

Atlas des
oiseaux nicheurs
Ontario
Breeding Bird Atlas

APPENDICES

April 2021

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The Ontario Breeding Bird Atlas is a partnership project of:



Ontario Ministry of
Natural Resources and
Forestry

This project was undertaken in partnership with
Ce projet a été réalisé en partenariat avec



Environment and
Climate Change Canada

Environnement et
Changement climatique Canada



Thank you very much to the [Ontario Breeding Bird Atlas Supporters](#)

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Appendix A: Putting Safety First

COVID-19

Please read our factsheet on Participating in Ontario Breeding Bird Atlas-3 during the COVID-19 pandemic before participating in atlas activities – [click here](#)

Liability Statement

The following statement is adapted from the Terms and Conditions provided in the online volunteer registration ([click here](#)). Please register if you have not already done so.

As a volunteer participant in our programs you are fully responsible for your own safety, and for your own personal insurance and care in case of injury. You are not considered an employee of Birds Canada, or any of the [partner organizations](#) or sponsors. Please exercise great caution and care in the field when collecting data. The partners are also not responsible for damage and/or loss to vehicles or equipment incurred while conducting field activities. Participants may be held responsible for damage to lands and property, so please be respectful and exercise caution when treading on private land. Where appropriate always be sure to obtain explicit permission before accessing lands. Be friendly and polite with landowners and remember that their permission is voluntary and that they are helping us all to achieve our goals for good coverage.

General Safety Guidelines

It is important that atlassing be enjoyable, but **safety must always come first**. Plan your route ahead of time and prepare for hazards you might expect to encounter along the way. No matter where your atlassing activities take you, we recommend planning ahead in relation to your communication tools and coverage, and inform a friend or family member of where you plan to survey, the time you expect to return, and how to contact you in case of emergency.

Note that your surveying activities may take you into areas commonly used for recreation, hunting and other purposes. We recommend that you check the Ontario Ministry of Natural Resources and Forests' hunting website ([click here](#)) for the regulations in your area. During active hunting seasons, always wear high visibility clothing to make sure you are easily seen.

We recommend that you survey with others, particularly if you will be working in remote areas, or if you expect to be off-road.

If you must survey alone, we recommend you reflect on the following questions:

- Have you told someone where you are going and when you will be back? Are they prepared to serve as your emergency contact?
- Do you have reliable methods of communication and information on who to contact in the event of an emergency?

- Have you assessed your personal limitations, and the hazards that you might encounter?
- Do you have the necessary safety equipment and do you know how to use it?
- Have you checked the weather forecast for the area(s) you intend to survey to ensure incoming weather will not pose a threat to your safety (e.g., heavy snow, rain, lightning, or high winds)?

If atlasing near roads, be aware of traffic. Park safely (off-road or use reflective cones). Follow all traffic laws and do not drive distracted! Wear bright/reflective clothing (e.g., a high visibility safety vest) when working near roadsides. Consider snow, mud, ruts, bridges, washouts, and other road conditions, and make sure your vehicle is suitable for the conditions.

If atlasing or accessing sites by water, be aware of boat traffic and weather. Follow all marine regulations. Wear a life jacket and be sure to carry required safety equipment ([click here](#)). Ensure you create and share your boat trip plan with your emergency contact before you leave.

If atlasing in remote areas, consider working with a partner or team and ensure each person is carrying all necessary equipment to ensure they can be self-sufficient. This includes a roadside emergency kit (see an example list [here](#)), shovel, blanket/sleeping bag for each participant, extra food and water, and consider carrying an emergency signalling device (e.g., SPOT Messenger or inReach device). Ensure your vehicle is in good running order, has appropriate tires (including a functional spare tire), and that you have a plan in the event you get stuck or stranded. It is important to **know how to navigate** with your map and compass (and GPS if you have one) prior to going off-road by foot. Marking your vehicle as a waypoint in your GPS and bringing spare batteries is always a good idea prior to entering the woods. Courses are available on orienteering, wilderness safety, and wilderness first aid – check with your local community college or outdoor clubs for upcoming classes. Ensure all emergency communication and navigation devices are properly charged prior to going out.

If atlasing at night, we cannot overemphasize how important it is to consider YOUR safety. Take a flashlight or headlamp and extra batteries. Wear your reflective vest. Consider checking roads in daylight prior to your night survey to ensure they are passable and that you will have a safe place to park. Be careful not to drain your car battery with such things as seat warmers, headlights, or cell phone charging.

If in doubt, don't survey!

Safety Kit Suggestions

Always carry a safety kit with you and know how to use its contents! Items should be relevant to the area(s) you will be travelling through and may include:

- Compass and topographical map of your square
- First Aid kit ([click here](#) for an example list of contents)
- Bear/dog spray
- Waterproof lighter and/or waterproof matches
- Pocket knife

- Small flashlight with batteries
- Pencil and paper
- Signalling device (e.g., whistle or mirror)
- High energy snacks (e.g., granola bars, dried fruit or chocolate)
- Drinking water
- Emergency “space blanket” or bivy
- Mosquito repellent or head net and bug jacket
- Sun protection (e.g., sunscreen, sunglasses, hat, long sleeves and pants)
- GPS unit and cell phone (share your emergency #), if you expect to have cell service). Alternatively, a Satellite phone, VHF radio or two-way satellite communication device (e.g., SPOT or inReach) should be considered when heading into areas where cell coverage is unreliable.

Common Safety Issues

Although formal training in First Aid, Wilderness First Aid, bear safety, and navigation is recommended, we offer the following brief reminders and suggestions to assist with your preparations for atlas surveys.

General First Aid Reminders

Consider obtaining formal First Aid training (e.g. [St. John Ambulance](#), [Canadian Red Cross](#)) or refreshing your basic First Aid knowledge prior to heading out.

To provide effective First Aid, responders need to:

- Be aware of the risks to oneself and others
- Keep oneself safe
- Provide aid only when it is safe to do so
- Stay informed and updated on first aid/CPR skills and evolving protocols (particularly as the pandemic situation evolves)
- Remember ones own needs.

A number of online resources and First Aid apps are also available for download to your smartphone as a handy reference for response to an emergency (see also Additional Resources below).

Bears & Other Wildlife

Black bears occur throughout much of Ontario. We suggest reviewing [Ontario's Bear Wise Program](#) and considering obtaining formal bear awareness and safety training.

Please be Bear Aware while conducting your atlassing:

- Travel in groups of two or more when possible—people who travel alone are most vulnerable
- Scan your surroundings and do not wear music headphones. Be particularly aware of your surroundings when conducting point counts, or using recording units as they will draw your attention for an extended period of time.
- When entering or hiking to a site, alert bears to your presence so they can avoid you. Make noise, such as singing, whistling or talking while in areas with restricted visibility or with high background noise, such as near streams and waterfalls.
- Watch for signs of bear activity such as tracks, claw marks on trees, flipped-over rocks or fresh bear droppings
- If you have a dog with you, make sure it is on a leash, as uncontrolled, untrained dogs may actually lead a bear to you
- Rise slowly if you are in a crouched position so that you don't startle nearby bears
- Avoid strong fragrances that may cause a bear to be curious
- Put any food you are carrying in sealed containers in your pack

Be aware that Ontario is home to one venomous snake, the Massasauga Rattlesnake. Although bites are not common, it is recommended that you have an emergency response plan if Massasauga Rattlesnakes are known to occur in the area you will be surveying. More information about Massasauga Rattlesnakes and treatment for bites can be found on the [Ontario Anti-venom website](#).

Also be aware of other wildlife you might expect to encounter, including wolves and large ungulates (e.g., moose and elk). It is best to provide all wild animals with ample space, and be especially careful to provide space to any animals with young.

Raccoon rabies has been identified in southern Ontario, particularly in the Hamilton and Golden Horseshoe area. In these areas, please be cautious around strange-acting wildlife, or wildlife found dead for no apparent reason. If you come into contact with a strange-acting animal, please contact the local animal control agency, or the Ministry of Natural Resources and Forestry wildlife disease reporting line at **1-888-574-6656**. Bat and fox rabies is also found in the province, so please be cautious of all strange-acting wildlife, and report any bites or scratches obtained by wildlife to your local health unit as soon as possible. Rabies is almost always fatal if not treated quickly.

Environmental Exposure

Cold, Hypothermia, and Frostbite

Hypothermia is the lowering of the body temperature and can result in death if not treated in time. Victims of hypothermia first start to shiver, then feel drowsy, weak, and confused. They also experience impaired judgment and vision.

Frostbite is an injury caused by freezing of the skin and underlying tissues. At first, skin becomes very cold and appears red, then turns numb, hard and pale. Frostbite is most common on the fingers, toes, nose, ears, cheeks, and chin. Exposed skin in cold, windy weather is most vulnerable to frostbite.

Prevention:

- Wear suitable clothing to keep you warm and dry. Ensure extremities are suitably covered when weather turns cold and/or windy.
- Always pack extra layers and a raincoat, even if the day starts off warm and sunny, because weather can change rapidly and without warning.

More information about hypothermia, windburn and frostbite can be found on the [Health Canada website](#).

Heat, UV Radiation, Heat Stress, Dehydration

Prevention is your best defence against heat exposure and related illnesses. Be sure to pack appropriate sun protection (hat, sunglasses, long sleeve shirt and pants, sunscreen with at least SPF30), carry ample drinking water, and try to avoid being out in the sun during the hottest times of the day, if possible.

More information on sun safety can be found on the [Canadian Cancer Society website](#).

Sunburn – Prevention is the best cure for sunburn. Use sunblock daily and with repeated applications. Sunburn is treated in much the same way as other burns. If the sunburn is severe, an antiseptic emulsion can be applied freely and covered with a dressing or bandage. Leave the dressing on. Do not break any blisters that form.

Working in hot weather with exposure to direct sunlight and high humidity puts stress on your body's internal cooling system. The body normally cools itself by sweating. When the humidity is high, sweat will not evaporate as quickly, preventing or slowing the body's ability to cool down. When heat is combined with other stresses, such as physical work, fluid loss, fatigue or certain medical conditions, it may lead to serious heat-related illnesses. This can happen to anybody - even the young and physically fit.

Tips to consider for controlling heat stress:

- Drink more fluids. Don't wait until you are thirsty. Avoid liquids that contain alcohol or caffeine as they can cause your body to lose water.
- Wear light clothing that will allow cooling of the skin as well as protection from the sun.
- If you are on medication, pregnant or have a pre-existing medical condition, you may be more susceptible to heat stress and should consult with your physician.

Windburn – Windburn can also be a problem outdoors. It can be treated in much the same way as sunburn, but it too can be prevented by wearing proper clothing and by covering exposed areas of flesh with a lotion or cream to prevent skin from drying out on windy days.

Extreme Weather: Thunder, Lightning and High Winds

If bad weather is in the forecast, do not plan to go atlassing! In the event you get caught in an unexpected storm, take the following precautions:

- If you hear thunder, then lightning may be close enough to be dangerous – take shelter in an enclosed building or metal-topped vehicle.
- Avoid water, high ground, isolated trees, power lines and picnic shelters – small, open structures won't protect you from lightning.
- If there's no shelter nearby, go to a low-lying area away from tall, isolated objects – crouch down and put your feet together – do not lie down.
- Be aware of, and take precautions to remain safe from, potential dangers that may accompany high winds (e.g. unsafe boating conditions, fallen trees blocking roads or trails).

