GEORGIAN BAY BIOSPHERE
MNIDOO GAMII

Hosting a bioblitz

A guide for community groups & volunteers

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This document is intended for community groups and volunteers who would like to host a bioblitz. No expertise or bioblitz experience is required; this document is designed to walk you through the entire bioblitz process, from planning to hosting to compiling data.

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1. Background Information

1.1 What is a Bioblitz?

A **bioblitz** is a citizen science event to observe and record as many organisms (e.g. plants, animals, fungi, lichens) as possible within a specific location and timeframe. Some bioblitzes look for a variety of species (types of plants and animals), and others focus on just one type of organism (salamanders, trees, etc.). Participating in a bioblitz allows people to be in nature with friends and family and collect useful data for conservation and science! The data collected during a bioblitz can be kept private or can contribute to online databases, which act like a digital library of biodiversity.

1.2 What is iNaturalist?

iNaturalist is a common tool used to conduct bioblitzes. iNaturalist is a free app that can be used on a computer or installed on a mobile device (cell phone, tablet etc.) and used to record observations of plants and animals. Depending on how you share your data, observations on iNaturalist can be used by scientists around the world, including scientists within the Georgian Bay Mnidoo Gamii Biosphere (GBB)! The app is used by researchers, scientists and conservation practitioners to better understand and protect species. Every observation is important and helpful!

iNaturalist allows anyone to join a bioblitz and record observations. The website also tallies all species observed, which provides a visual for the results of the bioblitz that can be shared with participants.

One of the best things about using iNaturalist is that **participants don't need to know a species' name to add it**. Once connected to the internet, iNaturalist will generate likely matches to choose from by clicking on "What did I see?".

No internet? No problem! A participant can input their best guess at an identification based on prior knowledge and/or references (e.g. field guides) and submit the observation; iNaturalist will post it online once connected to the internet. It is important to be as specific as possible; for example, if only the type of organism (e.g. fungi) is known, the observation can be submitted as such. Once posted to iNaturalist, the species will be confirmed by experts!

1.3 GBB's iNaturalist Project

GBB uses iNaturalist to collect valuable information about species on the eastern coast of Georgian Bay. Our ongoing iNaturalist project compiles all observations made within the Biosphere region. Observations are used to help us better understand threats, guide research questions, and decide where efforts into mitigation and other conservation initiatives should be directed.
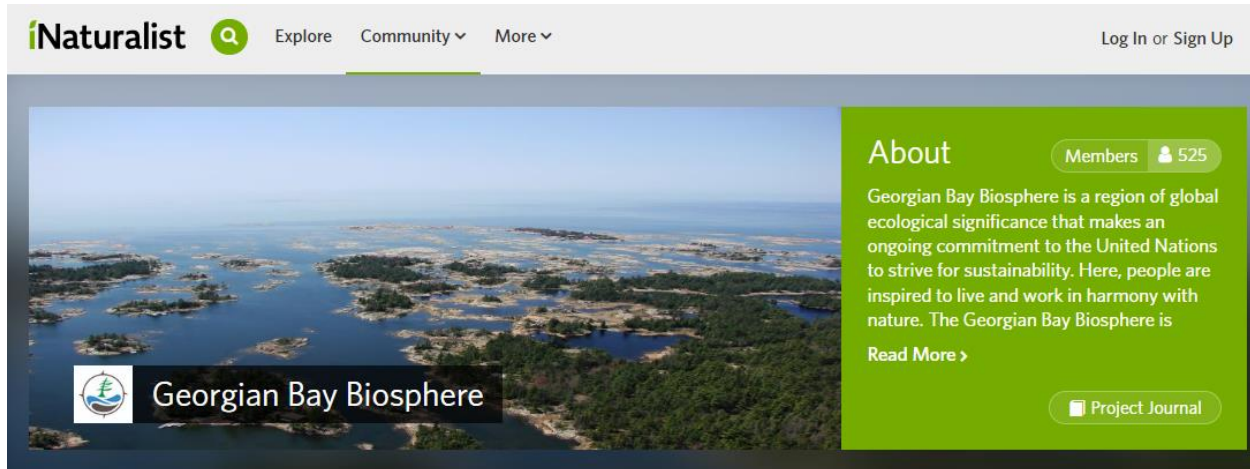
To join GBB's iNaturalist project:

1. On a desktop computer, go to iNaturalist.org and create or log into your account

2. Go to our project's page (inaturalist.org/projects/georgian-bay-biosphere)

3. Select "Join" (found in the top right-hand corner of the "About" section)

4. Click on "Your Membership" beside the gear icon (**Note**: This feature is not available on the mobile app and must be done on desktop)

5. Click "Yes, for any of my observations" under "Trust this project with hidden coordinates"

6. Click "Save"

1.4 Getting Started with iNaturalist

For an introduction to using iNaturalist, see iNaturalist Instructions (Android) or iNaturalist Instructions (iPhone)

For more information and tutorials about iNaturalist, visit inaturalist.org/pages/getting+started

2. How to Host a Bioblitz

Step One: Decide on the details of the event

Forming a small volunteer team to help plan and deliver your bioblitz will be helpful for the planning process. Even having a team of two can help with planning! Once you have your team, it is time to start planning. To start planning a bioblitz, think about the "who, what, where, when, why, and how."

