

Stanley Park BioBlitz: Summary Report for Partners



Stanley Park “BioBlitz”
Summary Report for Partners
September 2011



Prepared for:

The South Coast Conservation Program (SCCP). Established in 2005, the SCCP is a multi-partner, landscape-level conservation program. The primary objective of the SCCP is to coordinate and facilitate the maintenance and recovery of species and ecosystems at risk in the Lower Mainland eco-region of the South Coast of British Columbia. <http://www.sccp.ca/>



The Stanley Park Ecology Society promotes awareness of and respect for the natural world by playing a leadership role in the stewardship of Stanley Park through collaborative initiatives in education, research and conservation. SPES has been actively promoting urban ecological conservation and stewardship since 1988.

<http://www.stanleyparkecology.ca/>



In 1886, Vancouver City Council designed an appointed Park Committee to manage its new charge by building trails and gardens. The park had already been logged from the 1860-1880s with only the largest trees left (they were too big to cut down even then). By 1890, the Park Board had become an elected body and remains the only Canadian board of its kind. <http://vancouver.ca/parks/>



Vancouver Board of
Parks and Recreation

Funding for this project was graciously provided by:



Further funding and support was provided by:



Prepared by: Pamela Zevit, R.P. Bio
Adamah Consultants
adamah@telus.net
Re-connecting People & Nature

Cover images: Robyn Worcester, Melissa Todd, Peter Woods, Pamela Zevit. South Coast BioBlitz logo: Pamela Zevit

Acknowledgements:

The contributions and efforts of the following made the Stanley Park BioBlitz an outstanding event!

Alivia Prattas, Amy Hendel, Andrew Scott, Brent Matsuda, Chris Ensing, Chris Lee, Christine Leston, Christine Leston, Damion Ruthven, Daphne Solecki, Daryl Thompson, David Cook, Doug Sinclair, Elizabeth Elle, Erin Rutherford, Graham Gielens, Greg Ferguson, Hamish Meggs, Isabelle Aube, Jeff Meggs, Jordan Rosenfeld, Kent Brothers, Leanne Gallon, Les Leighton, Melissa Todd, Michael Price, Peter Davidson, Peter Woods, Roy Teo, Sheila Byers, Sherri Elwell, Susan Leech, Taylor, Green, Terry Taylor, Wade Janzen, Wilma Mosmans.

Adamah Consultants would like to express a special thanks to Patricia Thomson, Robyn Worcester, Brian Titaro and the rest of the incredible staff and volunteers with the Stanley Park Ecology Society for their extensive contributions in coordinating and hosting this event. Thank you as well to the Fraser Valley Watersheds Coalition and the Pacific Streamkeepers Federation for their additional support.

Table of Contents

- Acknowledgements: iii
- Executive Summary 1
- Introduction 2
- Why a South Coast BioBlitz? 3
- South Coast BioBlitz Goals: 4
- South Coast BioBlitz Objectives: 4
- Metro Vancouver Regional Context 5
- Stanley Park 6
- Conducting the BioBlitz 7
- Findings 8
- The Stanley Park BioBlitz in Review 10
- Next Steps 11

Figures & Tables

- Figure 1. Number of species federally listed at risk and provincially classified as threatened/endangered..... 3
- Figure 2. Relative biodiversity values across the Metro Vancouver Regional District. 5
- Figure 3. Stanley Park and surrounding area.. 6
- Figure 4. Breakdown of Stanley Park BioBlitz survey results. 8
- Figure 5. The types of areas surveyed by respective BioBlitz participants and specialists 12
- Figure 6. BioBlitz marketing flyer and event map signage with coding for Smartphone users. 35
- Figure 7. BioBlitz event schedule posted online through various sites and at event stations 36
- Figure 8. Samples of BioBlitz pre-event online coverage 37
- Figure 9. Post BioBlitz article SPES Newsletter..... 38

- Table 1. Vascular and non vascular plants 13
- Table 2. Invasive & non-native vascular plants..... 20
- Table 3. Fungi & Slime Mold 24
- Table 4. Molluscs 25
- Table 5. Insects 26
- Table 6. Other Invertebrates 30
- Table 7. Herptiles (amphibians and reptiles) 30
- Table 8. Fish 30
- Table 9. Birds 31
- Table 10. Mammals..... 34

Appendices

Appendix 1. The Stanley Park landscape	17
Appendix 2. Detailed BioBlitz survey results and associated species information.....	138
Appendix 3. Signage, outreach, and marketing for the Stanley Park BioBlitz.....	35

Executive Summary

Throughout British Columbia, public and private lands play an important role in linking and protecting critical habitat for a range of species, many of which are at risk. Collaborative actions that enhance understanding of the natural capital such areas support contributes to more effective, ecologically informed decision making. BioBlitzes or “Biodiversity Blitzes, are one of many tools for facilitating such collaborative efforts. Part contest, part festival, part educational event and scientific endeavor, the Stanley Park BioBlitz was a first for the Stanley Park Ecology Society and the Vancouver Board of Parks and Recreation. The event offered a fresh, engaging approach to identifying species and ecosystem diversity throughout the various public and natural areas of Stanley Park.

As well as providing for updated information on pre-existing inventory data and species use, the event hosted stewardship and conservation interests to further raise awareness to a range of public interests about biodiversity and local conservation efforts.

In all, three hundred and ninety-five (395) different species of flora and fauna, including one hundred and fifty-two (152) new species were identified from the BioBlitz. This information will contribute to provincial resources such as the BC Conservation Data Center (CDC) as well as the local and regional knowledge base. In particular, species occurrence data will inform land managers with the City of Vancouver for other parks and natural areas in the municipality. The results of the BioBlitz will also support the work of the Stanley Park Ecology Society (SPES) and the South Coast Conservation Program (SCCP) in their ongoing conservation efforts in the region.

The Stanley Park BioBlitz provided a valuable bridging opportunity to bring together the interests of the SCCP, Stanley Park Ecology Society and the City of Vancouver. With its successful completion, the SCCP is looking forward to seeing these respective stakeholders continue to work collaboratively on efforts to inventory and monitor species and ecosystems of conservation concern in Stanley Park and other parks and natural areas in the City. Such partnerships are integral to the work of the SCCP in coordinating and facilitating the maintenance and recovery of species and ecosystems at risk for the long-term.



