps/about.html>

**Contact:**

Mike Oldham  
Natural Heritage Information Centre  
[michael.oldham@mnr.gov.on.ca](mailto:michael.oldham@mnr.gov.on.ca)

**3.10.10 Ontario Hummingbird Project**

The Ontario Hummingbird Project (OHP) is a membership-based monitoring program. The aims of the OHP are to

- identify migration routes and peak migration dates;
- document spring arrival and fall departure dates;
- define the northern limits of the breeding range;
- locate concentration points;
- study the nesting cycle;
- document rare species visits; and
- collect information on nesting locations, population estimates, reproduction rates and birds returning to the same locality each year.

Data are available upon request.

**Group of interest:** Birds

**Species:** Hummingbirds

**Partner institutions and sponsoring organizations:** OHP funding relies on membership fees.

**Governmental organization (Y/N):** N

**Active since:** 2005

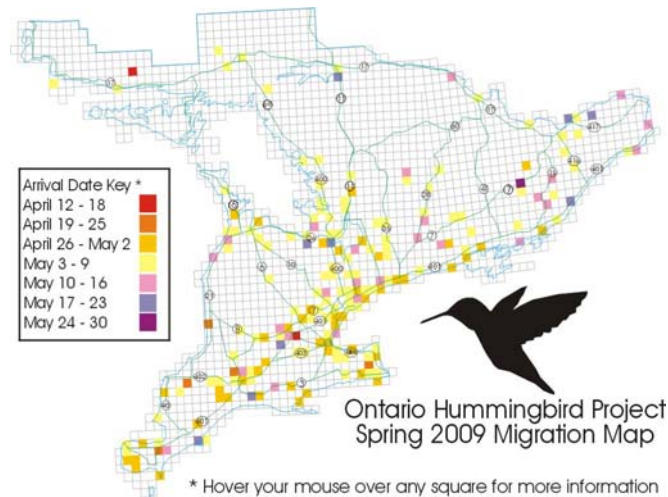
**Province:** Ontario (see Figure 3.31)

**Webpages:**

[www.ontariohummingbirds.ca/](http://www.ontariohummingbirds.ca/)

**Contact:**

Cindy Cartwright  
The Ontario Hummingbird Project  
581 High Street, Box 1116  
Southampton, ON N0H 2L0  
tel (519) 797-1313  
[hummingbirds@bmts.com](mailto:hummingbirds@bmts.com)



**Figure 3.31** Spring 2009 Hummingbird Migration Arrivals Map  
 [See OhummingbirdProj\_SOMigrationMap.jpg, from  
[http://www.ontariohummingbirds.ca/migrationrange\\_maps.php](http://www.ontariohummingbirds.ca/migrationrange_maps.php)]

### 3.10.11 Ontario Nest Records Scheme

The Ontario Nest Records Scheme (ONRS) is a long-term nest tracking initiative. This program monitors the health of Ontario's bird populations and the impact of human activities on birds. Observations of occupied bird nests found by participants are recorded on cards or directly into an electronic database. The ONRS database has been summarized in a two-volume book, *Breeding Birds of Ontario: Nidology and Distribution, Volume 1: Nonpasserines* and *Breeding Birds of Ontario: Nidology and Distribution, Volume 2: Passerines*, downloadable from Bird Ontario website.

**Group of interest:** Birds

**Species:** All bird species breeding in Ontario

**Partner institutions and sponsoring organizations:** Bird Studies Canada; Royal Ontario Museum; and Canadian Wildlife Service

**Governmental organization (Y/N):** N

**Active since:** 1956

**Province:** Ontario

**Website(s):**

Birds Ontario [www.birdsontario.org/onrs/onrsmain.html](http://www.birdsontario.org/onrs/onrsmain.html)

**Contact:**

Mark Peck  
 Royal Ontario Museum, 100 Queen's Park  
 Toronto, ON M5S 2C6  
 tel 416-586-5523  
[onrs@rom.on.ca](mailto:onrs@rom.on.ca)

**3.10.12 Ontario Nocturnal Owl Survey**

The goal of the Ontario Nocturnal Owl Survey is to assess the distribution and abundance of nocturnal owls in Ontario with the goal of monitoring populations to determine whether they are being affected by logging practices. Objectives of the program are to obtain information on owl distributions, to estimate relative abundance and trends in owl populations, and to determine habitat association of owls. Once a year in April, volunteers perform broadcast surveys at fixed intervals along pre-determined routes. In order to effectively census different species, two survey protocols have been developed: one for northern Ontario and another one for central Ontario. The database is available on the NatureCounts website.

**Group of interest:** Birds

**Species:** Owls (target species are Great Grey Owl, *Strix nebulosa*, Barred Owl, *Strix varia*, Boreal Owl, *Aegolius funereus*, and Northern Saw-whet Owl, *Aegolius acadicus*)

**Partner institutions and sponsoring organizations:** Bird Studies Canada; Ontario Ministry of Natural Resources; and Wildlife Assessment Program

**Governmental organization (Y/N):** N

**Active since:** 1995

**Province:** Ontario

**Website(s):**

Bird Studies Canada [www.birdscanada.org/volunteer/onowls/](http://www.birdscanada.org/volunteer/onowls/); [www.bsc-eoc.org/owls.html](http://www.bsc-eoc.org/owls.html)

NatureCounts [www.birdscanada.org/birdmon/default/datasets.jsp?code=ONOWLS](http://www.birdscanada.org/birdmon/default/datasets.jsp?code=ONOWLS)

North American Bird Monitoring Projects Database  
[www.bsc-eoc.org/nabm/index.jsp?lang=EN&proj=160](http://www.bsc-eoc.org/nabm/index.jsp?lang=EN&proj=160)

**Contact:**

Jody Allair  
 Ontario Nocturnal Owl Survey, Bird Studies Canada  
 P.O. Box 160  
 Port Rowan, ON N0E 1M0  
 tel 519-586-3531; 888-448-2473  
[raptor@bsc-eoc.org](mailto:raptor@bsc-eoc.org)

**3.10.13 Ontario Shorebird Survey**

The Ontario Shorebird Survey is used to identify important areas for migrating shorebirds, to monitor trends in shorebird populations, and in identifying habitat availability. The purpose of the survey is to assess trends and changes in populations of migratory shorebirds over time. The Ontario Shorebird Survey is a partner survey to the International Shorebird Survey (ISS) in the northeastern U.S. and the

monitoring programs of other Canadian regions. Volunteers survey migration stopovers used by shorebirds during fall and spring migration. Data are available upon request.

**Group of interest:** Birds

**Species:** Shorebirds

**Partner institutions and sponsoring organizations:** Canadian Wildlife Service

**Governmental organization (Y/N):** Y

**Active since:** 1976

**Province:** Ontario

**Region:** southern Ontario (Tilbury) to Pukaskwa National Park (north of Lake Superior) to Embrun (east of Ottawa)

**Website(s):**

Project WILDSPACE <http://wildspace.ec.gc.ca/project.cfm?HoldID=I18&Lang=e>

North American Bird Monitoring Projects Database  
[www.bsc-eoc.org/nabm/index.jsp?lang=EN&proj=161](http://www.bsc-eoc.org/nabm/index.jsp?lang=EN&proj=161)

**Contact:**

Christian Friis, Boreal Issues Biologist  
Canadian Wildlife Service  
[christian.friis@ec.gc.ca](mailto:christian.friis@ec.gc.ca)

Rich Russell  
Canadian Wildlife Service  
335 River Road  
Ottawa, ON K1A 0H3  
tel 613-949-8265  
[rich.russell@ec.gc.ca](mailto:rich.russell@ec.gc.ca)

### **3.10.14 Project WILDSPACE**

Project WILDSPACE is a knowledge management initiative launched by Environment Canada's Canadian Wildlife Service – Ontario Region. It includes an analytical and mapping tool for researchers, a Decision Support System, and a public website, the latter being a source of information about Ontario's wild species and spaces. The program goal is to integrate the diverse data holdings of the CWS – Ontario into a widely accessible system. Project WILDSPACE regroups descriptions of CWS – Ontario's various bird monitoring programs. Datasets are available upon written request.

