



The Bird Atlas Gazette

*The newsletter of the
Breeding Bird Atlas of Alberta: Update Project*

*A project sponsored by the
Federation of Alberta Naturalists*

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Since the publication of the last newsletter, there have been a number of changes to the Alberta Bird Atlas Project. For instance, new committees are now in place and have formally begun to chart the direction of the Project. Several new initiatives have been established, for the benefit of both the Atlas Project and the volunteers who contribute bird survey data. And the number of people involved with the Alberta Bird Atlas Project continues to grow.

The Alberta Bird Atlas is in great shape and ready to begin the third year of the Project. This newsletter will review changes made over the past year as well as provide information which should appeal to birders and others interested in the environment of Alberta.

So as you read through this, please keep two things in mind. First, if you know of anyone who might be interested in the Alberta Bird Atlas Project or this newsletter, by all means let us know who they are and we will be more than happy to put them on the newsletter mailing list. And second, before you know it, the first of the spring migrants will be winging their

way through and the bird survey season will have begun. Have faith; winter can't last forever.

Andre Legris
Editor

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News & Notes

Atlasser Registration

All volunteer atlassers involved with the Bird Atlas Project are being asked to officially register themselves with the Project, for several reasons.

Having a more formal database of atlassers will help the Project administration keep track of the many volunteers located throughout the province. With more people volunteering with the Atlas Project each year, a system to help ease communication between the Regional Coordinators and the volunteers in the field will certainly be needed.

By becoming a registered member of the Atlas Project, atlassers will qualify for tax receipts on all expenses related to Bird Atlas activities. And all registered atlassers will be automatically entered into a draw for bird watching prizes as part of the Atlasser Recognition Program.

Atlassers officially registered in the Alberta Bird Atlas Project will receive an atlasser registration number. Please contact the Federation of Alberta Naturalist's (FAN) office to receive your Atlasser Registration number.

Atlasser Recognition Program

The Atlas project would like to show its appreciation to all the atlassers who devote so much of their time recording bird survey information. To show its gratitude, the Atlas will randomly select names of volunteers throughout 2003 for a draw for birding-related prizes, such as binoculars, birdhouses and field guides. In order to qualify for the draw, an atlasser must submit checklists electronically or by mail.

The basic contest rules are as follows:

- Atlassers will be entered into the draw every time they submit a checklist electronically or by mail.
- Atlassers can be entered a maximum of six times per quarterly draw regardless of how many checklists they enter.
- Atlassers must be registered in the project and have an assigned atlas square.
- Prize draws will be done on a quarterly basis for 2003.

- Winners will be contacted by phone to claim their prize.
- Four draws will take place for checklists dated between the dates of (1st ¼ January 1-March 31, 2nd ¼ April 1-June 30, 3rd ¼ July 1-September 30, 4th ¼ October 1-December 31)
- For inclusion in each prize draw, checklists must be submitted by (1st draw April 7, 2nd draw July 7, 3rd draw October 7, 4th draw January 7 2004).

For more information on the atlasser recognition program please visit the FAN web site at www.fanweb.ca.

Application for Atlasser Tax Receipt

FAN is both a non-profit group and is registered as a charitable organization, so it can provide tax receipts for donations. Volunteer atlassers can take advantage of FAN's status by applying for tax receipts for the expenses they incur while completing surveys for the Bird Atlas Project.

Here's how it works. Volunteer participants should record the mileage they travel in the course of the atlas surveys and keep receipts for other related expenses, such as food, accommodations, etc. (Mileage includes the cost of gas, so you do not include receipts for gas purchases). At the end of the field season, fill in the tax receipt form and return it, along with a personal cheque for the expense amount to FAN. Your total 'donation' should be equal to, and preferably greater than, the amount of your documented expenses. You will then receive a tax receipt for your donation as well as a return cheque for the amount of your expenses. The tax receipt application cannot be processed without an accompanying cheque.

The tax receipt application form is available through your regional coordinator, the FAN office, or it can be downloaded from the FAN web site.

Provincial Bird Database

Bird records in FAN's Natural History Database can now be accessed on-line. An interactive mapping program will allow internet users to access bird records which have been submitted to FAN through either the Breeding Bird Atlas, the Alberta Birdlist

Program, Christmas Bird Counts and May Species Counts. Information on all bird species is available by simply clicking on a map that displays Universal Transverse Mercator (UTM) grid system squares, the same system used for the Bird Atlas.

To check out this new feature, go to the FAN website at www.fanweb.ca.

Management Committee

The overall management of the Project is now overseen by the Management Committee. The duties of this committee are quite extensive and include

- project development.
- budgeting and ensuring the proper disbursement of funds.
- establishing and confirming the overall direction of the project.
- interagency cooperation.
- volunteer recognition.

The Management Committee is comprised of five members:

Pat Clayton, Committee Chair
Director, Edmonton Natural History Club

Harry Stelfox
Senior Wildlife Advisor
Alberta Sustainable Resource Development

W. Bruce McGillivray, Ph.D.
Director, Provincial Museum of Alberta

J. Bruce Kennedy
Account Executive
J.F. Mackie and Company

Gerald B. McKeating
Chairman, Board of Directors
Bird Studies Canada

Technical Committee

A formal Technical Committee is also now in place, and is comprised of individuals who are recognized for their knowledge and experience in bird ecology and environmental science. The duties of this

committee include:

- developing data collection methods.
- determining acceptable levels of observer effort.
- establishing protocols for the collection of abundance data.
- ensuring proper data collection methods for nocturnal and colonial nesting species.
- overseeing data analysis and review.