“A BioBlitz is designed to increase the public's awareness of the variety of life in their immediate neighborhood and the services these various species provide to improve the quality of their lives.

What better way to address the topic than to invite people to share in our 24-hours of discovery and to experience the vast array of species that we can find in their neighborhood park in just one cycle of the day?”

Source: Center for Conservation and Biodiversity and Connecticut State Museum of Natural History

Introduction

What exactly is a “BioBlitz”? The term was first coined by National Park Service naturalist Susan Rudy while assisting with the first BioBlitz at Kenilworth Aquatic Gardens, Washington D.C. in 1996. A BioBlitz has the dual aims of establishing the degree of biodiversity in an area while connecting local citizens, community groups and land use managers with concepts of conservation science. Often local parks are chosen for BioBlitz events as they have many of the key partnerships or stakeholders in place to facilitate the event.

Specialists in various disciplines like botany, entomology and ornithology all play a role. Some BioBlitzes become an annual event, such as the one which has been occurring since 2006 in the Resort Municipality of Whistler¹. Scientists establish a base at a point close to the area to be blitzed and provide expertise in identifying species found by the public as well as doing their own inspection of the area.

Ideally, a BioBlitz takes place over a full 24-hour period as different organisms are likely to be found at different times (e.g bats, insects etc.). While only daytime blitzes over shorter periods are equally popular, the results may less accurately show the variety of life in the area. Regardless, BioBlitzes are an innovative way to link aspects of social and natural capital through re-establishing people’s sense of wonder at exploring and being part of the natural world.

¹ <http://www.whistlerBioBlitz.ca/>

Why a South Coast BioBlitz?

The South Coast of BC, made up of three provincial Forest Districts is home to some of the highest levels of biodiversity and species at risk in BC².

This incredible natural capital is under a number of existing and potential threats including:

- Habitat loss
- Displacement and predation by introduced species
- Habitat degradation

The causes are numerous; human population growth, invasive species and climate change are just a few of the sources of biodiversity loss. The more we learn about this valuable natural capital, through efforts like BioBlitzes, the more we can do to protect and sustain it now and in the future.

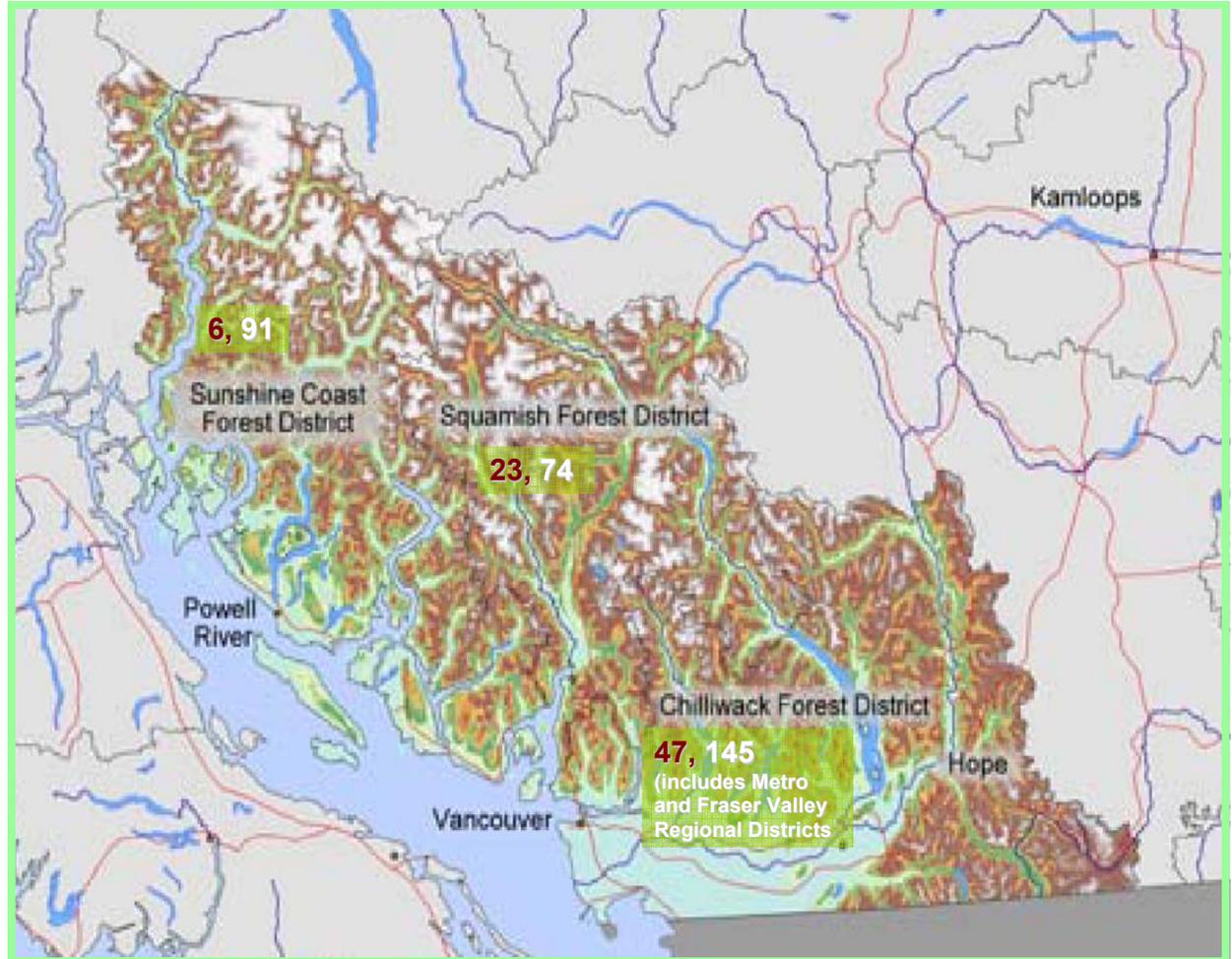


Figure 1. Number of species federally listed at risk (red) and provincially classified as threatened/endangered (white) on the South Coast by forest district (shaded area). Map Source: Imap BC. Data Source: BC Conservation Data Center

² Rich Wildlife, Poor Protection: The urgent need for strong legal protection of British Columbia's biodiversity. David Suzuki Foundation 2007.