Below each question is room for you to make notes answering these questions for your bioblitz.

Who is your target audience for the event? Who will be invited? Who will lead which event components? How many people do you expect to participate?

Notes:_____
_____
_____
_____

What will you be observing at the event? Are there any species or types of plants/animals that you or your team are particularly interested in or hoping to see? It is a good idea to pick a theme for your event, which can be as broad (e.g. animals) or specific (e.g. bumble bees) as you like!

Notes:_____
_____
_____
_____

Where will the event take place? This can be a region (e.g. within the Biosphere region) or at a specific location (e.g. a trail in a park). Remember to think about the following when choosing a location: accessibility (consider the age and mobility of your target audience), WiFi or cell phone reception, washrooms, and parking.

Notes:_____
_____
_____
_____

When will the event take place and for how long? A bioblitz can take place over the span of a couple of hours to a couple of days or even months. Try to think about what date(s) would work best for your participants (e.g. evenings and weekends tend to be better for attracting families with kids) and the theme of your bioblitz (e.g. pollinators would be early to mid-summer, birds would be spring, wildflowers in late summer, etc.). Also think about a potential rain date as a back-up if your original date does not work.

Notes:_____
_____
_____
_____

Why are you hosting a bioblitz? In addition to having a theme, it is a good idea to have a goal(s) for the event. This can be the number of participants, number of species observed, number of observations submitted, area surveyed, or any number of other goals! Broad goals might include a target audience you want to engage, or an area you want to learn more about.

Notes:_____
_____
_____
_____

How will you conduct your bioblitz? Think about observation techniques (including any equipment you might need). This includes things like equipment (e.g. bug nets, vials), identification materials (e.g. field guides), and snacks/refreshments. You may need $100 - $200 to support materials cost, so ensure you budget for these needs early on.

There are also options when it comes to the format of your bioblitz. You can host:

a) An in-person event with one or more leader(s) and a group of participants, or

b) A self-guided event led by individuals within a certain area and run virtually, with the option for participants to gather in-person as a group with/without a lead.

Both options have their own advantages and operate similarly. While the rest of this document focuses more on option A, the same general steps can be followed for option B as well.

Notes:_____
_____
_____
_____

The below table is an example of how you could use the above guiding questions to plan a bioblitz.

Pollinator Bioblitz Planning

Who	**Target audience:** Youth in the biosphere region **Age-range:** Family-friendly (recommended for ages 10+) **Capacity:** 10-20 people **Leads:** GBB staff, including an insect expert
What	**Theme**: Native Pollinators
Where	**Location**: Ziigwan River Butterfly Garden (pollinator patch near Trestle Brewery) **Accessibility**: Central location in Parry Sound; flat, accessible area **Reception**: Cell phone reception is strong **Washrooms**: Not needed for short duration **Parking**: Located by Trestle Brewery and the Fitness Trail
When	**Season**: Summer (best for pollinators) **Date**: July 19th **Time**: 10:00 - 11:30 am (1.5 hours)
Why	**Purpose**: Increase awareness about native pollinators and their importance **Goal**: Participation from at least 5 youth **Data use**: Monitor the use of pollinator gardens by pollinator species
How	**Format**: In-person event with naturalist leaders (GBB staff) **Data recording**: iNaturalist **Observation methods**: Supervised use of nets and vials for the catch and release of insect pollinators **Materials needed**: Nets, vials, identification guides, magnifying glasses, snacks (granola bars)

Step Two: Invite local experts (optional)

If you are hosting an in-person bioblitz, consider inviting local experts and naturalists to attend and assist with your event. Especially if your event has a theme (e.g. birds), it is a good idea to invite people who are skilled on the topic (e.g. ornithologists, local birdwatchers) who can help lead the event and help participants identify species. If possible, offering an honorarium to invited volunteers, to thank them for sharing their time and expertise is recommended. See below for an email template for inviting experts and naturalists to a bioblitz.

Email to an expert/naturalist asking them to help lead your bioblitz:

Hello **[Expert's name]**,

I am reaching out to see if you would be interested and available to help lead a bioblitz event at **[location]** on **[date]** from **[time]**. The goal of this event is to **[information about the goal/theme of the event]**. We would love to have you present as a **[area of expertise]** expert to help guide participants during the bioblitz!

(**Optional, but recommended**) We are happy to offer a **[$amount]** honorarium for your time, travel, and expertise. Please let me know if you are interested and we can set up a call/meeting to discuss the details further.

Thank you,

[Your name]

Try to reach out to experts as soon as possible (the more notice the better!). Ideally, you should contact them no later than one month in advance of the bioblitz date.

If you would like to request GBB staff to attend the bioblitz you have planned, please email info@georgianbaybiosphere.com to inquire about availability. Please submit requests well in advance.

Step Three: Create registration (optional) and promotional materials

Registration/RSVPs:

This step is optional, depending on if you would like people to register prior to your bioblitz, or if your bioblitz will be drop-in and will not require registration. You can create a dedicated registration/RSVP form (Google Forms, JotForm, etc.) to collect participant information and numbers. Alternatively, you can manage a registration list through email by having participants email to sign up.

Registration to limit the number of participants is recommended if there is limited parking, event equipment, and/or number of leads; this ensures there is enough space and resources for everyone!