The committee is made up of research scientists and includes the following individuals:

Dr. Mark Boyce, Department of Biological Sciences,
University of Alberta

Dr. Gordon Court, Provincial Resource Assessment
Specialist, Alberta Sustainable Resource Development

Brenda Dale, Wildlife Biologist, Wildlife
Management, Canadian Wildlife Service

Dr. Jocelyn Hudon, Curator of Ornithology,
Provincial Museum of Alberta, Chair

Dr. M. Ross Lein, Department of Biology,
University of Calgary

Dr. Dave Prescott, Species at Risk Biologist, Alberta
Sustainable Resource Development

Dr. Fiona Schmiegelow, Department of Renewable
Resources, University of Alberta

Bird Atlas Presentations

Many people in Alberta are concerned about the natural landscape and the wildlife around their local communities. The Bird Atlas Project is a great opportunity to make a significant contribution towards understanding and protecting Alberta's landscapes and wildlife. However, many people are unfamiliar with exactly how a bird atlas works.

Presentations about the Bird Atlas Project are available throughout the province to any group, club or organization which is interested in learning more about the project and how they can get involved. The presentation describes the background, goals and methods of the project as well as how interested groups or individuals can participate. The presentation is approximately forty minutes in length, with plenty of time for questions.

If your organization, or one you know of, would be interested in scheduling a presentation, you can contact the Assistant Project Coordinator, Philip Penner, who would be happy to arrange a presentation in your area. All scheduled presentations in Alberta will also be listed on the FAN website (www.fanweb.ca), so check for one in your area.

Bird Identification Courses

Are you interested in teaching bird courses in your area or to your organization? Then FAN can help you.

One of the goals of the Bird Atlas Project is to get more people involved in the naturalist community in Alberta. However, a major obstacle for new people is their belief that they need to be bird experts before they can participate in the Bird Atlas Project.

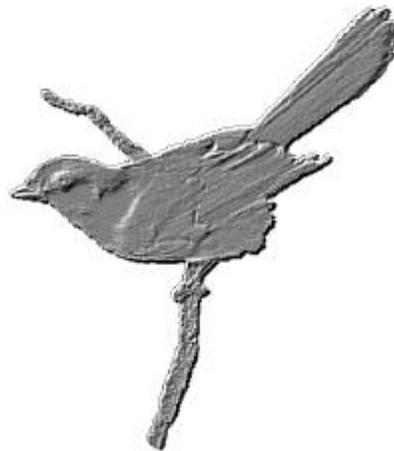
To counter this notion FAN is offering to assist local groups or interested individuals in training new people through the use of birding courses which are aimed at beginners.

Ideally, such courses would focus on basic bird identification, with detailed explanations of the benefits of amateur observations to projects such as the Bird Atlas, and the use of these observations in scientific research and wildlife conservation programs. Supplementing the bird courses would be overviews

of ongoing bird surveys such as the Christmas Bird Count, May Species Count and Bird Atlas Project.

The goals of these courses would be to:

- introduce people to the pleasures of bird watching.
- improve their bird identification skills.
- familiarize novice birders about monitoring projects such as the Bird Atlas.
- provide details on how to participate in bird survey programs.
- get more bird clubs and naturalist organizations involved in the Bird Atlas project.



FAN can help organizations or individuals to prepare and/or present these courses in a number of ways, by:

- supplementing existing courses with required resources and materials.
- public promotion of the courses.
- helping interested clubs find additional funding for bird courses.
- helping to apply for numerous grants which are available, either by acting as a sponsor, writing proposals or providing letters of support.

For more information about this program, please contact the FAN office.

You might be a birder if...

- ~ your neck always hurts except when you're looking up.
- ~ you have permanent rings around your eyes from pressing the binoculars too tightly against your face.
- ~ you keep a yard list, a town list, a province list, a Canada list, a USA list, a world list, a year list and a "heard in movies" list.
- ~ you understand why you need to see some warblers today even though you saw 23 different species of them yesterday.
- ~ your e-mail address contains the name of a bird.
- ~ you know the scientific name for shopping center pigeons.
- ~ you can say exactly where you saw dozens of life birds but don't recall exactly where you first met your spouse.
- ~ you know the name of the last Passenger Pigeon and the year it died. (Corollary: you might be a very old birder if you actually saw the last Passenger Pigeon the year it died).
- ~ you'd drive for six hours, overnight, to see a gull.
- ~ your children are named after birds.
- ~ someone yells "Duck!", and you look up and shout, "Where?"
- ~ your family vacations are planned so as to maximize the number of life birds you will be able to see.
- ~ you bought your three-year old binoculars for his birthday.
- ~ you pish at the shrubbery at the local mall even though people stop and stare.
- ~ your spouse says, "It's either me or the birds," and you have to think about it.
- ~ a machine squeaks at work and you describe it to the maintenance personnel as sounding like a black-and-white warbler.
- ~ you spend fifteen minutes preparing dinner for your family, and thirty minutes mixing and placing seed for your birds.
- ~ you have been seen looking out of restaurant windows with your binoculars.
- ~ you call the Hot Line but aren't looking for a psychic.
- ~ your idea of a day off is a visit to the local sewage ponds at 5:00 am.
- ~ you can correctly identify all of the bones from your chicken dinner.
- ~ you get up at 4 a.m., drive for five straight hours, hike through the woods in freezing weather with wet feet and frozen ears, see only a single rare bird, and then describe your weekend as "awesome!".
- ~ you can fit at least one of your friends into each of these categories.

