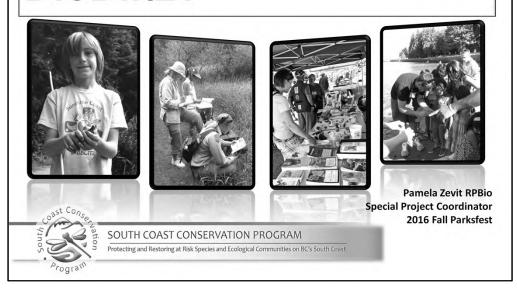
So you want to do a BioBlitz?





- Background
- Planning
 Your Blitz
- Reporting
- BioBlitz
 Reflections



Some challenging context: The rapid loss of species we are seeing today is estimated by experts to be between 1,000 and 10,000 times higher than the *natural* extinction rate.

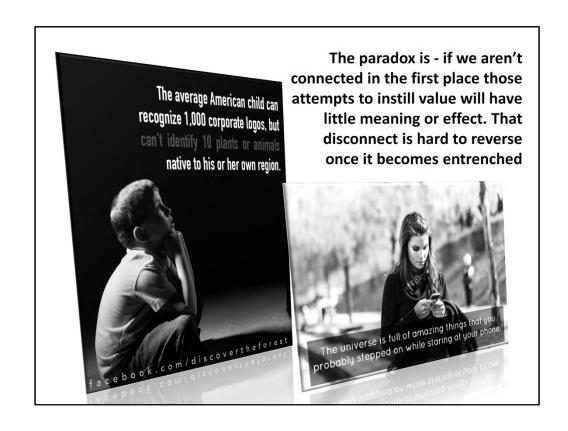
*Source: World Wildlife Fund 2013

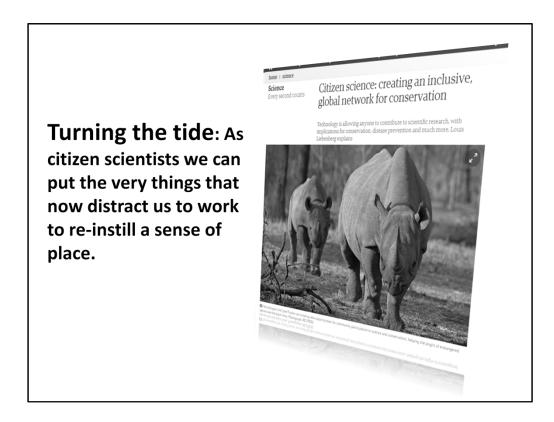


If there are:

- 100,000,000 different species on Earth and the extinction rate is just 0.01% / year *at least* 10,000 species go extinct ever year

We know human activity is the source of much of this accelerating loss. So how can we as a species lend our efforts to reducing, slowing and perhaps even halting this runaway train?





Linking what we experience and observe into a larger network that contributes to the conservation and well-being of our natural world. That sense of connection to a greater community of knowledge keepers can help us regain an individual sense of connection and value towards the rarest and most common species we share this planet with.

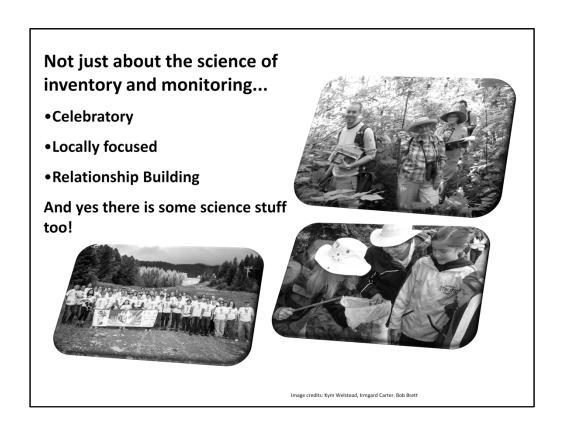


Citizen science involves people beyond professional scientists as a unique new way to undertake projects and research, cumulating the contributions of many individuals



Term was coined by government staff at the first BioBlitz in 1996 in Washington DC. The concept for the BioBlitz was developed by conservation biology icon E.O. Wilson to raise awareness of the huge diversity of animals and plants, even in developed areas. The first BioBlitz was held at Kenworth Gardens in the US capitol. Term coined by Susan Rudy NPS. Staff envisioned an event where groups of scientists, naturalists and volunteers conduct an intensive field study over a short, usually 24 hour, time. Some blitzes only go for a day.