More information about thunderstorms and remaining safe can be found [click here](#).

Illnesses & Allergies

Perhaps the most common illnesses during surveys are diarrhea and constipation due to the change of habits and food. Please check your First Aid kit and ensure it contains medication to combat either of these afflictions.

People with known allergies should carry necessary medications with them and make their travelling partners aware of their allergies and how to treat them.

Poisonous Plants

When atlassing off-road, keep an eye out for poisonous or noxious plants such as poison ivy, poison sumac, giant hogweed, wild hemlock, wild parsnip, and pokeweed. On a related note, see the tips [click here](#) to help avoid spreading invasive plants through your atlassing activities.

Ticks and Lyme Disease

When travelling off-trail through grasses, shrubs, forests or wooded areas, be aware of ticks which can carry Lyme and other diseases. Always check your entire body for ticks and remove them quickly using approved methods if any are found. Wear light coloured long-sleeved shirts and pants, and keep pant legs tucked in to minimize exposure to ticks; this also makes it easier to spot ticks before they attach to skin. Consider using an insect repellent containing DEET (N, N-diethyl-meta-toluamide) to exposed skin whenever you are outdoors. Treating clothes with repellents containing permethrin or DEET will give extra protection from ticks. Tick removal kits have been found to be an effective means of detaching an embedded tick, and can be purchased through outdoors stores or online.

For information on Lyme disease, prevention and treatment, refer to the [Government of Canada's Lyme disease website](#).

Transportation

In addition to following the rules of the road and practising safe driving, atlassers should be careful to match their vehicles to their anticipated driving conditions. Many passenger cars have low ground clearance and other design characteristics that make them unsuitable for rough roads. Perhaps consider including a tow strap, shovel, saw and other equipment in your vehicle if you do intend on surveying beyond the reach of all-season paved roads.

West Nile Virus

It is possible to contract West Nile virus from infected mosquitoes, or even through handling infected birds.

Human illness from West Nile virus is rare, even in areas where the virus has been reported. You can reduce your chances of becoming ill by protecting yourself from mosquito bites.

To avoid mosquito bites:

- Apply insect repellent containing DEET (N, N-diethyl-meta-toluamide) to exposed skin whenever you are outdoors. When possible, wear long-sleeves, long pants and socks when outdoors.
- Treating clothes with repellents containing permethrin or DEET will give extra protection, since mosquitoes may bite through thin clothing. Do not apply repellents containing permethrin directly to skin. Do not spray repellent containing DEET on the skin under your clothing.
- Consider alternatives to DEET-based repellents, particularly if you have a known sensitivity.
- You may also wish to use a “bug jacket” or shirt containing a screened hood and face shield (these can be found in most outdoor recreation supply stores).

- The hours from dusk to dawn are peak mosquito biting times. Take extra care to use repellent and protective clothing during evening and early morning.

For additional information on West Nile Virus, refer to the [Government of Canada's WNV website](#).

A Few Additional Resources

- Ontario Provincial Police (anywhere in Ontario): 1-888-310-1122 (or call 9-1-1)
- Trip Planning Guides: www.adventuresmart.ca
- Canadian Red Cross First Aid Training and Certification: www.redcross.ca/training-and-certification
- Orienteering Ontario: www.orienteeingontario.ca/learn
- [Preparing an Emergency Kit for your Car: getprepared.gc.ca](http://getprepared.gc.ca)
- Search “**First Aid App**” on your Android or iPhone device

Appendix B: How new birders can contribute to Atlas-3

There is a role in Atlas-3 for all levels of birders. New birders can participate through:

General Atlassing

If you are a new birder, you can submit records of breeding evidence for species that you can confidently identify. You may need to start slowly at first, to ensure the accuracy of the records you submit. As your skills develop, you'll be able to contribute more records. In Atlas-2, some new birders were able to build their skills up enough over the five years of the project to do point counts (see below) by the end of the atlassing period. To develop your skills, we recommend working with more experienced birders as much as possible. Ask your Regional Coordinator (RC) about opportunities for mentoring by experienced birders/atlassers in your region. You can also work on your knowledge and skills using the resources ([click here](#)) – we especially recommend [Dendroica](#) as a way to learn to identify birds by song.

Owl and Nightjar Surveys

Owl surveys are very well suited to newer birders because they involve only a small number of bird species, and they utilize playback of the species involved, so you can quickly become very familiar with the calls of the target species. The surveys consist of visiting 10 road-side stations in a 10-km square and following a standard protocol involving alternating periods of silent listening and of various owl call playback. Surveys are run in March-April, after sunset. [The owl survey protocols](#) provide details about survey methods and recommended playback equipment. Regional Coordinators can provide playback equipment.

Nightjar surveys are similar to owl surveys, but they are run between June 15 and July 15, do not include playback, and involve only two species (Common Nighthawk and Eastern Whip-poor-will) both of which have very distinctive calls.

Recorded Point Counts

This involves visiting 20 pre-selected, road-side point count stations in a square and 5 off-road locations. However, instead of identifying all the birds you see and hear, you record a 5 minute audio file at each point with a hand-held recording device provided by the Atlas. There may be an option to report the birds you see during the point count interval. The recordings are later downloaded to your computer and experts listen to the recordings to determine what bird species were present. Our goal is to get Recorded Point Counts done in all southern Ontario squares where Standard Point Counts are not done, and as many squares as possible in the north. Talk to your RC about how to get involved with this. More information will be provided on the website as it becomes available. Point counts are conducted between dawn and 5 hours after dawn, between May 24 and July 10. We will provide complete instructions before then.

Non-birding Roles

There are other non-birding roles that could be of great help to the Atlas. If you are interested in volunteering in a non-birding role, ask your Regional Coordinator if there are any opportunities to help with such things as data entry, running social media, arranging special events, atlas promotion, or translation. Or contact the Atlas Office (atlas@birdsontario.org).

Atlassing schedule

The Table below summarizes the schedule for atlas survey work.

Ontario Breeding Bird Atlas - Survey Schedule.

Survey Type	Time of year and Time of Day ¹												Notes
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
General atlassing	*	*	*	**				*					Can atlas any time of day but morning is best
Northern Hawk Owl Survey													Broadcast equipment needed
Eastern Screech-Owl Survey													Broadcast equipment needed
Barred and Northern Saw-whet Owl Survey													Broadcast equipment needed
Great Gray and Boreal Owl Survey													Broadcast equipment needed
Long-eared Owl Survey													Broadcast equipment needed
Marsh Bird Survey													Broadcast equipment needed
Point Counts South													May 24 – July 10
Point Counts North													June 1 – July 10
Nightjar Survey													June 15 – July 10

Anytime during the day ; In the morning after sunrise or just before sunset ;

near/after sunset ; night time

¹This schematic has been simplified for your convenience, please review survey protocols for exact survey period, survey time and weather conditions.

Appendix C: Surveying Private Property

Always get permission from the landowner to enter private property. Some of the best times to survey for birds occur during the first couple of hours of daylight, so access should be **arranged before the day(s) you visit**. Take the time to explain what the project is about, what you plan to do, including whether you will be alone or have companions, and when you plan to do it. In most cases, permission to enter onto the property will be granted. Encourage landowners to contact the Regional Coordinator ([click here](#)) or the Atlas Office (atlas@birdsontario.org) if they would like further information. Please note that not all private lands are signed so be sure to do your research about ownership and confirm permissions before entering lands. Land ownership information can be obtained via the Land Registry website: <https://www.ontario.ca/page/overview-land-registry>. A fee may be involved.

You can download a sign from the website to put on the dash of your car (see below). It states that you are collecting data for the Atlas and gives contact information for the Atlas Office, in case people have further questions. Please remember to use the dashboard sign; some rural roads are typically only used by locals and unfamiliar vehicles can arouse suspicion.

Some key points to remember:

- Always get permission to access private property
- Arrange access ahead of each visit
- Be courteous in your interactions
- Follow all instructions
- Offer to share your findings
- Only pull over and park at safe locations
- Never block access to roads, driveways, trails, pastures, fields, equipment, etc.
- Use the dashboard sign available on the website
- Respect crops and livestock
- Leave all gates as found
- Leave no trace and pick up trash

Dashboard sign



I am a volunteer surveying birds in this area

For more information contact:
Ontario Breeding Bird Atlas
Phone: (519) 586-3531 ext. 123
Toll-free: 1-888-448-2473 ext. 123
Email: atlas@birdsontario.org
Website: www.birdsontario.org

Appendix D: Access to National and Provincial Parks

Discussions are underway (December 2020) with Parks Canada and Ontario Parks about special access permits for atlasers collecting data in parks and conservation reserves. More information will be provided here as it becomes available. The following outlines the expected arrangements:

- Atlas participants are expected to follow all rules that normally apply to visitors in parks (provincial and national) and conservation reserves.
- In parks (provincial and national) where fees are normally charged, specific atlas participants will be provided with an identifying letter from the respective park via the Regional Coordinator that grants them free, time-limited access, with specific conditions.
- Free camping may also be provided under certain circumstances by making arrangements through your Regional Coordinator and the park manager.
- There will also be specific requirements for leaving Automatic Recording Units in any park or conservation reserve.
- More information on atlassing in provincial and national parks, and conservation reserves will be available in the New Year.

Appendix E: Download and use the NatureCounts app

Download NatureCounts app here: [App Store](#) or [Play Store](#).

NatureCounts allows participants in citizen science programs in Canada to submit their sightings to Birds Canada.

The NatureCounts app is the complement to the NatureCounts website operated by Birds Canada (<https://naturecounts.ca>). The app can be used by participants in select citizen science programs to submit their bird sightings. Participants are required to obtain a free account on NatureCounts in order to use the app. Your sightings from citizen science programs help Birds Canada achieve its mission to conserve wild birds. Observations from all participants and results from the survey programs can be accessed on the NatureCounts website.

Note that we are currently supporting data submission for Breeding Bird Atlas projects, and we hope to add more surveys in the future.

Instructional videos are available – [click here](#).

Appendix F – Using digital maps

Knowing where you are as precisely as possible is critical for the atlas. Luckily there are many tools available to help with navigating while atlassing.

If you will be navigating and recording coordinates primarily by using a printed copy of a 10-km square map, read below about how to print the map from the web site, then read [Appendix M](#) for more details on determining UTM coordinates using the map.

Types of data available

There are two main types of location data available to atlassers.

Point Count locations

Each square has a number of predefined point count locations located along roadsides (see the Point Count manual for more details – Coming Soon). These data can be downloaded in a variety of formats. Because conducting point counts requires excellent birding by ear skills, many atlassers will not be completing point counts and thus can ignore the points when atlassing.

Point count location data can be downloaded in a variety of formats from the [Atlas Square Resources page](#). Simply zoom in to the square in question (or use the “Find Square” option or choose from your personal list) and when you’re close enough the square name, square boundary, and point count locations will all appear. At the same time, the list of “Tools available for this square” will appear on the right side.

You have four options for downloading point count location information:

Download PDF map – A digital map of the square with topographic features such as habitats and roads, plus point count locations and the square boundary.

Download Point Count Coordinates (CSV format) – list of point count coordinates in a spreadsheet.

Download Point Count Coordinates (GPX format) – list of point count coordinates that can be opened by many handheld GPS devices.

Download Point Count Coordinates (Google Earth KML/KMZ format) – list of point counts and square boundary that can be loaded into Google Maps/Google Earth as well as some other programs/apps.

