



Planning a BioBlitz



Adapted with permission from "A Guide for Planning Community BioBlitz Events in Eastern Ontario"



Photo by Brennan Caverhill

Introduction

Community and volunteer involvement is a key component of monitoring the status and health of natural environments around the world. Passionate individuals and organizations have become an integral part of science-based conservation programs through the collection and documentation of data, contributing to public education and understanding. Community-based biological inventories known as “BioBlitzes” are ideal venues to engage the public, while also gathering fundamental biological data. These events are significant not only for producing species inventories, but also for providing environmental education to the public, promoting community involvement, and encouraging citizen science.

A great deal of time and effort goes into organizing and carrying out a BioBlitz. This guide was developed as a planning tool to simplify this process, and encourage more events to happen. The protocol and resources are based on the ideas, successes, and feedback from past local BioBlitz participants as well as input from a steering committee and various stakeholders. The latter includes: volunteers, scientists, government agencies, conservation groups, and community groups.

This package is not meant to dictate the “right way” to conduct a BioBlitz. Rather, it is meant to provide guidance and suggestions to maximize the efficiency and value of these events through proper data collection and data sharing. The resources provided include: data entry forms, registration forms, information for landowners, media/communications documents and example survey techniques. Samples from past events and templates for various documents have also been included to assist with the planning process. As each BioBlitz is unique in its purpose, goals, challenges, and limitations, the advice and resources used during each event will be dependent on the organizers and participants.

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Otty Lake Association

Partner Logos



Cover photo of the Invertebrate team from the 2012 Ontario BioBlitz by Brennan Caverhill



The Ontario BioBlitz Program (www.ontariobioblitz.ca) is a network of partners that each contribute to the annual Toronto Area event, and who share the mission to grow community-driven Bioblitz events across the Province of Ontario and beyond



Parks
Canada

Parcs
Canada



FÉDÉRATION CANADIENNE
DE LA FAUNE





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PART A: Planning an Event



1.0 An Introduction to BioBlitzes

1.1 What is a BioBlitz

A BioBlitz is a volunteer-based biological inventory of a specific area. Local scientists, professional naturalists, and amateur enthusiasts gather on a location with the goal of identifying as many species as possible. Typically, there is a fixed time limit (e.g. 12 or 24 hours for the event) although this is not mandatory. Events can take place on many kinds of land-types of varying ownership and size including private properties, conservation lands, community forests, parks, and even across entire cities. More often than not, community members are invited to take part by observing and interacting with the scientists, filling volunteer roles and participating in the inventory. Guided walks, workshops, and other educational activities are other common components of the events. They provide community members with valuable hands-on learning opportunities that can expand their knowledge of species identification, biodiversity, citizen science, and stewardship.

Susan Rudy (a U.S. National Park Service naturalist) coined the term "BioBlitz" in 1996 during the first intensive inventory in Washington D.C. This first "BioBlitz" was organized by Sam Droege (USGS) and Dan Roddy (NPS) along with other U.S. government scientists.

E. O. Wilson helped mainstream the concept in 1999 when he suggested that citizen scientists join the effort and work alongside experts. Bioblitz events occur across the planet with some notable programs in the United States and the UK. Although BioBlitzes have occurred most frequently in developed nations (e.g. Canada, U.S.A. and U.K), do not let that intimidate you. Successful BioBlitzes have also been hosted in several smaller nations such as: New Zealand, Portugal, Taiwan and Trinidad & Tobago.

A BioBlitz does not provide a complete inventory of an area. Instead, it provides a general “snap-shot” of the species and diversity found in a location. Complete inventories of all species present in a given area may not be possible due to a host of reasons, e.g. the total number of potential species present will likely not be observable within such a short timeline, certain organisms may only be active or observable during specific times during the year, and/or taxon experts may be unavailable. However, the data collected at a BioBlitz can provide important baseline information that helps researchers and the local community to observe changes in biodiversity over time, and in response to anthropogenic factors like development, pollution, or climate change.

1.2 Why have a BioBlitz?

A BioBlitz is a great way to get your local community involved in fun, outdoor, educational activities while contributing to knowledge about local biodiversity in a way that can inform conservation decisions. Members of the public can learn about species identification, the importance of biodiversity, and how to be responsible land stewards. Hopefully their participation in such events will foster an appreciation for nature, encourage community involvement in protecting the natural environment, inspiring the next generation of scientists, community volunteers, and naturalists.



Professional biological inventories can be costly and time consuming; this means that current information about an area is often minimal at best. Moreover, private properties have often never been inventoried due to restricted access. BioBlitzes present an opportunity to match willing landowners and experienced naturalists in order to document species diversity on private lands. Obtaining a detailed summary of the diversity on a property is the first step towards making responsible land management and stewardship decisions.

When organized carefully, BioBlitz events can generate species records for public databases within the government or research sectors. Talk to your local government to find out where species count information might be most useful. Regardless of where the data is stored, local regulatory agencies and policy makers can use this information for land-use and management decisions.

Improved documentation will also help with the protection and recovery of endangered or threatened species in your area. In addition to international lists of endangered or threatened species (e.g. The International Union for Conservation of Nature: <http://www.iucnredlist.org/>) your country may have lists of species that are rare in your country. These organisms may not be globally threatened, but may be at risk of local extinction (extirpation). Contact your natural resources ministry for a list of such species.



Once records of threatened species are submitted to the appropriate management organizations there are a number of positive outcomes. There is the possibility: of protecting the area, of carrying out conservation activities and of making information available to researchers developing species recovery plans.

Organizations choosing to host BioBlitz events have the chance to become actively engaged with their communities. The events also provide opportunities to establish and strengthen partnerships with other organizations and volunteers. Ultimately, these events are an excellent way for groups to gain positive recognition, promotion, and even increased membership.

Defining Participant Roles

For a larger BioBlitz that incorporates in-depth scientific data collection as well as solid public engagement, it can be helpful to divide participants into groups according to their experience, interests and skill levels. The following is used by the Ontario BioBlitz for our 3-tier approach to running a BioBlitz:



Intensive Survey

- Rigorous scientific data collection
- Establishment of long-term baseline data
- Legislative influence
- Population of publicly-accessible database of all species found
- Divide participants into taxon-specific teams like "mammals" or "fungi"



time commitment
HIGH
24 hr +

Range throughout
BioBlitz area



Guided BioBlitz

- Train and share skills with new BioBlitzers to prep them for future intensive surveys
- Interactive outdoor education
- Data collection to add to database
- Engage audience that wants to participate in citizen science in more depth
- Sessions presented by general taxa groups like "evening insects" or "plants"



time commitment
MEDIUM
1-3 hr sessions

Concentrate sessions
in small areas,
easily-accessible



Public Programming

- Develop awareness of local biodiversity and citizen science
- Engage public in a fun way
- Provide access to different organizations and experts
- Connect with broadest audience
- Examples include nature hikes, partner programs like the BIOBus, workshops



time commitment
LOW
short programs,
sessions, tables

Keep all activities
near home base

1.3 Who can help?

Other groups in your country or region may share goals with your organization and you can benefit from collaborating with them for a BioBlitz event. Combining the efforts of two or more agencies can alleviate the workload significantly. The effort needed to secure properties, financial resources and an extensive contact list is much smaller if the work spread between a number of individuals within different professional networks.

Land Trust Groups and Associations

Local Land Trust Groups may be interested in completing inventories on already acquired lands or potential land trusts. These groups are often non-profit and have limited funds to assess their lands and even fewer to scout out potential lands. Partnering with groups such as this could further contribute to the conservation value of your event while supplying you with valuable contact information, potential event locations and funding assistance.

Land Trusts are non-profit organizations that conserve land through land acquisitions or conservation easements with the property owners. If the landowner you are working with is concerned about the future conservation of their land, particularly on a property with significant features, then you may wish to work with a land trust group. These groups have a general interest in gathering biological data about current and potential conservation lands.

One example of a Land Trust Association is the Nature Conservancy (www.nature.org), which has branches in over 30 countries. If a Nature Conservancy exists within your region, they may be an excellent place to start securing properties to inventory and for providing a contact list of taxon experts and naturalists.

Local Environmental and Natural Resource Ministries

Most countries have governing bodies responsible for environmental resources. Such an agency can assist you by providing information about threatened or endangered species in your country and about significant habitats and features in your region. These agencies may be broken into smaller authorities that manage specific resources depending on where you hope to inventory.

Local Field Naturalist Groups

Field naturalist groups and other similar clubs are an excellent place to garner support, promote participation and involve species experts in BioBlitz events. Many groups have either participated in the organization of BioBlitzes.

Parks

Both National and State/Provincial Parks in your area can be an excellent resource for recruiting help from scientists and nature interpreters. You may also consider doing a BioBlitz on this protected land if a species inventory has not already been conducted. This will benefit the park by both providing them with data on their species diversity and by providing them with more publicity and traffic.

Other Groups

Other environmentally focused groups in the area may wish to assist or participate in your BioBlitz event. Such conservation groups can include, but are not limited to:

- The Regional Government Office
- “Friends of” the local provincial park
- High school environmental clubs
- Lake/River/Coast Association Groups
- Local Fish and Game Clubs
- Youth Groups in your Country/Region
- Local natural history museums and science centers
- Local colleges and universities



Photo by Justine DiCesare

2.0 Where to Start

The first step of planning your BioBlitz is to establish a planning committee to help organize and make decisions. As a team will need to decide: the overall purpose of your event, where and when to have the event, and who you should invite. A checklist for planning and organizing the steps required for the event along with a more in-depth planning guide can be found in Appendix 1.

2.1 What is my Purpose?

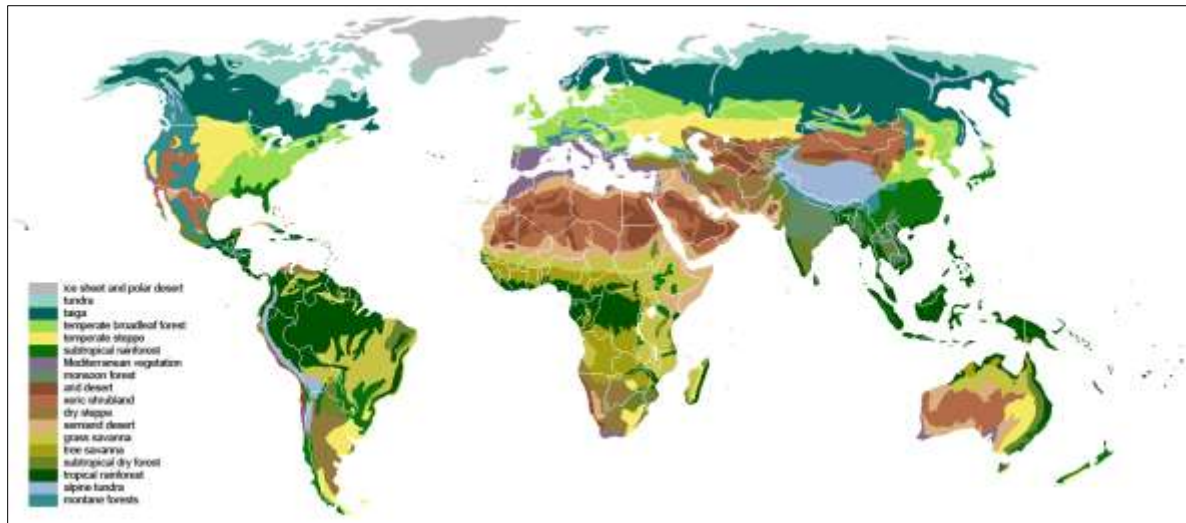
The first question you must ask yourself is “What is the purpose of my BioBlitz?” Is it intended to provide a comprehensive inventory for your property or is it meant to be an educational event for the community. Some BioBlitzes are invitation-only events where “experts” are the sole participants. The purpose of this kind of BioBlitz is to provide as much taxonomic detail about the area as possible, so experts are left to collect data without having to teach or guide community participants. The benefit of this type of BioBlitz is a higher quantity and quality of the data collected.

On the other hand, a BioBlitz provides an opportunity to get the general public involved in an engaging outdoor event. Community members can be invited to help collect data, observe the experts as they work, and participate in any other activities that you may have planned. Here, your purpose may be to “Provide the public with an opportunity to learn, participate and be inspired”. If you are hoping to encourage the next generation of scientists and naturalists, raise awareness and membership for your association or group, this event may be for you. While the community-focused BioBlitz may draw some experts, this type of event may result in lower species counts as experts take time from the inventory to share their knowledge with participants.

Most BioBlitzes blend the two types of BioBlitzes (“expert-only” and “community event”) by inviting the public to participate but only allotting a portion of time for expert-led information sessions. This allows experts some time to collect data on their own during the rest of the event.

2.2 Where to have a BioBlitz

One of the best parts about a growing number of BioBlitz events around the world, is being able to take multiple snapshots of the biodiversity that is represented across so many different biomes. A biome is a landscape categorization that is based on the expected vegetation communities across a large are, for example the tundra or boreal forest in Canada (see the image below). Species abundance and diversity is not equal between different biomes, or indeed across the globe, and with sampling different locations we can then compare information and obtain baseline data that can speak to larger questions about conservation, climate change, and species distributions and populations.



The World's Biomes by vegetation type By Ville Koistinen (user Vz83) [GFDL (<http://www.gnu.org/copyleft/fdl.html>), CC-BY-SA-3.0 (<http://creativecommons.org/licenses/by-sa/3.0/>) or CC-BY-SA-2.5-2.0-1.0 (<http://creativecommons.org/licenses/by-sa/2.5-2.0-1.0/>)], via Wikimedia Commons

It is important to consider the terrestrial and aquatic biomes you wish to sample as this will have an impact on who you recruit and how much public engagement you can accommodate. For example, do you intend to inventory a reef? If so, you will need SCUBA certified experts to conduct the inventory. If you are an island nation or live in a country with an extensive coastline, then this habitat may be important, but it may be difficult to engage the public in this kind of survey safely.

If you have already considered running a BioBlitz, you probably have a location in mind. If not, your local municipality or community groups (mentioned above) can assist you with locating locations and property owners. Also consider your purpose when selecting an area to survey. If you simply wish to conduct an inventory, then an isolated area may be ideal. However, if you want to promote community involvement, then your site should be easily accessible to the public. A nature park or urban conservation area may be more practical in this case.


When scouting out potential locations, it is a good idea to consider the following:

Facilities

A “perfect” property would have public washrooms available, a source of electricity and drinking water, places for overnight camping and a building or pavilion to set up a basecamp. However, it is most likely that all of these amenities will not all be available, and alternatives such as portable washrooms, power generators and tent shelters will have to be rented, borrowed, or purchased.