**Group of interest:** Birds

**Species:** All

**Partner institutions and sponsoring organizations:**

Canadian Wildlife Service of Ontario; Meteorological Service of Canada – Ontario Region Geomatics Unit; National Water Research Institute; Environment Canada; Natural Resources Canada; Ontario Ministry of Natural Resources; and Federation of Ontario Naturalists

**Governmental organization (Y/N):** Y

**Active since:** 1996, but more than 50 years of data

**Province:** Ontario

**Website(s):**

Project WILDSPACE <http://wildspace.ec.gc.ca/intro-e.html>

**Contact:**

Rich Russell  
Canadian Wildlife Service  
335 River Road  
Ottawa, ON K1A 0H3  
tel 613-949-8265  
[rich.russell@ec.gc.ca](mailto:rich.russell@ec.gc.ca)

### **3.10.15 *Red-shouldered Hawk and Spring Woodpecker Survey***

The Red-shoulder Hawk was once common in southern Ontario and in North America. However, its abundance declined with the increase in rarity of mature deciduous and mixed forest, its preferred habitat. Consequently, the Red-shoulder Hawk was chosen as a key indicator species to monitor the effects of forest management by the Wildlife Assessment Program of the Ontario Ministry of Natural Resources. Two Woodpecker species sharing the same habitat preference, the Pileated Woodpeckers and the Yellow-bellied Sapsucker, were added to the survey because little was known about them. Every year in May, volunteers perform a roadside survey that uses playback calls to elicit responses from Red-shouldered Hawks. Passive acoustic and visual observations of other raptor and woodpecker species are also recorded. Datasets are available on the NatureCounts website.

**Group of interest:** Birds

**Species:** Red-shouldered Hawk (*Buteo lineatus*), and various woodpecker species

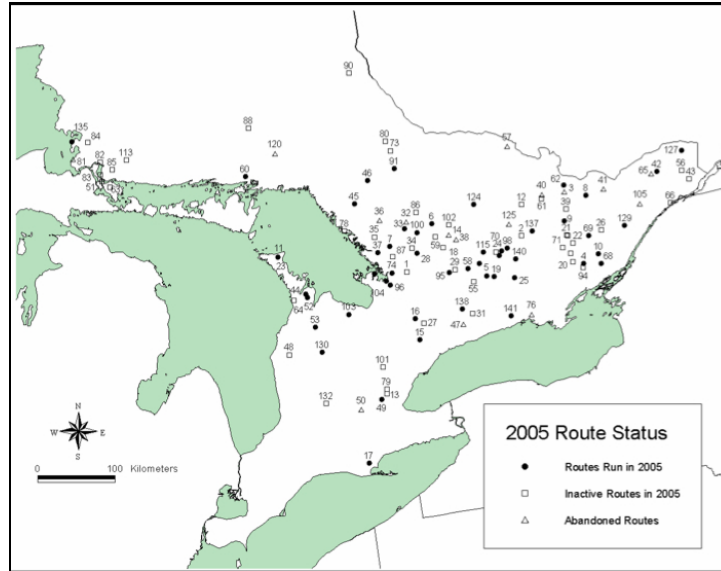
**Partner institutions and sponsoring organizations:** Bird Studies Canada; Ontario Ministry of Natural Resources; and Wildlife Assessment Program

**Governmental organization (Y/N):** N

**Active since:** 1990 to 2006

**Province:** Ontario (see Figure 3.32).





**Figure 3.32** Distribution and Status of Red-shouldered Hawk and Spring Woodpecker Survey Routes in 2005

[Source: Crewe and Badzinski (2006); <http://bschost.kwic.com/download/rsha2005.pdf>]

**Region:** Deciduous or mixed forest habitat in Central Ontario

**Website(s):**

Bird Studies Canada [www.bsc-eoc.org/rsha.html](http://www.bsc-eoc.org/rsha.html)

NatureCounts [www.birdscanada.org/birdmon/default/datasets.jsp?code=SAR-RSHA](http://www.birdscanada.org/birdmon/default/datasets.jsp?code=SAR-RSHA)

North American Bird Monitoring Projects Database  
[www.bsc-eoc.org/nabm/index.jsp?lang=EN&proj=605](http://www.bsc-eoc.org/nabm/index.jsp?lang=EN&proj=605)

**Contact:**

Jody Allair  
Bird Studies Canada  
P.O. Box 160  
Port Rowan, ON N9E 1M0  
tel 888-448-2473; fax 519-586-3532

Debbie Badzinski, Ontario Program Manager  
Bird Studies Canada  
P.O. Box 160  
Port Rowan, ON N0E 1M0  
tel 888-448-2473  
[dbadzinski@bsc-eoc.org](mailto:dbadzinski@bsc-eoc.org)

### 3.10.16 Surveys of Migrant Waterfowl in Ontario

The purpose of the Surveys of Migrant Waterfowl in Ontario is to identify major staging areas for waterfowl along Ontario's shoreline. The data contribute to annual population assessments of selected species or populations. Moreover, the project monitors major changes in habitat quality along survey routes. See the *Eastern Ontario Migrant and Overwintering Waterfowl Survey*, the *Migrant Waterfowl along the Ontario shorelines of the Northern Great Lakes Survey*, the *Survey of Migrant and Summering Waterfowl along the shoreline of the James and Hudson Bay*, and the *Waterfowl Surveys of the Major Staging Areas along the Ontario shoreline of the Southern Great Lakes* Databases on Project WILDSpace website. Data are available upon written request.

**Group of interest:** Birds

**Species:** Waterfowl

**Partner institutions and sponsoring organization:** Canadian Wildlife Service – Ontario Region

**Governmental organization (Y/N):** Y

**Active since:** 1968

**Province:** Ontario

**Website(s):**

Project WILDSPACE <http://wildspace.ec.gc.ca/project.cfm?HoldID=I24&Lang=e>

**Contact:**

Rich Russell  
Canadian Wildlife Service  
335 River Road  
Ottawa, ON K1A 0H3  
tel 613-949-8265  
[rich.russell@ec.gc.ca](mailto:rich.russell@ec.gc.ca)

### **3.10.17 Waterfowl Breeding Pair Surveys**

The Waterfowl Breeding Pair Survey aims to determine breeding densities and distributions for all breeding waterfowl species. The project is also intended to monitor waterfowl population trends and determine breeding habitat characteristics. A description of the various datasets for the project can be found on Project WILDSPACE website: *American Black Duck Survey of northeastern Ontario*, *Southern Ontario Breeding Waterfowl Pair and Habitat Survey*, and *Wetland Type Slides*. Data are available upon written request.

**Group of interest:** Birds

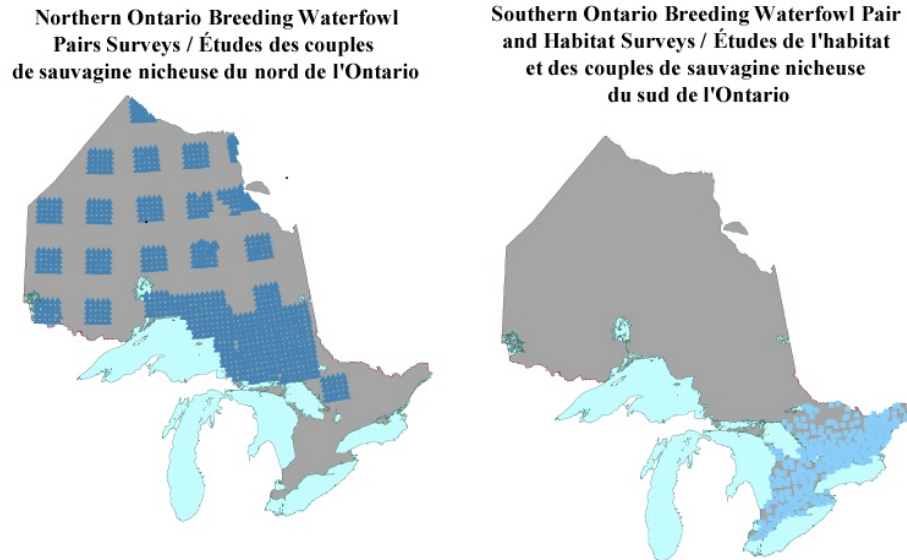
**Species:** Waterbirds

**Partner institutions and sponsoring organizations:** Canadian Wildlife Service – Ontario Region

**Governmental organization (Y/N):** Y

**Active since:** 1971

**Province:** Ontario (see Figure 3.33)



**Figure 3.33** Dark Blue Dots Represent Northern Ontario Breeding Waterfowl Pairs Surveys, While Pale Dots Represent Southern Ontario Breeding Waterfowl Pair and Habitat Survey  
 [Source: <http://wildspace.ec.gc.ca/maps-e.html>]

**Region:** Wetlands and lakes of Ontario

**Website(s):**

Project WILDSPACE

[www.on.ec.gc.ca/WILDLIFE/WILDSPACE/project.cfm?HoldID=I31&Lang=e](http://www.on.ec.gc.ca/WILDLIFE/WILDSPACE/project.cfm?HoldID=I31&Lang=e)

**Contact:**

Rich Russell  
 Canadian Wildlife Service  
 335 River Road  
 Ottawa, ON K1A 0H3  
 tel 613-949-8265  
[rich.russell@ec.gc.ca](mailto:rich.russell@ec.gc.ca)

### 3.11 Québec

#### 3.11.1 *Atlas des amphibiens et des reptiles du Québec (Atlas of Amphibians and Reptiles of Québec)*

The Atlas of Amphibians and Reptiles of Québec (Atlas des amphibiens et des reptiles du Québec - AARQ) is a volunteer-based program for the conservation of the herpetofauna living in province of Quebec. Volunteers record their observations online. Descriptions, pictures, mating calls (if applicable), and distribution maps are available under the profile of every species found in Quebec. The AARQ database is integrated with the Centre de données sur le patrimoine naturel du Québec (p. 105), where data are available free of charge. However, more up-to-date data can be requested from the St. Lawrence Valley Natural History Society, although fees will be charged (services available in French only).