BioBlitz events have become popular throughout Canada and the US, supported by organizations like Robert Bateman's "Get to Know Program", Parks Canada and a number of universities, local governments and environmental non-government organizations.

On BC's South Coast, BioBlitzes have become annual events or are proposed for the following locations:

- Resort Municipality of Whistler
- Iris Griffith Field Studies & Interpretive Center (Sunshine Coast)
- Burnaby Lake Regional Park
- UBC Botanical Gardens (Vancouver)
- Harrison Hot Springs

South Coast BioBlitz Goals:

- Provide opportunities to improve skill sets in the identification of local species of conservation concern.
- Encourage BioBlitz team participants to consider similar survey activities at other potential biodiversity hotspots on the South Coast to add to the regional knowledge base.
- Report out and inform elected officials and land use managers of the biodiversity values present in their local areas.

South Coast BioBlitz Objectives:

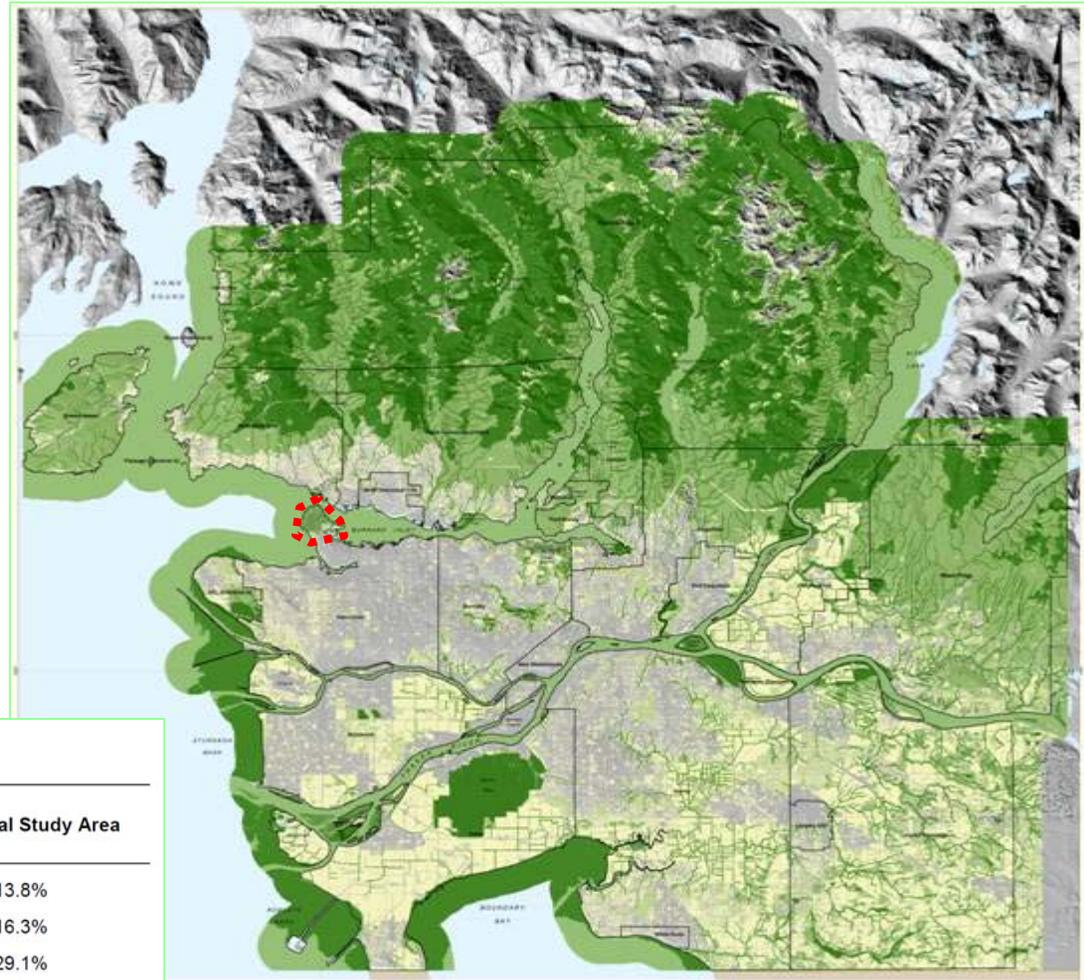
- Increase the capacity of local land use authorities as frontline "managers" to identify species at risk occurring within their areas of management.
- Engage municipal interests, local stewards and the broader public in "citizen science"³ efforts to enhance conservation actions for species at risk.
- Ensure information and adequate tools are available to maintain species and ecosystem diversity from the local to eco-regional landscape.

³ "Citizen science" is a term used for projects or ongoing program of scientific work in which individual volunteers or networks of volunteers, many of whom may have no specific scientific training, perform or manage research-related tasks such as observation, measurement, or computation." Source: Wikipedia.

Metro Vancouver Regional Context

The Metro Vancouver Region is home to a number of species of conservation concern, many at the northern end of their North American range. Adjacent to the Fraser Valley Regional District, the Metro Vancouver Regional District supports a diverse mosaic of wetlands, upland forests and one of the most significant estuaries in North America, the Fraser Estuary.

Efforts have been evolving to develop management priorities for conserving biodiversity across the region over the past decade⁴. Integrating biodiversity into the land use decision making process is a critical step to understanding the role priority areas play across the regional landscape for conserving species and ecosystems at risk.



Map Legend Colour	Biodiversity Index	Area (ha)	% of Total Study Area
Very High	Very High	50,859	13.8%
To	To	60,175	16.3%
		107,475	29.1%
		16,243	4.4%
Moderate	Moderate	67,390	18.2%
			81.8%

Figure 2. Relative biodiversity values across the Metro Vancouver Regional District (Stanley Park - red-dotted line). Map Source: Axys Consultants, Biodiversity Conservation Strategy for Metro Vancouver (2006).