For an example of a registration form, see the JotForm template here.

In general, you will want to include the following information in a registration form:

- Location of the bioblitz
- Date and time of the bioblitz
- Maximum capacity of the event (if there is one)
- Age range or other demographic information (e.g. if the event is recommended for ages 10+, if it is open to all ages, etc.)

Within the form, collect the following information from participants:

- Names of everyone in their group
- Ages of everyone in their group (if the event has age restrictions)
- Contact information (email and phone number)
- Photo permission (optional)
- Dietary restrictions and allergies (if food will be provided at the event)
- Accessibility or other considerations (optional)

On the following page is an example of a registration form that was used for GBB's Pollinator Bioblitz.

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United Nations
Educational, Scientific and
Cultural Organization

Pollinator Bioblitz ← **Event name**

Location

Join the Georgian Bay Biosphere for a Pollinator Bioblitz at **Ziigwan River Butterfly Garden**, near **Trestle Brewing (9 Great North Road, Parry Sound**)! Become a community scientist by learning about pollinators, how to identify them, and recording as many species as you can find!

This event will take place on **July 19th** from **10:00 - 11:30 am**. This is a family-friendly event, open to all ages!

Date and time

Demographic information (age range)

PLEASE NOTE: Please dress appropriately for the weather, wear appropriate footwear and sunblock. More information about meeting location and what to bring will be provided after registration.

Name *

| First | Last |

E-mail *

Phone Number *

myname@example.com

(000) 000-0000

How many people are in your group? (You may register up to 4 people at a time) *

ex: 2

Person #1: Name and age

Person #2: Name and age

Person #3: Name and age

Person #4: Name and age

Participant names, ages, and contact information

Please note that photos and videos will be taken throughout the event. Does everyone in your party grant permission for their likeness to be used in a photograph, video, or other digital media in any publications, including web-based publications, without payment or other compensation? *

☐ Yes

☐ No

Photo permission

If you have any accessibility or other considerations you would like us to know about, please explain below.

Accessibility or other considerations

Thank you!

Submit

Posters:

Have posters printed and put them up (with permission) in areas where you think potential participants may see them. You can also send a digital poster to other organizations (e.g. cottage associations) to have them share it through their networks.

Make sure to include all necessary information on the poster: bioblitz theme, date, location, age-range (if relevant), and registration link.

Below is an example of a poster used for GBB's Pollinator Bioblitz:

For a basic poster template, use the Canva design here.

Social Media:

If your organization has social media, share the registration and poster and event information on social media (e.g. Facebook, Instagram, X). Try to make at least 3 posts: 1 post to announce the event (aim for a month in advance), 1 reminder post a couple of weeks before the event, and 1 final 'last chance' post a few days before the event.

You can also make an event page on Facebook that people can register through and receive information/updates about the event. To learn more about how to create an event page on Facebook, visit facebook.com/help/116346471784004

If GBB staff will be attending your bioblitz, don't forget to tag us in your posts:
- Instagram: @gbaybiosphere (instagram.com/gbaybiosphere/)
- Facebook: Georgian Bay Biosphere - GBB (facebook.com/GBayBiosphere)

Below is an example social media post to advertise GBB's Pollinator Bioblitz:

Step Four: Visit your site (optional)

Especially if you have never been to the site before, it is a good idea to visit the area where your bioblitz will be held.

If you are inviting experts or guest leads to your event, you can also invite them to the pre-event site visit so they can be familiar with the area, habitats, and species present.

While conducting your site visit, think about:
- Parking and meeting location, which you will provide registered participants with before the event
- Potential trails/areas to explore during the bioblitz; decide if you will travel as one big group, or split the group between leaders to explore different areas
- The habitats and species present (and how these fit with your theme(s))
- WiFi and/or cell phone reception
- Nearby washrooms (or plan to bring an eco-friendly, portable solution if needed)
- Safety and accessibility considerations, depending on how remote the site is

Try to schedule a site visit at least two weeks in advance of your bioblitz (ideally 3-4 weeks), to give time to adjust the plan if needed.

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Step Five: Create an iNaturalist project (optional)

If you are conducting your bioblitz in a specific area, you can create a project on iNaturalist to help compile data. To do so, you will need to create a "Place" on iNaturalist first. A Place on iNaturalist is a geographic boundary that is saved in iNaturalist's database. A Place could be a park, a conservation area, a city, or any other geographic space that has a defined boundary. In this case, the Place will be the area in which your bioblitz will take place.

To create a new Place for your project, you will need a KML file of the boundary of the area that you would like the project to cover. You can make one using Google Maps, Google Earth, or most GIS applications. You can then upload your KML as a "Place" on iNaturalist at inaturalist.org/places/new

Please note that adding a new Place slows down iNaturalist's performance and makes the site less efficient. Therefore, before creating a new Place, please consider the longevity of your project. **If you don't plan to use the project after the bioblitz is over, consider not making one.** If there is a project that already exists, or if there is an already existing Place on iNaturalist you could use for your project, use those instead. You can still compile data from your bioblitz without a project (see Step Nine: Compile your data and share results)

To create your project, visit inaturalist.org/projects and select "Start a Project." A Collections Project is the most common project type and it is what we would recommend creating. To create a collections project, select "Get Started" under "Collections Projects."