**Group of interest:** Herpetofauna

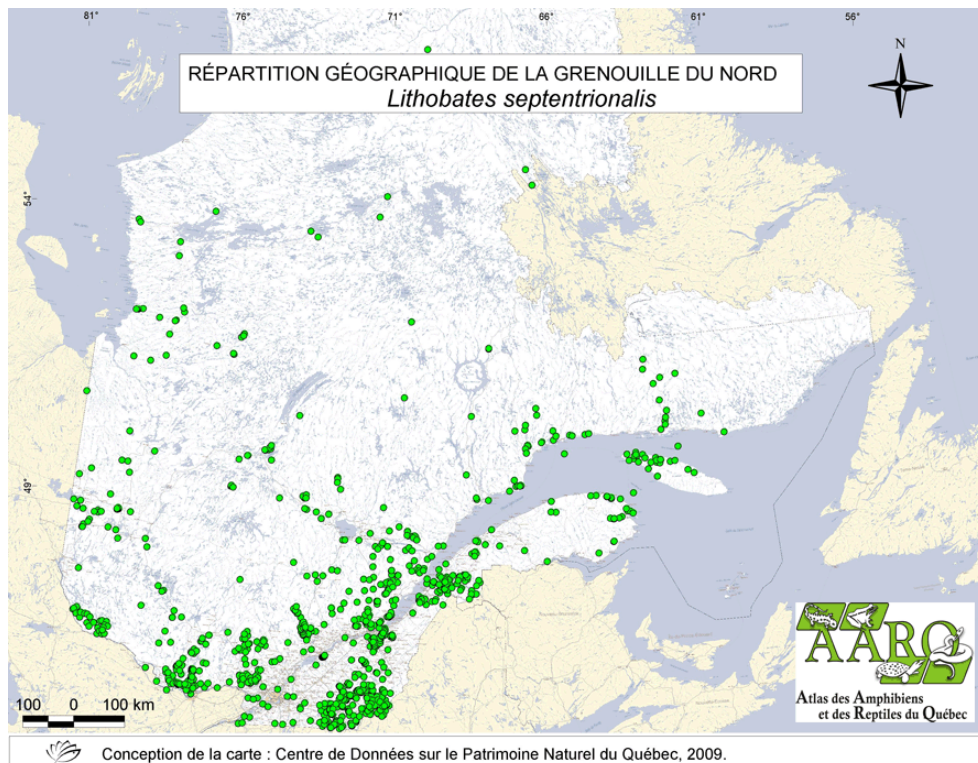
**Species:** Frogs, toads, salamanders and reptiles

**Partner institutions and sponsoring organizations:** St. Lawrence Valley Natural History Society (Société d'histoire naturelle de la vallée du Saint-Laurent); and Quebec Ministry of Wildlife and Natural Resources (Ressources naturelles et Faune)

**Governmental organization (Y/N):** N

**Active since:** 1988

**Province:** Québec (see Figure 3.34).



**Figure 3.34** An Example of an Output from the Quebec Amphibian and Reptiles Atlas:  
Sites across Québec Where Mink Frogs Were Observed

[Source: [www.atlasamphibiensreptiles.qc.ca/index.php?option=com\\_content&view=article&id=25&Itemid=32](http://www.atlasamphibiensreptiles.qc.ca/index.php?option=com_content&view=article&id=25&Itemid=32)]

**Website(s):**

Atlas of Amphibians and Reptiles of Québec [www.atlasamphibiensreptiles.qc.ca/](http://www.atlasamphibiensreptiles.qc.ca/)

**Contact:**

Sébastien Rouleau, Coordinator  
Société d'histoire naturelle de la vallée du Saint-Laurent  
21125 chemin Sainte-Marie  
Sainte-Anne-de-Bellevue, QC H9X 3Y7  
tel 514-457-9449 #106; fax 514-457-0769  
[aaqr@ecomuseum.ca](mailto:aaqr@ecomuseum.ca)

### 3.11.2 *Centre de données sur le patrimoine naturel du Québec (Québec Natural Heritage Information Centre)*

The Centre de données sur le patrimoine naturel du Québec (CDPNQ) is the Québec equivalent of the Ontario Natural Heritage Information Centre. The CDPNQ is a member of the International NatureServe Network. Its mission consists of gathering, storing, analyzing, and distributing data on elements of biodiversity within the province of Québec. Data from the CDPNQ are used to define conservation priorities, but also for work involving recovery plan drafting, environmental impact studies, application of protective measures, research projects, zoning project analyses, regulatory review, and forestry planning. Data on threatened or vulnerable species can be obtained from CDPNQ upon written request to the regional offices of the Quebec Ministry of Sustainable Development, Environment, and Parks (MDDEP - plants) and of the Quebec Ministry of Wildlife and Natural Resources (MRNF - animals). Fees could be charged.

**Group of interest:** All, focus on threatened or vulnerable species

**Species:** All, mainly threatened or vulnerable species

**Partner institutions and sponsoring organizations:**

Quebec Ministry of Sustainable Development, Environment, and Parks; Quebec Ministry of Wildlife and Natural Resources; Association des entomologistes amateurs du Québec, Biodôme de Montréal; Environment Canada – CWS; FloraQuebeca; Fondation de la faune du Québec; Fondation pour la sauvegarde des espèces menacées; Nature Conservancy of Canada – Québec; NatureServe; NatureServe Canada; Parks Canada; Regroupement QuébecOiseaux; Société Provancher d'histoire naturelle du Canada; St. Lawrence Valley Natural History society; and Institut québécois de la biodiversité

**Governmental organization (Y/N):** Y

**Active since:** 1988

**Province:** Québec

**Website(s):**

Québec Government [www.cdpnq.gouv.qc.ca/](http://www.cdpnq.gouv.qc.ca/)

**Contact:**

Fauna

Annie Paquet  
880 ch. Ste-Foy, 2<sup>e</sup> Étage  
Québec, QC G1S 4X4  
tel 418-627-8694 #7450; fax 418-646-5179  
[annie.paquet@mrnf.gouv.qc.ca](mailto:annie.paquet@mrnf.gouv.qc.ca)

Flora

Vincent Piché  
Édifce Marie-Guyart  
675 blv René-Lévesque Est, 4<sup>e</sup> Étage, Bte 21  
Québec, QC G1R 5V7  
tel 418-521-3907 #7023; fax 418-646-6169  
[cdpnq@mddep.gouv.qc.ca](mailto:cdpnq@mddep.gouv.qc.ca)

### 3.11.3 *Étude des populations d'oiseaux du Québec (Québec Bird Populations Study)*

The Québec Bird Populations Study (Étude des populations d'oiseaux du Québec – ÉPOQ) database consists of thousands of daily observation forms (checklist type). The ÉPOQ goals are to:

- share observations and knowledge on Québec bird distribution, reproduction, behaviour, and habitats;
- promote bird protection and habitat conservation; and
- share information gathered by Québec bird watchers.

ÉPOQ participants fill one checklist per day, per site. Checklists can be submitted online or by regular mail. Data requests can be submitted directly from the website, using the appropriate form.