⁴ Strategic Directions for Biodiversity Conservation in the Metro Vancouver Region | Forum Proceedings: Key Points and Potential Action Steps (2010), Ecological Health Plan for Metro Vancouver (Draft 2011)

Stanley Park

In 2008, after successfully delivering BioBlitzes in two regional parks in the eastern part of the South Coast (Metro Vancouver and the Fraser Valley) the SCCP began considering more urban locations for future BioBlitzes. Around the same time, the SCCP partnered with the Stanley Park Ecology Society to deliver a workshop on species at risk management practices. Since that time the Stanley Park Ecology Society has completed a “State of the Park Report” and has been looking at how to enhance its outreach programs while increasing local biodiversity knowledge. In 2010 the SCCP approached SPES about delivering a BioBlitz in Stanley Park and planning for the project got underway.

Stanley Park is recognized internationally as a destination point when visiting Vancouver. The park offers incredible views of the North Shore Mountains, English Bay, Burrard Inlet and the downtown Vancouver’s skyline. These diverse viewscapes bring tens of thousands of visitors to the park each year. The park itself is a rich mosaic of mature forest, wetlands, intertidal areas and ornamental gardens. What makes Stanley Park such an important asset is that it provides all of these natural amenities in the most populated urban center in BC (see Appendix 1 for detailed habitat classification information for the BioBlitz area)..

A great deal of inventory work has and continues to be undertaken for species and ecosystems at risk in Stanley Park. The Stanley Park Ecology Society has partnered with academic institutions and local naturalist organizations to monitor and document native and invasive flora and fauna. All of these components contributed to setting an excellent foundation for a BioBlitz at Stanley Park.

Figure 3. Stanley Park (red-dotted line) and surrounding area.
Source: Google Earth



Conducting the BioBlitz

While the SCCP has a focus on species at risk, attempting an overall biodiversity “reading” through conducting a BioBlitz is a complimentary goal. Participants are asked not only to confirm species such as native and invasive plants using a supplied checklist but look beyond the easily identifiable. Less charismatic species such as mollusks, amphibians and reptiles as well as rare plant and animal associations all reflect the unique values present in and around Stanley Park.

In some BioBlitzes, specialists and experts are just ‘let loose’ to inventory as much area as they can cover in the time allowed. In others, “Blitz Teams” are created and each team is assigned various areas of the BioBlitz area to inventory. In the case of Stanley Park, specialists went out individually or in pairs, some with a member of the public interested in increasing their skill sets in local plant and wildlife identification and inventory methods.

To compliment the Stanley Park BioBlitz, various events (bat mist netting, an owl walk, freshwater and marine aquatic surveys) were scheduled to engage the public and gather further inventory data.

Educational displays and interpretive walks were provided throughout the event as a concurrent method to connect nearby residents and visitors to the natural values of the area as well as the activities and efforts of the BioBlitz partners.

Image: Robyn Worcester.



Stanley Park BioBlitz specialists and inventory teams, Left: Botanists Terry Taylor and David Cook, Center: Intertidal beach seine crew, Right: Ecologists Jeff Meggs and Melissa Todd hunt for dragonflies.

Findings

Baseline information is a value added component to undertaking any BioBlitz. The Stanley Park BioBlitz was a means to update inventory data on invasive species, native flora and fauna and fill in gaps such as insects and non-vascular plants (e.g. lichens) and fungi. In total three hundred and ninety-five (395) different species of flora and fauna, including one hundred and fifty-two (152) new species were identified from the BioBlitz. This information will contribute to provincial resources such as the BC Conservation Data Center (CDC) as well as the local and regional knowledge base (see Appendix 2 for detailed breakdown of species, listings and definitions).

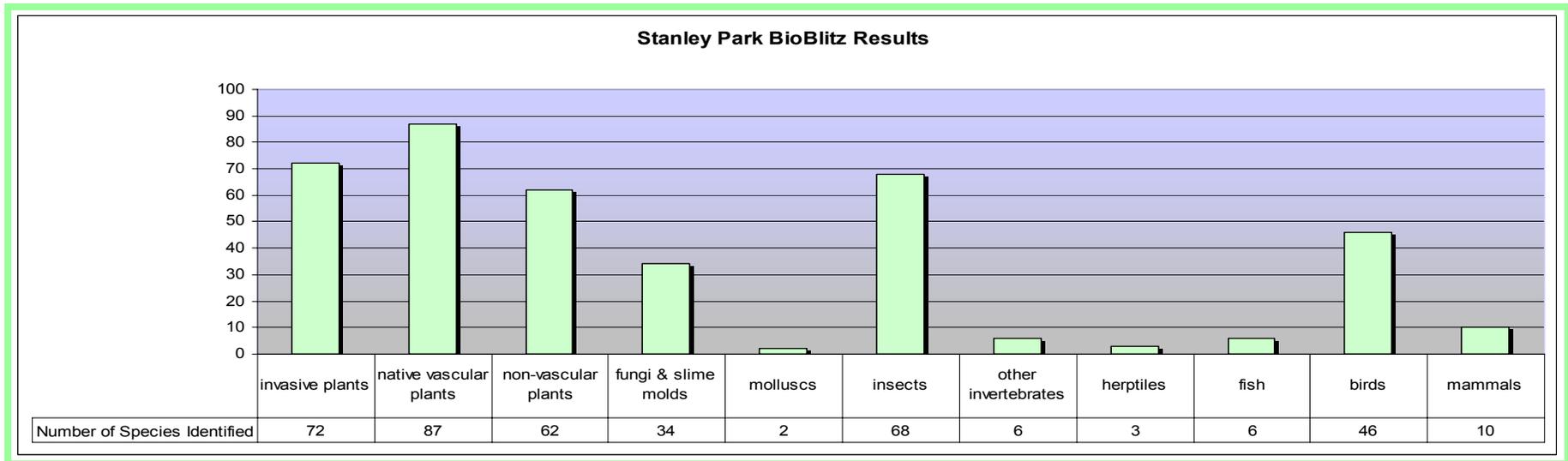
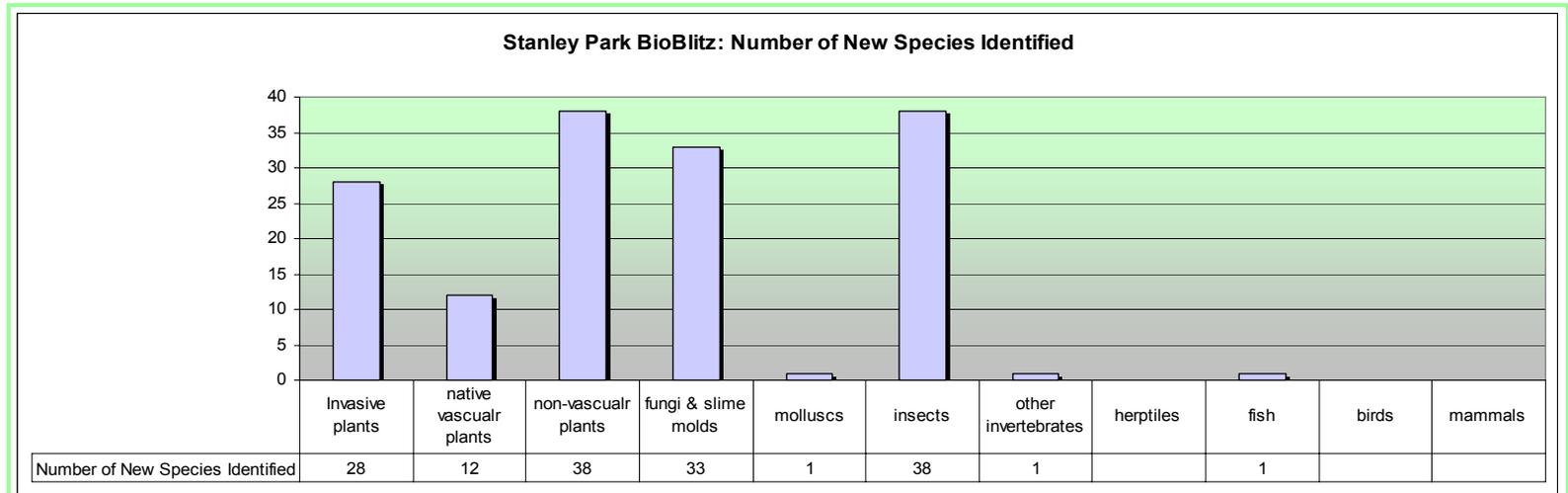