Most typically they are held on public/crown lands in partnership with local, regional, provincial or federal government partners.



There is a public component to many BioBlitzes, with the goal of getting the public interested in biodiversity. To encourage more public participation, these BioBlitzes are often held in urban parks or nature reserves close to cities.

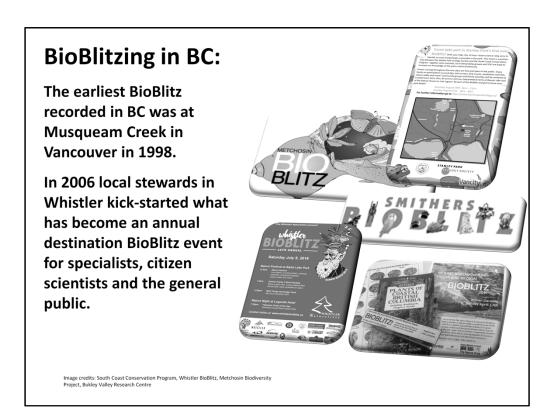
Celebratory. Not your typical structured field survey, designed as a marathon – a race to identify everything and anything in a very short time-frame.

Making local connections to nature: The concept of biodiversity tends to be associated with coral reefs or tropical rain forests. A BioBlitz offers the chance for people to visit a nearby setting and see that local parks have biodiversity and are important to conserve.

Relationship Building. A BioBlitz encourages people to meet working scientists and ask them questions. When volunteers and scientists work together, they are able to identify uncommon or special habitats for protection and management and, in some cases, rare species may be uncovered.

Science. BioBlitzes gather basic taxonomic information on some groups of species. Identifying rare and unique species/groups. Documenting species occurrence. BioBlitzes do not provide a complete species inventory for a site, but they provide a species list which makes a basis for a more complete inventory and will often show what area or what taxa would benefit from a further study.

New applications of BioBlitz approach are going one step further and doing an "all taxa biodiversity inventory". See Discover Life in America at www.dlia.org



The South Coast has become ground zero for "BioBlitzing" in BC.

At least 18 communities or organizations have begun hosting BioBlitzes in BC, many as annual events.

The interest seems to be snowballing

The combination of volunteers and specialists has helped increase our knowledge around endangered species distribution and issues like the spread of invasive species.



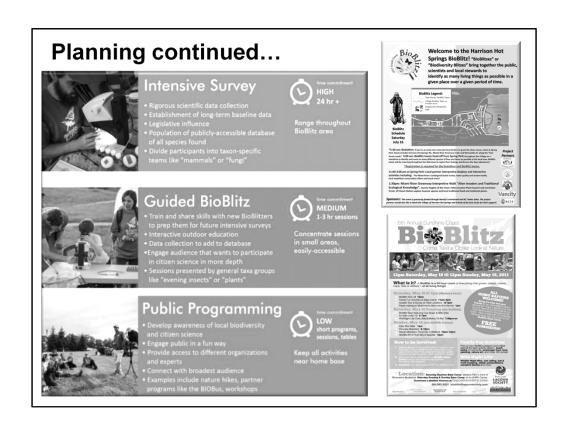
A big chunk of BC has yet to be blitzed!

Can we have too many BioBlitzes- are there enough experts to go around?!

event)
Logistics: Venue layout and design of "Basecamp" book or source equipment (tents, tables, chairs, A/V) Licences/permits (e.g. for vending, or surveying sensitive species and habitats) Parking, catering, toilets, accommodations First aid and emergency preparedness
Networking and Technical: Invite naturalists and volunteers Prepare recording sheets and a records database Prepare and circulate an information pack for staff and volunteers, including a copy of the recording form Plan how you will evaluate the success of the event
Publicity and Communications: Register your event with a BioBlitz Network Design and order any signs and banners, posters or public programming Circulate publicity material and press release, and contact local community groups, tourism, business improvement associations parks and rec offices etc. Write web pages and set up blogs and social media.