**Group of interest:** Birds

**Species:** All

**Partner institutions and sponsoring organizations:** Regroupement QuébecOiseaux; and Bird Studies Canada

**Governmental organization (Y/N):** N

**Active since:** 1975

**Province:** Québec

**Region:** Everywhere bird watchers are

**Website(s):**

Regroupement QuébecOiseaux

[www.quebecoiseaux.org/index.php?option=com\\_content&view=article&id=196&Itemid=103](http://www.quebecoiseaux.org/index.php?option=com_content&view=article&id=196&Itemid=103)

North American Bird Monitoring Projects Database

[www.bsc-eoc.org/nabm/index.jsp?lang=EN&proj=69](http://www.bsc-eoc.org/nabm/index.jsp?lang=EN&proj=69)

Les Oiseaux du Québec [www.oiseauxqc.org/epoq.jsp](http://www.oiseauxqc.org/epoq.jsp)

**Contact:**

Jacques Larivée, Promoter  
[jacque.larive@cgocable.ca](mailto:jacque.larive@cgocable.ca)

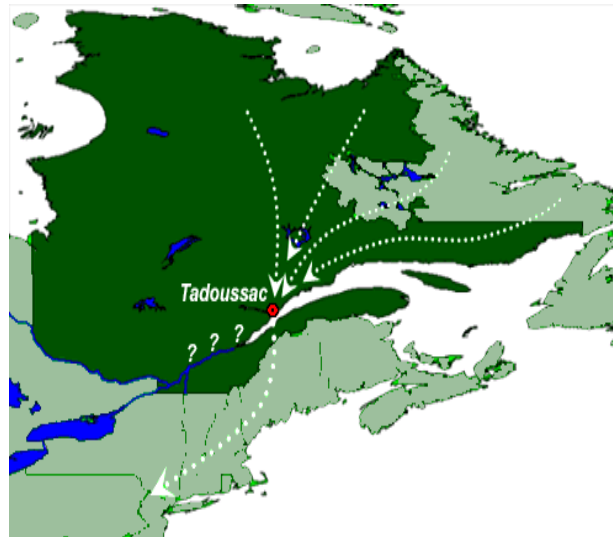
Regroupement QuébecOiseaux, Database Manager  
[info@quebecoiseaux.org](mailto:info@quebecoiseaux.org)

### 3.11.4 *Programme de surveillance des nyctales (Northern Saw-whet and Boreal Owl Monitoring Program)*

Little is known about both the Northern Saw-whet and the Boreal Owl. The Observatoire d'oiseaux de Tadoussac took advantage of its distinctive northern location to run the Northern Saw-whet and Boreal Owl Monitoring Program. They capture these little owls during their short-span cyclic migration using a combination of broadcast calls and mist nets. Various data on the population's health are gathered: abundance, number of juveniles, sex ratio, physical conditions, etc. Some data are shown on the website, but complete datasets are available upon written request, using the appropriate form (available from the French or English website – see below). Fees may be charged.

**Group of interest:** Birds**Species:** Northern Saw-whet (*Aegolius acadicus*) and Boreal Owl (*Aegolius funereus*)**Partner institutions and sponsoring organizations:**

Observatoire d'oiseaux de Tadoussac; Association Québécoise des groupes d'ornithologues; Bird Studies Canada; Canadian Migration Monitoring Network; Consortium de recherche sur la forêt boréale commerciale; Environment Canada's Canadian Wildlife Service; Fondation de la faune du Québec; Parc national du Saguenay, Société de la faune et des parcs du Québec; Université de Sherbrooke; and Université du Québec à Chicoutimi

**Governmental organization (Y/N):** N**Active since:** 1996**Province:** Québec (see Figure 3.35)

**Figure 3.35** Tadoussac's Situation along the Migration Pathway. Birds from Northeast Peninsula of Québec and Labrador Converge to the Closest Site Narrow Enough to Allow Easy Crossing [See OOT\_MigrationCorridor.gif. Source: [http://explos-nature.qc.ca/oot-1/index\\_e.htm](http://explos-nature.qc.ca/oot-1/index_e.htm)]

**Region:** Tadoussac**Website(s):**

Observatoire d'oiseaux de Tadoussac

In English [http://explos-nature.qc.ca/oot-1/index\\_e.htm](http://explos-nature.qc.ca/oot-1/index_e.htm)In French <http://www.explos-nature.qc.ca/oot/nyctales.php>

**Contact:**

Pascal Côté  
Observatoire d'oiseaux de Tadoussac, Corporation Explos-Nature  
302 rue de la Rivière  
Les Bergeronnes, QC G0T 1G0  
tel 1 877-637-1877; fax 418-232-6558  
[pascal.cote.oot@gmail.com](mailto:pascal.cote.oot@gmail.com)

**3.11.5 Suivi des populations d'amphibiens du Québec (Quebec Amphibian Monitoring Program)**

The Quebec Amphibian Monitoring Program (Suivi des populations d'amphibiens du Québec) is a volunteer-based survey of frogs and toads. The objective of the program is to identify long-term trends in anuran populations. Two evenings during spring, volunteers perform a three-minute listening period at each of 10 listening stations evenly spread along an - km pre-determined survey routes. Data are kept by the Quebec Ministry of Wildlife and Natural Resources (in French only).

**Group of interest:** Herpetofauna

**Species:** Anuran (frogs and toads)

**Partner institutions and sponsoring organizations:** Quebec Ministry of Wildlife and Natural Resources (MRNF); and the St. Lawrence Valley Natural History Society (Société d'histoire naturelle de la vallée du Saint-Laurent)

**Governmental organization (Y/N):** Y

**Active since:** 1993

**Province:** Québec

**Website(s):**

**Partner institutions and sponsoring organizations:** Quebec Ministry of Wildlife and Natural Resources (MRNF); and the St. Lawrence Valley Natural History Society (Société d'histoire naturelle de la vallée du Saint-Laurent)

Atlas of Amphibians and Reptiles of Québec  
[www.atlasamphibiensreptiles.qc.ca/index.php?option=com\\_content&view=article&id=216&Itemid=180](http://www.atlasamphibiensreptiles.qc.ca/index.php?option=com_content&view=article&id=216&Itemid=180)

**Contact:**

Jacques Jutras  
Quebec Ministry of Wildlife and Natural Resources  
[jacques.jutras@mrnf.gouv.qc.ca](mailto:jacques.jutras@mrnf.gouv.qc.ca)

**3.11.6 Québec Breeding Bird Atlas**

The Québec Breeding Bird Atlas is an extensive survey of bird distribution during the breeding season repeated approximately every twenty years. It is a valuable tool for bird conservation. Volunteer surveyors search for breeding evidence for as many bird species as possible within each 10 km<sup>2</sup>. Collected data are then used to map the distribution of each bird species nesting in Québec, and to map their relative abundance. Sampling for the second Atlas edition was launched in early 2010. Data from the first atlas are available upon written request to Regroupement Québec Oiseaux. An online form must be submitted (in French). Fees are charged.



**Group of interest:** Birds

**Species:** All breeding birds

**Partner institutions and sponsoring organizations:** Regroupement QuébecOiseaux; Environment Canada's Canadian Wildlife Service; and Bird Studies Canada

**Governmental organization (Y/N):** Y

**Two Atlases:** The first one covered 1984 to 1989, the second one will cover 2010 to 2014.

**Province:** Québec

**Region:** Southern Québec

**Website(s):**

Atlas [www.atlas-oiseaux.qc.ca/index\\_en.jsp](http://www.atlas-oiseaux.qc.ca/index_en.jsp)

Regroupement QuébecOiseaux  
[www.quebecoiseaux.org/index.php?option=com\\_content&view=article&id=195&Itemid=104](http://www.quebecoiseaux.org/index.php?option=com_content&view=article&id=195&Itemid=104)

Online Data Requisition Form [www.quebecoiseaux.org/index.php?option=com\\_rsform&Itemid=158](http://www.quebecoiseaux.org/index.php?option=com_rsform&Itemid=158)

**Contact:**

Michel Robert, Atlas Coordinator  
[michel.robert@ec.gc.ca](mailto:michel.robert@ec.gc.ca)

Benoît Laliberté, Assistant Atlas Coordinator  
[atlas@quebecoiseaux.org](mailto:atlas@quebecoiseaux.org)

Québec Breeding Bird Atlas  
1141, route de l'Église  
Québec, QC G1V 3W5  
tel 877-785-2772  
[info@atlas-oiseaux.qc.ca](mailto:info@atlas-oiseaux.qc.ca)

### **3.11.7 Québec Marsh Monitoring Program**

The Québec Marsh Monitoring Program is the St. Lawrence River version of the Great Lakes Marsh Monitoring Program (p. 89), without the amphibian monitoring effort. The program was implemented as a tool to assess marsh ecosystem health along the St. Lawrence River. Volunteer surveyors perform eight (or fewer, in cases of small marshes) 10-minute observation stops (100 m radius half circle listening stations) along sampling routes, twice a year between the end of May and mid-July. Every bird seen or heard is noted. Data are available through the NatureCounts website within the Great Lakes Marsh Monitoring database (filter the data for routes beginning with "QC").