Figure 4.
Breakdown of Stanley Park BioBlitz survey results.



As a seasonal snapshot, the results of the Stanley Park BioBlitz demonstrate that the park, even though surrounded by such a highly urbanized landscape is an oasis for a range of plants, fungi and pollinators. Wetlands like Beaver Lake in particular support significant levels of biodiversity. Even managed landscapes such as the Rose Garden and ornamental plantings around high use areas provide food and refuge for insects and small mammals. As with many other parks and natural areas in the region however, a number of invasive plant species of concern, as well as introduced fauna like arion slugs, Bullfrog and Eastern Grey Squirrel proliferate throughout the park.

With information in hand from the BioBlitz, the Stanley Park Ecology Society and Vancouver Board of Parks and Recreation can pool this recent data with historic inventory information to create a more comprehensive species baseline. New information on occurrences of less charismatic species such as plants, fungi and insects can be used as important indicators of the ecological health of the park along with better known fauna such as birds. Future BioBlitzes can then use this digital 'checklist' as a benchmark for observations, monitoring and reporting.



What the Stanley Park BioBlitz provided for participants:

“Meeting biologists/generalists who have a different passion than mine, which is birds, and who were able to draw me into their world of aquatic insects, or fish, and create a greater excitement for Stanley Park’s diverse species.”

“The BioBlitz provided the opportunity to engage with other biodiversity and conservation organizations. It also enhanced my knowledge of what the Stanley Park Ecology Society and BioBlitzes strive to accomplish.”

“It was great to get to know the park better and honing those ID skills for species I don’t work with every day.”

“The attention to variety of species was great. I wish I could have participated in more of the surveys!”

Image Source: Pamela Zevit

The Stanley Park BioBlitz in Review

The contributions and perspectives of participants are integral to improving and refining future iterations of any large-scale public event. For Stanley Park this was an inaugural event. Depending on whether participants had been to a BioBlitz or worked other similar events before often contributed to their perspectives. It is important to recognize though that regardless of an individual’s previous experiences, each BioBlitz is unique and has to be customized to the mosaic of the participants as well as the site conditions and partner capacity.

All in all, participants reported a very positive and worthwhile experience, but felt that some aspects of the event should be looked at for the future including:

- 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.

In respect to media, the event was advertised in local online media and local commercial venues well in advance and signage for the event was posted in key areas with local residents or visitors. As well local elected officials and media were invited to attend.

BioBlitzes are designed to serve a dual purpose of engaging the public about biodiversity conservation and the natural world, as well as collecting valuable information about local species use. Interestingly some scientists who participated in the Stanley park event felt that combining these two goals were disadvantageous and the public side detracted from collecting robust, credible data. Conversely though, groups like SPES need to make the most effective use of these public opportunities to engage public interest in the science of conservation to affect positive change. Future BioBlitzes can be crafted to bridge these differing perspectives and needs.

Next Steps

The SCCP works to facilitate public engagement and citizen science opportunities around species and ecosystems at risk with local partners. This is done with the intent to provide those partners with tools and ideas as to how best to take further conservation actions. Should the partners in the BioBlitz wish to have BioBlitzes become a regular event for their area, there are learning outcomes from this pilot event to consider:

1. **Set project scope and resources needed:** Partners need to identify the extent and scope of a future BioBlitz and the social capital (people resources) and finances needed to support planning and implementation. This includes securing sufficient specialist expertise (quantity as well as quality) to cover off gaps in knowledge at the local level, as well as providing for wider coverage geographically. In respect to event location, moving the interpretive display component of the event off a pedestrian movement corridor and to a public viewing or “destination” location where people may be more likely to stop (e.g. Prospect Point, Second Beach etc.) may enhance exposure and public engagement values.
2. **Timing and setting deliverables:** Regardless of the certainty of funding, if the partners wish to undertake an event of this nature in the future, planning should occur at least six (6) months in advance. This will allow for optimal planning and notification of the event and advertising to specialists and experts who often have field season schedules planned well in advance. It will also allow for adequate time to build the event and market and disseminate information locally and regionally.