Square boundaries

Like point count locations, you can access the boundary of a square by going to the [Atlas Square Resources page](#) and zooming in until the square and point counts appear. Once that happens the “Tools available for this square” will appear.

Two options will give you the square boundary:

Download PDF map – A digital map of the square with topographic features such as habitats and roads, plus point count locations and the square boundary.

Download Point Count Coordinates (Google Earth KML/KMZ format) – list of point counts and square boundary that can be loaded into Google Maps/Google Earth as well as some other programs/apps.

Viewing tools

Printing/viewing

The PDF map can be opened by a wide variety of computer programs and smartphone apps. If you're unable to open the PDF map, contact the [Atlas Office](#). They are designed to fit on a standard 8.5 x 11 sheet of paper if you choose to print it. Most print shops will be able to print from the PDF file if you bring it in on a USB stick. Most print shops also have an option to email or upload your file in for printing.

NatureCounts App

When using the NatureCounts App on your phone, you can access the built-in map within the app. The map here will show you all square boundaries, but you have to be sufficiently zoomed in before they will appear. To view the map before you start a checklist, click the "Edit Location" button. Point count locations will appear on the map if you select "Atlas Point Count" as the protocol type and then click the "Edit Location" button. To view the map while you have a checklist in progress, just click the "Map" button; if you have your track log turned on it will also show that.

NatureCounts website

As mentioned above, if you head to the [Atlas Square Resources](#) page and you zoom in, the square boundary and point count locations will eventually appear. You can also access square boundaries by going to the [Coverage Map](#) and sufficiently zooming in.

Avenza Maps

[Avenza Maps](#) is a free app available for [Android](#) and [iOS](#) devices. This app lets you import PDF maps and if they are "georeferenced", which the Atlas-3 maps are, you'll be able to see your position on the map (Note that the Atlas-2 maps currently available are not georeferenced, so can't be used for this purpose). You can also add notes, like waypoints and track logs to keep track of your effort over time. This app works completely offline, so even if you don't have cell service or a data plan you'll have full functionality – you just have to make sure you download the map onto your device before you lose service/data.

The Avenza website has an excellent [help section](#) but the basics are covered in this [Atlas-3 video tutorial](#).

The main catch is the free version of Avenza maps only lets you have three maps loaded at a time so you might find yourself deleting and loading maps frequently if you're atlassing in multiple squares.

Google Maps/Google Earth

This option from the [Atlas Square Resources](#) page will download a KMZ file which can be opened in Google Earth or Google Maps. If you have a Google account and want to create an online map, go to [Create a Map](#) (make sure you're logged in to Google) and then click the "Import" button and then find the KMZ file you just downloaded.

That will create a map with the square boundary and point count locations in it. You can customize the appearance of the map including toggling the base map between topographic and satellite view. You can also download and add multiple other square files to the same map.

The basics of creating a Google Map for atlassing is covered in this [Atlas-3 tutorial video](#).

Once you're happy with the map you can access it from an Android or iOS device with the Google Maps app by clicking "Saved" at the bottom of the screen, then scrolling down to "Maps" and finding your map in the list. Note that these maps require a data connection to work properly (you can [download the base map for offline use](#) but this will not save your custom features). Using this method (assuming you have a data connection) will enable "routing" along roads to point count locations.

Other mobile mapping apps

There are many other mapping apps available, and many will allow you to import the various file formats available from the [Atlas Square Resources](#) page. One very handy one that is available for free for Android and iOS devices is [Maps.me](#). This app is very similar to Google Maps but uses [OpenStreetMap](#) data and can have the base map data downloaded for offline use. If you install this app on your device and then download and open the Google Earth KML/KMZ format file, it will import the point count locations as "bookmarks". Like Google Maps, you'll then be able to use the app to route you between locations. Just be sure to download the base map data before leaving a data connection behind.

GPS units

If you use a handheld GPS unit, you should be able to import the GPX file format or some of the other options onto it for use in the field. Please refer to your GPS user manual for more instructions. Depending on your device type, special software and a cable may be necessary. If you're really stuck, contact the [Atlas Office](#) for assistance.

Appendix G: Details of Breeding Evidence

There are several categories of breeding evidence within each breeding level (Table 1). Familiarize yourself with the breeding evidence codes and categories because they will be regularly used in the field; most atlasers find it handy to have a copy of the codes with them for reference and even experienced atlasers do so. The codes are also provided on the NatureCounts app. For instructions on how to report breeding evidence using the app, [click here](#).

The codes, levels and categories in Table 1 are listed in order of breeding evidence, **from lowest to highest**. When recording breeding evidence codes on the Atlas Checklist, **record the highest level observed for that checklist**. For example, if you hear the song of a Swamp Sparrow, then later during your walk witness one carrying food, change the earlier recorded “S” to “CF” in the breeding evidence column and add the individual(s) to the count column.

Be sure to only record breeding evidence codes for breeding birds; **do not use X for migrants. For species that are clearly migrants, leave the breeding evidence code blank!** If you are unsure as to whether a bird is a migrant, please refer to the Safe Dates available on the atlas website ([click here](#)). You may use the X code for a bird that *could* be a migrant or a local breeder, i.e. in the shoulder season between early breeding and last migration. If you have doubts about the appropriate category for a particular observation, ask your RC ([click here](#)) or contact the Atlas Office ([click here](#)).

Below are some examples to serve as guidelines for using breeding evidence codes.

- Common Loon in basic (winter/subadult) plumage spending the whole summer on a lake: Observed-**X**.
- Common Loon or ducks in alternate (breeding/adult) plumage on a lake or other waters (ie in suitable breeding habitat) during their breeding season, but no song, display or broods: Possible-**H**.
- Grouse heard drumming: Possible-**S**. (Probable-**T** if heard on more than one date a week or more apart in the same place. Probable-**D** only if actual courtship and display to females are seen).
- Rails heard in a marsh on a visit in early breeding season, but not on subsequent visits: Possible-**S**.
- Wilson’s Snipe “winnowing” flights, for three weeks, but then no further signs: Probable-**T**.
- (Possible-**S** if seen or heard only once; Probable-**D** if actual courtship and display to females seen).
- Gulls frequenting dumps, ploughed fields, drive-ins, park lakes etc. throughout summer in unsuitable breeding habitat: Observed-**X**.
- Woodpeckers drumming: Possible-**S** if heard in breeding season; Probable-**T** if heard a week or more apart in the same place.
- White-throated Sparrow building a nest: Confirmed-**NB**.

Breeding Evidence Quiz

You can test yourself on some of the trickier codes and categories using the Quiz ([click here](#)).

Cautions

Breeding evidence for some groups may be complicated by certain behaviors. Examples where **caution** is required include geese undergoing **molt migration** in the summer; some shorebirds, gulls, loons, grebes, waterfowl, and eagles “**over-summering**” without breeding; birds **singing at stop-over sites** on migration (warblers and sparrows); and **courtship behavior during migration** (gulls and waterfowl). Consult the “Safe dates” table ([click here](#)) to learn about the usual periods of migration and breeding in various parts of Ontario.

Questionable Codes

Some species-code combinations will not be accepted during data entry. Such combinations are largely common sense such as: NB (nest building) for a species that does not build a nest; CF (carrying food for young) for most precocial species; using N (Nest-building by wrens or nest hole excavation by woodpeckers) for anything other than wrens or woodpeckers; and FS (adult carrying a faecal sac) for non-passerines.

Other species-code combinations require caution and may be flagged during data entry. For example: NU (nest used) – most nests and eggshells are not unique or unmistakable; CF (adult carrying Food for young) for species that either carry food for themselves (raptors and corvids), typically regurgitate food (Northern Flickers), or perform courtship feeding rituals (terns); and P (pair observed in suitable nesting habitat during the species' breeding season) for species where males and females look alike.

Strengthening the Evidence for Breeding

During the course of the 5-year survey, while looking for previously unrecorded species, you should also look for stronger evidence of breeding for previously recorded species in each square. Information about the highest breeding evidence codes obtained for each species in a square can be found on the Square Summary sheets on the website ([click here](#)). For example, on your first visit to a square, you may observe a singing Song Sparrow in suitable habitat, which you record as “S”. If you observe this bird singing in the same location on subsequent occasions during the breeding season at least a week apart, you would now be able to upgrade this to “presumed territory” and you could enter “T”. If later that breeding season you were to find a Song Sparrow nest with eggs in it, you would fill in “NE”. You would then have upgraded the Song Sparrow from "Possible" to “Probable” and then to the “Confirmed” level of breeding evidence.

You should attempt to obtain Probable or Confirmed breeding evidence for as many species as possible in the square. For species flagged as regionally or provincially rare that you observe while atlassing, try to find Probable or Confirmed breeding evidence for these rare species on each checklist. If you cannot upgrade the breeding evidence to Probable or Confirmed on the visit, consider returning later in the season to upgrade the breeding evidence for these rare species.

Many observers from previous atlases found that it was easier to obtain Confirmed breeding records later in the season by observing adults carrying food or seeing fledged young.

However, it is still important to do most atlassing early in the season, especially in June, because many more species are singing and easier to find at that time. Remember that some groups are best surveyed earlier or later in the year, for example owls and grouse are most easily detected from March through April. American Goldfinch and Cedar Waxwing are examples of species whose nesting may peak in July and continue into August and even beyond.

Table G1. Breeding evidence codes (expanded version).

OBSERVED	
X	Species observed during its breeding season, but NOT in suitable nesting habitat (no breeding evidence found). Note that this code is rarely used as birds tend to occupy nesting habitat during the breeding season. Do not use for species known to be migrants.
POSSIBLE BREEDING	
H	Species observed in suitable nesting Habitat during its breeding season.
S	Singing male or adult producing other sounds associated with breeding (e.g., calls or drumming) in suitable nesting habitat during the species' breeding season.
PROBABLE BREEDING	
M	Multiple singing/calling/drumming individuals (7 or more) heard during one visit to a single square and in suitable nesting habitat during the species' breeding season. Use with caution to avoid counting migrants.
P	Pair observed in suitable nesting habitat during the species' breeding season.
T	Presumed Territory based on the presence of an adult bird (usually singing, but not necessarily so), in the same suitable nesting habitat patch on at least two visits, one week or more apart, during the species' breeding season. Use discretion when using this code. "T" is not to be used for colonial birds, or species that might forage or loaf a long distance from their nesting site (e.g. Turkey Vulture, and male waterfowl).
D	Courtship or Displays involving a male and female (e.g., courtship feeding, copulation) or antagonistic behavior between two or more individuals (e.g., territorial disputes or chases), in suitable nesting habitat during the species' breeding season.
V	Bird Visiting a probable nest site in suitable nesting habitat during the species' breeding season.
A	Agitated behavior or alarm calls of an adult in suitable nesting habitat during the species' breeding season.
B	Brood patch or cloacal protuberance on an adult in suitable nesting habitat during the species' breeding season.
N	Nest-building by wrens or nest hole excavation by woodpeckers (both may build dummy or roosting nests so nest-building alone is not enough to confirm breeding).