**Group of interest:** Birds

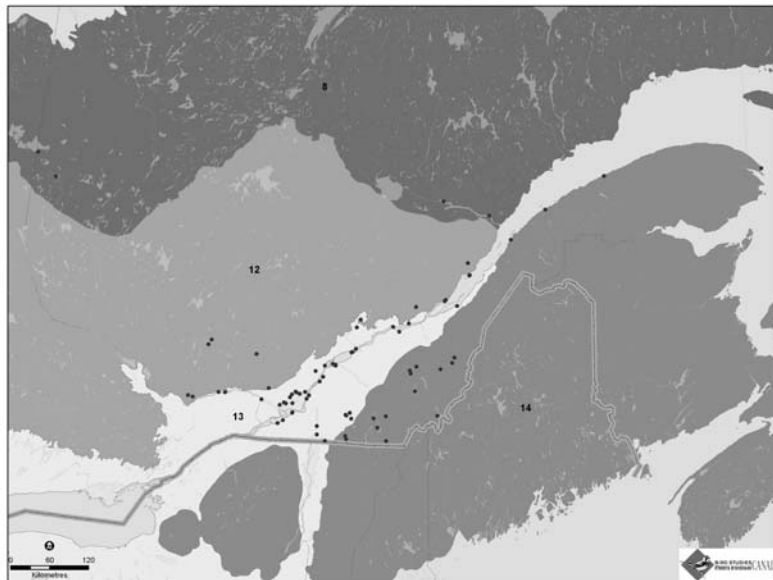
**Species:** Waterbirds and other marsh associated bird species

**Partner institutions and sponsoring organizations:** Bird Studies Canada; Environment Canada's Canadian Wildlife Service; and Friends of the Environment Foundation

**Governmental organization (Y/N):** N

**Active since:** 2004

**Province:** Québec (see Figure 3.36)



**Figure 3.36** Location of Marshes Surveyed in the 2008 Edition of the Québec Marsh Monitoring Program  
[Source: A. Coughlan, Bird Studies Canada]

**Region:** Marsh and wetlands across province of Québec

**Website(s):**

Bird Studies Canada [www.bsc-eoc.org/volunteer/qcmmmp/index.jsp](http://www.bsc-eoc.org/volunteer/qcmmmp/index.jsp)

NatureCounts [www.birdscanada.org/birdmon/default/searchquery.jsp](http://www.birdscanada.org/birdmon/default/searchquery.jsp)

**Contact:**

Andrew Coughlan  
Québec Program Manager  
Bird Studies Canada  
1141 route de l'Église, P.O. Box 10100, 8e Étage  
Québec, QC G1V 4H5  
tel (418) 649-6062, 866-518-0212  
[acoughlan@birdscanada.org](mailto:acoughlan@birdscanada.org)

### **3.11.8 Québec Nest Record Scheme**

The Québec Nest Record Scheme is the Québec version of Bird Studies Canada's Project NestWatch. Volunteers are asked to find a bird nest, follow it through the nesting season, and report their observations, collecting long-term data on bird populations throughout province of Québec. Project NestWatch was started in 2002, and allowed volunteer surveyors to enter their observations in the

online database. However, Québec Nest Record Scheme began in the late 1960s. Pre-2002 report cards have since been digitized and integrated to the database. Data are available upon request.

**Group of interest:** Birds

**Species:** All bird species

**Partner institutions and sponsoring organizations:** Bird Studies Canada; Canadian Wildlife Service; and Canadian Museum of Nature

**Governmental organization (Y/N):** Y

**Active since:** 1969 (some earlier data exist)

**Province:** Québec

**Website(s):**

Project NestWatch [www.bsc-eoc.org/volunteer/pnw/index.jsp?lang=FR&targetpg=index](http://www.bsc-eoc.org/volunteer/pnw/index.jsp?lang=FR&targetpg=index)

**Contact:**

Michel Gosselin, Bird Collection Manager  
Canadian Museum of Nature  
P.O. Box 3443, Station D  
Ottawa, ON K1P 6P4  
tel 613-566-4291; fax 613-364-4027  
[mgosselin@mus-nature.ca](mailto:mgosselin@mus-nature.ca)

### 3.11.9 Québec Nocturnal Owl Survey

The Québec Nocturnal Owl Survey is the first systematic nocturnal owl survey to be run by volunteers in the province of Québec. The objectives of the survey are to better assess

- the distribution and abundance of owl species;
- species associations in respect to habitat; and
- long-term population fluctuations for the most abundant species.

The survey protocol is similar to other roadside surveys (broadcast survey), and it follows North American guidelines for Nocturnal Owl Monitoring. Volunteers are asked to survey one route (10 stops, 2 km apart) during one evening in April. They identify all owls heard and seen. Data are available through NatureCounts website.

**Group of interest:** Birds

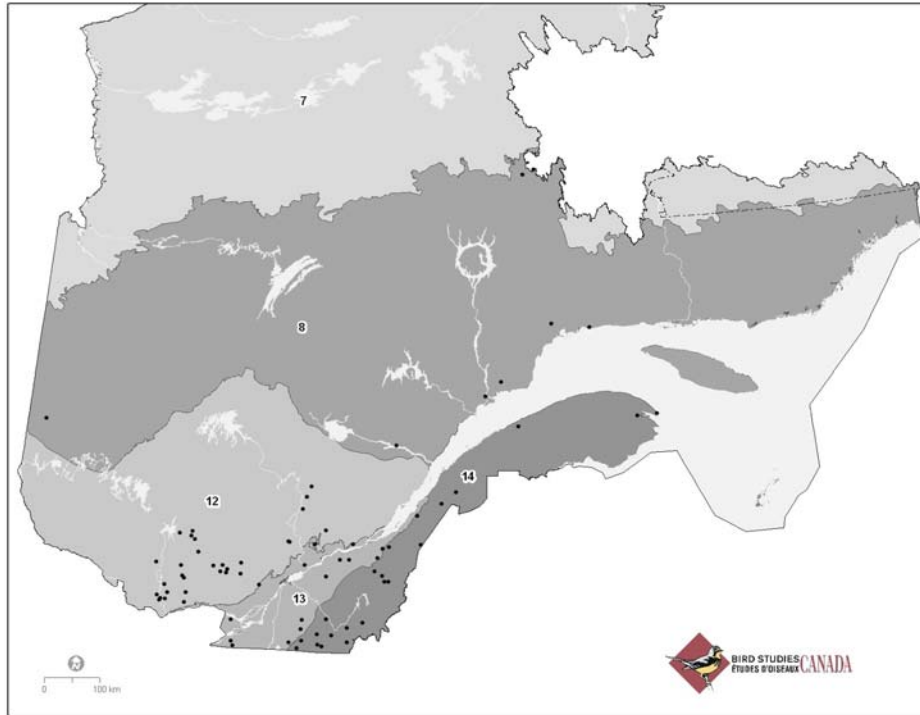
**Species:** Great Horned Owl (*Bubo virginianus*), Northern Saw-whet (*Aegolius acadicus*), Boreal Owl (*Aegolius funereus*), Barred Owl (*Stryx varia*), Short-eared Owl (*Asio flammeus*), Long-eared Owl (*Asio otus*), and Eastern Screech Owl (*Megascops asio*)

**Partner institutions and sponsoring organizations:** Bird Studies Canada; Kelly Grant (Bird Protection Quebec); and Environment Canada

**Governmental organization (Y/N):** N

**Active since:** 2008

**Province:** Québec (see Figure 3.37)



**Figure 3.37** Routes Completed During the 2009 Nocturnal Owl Survey  
[Source: A. Coughlan, Bird Studies Canada]

**Website(s):**

Bird Studies Canada [www.birdscanada.org/volunteer/qchiboux/](http://www.birdscanada.org/volunteer/qchiboux/)

NatureCounts [www.birdscanada.org/birdmon/default/datasets.jsp?code=QCOWLS](http://www.birdscanada.org/birdmon/default/datasets.jsp?code=QCOWLS)

**Contact:**

Andrew Coughlan, Québec Program Manager  
Bird Studies Canada  
1141 route de l'Église, P.O. Box 10100, 8e Étage  
Québec, QC G1V 4H5  
tel 418-649-6062, 866-518-0212  
[acoughlan@birdscanada.org](mailto:acoughlan@birdscanada.org)

### 3.11.10 Québec Seabird Colony Surveys

The Québec Seabird Colony Surveys regroup various types of surveys: adult counts, nest counts, aerial photo counts, etc. of seabirds on Québec's coasts. Assembled together, these data provide an overview of the distribution, status, and population trends of seabirds and a few other colonial waterbirds breeding in the province of Québec. According to 2004 estimates, there were approximately 400,000 pairs of breeding seabirds, represented by 19 species in the coastal and insular habitats in the estuary and in Québec's portion of the Gulf of St. Lawrence. Some mapped results and graphs can be found on the CWS – Québec Region website. An interactive map is also available. The database is available upon written request to Jean-François Rail.