Enter all your relevant information into each category. Make sure to select your uploaded Place under "Include Places" if you would like your project to be for a specific area. Consider other ways to limit your project if desired, such as only showing observations from project members. For more information about creating and managing a project, visit inaturalist.org/pages/managing-projects

Step Six: Email registrants

If you opted to have people register or RSVP, send a reminder email to participants a few days before the bioblitz event. The email should include all the relevant information that participants will need to attend (e.g. location, time, equipment needed).

Make sure to check the weather forecast before the event. If there is undesirable weather (e.g. thunderstorm, heavy rain) predicted for the date of the bioblitz, consider rescheduling to the rain date. See below for an email template for emailing participants.

Email to participants before the event:

Hello! You are receiving this email because you have registered for the **[Bioblitz Name]**!

Event Details:

When: **[Date and time]**. Please arrive 15 minutes early if possible.

Location: Meet at **[meeting place]**. **[Google Maps link].**

Length: Approximately **[length]** hours.

What to bring: Please dress for the weather and wear closed toed shoes and long pants. Bring a water bottle, snacks, sunscreen, and a fully charged cell phone.

iNaturalist: We will be using the iNaturalist app for this event. Please bring a charged cell phone with iNaturalist downloaded (or a camera to take pictures to upload to iNaturalist at a later time). You can also join **[project you want them to join].**

Trail conditions: **[Will you be hiking on a maintained trail? Uneven terrain? Give details so participants know what to expect.]**

Here are a couple of reminders for this Bioblitz:

1. Please arrive 15 minutes early, so we have time to gather as a group.

2. Don't forget to dress for the weather and be prepared for bugs/muddy conditions!

If you will be bringing any guests who have not signed up, or if you can no longer attend, please let us know. Please contact **[cell phone number]**, if you have any last minute questions.

See you at the bioblitz!

You can also share the following **"iNaturalist Dos & Don'ts"** with registrants:

- **Don't** pick/disturb any plants or animals observed.
- **Don't** falsely identify species. When in doubt, let the experts identify it.
- **Don't** compete for the best or coolest thing. Every species matters.
- **Do** take clear photos from a safe distance!
- **Do** add notes or comments to your photos which can help researchers!
- **Do** invite your friends and family and support one another!

Step Seven: Gather materials

There are some key materials* to bring to bioblitzes, including:

- Field guides and other identification resources (pocket guides work great for portability)
- Safety waivers**
- Binoculars
- Extra water and snacks
- First aid kit
- Safety equipment (e.g. lifejackets, if the event involves going on boats)
- Maps of the area (if needed)
- Sampling/identification equipment (e.g. bug nets, waders, fish viewers)***
- Charged cell phones or tablets with iNaturalist downloaded
- Spot device (for remote access locations)

*Most materials are optional, depending on the type of bioblitz. Please use your own discretion to know what equipment you need and who can use it.

**Consider having a safety waiver for bioblitzes in remote locations or in or near water (e.g. shoreline, boat access). Consult your organization's lawyer or Health & Safety lead to determine if a safety waiver is necessary.

***Only capture and release species if absolutely necessary for identification. If doing so, ensure it is done with care by an experienced and qualified individual. **Harming, harassing, or capturing species at risk is illegal, unless personnel have the required permits and/or permissions.**

Step Eight: Host your bioblitz!

**Suggested structure of the event**:

1. **5 minutes:** Introduce leads/experts and offer a land acknowledgement. If the group is a reasonable size (i.e. less than 20), have participants introduce themselves.

2. **5 minutes:** Share housekeeping logistics (e.g. where the bathrooms are, when snacks come out, where to meet at the end of the event, etc.)

3. **5-10 minutes:** Introduction to what a Bioblitz is, why citizen science matters, and how to use the iNaturalist app (including the "iNaturalist Dos and Don'ts," listed in Step Six: Email registrants)

4. **5-10 minutes**: Explain what the theme and goal is for the day (e.g. record a certain number of species, find a specific species, survey a certain area). If you have experts attending your event, they could also go over the basics of identification.

5. **5-10 minutes**: Hand out maps (if required for your event), make sure participants are set up with iNaturalist, and run through a practice observation as a group.

6. **1+ hours**: Have participants explore the designated area(s) and use iNaturalist to record their observations. Have volunteers on hand to assist with identification, give photography tips, and help participants post to iNaturalist. Alternatively, have expert(s) guide participants along a trail/area, informing them about the organisms and identifying species (this is more of a "guided hike" option).

7. **10-15 minutes**: Wrap up the day in a group circle to share any interesting observations or things learned during the bioblitz.

The above schedule is flexible depending on your bioblitz's structure and the amount of time you have. The most important part of this step is to make sure you have a plan ahead of time so that the bioblitz runs smoothly!