Accessibility

Accessibility and parking will be essential considerations for selecting a location. Property with difficult terrain such as steep hills or overly swampy conditions will prevent some individuals from participating and could create a dangerous work environment. Properties with hiking or



access trails would be ideal as this would help orient participants and reduce the amount of vegetation trampling. Adequate parking space and drivable access roads are also critical.

Appeal to Experts

When choosing a location, you should keep in mind that certain types of habitats or properties will be more appealing to “expert” participants. Habitats that are naturally high in biodiversity or rare species, like wetlands and old growth forest will probably spark the interest of most experts. Access to private lands may also be appealing. Finally, properties that have conservation potential including possible land trust acquisitions could contribute to the experts “sense of purpose”.

Habitat Diversity

If having a high species count is a priority for you, habitat that is naturally high in biodiversity or rare species such as wetlands and old growth forest could contribute to higher species counts. Different areas of the world, and indeed different biomes or ecozones, should have different expectations for species numbers. What counts as a lot of organisms in the Arctic tundra might only amount to the same number found in a square foot of tropical rainforest. However, simply having a variety of habitats when available within your BioBlitz area (forest, lakes, streams, old field, wetland, urban locale, etc.) could provide a higher species counts as well as a greater opportunity for learning.

Size of Property

BioBlitz property sizes can be highly variable. If you are inventorying a smaller parcel of land, consider restricting the number of participants to prevent overcrowding and trampling of plants. Previous BioBlitz organizers have found that 100 participants were the ideal number for a 30-40 ha BioBlitz property. Conversely, when dealing with a larger property size, you may wish to restrict the actual BioBlitz area to a certain section of the property.

Previous Inventories

It would be preferable that the BioBlitz site has not already undergone an intensive inventory, to make the best of the time and resources put into a BioBlitz. With such a vast amount of undocumented land, reaffirming species occurrences might be viewed as redundant by experts, partners, and potential funding sources. However, if the event is held during a different season or on a different portion of the property, then the BioBlitz could provide valuable information to the existing inventory specifically regarding seasonally available taxa.

Future Land Use

A major consideration for selecting a property for a BioBlitz is the future land use and expectations of the property owner. If a development project is planned for the property in the future, a BioBlitz may or may not be a good idea as it is possible that protected species at risk, habitat, or areas of natural significance will be uncovered by participants (refer to Landowner information section for details). If the landowner is interested in conservation and the developer is open to taking these features into account, it may be desirable to use the information for responsible development. If, on the other hand, the landowner is concerned about the possible implications these features would pose, it may not be advisable to proceed. Also, there is little

sense in dedicating expert and volunteer time to inventory wildlife that will soon be displaced, unless the information will be taken into account in the plans.

2.3 When to have a BioBlitz

BioBlitzes can occur anytime throughout the year. However, the timing of your event can have a big effect on what you find. Peak observable species diversity will occur at different times of the year depending on your region. If you live in temperate region you will have to consider the effects of all four seasons on your observations. However, in a tropical or equatorial zone you may only need to consider the wet and dry season. Determining the type of species you hope to survey will help you select a date. Table 1 provides an example of species types and their peak observance times for Ontario, Canada. Consult experts in your region to find out the best time to sample for specific taxa.

Table 1: Examples of peak diversity for species in Southern Ontario, Canada

Species Type	Optimal survey time
Wildflowers	
General	June-September
Spring Ephemerals	Late April-Early June
Asters & Goldenrods	August to October
Butterflies & Dragonflies	May-August
Reptiles & Amphibians	
Frogs	March to August
Turtles	June
Birds	May to early June
Fungi	September-October (weather dependent)

Typically, a BioBlitz runs for 24 hours. This allows experts to observe species that are active at all times of the day. For example, early morning is good for birds, midday for wildflowers, and evening/nighttime for bats, moths and other nocturnal species. However events can be as long or short as you choose, but it can be a good idea to sample at a number of different times.

If your goal is to generate a more complete inventory of species, you may want to follow-up your event with a “mini-Blitz” at a different time of year to capture a more robust picture of the biodiversity. For example, the 2006 Larose Forest BioBlitz (Ontario, Canada) was held in June, but a mini-Blitz ran the following September to capture fungi diversity in their inventory. Your data could also be added to previously existing inventories. However, there is something exciting about having the 24 time-limit and it might start some friendly competition with other events as to who can find most species in the given time limit!

Most BioBlitzes run from Friday to Saturday or Saturday to Sunday. A Friday start will allow some professionals to participate in the Blitz as a “field day”. This may appeal to some professionals who are otherwise busy on the weekends. It will also mean that your event is not taking up an entire weekend for you and your volunteers. However, if your experts are mostly amateurs, they may be unavailable on Friday afternoons. Starting the Blitz on a Saturday is a good idea if you intend to have a high level of public participation throughout the entire event.

And finally, when choosing a date, it is important that other major community events, holidays or BioBlitzes are not occurring simultaneously to avoid competition for public participants. During the summer months (July and August), many people may be busy with family vacations and other commitments making it difficult to recruit experts, participants and volunteers. Avoid holidays and long weekends as more people are likely to be booked or on vacation. June is a popular time for BioBlitzes, so be sure to not to plan your event the same weekend as a nearby event.

2.4 Who Should I Invite?

Who you invite and how many will depend on your purpose, project scope, and size of property. At the very least, you will need to recruit the species experts/scientists and a group of volunteers to assist you with the event. As the scope of the project increases, so will the number of people you can invite.


Experts

A BioBlitz cannot occur without experts to accurately identify the assortment of species. In general, the more experts you invite, the higher your species count will be. You should attempt to invite the widest range of specialists to your event as possible. While bird, mammal, reptile, amphibian, and general plant experts are typically easier to track down due to a higher public interest, experts for less charismatic groups such as fungi, lichens, and insects may be harder to find. Typically, the groups with the fewest numbers of experts are also the most difficult to identify and have the highest species diversity.

Partner organizations can be helpful in recruiting unique experts. By contacting the groups listed in the “Who Can Help” section above, you can increase your capacity to recruit experts. Past BioBlitz organizers might be willing to provide you with a list of names or even contact information for the experts involved with their events. You can also contact the Environmental Sciences and Biology departments of your local colleges and universities. Doing simple Internet searches may also provide you with some contact information.



Photo by Jacqueline Waters



Contacting experts should be done as early as possible; many will be busy, particularly during the summer months. Keep in mind that these experts are volunteering their personal time to assist you with your event and likely are already involved with other fieldwork through the summer. Be sure to show your appreciation through complementary food and drink throughout the event.

If you have the financial resources, you may wish to offer experts a cash honorarium for participating in your event. This would be intended to cover their travel costs for attending the event. Your event is probably one of many that the expert has been invited to attend, and they may appreciate an extra incentive. The honorarium would be particularly welcome if your expert has agreed to participate in the community activities by conducting guided hikes or giving a talk

Volunteers

You will need a team of dedicated volunteers to assist with both the planning and execution of your event. The number of volunteers you need will be determined by the size and scope of your event. Some examples of volunteer positions include:

- Planning team- A small group of people to plan all aspects of the project including communications, logistics, food and beverages, budgetary concerns etc.
- Communications Lead- One individual should be selected as the main contact for the event. This person can act as the spokesperson and will have their contact information distributed to participants, invitations, social media, press releases etc. This person needs to be very knowledgeable about the event and will likely be the project lead.
- Data Coordinator- Someone to manage/input data as it comes in. This person should become familiar with the data entry system prior to the event.
- Science Coordinator- This person can help with the scientific aspects of the event, e.g. proper taxonomy/classification of species.
- Registration Coordinator- Someone to greet guests, register them, and provide directions and instructions
- Set-up/ Clean-up Crew
- Food and Beverage Coordinators
- Parking Coordinator (depending on the size of you event)
- Activities Leaders/Coordinators- If you choose to include them, activities (e.g. children's activities) will require a coordinator and possibly assistants.
- Hosts- to assist experts during guided walks, direct people where to go etc.
- Expert to guide nature walks: Such hikes are frequently the highlight and drawing power for public participation in the BioBlitzes. Experts that volunteer their time for this activity can significantly contribute to the success of your event.

Community

When inviting the general public to your event keep in mind the size of your property and the amount of resources you are able to supply. Inviting an exorbitant number of people to an event on a small property is a bad idea.

To invite community members, try promoting the event through: newsletters, social media pages, websites of your partner groups, at general community meetings, and by word of mouth.

Depending on the scope of your event, you may wish to advertise your event through local newspapers, and radio announcements or interviews to increase participation. Information flyers or posters could also be displayed on public announcement boards. For larger events with big budgets, paid advertisements are an option.

Consider inviting community youth groups to your event. It's a great way to empower your local youth to engage with nature.

Neighbours

Neighbouring property owners can provide many benefits to your event: offering their property to be surveyed, planning, event-day assistance (water, electricity, parking), and moral support. The last thing you want during your event is an angry neighbour. At the very least, they should be informed about your event as they may be disturbed.

Media and Public Figures

Inviting photography groups to your event is a great way to get professional documentation, and can ensure high quality photos for species identification and promotional photos for future BioBlitz events. Inviting the press and important public figures can also increase the event's publicity.



Photo by Brennan Caverhill

3.0 What will I Find?

What you find during your BioBlitz is dependent on the habitat type and quality, the number and variety of experts participating, the time of year, the effort put forward, and (if we're honest) the weather. BioBlitzes can typically document a range from 200 to 1000 species. However, larger events have documented about 2000 species.

Some species groups are much larger than others, for example, approximately 95% of all animal species are invertebrates. Therefore, the more invertebrate experts you have, the higher your count will be. Other groups such as Fungi and Flowering Plants also have a high number of species and would benefit from as much expertise as possible. Table 2 displays the total number of known species in each group for Ontario as of 2010.

Table 2: Total number of known species in Ontario (source: Ontario Biodiversity Council's State of Ontario's Biodiversity 2010)

Group	Total Known* Species
Vascular Plants	3, 055
Non-vascular Plants (bryophytes and lichens)	1, 373
Tiger Beetles	14
Freshwater Mussels	41
Dragonflies and Damselflies	168
Butterflies	165
Crayfishes	9
Freshwater Fish	154
Amphibians	26
Reptiles	27
Birds	477
Mammals	81
Total Documented Species**	approx. 30, 000

* *Thousands* of unknown species have yet to be discovered.

** Remaining species unaccounted for include fungi and other invertebrates (insects, molluscs, spiders etc.).



4.0 Data Collection

The collection of data during your BioBlitz will be a main objective. Many techniques were used during previous BioBlitzes (traps, nets, etc) and how you go about organizing your participants will be up to you and your planning team. However, it is critical that the information is gathered in a manner that will allow you to tabulate the final species list for participants, and even better, allow you to properly submit observations to the governmental databases, or citizen science databases like iNaturalist.



Photo by Naomi Devine

4.1 Surveyor Organization

Ensure that all habitat types on your property are examined. Breaking the property into discrete sections/areas will be particularly useful if you are working with a large property size. Whether or not you divide the property based on practical considerations or habitat-type is up to you. The 2009 Brockville BioBlitz (Ontario, Canada) split their property up into six geographic quadrants. This allowed organizers to track where groups were and what areas had already been inventoried. You could also break your groups up into teams, such as an aquatic team, forest team, wetland team etc. This method allows participants to experience the different aspects of the property.

You should, at the very least, provide participants with a map of the property including specific areas of interest. Ideally a large map of the property (either an aerial photo or habitat map) should be placed at the basecamp so participants can get an overview of the site. You can also highlight areas suitable for particular taxon experts, e.g. wetland habitats highlighted for turtle experts or open meadows highlighted for butterfly experts. Maps will help keep participants organized, give the experts a sense of where to look, and prevent people from becoming lost. Having the landowner onsite is also a good way to provide experts with specific details about the property.

In addition, most experts are accustomed to surveying in the wilderness so will have their own methods (such as a GPS, compass and topographic map) for navigating an area and making it back to basecamp. Participants that are less used to being in the wilderness should be encouraged to stay with a guided group or stay on the trails. Those heading off trail should have, at a minimum, a GPS with the basecamp coordinates entered before heading out.

4.2 Surveying Techniques

Plant species are typically easier to observe, as they are stationary. Animals on the other hand are constantly on the move and often avoid human activity making them difficult to observe during a BioBlitz. Furthermore, smaller animals such as invertebrates are difficult to locate due to their size. Therefore, some animal species will require the use of bait, traps or artificial habitats to facilitate observation. Appendix 4 gives examples of how to attract and/or sample certain animal species.



There is a vast array of methodologies and sampling approaches that are not covered in this document, but can be found through literature searches, contacting local experts, and speaking with appropriate organizations.

With so many participants descending upon a given property, it is likely that there will be some level of disturbance to the species and habitat. A list of low impact survey techniques has been provided in Appendix 4.

4.3 Recording Data

There is a current partnership in development for a BioBlitz specific system within the existing online (and smartphone app) platform of iNaturalist. This allows the user to instantly upload a sighting along with GPS coordinates and a photo that would be included in the overall BioBlitz tally. This also contributes to a wider program of biodiversity data collection in Canada that is used for conservation decisions, researchers and government agencies. Participants can also use other methods of recording their observations and provide this to the organizers to enter into the system.



Photo by Vincent Luk

The method for recording data will likely be decided upon by each individual expert. However, this can cause problems with illegible handwriting, incomplete information, or the use of different names for a single species (e.g. Ironwood and Hop Horn beam, aspens and poplars, tamaracks and larches are all examples of common tree species with multiple names). Therefore, a variety of data recording options have been provided.

Species Checklist

A comprehensive checklist of species for a region may be difficult to obtain, but organizations in the “Who Can Help” section above, may be able to assist or already have lists. Our partnerships with iNaturalist, may in future, allow the BioBlitz program to generate species checklists by using the datasets already in existence through the website/app.

Another option is to use one universal list, posted at the base camp, for participants to transcribe their sightings on. A checklist can be used by experts in the field and we recommend that lists be shared to reduce the amount of paper and printing required.

Quite often, species have multiple common names or begin with seldom-used descriptive words (e.g. “eastern”, “common”, or “American”). Tables listing common alternative names should be included to alleviate this problem.

Alternatives

An alternative to a checklist is to supply participants with blank data recording sheets (Appendix 3). In this case, lists should be submitted directly to the Data Coordinator during the event so that the Coordinator and individual who recorded the data can communicate to avoid confusion (i.e. difficult to read handwriting, alternate species names). This method is beneficial as it reduces printing costs and paper use associated with the checklists. Scientific names should be recorded to avoid confusion over species with multiple common names.

Regardless of what you provide, many experts will prefer to use their own handwritten field notes.