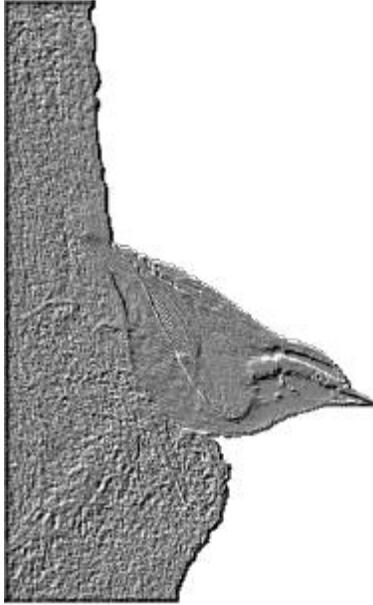
Project Supporters

A project of this magnitude would not be possible without the financial and in-kind support of a variety of companies and organizations. The Federation of Alberta Naturalists would like to thank the following organizations for supporting the Alberta Bird Atlas project: Ainsworth Lumber Co Ltd., Alberta Conservation Association, Alberta Pacific Forest Industries Ltd., Alberta Sustainable Resource Development, Mountain Equipment Co-op, Nexen

Inc., North American Waterfowl Management Plan, Slave Lake Pulp, Sundance Forest Industries Ltd., Weldwood of Canada Ltd. and Weyerhaeuser Company Ltd.

Uses of Atlas Data

The primary goal of a Breeding Bird Atlas is to determine the distribution of all species which are breeding within a given area. But an atlas can also produce a wealth of additional environmental information. The following article, which is adapted from a piece written by Paul F.J. Eagles (for the Ontario Atlas Project) provides an overview of some uses of bird atlas data.



Determination of geographical distribution

An atlas will not only provide accurate maps of the range of each bird species, but it will also confirm the presence of new species, or conversely, the disappearance of former species. Detailed information about the distribution of each species, and each distinct bird group (i.e. warblers), can also be used in conjunction with other kinds of information, such as forest maps or vegetation inventories, to provide a more detailed picture of the environmental requirements for birds in Alberta.

Examination of changes in geographical distribution over time

The advantage of repeating an atlas project is that the two atlases taken together can provide a picture of how bird populations have changed over time. This is especially useful for:

- studying irruptive species, like crossbills,

- examining range changes, i.e. expansion of species like House Finches, and
- looking for evidence of decreasing ranges, which are often an indicator of environmental degradation.

Estimates of rarity

An atlas can provide a better understanding of the reasons why some species are rare. By combining geographic distributions with estimates of abundance, an atlas database can determine:

- which species are rare but widespread, and
- which species may be rare provincially but abundant locally, e.g., colonial nesting species.

Assessment of environmental impacts

Atlas data are an excellent starting point for planning documents such as environmental impact assessments (EIA). Although the scale of atlas data is often coarse, it can show what the local and regional levels of avian biodiversity are, as well as levels of species rarity, providing information which is crucial to the thoroughness of an EIA.

Evaluation of landscape change

Wildlife populations, including birds, can be used as indicators of environmental change. By incorporating bird atlas data with other landscape information (e.g., satellite imagery, forest and soil databases, etc) a more complete and accurate picture emerges about the environmental health of an area.

Species biology

Much information about the basic natural history traits of species and local bird populations can be obtained from atlas data. For example: why do certain assemblages of species occur in one area but not others? This information can help wildlife managers determine which areas of Alberta are important for the conservation and protection of birds.

Characteristics of volunteers

Since atlas projects succeed or fail on the efforts of volunteers, an atlas can provide a detailed snapshot of the kinds of people who work on wildlife projects. This is important information useful to agencies who plan environmental projects or governments debating the merits of development versus conservation.

How does aspen forest patch size affect bird diversity and abundance?

Aspen forests have a high bird species diversity and abundance, compared to other habitats and this is also true for the aspen parkland in Alberta. However, less than 5% of Alberta's aspen parkland remains in a natural condition and most remnant stands are surrounded by agricultural land. The area of the remnant habitats is a critical determinant of the presence and abundance of a variety of biological taxa, including birds. Although some work has been done in Saskatchewan and North Dakota, little research has documented the effects of the decline in habitat size on birds in this natural region. This 2-year study examines the influence of patch size of remnant aspen groves on the diversity and abundance of birds in east-central Alberta.

From late May to late June in both 2001 and 2002, I conducted 10-minute unlimited radius point counts (two per year) in the center of 32 patches, all within 20 km of Camrose. These patches ranged from 0.01 to 24 ha in size. (Sites with wetlands and/or heavy cattle grazing pressure were excluded from study). I estimated the patch size, and distance to nearby aspen patches, from aerial photos and I also measured several characteristics about the vegetation within each patch.

Minimum required patch size (ha)	Species
0.04	Clay-colored Sparrow, Vesper Sparrow
0.1	House Wren, Brown-headed Cowbird
0.2	Least Flycatcher, Cedar Waxwing, Black-capped Chickadee, Red-eyed Vireo
1	Warbling Vireo, Baltimore Oriole, Downy Woodpecker, Hairy Woodpecker
3	Connecticut Warbler, Ovenbird
9	Rufous-sided Towhee, Veery
20	American Redstart
25	Hermit Thrush

In the first year, a total of 42 species were recorded (excluding waterfowl, shorebirds, and gulls). There was an average of 10.9 species per patch (ranging from 4 to 19 species) and an average of 18.4 individual birds per patch (ranging from 10 to 28 birds). There

was a significant positive correlation between patch size and both species diversity and abundance. That is, the larger patches of forest had more birds, as well as more species, than smaller patches. This in itself is not surprising, but it is helpful to recognize the patch size requirements for particular species. Although not yet calculated for this study, a similar study in Saskatchewan found the minimum patch size varied among species, as shown below:

Previous studies as well as my own research show the importance of protecting large patches of forest habitats, especially in the prairie provinces where large aspen groves are rare. In addition, the small patches are important for many species, either for breeding sites, as movement corridors or for use as migratory stopover locations.