CONFIRMED BREEDING

NB	Nest building, including the carrying of nesting material, by all species except wrens and woodpeckers.
DD	Distraction Display, injury-feigning, or other displays attempting to draw attention away from a nest or young.
NU	Empty Nest Used or identifiable eggshells from earlier in the same nesting season.
FY	Recently Fledged Young (nidicolous species - whose young are raised in a nest) or downy young (nidifugous species - whose young leave the nest soon after hatching) incapable of sustained flight.
AE	Adult Entering, occupying, or leaving a nest site (visible or not) or whose behavior suggests the presence of an occupied nest.
FS	Adult carrying a Faecal Sac.
CF	Adult Carrying Food for young.
NE	Nest containing Eggs.
NY	Nest with Young (seen or heard)

Appendix H: Safe dates/breeding dates

While June certainly represents the peak month of breeding season for many Ontario birds, each species has a slightly different window during which breeding evidence may be displayed/observed. To complicate things, the timing can vary markedly between different parts of the province and migrants can still be moving through an area while local breeders have begun nesting.

To help atlasers and Regional Coordinators navigate this complexity, the atlas has produced a series of seasonal charts depicting when a species may be breeding, when it may be migrating, and when it is safe to assume an observation of a species in breeding habitat is indeed a breeding individual.

The breeding charts are to be used as a guide only. Birds can certainly show breeding evidence outside of the listed dates and can be recorded outside of the safe dates too; in those cases extra documentation should be included to justify the use of the breeding code and how it was determined that the bird was breeding and not a migrant. The charts are divided by ecozone, as shown on the map in figure 1.

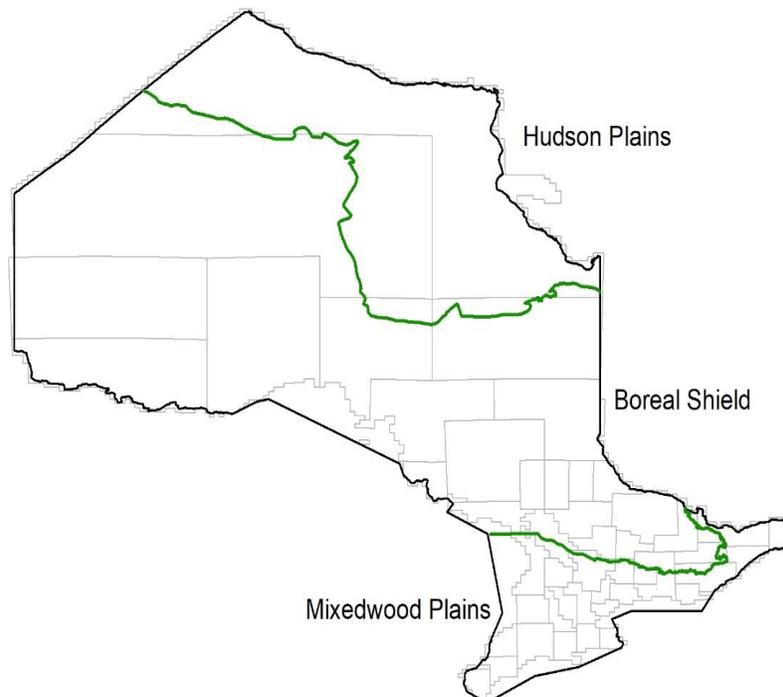


Figure 1: Map showing the three major ecozones (mixedwood plains, boreal shield, and Hudson plains) overlaid on the atlas regions.

Reading the charts

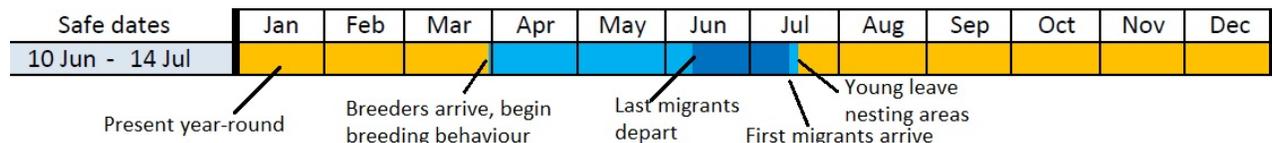
On each chart, there is a line for each species in each ecozone broken into the calendar year. The safe dates are listed to the left of the calendar. Shading depicts the potential for breeding evidence (or not) as follows:

	Shading	Status	Description
Non-breeding		Absent	Species is generally absent. (Note: fill colour alternates between rows).
		Migrant/non-breeding	Species is present as migrant/non-breeder only.
Breeding		Migrant/non-breeding or breeding	Species may show breeding evidence but may also be present as a migrant/non-breeder.
		Breeding: SAFE DATE	Generally safe* to assume any bird observed in suitable breeding habitat is breeding.

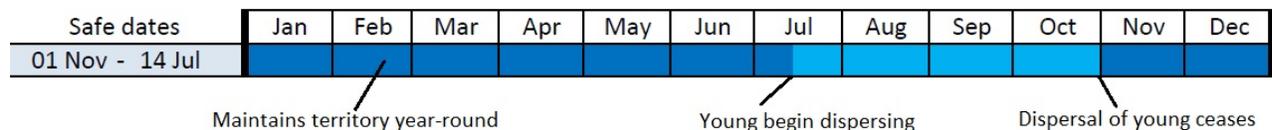
*Caution should be applied, especially for waterbirds and some raptors which may have non-breeders present all year, and for species which can travel long distances from breeding sites.

Example charts

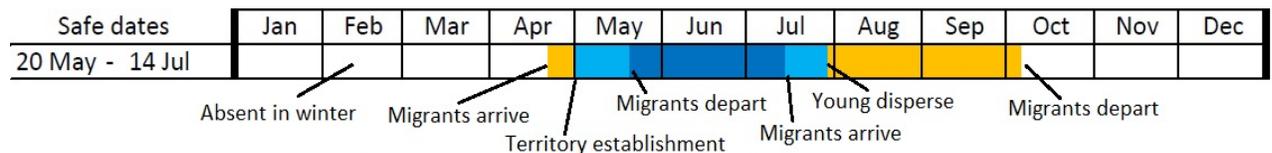
Canada Goose, Mixedwood Plains:



Eastern Screech-owl, Mixedwood Plains:



Northern Waterthrush, Mixedwood Plains:



Important notes

- The charts are meant to be a guide only.
- The ecozones are very large; expect things slightly earlier at the south and slightly later at the north part of each.
- Please include notes along with your record whenever you are reporting breeding evidence outside of a species' "safe dates".
- Special attention should be given to waterbirds and some raptors which may have non-breeders present all year, and for species which can travel long distances from breeding sites.

Safe dates/breeding dates charts:

[Visit the website to view the different Safe / Breeding Dates charts that are available](#)

Breeding codes and when to use them

The breeding dates and safe dates are meant to guide the use of breeding codes associated with observed breeding evidence throughout the year. There are clearly periods when breeding evidence should be recorded, but there are shoulder seasons, typically associated with migration, that require additional scrutiny of your observation. Remember that some "higher" levels of breeding evidence (i.e., confirmed) can be used outside of the safe dates because migrants/non-breeders will not show those types of evidence. Below is a list of the breeding codes and a general guideline for when to use each in relation to a species breeding season/safe dates.

When using any of the exceptions below, the individual records should be accompanied by written documentation to justify the use of the breeding code. Remember that these are guidelines only and there will be examples that fall outside of these situations.

To see the full definition of each breeding evidence code visit:

<https://www.birdsontario.org/breeding-codes/>

Code	When to use
[blank]	Leave the breeding evidence code blank outside of the breeding season and when no evidence of breeding detected.
X – observed	Any time within the species’ breeding season when no evidence of breeding is detected.
H – habitat	Any time within the species’ safe dates and breeding habitat
S – singing	Any time within the species’ safe dates and breeding habitat
M – multiple	Any time within the species’ safe dates and breeding habitat
P – pair	Any time within the species’ safe dates and breeding habitat. Exceptions can be made in circumstances within the breeding season but outside of the safe dates if the male and female are clearly acting as a pair.
T – territory	Any time within the species’ safe dates and breeding habitat. Exceptions can be made in circumstances within the breeding season but outside of the safe dates if the adult bird is clearly maintaining a distinct territory (i.e. for a period of at least a week at the same location).
D – display	Any time within the species’ safe dates and breeding habitat. Exceptions can be made in circumstances within the breeding season but outside of the safe dates if it involves a pair exhibiting courtship behavior for most species.
V – visiting	Any time within the species’ safe dates and breeding habitat. Exceptions can be made in circumstances within the breeding season but outside of the safe dates if it is a situation where a nest is highly probable.
A – agitated	Any time within the species’ safe dates and breeding habitat. Exceptions can be made in circumstances within the breeding season but outside of the safe dates in suitable breeding habitat provided the response appears to be a territorial response and not a predator response (e.g. not to pishing).
B – brood patch or cloacal protuberance	Any time within the species’ breeding season and breeding habitat for brood patch. Only within the safe dates for cloacal protuberance.
N – nest building (wrens/woodpeckers)	Any time within the species’ breeding season and breeding habitat.
NB – nest building (other birds)	Any time within the species’ breeding season and breeding habitat.
DD – distraction display	Any time within the species’ breeding season and breeding habitat.
NU – used nest	Any time of the year (provided the nest was active during the atlas period).
FY – fledged young	Any time within the species’ breeding season and breeding habitat.
AE – adult entering	Any time within the species’ breeding season and breeding habitat.
FS – fecal sac	Any time within the species’ breeding season and breeding habitat.
CF – carrying food	Any time within the species’ breeding season and breeding habitat.
NE – nest with eggs	Any time within the species’ breeding season and breeding habitat.
NY – nest with young	Any time within the species’ breeding season and breeding habitat.

Other resources

The two-volume set *Breeding Birds of Ontario* by George Peck and Ross James contains summary information on nest and eggs dates and other aspects of nesting ecology of Ontario breeding birds gathered from the Ontario Nest Records Scheme. Digital versions can be downloaded:

Volume 1: [Non-passerines](#)

Volume 2: [Passerines](#)

Birds Canada also has a very handy [Nesting Calendar Query Tool](#) which lets you look up nesting dates for species at various geographic scales.

Appendix I – eBird and the Atlas

Many Atlassers are also regular or even avid eBird users. There's no requirement to use eBird but this appendix is aimed at those who do.

About entering atlas data using eBird

Although it is feasible to use eBird to submit atlas data ([see below](#)), it requires some extra steps to fill in missing data which the atlas requires. We much prefer that everybody uses the NatureCounts app or website to submit atlas data. These platforms have several important features that eBird does not, including:

- Stronger emphasis on adding breeding codes
- Built-in quality control checks related to breeding codes
- Atlas-specific flags for provincially-rare, regionally-rare, and species of interest
- Ability to pin-point locations of specific sightings of interest on a checklist
- Built-in square map to help ensure checklists do not cross square boundaries
- Track logs that can be used for data analysis (tracks recorded in eBird are not available to the atlas)

Set up your atlas account to copy your atlas forms to your eBird account

To watch an Atlas-3 tutorial video going through these steps (Coming Soon).

Data collected for the atlas are compatible with eBird and you can set up your NatureCounts account so that your records get automatically transferred to eBird.

On the atlas website, once you are signed in, hover over your user name near the top right, then select profile (or [click here](#) to go directly to the profile page). At the bottom of the page is a section titled “eBird Exports.” Fill in your eBird account information here and be sure to save. You should now see the eBird Exports settings that look something like this:

eBird Exports 

You can save your eBird login information as part of your NatureCounts profile. This allows you to easily transfer your NatureCounts data into your eBird account where applicable.