4.5 Data Verification

Collected data must be verifiable if it is to be used by conservation, government and research agencies. In order for the information to be considered reliable, rare species must be verified by the highest authority available at the event, or a photograph should be taken and submitted along with the record.



5.0 Project Funding

The cost of running a BioBlitz event can be variable, ranging from \$300 - \$1200 CDN. If your property has available washrooms, electricity and water sources, then your expenses will remain relatively low. However, rental costs can quickly add up so borrowing equipment is recommended whenever possible. Contact various community groups, Conservation Authorities, municipalities etc., for in-kind donations and equipment loans before considering rentals. The following is a list of possible costs encountered during a BioBlitz:

- Portable Washroom Rental
- Tent Rental
- Power Generator Rental
- Table and Chair Rental
- Water (drinking and washing)
- Printing Costs (checklist, registration forms, posters, etc.)
- Food and Beverages for volunteers/participants
- Data Collection Materials (nets, traps, jars, boat rental, SCUBA equipment, etc.)
- Electrical Supplies (extension cords, power bars, lights)
- Volunteer Honoraria, expenses, or gifts
- Promotional Materials (T-shirts, hats etc.)
- Website Hosting
- BBQ costs, propane etc.
- Advertising and Promotion

There are a number of ways to raise fund for a BioBlitz event; fundraising before or during event can help recover some of the costs. Partner groups may provide you with some money to support your event. In these cases, you may be required to give a brief presentation for council members to inform them of the event, its objectives and the benefits of sponsoring it. Government agencies may also provide if you pitch it as a community event.

6.0 Promoting your Event

The level of event promotion you pursue is dependent on the number of participants you can host. Promotion can be done through press releases, social media (Facebook, Twitter, etc.), radio spots, posters, websites, newsletters, and presentations, among others. Opportunities for free publicity are endless, but you may consider paid advertising if you are running a larger event.

6.1 Information Flyers

It is a good idea to have a general information flyer describing the details of your event. A single page flyer would be particularly useful for posting in public places, on partner group websites, and to send out as emails. The flyer should contain key information such as:

- What is a BioBlitz
- Who is hosting the event
- Why you are running the event
- Where is the event
- When is the event (date and time)
- What participants need to bring
- Information about accommodation, food and parking
- Information on whether or not they need to register in advance
- Contact information if they have questions
- Sponsors and partner groups
- “Cost” (*especially if the event is free*)

The poster should be eye catching and include all necessary details but be no more than 1-2 pages in length. Examples of information flyers from past events along with an information flyer template are included in Appendix 6.

6.2 Media Kits

If you plan to have your event covered by the press, you may wish to assemble a media kit. A basic package should be suitable for your event. The most minimal package should include: background information about your organization and event, a press release to be published with announcements about your event, and contact information.

Background Information

You should provide the publisher with information about your organization. This information could include the history of your organization, key statistics, recent activities, bios of key directors/board members etc. General information about BioBlitzes could also be included. This can include information about their global and local history, and their overarching purpose of inventorying species diversity. It would also be useful to inform your reader about why it is important to keep track of biodiversity in the first place.

Press Release

The Press Release is the tool you will use to convey your message. Whether it is published in a newspaper, read over the radio, or posted on your own website the objective is get information to your possible participants. This document should be concise as possible yet still convey all

pertinent information including who, what, where, why, and when. Typical press release structure is as follows:

1. Letterhead or logo of organization
2. Date for release (e.g. For Immediate Release OR Release on a specific date, e.g. on June 14th, after 10 am) indented to the left.
3. Catchy Title/Headline
4. Date, Location- followed by a lead sentence to draw in readers
5. Body (5-7 paragraphs, each paragraph approximately 3 sentences long)
6. Contact Information
7. -30- or ### or *** or END to signify the end of the press release

The release should be no more than 1-2 pages. No indentations should be used. Be sure to mention any partner groups involved, as the press release is advertisement for both the event and the organizations involved.

A press release template can be found in Appendix 6.



A screenshot of the Ontario BioBlitz Twitter page. Social media outlets like Facebook and Twitter can be useful (and free) tools for promoting a BioBlitz

7.0 Event Day Planning

Having a well-planned event-day will increase both the enjoyment and efficiency of your event. There are many things to consider on the day of the event, and organizing in advance will help the event run more smoothly. A checklist for organizing the event can be found in Appendix 1.

7.1 Safety Issues

Most accidents are preventable, the first step is awareness. Ensure that your participants are aware of hazards before they set out. A first aid kit, access to a phone, and directions to the nearest hospital will go a long way to prevent things from escalating. These items should be on hand at all times in an advertised location (i.e. basecamp), but your team leaders should also bring these items with them in the field. If you are using boats to survey freshwater and marine habitats, use best practices to ensure the safety of all participants.

Insurance

A partner group may be able to provide your event with insurance coverage under their own policy. A complete list of all participants should be kept on record. Although not a legally binding document, have participants sign a safety waiver while registering for the event. An example can be found in Appendix 10.

Keeping Track of Participants

To avoid losing track of participants, implement a sign in/sign-out policy, especially if your property is particularly large. Information such as recorded license plate numbers would also be a valuable tool for keeping track of participants.

Participants can indicate where they are going by either letting the sign-in crew know, or by placing a post-it note on a large area map. By doing this, you are also ensuring that no area of the property is overlooked. Also, provide participants with a map and a brief overview of the area to prevent them from losing their way. It may be beneficial to mark property perimeters with flagging tape, particular on large sites, ones without trails, or ones with complicated routes.

Toxic Plant Warning

Even the most experienced naturalist can be fooled by a toxic plant. We recommend posting warning signs for potential toxic plants or a list of “what to look out for”, especially if young children are in attendance. Signs can be displayed at the registration desk (an example can be found in Appendix 7). If large populations of poisonous plants exist on a property, it is best to put a sign at the entrance to the property as well.

Other

There are a number of other safety issues to consider:

Predators such as large mammals and venomous reptiles may live on certain properties. In such instances participants should explore in groups (never alone). If such predators are present in the area, post signs at the registration desk with warnings. If surveying marine or brackish habitats, be sure to remind your participants of best practices to avoid altercations with aquatic predators.

Large herbivorous mammals may be particularly aggressive during certain parts of the year. Males “in rut” and females with young should be avoided. Provide appropriate information for your participants at the information desk.

Tick bites are unpleasant and can potentially transmit Lyme disease. Light coloured clothing, long pants and sleeves, and tucking pant legs into socks can prevent tick bites. Encourage participants to conduct “tick checks” when leaving a property and they get home to ensure that they have not been bitten.


Dehydration, bug bites and **sunburn** can be a serious problem when spending extended time outside. Extra sunblock, mosquito repellent, and potable water should be on hand for anyone who needs it. **Fatigue** and **sunstroke** are also causes for concern. If the budget allows, provide snacks for your participants to take with them in the field and remind participants to be aware of their bodies and try not to push themselves to hard. If they feel faint or lightheaded, they should stop to rest and if possible return to base-camp.

7.2 Schedules and Activities

If you’re planning a variety of activities (guided walks, etc.), you will need to produce a schedule of events. The schedule should be made available to participants as early as possible so they can plan their visit around the activities they wish to attend. Schedules can be mailed out to participants, posted on the event webpage, or posted on the websites of partner groups. For bigger events have a large, visible schedule available at the basecamp or registration desk. Examples of schedules from past events are available in Appendix 6.



Photo by Nicole Di Cintio



Activities such as guided walks are not necessary for a BioBlitz but have been quite popular during past events. If your event is expecting a lot of community members, a pre-registration system will prevent the guided walks from being overcrowded. It is important that groups return to basecamp on schedule, especially if there are a number of scheduled walks. Walkie-Talkies or cell phones are useful for organizing and keeping track groups.

Guided walks are not the only public activity for a BioBlitz. Other successful activities at past blitzes have included: habitat construction (bat or bird box building), art projects, and various children's or educational activities. Children particularly enjoy catching insects such as butterflies and dragonflies as well as amphibians along the water's edge. Having a few small nets on hand will provide hours of fun and allow small children to participate by collecting specimens for identification.

We also recommend scheduling a closing ceremony to conclude the BioBlitz. The event organizer(s) can say a word of thanks, recognize sponsors and report on the total species tally thus far. Often all species will not yet be entered in the database at this point, but an overview is likely possible. Each species expert (especially those who led groups) could present basic findings and discuss species of interest. A Barbecue is a great incentive to keep participants around while demonstrating your gratitude for their involvement. Experts can be presented with tokens of appreciation at this point as well.

7.3 Basecamp and Registration

Most BioBlitzes make use of a "basecamp" during the event as a centre for activities. The basecamp should be in a centrally located, open, and easily accessible location. A building or pavilion is an ideal location for the basecamp. If neither of these is available, some sort of shelter should be erected to provide volunteers a chance to get out of the sun or rain and protect any equipment. Tables, chairs, lighting and a coffee pot will also be needed. In most cases, these items can be borrowed from partner group organizations or participants. If not, they will need to be rented or purchased.

Basecamp is also an ideal place species identification requiring close examination (e.g. through a microscope). Adequate light, microscopes, hand lenses, and species ID books should be made available. Experts should bring their own microscopes if possible. A list of recommended field guides for Ontario has been provided in Appendix 9, but many guides are available for different locations around the world. If available, internet access and a computer is also an asset.

Water and electricity should also be available at the basecamp. If a direct source is unavailable, you may need to purchase/bring water jugs and borrow/rent a power generator.

At or near the basecamp there should be a registration or sign-in table with registration forms, tally sheets and checklists, maps of the property, event schedules, instructions, name tags, and any safety warnings regarding the property (i.e., poison ivy, unsafe structures etc.). Having a large corkboard or equivalent at the basecamp is useful for posting results, maps, schedules, and notices. Registration forms will be required for insurance purposes, tracking of participants

and to ensure that they have appropriate instructions. The registration form can also act as the safety release waiver. Participants should be reminded to sign-out as they leave the event.

Basecamp is also the area where partnering organizations and sponsors can promote their organizations and interact with the participants. Organizations can have a stall with flyers, products or general information along with a banner to promote themselves. Extra tables may be required for this.

Garbage and recycling facilities should be provided at the basecamp. There should be a number of these and they should be clearly marked. Remind participants, particularly those from the public to keep their garbage with them while out in the field and dispose of it back at basecamp. BioBlitzes are conservation-based events and you should instill an attitude of stewardship in you participants.

7.4 Accommodations

If possible, provide camping to volunteers and species experts. Surveying for species such as birds or moths may require late nights or early mornings that would benefit from on-site accommodations. If this is not possible, try to have a list of local campgrounds, hotels, motels, inns, or bed & breakfasts for participants who have travelled for the event.



Tent City at the 2013 Rouge Park Ontario BioBlitz – photo by Ryan Rizzo

8.0 After the BioBlitz

Follow-up

After you have had some time to clean up and recuperate from the event you should start thinking about sending out thank you notes, posting results on your website (if you have one), and possibly sending out a follow-up press release for the event.

Submitting Data

Ensure that all groups, organizations and individuals who requested a copy of the final tally receive the information. Be careful not to give away any sensitive information (i.e. location of ginseng).

Report

Following your event, you may wish to write a report presenting your results, highlights, pictures, lessons learned, etc. At the very least, you will want to provide volunteers and participants with a complete number or list of species found during the event. The time and effort put into this step is entirely up to you, and can be as simple as exporting your species list from the database.



Photo by Brennan Caverhill

PART B: Data Sensitivity

9.0 Data Sensitivity

Some information collected during a BioBlitz may be classified as sensitive data and should be treated delicately. Certain species or populations are particularly susceptible to disturbances and many be flagged as sensitive. Nest sites, breeding sites, and snake hibernacula are examples of highly sensitive locations. Providing their locations may increase disturbances from well-meaning individuals eager to catch a glimpse of their favourite species.

Some species are at risk due to purposeful overexploitation by collectors or harvesters. For example, in Ontario, many species of reptiles are captured for the illegal pet trade including the spotted turtle, Blanding's turtle, and wood turtle. Some plant species, such as American ginseng, are primarily designated as SAR due to over-harvesting for their perceived medicinal value. These actions are illegal and can devastate already vulnerable populations.

The exact locations of SAR occurrences **must not** be published in BioBlitz reports, media reports, nor should they be announced during the event. Avoid inadvertently revealing the SAR location by providing a description of the habitat where it was found. By keeping this information confidential, "at risk" species will be protected from further disturbance by BioBlitz participants, future visitors to the property, and potential trespassers. Good judgment should be used while dealing with this type of information and when in doubt, contact the appropriate provincial authority for advice.

In addition, avoid publicly releasing the locations of sustainable but harvestable species. Even though these organisms may be legally harvested from the wild (for subsistence or commercially), providing their locations may allow harvesters to deplete their local population.

Although extremely uncommon, there have been instances in the past where people use events such as BioBlitzes to gain access to sensitive data like the locations of rare turtle populations. Although this is unlikely, you should be on the lookout for suspicious behaviour from participants such as persistent or specific questions about sensitive species and no apparent affiliation with participating groups or interest in other topics.

10.1 Threatened and Sensitive Species

Across the globe there are a number of globally and locally threatened or at risk species. Either their numbers are in global decline or they are at risk for extirpation (local extinction). Different nations have different protocols in place to recognize locally at risk species and you should contact your local environmental agency for more information. In addition, your country or region may have specific practices and databases to record locally sensitive species. To determine the degree and type of protection, consult the appropriate regional agency— most will have the information available on their website.

PART C: Landowner Information

11.0 Information for Landowners

Before planning begins, ensure that your landowner is aware of the potential outcomes, benefits, and consequences of hosting a BioBlitz. A contract is included in Appendix 3 that the landowner can sign prior to committing the property to the BioBlitz. The contract is designed to ensure that the landowner is aware of the expectations during the event and to provide them with information regarding how information will be shared after the event. Each point listed in the contract should be discussed in detail with the landowner, then checked or initialed. Alter the contract to address the conditions and goals of your event, but be sure that it is completed and agreed upon **prior** to event planning.

11.1 Sensitive Species and Landowners

If sensitive or threatened species and its habitat are found on private land, there is the potential for controversial government intrusion onto the rights of private landowners in order to protect the species. Property owners may be concerned that they will lose control over their land if such a species is found on their property or neighbouring properties. Therefore it is critical that private landowners be aware of these implications for both themselves, and possibly their neighbours if they consider hosting a BioBlitz event.