Glen Hvenegaard, PhD
 Department of Geography
 Augustana University College
 Camrose, AB

For further reading on this topic, you can check out the following references:

Grant, T.A. and G.B. Berkey. 1999. Forest area and avian diversity in fragmented aspen woodland of North Dakota. *Wildlife Society Bulletin* 27(4):904-914.

Johns, B.W. 1993. The influence of grove size on bird species richness in aspen parklands. *Wilson Bulletin* 105(2):256-264.

Van Tighem, K. 1993. Keeping the wild in the west: parkland natural region. *Borealis* 12:6-7.

Winternitz, B.L. 1980. Birds in aspen. Pp. 247-257 in DeGraff, R.M. and N.G. Tilgham, compilers. *Workshop Proceedings:*

Management of Western Forests and Grasslands for Nongame Birds. USDA Forest Service GTR INT-86. Ogden, UT.

Meet Philip Penner, Assistant Project Coordinator

Philip is a long time resident of the Edmonton area who received a B.Sc. in Environmental Studies from the Kings University College in 2000. He has worked for various environmental consulting firms over the past several years which has allowed him to gain valuable experience doing environmental research, data analysis and field work. His interest in biology was fostered from an early age when he accompanied his father during his travels as an environmental consultant. Philip's interests include backcountry hiking, mountain biking, travel and wildlife watching. Philip's travel interests have taken him to Australia where he spent his time exploring the native flora and fauna in that country's amazingly rich landscapes. Philip has been the Assistant Coordinator of the Bird Atlas Update Project for two years and he is very excited about being able to contribute to its on-going success.

Bird Atlas Regions

To facilitate administration of the Project, the province has been divided into ten separate Atlas Zones. The locations of each zone are illustrated below, along with the list of the Coordinators for each region and their contact information.

Zone 1 (Lethbridge-Waterton)

Jack Shier (403) 395-3744

Email: shier@telusplanet.net

Zone 2 (Medicine Hat – Taber)

Michael O'Shea (403) 504-1662

Email: michael.oshea@prrd.ab.ca

Zone 3 (Calgary-Banff)

Tanja Biener (403) 247-0853

Email: tanja@canoemail.com

Zone 4 (Red Deer)

Greg Wagner (403) 601-3893

Email: elkman@telusplanet.net

Zone 5 (Wainwright- Hanna)

Iris Davies (780) 847-2677

Email: ridavies@telusplanet.net

Zone 6 (Jasper-Hinton)

Beth McCallum (780) 865-3390

Email: ovis@telusplanet.net

Zone 7 (Edmonton)

Andre Legris (780) 352-5950

Email: alegris@incentre.net

Zone 8 (Lac La Biche)

Jennifer Okrainec (780) 623-7247

Email: jenegammon@hotmail.com

Richard Klauke (780) 614-9085

Zone 9 (Northwestern Alberta)

Philip Penner (780) 427-8124

Email: philipp@fanweb.ca

Zone 10 (Northeastern Alberta)

Grant Henry (780) 791-2736

Email: grant.henry@keyanoc.ab.ca

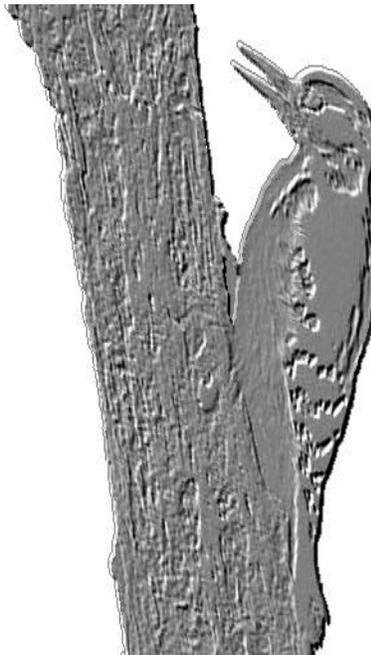


The Remote Areas Project (RAP)— Background and Project Update

Spending another summer in the northern boreal forests of Alberta has solidified several realities in my mind. Not surprising was the number of different species of breeding birds we encountered in these regions. It's obvious that birds truly are the most diverse groups of vertebrates in this province. What was a surprise was the level of disturbance present in Alberta forests and most notably, the incredible level of oil and gas development. Everyone who worked with me this summer commented on their amazement with the densities of seismic lines and pipelines in this province. Along with an incredible level of recent forest harvesting and numerous large fires, the forests of Alberta are truly changing. The obvious question then becomes, how is all of this landscape change affecting the birds? This is just one of several questions that the Remote Areas Project (RAP) is focused on answering.

In conjunction with the Federation of Alberta Naturalists Breeding Bird Atlas Update Project, the RAP began field surveys in the summer of 2001, under the lead of Dr. Fiona Schmiegelow (University of Alberta) and Dr. Steve Cumming (Boreal Ecosystems Research). There are five major objectives to this program:

- To collect bird distribution and abundance information in difficult to access forest regions (to be contributed to the FAN ATLAS database).
- To establish relationships between resource development activities and cumulative impacts on bird communities.
- To develop techniques and collect data that can be useful to future biodiversity monitoring programs.