An eBird login **username** is already saved within your NatureCounts profile. To remove or change the eBird login, please [click here](#).

Automatically push your NatureCounts data to eBird after entry:

If you select “Yes” beside “Automatically push your NatureCounts data to eBird after entry”, once you have filled in this information your atlas checklists will automatically appear in your eBird account. If you select “No” beside “Automatically push your NatureCounts data to eBird after entry”, then you will have to navigate to the form and manually press the “Share with eBird” one at a time.

Once an atlas form has been shared with your eBird account it will say “This checklist has been shared with eBird:” followed by the checklist ID and link (see Figure 11).

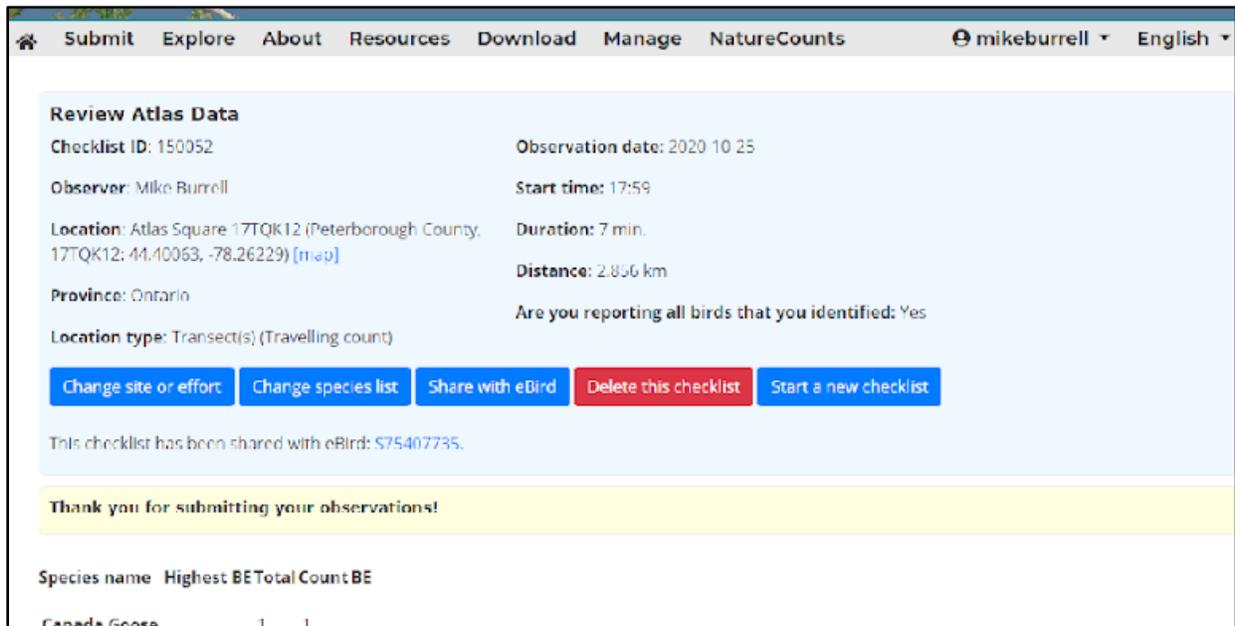


Figure 11. A completed atlas form. Note the "Share with eBird" button (left of the red "Delete this checklist" button), and underneath those options, the eBird checklist link (in blue font, beginning with "S")

Submitting an eBird checklist to the Atlas

To copy eBird data to the atlas, you'll need the eBird checklist ID. To find it, open the eBird checklist and it will appear in two locations: right above the date, near the top-left corner it should say "Checklist" followed by the ID in the format "S#####". It also appears at the end of the URL (web address) in your web browser. Copy the checklist ID.

Then head to the NatureCounts [submit page](#) for the atlas and click the "Import from eBird" button. If you've already linked your eBird account, the window that pops up should have your eBird login and eBird password prefilled, so you just need to fill in the eBird checklist ID and then click "Import from eBird" (Figure 21).

Import a checklist from eBird

If you have an [eBird account](#), you can import one of your checklists from eBird into NatureCounts. You will still be required to verify your data and complete any documentation requested. Please note that not all eBird checklists are suitable for the atlas (e.g. checklists that cover multiple atlas squares should not be imported).

eBird login:

eBird password:

eBird checklist ID (e.g. S123456)

save my eBird login in my profile

Figure 21. eBird import options. This window will pop up when you click “Import from eBird” at the start of the submit data page of the website. Fill in the necessary details to proceed with importing an eBird checklist to the atlas.

Once the eBird checklist import has completed, you’ll be taken through the normal data entry process, but all the information should be copied from eBird. Double-check everything, fill in any missing information (e.g. draw your travelling route or area search), and check any data warnings (e.g. breeding code warnings, requests for details for significant species). Once you’ve finished, be sure to submit the list.

Please note that eBird checklists which cross square boundaries should not be copied to the atlas.

You can also watch an Atlas-3 video tutorial for an example (Coming Soon).

Atlassing with another eBird user

Currently, the NatureCounts app/website do not support eBird checklist sharing with multiple observers so you will have to go into eBird after you’ve submitted the list and share through eBird. You can click on the eBird checklist link (see Figure 11, above) to go straight to the eBird checklist page where you can share with other observers you were with.

Managing atlas locations in eBird

The NatureCounts app/website do allow selection of eBird hotspots when picking your location but do not currently support eBird “personal locations”. Atlassers are strongly encouraged to pick locations as precisely as possible to reflect exactly where you are atlassing and if using the app, the pre-selected location based on your phone’s GPS is the best option for atlassing purposes. Many eBird personal locations and hotspots may cover very large areas and those should be avoided for data entry because it may result in your data being assigned to a location hundreds or even thousands of metres away or even the wrong square. If you choose

to use a hotspot, ensure you are also recording your track log to ensure the exact location covered is recorded.

If you wish to “merge” your atlas-created locations with a personal location or hotspot within eBird, see the [eBird help file](#) for detailed instructions.

Making changes to your atlas forms

If you need to edit an atlas form, please do so on the atlas website. Any changes you make there will automatically be sent to eBird to update a linked eBird checklist, should it exist. Changes you make to your eBird checklist will not be sent back to the atlas. Note that if you edit your eBird checklist and then edit your atlas form, the changes you make in your atlas form will overwrite the changes in your eBird checklist.

When should you switch from eBird to NatureCounts each year?

The NatureCounts app/website will work year-round. If you are out actively atlassing at any time of year, please enter the data to the atlas, even if you don't find any breeding evidence; this is important for us to track effort. Remember that some species of birds in Ontario (e.g. Great Horned Owl; see [Appendix H](#)) may display breeding evidence at any time of the year and tracking how much atlassing effort is happening even outside of the main breeding season is important.

If you're just out birding, you can record the data in eBird and if you happen to come across breeding evidence, share it with the atlas as an incidental observation.

Please keep in mind that breeding evidence should only be entered on a checklist during that species' breeding season (including “X”). There is a list of breeding season dates ([click here](#)) for each species in the resources tab of the atlas website.

Appendix J: Completing the Atlas Checklist Data Form

Always write using a **pencil**. Pencil marks can be easily erased to update breeding codes or counts and do not run when wet. Also, once your data have been entered to the computer, they can be erased from your form and the form can be reused.

Atlas Checklists

For those participants with prior atlassing experience, this form completely replaces the Breeding Evidence Form and Daily Observation Form used in earlier Atlases.

The Atlas Checklist follows a simple protocol where **one checklist** is filled out **for each active birdwatching session following a single observation type** within an Atlas square. Create a new checklist if your observation type changes during your visit to an Atlas square.

Observation types

Single location – observations made from one place such as a count from a boat launch, or if your observations were made in a very small area such as a yard.

Travelling count – observations made while walking or otherwise travelling along a road, path, trail or through the bush such that you were not crisscrossing over your tracks. This is likely to be the most commonly used atlassing observation type.

Area Search - involves restricting your list to a particular area, such as a woodlot, wetland or field. You should mark the boundaries of the area you covered in pencil on your Atlas Square map because when you enter the data on-line, you will map the area on the data entry website.

Entire square – observations not tied to a specific location. This option is expected to be used primarily for importing institutional data sets, and not used often by atlassers. Observations entered at the square level cannot be linked to habitat, whereas the previous options tie observations to habitat, allowing for a better understanding of bird-habitat relationships. Choose this option if a landowner indicates that they do not want observations tied to their property.

Incidental - observations made while atlassing was not your primary objective are considered Incidental. For example, you might notice, while you are driving somewhere, a pair of Red-tailed Hawks sitting side by side in a tree in early spring. You can enter that single record (P for “Pair”) as an Incidental observation. Typically these are observations of notable or less common species, or of higher levels of breeding evidence.

Birds are tallied over the course of the session, noting the highest level of breeding evidence observed for each species. If you are recording migrants do not assign them a breeding evidence code, simply leave the space blank. Since each session requires its own checklist, and you might do more than one checklist during a visit, you will need several copies of the

form; these can be downloaded from the website and printed at home. Atlas Checklists are designed to be folded in half.

Do not report time spent in the square that is spent on activities other than atlassing, even though you may happen to record a few bird species at the same time. Instead, please create a separate list for disjunct atlassing sessions and keep note of incidental observations while not actively atlassing. For example, if you are atlassing for five hours in the morning, take an hour-long break for lunch, and then resume atlassing for another two hours afterwards you would use at least one Atlas Checklist for the five hours before lunch and another for the two hours after lunch. If you were casually noting a few species as you relaxed and ate lunch you could keep a list in a notebook or on a separate Atlas Checklist, being sure to check off the “Incidental Observations” box.

Be careful when atlassing near the edge of a square. Assign each bird to only one square even if they are near the edge of two squares and move between the squares. In such cases, you should assign them to the square where they were first detected. If you were to later find the nest in another square, you should report your record in that square instead.

Filling out the form

At the top of each Atlas Checklist, fill out the following fields: **atlasser’s name**, the **location** where the checklist took place (to aid in data entry), **Atlas square** number (found on the square map), the date (**day**, **month**, and **year**), the **start** and **end time** (24h), and the **duration** of the session (in minutes), and, for Travelling lists, the **distance travelled**. Indicate which **observation type** was used by checking off the appropriate box (single location, travelling count, area search, incidental, or entire square). If by chance the start time or duration is unknown check off the box for **incidental observations**. Indicate if you are submitting a **complete checklist** (i.e. if you are reporting all the birds you were able to identify); check no if you are reporting only a partial list of the species you identified. Indicate if you completed any **Atlas point counts** during the session.

In the species tables use the **count** column to keep track of the number of individuals of all species that you identify within the square. You may use the blank space in the **species** column to keep a running tally; the dot-dash method is particularly useful for keeping track of counting in small spaces (Figure J1). Use the breeding evidence (**B.E.**) column to record the highest breeding evidence code observed for each species during the session.

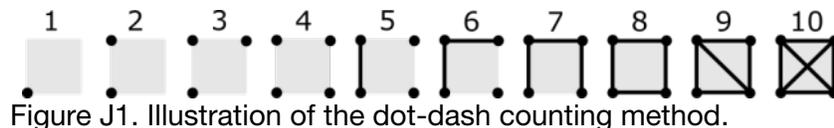


Figure J1. Illustration of the dot-dash counting method.