**Group of interest:** Birds

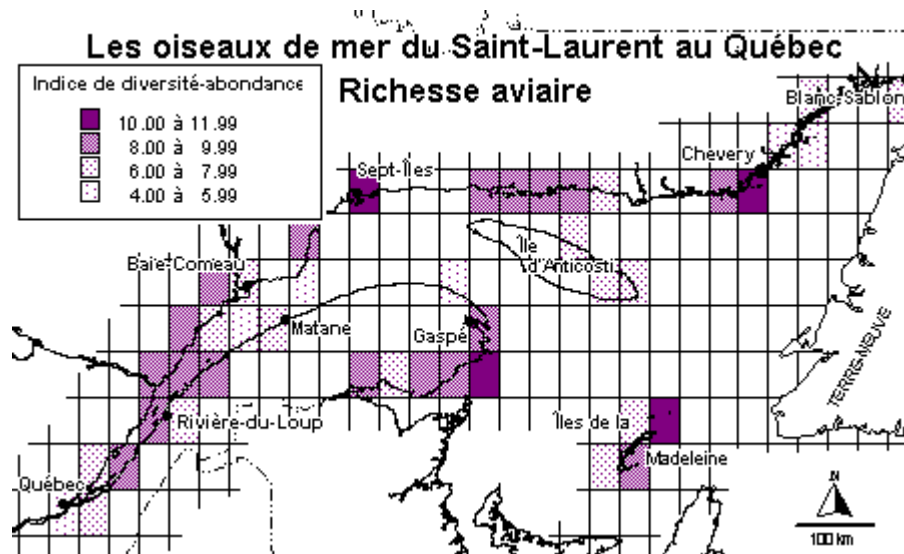
**Species:** Seabirds

**Partner institutions and sponsoring organizations:** Environment Canada's Canadian Wildlife Service

**Governmental organization (Y/N):** Y

**Active since:** Data from as far as 1950

**Province:** Québec (see Figure 3.38)



**Figure 3.38** The Combined Diversity and Abundance Index of St. Lawrence Seabirds [Four sectors are highlighted: (1) the îles Ste-Marie bird sanctuary, Lower North Shore; (2) Crossol Island and Archipel des Sept-Îles, off Sept-Îles; (3) Bonaventure Island and Percé Rock, off Percé; and (4) Rochers-aux-Oiseaux and Brion Island, Magdalen Islands Archipelago.

Source: [www.qc.ec.gc.ca/faune/ColoniesDeOiseauxdeMer/default\\_e.asp](http://www.qc.ec.gc.ca/faune/ColoniesDeOiseauxdeMer/default_e.asp)

**Region:** Eastern Québec (i.e., shores), Estuary and Gulf of the St. Lawrence River.

**Website(s):**

CWS [www.qc.ec.gc.ca/faune/ColoniesDeOiseauxdeMer/default\\_e.asp](http://www.qc.ec.gc.ca/faune/ColoniesDeOiseauxdeMer/default_e.asp)

North American Bird Monitoring Projects Database  
[www.bsc-eoc.org/nabm/index.jsp?lang=EN&proj=176](http://www.bsc-eoc.org/nabm/index.jsp?lang=EN&proj=176)  
[www.bsc-eoc.org/nabm/index.jsp?lang=EN&proj=179](http://www.bsc-eoc.org/nabm/index.jsp?lang=EN&proj=179)  
[www.bsc-eoc.org/nabm/index.jsp?lang=EN&proj=177](http://www.bsc-eoc.org/nabm/index.jsp?lang=EN&proj=177)  
[www.bsc-eoc.org/nabm/index.jsp?lang=EN&proj=180](http://www.bsc-eoc.org/nabm/index.jsp?lang=EN&proj=180)  
[www.bsc-eoc.org/nabm/index.jsp?lang=EN&proj=178](http://www.bsc-eoc.org/nabm/index.jsp?lang=EN&proj=178)

**Contact:**

Jean-François Rail  
 Canadian Wildlife Service, Environment Canada  
 1141 route de l'Église  
 Ste-Foy, QC G1V 4H5  
[jean-francois.rail@ec.gc.ca](mailto:jean-francois.rail@ec.gc.ca)

**3.11.11 Ruitter Valley Land Trust Wildlife Monitoring Program**

The Ruitter Valley Land Trust (RVLT) is a non-profit charitable organization whose mission is to conserve and protect wildlife in its natural habitat. Created in 1987, the land trust established a conservation area of 4,500 hectares of unfragmented forest in the Ruitter Valley, a narrow valley of the Sutton Mountain range. Numerous biological inventories have been done in the Ruitter Valley, one of them being Faune sans frontière, the adaptation of the Keeping Track Monitoring Program®, a training program in the identification of signs of animal presence. Four times a year, about 30 well-trained volunteer trackers divided into eight transect teams collect data on focal mammal species. The database serves as a conservation strategy and planning tool.

**Group of interest:** Mammals

**Species:** Mountain Lion (*Puma concolor*), Bobcat (*Lynx rufus*), Canada Lynx (*Lynx canadensis*), Black Bear (*Ursus americana*), American Martin (*Martes americana*), Mink (*Neovison vison*), River Otter (*Lutra canadensis*), Fisher (*Martes pennanti*), Moose (*Alces alces*) and Wolf (*Canis lupus*)

**Partner institutions:**

Appalachian Corridor; Nature Conservancy; Conservation des vallons de la serpentine; Mount Pinnacle Land Trust; Keeping Track (Vermont); Les Sentiers de l'Estrie; Société de conservation du corridor naturel de la rivière au Saumon; and Université de Sherbrooke

**Sponsoring organizations:**

Fondation Hydro-Québec pour l'environnement; MRC de Memphrémagog (Pacte Rural); La table des MRC de l'Estrie (Volet II); Municipality of the Township of Pottion; Townshippers' Foundation; and La caisse Desjardins du Lac-Memphrémagog

**Governmental organization (Y/N):** N

**Active since:** 2003

**Province:** Québec

**Region:** Ruitter Valley, Eastern Townships

**Website(s):**

Ruitter Valley Land Trust [www.valleeruitter.org/eng/conservation.html](http://www.valleeruitter.org/eng/conservation.html)

Keeping Track [www.keepingtrack.org/](http://www.keepingtrack.org/)

**Contact:**

Ruitter Valley Land Trust  
C.P. 462  
Mansonville, QC J0E 1X0  
[info@valleeruitter.org](mailto:info@valleeruitter.org)

### 3.12 Prince Edward Island

Programs taking place on Prince Edward Island are multi-provincial (see Figure 3.1). There are no wildlife monitoring programs that are unique to Prince Edward Island.

### 3.13 Saskatchewan

#### 3.13.1 Operation Burrowing Owl

Nature Saskatchewan's Operation Burrowing Owl was launched in 1987 to

- conserve Burrowing Owl habitat from cultivation;
- monitor population changes; and
- increase awareness of the plight of the Burrowing Owl.

The project relies on the landowners voluntarily agreeing to conserve grassland habitat for Burrowing Owls and other prairie wildlife. OBO also offers funding opportunities to enhance habitat by converting cropland to pasture using native grasses, developing alternate water sources, or putting up fencing. Landowners participating in the program annually report the number of owls on their land and any land use changes. Nature Saskatchewan is also leading another bird species at risk conservation project: Shrubs for Shrikes is a similar voluntary stewardship program for the Loggerhead Shrike. Data are available upon written request.