- To develop bird-habitat models that will be useful in resource management planning.
- To identify any 'species at risk'.

In order to collect this data, our crews used several bird survey techniques. In addition to the regular breeding bird atlas surveys, field crews conducted point count surveys (24 within each atlas square) and line transect surveys (a total of 9 km walked per atlas square). The field crews lived in remote tent camps and accessed the survey sites using four-wheel drive trucks and ATV's.

Surveys done during the summer of 2002 covered 53 townships (which coincided with 53 different bird atlas squares). The region stretches from Fort McKay in the north to Athabasca in the south, and from Valleyview to the Saskatchewan border. The RAP surveys collected over 20,000 bird records, with the most common 5 species being Tennessee Warblers, Yellow-Rumped Warblers, Swainson's Thrushes, White-throated sparrows and Ovenbirds.

Preliminary analysis of this data has shown that the size and configuration of older forests across the landscape may be important to some bird species.

In addition there are some effects on the forest bird communities from different resource extraction activities. These relationships will be further tested with future data collection surveys.

Depending on the funding available, future work in this program will expand into the boreal forest regions in both north-west Alberta and in the foothills. By the end of 2005 (the projected final year of bird atlas surveys) it is hoped that the RAP will have surveyed a variety of forested landscapes across northern and western Alberta.

A variety of organizations have provided funding for the RAP, including Alberta Pacific Forest Products, Alberta Sustainable Resource Development, Slave

Lake Pulp Co., Sundance Forest Products, Sustainable Forest Management Network and Weyerhaeuser Canada. The University of Alberta and Federation of Alberta Naturalists continue to play a key role in the coordination of this project.

Dave Stepnisky

Remote Areas Project Coordinator
University of Alberta

For more information on the RAP, please contact Dave at 492-8749, or by e-mail at davids@ualberta.ca

We've Lost a Friend

The naturalist and bird watching community of the Edmonton region was saddened to learn of the death of Elson Olorenshaw on December 29, 2002, at 70 years of age.

For the last ten to fifteen years, Elson had been active with the Beaverhill Bird Observatory (BBO), both on the Executive and in the field. Elson was always quick to volunteer for any of the odd-jobs that go along with running an observatory. He particularly enjoyed any activities that took him outside, were of a practical nature and involved the student staff. As Treasurer of the BBO he was instrumental in applying for grants and took on the thankless task of payroll deductions and annual returns. In a similar capacity, he audited the FAN books for a number of years.

He was keen on making bird boxes of all kinds. In 2001 he monitored over 400 boxes and banded 350 young bluebirds and twenty adults. He undertook a loon-lakes survey each year, was a participant in the breeding bird atlas project and Christmas Bird Counts, and he took part each year in the Baillie Birdathon with Jim Faragini. He was a volunteer steward of a natural area and had recently volunteered to be Treasurer of the Association of Volunteer Stewards.

Elson was a kind and generous man with a great enthusiasm for the natural world. Although modest about his own efforts, he will be fondly remembered and sadly missed by those who had the good fortune to know him.

Alan Hingston

This Issue's Featured Website

Just as there are hundreds of websites devoted to the joys of bird watching, there are also many sites devoted to the scientific study of birds. One website in particular is a good portal on the world of ornithology: BirdNet, The Ornithological Information Source.

This site is a gateway to the websites of all the major ornithology organizations across North America. It also has links to many resources for avian science and is a very good site for anyone interested in bird ecology, not just the academics and serious birders. Once you start cruising through this site, you can become happily lost for days at a time.

The BirdNet site can be found at:
www.nmnh.si.edu/BIRDNET/

The Conditions of a Solitary Bird

The conditions of a solitary bird are five:
The first, that it flies to the highest point;
The second, that it does not suffer for company, not even of its own kind;
The third, that it does not have a definite colour;

The fourth, that it points its beak to the skies;
The fifth, that it sings very softly.

S. Juan de la Cruz

The Owls of Alberta

In times long past, owls descended from myth and legend to haunt the northern forests and presage a grim future. Their calls reverberated through the dark and foretold of ominous events. In the 21st century their prophetic abilities may have diminished but they have lost none of their mysterious allure.

Owls are fascinating creatures who are occasionally heard, seldom seen and an enigma in Bird Atlas projects. This is because they are not easily surveyed and consequently, their distribution and abundance are poorly known, especially in the less populated regions of Alberta. The following pages will focus on the owls of Alberta in the hopes that this information

will help atlasers better understand this intriguing group of birds.

According to the List of Birds of Alberta (compiled by the Alberta Bird Record Committee) there are fourteen species recorded in Alberta, and the basic characteristics of each are listed below. (Note: sexes are similar for all of these species).

Small Owls

Western Screech-Owl *Otus kennicottii* *

Length: 8 inches Wingspan: 22 inches
Small body; nocturnal; large, rounded head with ear tufts and yellow eyes.
Upperparts: dark gray or brown.
Underparts: dense streaking with finer barring.
Voice: several short whistles which speed up.
Similar species: very similar to Eastern Screech-Owls and is best separated by voice. Other small owls lack the prominent ear tufts.

Eastern Screech-Owl *Otus asio* *

Length: 8 inches Wingspan: 22 inches
Small body; nocturnal; large, rounded head with ear tufts and yellow eyes.
Upperparts: dark grey or brown streaks
Underparts: dense streaking with finer barring.
Some birds have rusty plumage while others are dark gray.
Voice: a series of wavering whistles, descending in pitch.
Similar species: very similar to Western Screech-Owl and is best separated by voice. Other small owls lack prominent ear tufts.