List bloody lists! But oh so important.

- 1) Will a BioBlitz meet your goals? This is the first question that should be asked. From an organiser's perspective, the BioBlitz concept is very flexible and can be designed to fit your budget, aims and interests.
- 2) Where will it be held?
- 3) What exactly are the desired outcomes of your blitz? Will it benefit individuals, the environment, the community, local economy?
- 4) Do I have an obligation to be inclusive e.g. what about First Nations considerations?
- 5) Do you have the resources needed?
- 6) Are there necessary partnerships?
- 7) Do you have the capacity to see it through to reporting? All that effort is pointless if the information remains buried in field notes and never sees the light of day or is never shared with the people and systems it needs to get to.



REVENUE:	Sample budget from SCCP 2011 multiple BioBlitzes		
Funders	Pending Amount	Confirmed Amount	Contact Name & Number
CASH			
Vancity enviroFund amount requested	25,000.00		
Your organization contribution			
SCCP (Federal Habitat Stewardship Program grant)	37,960.00		
SCCP (contribution from BIEAP/FREMP & Metro Vancouver		2,000.00	
Your organization contribution			
Fraser Valley Watershed Coalition (staff ,volunteers and materials)		6,250.00	
Stanley Park Ecology Society (staff, volunteers and materials)		12,500.00	T
SCCP (Co-chairs and steering committee volunteers)		5,000.00	
Miami River Streamkeepers (volunteers and materials)		6,250.00	
Total Pending Amount	\$62,960.00		I
Total Confirmed Amount		\$32,000.00	
TOTAL REVENUE			\$94,960.

Many volunteer groups undervalue their in-kind components and extent of volunteer contributions.

EXPENSES			
	Vancity	Other Funders (includes in kind and or cash as	
Expense Items	Amount	referenced above	
Labour			
Project Coordinator	15,000	31460	
Honorariums (experts & specialists for BioBlitzes)	2500	6000	
Coordination and labour costs from partners	1000	20000	
Site Project Costs			
mileage and accommadation	500	500	
site supplies and materials	1500	2000	
rentals and equipment	1500	3750	
Administration			
Event materials and packages	500	3000	
contract and grant administration	2500		
website and communications		3250	
TOTAL EXPENSES - VANCITY AMOUNT	\$25,000.00		
TOTAL EXPENSES - OTHER FUNDERS		\$69,960.0	
TOTAL EXPENSES		\$94,960.0	

Did you remember event insurance and event permits? The cost for site permits can vary (hundreds or thousands of dollars depending on the municipality). Does your organization carry Comprehensive General Liability coverage? Is a partner going to cover you and all the volunteers?

What about waivers?

Don't gamble with liability especially at public events where multiple ages are involved.

Shepard Ashmore Insurance has reasonable rates http://shephardashmore.com/But it doesn't hurt to shop around for event insurance.

What about tables, tents and chairs? Do you need to rent, loan, do you own?

What about catering? Meals for experts, speakers and specialists, refreshments for other helpers and display vendors at your public programming ground zero?

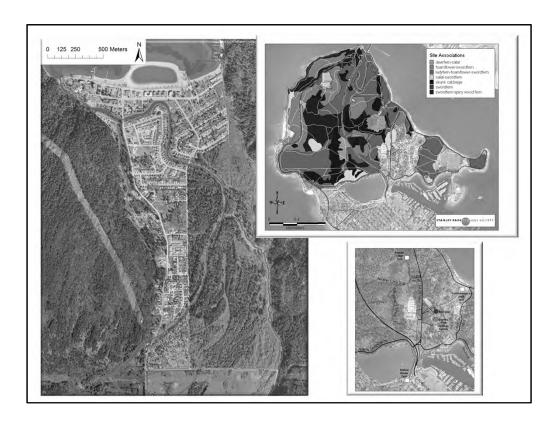
Are you going to have First Aid professionals (e.g. St. Johns)?

Thank you gifts like custom bags or T-shirts?