If a species listed as endangered, threatened, or extirpated is located on the property, legal responsibilities may ensue. Property owners may be legally obligated to limit changes to their land uses that would damage or destroy the habitat of threatened or endangered species. (However, if an at risk species is found on a property, it is likely due to the excellent land use management already in practice by the owner.) Concerns may arise if the landowner decides to alter land use by building and development or implementation of forestry or farming operations. If you are working with a private landowner, ensure that future plans for land use do not conflict with the conservation ethics imposed by reporting the results of a BioBlitz. Consult your local government agency to determine the legal implications of documenting a threatened species on private property.

Despite the potential for legal restrictions, there are possible positive consequences for discovering a species at risk on private land. The landowner may become eligible for local tax incentives or stewardship programs for protecting the species and its habitat. The landowner may also have a sense of pride in knowing that they are maintaining property with such high ecological integrity. In general, only changes to land use should cause problems, as the presence of sensitive species on private property is a good indication that the landowner's current management is beneficial to the species, as indicated by its presence. (*Refer to the landowner section for more information*).

11.2 Sharing Data

Prior to planning your event, you and your team must decide who will have access to the data collected during the event. For the data to be most effective, it should be submitted to the local governmental agency. This can be accomplished through the use of iNaturalist whereby tracked species are automatically forwarded to databases. This will ensure that: the data is accessible to all user groups, that the recorded species will be considered in future land use operations, and that there is evidence for a landowner who is eligible for tax incentive or stewardship programs. Reporting all of the data during a BioBlitz is not mandatory and is up to the landowner's discretion. **A landowner is NOT legally required to report sensitive species, although they may be held legally responsible in the future if they are found to be in breach of endangered species legislation.**

There are benefits of having a BioBlitz regardless of whether the results are publically reported (i.e. the public education value, contribution to lake management plans, etc.). However, if presented with a choice of properties try to choose landowners who are willing to share all data; this can result in a BioBlitz event that provides a greater return to society and be more attractive to expert participants. Regardless of the landowner's decision to share data, it must be discussed and clearly stated in the landowner contract prior to planning the event.

11.3 Permits

If a protected species is found on private land, the property owner can still carry out practices that might conflict with the species at risk legislation. To do this, however, they must obtain a permit or make arrangements with the regional agency responsible for the protection of species at risk.

11.4 Data Sensitivity

Landowners should be aware of the issues surrounding data sensitivity of at risk species locations as advertisement of these sensitive species may encourage trespassing. (*Refer to "Data Sensitivity" in section B: Species at Risk for more information*).

Appendix 1: BioBlitz Organizing Checklists

Organization Checklist

Step 1- Preliminary

- Establish a planning team.
- Determine the purpose/goal of your event.
- Select a location and have the landowner sign a contract (see Appendix 3).

Step 2- Planning (9-6 months prior for large events (100+ people), 2-3 months for smaller events)

- Select the date and time for your event.
- Submit applications for funding if necessary. (Application deadlines often occur early in the fiscal calendar)
- Apply for collection permits if necessary (i.e. permit for collecting fish for scientific purposes).
- Consider the following questions when assessing your property:
 - What is the size and capacity of your property?
 - Is there parking available?
 - Is there a source of potable water?
 - Is there electricity available on the site?
 - Is there a pre-existing structure or clearing for a tent for BioBlitz basecamp?
 - Are there washrooms available or space for portable washrooms?
 - Will camping be available?
 - Are trails available to reduce trampling?
 - Are there a variety of habitat-types?
 - Are there any unique features or species on the property?
 - Are there any safety concerns on the property (i.e. abundant poison ivy, cliffs, unsound structures etc.)?
- Compose an invitation letter and begin contacting taxon experts (Inform them of your event's objectives and be sure to highlight the property's unique features and habitats)
- Promote your event to various conservation groups through presentations, newsletters, website, social media, emails etc.
- Decide which community groups you want to invite, such as local naturalist groups, schools, etc. and draft a communications/advertising strategy, which can include e-mail correspondences, social media invites, as well as printed materials and press releases.

Step 3- Planning (1 month prior to event)

- Begin to secure resources:
 - Rentals (if needed): Tents/shelters for basecamp and sign in, portable washrooms, power generators, tables and chairs.
 - Determine exact property boundaries and request maps from the stewardship council if applicable.
 - Extension cords, power bars, lighting etc.
 - Signage for the event spaces to direct participants as well as make the event known to anyone else in the area
 - Microscopes and ID materials (books, keys, etc.).
 - Sampling equipment (canoe, seine net, traps, etc.)
 - T-shirts if a large number of participants are expected; custom t-shirts for the event are good if the budget allows
- Make sure you are working with an up-to-date Species at Risk List for your area (Contact MNR). Update information in SAR database and checklists, as well as any lists of tracked species if changes have been made.
- Reconfirm your species experts and provide them with appropriate details.
- Plan your non-BioBlitz activities and establish an event schedule.
- Send out invitations to potential community participants and/or media sources.
- Establish a parking coordination plan if needed.
- Arrange site-visits with volunteer and experts if required.
- If a large number of participants is expected, registration and check-ins will likely be required to keep track of everyone.
- Establish emergency procedures and determine any particular hazards to be aware of in the area, such as poisonous plants, cliffs, or water areas

Step 5- Day of Event

- Coordinate Volunteers
- Post signage/directions
- Set up catch-release trap and wildlife lures if applicable
- Set up basecamp. Components of the basecamp may include:
 - Tent/Shelter/Tarp
 - Tables and chairs
 - Power source, extension cords
 - Lighting
 - ID materials: Microscopes, ID books, ID keys, hand lenses, etc.

- Receptacle for garbage and recycling
- First aid kit, directions to the nearest hospital
- Identify anyone with First Aid training
- Announcement board with: Map, species list, schedule, etc.
- Any nature displays
- Miscellaneous: Duct tape, napkins, cups, pens/pencils, spare tarps, name tags
- Snacks and water
- Coffee pot

(If required) Have parking coordinators ready for arrival of volunteers and participants

Have registration table manned and stocked. Registration table needs:

- Table and chairs
- Shelter (from sunshine and precipitation)
- Registration and Waiver forms
- Species Tally Sheets and/or Species Checklists
- Lists of Tracked Species and Tracked Species Report Cards
- Maps
- Schedules
- Clipboards, pens, pencils
- T-shirts
- Announcement board

Step 6- After the Event

- Make sure you have received and entered all collected data (you may want to have a final expert verification of the tally).
- Send out press release for the BioBlitz results.
- Get feedback from the event (exit questionnaires useful).
- Send thank you emails to participants and sponsors.
- Prepare a final report for participants, landowners, sponsors, etc.
- Ensure that information is submitted to key agencies (MNR) if necessary.

BioBlitz Planning Guide

Project Coordinator(s)

Organization:

Lead:

Date and Time

Project Goals and Objectives

(List of what you hope to accomplish/provide with your event)

1)

2)

3)

Planning Team and Responsibilities

Name:

Title:

Responsibilities:

Contact Info:

Name:

Title:

Responsibilities:

Contact Info:

Name:

Title:

Responsibilities:

Contact Info:

Partner Groups/ Stakeholders

-
-
-
-
-

Property Details

Name of Property:

Property Owner or Manager:

County:

Township:

Address:

Is it a private property? Yes_____ No_____

If yes, do not continue with planning until you can answer "yes" to the following questions:

- Has the property owner received the information brochure?
- Has the implications of the event been discussed?
- Has the landowner agreed to the terms of the BioBlitz including data sharing?
- Has the land owner read and signed the contract?

Property Assessment

Property Size:

Washrooms:

Parking Availability:

Water Source:

Electricity Source:

Internet Available:

Basecamp:

Camping Available:

Trails Available:

Habitat/Ecosystems Present:

Any known unique features or species present:

Any Potential Safety Concerns:

Project Limitations

Planned Activities

Confirmed Experts

Promotion Plan

Budget

Funds

<i>Organization</i>	<i>Source</i>	<i>Amount (\$)</i>	<i>Notes</i>
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Total

Costs

<i>Item</i>	<i>Amount (\$)</i>	<i>Notes</i>
-------------	--------------------	--------------

Total

Revenue

Schedule of Events

Checklist for Supplies

- Tent/Shelter/Tarp for Basecamp
- Tables and Chairs
- Washroom
- Power Source (Generator or outlet, extension cords, power bars etc.)
- Lighting/ Flashlights
- ID Materials (ID books, keys, microscopes, hand lenses etc.)
- Announcement Board(s)
- Laptop Computer
- Maps
- Schedules
- Species Lists and Data Recording Forms
- Registration Forms and Exit Surveys
- Clipboards, Pens, Pencils
- First Aid Kit, Directions to Nearest Hospital, Cell Phone
- Coffee Pot
- Water Thermos, Coolers
- Snacks and Water
- Meals?
- Napkins, cups etc.
- Garbage and Recycling Receptacles
- Rope, Duct Tape, Extra Tarps, Knife
- Animal Survey Materials
 - Butterfly Nets
 - Dip Nets/D-Nets
 - Moth Lures (white sheet, blacklight, “sugaring” mixture, paint brush, etc)
 - Artificial Cover Objects (ACOs)

- Seine Net
- Small Mammal Catch and Release Traps
 - Live capture traps
 - Pit traps
 - Track tunnels

Other:

Appendix 2: BioBlitz Contacts (Ontario)

Conservation Authorities (Ontario)

For more information, refer to <http://www.conservationontario.ca> for additional details about conservation areas in your region.

<p>AUSABLE BAYFIELD CONSERVATION AUTHORITY 71108 Morrison Line, RR # 3, Exeter, ON, N0M 1S5 TOLL FREE: 1-888-286-2610 or (519) 235-2610 FAX: (519) 235-1963 info@abca.on.ca</p>	<p>LONG POINT REGION CONSERVATION AUTHORITY 4 Elm Street, Tillsonburg, ON, N4G 0C4 TOLL FREE: 1-888-231-5408 or (519) 842-4242 FAX: (519) 842-7123 conservation@lprca.on.ca</p>
<p>CATARAQUI REGION CONSERVATION AUTHORITY Box 160, 1641 Perth Road, Glenburnie, ON K0H 1S0 (613) 546-4228 FAX: (613) 547-6474 TOLL FREE (IN THE 613 AREA ONLY): 1-877-956-CRCA (2722) crca@cataraquiregion.on.ca</p>	<p>LOWER THAMES VALLEY CONSERVATION AUTHORITY 100 Thames Street, Chatham, ON N7L 2Y8 (519) 354-7310 FAX: (519) 352-3435 admin@ltvca.ca</p>
<p>CATFISH CREEK CONSERVATION AUTHORITY R. R. #5, 8079 Springwater Road, Aylmer, ON N5H 2R4 (519) 773-9037 FAX: (519) 765-1489 admin@catfishcreek.ca</p>	<p>LOWER TRENT CONSERVATION 714 Murray Street, R.R.#1, Trenton, ON K8V 5P4 (613) 394-4829 FAX: (613) 394-5226 information@ltc.on.ca</p>
<p>CENTRAL LAKE ONTARIO CONSERVATION AUTHORITY 100 Whiting Avenue, Oshawa, ON L1H 3T3 (905) 579-0411 FAX: (905) 579-0994 mail@cloca.com</p>	<p>MAITLAND VALLEY CONSERVATION AUTHORITY Box 127, 1093 Marietta Street, Wroxeter, ON N0G 2X0 (519) 335-3557 FAX: (519) 335-3516 maitland@mvca.on</p>
<p>CONSERVATION HALTON 2596 Britannia Road West, Burlington, ON L7P 0G3 (905) 336-1158 FAX: (905) 336-7014 E-mail: admin@hrca.on.ca</p>	<p>MATTAGAMI REGION CONSERVATION AUTHORITY 100 Lakeshore Road, Timmins, ON P4N 8R5 (705) 360-2660 FAX: (705) 360-2692 mrca@timmins.ca</p>
<p>CREDIT VALLEY CONSERVATION 1255 Old Derry Road, Mississauga, ON L5N 6R4 1-800-668-5557 or (905) 670-1615 FAX: (905) 670-2210 cvc@creditvalleyca.ca</p>	<p>MISSISSIPPI VALLEY CONSERVATION 4175 Hwy #511, R.R. #2, Lanark, ON K0G 1K0 (613) 259-2421 FAX: (613) 259-3468 info@mvc.on.ca</p>
<p>CROWE VALLEY CONSERVATION AUTHORITY 70 Hughes Lane, Box 416, Marmora, ON K0K 2M0 (613) 472-3137 FAX: (613) 472-5516 info@crowevalley.com</p>	<p>NIAGARA PENINSULA CONSERVATION AUTHORITY 250 Thorold Road West, 3rd Floor, Welland, ON L3C 3W2 (905) 788-3135 FAX: (905) 788-1121 npca@npca.ca</p>
<p>ESSEX REGION CONSERVATION AUTHORITY 360 Fairview Avenue West, Suite 311, Essex, ON N8M 1Y6 (519) 776-5209 FAX: (519) 776-8688 admin@erca.org</p>	<p>NICKEL DISTRICT CONSERVATION AUTHORITY Tom Davies Square, 200 Brady Street, Sudbury, ON P3E 5K3 (705) 674-5249 FAX: (705) 674-7939 ndca@city.greatersudbury.on.ca</p>