Step Nine: Compile data and share results

Once your bioblitz is complete, wait a few days to ensure people have time to upload and edit their observations on iNaturalist. Then download your bioblitz observations from iNaturalist. See the below instructions on how to download data from iNaturalist.
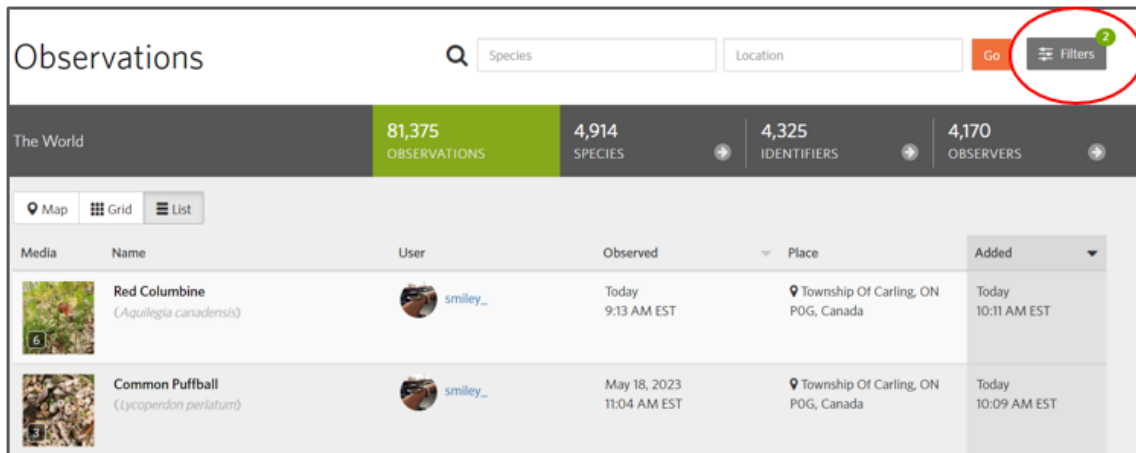
1. If you have a project that you used for your bioblitz, go to your project's page on a **desktop computer** and search observations.
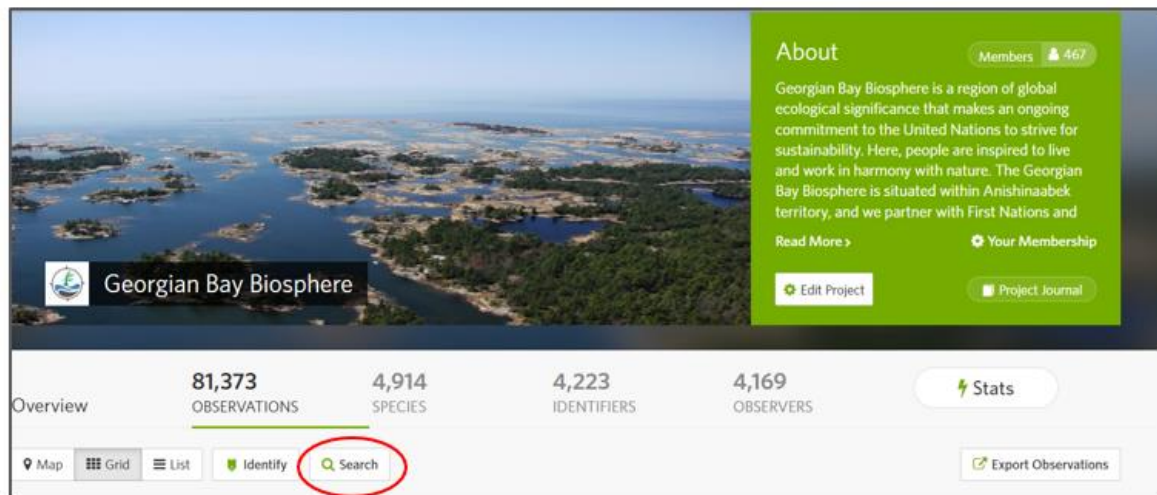
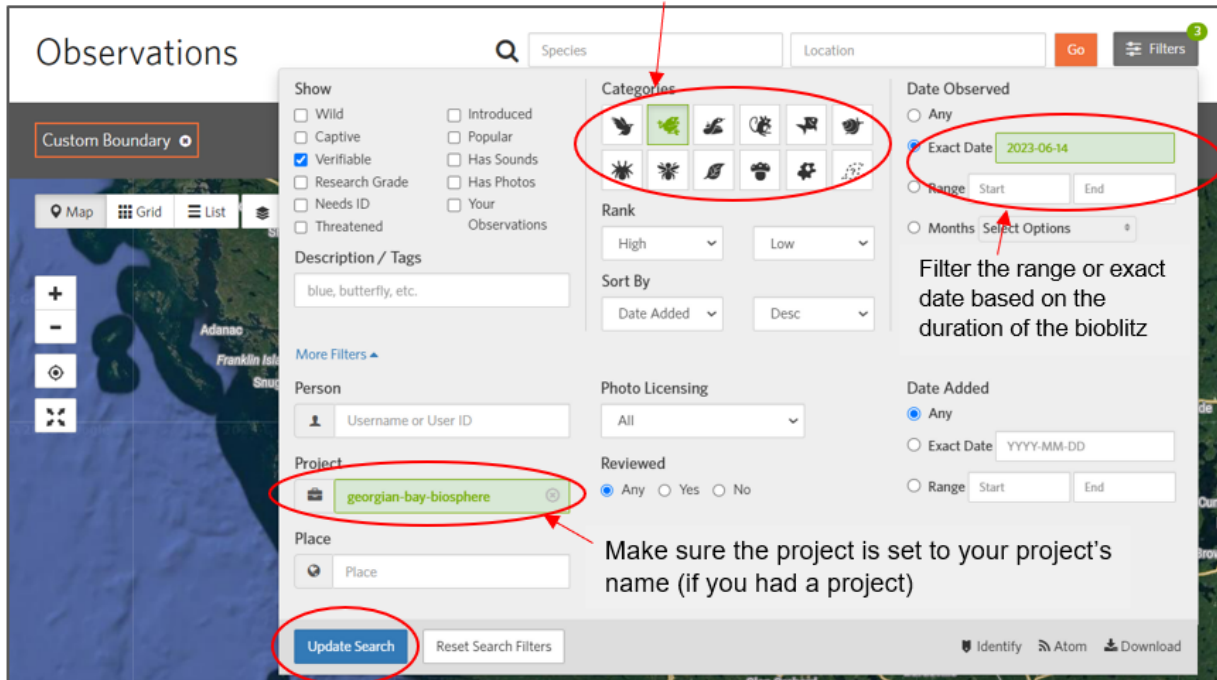If you don't have a project, go to "Explore" from the iNaturalist homepage.
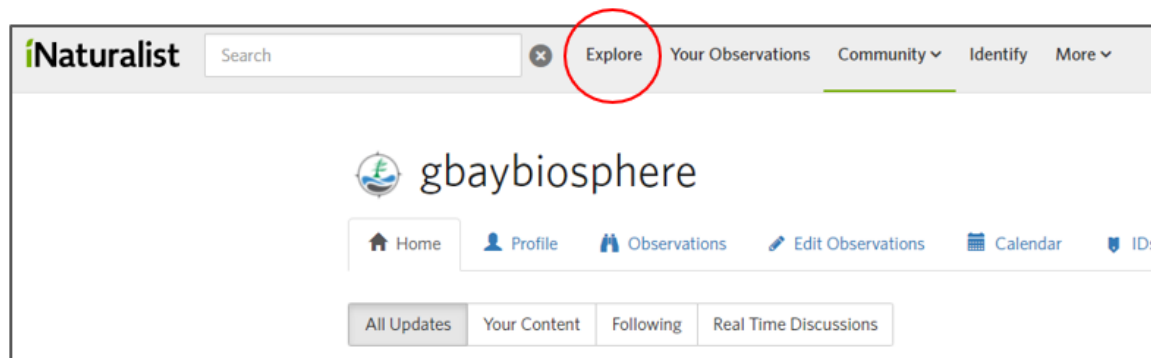
2. In the search/explore function, open the filters.