BioBlitzer's 'must have' checklist		
Binoculars		,o [†]
Digital camera (water resistant and shockproof if possible)		18 Markite
Mobile phone (water resistant and shockproof if possible)		
GPS (or GPS program on your phone)	-1-	
Magnifying loops and magnifying storage containers		
Waterproof paper and or notebooks, mechanical pencil		
Sealable plastic baggies		
Data collection forms, air photos and local trial maps	Some Congress and the Congress of the Congress	
Aquariums, viewing cases <u>and</u> <u>aerators!</u>		
Hat, sunblock, water bottle, first aid kit, bug spray (DEET or DEETless – your choice!)	There is a second of the secon	

Most if not all of those who donate their expertise on the day of the BioBlitz have their own gear, sometimes it is customized contraptions they have invented or an existing collection tool they have enhanced.

But it is important that you as host provide contingency resources and tools, plus you might want to do demonstrations to the public on the various tools that naturalist or specialists use to collect and inventory various plant and animal species.



Typically the BioBlitz site is broken up into areas with assigned blitzers (specialists and or volunteer helpers). As the host you will be expected to provide maps and directions, this should be a combination of base mapping and air photos (orthophotos or satellite). Which are readily available. This is where getting help with printing comes in handy. Maps can be put into sealable baggies to stay dry. If you plan to do another blitz using the same areas in the future you can laminate your maps.



Then there is the tech.

These days there are numerous apps and mobile field ID tools that can be invaluable for helping with public inquiries or if you have less experienced or knowledgeable volunteers going out and doing a portion of the blitzing.



The South Coast Endangered Species Finder provides a wealth of features to help identify endangered species that users may encounter in BC's Coast Region (South, Central and North Coast, Vancouver Island and Haida Gwaii), with a specific focus on the SCCP's backyard – the South Coast (Lower Mainland) of BC.

Features: (go to http://sccp.ca/species-and-habitat to see existing species profiles)

- Images of look-alike species ("similar"), information on the species ecology (habitat, diet, lifecycle table), range maps as well as information about threats affecting the species and where to look for further information on their conservation and management.
- Each profile is supported by an image gallery and description of the species with detailed characteristics to assist in identification on the go!
- Search tool using keywords, species common name and scientific name as well as basic display of species and thumbnail images alphabetically on the start page.
- Hundreds of images including adult and juveniles and typical habitat
- Simple field ID tip illustrations, easy to use menu and links to other conservation organizations and stewardship resources.

This information will also be invaluable for reporting your information through portals like the BC Conservation Data Centre and programs like BC Frog Watch and the Community Bat Programs of BC

Presently running as a beta version, the first generation of this app is limited for use on Android mobile devices that run OS 4 or higher. The SCCP has recently secured funding to enable the system to run on Apple devices as well as add more species profiles.



Apps and other mobile resources are wonderful tools but nothing feels like that "a-ha" moment when you and your BioBlitz peeps are able to make a definitive ID for that special bug, flower or "little brown bird" from your favourite guidebook. Most of us haven't parted with our "Pojar and MacKinnon", "Sibley's" or Lone Pine guides just yet.

While most experts may not lug their field guides around (or even need them) they still need to confer with their communities on tricky or tough ID issues too!

The beauty of the BioBlitz is that is provides a venue for continued learning, expertise sharing and mentorship.



Your sponsors and funding is in place, you haven't slept in six months, the experts and specialists are at basecamp, the posters have been circulated and the tents are up.

Let the BioBlitz begin!!!

Don't forget basecamp – where it all comes together!



Basecamp is really where much of the fun and true engagement happens.

You can have scheduled programs and public walks and talks

Partner displays

BioBlitz updates and reports of new finds as blitzers return with their specimens

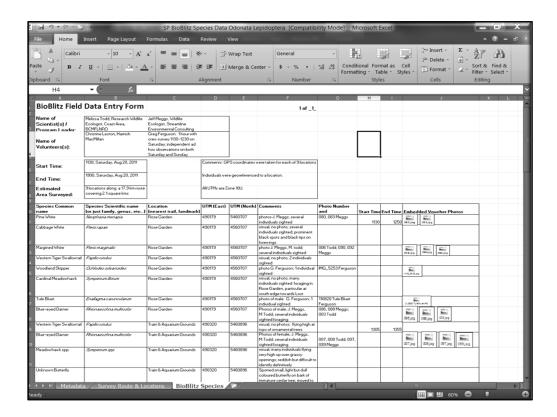
Live displays of local fauna. Just remember that you have a responsibility to ensure that your collection is housed properly. Try to minimize stress and duration and frequency of handling or inspection by the public. Especially for vertebrate specimens.