<p>GANARASKA REGION CONSERVATION AUTHORITY 2216 Country Road 28, P.O. Box 328, Port Hope, ON L1A 3W4 (905) 885-8173 FAX: (905) 885-9824 info@grca.on.ca</p>	<p>NORTH BAY-MATTAWA CONSERVATION AUTHORITY 15 Janey Avenue, North Bay, ON P1C 1N1 (705) 474-5420 FAX: (705) 474-9793 nbmca@nbmca.on.ca</p>
<p>GRAND RIVER CONSERVATION AUTHORITY 400 Clyde Road, Box 729, Cambridge, ON N1R 5W6 TOLL FREE: 1-866-900-4722 or (519) 621-2761 FAX: (519) 621-4844 grca@grandriver.ca</p>	<p>NOTTAWASAGA VALLEY CONSERVATION AUTHORITY 8195 Line 8 ESSA Twp., Utopia, ON. L0M 1T0 (705) 424-1479 FAX: (705) 424-2115 admin@nvca.on.ca</p>
<p>GREY SAUBLE CONSERVATION R. R. 4, 237897 Inglis Falls Road, Owen Sound , ON N4K 5N6 (519) 376-3076 FAX: (519)371-0437 k.mckee@greysauble.on.ca</p>	<p>OTONABEE CONSERVATION 250 Milroy Drive, Peterborough, ON K9H 7M9 (705) 745-5791 FAX: (705) 745-7488 otonabeeca@otonabee.com</p>
<p>HAMILTON CONSERVATION AUTHORITY 838 Mineral Springs Rd. Box 81067, Ancaster, ON L9G 4X1 TOLL FREE: 1-888-319-4722 or (905) 525-2181 FAX: (905) 648-4622 nature@conservationhamilton.ca</p>	<p>QUINTE CONSERVATION RR#2 2061 Old Highway #2 Belleville, Ontario K8N 4Z2 (613) 968-3434 FAX: (613) 968-8240 quinteca@quinteconservation.ca</p>
<p>KAWARTHA CONSERVATION 277 Kenrei Park Road, Lindsay, ON K9V 4R1 705-328-2271 FAX: 705-328-2286 geninfo@kawarthaconservation.com</p>	<p>RAISIN REGION CONSERVATION AUTHORITY P.O. Box 429, 18045 County Road 2, Cornwall, ON K6H 5T2 (613) 938-3611 FAX: (613) 938-3221 info@rrca.on.ca</p>
<p>KETTLE CREEK CONSERVATION AUTHORITY 44015 Ferguson Line, R. R. 8, St. Thomas, ON N5P 3T3 (519) 631-1270 FAX: (519)631-5026 elizabeth@kettlecreekconservation.on.ca</p>	<p>RIDEAU VALLEY CONSERVATION AUTHORITY PO Box 599, 3889 Rideau Valley Drive, Manotick, Ontario K4M 1A5 (613) 692-3571 FAX: (613) 692-0831 postmaster@rvca.ca</p>
<p>LAKEHEAD REGION CONSERVATION AUTHORITY Box 10427, 130 Conservation Rd., Thunder Bay, ON P7B 6T8 (807) 344-5857 FAX: (807) 345-9156 info@lakeheadca.com</p>	<p>SAUGEEN CONSERVATION 1078 Bruce Road 12, Formosa, ON N)G 1W0 (519) 367-3040 FAX: (519)-367-3041 publicinfo@svca.on.ca,</p>
<p>LAKE SIMCOE REGION CONSERVATION AUTHORITY Box 282, 120 Bayview Parkway, Newmarket, ON L3Y 4X1 (905) 895-1281 FAX: (905) 853-5881 info@lsrca.on.ca</p>	<p>SAULT STE. MARIE REGION CONSERVATION AUTHORITY 1100 Fifth Line East, Sault Ste Marie, ON P6A 6J8 (705) 946-8530 FAX: (705) 946-8533 nature@ssmrca.ca</p>

Field Naturalist Clubs (Eastern Ontario)

For a complete list and contact details of field naturalist clubs and similar clubs in your area refer to http://www.ontarionature.org/discover/member_groups/member_groups.php

Carolinian East	
Fort Erie: Bert Miller Nature Club of Fort Erie	Simcoe: Nature's Calling Environmental Education
Brantford: Brant Field Naturalists	Niagara Falls: Niagara Falls Nature Club
Hamilton: Environment Hamilton	St. Catherines: Niagara Restoration Council
Brampton: Friends of Claireville	Simcoe: Norfolk Field Naturalists
Fonthill: Friends of Short Hills Park	Norval: Ontario Vernal Pools Association
Brampton/Georgetown: Halton/North Peel Field Naturalists	Niagara Peninsula: Peninsula Field Naturalists Club
Hamilton: Hamilton Naturalists' Club	Mississauga/Oakville: South Peel Naturalists' Club
The Long Point area: Long Point World Biosphere Reserve Foundation	Woodstock: Woodstock Field Naturalists
Cayuga: Lower Grand River Land Trust Inc.	
Carolinian West	
London: Carolinian Canada Coalition	Essex: Naturalized Habitat Network
Windsor: Essex County Field Naturalists' Club	London: Nature London
Grand Bend: Friends of Pinery Park	North shore, Lake Erie: Otter Valley Naturalists
Leamington: Friends of Point Pelee	Sarnia: Sarnia Urban Wildlife Committee
Morpeth: Friends of Rondeau	St. Thomas: St. Thomas Field Naturalist Club Inc.
London: Friends of the Coves Subwatershed Inc.	Wallaceburg: Sydenham Field Naturalists
Ingersoll: Ingersoll District Nature Club	West Lorne: West Elgin Nature Club
Sarnia: Lambton Wildlife Incorporated	
Great Lakes West	
Alton: Alton Grange Association	Guelph: Nature Guelph
Tobermory: Bruce Peninsula Bird Observatory	Owen Sound: Owen Sound Field Naturalists
Eden Mills: Eden Mills Millpond Conservation Association Ltd.	Owen Sound: Rankin Resource Group
Port Elgin: Friends of MacGregor Point Park	Grey-Bruce: Saugeen Field Naturalists
Sauble Beach: Friends of Sauble Beach	Stratford: Stratford Field Naturalists
Pine River: Huron Fringe Field Naturalists	Waterloo: Sunfish Lake Association
Kitchener-Waterloo: Kitchener-Waterloo Field Naturalists	Orangeville: Upper Credit Field Naturalists
Huronian	
Bancroft: Bancroft Field Naturalists	Orillia: Kids for Turtles
Collingwood: Blue Mountain Watershed Trust Foundation	Midland-Penetang: Midland-Penetang Field Naturalists
Barrie: Brereton Field Naturalists' Club	Wyevale: MTM Conservation Association

Lake Dalrymple: Carden Field Naturalists	Bracebridge: Muskoka Field Naturalists
Orillia: Couchiching Conservancy	Collingwood: Nature League
Angus: Friends of Minesing Wetlands	Orillia: Orillia Naturalists' Club
Parry Sound: Friends of the Massasauga Park	Parry Sound: Parry Sound Nature Club
Midland: Friends of Wye Marsh Inc.	Mactier: Six Mile Lake Conservationists Club
Orillia: Ganaraska Hiking Trail Association	Sutton: South Lake Simcoe Naturalists' Club
Parry Sound: Georgian Bay Biosphere Reserve	Penetanguishene: The Friends of Awenda Park
Haliburton: Haliburton Highlands Field Naturalists	Toronto: The Georgian Bay Association
Huntsville: Huntsville Nature Club	Orillia: Twin Lakes Conservation Club
Midland-Penetanguishene: Huronia Land Conservancy	York Simcoe: York-Simcoe Naturalists
Lake Ontario North	
Downsview: Black Creek Conservation Project	Peterborough: Peterborough Field Naturalists Club
University of Toronto: Brodie Club	Pickering: Pickering Naturalists
Oshawa: Durham Region Field Naturalists	Gormley: Pride and Preston Lake
Oakville: Friends of Bronte Creek Provincial Park	Flesherton: Project C.A.N.O.E.
Oshawa: Friends of Second Marsh	Richmond Hill: Richmond Hill Naturalists
Bobcaygeon: Friends of the Osprey-Kawartha Lakes	Scarborough: Rouge Valley Naturalists
Scarborough: Friends of the Rouge Watershed	King City: S.T.O.R.M. Coalition
Durham: Green Door Alliance	Toronto: Save The Rouge Valley System
Peterborough: Harper Park Stewardship Initiative	Toronto: Seniors for Nature Canoe Club
Toronto: High Park Nature	Whitby: Thickson's Woods Land Trust
Greater Toronto Area: Humber Watershed Alliance	Toronto: Toronto Bird Observatory
Lindsay/Fenelon Falls: Kawartha Field Naturalists	Toronto: Toronto Field Naturalists
Toronto: Mycological Society of Toronto	Toronto: Toronto Ornithological Club
Uxbridge: North Durham Nature Club	Kleinburg: West Humber Naturalists
Aurora: Oak Ridges Moraine Land Trust	Cobourg-Port Hope: Willow Beach Field Naturalists
Aurora: Oak Ridges Trail Association	York Region: York Region Environmental Alliance
Orono: Orono Crown Lands Trust	
Northern	
East	West

Sault St Marie: Algoma Highlands Conservancy	Elliot Lake: Friends of Algoma East
Kirkland Lake: Friends of Esker Lakes Provincial Park	Manitoulin Island: Friends of Misery Bay Nature Reserve
Killarney: Friends of Killarney Park	Manitoulin Island: Manitoulin Nature Club
Monetville: Friends of Mashkinonje	Manitouwadge: Manitouwadge Conservation Club
Kirkland Lake: Kirkland Lake Nature Club	Elliot Lake: Penokean Hills Field Naturalists
North Bay: Nipissing Naturalists Club	Fort Frances: Rainy River Valley Field Naturalists
Sudbury: Sudbury Naturalists	Sault St Marie: Sault Naturalists' Club of Ontario and Michigan
	Thunder Bay: Thunder Bay Field Naturalists
Ontario East	
Lansdowne: A2A - Algonquin to Adirondacks Conservation Association	Carleton Place: Mississippi Valley Field Naturalists Club
Glengarry-Prescott-Russell: Club de miroise de l'Est ontarien (MiroisEont)	Ottawa: Ottawa Duck Club Inc.
Cloyne: Friends of Bon Echo	Ottawa: Ottawa Field Naturalists' Club
Lansdowne: Friends of Charleston Lake Park	Pembroke: Pembroke Area Field Naturalists
Kingston: Friends of Frontenac Park	Picton: Prince Edward County Field Naturalists
Ottawa: Innis Point Bird Observatory	Belleville: Quinte Field Naturalists
Kingston: Kingston Field Naturalists	Perth: Rideau Valley Field Naturalists
Kingston: Lakeside Community Garden	Deep River: Upper Ottawa Valley Nature Club
Arnprior: Macnamara Field Naturalists' Club	Vankleek Hill: Vankleek Hill Nature Society

Ontario Land Trust Associations

For a complete list and contact details of Land Trusts in Ontario, refer to the Ontario Land Trust Alliance, <http://www.olta.ca>

National Land Trusts

Nature Conservancy of Canada, NCC
 P.O. Box 520
 Port Rowan, ON
 N0E 1M0
 1-800-249-9598 ext. 203
 519-826-0068
 Website: <http://www.natureconservancy.ca>

Provincial Land Trusts

Ontario Farmland Trust
 c/o University of Guelph, School of Environmental Design & Rural Development,
 Guelph, ON
 N1G 2W1
 519-824-4120 ext. 52654
 E-mail: farmland@uoguelph.ca
 Website: <http://www.ontariofarmlandtrust.ca/>

Ontario Nature
 366 Adelaide Street West, Suite 201,
 Toronto, ON
 M5V 1R9
 416-444-8419
 E-mail: info@ontarionature.org
 Website: <http://www.ontarionature.org>

Local Land Trusts


The Bruce Trail Conservancy	Kensington Conservancy	Muskoka Conservancy
Canada South Land Trust	Lake Clear Conservancy	Niagara Land Trust Foundation
Couchiching Conservancy	Lake of Bays Heritage Foundation	Northumberland Land Trust
Escarpment Biosphere Conservancy	Lake Superior Watershed Conservancy	Oak Ridges Moraine Land Trust
Georgian Bay Land Trust	Lambton Wildlife Inc.	Rainy Lake Conservancy
Haliburton Highlands Land Trust	Land Conservancy for Kingston, Frontenac, Lennox & Addington	rare Charitable Research Reserve
Hastings Prince Edward Land Trust	Lone Pine Marsh Sanctuary Inc.	Thames Talbot Land Trust
Head-of-the-Lake Land Trust	Long Point Basin Land Trust	Thickson's Woods Land Trust
Huronian Land Conservancy	Lower Grand River Land Trust	Thousand Islands Watershed Land Trust
Huron Tract Land Trust Conservancy	Magnetawan Watershed Land Trust	Thunder Bay Field Naturalists
Kawartha Land Trust	Mississippi Madawaska Land Trust Conservancy	

Ontario Ministry of Natural Resources Office Contacts

Note: The figure below depicts the district covered by each office in the following table.

Northwest Region MNR Offices		
Location	Address	Telephone
Atikokan	108 Saturn Avenue, POT 1C0	(807) 597-6971
Dryden	479 Government Road (Hwy.17), Box 730, P8N 2Z4	(807) 223-3341
Fort Frances	922 Scott Street, P9A 1J4	(807) 274-5337
Geraldton	208 Beamish Avenue, Box 640, POT 1M0	(807) 854-1030
Ignace	Box 448, POT 1T0	(807) 934-2233
Kenora	808 Robertson Street, Box 5080, P9N 3X9	(807) 468-2501
Nipigon	5 Wadsworth, Box 970, POT 2J0	(807) 887-5000
Red Lake	227 Howey Street, Box 5003, P0V 2M0	(807) 727-2253
Sioux Lookout	49 Prince Street, Box 309 P8T 1A6	(807) 737-1140
Terrace Bay	Box 280, POT 2W0	(807) 825-3205
Thunder Bay	435 S. James Street, Suite B001, P7E 6S8	(807) 475-1471
Northwest Regional Office - Thunder Bay	435 S. James St., Suite 221, P7E 6S8	(807) 475-1261
Northeast Region MNR Offices		
Northeast Regional Office - South Porcupine	Ontario Government Complex, Hwy. 101, P.O. Bag 3020, PON 1H0	(705) 235-1157
Blind River	62 Queen Avenue, P0R 1B0	(705) 356-2234
Chapleau	190 Cherry Street, P0M 1K0	(705) 864-1710
Cochrane	2 Third Avenue, Box 730, P0L 1C0	(705) 272-4365
Espanola	148 Fleming Street, P5E 1R8	(705) 869-1330
Gogama	Box 129, P0M 1W0	(705) 894-2000
Hearst	613 Front Street, Box 670, P0L 1N0	(705) 362-4346
Kapuskasing	Hwy 11 West, Box 2, P5N 2X8	(705) 335-6191
Kirkland Lake	Box 910, 10 Government Road East, P2N 3K4	(705) 568-3222