If you find any species not listed on the Breeding Evidence form, add them into the blank spaces in the species columns. Complete a Rare/Colonial Species Form for each species you write in.

road-side point counts or creating new off-road point count locations by clicking on the map or entering the UTM coordinates.

The species page shows a species list where you can enter count and breeding evidence information (for both Atlas Checklists and Point Count Forms). It also displays an automatic total of the counts (Atlas Checklist + Point Count Form) and the highest breeding evidence to date for that square. Warnings are displayed for species-breeding code combinations that are not accepted or require some caution. The species list can be sorted in a variety of ways, and a custom list can be created by first clicking “Only show species with data” and then selecting “add species”. Select “**Submit**” to review and submit the data.

Rare / colonial species data

Extra documentation is submitted using the “**Add details**” button associated with each species. From here you can enter a written description or specific coordinates, and in future will be able to upload media files (photos or recordings).

Point count data

Details TBA.

Appendix K: Documenting Significant Species

What is a significant species?

Significant species are identified centrally by the atlas and we apply this designation at the provincial or regional level. There are three types of significant species:

† **Provincially Rare:** documentation required for **ALL** breeding records.

‡ **Regionally Rare:** documentation required for **ALL** breeding records.

§ **Species of Interest:** documentation required for **CONFIRMED** breeding records only. Includes colonial species, widespread species at risk, and other priority species.

Note: these symbols will appear next to the species' names on the app/website and data forms.

Why are they important?

Significant species are generally higher priorities for conservation action and may be colonial, rarer than other species, or have legal status under the federal *Species at Risk Act* or the provincial *Endangered Species Act*, so it is extra important to ensure the data collected for these species are of the highest standard. In many cases, the data collected as part of the atlas will play a central role in direct conservation actions for these species. As a result, significant species require extra documentation if observed. Extra documentation refers to a written description and details of the observation, along with exact coordinates but can also include photos or sound recordings and, in the case of colonial species, details about the size, and status of the colony.

Other reasons records might get flagged

An atlas record may also be flagged for extra details for several other reasons. However, you can always tell if it is a significant species because it will have one of the three symbols (above) beside the species name either on your data form or in the NatureCounts app or website.

Other reasons for a record being flagged include:

- **Record triggers an eBird flag.** All data entered through NatureCounts also pass through [eBird quality control filters](#) and can get flagged for the following reasons:
 - **Rarity** – a species that is rare or unusual in that Ontario county (or equivalent).
 - **Out of season** – a species is reported outside its normal date range.
 - **High count** – species count exceeds the maximum one might expect to find on that particular date in that Ontario county (or equivalent).
- **Record uses an unusual breeding code.** For each species, based on their biology, there are certain breeding codes which are unusual and if used, will trigger a flag for more details. See [Appendix G](#) for more details on acceptable breeding codes.

How to document them?

As much detail as possible should be included for each significant species record within reason; the more unusual a record is, the greater the documentation should be. On the [Atlas](#)

[website](#) is a printer-friendly page containing instructions and room for three significant species reports; use this as a guide for what to include when entering data through the app or website. When using the app or website, much of this is collected automatically and the extra details are entered by clicking the “Add details” (website) or the species name (app).

Key elements should include:

- **Date of observation.** It can also be useful to include an exact time and duration of the observation.
- **Number of individuals.** Also include what the count represents. For example, if it is a count of nests, indicate this. For large counts, a note should also be included to explain how the count was made (e.g. “counted estimated groups of ten”).
- **A description of the bird.** Include field marks you observed, similar species you considered and how familiar you are with the claimed species. Include photo(s) and/or audio recordings whenever possible (see “Media files”, below).
- **A description of the habitat.** As best as possible is useful. A photo of the habitat is extremely helpful in this regard.
- **Names of other observers.**
- **Breeding behavior observed.** Extra notes to describe the behavior observed is helpful.
- **Location information:** there is a space on the form for coordinates, and when doing online/app data entry you will be prompted to plot the exact location. It will be assumed that the coordinates/plotted location represents the bird’s location; if this is not the case, please indicate what it represents (e.g. “coordinates represent the observer’s position, the bird was 100 m NNE”).
- **Media files.** On the website there is also a spot in the “Add details” window to upload media files to aid with documentation. This feature will eventually also be added to the app. When filling out the form, please include a note whether photos/audio were obtained and upload those when you enter the data.
- **Any other information you think is relevant.**

Please consider passing on news of new locations, particularly of provincially (†) and regionally rare (‡) species to the [appropriate regional coordinator](#) as soon as possible. In many cases they can help with follow-up surveys to confirm the record.

Sample Significant Species form

Significant Species form

Instructions: Species designated as Provincially Rare, Regionally Rare, or as Species of Interest require extra documentation to confirm the identification and/or provide details about the breeding site/colony. Helpful details include a description of the species, habitat, observation conditions, familiarity with the species, other observers, notes on how the count was made and what it represents, or any other information you think is relevant.



- † **Provincially Rare:** documentation required for ALL breeding records.
- ‡ **Regionally Rare:** documentation required for ALL breeding records.
- § **Species of Interest:** documentation required for CONFIRMED breeding records only. Includes colonial species, widespread species at risk, and other priority species.

Atlasser's name

Species	Count	Breeding Evidence	Atlas square	Day	Month	Year
<input style="width: 95%;" type="text"/>	<input style="width: 100%; height: 20px;" type="text"/>	<input style="width: 100%; height: 20px;" type="text"/>	<input style="width: 100%; height: 20px;" type="text"/>	<input style="width: 100%; height: 20px;" type="text"/>	<input style="width: 100%; height: 20px;" type="text"/>	<input style="width: 100%; height: 20px;" type="text" value="2021"/>
Details:						
Coordinates (NAD83)						
<input style="width: 100%; height: 20px;" type="text" value="N"/>						
<input style="width: 100%; height: 20px;" type="text" value="W"/>						
Coordinate source:						
<input type="radio"/> GPS <input type="radio"/> Map						
Media:						
<input type="radio"/> Photo <input type="radio"/> Audio						

Species	Count	Breeding Evidence	Atlas square	Day	Month	Year
<input style="width: 95%;" type="text"/>	<input style="width: 100%; height: 20px;" type="text"/>	<input style="width: 100%; height: 20px;" type="text"/>	<input style="width: 100%; height: 20px;" type="text"/>	<input style="width: 100%; height: 20px;" type="text"/>	<input style="width: 100%; height: 20px;" type="text"/>	<input style="width: 100%; height: 20px;" type="text" value="2021"/>
Details:						
Coordinates (NAD83)						
<input style="width: 100%; height: 20px;" type="text" value="N"/>						
<input style="width: 100%; height: 20px;" type="text" value="W"/>						
Coordinate source:						
<input type="radio"/> GPS <input type="radio"/> Map						
Media:						
<input type="radio"/> Photo <input type="radio"/> Audio						

Species	Count	Breeding Evidence	Atlas square	Day	Month	Year
<input style="width: 95%;" type="text"/>	<input style="width: 100%; height: 20px;" type="text"/>	<input style="width: 100%; height: 20px;" type="text"/>	<input style="width: 100%; height: 20px;" type="text"/>	<input style="width: 100%; height: 20px;" type="text"/>	<input style="width: 100%; height: 20px;" type="text"/>	<input style="width: 100%; height: 20px;" type="text" value="2021"/>
Details:						
Coordinates (NAD83)						
<input style="width: 100%; height: 20px;" type="text" value="N"/>						
<input style="width: 100%; height: 20px;" type="text" value="W"/>						
Coordinate source:						
<input type="radio"/> GPS <input type="radio"/> Map						
Media:						
<input type="radio"/> Photo <input type="radio"/> Audio						

Sample Significant Species form

Instructions: Species designated as Provincially Rare, Regionally Rare, or as Species of Interest require extra documentation to confirm the identification and/or provide details about the breeding site/colony. Helpful details include a description of the species, habitat, observation conditions, familiarity with the species, other observers, notes on how the count was made and what it represents, or any other information you think is relevant.



- † **Provincially Rare:** documentation required for **ALL** breeding records.
- ‡ **Regionally Rare:** documentation required for **ALL** breeding records.
- § **Species of Interest:** documentation required for **CONFIRMED** breeding records only. Includes colonial species, widespread species at risk, and other priority species.

Atlasser's name

Johnny Cash

Species <u>Tufted Titmouse</u>	Count 1	Breeding Evidence H	Atlas square 1 8 T V Q 1 2	Day 1 0	Month J U N	Year 2 0 2 3
Details:						
Coordinates (NAD83) N 4 5 1 2 3 4 5 W 7 6 1 2 3 4 5						
Coordinate source: <input type="radio"/> GPS <input checked="" type="radio"/> Map						
Media: <input type="radio"/> Photo <input checked="" type="radio"/> Audio						
I took Elvis Presley out to show him the ropes of atlassing and to my surprise there was a Tufted Titmouse calling back behind the Presley ranch! After some searching, we were able to locate it, within the canopy of a mature oak. I'm very familiar with this species from my time in Tennessee but we were able to observe a small, grey bird with distinct crest, pale underparts, orangish wash to flanks and the large black eye and bill. We estimated the coordinates using our printed atlas square map. Sure hope it sticks around and finds a friend!						

Species <u>Tufted Titmouse</u>	Count 1	Breeding Evidence H	Atlas square 1 8 T V Q 1 2	Day 1 0	Month J U N	Year 2 0 2 3
Details:						
Coordinates (NAD83) N 4 5 1 2 3 4 5 W 7 6 1 2 3 4 5						
Coordinate source: <input type="radio"/> GPS <input checked="" type="radio"/> Map						
Media: <input type="radio"/> Photo <input checked="" type="radio"/> Audio						
I took Elvis Presley out to show him the ropes of atlassing and to my surprise there was a Tufted Titmouse calling back behind the Presley ranch! After some searching, we were able to locate it, within the canopy of a mature oak. I'm very familiar with this species from my time in Tennessee but we were able to observe a small, grey bird with distinct crest, pale underparts, orangish wash to flanks and the large black eye and bill. We estimated the coordinates using our printed atlas square map. Sure hope it sticks around and finds a friend!						

Species <u>Prothonotary Warbler</u>	Count 2	Breeding Evidence P	Atlas square 1 7 T N J 2 2	Day 2 2	Month J U N	Year 2 0 2 2
Details:						
Coordinates (NAD83) N 4 5 1 2 3 4 5 W 7 6 1 2 3 4 5						
Coordinate source: <input checked="" type="radio"/> GPS <input type="radio"/> Map						
Media: <input type="radio"/> Photo <input checked="" type="radio"/> Audio						
Roy Orbison and I were walking down the Blue Jay trail at Oak Orchards park when I heard a singing male Prothonotary Warbler from the pond. After 15 min we found the male singing and soon found a female that was sticking close to it. The male was identified by the loud "SWEET SWEET SWEET" (audio recorded) and the bright orangey-yellow head, black eye, bluish wings and lack of wing bars. The pair frequented the edge of a wooded pond in a silver maple swamp. Note: the coordinates are our position, approx. 50 m west of the birds.						

Appendix L: Sensitive Species, Birding Code of Ethics

Atlassing Ethics

Be careful when atlassing! Treat all birds and their habitats with respect and caution. Stay alert to avoid trampling nests and be very careful in delicate habitats like sand dunes. Remember that this project is about gathering data to help bird conservation and we should all act accordingly when surveying.

Excessive disturbance may cause adults to abandon the nest at any time, but especially during nest building and early incubation. Lingering around a nest too long or disturbing the area around it may betray it to predators.