The Stanley Park BioBlitz should be considered successful by all involved. The staff and volunteers of the Stanley Park Ecology Society showed amazing capacity to pull together a large public event in a very short period of time that attracted at least a thousand participants. Stanley Park is an incredible asset to the City of Vancouver and the citizens of the region. With future support, there is no reason why it cannot continue to part of the many BioBlitz events growing in popularity on the South Coast of BC!

Appendix 1. The Stanley Park landscape

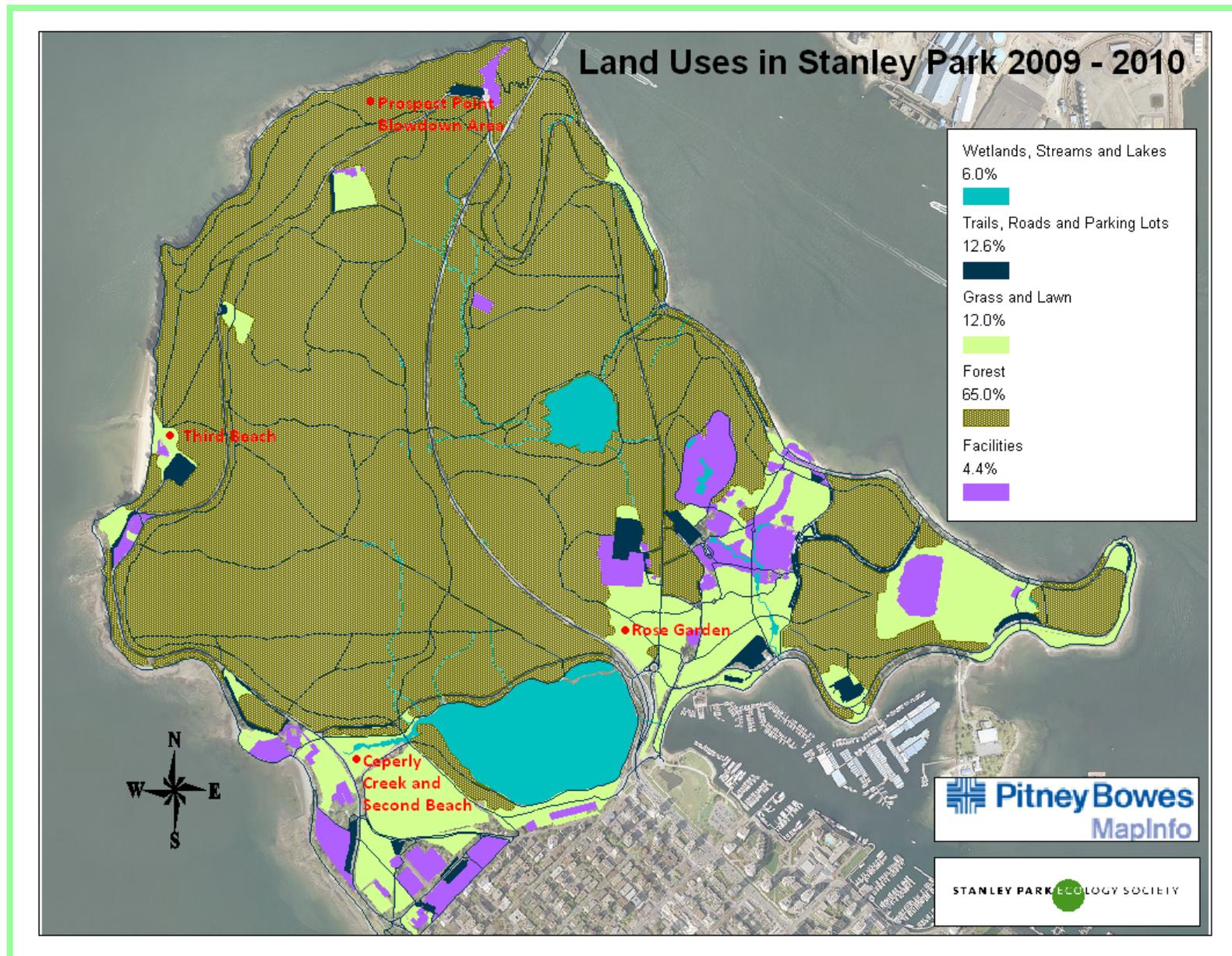


Figure 5. The types of areas surveyed by respective BioBlitz participants and specialists (Source: SPES 2011)

Appendix 2. Detailed BioBlitz survey results and associated species information

*Rows with green highlighting denote new species listings for Stanley Park

Table 1. Vascular and non vascular plants

Vascular Plants		
Scientific Name	Common name	Location
Trees		
<i>Abies grandis</i>	grand fir	
<i>Acer circinatum</i>	vine maple	
<i>Acer macrophyllum</i>	bigleaf maple	
<i>Alnus rubra</i>	red alder	
<i>Betula papyrifera</i>	paper birch	
<i>Malus fusca</i>	Pacific crab apple	
<i>Picea sitchensis</i>	Sitka spruce	
<i>Populus balsamifera ssp. trichocarpa</i>	black cottonwood	
<i>Prunus emarginata</i>	bitter cherry	
<i>Pseudotsuga menziesii</i>	Douglas-fir	
<i>Thuja plicata</i>	western redcedar western red cedar	
<i>Tsuga heterophylla</i>	western hemlock	
Shrubs		
<i>Gaultheria shallon</i>	salal	
<i>Lonicera ciliosa</i>	western trumpet honeysuckle	Seawall
<i>Lonicera involucrata</i>	black twinberry	Beaver Lk.
<i>Menziesia ferruginea</i>	false azalea fool's huckleberry	Lake tr.
<i>Oemleria cerasiformis</i>	Indian plum	
<i>Rhododendron groenlandicum</i>	Labrador tea	bog
<i>Rubus leucodermis</i>	black raspberry	Tatlow tr.
<i>Rubus parviflorus (thimbleberry)</i>	thimbleberry	
<i>Rubus spectabilis (salmonberry)</i>	salmonberry	
<i>Rubus ursinus (trailing blackberry)</i>	trailing blackberry	
<i>Salix hookeriana (Hooker's willow) beaver lk.</i>	Hooker's willow	Beaver Lk.