Manitouwadge	Box 309, P0T 2C0	(807) 826-3225
Moosonee	Revillion Road, Box 190, P0L 1Y0	(705) 336-2987
North Bay	3301 Trout Lake Road, P1A 4L7	(705) 475-5550
Sault Ste. Marie	64 Church Street, P6A 3H3	(705) 949-1231
Sudbury	3767 Hwy. 69 South, Suite 5, P3G 1E7	(705) 564-7823
Timmins	Ontario Government Complex, Hwy 101 East, P.O. Bag 3090, South Porcupine, ON, P0N 1H0	(705) 235-1300
Wawa	48 Mission Road, Box 1160, P0S 1K0	(705) 856-2396
Southern Region MNR Offices		
Southern Regional Office - Peterborough	300 Water Street, 4th Floor, South Tower, P.O. Box 7000, K9J 8M5	(705) 755-2000
Algonquin Park	Box 219, Whitney, KOJ 2M0	(613) 637-2780
Aurora, Greater Toronto Area (GTA)	50 Bloomington Road, L4G 0L8	(905) 713-7400
Aylmer	615 John Street North, Aylmer, ON N5H 2S8	(519) 773-9241
Bancroft	106 Monck Street, Box 500, K0L 1C0	(613) 332-3940
Bracebridge	R.R. 2, Hwy 11 North @ High Falls Road, P1L 1W9	(705) 645-8747
Chatham	Courier address: 870 Richmond Street West, N7M 5J5; Mail address: P.O. Box 1168, N7M 5L8	(519) 354-7340
Clinton	100 Don Street, Box 819, Clinton, Ontario, N0M 1L0	(519) 482-3428
Guelph	1 Stone Road West, N1G 4Y2	(519) 826-4955
Kemptville	10 Campus Drive, Postal Bag 2002, Concession Road, K0G 1J0	(613) 258-8204
Kingston	Ontario Government Building, Beachgrove Complex, 51 Heakes Lane, K7M 9B1	(613) 531-5700
Midhurst (Huronion)	2284 Nursery Road, L0L 1X0	(705) 725-7500
Minden	Hwy. 35 By-pass, Box 820, K0M 2K0	(705) 286-1521
Niagara	P.O. Box 5000, 4890 Victoria Avenue North, Vineland Station, L0R 2E0	(905) 562-4147



Owen Sound	1450 7th Ave. East, N4K 2Z1	(519) 376-3860
Parry Sound	7 Bay Street, P2A 1S4	(705) 746-4201
Pembroke	31 Riverside Drive, K8A 8R6	(613) 732-3661
Peterborough	300 Water Street, P.O. Box 7000, K9J 8M5	(705) 755-2001
Tweed	Field Office, Postal Bag 70, Old Troy Road, K0K 3J0	(613) 531-5700

Regions and Districts



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Appendix 3: Landowner Information

Insert
logo here

< Insert Event Name > BioBlitz Landowner Contract

Landowner Information

Last Name:	First Name:
Address:	
Phone Number:	Email:
Property Boundaries:	

Event Information

Date:	Start Time:	
Anticipated Number of Guests:	Area to be surveyed:	End Time:

I agree to allow the < *insert group name* > host a BioBlitz event at the above mentioned property and acknowledge and/or agree to the following in regards to this event (please check or initial):

- I permit the < *insert group name* > to submit all data collected on my property to iNaturalist thereby becoming public record and allow this data to be passed on to regulatory agencies such as the Conservation Data Centre.
- Legally protected Species at Risk or habitats may be found on my property and reported to the provincial regulatory agency. This may cause limitations on future changes to my land use management.
- Permits, stewardship programs, and tax incentives may be required and/or become available to me if protected species are found. However qualifications for incentives are not guaranteed.
- Reporting of Species at Risk could affect the land uses of surrounding properties.
- Some protected species such as the spotted turtle, wood turtle, and American ginseng are threatened by over-exploitation and their locations should therefore be treated with sensitivity and/or confidentiality.
- I will allow access to my property for event volunteers leading up to the event (i.e. logistics coordinator, experts requiring tour of property etc.).
- I will not hold the < *insert group name* > responsible for any damage caused to my property during this event.

Signature of
Landowner: _____

Date: _____

Signature of
Witness: _____

Date: _____

Appendix 4: Survey Techniques

Responsible Surveying Techniques

- 1) ***Keep Groups Small***
When surveying in groups or conducting guided nature walks, try to keep group numbers low in order to reduce disturbances to wildlife and habitats.
- 2) ***Stay on Trails***
Try to stay on trails or paths to reduce trampling of vegetation. When venturing off-trail, be cautious of where you step.
- 3) ***Avoid Wet Conditions***
If conditions are wet, avoid muddy areas that could be disturbed by soil compaction or erosion.
- 4) ***Avoid Sensitive Habitat***
If sensitive features such as nests, dens, hibernacula, breeding grounds, feeding grounds, etc. are discovered, minimize activity and disturbances in surrounding areas.
- 5) ***Restrict Pets***
Off-leash dogs may cause damage to vegetation or wildlife, or scare animals away. Consider restricting pets at the BioBlitz or establish an on-leash only rule.
- 6) ***Don't Take Samples***
Avoid taking plant samples by identifying in-field. There are some exceptions to this rule as certain species (i.e. fungi) require closer inspection.
- 7) ***Check Traps Frequently***
If wildlife traps have been set, check traps frequently and make sure the trapped specimens are not exposed to rain or direct sunlight.
- 8) ***Minimize Interaction with Wildlife***
Any interaction or disturbances to wildlife should be kept to a minimum (i.e. pishing for birds). **REMEMBER: It is illegal to disturb threatened or endangered species. This includes handling of any kind.**



Example survey techniques

Fish

Seine Netting: This activity will likely require a permit. In Ontario a “Permit to collect Fish for Scientific Purpose” is required and is issued by the MNR. These permits will only be granted during certain times of the year to avoid disrupting spawning periods and require several weeks to be processed. Only the individuals listed on the license are permitted to supervise operation of the seine net.

Electrofishing: Electrofishing is the use of electricity to temporarily stun fish to make them easier to catch. It can either be done using a backpack electrofishing unit (for shallow, hard bottomed waterways) or from a boat electrofishing unit (for deeper waters). For this technique, you will require a permit to collect fish for scientific purposes. This activity requires training, certification, and expensive equipment and can only be carried out by certified individuals. Contact your local Conservation Authority if you wish to pursue this sampling option. It is important to note that this is a dangerous sampling method and may not be suitable for a community event.

Aquatic Invertebrates

Kick-net/Pond-Dipping: Aquatic (or Benthic) invertebrates are the insects and other invertebrate species found in aquatic habitats such as rivers and streams. As many species spend their larval stages in water (mosquitoes, dragonflies, mayflies etc.) sampling these species directly from the water can be easier than locating adult specimens on land. Other species found in the water include crayfish, leeches, mussels, snails, etc.

The sampling method involves disturbing the stream substrate with a shuffling/kicking motion and capturing the dislodged invertebrates with a large D-frame net as they float downstream. While anyone can collect the samples (empty net contents into water-filled containers), an expert will be required to properly identify the species. Microscopes will likely be required, and permits will likely be needed for some species, like molluscs and other Species At Risk.

Moths

Black lighting: Moths are typically drawn to light. An easy way to attract moths for a night-time survey is to hang a standard white cotton sheet and shine a light source on it (a black light works best). It will help if at least one side of the sheet is facing an open area.

Moth traps: If you don't want your participants to work into the evening, you could set up moth traps instead. These traps will allow you to leave for the night, and return the next morning to sort through your catch. The basic set up for a trap will be a light source (again, black light work best) fastened above a funnel that drains into a lidded bucket, tub, or pail. As the moths are attracted to the light, they will become disoriented, fall through the funnel, and become trapped in the holding tank. The moths will have to be sorted as early as possible the next morning and kept covered from rain or direct sunlight.

Sugaring: This method is meant to survey moths that are attracted to nectar or tree sap rather than light. Mixing a sweet smelling mixture and using a paint brush to apply it to trees will attract species. The mixture ingredients tend to vary but may include some of the following ingredients: overripe fruit such as banana, molasses, beer, rum, brown sugar, or yeast.

Mammals

Live-Capture Traps: These small mammal traps are baited (typically peanut butter and rolled oats mixture), set, and left along transect-lines in known mammal habitats such as fallen logs, near den entrances or near water's edge. The traps should be checked at least once a day to document and release captured specimens.

Pit-Traps: Pit traps are simply a small container sunken into the ground. Coffee tins, ice-cream tubs, or something similar can be used. These types of traps should also be checked frequently so that animals are not trapped inside for long periods of time. Also, some kind of shading cover should be placed over the trap so that specimens are not exposed to direct sun or rain.

Tracks: Tracks are an easy way to observe the presence of mammals without disturbing them. Muddy substrates, particularly near a water source are a good place to look for tracks. Track tunnels can also be used to sample for small mammals. These "traps" consist of a tunnel (i.e. tube or milk carton with the top and bottom cut off) with a piece of tracking paper attached inside smeared with a tracking agent (i.e. stove polish). Small mammals will enter the tunnel and then pass through the tracking agent, leaving their tracks for later identification. Track identification will require an experienced expert.

Trail Cameras: These rugged, waterproof remote cameras are motion triggered and can be set up throughout the BioBlitz property to capture images of passing mammals. This is an effective way to document presence of mammals (typically mid-sized to larger mammals) without having to be present at the same time as the animal. The benefit is that an additional set of eyes is placed in the area and there is no disturbance that may otherwise have scared the animal from the site.

Snakes and Salamanders

Artificial Cover Objects: Snakes and salamanders often seek shelter under rocks and fallen trees. By placing broad planks of wood or sheets of asphalt shingles throughout your BioBlitz property, you may be able to easily investigate these "artificial cover objects. This technique is more effective for some species than others and cover objects need to be placed in advance for the species to be habituated to them.

Visual Searches: This is a typical method to survey for snakes and salamanders. Snakes will bask in patches of open areas often on roadsides, trails and exposed rock. This method is best done in a very small group as snakes will often dart for cover when sensing noise. Combined with visual searches, natural cover objects such as logs and rocks can be carefully lifted to check for species. This must be done with caution so as to not injure the species and must be gently placed back to avoid habitat destruction.

Road Mortality Searches: Snakes are often victims of vehicle collisions, so roads adjacent to (or through) the property can be searched for specimens. A deceased individual is often indicative of others present in the area so even a species found dead on the road provides useful information

Turtles

Visual Surveys: This is an effective method to survey for turtles provided it is carried out at

the proper time of year. Groups should be kept smaller or at least ensure that everyone is quiet approaching the wetland as turtles will submerge into the water when disturbed. Surveys entail scanning the wetland with binoculars for turtles basking on logs, rocks or at the wetland edge. Visual surveys can also be carried out using a canoe, but will be more complicated when leading a group.

Trapping: Hoop nets can be an effective method to survey for turtles. This will likely require a permit from the provincial authority that manages wildlife. In Ontario the Ministry of Natural Resources would be able to issue a “Wildlife Scientific Collector’s Authorization”. If the target species is a species at risk (as most turtles in Canada are) an endangered species permit from the provincial authority is also likely required. Nets should be set in shallow water and are typically baited with sardines or other meats with a pungent odor and must be checked regularly to prevent harm to the turtles.

Road Mortality Searches: Turtles are also victims of vehicle collisions so roads adjacent to (or through) the property can be searched for specimens. A deceased individual is often indicative of others present in the area so even a species found dead on the road provides useful information.

Birds

Pishing: Pishing is a simple technique used by birders to attract specimens. Observers say the words “pish pish pish” in rapid succession followed by a chattering such as “chit chit chit chit”. This technique mimics an “alarm” call that triggers a “mobbing” response in small birds. The success of this technique varies, and should not be used frequently as it disturbs the birds from their daily routine.

Listening: Listening for bird calls or songs are often the technique used by birders for locating and identifying bird species. As a result, many birders prefer to work alone or in small groups in order to keep their survey areas quiet.

Butterflies & Dragonflies

Nets: Butterfly, dragonfly and other insect surveyors may require small hand nets and hand lenses to capture species for closer inspection. The best place to find butterflies will be open sunny places, with plenty of wildflowers. Dragonflies are more difficult to catch and are often found near water.

Appendix 5: Data Collection

	<h1 style="margin: 0;">Tracked Species Report Card</h1>	
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Last Name: _____	First Name: _____
Phone #: _____	Email: _____
GPS Coordinate System _____	UTM Zone: _____

Species: _____	Quantity: <input type="checkbox"/> 1's/ <input type="checkbox"/> 10's/ <input type="checkbox"/> 100's
Date (YYYY/MM/DD): ____/____/____	
Easting: _____	Northing: _____
Lat: _____	Long: _____
Accuracy: _____	Photo Taken?: <input type="checkbox"/> No <input type="checkbox"/> Yes
Photo Number: _____	
Habitat/ Site Description: _____	
Additional Notes: _____	

Species: _____	Quantity: <input type="checkbox"/> 1's/ <input type="checkbox"/> 10's/ <input type="checkbox"/> 100's
Date (YYYY/MM/DD): ____/____/____	
Easting: _____	Northing: _____
Lat: _____	Long: _____
Accuracy: _____	Photo Taken?: <input type="checkbox"/> No <input type="checkbox"/> Yes
Photo Number: _____	
Habitat/ Site Description: _____	
Additional Notes: _____	

Species: _____	Quantity: <input type="checkbox"/> 1's/ <input type="checkbox"/> 10's/ <input type="checkbox"/> 100's
Date (YYYY/MM/DD): ____/____/____	
Easting: _____	Northing: _____
Lat: _____	Long: _____
Accuracy: _____	Photo Taken?: <input type="checkbox"/> No <input type="checkbox"/> Yes
Photo Number: _____	
Habitat/ Site Description: _____	
Additional Notes: _____	

BioBlitz Species Checklist

NAME: _____ DATE: _____



- Berries
- Birch Tree
- Maple Tree
- Mushroom/ Fungi
- Oak Tree or Acorn
- Pine Tree
- Wildflower- Pink or Purple
- Wildflower- White
- Wildflower- Yellow



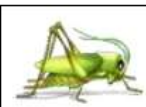
- Blue Jay
- Canada Goose
- Cardinal
- Crow or Raven
- Duck
- Hawk or Bird of Prey
- Owl
- Robin
- Woodpecker



- Frog or Toad
- Lizard/ Fine-lined Skink
- Tadpole
- Turtle
- Salamander
- Snake



- Bat
- Chipmunk
- Groundhog/ Woodchuck
- Human
- Rabbit or Hare
- Squirrel



Insects & Friends



- Ant
- Bumble Bee
- Butterfly or Moth
- Caterpillar
- Dragonfly or Damselfly
- Earwig
- Fly
- Grasshopper or Cricket
- Lady Bug
- Mosquito
- Slug or Snail
- Spider
- Worm



Wildlife Signs



- Animal Tracks
- Beaver Dam or Lodge
- Bird Nest
- Den or Burrow
- Eggs or Egg Shells
- Frog or Bird Call
- Fur or Feathers
- Insect Damage
- Scat (Animal poop)
- Snake Skin
- Stumps Left Over From Beavers
- Woodpecker Holes



What Else Did You See?




-
-
-
-
-
-
-

Appendix 6: Information Flyer Template and Examples




Ontario BioBlitz


 OntarioBioBlitz
  @OntarioBioBlitz



May 24-25, 2014 In the Humber Watershed



COME JOIN US!