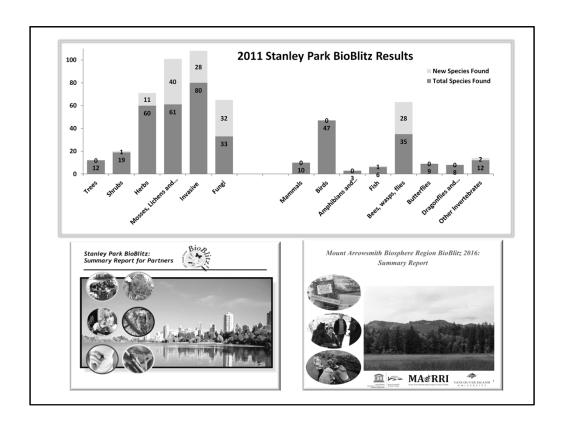
Once your BioBlitz is over you probably will feel elated. And you should, that was hard work and you have accomplished a lot!

But you will also feel like you need a very long holiday!

But your job doesn't end there...



Now you have to compile the data, organize it and make sure it gets formatted and shared properly.



If you received funding or sponsorship it is typically a requirement of the funding to report on how the funds were spent and what the outcomes of the project were. It may also be an important facet of how you report out to members or the community. Compilation reports pull everything together in one comprehensive package.

Example outcomes from the first Stanley Park BioBlitz in 2011:

- Interpretive displays should be located at destination locations where park users can take the time to stop and enjoy them as opposed to a busy corridor where most individuals are more interested in trying to get from point A to B.
- Some interpretive talks need to simplify conversations with the public to get basic conservation concepts across. When more attention is paid to collecting specimens than to showing the people the differences between species there is less time to speak to conservation issues.
- For specialists and volunteers moving between areas of the park during the event, having bicycles available to use would be advantageous. Trying to move around to survey areas by vehicle on a busy summer weekend is very difficult.

Location then was perhaps one of the main factors affecting how well outreach events were attended. The Saturday afternoon and evening events such as the beach seine, owl walk and bat mist netting were at high use destination locations and captured a lot of public interest. However the following day's education and outreach setup at Lumberman's Arch, while in the heart of day use activities for the park was on a busy arterial route and did not seem to easily divert the attention of passers-by.



If you had scientific collection permits you are going to need to report out on those (it's a legal requirement).

The BC Conservation Data Centre is the central portal for occurrence data in BC and is tied to international systems like Nature Serve. For species at risk, the BCCDC is still the best method to get a rare species occurrence addressed. But you can contact the province and federal government. Environment and Climate Change Canada departments like the Canadian Wildlife Service and Fisheries and Oceans Canada have special emails specific for species at risk reporting.

You can also check in about how to share the data with your regional provincial offices of the Ministry of Forest, Lands and Natural Resource Operations and or BC Parks. Also don't forget to share the information with your local regional district or municipality, depending on the responsible land use authority for the BioBlitz site. Some blitzes can cover municipal, provincial and federal interests. See: http://www.sccp.ca/contact

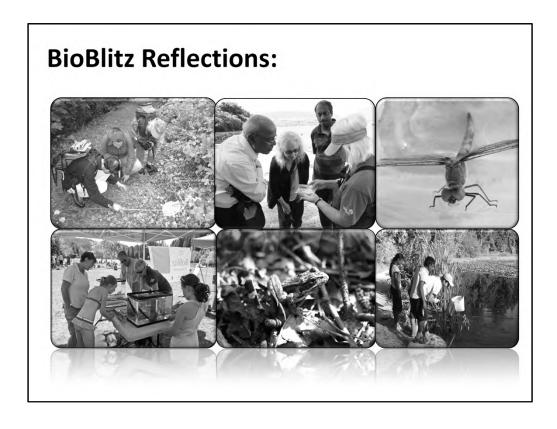
Invasive species can be uploaded through systems like the provincial "Report a Weed" (online or app) http://www.reportaweedbc.ca/ or connect with your local invasive species council to discuss reporting the information, especially novel occurrences that could be the first documentation of an invader.