<i>Salix lucida ssp. lasiandra (pacific willow)</i>	Pacific willow	
<i>Salix sp. (willow)</i>	willow sp.	
<i>Sambucus racemosa</i>	red elderberry	
<i>Sorbus sitchensis</i>	Sitka mountain ash	Beaver Lk.
<i>Spiraea douglasii</i>	hardhack	
<i>Symphoricarpos albus</i>	snowberry	
<i>Vaccinium ovalifolium</i>	oval-leaved blueberry	Beaver Lk.
<i>Vaccinium parvifolium</i>	red huckleberry	
Herbs		
<i>Adenocaulon bicolor</i>	American trailplant pathfinder	Ravine tr.
<i>Adiantum aleuticum</i>	northern maidenhair fern	Seawall
<i>Anaphalis margaritacea</i>	pearly everlasting	Seawall
<i>Aruncus dioicus</i>	goatsbeard	Seawall
<i>Athyrium filix-femina</i>	lady fern	
<i>Blechnum spicant</i>	deer fern	
<i>Boykinia elata</i>	slender boykinia	Seawall
<i>Brasenia schreberi</i>	watershield	
<i>Bromus sitchensis</i>	Alaska brome	
<i>Cakile edentula</i>	American searocket	Seawall
<i>Cardamine oligosperma (likely C.birsuta)</i>	few-seeded bittercress	
<i>Carex deweyana</i>	Dewey's sedge	
<i>Circaea alpina</i>	enchanter's nightshade	Ravine tr., Chickadee tr.
<i>Claytonia sibirica</i>	Siberian miner's lettuce	
<i>Comarum palustris</i>	marsh cinquefoil	
<i>Cornus canadensis (bunchberry)</i>	bunchberry	Wren tr., Tatlow tr.
<i>Dryopteris expansa</i>	spiny wood fern	
<i>Epilobium angustifolium</i>	fireweed	
<i>Epilobium ciliatum ssp. ciliatum</i>	purple-leaved willow-herb	
<i>Equisetum arvense</i>	common horsetail	
<i>Equisetum telmateia</i>	giant horsetail	
<i>Galium aparine</i>	common cleavers	
<i>Galium triflorum</i>	sweet-scented bedstraw	
<i>Geum macrophyllum</i>	large-leaved avens	

<i>Glyceria elata</i>	tall mannagrass	Tisdall tr.
<i>Heuchera micrantha</i>	smallflower alumroot	Seawall
<i>Juncus articulatus</i>	jointed rush	Seawall
<i>Juncus bufonius</i>	toad rush	
<i>Juncus effusus</i>	common rush	
<i>Juncus tenuis</i>	slender rush	
<i>Lathyrus japonicus</i>	beach pea	Seawall
<i>Leymus mollis</i>	American dunegrass dune wildrye	Seawall
<i>Luzula parviflora</i>	small flowered woodrush	
<i>Luzula fastigiata</i>	forked wood-rush smallflowered woodrush	
<i>Lysichitum americanum</i>	skunk cabbage western skunk cabbage	
<i>Maianthemum dilatatum</i>	false lily-of-the-valley	Ravine tr.
<i>Menyanthes trifoliata</i>	buckbean	Beaver lk.
<i>Mimulus guttatus</i>	yellow monkey flower	Seawall
<i>Montia parvifolia</i>	small-leaved montia	Seawall
<i>Nuphar polysepalum</i>	yellow pond lily	Beaver lk.
<i>Oenanthe sarmentosa</i>	Pacific water-parsley	
<i>Osmorhiza chilensis</i>	sweet-cicely	
<i>Polypodium glycyrrhiza</i>	licorice fern	
<i>Polystichum munitum</i>	sword fern	
<i>Potentilla pacifica</i>	Pacific silverweed	
<i>Pteridium aquilinum</i>	bracken fern	
<i>Rorippa palustris</i>	marsh yellow cress	
<i>Schoenoplectus acutus</i>	hardstem bulrush	
<i>Scirpus microcarpus</i>	small-flowered bulrush	
<i>Sedum oreganum</i>	Oregon stonecrop	
<i>Sedum spathulifolium</i>	broadleaf stonecrop	
<i>Stellaria crispa</i>	crisp starwort crisp sandwort curled sandwort	
<i>Streptopus amplexifolius</i>	clasping twisted stalk	
<i>Tellima grandiflora</i>	fringe-cup	
<i>Tiarella trifoliata</i>	three-leaved foamflower	

<i>Trisetum cernuum</i>	nodding trisetum	
<i>Typha latifolia</i>	cattail	
<i>Urtica dioica</i>	stinging nettle	
Common English names appear in parentheses. ' ' separates synonyms.		
When only the genus was identified (as yet), "sp" appears in place of the species name.		
Names and taxonomy are believed to be current as of August 21 2011		
Sources:Terry Taylor, David Cook, E-Flora, BC Conservation Data Center		

Non-vascular plants		
Scientific name	Common name	Location
Carnvorous plants		
<i>Drosera rotundifolia</i> (<i>Round-Leaved Sundew</i>) bog	round-leaved sundew	bog
Mosses		
<i>Atrichum selwynii</i>	crane's-bill moss Selwyn's atrichum moss	
<i>Atrichum undulatum</i> (<i>common smoothcap</i>)	common smoothcap	
<i>Calliergonella cuspidata</i>	calliergonella moss pointed spear-moss	Ravine tr.
<i>Claopodium crispifolium</i>	claopodium moss rough moss	
<i>Dichodontium pellucidum</i>	dichodontium moss transparent rake-moss	Seawall
<i>Dicranella heteromalla</i>	dicranella moss silky forklet-moss	near Beaver lk.
<i>Dicranoweisia cirrata</i>	curly thatch-moss dicranoweisia moss	
<i>Dicranum scoparium</i>	broom-moss dicranum moss	
<i>Dicranum tauricum</i>	broken-leaf moss dicranum moss	