With base camps at two Humber Watershed locations:

BioBlitz Main Base Camp
McMichael Canadian Art Collection
10365 Islington Ave, Vaughan, ON

Guided BioBlitz Base Camp
Kortright Centre for Conservation
9550 Pine Valley Dr, Woodbridge, ON

WHAT: A BioBlitz brings together scientists and knowledgeable members of the public to try to identify as many plant, animal, and fungal species as possible over a 24 hour period, to document the biodiversity of a given area. It also provides a venue for public education about biodiversity, conservation, and environmental stewardship. A visitor area will be organized where the public and families are invited to come and interact with the different organizations and participants. Come learn more about the BioBlitz, the Humber Watershed, and the nature that surrounds us!


WHEN: The 2014 Ontario BioBlitz will run from noon on Saturday, May 24th to noon Sunday, May 25th.

WHERE: This year's BioBlitz will be held in the Humber Watershed, with base camps located at the McMichael Canadian Art Collection and the Kortright Centre for Conservation. Everyone should register upon their arrival on May 24th at McMichael, before heading out for field work, hikes, or activities. The Humber Watershed is the biggest watershed in Toronto, boasting 911 square kilometers of land, water, and breath-taking nature. A variety of habitats are represented and we are expecting to see a high diversity of species. Maps of the park, the base camps, and sampling locations will be available online and upon registration.

WHO: Professional, amateur, and young naturalists are invited to participate in the inventory process. Specialists for each category of organism will be grouped with interested volunteers to conduct an inventory of the Humber Watershed. There will be opportunities to join inventory teams in the field, help with collecting and processing specimens, identifying species, and processing the data. Those who have less experience but a lot of enthusiasm are invited to register and participate in the Guided BioBlitz – a new offering in 2014. Hands on workshops led by specialists will teach skills in collection and identification methods for plants, animals, and fungi. Volunteers are also needed to help with food, logistics, public programs, providing directions, and the many other tasks that are required for an event such as this to operate smoothly. Indicate your interests and skills when you register online.


HOW: To register as a BioBlitz participant, please visit 2014.ontariobioblitz.ca. There will be camping available at the McMichael Canadian Art Collection. Organizers will need to know in advance how many people plan on camping overnight. Participants will be provided water (bring your own reusable bottles!), coffee, trail snacks, and a Sunday barbeque.

WHY: For the love and appreciation of Ontario's natural beauty, and of course, to have a great time!








Ontario BioBlitz



BioBlitz Headquarters

Rouge Valley Conservation Centre
1749 Meadowvale Road
Toronto, Ontario
East of Toronto Zoo Main Entrance

Rouge Park 2013

September 14-15



Invitation to scientists, naturalists, and volunteers

What: A BioBlitz brings together scientists and knowledgeable members of the public to try to identify as many, plant, animal, and fungal species as possible over a 24 hour period, so as to document the biodiversity of a designated area. It also provides a venue for public education about biodiversity and conservation. A visitor area will be organised for the public and families to come and interact with the different organizations involved to learn more about the BioBlitz, the park, and the future national urban park.

When: The Ontario BioBlitz - Rouge Park 2013 will run from noon Saturday, September 14th to noon Sunday, September 15th.

Where: The BioBlitz will be held in Rouge Park, headquarters are at the Rouge Valley Conservation Centre. This park has a variety of habitats including forests, wetlands, river beds, old fields, agricultural lands, and restoration sites which support a diversity of species. Maps of the Park, all pertinent locations and information will be available on-line and at check-in.

Who: Professional, amateur, and young naturalists are invited to participate in the inventory process. Specialists for each category of organism will be grouped with interested volunteers (both experienced and novice) to conduct an inventory of the Rouge Park. There will be opportunities to join inventory teams in the field; help with collecting and processing specimens; identify species and process data. Participants will be assigned to a team or task based on the information they provide on the registration form. You don't need to be a naturalist to participate! Volunteers are also needed to help with food, logistics, public programs, providing directions, and the many other tasks that are required for an event such as this to operate smoothly. Indicate your interests or skills on the registration form.

How: To register yourself as a BioBlitz participant, please visit <http://www.ontariobioblitz.ca/home/registration> - For accommodation, camping will be available near the Rouge Valley Conservation Centre. Organizers will need to know in advance how many will be staying overnight. A special BioBlitz rate is being negotiated at a nearby hotel. Details to be confirmed. Participants will be provided coffee and trail snacks and a Sunday barbecue. Other meals may also be supplied through the course of the event. Participants should bring their own water and additional snacks.

Why: Because it is going to be a great time!



<Insert logo here>

<Insert Organization Name>
Invites you to participate in the <#> Annual
<Insert Detail>BIOblitz
At <Insert Location>
<Insert Date>



The <enter host organization> in partnership with the Community Stewardship Council of Lanark County is looking for volunteers and participants for their <#> annual BioBlitz. Come join dozens of expert biologists in a race against the clock to identify as many species of plants and animals as possible!



LOCATION: <insert location (you may wish to include details about the property)>

WHEN: <insert date and time>

ACCOMODATION: <any details about accommodation (is camping available?)>



JOIN US: <insert details about event (guided hikes, barbeque, childrens activities, etc.)>

DIRECTIONS: <insert directions>



PLEASE BRING: Hiking boots, long pants, sunscreen, hats, bug spray, and snacks; binoculars, GPS and ID books if you have them.

Admission is FREE!

This event is rain or shine, so be sure to dress appropriately!

For More Information Contact

<insert contact name> at
###-###-####,
<email address>
Or visit the website at:
<website>





The Friends of Mac Johnson Wildlife Area

Invite you to be part of the CRCA

Brockville Bioblitz

At Mac Johnson Wildlife Area in Elizabethtown-Kitley Township

June 5th and 6th, 2009

Part of The Frontenac Arch Biosphere Reserve



Our Bioblitz: plans to be a 24 hour period of time when specialists and enthusiasts come together at Mac Johnson Wildlife Area in Elizabethtown-Kitley Township, (just north of Brockville, ON) to identify and record as many different species of plants and animals as possible. The MJWA is owned and operated by the Cataraqui Region Conservation Authority. www.cataraqueiregion.on.ca

Bioblitz Date:

3:00 pm, Friday, June 5th to 3:00 pm, Saturday, June 6th

Purpose: In 2007, the Cataraqui Region Conservation Authority worked with community organizations to develop a master plan to help guide the use and care of MJWA for the next 20 years. One important project was identified as updating the 1982 species inventory. It will provide the foundation to move forward with trail rationalization, a marketing and feasibility study, and developing a new nature centre on the property.



The Friends of Mac Johnson Wildlife Area: are a group of local volunteers who assist the CRCA to plan and implement a variety of conservation and education projects. This will be our first BIOBLITZ and the success of the event depends upon the involvement of the entire community – and beyond. <http://www.cybertap.com/~macjohnson>



Learn More & Spread the Word: Whether you are an expert or novice, come join us. Are you interested in wildlife? Do you want to put your knowledge of plants toward a worthy project? Maybe you have a friend or colleague who specializes in a certain species or has BIOBLITZ experience. Please call us for more information or to share your knowledge. The greater the input, the greater the event! <http://perso.b2b2c.ca/brockvillebioblitz> will be up and running soon.



Visitors Welcome:

- Saturday, June 6th from 11:00 am to 3:00 pm
- Pond dipping, birdhouse building, lectures, hikes, more

Volunteers Welcome:

- species counting, photographers, GPSers, welcome ambassadors, food crew, registration, set-up and more

Contact:

Claire Lefrancois

phone: 613-342-9364 e-mail: bioblitz@b2b2c.ca



July 7, 2009

The Mississippi Valley Field Naturalists are pleased to announce their premiere BioBlitz event.

MVFN BioBlitz 2009

The Mississippi Valley Field Naturalists in partnership with The Nature Conservancy of Canada and with assistance from the Community Stewardship Council of Lanark County invite you to participate in the **2009 MVFN BioBlitz** taking place on **NCC's Bell Property**.

A BioBlitz is part contest, social gathering, educational event and citizen-science endeavour. The BioBlitz will bring together scientists, and expert and novice nature enthusiasts to see how many species they can find in a 24 hour biological survey.

The BioBlitz provides an opportunity for all participants to learn from experts how to identify the many plants, animals and birds that will be found during this 24 hour period. Specialists and experts from a diverse set of disciplines will be grouped with interested participants to explore the area under investigation.

The inventory and interaction of specialists with the public are integral goals of this event.

The event is both educational and fun. Individuals of all ages including children are welcome to attend.

THE DATE

The BioBlitz takes place from:

3:00 pm on Saturday, 19 September
to
3:00 pm on Sunday, 20 September

The event will run, rain or shine.

THE SITE

The BioBlitz will take place on the Bell Property, owned and managed by the Nature Conservancy of Canada. We are delighted to be able to hold this BioBlitz on this approximately 85 acre conservation property which has a variety of habitats including, hardwood and mixed wood forest, seasonal wetlands, and streams.

ACCESS AND LOCATION

The property is located at the intersection of Clayton Road and Ramsay Concession 3B, Mississippi Mills, Ont. K0A 1A0 in Lanark County—near the town of Almonte (just west of Ottawa).

- Coming from the town of Almonte
- 1) Turn right (north) onto County Rd. 29/Christian St
 - 2) Continue to follow County Rd. 29 for 3.1 km
 - 2) Turn left (west) onto Clayton Rd. and continue for 8.1 km
- BioBlitz is on the left (south side)

Please park where indicated (not on the Clayton Road) and follow signs to the Base to register.

ACCOMMODATION

There will be limited free overnight camping near the Bell Property on Cliff & Lynda Bennett's property 1772 Clayton Rd. (north side) just west of Ramsay Concession 3B and 1 km before County Rd. 9 (Talloch Rd.). Please let us know if you are planning to camp.

Information on commercial accommodations in Mississippi Mills area can be found at <http://www.mississippimills.ca/tourism/anddelisting.cfm?anddelistingno=297>

REGISTRATION

Participants must register at the BioBlitz Base site **between 2:00 and 9:00 PM on Saturday, Sept. 19 or between 6:30 AM and 2:00 PM on Sunday, Sept. 20.**

Upon registration, you will be provided with instructions, directions and a map of the property as well as tally sheets on which to list species observed.

Please return your final tally sheets and field notes to the Base site before departure. These will be copied and returned to you if you wish.

WHAT TO BRING

Please bring your own **meals and snacks**, but note the Sunday BBQ social (see below).

Please also bring **sunscreen, insect repellent, hat, and a flashlight** for night activities.

Good walking **boots** are advised and appropriate clothing including long pants.

You may like to bring your own **binoculars, hand lens, clipboard, checklist and field guides.**

Cameras and GPS units will be useful (but not required) to record rare species, and for recording species needing identification.

Portable water and a washroom will be available at the Base site and camp site. Please bring your own **water bottle** and travel mug and camping equipment if camping overnight.

BARBEQUE SOCIAL

A free barbeque will be held at the post count wrap up after 3:00pm.

PLEASE . . .

NO dogs at this event. Please be sensitive to the fact that this is conservation property and we are there only at the invitation of the Nature Conservancy of Canada. Try to keep the impact to a minimum and attempt to leave things as they were found.


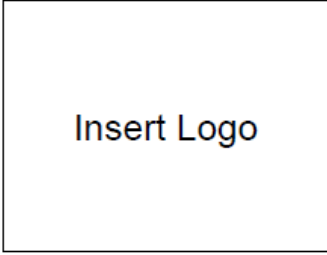
We look forward to this event and hope you do too. Please share this information with anyone you know who might be interested.

Volunteers are needed to run the BioBlitz. Please contact Cliff Bennett if you are willing to help (phone 613 256-5013 or email bennett@magma.ca)

Contact me if you plan to participate or wish to have any questions answered (phone 613-256-7211 or e-mail mcp@mail.com).

Yours truly, Mike McPhail (MVFN BioBlitz - Communication Lead)



Insert Logo

Press Release
For Immediate Release
(Enter Current Date)

CATCHY HEADLINE

Date, location- Interesting lead sentence. Follow up sentence (s) clarifying what the article is about.

The first and second paragraph should include who, what, where and when. Try to keep sentences and paragraphs brief.

Include any additional information such as planned activities, where people can stay, directions, and what they should bring. Do not indent your paragraphs.

Highlight free admission and link to webpage if you have one.

Be sure to mention partner groups at some point within the release.

If this release is for after the event, mention key information such as the number of participants, how many species were found, examples of interesting species etc. Including quotes from participants can also be a good idea.

For information, please contact: name, phone number

-30-

**EXPERTS
NEEDED!!**

Singleton Lake BioBlitz

August 27th -28th

**EXPERTS
NEEDED!!**

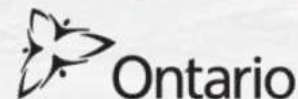
The Centre for Sustainable Watersheds in partnership with the Leeds County Stewardship Council and Community Stewardship Council of Lanark County and would like to invite you to participate in a 2 day BioBlitz of the Chadwick Property on August 27-28th. Throughout the two days, experts will work towards developing a biological inventory of the property including everything from birds and insects to mosses and fungi. Come explore this beautiful waterfront property and help identify as many species as possible!

Come for a couple of hours or stay for two days. Any contribution helps!

- Bring your canoe and explore the beautiful shoreline.
- Property maps, species checklists, instructions to be provided.
- Overnight Camping Available & Food/Meals Provided for Volunteers.
- For those unable to attend the BioBlitz, guided day trips may be arranged for alternate days to ensure a complete inventory.
- ****Please let us know if you may be interested in leading a guided walk.***

Property Features Include: Mixed Forest, Provincially Significant Wetlands, Rocky Shores and Outcrops, Access to Singleton Lake, Swamp, Old Field and Orchard Habitat, Extensive Butterfly & Dragonfly Habitat with Maintained Trails, Black Rat Snakes, Cerulean Warblers, Numerous Bird Species, Beautiful Scenery, & More!

To register for the event please contact:
Meaghan McDonald, BioBlitz Intern
T: (613) 267-4200 ext. 3194
Email: BioBlitzintern@gmail.com



Appendix 7: Dangerous Plant Warning

WARNING: POISON IVY IN AREA

The many faces of poison ivy



Poison ivy can grow as a shrub, vine or low plant



Poison Ivy

All parts of the plant are poisonous, including the stem

Look for small white berries



Poison ivy can appear quite red in fall



Leaves may be toothed, smooth, or lobed

“Leaves of three, let it be”

Appendix 8: Schedule Examples

2009 MVFN Bioblitz Tentative Schedule

Please note that this schedule is subject to change. Participants should pre-register for events at the Bioblitz Base site. Inventory activity takes place from 3 pm Saturday to 3 pm Sunday. Registration will be open between 2 pm and 9 pm Saturday, September 19 and between 6:30 am and 2 pm Sunday, September 20.