The SCCP hopes eventually to build capacity to incorporate a "report a species" function on its app so that users can submit images, coordinates and records of species for confirmation. Ultimately the SCCP hopes the system will be integrated with its "Species at

Risk Networking" platform as well as provide a conduit for submitting occurrence information to the BC Conservation Data Centre.

It is better to share the information across several different recipients than just submit it and hope it gets into the system somehow or sometime. Due diligence here is key to getting significant findings flagged by the right land-use authorities.

And don't forget to promote your efforts! Post the findings onto your website, through social media and newsletters. That includes prominent thank 'yous' and expressions of appreciation for everyone who made your BioBlitz a success.

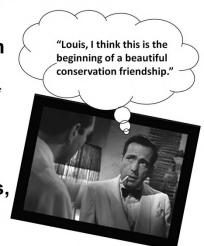


So let's review some essential BioBlitz planning questions:

- 1) Do you have the people, technical and \$\$\$ resources you need to adequately plan, implement and report out?
- 2) How do you plan to ID and report out on the species you discover?
- 3) What information or resources do you use most often/ find the most useful in your day to day conservation efforts that could be employed in a BioBlitz?
- 4) What are some of the advantages to using media such as Apps for BioBlitzing? What are the drawbacks?
- 5) What will be the most effective platforms for sharing and communicating your BioBlitz event and results?
- 6) Do you know the other 'players' or partners you should be or could be engaging for your BioBlitz?

Summarizing BioBlitz Benefits:

- Encourages public participation in conservation and science
- Generates high quality data*
- Instills a sense of place
- Gets potential media attention!
- (Re)Connects you to experts, (new) sponsors and supporters
- Solution Documents new occurrences (vital for species at risk and invasive species management
- Provides benchmarks



Encourages Public Participation: Public participation is what separates BioBlitzes from traditional biological inventories

- Creates high quality data*: Always a caveat here, data collected is only as good as expertise or resources used to quality assure and verify it!
- Creates a sense of place: You may be passionately dedicated to a particular wildspace or watershed or park, a BioBlitz lets you connect in new and expanded ways through linking to the experiences, expertise and enjoyment of others who come out to blitz with you.
- Gets potential media attention: Whether its 'likes' on Facebook or coverage from the local newspaper or commercial media outlets, BioBlitzes can become milestone events that define your organization in the public eye like never before.
- Connects you to experts, new sponsors and supporters: BioBlitzes take dedicated people and planning. The best blitzes create and build lasting, collaborative relationships with specialists and experts, land-use authorities, engage local businesses, funders and potential sponsors.
- Documents new occurrences: BioBlitzes have been an important means to document occurrences of species at risk and novel species associations and can be an important mechanism for early detection of invasive flora and fauna

- Provides Benchmarks: Whether your BioBlitz is a one time event or becomes a community institution, the data gathered can contribute to understanding of local species occurrences and ecological conditions as part of a 'point in time' set of indicators as well as contributing to broader planning and conservation actions and objectives over time.
- And finally can you think of another great excuse for a lot of passionate conservation and biodiversity science nerds to get together for an extended party!

Sample Resources:

- Get To Know Program: How to put on a BioBlitz
- Ontario BioBlitz: Planning a BioBlitz
- Bristol Natural History Consortium: Guide to Running a BioBlitz 2.0
- Mount Arrowsmith Biosphere Region BioBlitz
- Whistler BioBlitz and Whistler Biodiversity Project
- Ruby Lake Lagoon Society
- Canadian Wildlife Federation: Join Us & BioBlitz
- **US National Parks Service: National Parks BioBlitz**
- National Geographic Society: BioBlitz 2016