**Group of interest:** Birds

**Species:** Burrowing Owl (*Athene cunicularia*)

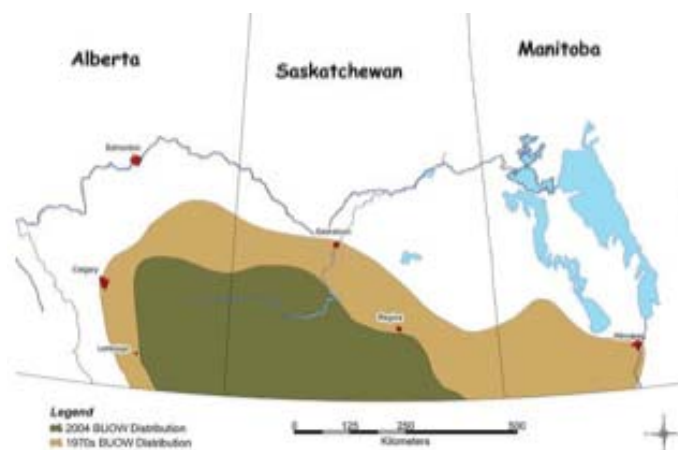
**Partner institutions and sponsoring organization:**

Nature Saskatchewan; Government of Canada Habitat Stewardship Program for Species at Risk; Saskatchewan Environment – Fish and Wildlife Development Fund; SaskEnergy; SaskPower; The EJLB Foundation; TD Friends of the Environment; U.S. Fish and Wildlife Service – Neotropical Migratory Bird Conservation Act Program; SaskCulture; Saskatchewan Environmental Industry and Management Association – Green Team; and Nature Saskatchewan Member Donations

**Governmental organization (Y/N):** N

**Active since:** 1987

**Province:** Saskatchewan (see Figure 3.39)



**Figure 3.39** The Burrowing Owl Distribution Shrinkage – A 1970s and 2004 Comparison  
 [Source: [http://www.naturesask.ca/docs/assets2/OBO\\_brochure\\_31Mar08.pdf](http://www.naturesask.ca/docs/assets2/OBO_brochure_31Mar08.pdf)]

**Region:** Mixed grassland regions (used to also include aspen parkland)

**Website(s):**

Nature Saskatchewan [www.naturesask.ca/?s=stewardship&p=burrowingowl](http://www.naturesask.ca/?s=stewardship&p=burrowingowl)

**Contact:**

Operation Burrowing Owl  
 Nature Saskatchewan  
 206-1860 Lorne Street  
 Regina, SK S4P 2L7  
 tel 306-780-9833; fax 306-780-9263  
[obo@naturesask.ca](mailto:obo@naturesask.ca)

### **3.13.2 Prairie and Parkland Marsh Monitoring Program (AB, MB, SK)**

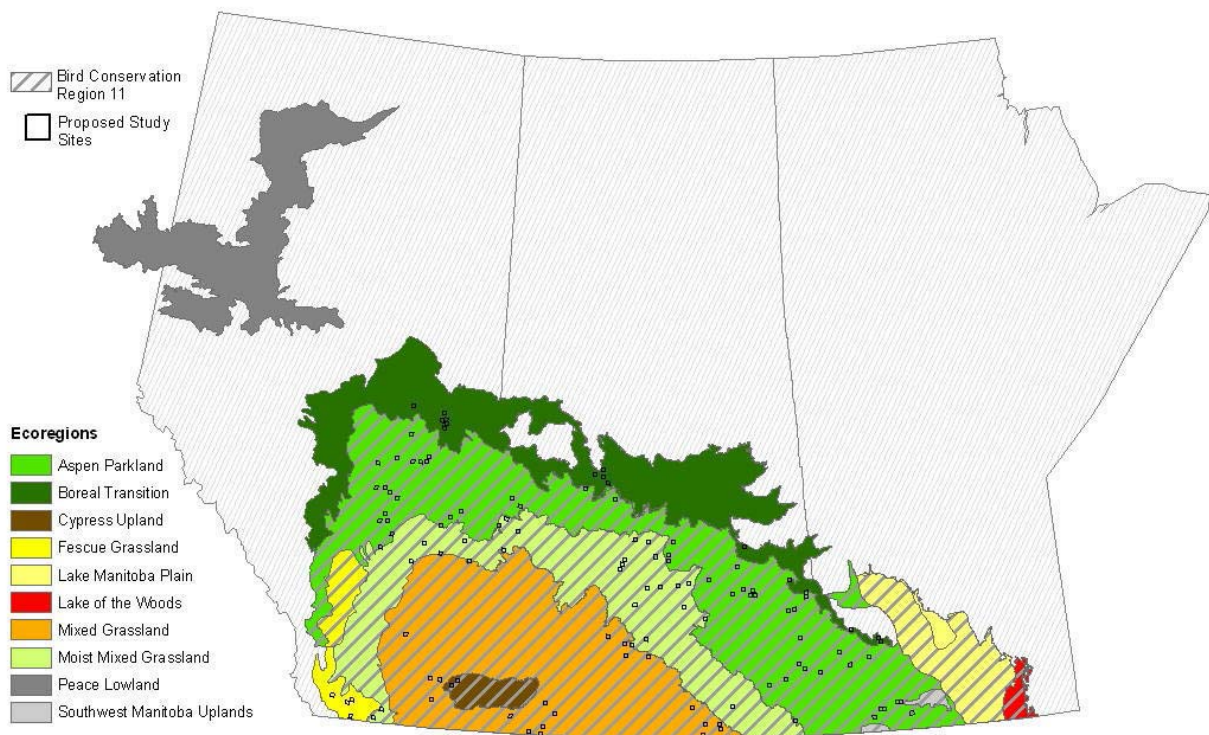
Marshes or wetlands are essential for a wide variety of birds. Canada's Prairie Provinces are identified by the North American Bird Conservation Initiative as Bird Conservation Region 11, Prairie Habitat Joint Venture delivery area (see Figure 3.40). This region is renowned for its capacity to support waterfowl populations. Consequently, conservation programs are focusing on waterfowl population sustainability in this area. However, little is known of its waterbirds other than waterfowl (ducks and geese). The Prairie Parkland Marsh Monitoring Program (PPMMP) is aiming to shed some light on these bird species in order to learn about species-specific habitat requirements, population status and trends, and factors affecting changes in population size, to help incorporate these species in management plans.

More precisely, the PPMMP will attempt to link spatial variations in waterbird distribution to geographic information in order to help the development of spatially explicit Decision Support System (DSS) models for wetland-associated migratory birds. Such models are helpful for determining priority waterbird areas, and in the execution of the Prairie Habitat Joint Venture's all-bird conservation plan.



**Groups of interest:** Birds**Species:** Waterbirds or marsh-dependent birds, other than waterfowl**Partner institutions and sponsoring organizations:**

Bird Studies Canada; Wildlife Habitat Canada; Ducks Unlimited Canada; the Institute for Wetlands and Waterfowl Research; and federal and provincial agencies

**Governmental organization:** N**Active since:** 2008 (pilot study in 2008-2009, with implementation of long-term monitoring in 2013)**Province:** Alberta, Manitoba, Saskatchewan (see Figure 3.40)**Regions:** Prairie habitat

**Figure 3.40** Overlay of Ecoregions within the Prairie Habitat Joint Venture Delivery Area (coloured area), the Canadian Portion of Bird Conservation Region 11 (hashed area), and Study Area Locations for the Prairie and Parkland Marsh Monitoring Network

[Source: [www.whc.org/files/prairie\\_parklandmap.pdf](http://www.whc.org/files/prairie_parklandmap.pdf)]

**Website(s):**

Bird Studies Canada [www.bsc-eoc.org/volunteer/ppmmp/](http://www.bsc-eoc.org/volunteer/ppmmp/)

Wildlife Habitat Canada [www.whc.org/en/conservation-projects/regional-projects/the-prairie-parkland-marsh-monitoring-program-years-2-5-2009-10/](http://www.whc.org/en/conservation-projects/regional-projects/the-prairie-parkland-marsh-monitoring-program-years-2-5-2009-10/)

**Contact:**

Kiel Drake, Prairie Region Marsh Monitoring Program Coordinator, Bird Studies Canada  
115 Perimeter Road  
Saskatoon, SK S7N 0X4  
tel 306-249-2894  
[kdrake@birdscanada.org](mailto:kdrake@birdscanada.org)

**3.13.3 Saskatchewan Conservation Data Centre**

The objectives of the Saskatchewan Conservation Data Centre (Saskatchewan CDC) are to serve the public by gathering, interpreting and distributing standardized information on the ecological status of provincial wild species and communities. While other provincial CDCs offer search engines to explore data, the Saskatchewan CDC instead gives access to various publications, reports and lists related to plants and vertebrates distribution in Saskatchewan. Furthermore, Saskatchewan's CDC hosts an Ecosystem Image Information System, an image bank of Saskatchewan's flora and fauna. The Saskatchewan CDC is a member of NatureServe, and its affiliate, NatureServe Canada.