Northern Saw-whet Owl *Aegolius acadicus*

Length: 7 inches Wingspan: 17 inches
Small size; nocturnal; no ear tufts; yellow eyes; black bill.
Facial disk: brownish with white around the eyes.
Upperparts: brown with large white spots.
Underparts: pale with large, irregular chestnut brown streaks.
Voice: a monotonously repeated “*whook*” whistle, used during the breeding season. Also has a call which sounds like the filing of a saw.
Similar species: the Boreal Owl has a darker face, pale bill and darker brown upperparts. Screech-Owls have ear tufts.

Northern Pygmy-Owl *Glaucidium gnoma*

Length: 6 inches Wingspan: 15 inches
Small size; diurnal; yellow eyes; crown is spotted with white.



Upperparts: dark brown with white spots
Underparts: dark streaking.
Voice: monotonous, repetitive series of “*hoot-hoot*”.
Long, dark tail with thin, white bars
Similar species: has darker chest stripes than the slightly larger Northern Saw-Whet.

Boreal Owl *Aegolius funereus*

Length: 10 inches Wingspan: 24 inches
Small size; nocturnal; rounded head with no ear tufts; yellow eyes; pale bill.
Upperparts: dark brown with large white spots.
Underparts: pale with large, dark irregular streaks.
Facial disk: mostly pale with dark border and pale bill.
Voice: a short series of rapid “*hoo hoo hoo*” calls
Similar species: the Northern Saw-whet Owl has lighter streaks on the chest and a dark bill.

Burrowing Owl *Athene cunicularia*

Length: 8 inches Wingspan: 22 inches
Small size; long-legged; yellow eyes and yellow bill; ground-dwelling.
Facial disk: mostly white with brown “eyebrows”.
Upperparts: brown with white spotting on the back, wings, and head.
Underparts: white belly with brown barring.
Voice: a deep, tuneful “*coo-coo-o-o*”.
Similar species: no other owl is so long-legged and is found in the same habitat.

Medium Owls

Barn Owl *Tyto alba* *

Length: 14 inches. Wingspan: 44 inches.
Large body; nocturnal;
Facial disk: large, pale whitish, heart-shaped.
Upperparts: tawny and gray with small black and white spots.

Underparts: white with scattered dark spots.
 Voice: a hissing, rasping screech.
 Similar species: easily told from other owls by its facial disk. While flying, it lacks the dark wrist marks found in Long-eared and Short-eared Owls.

Long-eared Owl *Asio otus*

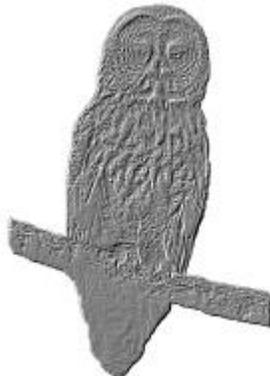
Length: 13 inches Wingspan: 39 inches
 Large size; nocturnal; long ear tufts and yellow eyes.
 Facial disk: rusty colored with slight white trim.
 Upperparts: gray-brown with small black and white markings.
 Underparts: White, boldly streaked with black cross-shaped markings.
 Voice: long series of soft “*kwoo-kwoo-kwoo*”.
 Similar species: Great Horned Owl lacks the cross-shaped markings and is larger. Other species of similarly-sized owls lack the large ear tufts.

Short-eared Owl *Asio flammeus*

Length: 13 inches Wingspan: 41 inches
 Medium size; yellow eyes; dark bill; small ear tufts barely visible.
 Upperparts: heavily streaked brown and white.
 Underparts: white with lighter streaking.
 Facial disk: relatively dark and unpatterned.
 Voice: very quiet bird; the occasional call is like a raspy, barking sound.
 Similar species: the Long-eared Owl has more obvious ear tufts, reddish facial disk and a more heavily streaked breast. Any owl that looks like a floppy sock when it flies will be a Short-eared Owl.

Northern Hawk Owl *Surnia ulula*

Length: 14 inches Wingspan: 33 inches
 Medium size; diurnal; yellow eyes and yellow beak.
 Facial disk: pale whitish with black border.
 Upperparts: dark brown with white spots.
 Underparts: dark barring.



Voice: rapid and sharp “*ki-ki-ki-ki-ki*”
 Similar species: can be told from other owls by long, barred tail (quite distinctive) tail and from hawks by its large head and facial disk.

Large Owls

Snowy Owl *Nyctea scandiaca* *

Length: 20 inches Wingspan: 55 inches
 Large, diurnal bird with rounded head and yellow eyes.

Entirely white plumage with scattered dark spots (immatures are boldly barred with black).
 Similar species: none.

Great Horned Owl *Bubo virginianus*

Length: 20 inches Wingspan: 55 inches
 Very large body; prominent ear tufts, yellow eyes and dark bill.
 Facial disk: reddish-brown to greyish, bordered by black with a lower border of white.
 Upperparts: mottled brown, gray, and black
 Underparts: pale with fine brown bars.

Voice: a deep “*whooo-whooo-whoooooo-whoo-whoo*”
 Similar species: only the Long-eared Owl shares has prominent ear tufts, but it is much smaller and more slender, lacks the white throat and has its ear tufts set closer together.

Barred Owl *Strix varia*

Length: 17 inches Wingspan: 44 inches
 Large size; dark eyes and yellow bill.
 Facial disk: rounded, greyish with black border; no ear tufts.
 Upperparts: pale with brown bars.
 Underparts: pale with long, brown streaks.
 Voice: loud and rhythmic hooting, as if to say “*who cooks for you, who cooks for you all*”.
 Similar species: the Short-eared Owl is similar in size, but is not barred on the chest nor is as heavily streaked below. The Great Gray Owl is much larger, gray rather than brown below, and has differently patterned underparts.