Filter the observations based on the criteria of your bioblitz (e.g. theme, date). Then click on "Update Search" at the bottom.

If your bioblitz had a theme, filter by the category (e.g. reptiles).

Filter the range or exact date based on the duration of the bioblitz

Make sure the project is set to your project's name (if you had a project)

If your bioblitz took place at a certain location, zoom in on the map and adjust the boundary of your search to match the approximate area that your bioblitz took place in.
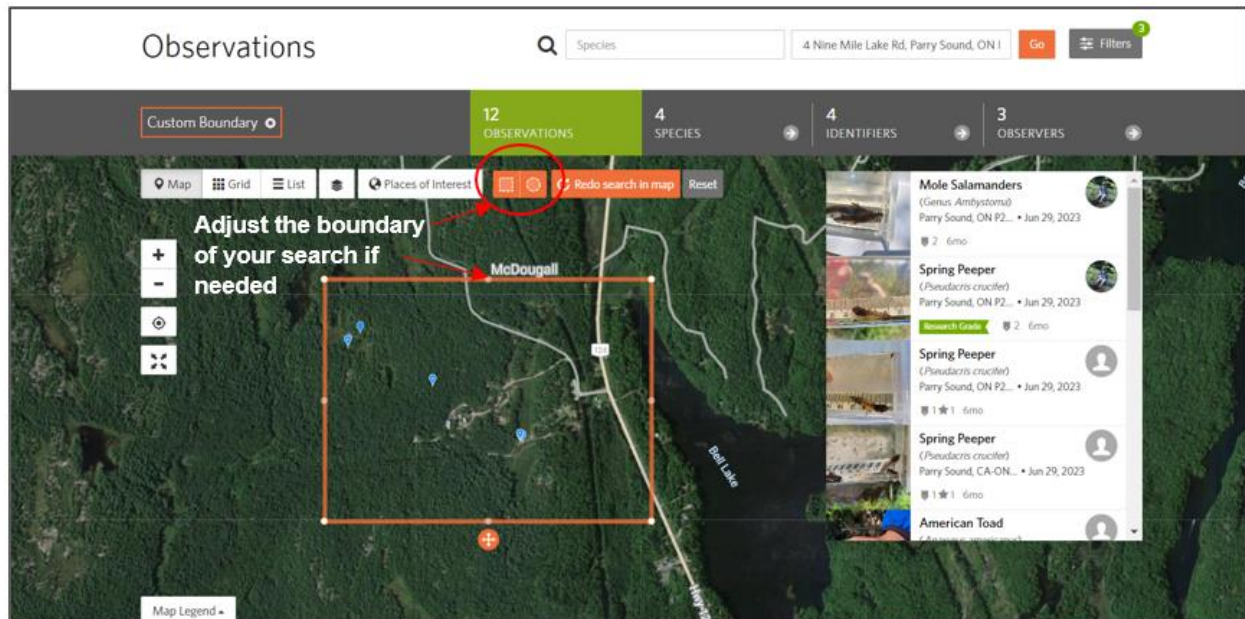