**Group of interest:** All

**Species:** All

**Partner institutions and sponsoring organizations:** Saskatchewan Ministry of the Environment; The Nature Conservancy (U.S.); The Nature Conservancy of Canada, Nature Saskatchewan; NatureServe; and NatureServe Canada

**Governmental organization (Y/N):** Y

**Province:** Saskatchewan

**Website(s):**

Saskatchewan Ministry of Environment [www.biodiversity.sk.ca/](http://www.biodiversity.sk.ca/)

**Contact:**

Ben Sawa, Data Manager  
[ben.sawa@gov.sk.ca](mailto:ben.sawa@gov.sk.ca)

Jeff Keith, Aquatic Biodiversity Specialist  
[jeff.keith@gov.sk.ca](mailto:jeff.keith@gov.sk.ca)

Saskatchewan Conservation Data Centre  
Fish and Wildlife Branch, Saskatchewan Environment  
3211 Albert Street  
Regina, SK S4S 5W6  
tel 306-787-9038; fax 306-787-9544

### 3.13.4 Saskatchewan Nocturnal Owl Survey

Nocturnal Owl Surveys are volunteer-based surveys designed to fill gaps of knowledge on nocturnal owls. The objectives of the surveys are to obtain information on owl distribution, estimate relative abundance and trends in owl populations, and determine habitat association of owls. The Saskatchewan Nocturnal Owl Survey (SNOS) has run intermittently since standardization to the National Nocturnal Owl Surveys in 2000. Most survey routes are situated in a Boreal forest habitat. Data are available upon request.

**Group of interest:** Birds

**Species:** Nocturnal Owls (Long-eared (*Asio otus*), Barred Owl (*Stryx varia*), Great Gray Owl (*Stryx nebulosa*), Boreal Owl (*Aegolius funereus*), Northern Saw-whet Owl (*Aegolius acadicus*), Eastern Screech Owl (*Megascops asio*), and Great Horned Owls (*Bubo virginianus*)

**Partner institutions and sponsoring organizations:** Bird Studies Canada; and Canadian Wildlife Service

**Governmental organization (Y/N):** N

**Active since:** 1974 to 2002 (non-standardized surveys from 1974 to 1999)

**Province:** Saskatchewan

**Region:** Mostly boreal forest areas

**Website(s):**

BSC [www.bsc-eoc.org/volunteer/natowls/index.jsp?targetpg=skowl](http://www.bsc-eoc.org/volunteer/natowls/index.jsp?targetpg=skowl)

North American Bird Monitoring Project Database  
[www.bsc-eoc.org/nabm/index.jsp?lang=EN&proj=193](http://www.bsc-eoc.org/nabm/index.jsp?lang=EN&proj=193)

**Contact:**

Alan Smith  
Canadian Wildlife Service  
115 Perimeter Rd.  
Saskatoon, SK S7N 0X4  
tel 306-975-4091  
[Alan.Smith@ec.gc.ca](mailto:Alan.Smith@ec.gc.ca)

Debbie Badzinski  
Bird Studies Canada  
P.O. Box 160  
Port Rowan, ON N0E 1M0  
tel 888-448-2473  
[dbadzinski@bsc-eoc.org](mailto:dbadzinski@bsc-eoc.org)

### 3.13.5 Ungulate Aerial Surveys

Aerial surveys are the fundamental technique used to estimate the abundance, age, and sex structure of ungulate populations. The survey techniques used are proven and recognized by wildlife managers across North America. All sampling efforts (except Pronghorn aerial surveys) are conducted during wintertime. The number of surveys in a given year varies, as they are budget- and weather-dependent. A summary of population estimates, density and herd structures is available at [www.environment.gov.sk.ca/Default.aspx?DN=fe222632-c00f-4607-a34b-4dfd744a34a3](http://www.environment.gov.sk.ca/Default.aspx?DN=fe222632-c00f-4607-a34b-4dfd744a34a3).

**Group of interest:** Mammals

**Species:** Ungulates (Elk, Moose, Mule Deer, Pronghorn, and White-tailed deer)

**Partner institutions and sponsoring organizations:** Ministry of Environment of Saskatchewan

**Governmental organization (Y/N): Y****Active since:** 1983**Province:** Saskatchewan**Website(s):**

Government of Saskatchewan

[www.environment.gov.sk.ca/Default.aspx?DN=a35c4182-7e91-43a9-98c4-aa4f60aff309](http://www.environment.gov.sk.ca/Default.aspx?DN=a35c4182-7e91-43a9-98c4-aa4f60aff309)**Contact:**

General Inquiries

tel (306) 787-2584 (in Regina); 800-567-4224 (toll free in Saskatchewan)

[centre.inquiry@gov.sk.ca](mailto:centre.inquiry@gov.sk.ca)**3.14 Yukon****3.14.1 Yukon Nest Record Cards**

Unlike in the other provinces, there is no Nest Record Scheme in Yukon. However, the Yukon Bird Club has produced nest data cards titled "Yukon Bird Club Breeding Bird Database." Data from these cards, along with other Yukon nest data, are housed in Bird Studies Canada's Project NestWatch database. Data may be available upon request to Bird Studies Canada.

**Group of interest:** Birds**Species:** All**Sponsoring organizations:** Bird Studies Canada; and the Yukon Bird Club**Governmental organization (Y/N): N****Active since:** 1944**Province:** Yukon**Website(s):**Project NestWatch [www.bsc-eoc.org/volunteer/pnw/index.jsp?lang=FR&targetpg=index](http://www.bsc-eoc.org/volunteer/pnw/index.jsp?lang=FR&targetpg=index)**Contact:**

Bird Studies Canada  
P.O. Box 160, 115 Front Street  
Port Rowan, ON N0E 1M0  
tel 888-448-2473; fax 519-586-3532  
[generalinfo@birdscanada.org](mailto:generalinfo@birdscanada.org)

Denis Lepage  
Bird Studies Canada  
[dlepage@bsc-eoc.org](mailto:dlepage@bsc-eoc.org)

### **3.14.2 Yukon Conservation Data Centre**

The Yukon Conservation Data Centre (Yukon CDC) was first established under the name of NatureServe Yukon in 2002. However, the program lay dormant for some time. Although not online at this time, the Yukon CDC is aiming to be the leading source for reliable information on the distribution and status of the Yukon's plants, animals, and ecological communities. The purpose of the Yukon CDC is to assist in preserving the biodiversity of the Territory by providing accurate information on species and natural communities at risk. Its primary goals are to

- inform decision making;
- advance scientific understanding; and
- build conservation capacity.

The Yukon CDC gathers, maintains, and distributes information on rare or vulnerable Yukon species and ecological communities (elements). Information describing and spatially locating these elements is stored in a database which is compatible with other CDCs across the continent. Data are available upon request.

**Group of interest:** Animals

**Species:** Rare or vulnerable Yukon species and ecological communities

**Sponsoring organizations:** Yukon Department of Environment; Canadian Wildlife Service; Parks Canada; and NatureServe

**Governmental organization (Y/N):** Y

**Active since:** 2002

**Province:** Yukon

**Website(s):** none

**Contact:**

Randi Mulder, Yukon CDC Data Manager  
Yukon Department of the Environment  
Fish and Wildlife Branch  
P.O. Box 2703  
Whitehorse, YT Y1A 2C6  
tel 867-667-3684; fax 867-393-6405  
[randi.mulder@gov.yk.ca](mailto:randi.mulder@gov.yk.ca)

**REFERENCES**

- Archer, R.W., and Jones, K.E. 2009. *The marsh monitoring program annual report, 1995-2007*. Prepared for Environment Canada, Canadian Wildlife Service. [www.bsc-eoc.org/download/mmpannualreport.pdf](http://www.bsc-eoc.org/download/mmpannualreport.pdf)
- Crewe, T., and Badzinski, D. 2006. Red-shouldered hawk and spring woodpecker survey. 2005 final report. Prepared for Ontario Ministry of Natural Resources, Terrestrial Assessment Unit.
- British Trust for Ornithology. 2009. Integrated population monitoring. <http://www.bto.org/survey/ipm.htm>.
- Downey, B.L. 2005. *The 2005 ferruginous hawk inventory and population analysis*. Alberta Species at Risk Report 101. Edmonton AB: Alberta Sustainable Resource Development, Fish and Wildlife Division.
- Francis, C.M., Blancher, P.J., and Phoenix, R.D. 2009. Bird monitoring in Ontario: What have we got and what do we need? *Forestry Chronicle* 85:202-217.
- Longcore, J., McAuley, D., Hepp, G., and Rhymer, J. 2000. American Black Duck (*Anas rubripes*). In *The birds of North America*, ed. A. Poole. Philadelphia: The Academy of Natural Sciences; Washington, DC: The American Ornithologists' Union.
- Nudds, T.D., and Villard, M.-A. 2009. Is monitoring growing up? *Avian Conservation and Ecology - Écologie et conservation des oiseaux* 4(1):7. <http://www.ace-eco.org/vol4/iss1/art7/>.
- U.S. Fish and Wildlife Service. 2009. *Waterfowl population status, 2009*. Washington, DC: U.S. Department of the Interior, Fish and Wildlife Service.
- van Huystee, S. and Furukawa, T. 2009. *Historical fisheries information on the Beaver River drainage basin*. Alberta Conservation Association.