Great Gray Owl *Strix nebulosa*

Length: 22 inches Wingspan: 60 inches
 Very large size; nocturnal; large, rounded head and yellow eyes.

Facial disk: gray with darker rings; bottom stripe of white resembles a "bow tie"; no ear tufts.

Upperparts: gray with paler barring.

Underparts: pale with large, dark irregular streaks.

Voice: a series of deep, sonorous *whoo's*

Similar species: is larger and grayer than other owls and lacks ear tufts.

* - species which were not recorded during the initial Alberta Breeding Bird Atlas Project.

Owl Facts

Their eyes are ten times more light-sensitive than human eyes. So while they can see perfectly well in daylight, they also have exceptional night vision.

Their eyes are very large and unable to move inside the eye socket. But owls have very flexible necks and are able to swivel their heads in a 270 degree arc. By being able to pivot their heads three-quarters of the way around, they can look just about anywhere without moving their bodies.

These eyes are located on the front of their faces, allowing them to have binocular vision.

Owls have the best developed sense of hearing of all birds. Their ears are located at slightly different levels on either side of their head, which means that a sound reaches each ear from a slightly different direction.

This provides them with a three-dimensional "aural map" of that sound and pinpoints the sound's location. This is why, when you sneeze while standing quite a ways behind an owl, they are able to turn their head all the way around and look straight at you.

The feathers which form their facial disk are oriented to focus sound waves towards the ears, in much the same way that a satellite dish deflects radio waves to a receiver.

Some owls, like the Barn Owl, can locate and catch prey in complete darkness, even if both the owl and the prey are moving. While perched on a tree up to 300 meters away, large owls like the Great Horned and Great Gray can locate mice and voles moving under the snow pack. They will then fly over the prey and drop into the snow, trapping the vole and grabbing it with their very powerful claws.

The ears are actually hidden beneath their facial feathers. The "ear-tufts" on the top of their head are not ears but simply feathers which aid in camouflage and allow recognition between individuals.

Some owl species are diurnal (active during the day) but most owls hunt at night, which is why they are seldom observed by humans.

Their wings make no flapping sounds as they fly. The leading feather on each wing has a serrated edge which disrupts air flow over the wing and eliminates the usual whooshing sounds associated with flapping wings.

Owls will swallow small prey items (such as mice) whole. The digestive system will then remove all body parts except for the fur and bones, which are then regurgitated in the form of a small round pellet. The ground beneath some roosting sites can be blanketed with these dried pellets. Once they are teased carefully apart (a practice done by many bird ecologists), pellets provide a detailed picture of the diet of an owl.

There are eighteen species of owls in North America. Some species are resident and do not migrate (e.g., the Great Horned Owl) while others migrate long distances (e.g., the Burrowing Owl nests in southern Alberta and winters in Mexico).

Nocturnal Owl Monitoring

The Atlas Project surveys all breeding bird species in the province. This said, it is difficult to obtain information on breeding owl populations due to their primarily nocturnal activity. Bird Atlas Volunteers are encouraged to participate in the Nocturnal Owl Monitoring Program that is designed to survey for breeding owls. Owl data collected during these surveys are included in the Bird Atlas database.

If you are interested in participating in the Nocturnal Owl Monitoring Project please contact:

Lisa Priestley

Bird Studies Canada

Phone: (780) 951-8901

Email: lisa.priestley@ec.gc.ca

Bird Feeding

Many people extend their bird watching enjoyment throughout the year by feeding birds during the long winter months. Feeding birds is a simple activity through which you will not only derive a great deal of satisfaction but in which you can provide data to a scientific research program.

Project Feederwatch, which is run by the Cornell Laboratory of Ornithology, helps scientists monitor largescale movements of winter bird populations and allows them to examine long-term trends in bird distributions. (For more information on this program, you can visit their website at www.birds.cornell.edu/pfw).

For those of you who are new to bird feeding, or haven't yet had much success, here are a few bird feeding tips, gleaned from a variety of expert sources.

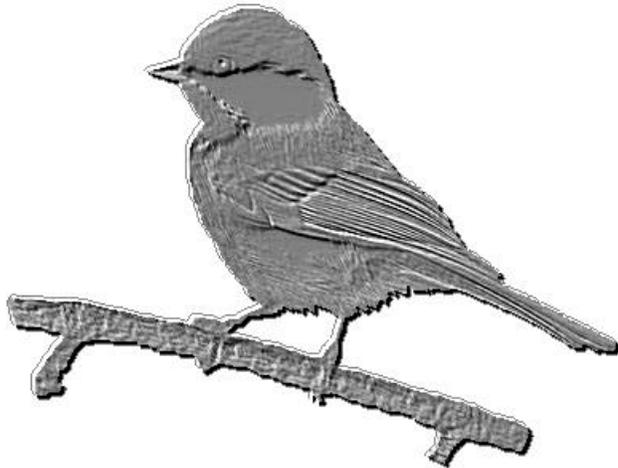
Feeder types

You don't need an expensive or fancy feeder. Simple feeders can be made from recycled materials such as empty milk cartons or wood platforms.

A platform feeder requires only a wooden frame (about 12 × 18 inches) and a bottom with holes for drainage; a screen wire bottom facilitates drainage and drying and will hold larger seeds.