Tip: You can take a screenshot of the results on the map to share a visual representation with participants of their observations! Make sure to include appropriate credits for any images shared.
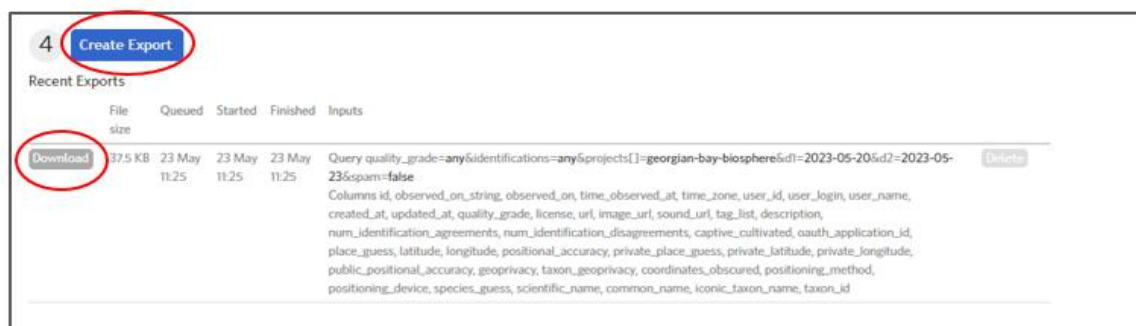
Once you can see all the observations that were made during your bioblitz, make note of the statistics at the top of the search (number of observations, species, and observers).
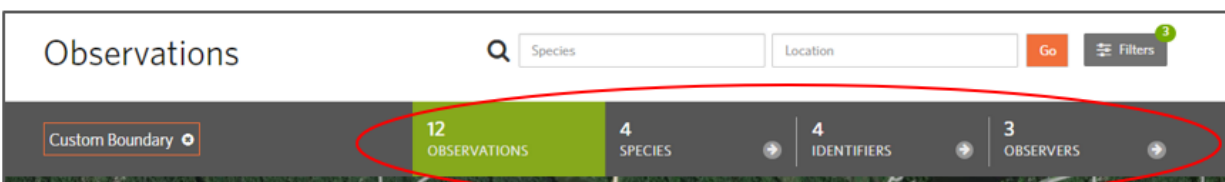
3. To download the observation data, go back to the filters and click "Download."
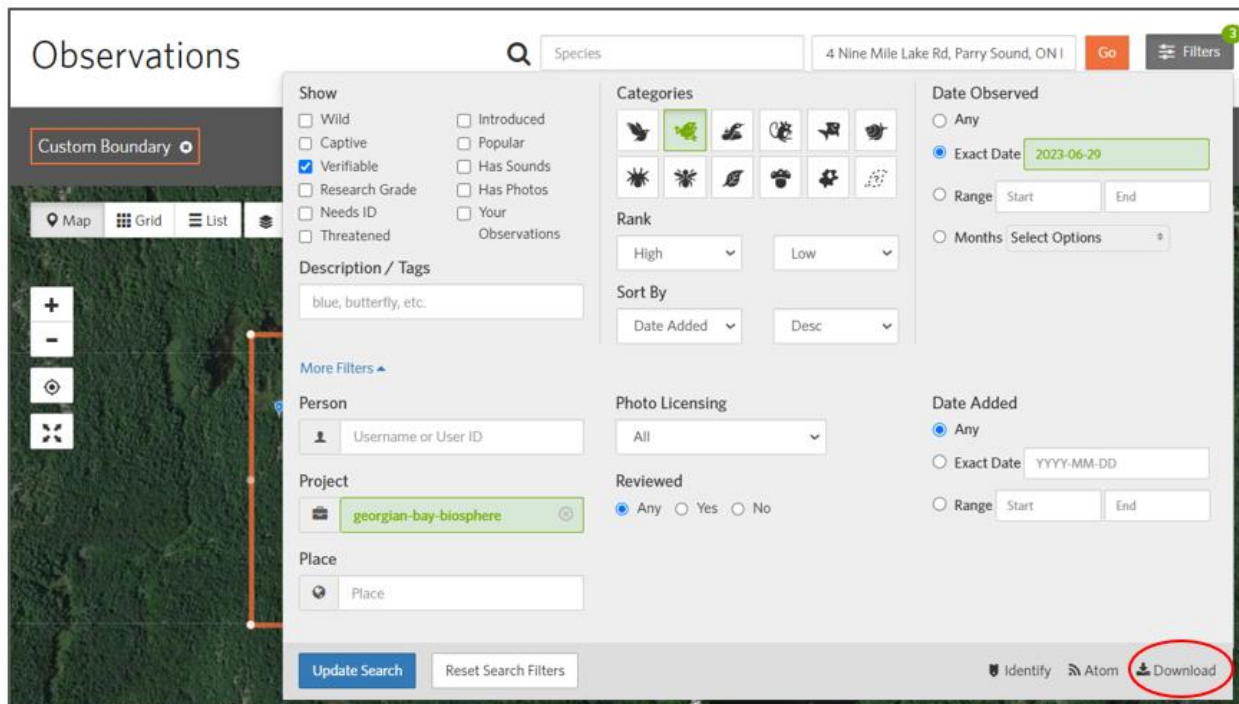
On the export page, scroll down to the bottom and select "Create Export." Once the export is done, select "download."