Saturday, September 19

Time	Event			
2:00 pm	Bioblitz Base opens, Registration begins			
3:00 – 3:15 pm	Bioblitz opening ceremony			
3:15 – 4:00 pm	Bell property ecological orientation - west side			
4:15 – 5:00 pm	Bell property ecological orientation - east side			
5:00 – 6:00 pm	Fungus collection for spore prints	Moth trap set-up	Spotting geological features	Inspect small mammal traps
6:00 – 7:30 pm	Inventory on your own			
7:30 – 8:30 pm	Calling seasonal creatures of the night			
8:30 - 9:30 pm	Moth mania			
10:00 pm	Registration closes 9 pm , Bioblitz Base closes 10 pm			

Sunday, September 20

Time	Event		
6:30 am	BioBlitz Base Registration begins		
7:00 – 8:00 am	Bird watching		
8:00 – 9:00 am	Catch anything? check small mammal & pit traps	Bird watching	
9:00 – 9:55 am	Memorable mosses	Reptiles & amphibians: are you here?	Woodland discovery for children
10:00 – 10:55 am	Fantastic fungi	Plants with wet feet	
11:00 - 11:55 am	Plants liking it drier	Loveable lichens	
12:00 – 12:55pm	Insects at large	Fungi frenzy	
1:00 – 1:55 pm	Invertebrates without 6 legs	Flying pictures: butterflies and dragonflies	
2:00 – 2:55 pm	Mammals and anything missed: a walk on the wild side with detective Jim	Lanark rocks!	
2:00 - 3:00 pm	Registration closes 2 pm . Last call for tally sheets 3:00 pm		
4:00 pm	BioBlitz closing ceremony – results, quiz. Post-BioBlitz BBQ		

MVFN BioBlitz 2009 is presented by the Mississippi Valley Field Naturalists in partnership with the Nature Conservancy of Canada and The Community Stewardship Council of Lanark County. The event takes place at the Nature Conservancy of Canada's Bell property near Almonte at the intersection of Clayton Road and Ramsay Conc. 3B. Follow signs for parking.

For further information, or if you plan to participate, please contact Mike McPhail at 613-256-7211 or mcp@mail.com or visit www.mvfn.ca.

Friday, June 15



BioBlitz Headquarters
 Rouge Valley Conservation Centre
 1749 Meadowvale Road
 Toronto, Ontario
 (416) 282-8265
info@rvcc.ca

welcome & participant/volunteer registrations (continues 24hrs)
 meet & greet, RVCC open house, bioblitz experts present

OFFICIAL START of Rouge BioBlitz 2012 (24hrs)

BEETLES & SPIDERS of Rouge Park (30min)

Bruce Gill (CFIA) & Tom Mason (TZ) will tell us about creepy crawlers.

TREES & Invasive Species (1hr)

Deb Metsger (ROM) discusses dog-strangling vine, Russian Olive, and the Giant Hog Weed - invaders with a punch.

HERPS! Reptiles & Amphibians (30min)

Amy Lathrop (ROM) shows us the slimy & scaly.

BATS & Other Mammals (1.5hrs)

Maria Papoulias (RP), Signe Brinklov (UoG), Maria Franke (TZ), and Iga Stasiak (TZ) introduce us to the night flyers & more - "mammals, mammals everywhere, underground, above ground, in the air!"

Late Night INSECTS (1hr)

Brad Hubley (ROM) examines some night-time bugs at a light trap!

CAMPFIRE ADVENTURE (4hrs)

Dave Ireland (ROM) & friends provide late-night check-ins, coyote howls, and ghost stories. Kick back and chat about the Rouge, and bring your own s'mores!

timeline

1:00am
 2:00am
 3:00am
 4:00am
 5:00am
 6:00am
 7:00am
 8:00am
 9:00am
 10:00am
 11:00am
 12:00pm
 1:00pm
 2:00pm
 3:00pm
 4:00pm
 5:00pm
 6:00pm
 7:00pm
 8:00pm
 9:00pm
 10:00pm
 11:00pm
 12:00pm

Saturday, June 16

BIRDS of Rouge Park (1hr)

Bob Kortright (TFM) and Bill Rapley (TZ) bring an early morning bird ID clinic to life - registration required (max 35)

WORMS (30min)

Tara Sackett (U of T forestry) captures wily worms without digging!

Beautiful BUTTERFLIES (30min)

Join Carol Sellers of the Toronto Entomologists' Association on a butterfly walk!

MUSHROOMS of the Rouge (1hr)

Jean-Marc Moncalvo & Simona Margaritescu (ROM) bring us through an ID clinic, and demo mushroom processing!

CRUSTACEANS and other INVERTEBRATES (30min)

From microscopic to longer than your nose - wild & wondrous invertebrates!

FISH & AQUATIC INSECTS (30min)

Dave Lawrie (TRCA) & Brad Hubley (ROM) go fishin' for water-breathers!

DRAGONS & DAMSELS (30min)

Bev Edwards depicts the dragons & damselfly of the insect world!

OFFICIAL END of Rouge BioBlitz 2012

BBQ
3:30-6:00pm
 Administrative Complex
 Atrium, Toronto Zoo
 361A Old Finch Ave
 Toronto, ON



© Bob Korte (http://www.bobkorte.com)

~ Schedule ~

Here is a tentative timetable for the 24-hour Brockville 2009 Bioblitz:

Friday, June 5th

2:30pm	Registration desk at base site opens
3:00pm	Bioblitz send-off
6:00pm	Supper (bring your own or pick up from Tincap restaurant 3 km away)
7:00pm	Evening activities (i.e., small mammal trap setting, evening birds, amphibians, moth baiting, bats, moths, owl calling)
10:00pm	Base site closes

Saturday, June 6th

5:00am	Birding
8:00am	Morning Activities (i.e., mammal trap check, trees, shrubs, flowering plants, ferns and spore-bearing plants, grasses and sedges)
11:00am to 3:00pm	Visitors welcome (Wildlife Festival \$5/car), environmental education activities, guided hikes/talks from specialists
11:30am to 12:30pm	BBQ Lunch at Base site(donations accepted from volunteers, fee for visitors)
12:00pm	Informal remarks from taxon teams
2:30pm	Tally sheets due; check out and hand in survey
3:00pm	Bioblitz ends; closing ceremonies and preliminary results

OTTY LAKE BIOBLITZ- TENTATIVE SCHEDULE

Saturday, May 15th, 2010

2:30-3:30 pm	Welcome to Otty Lake! Basecamp & Registration Opens	
3:30-4:30 pm	Orientation Walk lead by Mike Yee (RVCA)	
4:30- 6:00 pm	"Plants that Like Wet Feet" Walk with Susan Samilla & Edith Lepine	
6:00 - 7:30 pm	Inventory on Your Own	
7:30 – 9:30 pm	"Sounds & Creatures of the Night" Walk with Heather Lunn & Simon Lunn	Moth Lure Set-up?
9: 30 pm	Basecamp & Registration Close	

Sunday, May 16th, 2010

6:30- 8:00 am	Registration Opens	Birding & Inventorying on your own
8:00- 9:30 am	Birding Walk with Sam Kingdon	
9:30- 10:45 am	"What Kind of Trees Grow Here" Walk with Fred Lepine & Jim Agar	"Plants that Like it Drier" Walk with Susan Samilla & Edith Lepine
10:45- 12:00	Reptiles & Amphibian Walk with Dave Seburn	Damselflies & Dragonflies Walk with Jim Ronson
		Insects at Large with Jim Ronson, Jay Fitzimmons & Friends
12: 00- 1:00 pm		
1:00- 2:00 pm	"What can we find?" Walk with Mike Yee	Aquatic Plants, Aquatic Invertebrates & Water Quality with Adrienne Lewis, Sarah McLeod (RVCA) & Stephanie Popiel
2:00- 3: 00 pm	Anything We've Missed?	
3: 00 pm	Closing, Species Tally, Celebration	

Small Mammal Trapping (James Page, Kemptville MNR):

Saturday	
<i>Set-up</i>	<i>Checks</i>

Sunday	
<i>Set-up</i>	<i>Checks</i>

Appendix 9: Field Guide Suggestions

Field Guide Suggestions

Birds

Birds (Advanced Birders) Sibley Field Guide to Birds of Eastern North America
Birds (Beginner to Intermediate) Peterson's Field Guide to the Birds of Eastern and Central North America
Birds (Signs) Bird Tracks and Signs
Birds (Phishing) The Art of Phishing: How to Attract Birds by Mimicking Their Calls
Birds (Nests) Peterson's Field Guides: Eastern Birds' Nest

Bugs

Bugs (Local) Bugs of Ontario
Bugs (Local) Insects of Algonquin Provincial Park
Bugs (In general) Peterson's A Field Guide to Insects
Bugs (In general) Kautman Field Guide to Insects of North America
Butterflies Kautman's Field Guide to Butterflies of North America
Butterflies (Caterpillars) Caterpillars in the Field and Garden: A Field Guide to the Butterfly Caterpillars of North America
Moths Moths & Caterpillars of the North Woods
Moths Peterson's A Field Guide to Moths of Eastern North America
Moths (Caterpillars) Caterpillars of Eastern North America
Dragonflies & Damselflies Field Guide to The Dragonflies and Damselflies of Algonquin Provincial Park and the Surrounding Area
Dragonflies Dragonflies of the North Woods, 2nd Edition
Damselflies Damselflies of the Northeast
Beetles Peterson's A Field Guide to the Beetles
Spiders Spiders of the North Woods

Animals

Mammals (Tracks) Mammal Track and Signs
Mammals Mammals of North America, a Kautman Focus Guide
Mammals Mammals of Ontario
Bats Photo Field Guide to Bats of Ontario
Tracks Animal Tracks (A Pocket Naturalist Guide)
Herpetofauna ROM Field Guide to Amphibians and Reptiles of Ontario
Fishes The ROM Field Guide to Freshwater Fishes of Ontario

Plants

Trees Trees in Canada
Shrubs Shrubs of Ontario
Wildflowers Newcomb's Wildflower Guide
Wildflowers Peterson's A Field Guide to Wildflowers
Wildflowers (Simple) Ontario Wildflowers: 101 Wayside Flowers
Ferns Peterson Field Guide to Ferns, Second edition
Grasses Grasses: An Identification Guide
Grasses How to Identify Grasses and Grass-like Plants
Mosses A Graphic Guide to Ontario Mosses
Liverworts An Enthusiast's Guide to the Liverworts and Hornworts of Ontario

Other Life

Mushrooms Mushrooms of Ontario and Eastern Canada
Lichens Lichens of the North Woods
Invertebrates Common Freshwater Invertebrates of North America
Mollusks The Freshwater Mollusks of Canada
Mussels Photo Field Guide to the Freshwater Mussels of Ontario
Earthworms Earthworms of the Great Lakes



Appendix 10: Registration and Waiver Example

Ontario BioBlitz Steering Group

RELEASE, WAIVER AND IDEMNITY

Event: Ontario BioBlitz
Date: May 24-25 2014

I _____ (insert name), in consideration of my participation and/or volunteering on May 24-25th 2014 at which time I will be performing participating and/or volunteering duties as assigned by the Organizers of the Ontario BioBlitz Event held on Toronto and Region Conservation Authority lands located in the Humber Watershed and McMichael Canadian Art Collection property.

I agree that Royal Ontario Museum, Board of Management of the Toronto Zoo, McMichael Canadian Art Collection, Toronto and Region Conservation Authority, Biodiversity Institute of Ontario, Ontario Nature and Canadian Wildlife Federation (collectively referred to hereinafter as "Organizers"), which term includes their members, officers, officials, employees, agents, servants and contractors, will not be liable to me for any accident, injury, damage, loss or other claim for death, bodily injury, personal injury or property damage, including income loss replacement and/or health care costs, HOWEVER CAUSED, arising or to arise by reason of my participation and/or volunteering in the Ontario BioBlitz.

I FURTHER HEREBY UNDERTAKE TO HOLD AND SAVE HARMLESS and AGREE TO INDEMNIFY all of the aforesaid Organizers from and against any and all liability by any or all of them arising as a result of, or in any way connected with, my participation and/or volunteering in the said program.

I agree to perform my duties as a participant and/or volunteer in a safe manner at all times; to act in a responsible, reasonable and professional manner as a representative of the Organizers; and to treat others with respect.

I HEREBY GRANT to the ROYAL ONTARIO MUSEUM (hereinafter referred to as: ROM) and to those authorized on its behalf, the right to photograph, record and interview the above named model.

The Organizers may use, reproduce, publish, distribute, license/sell, and/or otherwise use (the "Uses") the photographs, video footage, audio recordings, interviews or other recordings (the "Media") for any purpose (including but not restricted to advertising and promotional purposes) as the Organizers wishes without further recourse or duty to me. I irrevocably release the Organizers from any obligation to me in any such dealings and disclaim any right, title and interest to the foregoing and consent to the collection, use and disclosure of the Media and any Uses thereof, and agree not to institute, support, maintain or permit any action or lawsuit in respect of any such Use. I waive any right to inspect and approve the Media or the Uses.

I have read, understood and agree to the Ontario BioBlitz Rules and Codes of Conduct and I further agree to follow all policies, procedures and instructions as set out by the Organizers of the Ontario BioBlitz event and further understand that if I do not adhere to these requirements I will not be able to participate/volunteer in the project and I will be asked to leave the premises.

I WARRANT that I am physically fit and able to participate and/or volunteer in this event.

BY SIGNING THIS DOCUMENT, I ACKNOWLEDGE HAVING READ, UNDERSTOOD AND AGREED to the above RELEASE, WAIVER AND INDEMNITY.

If signing on behalf of a minor for whom I claim responsibility as parent/guardian, I hereby acknowledge and confirm that I have the authority to execute this release on behalf of the minor.

IN WITNESS THEREOF, this waiver has been duly executed at

(municipality)

on this _____ day of _____, 20_____
(day) (month) (year)

SIGNED IN THE PRESENCE OF:

(Witness Name)

(Witness Signature)

Event Name-Ontario BioBlitz Registration and Waiver Form -insert date-

Last Name:	
First Name(s):	
City:	License Plate:
Telephone:	Email:

Terms of Participation

- I will not knowingly destroy or cause damage to the landowners property or any wildlife (flora & fauna), or habitat encountered.
- I agree to share all species information gathered during this event with the organizers and landowner.
- I agree to keep the locations of sensitive species confidential (American ginseng, spotted turtle, wood turtle etc.).

Waiver

I will not hold the landowner, (-insert landowner if applicable-) or (-insert lead organizer group-) responsible for injury, loss of property or damage to property resulting from my participation in this event. I understand the risks and agree to the terms of participation.

Signature: _____

Date: _____

Sign Out

Signature: _____

Date: _____

Checklist Submitted