A variety of feeders and foods in a variety of spots provides for the greatest diversity of birds and better ensures that less aggressive birds have a place.

Small hanging feeders are used by small birds such as chickadees, finches, and nuthatches.



Feeders placed low to the ground attract ground-feeding birds such as native sparrow, like juncos.

Solidly mounted, above-ground feeders will draw in a large variety of birds, including chickadees, grosbeaks, finches and woodpeckers.

Feeder placement

The most successful feeding areas have different styles of feeders placed at different heights to simulate the way birds eat in the wild.

Place feeders near trees or bushes if possible. This way the birds can zip into cover whenever they feel threatened.

Feeders placed about three metres from bushes will give the birds nearby escape cover (especially from Merlins and accipiters), allow them to watch for cats and help keep squirrels from jumping onto the feeder.

Keep feeders well away from windows. Millions of birds die each year from collisions with windows.

You can encourage the ground feeding birds, such as chickadees and sparrows, by flattening the snow beneath the feeder.

Bird feed

You don't need expensive, pre-mixed feeds to make the birds happy. Although oil-type sunflower seeds are by far the preferred seed, black-striped sunflower seeds are highly desirable by almost all birds.

Sunflower seeds will attract most species, especially jays, chickadees, nuthatches and grosbeaks.

White Proso Millet seeds are important for species such as sparrows and finches.

The cheaper the bird mix, the more undesirable filler it has.

Suet is simply beef fat, which is a great source of energy for many species. You can add other ingredients to the suet, such as various seeds. Suet is highly prized by woodpeckers, chickadees and nuthatches.

Summer is a good time to try some different foods. Grapes and orange halves will attract orioles while hummingbirds like sugar water "nectar" solutions. A variety of songbirds will use a feeder stocked with cut apples (wormy is okay) or raisins soaked in water overnight. Insects such as mealworms will bring in robins, catbirds, chickadees, native sparrows and woodpeckers.

Pay close attention to food quality during the summer so as to avoid moldy or spoiled foods.

Cats

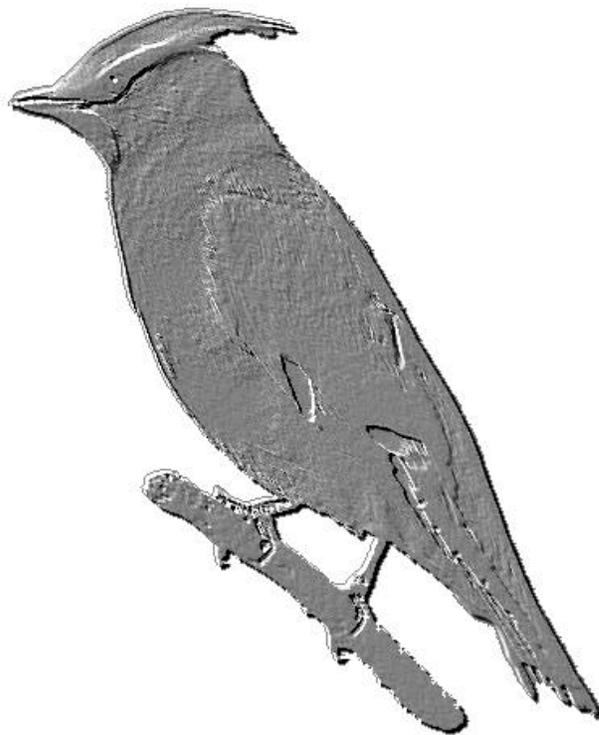
Cats are a major predator on yard birds. The only way to prevent cats from catching the birds is to keep the feeder out in the open (not too far from trees/shrubs) so they can see the cat.

A small ornamental garden fence erected around the area beneath the feeder will prevent the cat from charging directly onto birds feeding on the ground beneath the feeder.

Squirrels

To deter squirrels, place feeders at least three metres away from tree branches, fences or deck railings. Place feeders so squirrels can't jump onto them from above.

To prevent access from the ground, place feeders on top of a two metre pole and add a baffle (like an upside down cone) near the bottom of the feeder.



Water

Birds generally do not require a water source during the winter so don't feel as if you need a heated bird bath.

Bird feeding myths

Myth - once you start feeding you must continue or the birds will die.

Fact - the birds will simply move onto other, natural food sources.

Myth - winter is the only appropriate time to feed birds.

Fact - although it is traditionally a winter activity, feeding can be done year-round. In fact, your feeders may be just as busy during summer as during winter.

Feeder cleanliness

You should keep your feeder clean, both to avoid a mess and some possible diseases in warmer winter weather. Scrape the old seeds off the feeder with a stiff brush or spatula, and clean the feeder with a weak mixture of ¼ cup of bleach to 2 gallons of warm water. Be sure to rinse well.

To avoid uncontrollable weed growth beneath your feeder in the spring and summer, place a plastic sheet or gardening cloth beneath the feeder in the fall. In the spring, remove it along with all of

the fallen seed.

Bird Atlas Gazette Submissions

If there is anything you would like to see included in upcoming issues of this newsletter, such as articles, news, planned events or other items of interest, please contact the newsletter editor.

Submissions about your bird atlas experiences, tips on how to become a better birder or stories about birds and birders in Alberta are always welcome.

Contact Information

There are a variety of people you can contact to either volunteer for the Bird Atlas Update Project or to simply obtain more information. We suggest that you start with the Regional Coordinator for your area. Other organizations or people you can contact include the following:

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The Bird Atlas Gazette

If you would like to be included on the mailing list for this newsletter, or know someone else who would enjoy receiving it, please contact the FAN office.

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