4. Once downloaded, extract the .csv file from the zip (right click > Extract All).

   Copy and paste the data into an excel file or another spreadsheet program and format the data as desired.

Example of a spreadsheet layout for organizing data from a bioblitz:

	A	B	C	D	E	F	G	H	I
1	Entry #	Date-Time	Username	Observation (URL)	Latitude	Longitude	Accuracy (m)	Scientific Name	Common Name
2	1	2023-07-19 14:30:26 UTC	username1	https://www.inatu	45.34273667	-80.03030283	4	Megachilidae	Mason, Leafcutter, Carder, and Resin Bees
3	2	2023-07-19 14:32:52 UTC	username1	https://www.inatu	45.3427874	-80.03045051	7	Lygaeus kalmii	Small Milkweed Bug
4	3	2023-07-19 14:34:37 UTC	username1	https://www.inatu	45.34282167	-80.03046383	23	Lygaeus kalmii	Small Milkweed Bug
5	4	2023-07-19 14:36:25 UTC	username2	https://www.inatu	45.34266782	-80.03048036	9	Toxomerus marginatus	Margined Calligrapher
6	5	2023-07-19 14:39:12 UTC	username2	https://www.inatu	45.34268328	-80.03043349	6	Polistes dominula	European Paper Wasp
7	6	2023-07-19 14:42:57 UTC	username2	https://www.inatu	45.342675	-80.03035	4	Tetraopes	Milkweed Longhorn Beetles
8	7	2023-07-19 14:48:30 UTC	username6	https://www.inatu	45.34274981	-80.03040981	8	Anthophila	Bees
9	8	2023-07-19 14:56:49 UTC	username2	https://www.inatu	45.34269667	-80.030425	15	Popillia japonica	Japanese Beetle
10	9	2023-07-19 15:00:25 UTC	username6	https://www.inatu	45.34272833	-80.03026667	13	Polistes fuscatus	Dark Paper Wasp
11	10	2023-07-19 14:35:40 UTC	username1	https://www.inatu	45.342733	-80.030308		Polistes dominula	European Paper Wasp
12	11	2023-07-19 14:48:12 UTC	username2	https://www.inatu	45.34273797	-80.03038781	8	Megachilidae	Mason, Leafcutter, Carder, and Resin Bees
13	12	2023-07-19 15:00:05 UTC	username2	https://www.inatu	45.34272617	-80.03038309	5	Agapostemon virescens	Bicolored Striped Sweat Bee
14	13	2023-07-19 14:54:34 UTC	username2	https://www.inatu	45.34273697	-80.03038597		Sphaerophoria	Globetails
15	14	2023-07-19 15:05:26 UTC	username3	https://www.inatu	45.34272	-80.03022783	6		
16	15	2023-07-19 15:01:26 UTC	username1	https://www.inatu	45.34272837	-80.03038536	7	Agapostemon virescens	Bicolored Striped Sweat Bee
17	16	2023-07-19 15:05:13 UTC	username2	https://www.inatu	45.34273558	-80.03037462	4	Bombus vagans	Half-black Bumble Bee
18	17	2023-07-19 15:12:59 UTC	username5	https://www.inatu	45.342826	-80.030257		Dermaptera	Earwigs
19	18	2023-07-19 15:18:57 UTC	username7	https://www.inatu	45.34278927	-80.0304021	6	Harmonia axyridis	Asian Lady Beetle
20	19	2023-07-19 15:23:49 UTC	username8	https://www.inatu	45.34278794	-80.03037876	7	Toxomerus geminatus	Eastern Calligrapher
21	20	2023-07-19 15:24:41 UTC	username6	https://www.inatu	45.34277845	-80.0303711	8	Syrphidae	Hover Flies
22									
23		# of Observations:	20						
24		# of Species:	13						
25		# of Observers:	4						

Follow-up:

Once you have compiled the data, consider sharing it with participants so they can see their accomplishments from the bioblitz! See the below email template for following-up with participants.

Follow-up email to participants:

Hello everyone!

Thank you all so much for participating in **[event name]**! I wanted to send this follow-up message to share the results from the day.

We made a total of **# observations** and recorded **# species** during the bioblitz! I have attached an excel spreadsheet to this email, which documents all of the observations made.

A big thank you again to **[host, partner, leads, etc.]** for **[how they helped]**.

If you have any questions about anything, please feel free to reach out. Thanks again for participating in the bioblitz and stay tuned for future events!

Best,

[Your name]

3. Conclusion

Thank you for reading this guide! Hosting a bioblitz is a great way to contribute to citizen science and help species of the Biosphere region. We hope that you have a successful bioblitz!

Should you have any questions about the information presented in this guide, please reach out to us at info@georgianbaybiosphere.com. We appreciate your feedback.