While there are certain protections in place for how atlas records are displayed in NatureCounts, be aware that sharing the results of your atlassing to other platforms can have serious consequences to the bird if it attracts disturbance from other birders, wildlife photographers, or other enthusiasts. Keep this in mind particularly when sharing the location of nesting birds, especially those discussed here, to social media and even eBird. If your NatureCounts data are automatically being shared to eBird (see [Appendix I](#)), you should consider deleting a particular species record or even hiding an entire eBird checklist if you think it could result in negative consequences to the bird(s). You can always manually share the list back to eBird or unhide it at a later date. eBird has its own Sensitive Species approach outlined [here](#).

Remember that you should always get landowner permission before surveying any private property. See [Appendix C](#) for tips and key points for surveying private property.

For further guidance, the Ontario Field Ornithologists' [Code of Ethics](#) is a good reference.

Playback

Playback of recordings can elicit responses and generate critical information quickly, but use the recordings judiciously. Some survey protocols (e.g. Marsh Monitoring and Nocturnal Owl Surveys) incorporate the use of playback to improve detection rates. Extra caution is required for species at risk and other species sensitive to disturbance to avoid negative effects. The following guidance will help minimize the risk of disturbance and harassment:

- Know the local rules; use of playback is not allowed in some National and Provincial Parks and other properties may have their own rules.
- Avoid the use of playback for a species at risk when its presence at a location is already known.
- Avoid the use of playback in heavily birded areas.
- Avoid using playback repeatedly on the same individuals/territories.
- Keep call broadcast events brief (generally under five minutes long, consisting of short broadcast sequences of less than 30 seconds separated by long periods of silence).
- Use a low playback volume that is lower than or equivalent to the bird's normal vocalizations.

- When the target species is detected, cease playback for that species.

Species at Risk

Exercise caution when near Species at Risk (Table L1), being extremely cautious not to disturb any Species at Risk (not just birds!). If the Atlas is to reach its full potential as a conservation tool, it is extremely important that you report all occurrences of rare species (see [Appendix K](#)). If you come across non-bird Species at Risk, please report them to the [Natural Heritage Information Centre](#); the easiest way is to join their [Rare species of Ontario iNaturalist project](#).

If you are particularly concerned about protecting information for a species you have found, contact your [Regional Coordinator](#), to discuss the situation and determine how to proceed.

Table L1. List of Ontario breeding bird species listed as Species at Risk by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC), the federal Species at Risk Act (SARA), or the provincial Endangered Species Act (ESA). EXT = extinct, EXP = extirpated, END = endangered, THR = threatened, SC = special concern.

Common name	Scientific name	COSEWIC	SARA	ESA
Northern Bobwhite	<i>Colinus virginianus</i>	END	END	END
Greater Prairie-Chicken	<i>Tympanuchus cupido</i>	EXP	EXP	EXP
Horned Grebe	<i>Podiceps auritus</i>	SC	SC	SC
Passenger Pigeon	<i>Ectopistes migratorius</i>	EXT		
Common Nighthawk	<i>Chordeiles minor</i>	SC	THR	SC
Eastern Whip-poor-will	<i>Antrorstomus vociferus</i>	THR	THR	THR
Chimney Swift	<i>Chaetura pelagica</i>	THR	THR	THR
King Rail	<i>Rallus elegans</i>	END	END	END
Yellow Rail	<i>Coturnicops noveboracensis</i>	SC	SC	SC
Piping Plover	<i>Charadrius melodus</i>	END	END	END
Hudsonian Godwit	<i>Limosa haemastica</i>	THR		
Red-necked Phalarope	<i>Phalaropus lobatus</i>	SC	SC	SC
Black Tern	<i>Chlidonias niger</i>			SC
American White Pelican	<i>Pelecanus erythrorhynchos</i>			THR
Least Bittern	<i>Ixobrychus exilis</i>	THR	THR	THR
Golden Eagle	<i>Aquila chrysaetos</i>			END
Bald Eagle	<i>Haliaeetus leucocephalus</i>			SC
Barn Owl	<i>Tyto alba</i>	END	END	END
Short-eared Owl	<i>Asio flammeus</i>	SC	SC	SC
Red-headed Woodpecker	<i>Melanerpes erythrocephalus</i>	END	THR	SC
Peregrine Falcon	<i>Falco peregrinus</i>		SC	SC
Olive-sided Flycatcher	<i>Contopus cooperi</i>	SC	THR	SC
Eastern Wood-Pewee	<i>Contopus virens</i>	SC	SC	SC
Acadian Flycatcher	<i>Empidonax virescens</i>	END	END	END
Loggerhead Shrike	<i>Lanius ludovicianus</i>	END	END	END
Bank Swallow	<i>Riparia riparia</i>	THR	THR	THR
Barn Swallow	<i>Hirundo rustica</i>	THR	THR	THR
Wood Thrush	<i>Hylocichla mustelina</i>	THR	THR	SC
Evening Grosbeak	<i>Coccothraustes vespertinus</i>	SC	SC	SC

Grasshopper Sparrow	<i>Ammodramus savannarum</i>	SC	SC	SC
Harris's Sparrow	<i>Zonotrichia querula</i>	SC		
Henslow's Sparrow	<i>Centronyx henslowii</i>	END	END	END
Yellow-breasted Chat	<i>Icteria virens</i>	END	END	END
Bobolink	<i>Dolichonyx oryzivorus</i>	THR	THR	THR
Eastern Meadowlark	<i>Sturnella magna</i>	THR	THR	THR
Rusty Blackbird	<i>Euphagus carolinus</i>	SC	SC	SC
Louisiana Waterthrush	<i>Parkesia motacilla</i>	THR	THR	THR
Golden-winged Warbler	<i>Vermivora chrysoptera</i>	THR	THR	SC
Prothonotary Warbler	<i>Protonotaria citrea</i>	END	END	END
Kirtland's Warbler	<i>Setophaga kirtlandii</i>	END	END	END
Cerulean Warbler	<i>Setophaga cerulea</i>	END	END	THR
Canada Warbler	<i>Cardellina canadensis</i>	THR	THR	SC

Colonial Species

Be especially cautious when near nesting areas for most colonial species as they are very sensitive to disturbance at the colony. For this reason, it is recommended that you estimate the number of nests and site details from a distance without getting too close to the colony. Many colonies will be surveyed by professional biologists as part of the atlas effort, please contact your [Regional Coordinator](#) before planning a trip to a colony to avoid unnecessary disturbance.

Sensitive Species

A small subset of species, considered extra sensitive to disturbance, are treated as “Sensitive Species” across the province (see Table L2). Additionally, Regional Coordinators have the ability to mark certain records as sensitive. No significant species data will appear at any scale until a Regional Reviewer has first reviewed them. Any records marked sensitive (including all records of sensitive species) will only be visible down to the atlas square (10 km) level and may be delayed being displayed at all. This is an added level of security to help protect our most sensitive species from disturbance and harassment.

Table L2. Province-wide Sensitive Species list. Species on this list automatically receive increased data protection.

Common name	Scientific name
Northern Bobwhite	<i>Colinus virginianus</i>
King Rail	<i>Rallus elegans</i>
Piping Plover	<i>Charadrius melodus</i>
Least Bittern	<i>Ixobrychus exilis</i>
Northern Goshawk	<i>Accipiter gentilis</i>
Barn Owl	<i>Tyto alba</i>
Northern Hawk Owl	<i>Surnia ulula</i>
Great Gray Owl	<i>Strix nebulosa</i>
Long-eared Owl	<i>Asio otus</i>
Short-eared Owl	<i>Asio flammeus</i>
Acadian Flycatcher	<i>Empidonax virescens</i>
Loggerhead Shrike	<i>Lanius ludovicianus</i>

Henslow's Sparrow	<i>Centronyx henslowii</i>
Yellow-breasted Chat	<i>Icteria virens</i>
Louisiana Waterthrush	<i>Parkesia motacilla</i>
Prothonotary Warbler	<i>Protonotaria citrea</i>
Kirtland's Warbler	<i>Setophaga kirtlandii</i>
Cerulean Warbler	<i>Setophaga cerulea</i>

Appendix M: Location

There are two types of location reporting for the Atlas. The first is reporting the location of your atlassing session (checklist or point count), while the second involves reporting the precise location of a rare species or a breeding colony of a colonial species.

Reporting location for an atlassing session

If you are not using the app, a simple way of keeping track of atlassing locations is to mark them in pencil on a printed copy of your 10-km square map or use a dry erase marker on a laminated version for later data entry. Once you have entered the data to the NatureCounts website, you could erase the marks. When you are entering your data online you will have the ability to indicate where you atlassed through a Google Maps interface on NatureCounts. See [Appendix N](#) for a video on how to enter your data on the NatureCounts website. The interface will allow you to zoom in to an Atlas square and choose one of five “observation types”: single location, travelling count, area search, incidental or entire square.

Single location: Indicate a single location on the map where the observations were made. Choose this option if you made a stationary count (such as a 10 minute count of birds from a boat launch), or if your observations were made in a small area, covering less than 30 m in any direction (such as your yard).

Travelling count: Draw lines to indicate the path you took during your atlassing session – distance is automatically calculated on the website. This is a good option if you made observations while walking along a road or a path.

Area Search: If your checklist is restricted to a particular area, such as a woodlot, wetland or field, you can draw lines around the boundaries of the area you surveyed on the data entry website. The area of the polygon you draw is automatically calculated.

Entire square: Select the entire square (not recommended). Observations entered at the square level cannot be linked to habitat, whereas the previous options tie observations to habitat, allowing for a better understanding of bird-habitat relationships. Choose this option if a landowner indicates that they do not want observations tied to their property.

If you are using the NatureCounts app to enter your data, your location will be automatically recorded by the app, and you will select the observation type on the app. [See this link](#) for instructions on how to use the app for data collection.

Reporting location of Rare or Colonial species records

If you are using the app, you will be prompted to provide details on rare and colonial species records (see [appendix K](#)). A future upgrade of the app will allow you to define the location by clicking on a map. But until that upgrade is operating (hopefully in the spring of 2021), you should either determine your coordinates using a GPS or phone app, or determine the UTM

coordinates using an Atlas square map (see below). Please record the coordinates of rare species or breeding colony locations as precisely as possible while at the site. While there is an opportunity to mark the location of such species on a Google Map when entering data online, noting the location at the site will ensure you do not accidentally select the wrong location should there be a delay between the sighting and data entry.

Recording UTM coordinates

Atlas squares are based on the Universal Transverse Mercator (UTM) grid. UTM coordinates are composed of a zone designation and two numbers recorded in meters; the first is an 'Easting' and the second is a 'Northing'. The Easting is always reported before the Northing.

Using a Square Map to determine UTM coordinates

It is straight-forward to determine the UTM coordinates of a location by using Atlas Square Maps as shown in Figure M1. The 1 km Eastings are shown along the bottom of the map and increase from left to right. The 1 km Northings are shown along the left border of the map and increase towards the top of the map. Since UTM's are recorded in meters the 1 km designations always end in "000". These maps also have 100 m "tick" marks between the 1 km grid lines. To determine the appropriate Easting for a location, place a ruler vertically across the map to determine which mark on the bottom of the map is closest to the location. To determine the appropriate 100 m Northing, place the ruler horizontally across the map in the same manner. Always record the Easting *before* the Northing, which you can remember with the rule that an Easting is always *smaller* than a Northing.

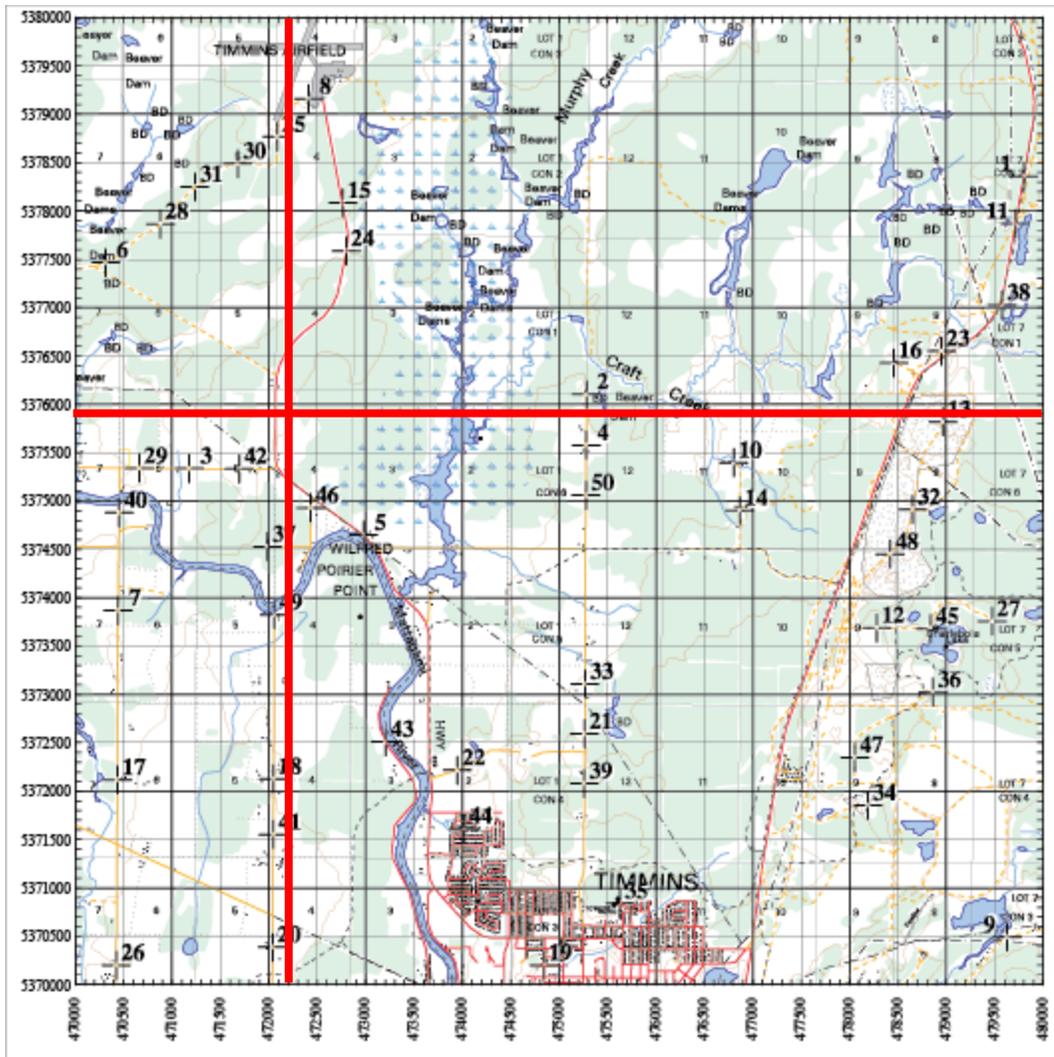


Figure M1. Example of an Atlas square map (17TMP77). Along the bottom, Eastings are indicated for every 1000 meters (one kilometer) with grid lines extending from every kilometer and tick marks at every 100 meters. Along the left side, Northings are indicated for every 1000 meters (one kilometer) with grid lines extending from every kilometer and tick marks at every 100 meters. The UTM coordinates corresponding to the intersection of the red lines are 472200 (Easting) and 5375900 (Northing).

Using a GPS to determine UTM

If you have a GPS unit, record the location while you are on site. Make sure you set the device to the **NAD83** datum (usually under navigation setup or something similar) when using UTM. If the wrong map datum is used, the locations of nests, colonies or point counts can be off by as much as 200 meters! Using any other map datum will most likely provide incorrect (and therefore unusable) coordinates, and this makes future analyses of bird-habitat relationships very difficult. Please read your GPS owner's manual for more instruction on how to set the map datum. An internet search is often a quick way to look up how to change the settings on your specific device.

When you take a GPS reading, ensure the device's reported accuracy is 100 m or less (sometimes you have to give it a few seconds to acquire enough signals), please record the 2-character Zone designation (a value between 15 and 18), as well as all 6 digits of the Easting and all 7 digits of the Northing. (If your GPS unit gives you 7 digits for the Easting, do not record the initial "0".) If you do not have a GPS unit, use your square map to determine the coordinates of your location to the nearest 100 meters.

Using a GPS to determine what square you are in

If you have a GPS unit, set it to display coordinates in UTM format and select Map Datum NAD83. If you know which 100-km block ([Figure 1](#) in the Instructions for General Atlassing) you are in, you can determine the other digits of the square number by reading the zone and the **5th number from the right of the easting and northing**. Make sure you read the Easting *before* the Northing, which you can remember with the rule that an Easting is always *smaller* than a Northing.

Example: You are in Point Pelee National Park, which you know is in block LG, and your GPS reads:

Zone: 17T

Easting 374700

Northing 4643300

You immediately know you are in square **17TLG74**.

Atlassing at the edge of a square

Atlassing very close to the boundary of a square may be challenging. You may find it difficult to know exactly which square you are in at times. It is worth making note of landmarks that help determine which square you are in ahead of time, or use your GPS as indicated in "Using a GPS to determine what square you are in". Using a square map for reference, you can ensure that you are within the square boundaries by keeping your UTM coordinates within the ranges shown on the map. For the map shown in Figure 1 this would correspond to Eastings between 470000-480000mE and Northings between 5370000-5380000mN.

If, while atlassing near the square boundary in square A, you see a noteworthy bird in square B, make a note and add that as an incidental record in square B, but do not include it on your square A checklist.

Appendix N – Online Data Entry

Online Data Entry

The online data entry portal can be accessed via the website through the “Data Entry” tab on the main page of the Atlas website. An instructional video is available ([click here](#)) on how to enter your data on the NatureCounts website.

Atlas Checklist data

To submit an Atlas Checklist, first locate the Atlas square in which the observations were made. This can be accomplished by zooming-in on the map; by clicking “**Find square**” and entering the square number or the geographic coordinates of an observation; or by selecting a saved square from your personal list.

Once you have located the square, indicate on the map where you atlassed by selecting *one* of the **Procedures** (distance and area are calculated automatically). Fill in the remaining fields and check the appropriate boxes. Select “continue” to proceed to the next page. If you selected yes for “Did you complete **atlas point counts** during this survey” you will have the ability to indicate where those point counts were conducted, either by selecting predefined road-side point counts or creating new off-road point count locations by clicking on the map or entering the UTM coordinates.

The species page shows a species list where you can enter count and breeding evidence information (for both Atlas Checklists and Point Count Forms). It also displays an automatic total of the counts (Atlas Checklist + Point Count Form) and the highest breeding evidence to date for that square. Warnings are displayed for species-breeding code combinations that are not accepted or require some caution. The species list can be sorted in a variety of ways, and a custom list can be created by first clicking “Only show species with data” and then selecting “add species”. Select “**Submit**” to review and submit the data.

Rare / colonial species data

Extra documentation is submitted using the “**Add details**” button associated with each species. From here you can enter a written description, enter specific coordinates, and upload media files (maximum upload size is 10mb per photo and 20mb per recording).

Point count data

All data submissions are linked to an Atlas Checklist. If you are submitting point count data only, create a travelling count corresponding to the route you took, noting the start time and duration of the entire session, regardless of whether or not you made observations between point count locations. If no observations were made between point counts, check off “no” under **complete checklist**.

Appendix O: Data Permissions and Privacy Policy

The following is extracted from the Terms and Conditions that atlasers agree to when registering with Atlas-3.

Data permissions

As a NatureCounts user (hereafter, the Participant), you hereby grant Birds Canada a royalty-free, perpetual, irrevocable, non-exclusive, transferable, worldwide license to use, reproduce, modify, adapt, publish, translate, create derivative works from, distribute, perform, and display any information provided during the course of their survey activities (including, for clarity, observations, comments, location data and media submitted electronically or by other means) and/or to incorporate it in other works in any form, media, software or technology now known or later developed. The Participant shall not be restricted in their ability to use the data they collect as they see fit, for any other purpose. Data submitted to NatureCounts will be peer-reviewed by ornithological experts. Birds Canada and its partners reserve the right to include or exclude data submitted based on peer review or any other reason.

Birds Canada and its partners (Canadian Wildlife Service - Environment and Climate Change Canada, Ministry of Natural Resources and Forestry - Government of Ontario, Ontario Field Ornithologists, and Ontario Nature) strongly encourage use of data by third-parties, in particular for research, education and conservation purposes. Access to raw data from NatureCounts may be subject to approval by Birds Canada on behalf of its partners. Birds Canada will endeavor to provide access to data at no cost, but may at its discretion request a fee to cover data extraction time for more complex requests. Except as indicated otherwise, participants and NatureCounts users are generally permitted to use and reproduce data and other products displayed or available on our platforms for their own personal use. In some cases, products may be published under a specific license outlining the conditions under which they can be used (e.g. Creative Commons License), or may be subject to specific restrictions (e.g. topographic maps). Otherwise, please contact Birds Canada if you would like to redistribute any the derived products available on our platforms (e.g. species maps, species accounts, etc).

Privacy policy

Contact information of participants (including address, email and phone number) will not be shared with third parties, and will only be available to the formal project partners (see the current list [here](#) for the Ontario Breeding Bird Atlas), their staff involved with the project, committee members, Regional Coordinators and data reviewers (in regions for which you have provided data, or indicated an interest in participating) or other people designated by Birds Canada, and only for project-related communications in which you are a participant. In addition, if you agree to it during your registration or within your online profile, Birds Canada and project partners may also contact you about other projects and activities.

Unless you indicate otherwise to us in writing or through your [online profile](#), you accept that your name may be included in data summaries, reports or any data product derived from the database where appropriate.

Other than your contact information, as a general rule, please do not submit data that you do not want to be shared publicly or other information that you deem personal or that may violate the privacy or rights of others. Comments associated with your data, the location and date of your observations for instance will generally be included in public distributions of the data, with some exceptions (e.g., to protect the well-being of sensitive species). It is also your responsibility to ensure that you are permitted to submit any data (including photos, recordings and other media), and that doing so does not infringe on other people's or organization's rights.

Although we do intend for most of the Data to become public, we do offer options within your [online profile](#) to manage the availability of certain types of data, such as your media files and your detailed GPS tracks. Please review these options carefully to ensure that they meet your wishes.

Finally, like most web sites, NatureCounts uses session cookies to enable you to log in onto the site, as well as third -party cookies and other storage technologies to understand the content that is most important to you. Please refer to [Birds Canada's Privacy policy](#) for more details about the use of cookies and more information about how Birds Canada handles your personal information.