<i>Heterocladium macouni</i>	Macoun's bileaf moss Macoun's heterocladium moss	
<i>Homalothecium fulgescens</i>)	(tree mat homalothecium moss yellow curl-moss	
<i>Homalothecium nuttallii</i>	Nuttall's homalothecium moss	
<i>Hypnum circinale</i>	coiled-leaf claw-moss hypnum moss	
<i>Isothecium myosuroides</i> <i>Isothecium cardotii</i> <i>Isothecium stoloniferum</i>	isothecium moss variable moss, cat-tail moss	Ravine tr.
<i>Kindbergia oreganum</i> <i>Kindbergia oregana</i>	Oregon beaked-moss Oregon eurhynchium moss	
<i>Kindbergia praelongum</i> <i>praelonga</i>	eurhynchium moss slender beaked-moss	
<i>Orthotrichum lyellii</i>	Lyell's bristle-moss Lyell's orthotrichum moss	
<i>Plagiomnium insigne</i>	coastal leafy moss plagiomnium moss	
<i>Plagiothecium undulatum</i> <i>Buckiella undulatum</i>	flat-moss undulate plagiothecium moss	
<i>Pleurozium schreberi</i>	red-stemmed feathermoss Schreber's big red stem moss	bog
<i>Pogonatum contortum</i>	contorted pogonatum moss	near Beaver lk.
<i>Pohlia longibracteata</i>	longbract pohlia moss	Seawall
<i>Pseudotaxiphyllum elegans</i>	(elegant pseudotaxiphyllum moss small flat-moss	
<i>Racomitrium heterostichum</i>	racomitrium moss bristly/lesser fringe-moss	
<i>Rhizomnium glabrescens</i>	rhizomnium moss	
<i>Rhytidiadelphus loreus</i>	lanky moss loreus goose neck moss	

<i>Rhytidiadelphus squarrosus</i>	bent-leaf moss square goose neck moss	
<i>Sphagnum palustre</i>	blunt-leaved peat-moss prairie sphagnum	near beaver lk.
<i>Tetraphis pellucida</i>	common four-tooth moss tetraphis moss	
<i>Tortula muralis</i>	tortula moss wall screw-moss	
Liverworts		
Scientific name	Common name	Location
<i>Bazzania denudata</i>		
<i>Calypogeia azurea</i>		
<i>Calypogeia muelleriana</i>		
<i>Cephalozia bicuspidata</i>		
<i>Jungermannia rubra seawall</i>		
<i>Lepidozia reptans</i>	little-hands liverwort	
<i>Lophocolea cuspidata</i>		
<i>Metzgeria conjugata</i>		
<i>Pellia neesiana</i>	shiny liverwort, ring pellia	
<i>Riccardia latifrons</i>		
<i>Scapania bolanderi</i>	yellow-ladle liverwort	
Lichens		
Scientific name	Common name	Location
<i>Candelaria concolor</i>	candle-flame lichen	Near Food concession at Pavillion Parking lot On fallen branch of Cherry tree
<i>Cladonia fimbriata</i>	trumpeting pixie	On bark of Fir tree near SPES parking lot
<i>Cladonia macilenta</i>	lipstick lichen	On bark of Beech tree near SPES parking lot
<i>Cladonia sp.</i>		On tree bark near Beaver Lake

<i>Cladonia squamosa</i>	Dragon cladonia	bog
<i>Evernia prunastri</i>	valley oakmoss antlered perfume lichen	Near Food concession at Pavillion Parking lot On fallen branch of Cherry tree
<i>Hypogymnia physodes</i>	hooded bone hooded tube	On bark of Beech tree near SPES parking lot
<i>Hypogymnia tubulosa</i>	powder headed tube lichen	Near Food concession at Pavillion Parking lot On fallen branch of Cherry tree
<i>Lecanora sp.</i>	rim lichen	On bark of Fir tree near SPES parking lot
<i>Lepraria incana</i>	dust lichen	On Fir tree bark near Beaver Lake
<i>Lepraria sp.</i>		
<i>Melanelia subaurifera</i>	abraded Camouflage lichen	Near Food concession at Pavillion Parking lot On fallen branch of Cherry tree
<i>Mycoblastus sanguinarius</i>	bloody heart lichen	On bark of Beech tree near SPES parking lot
<i>Parmelia hygrophila</i>	western shield lichen	On bark of Beech tree near SPES parking lot
<i>Parmelia sulcata</i>	hammered shield lichen	Near Food concession at Pavillion Parking lot On fallen branch of Cherry tree
<i>Parmeliopsis ambigua</i>	green starburst lichen	On bark of Beech tree near SPES parking lot
<i>Parmeliopsis hyperopta</i>	grey starburst	
<i>Platismatia glauca</i>	ragbag lichen	On bark of Beech tree near SPES parking lot
<i>Tuckermannopsis chlorophylla</i> <i>Cetraria chlorophylla</i>	powdered wrinkle lichen	On bark of Beech tree near SPES parking lot
<i>Usnea subfloridana</i>	beard lichen	Near Food concession at Pavillion Parking lot On fallen branch of Cherry tree

Common English names appear in parentheses. '|' separates synonyms. '?' following a species indicates that a specimen was found similar to the named species but the species was not (yet) confirmed. .

When only the genus was identified (as yet), "sp" appears in place of the species name. Names and taxonomy are believed to be current as of August 21 2011

Sources: Daryl Thompson, Kent Brothers, Leanne Gallon, Terry Taylor, David Cook, E-Flora

Table 2. Invasive & non-native vascular plants

Invasive Plant Species		
Emergent Species		
(Emergent species are limited distribution or a new invader)		
Scientific name	Common name	Location
<i>Robinia pseudo-acacia</i> (black locust)	black locust	
<i>Aesculus hippocastanum</i>	horse chestnut	Beaver lk.
<i>Buddleja davidii</i>	butterfly bush	Lost Lagoon
<i>Corylus avellana</i>	common hazel Harry Lauder's walking stick	
<i>Impatiens parviflora</i>	small-flowered touch-me-not	Tisdall tr., Ravine tr.
<i>Prunus lusitanica</i>	Portugal laurel	
Expanding Species		
(Expanding species are abundant in some areas, but have limited distribution in other areas)		
<i>Calystegia sepium</i> ssp. <i>sepium</i> <i>Convolvulus sepium</i> <i>Calystegia sepium</i>	hedge false bindweed	
<i>Fallopia japonica</i> sp. <i>Polygonum cuspidatum</i>	Japanese knotweed	Ravine tr.
<i>Iris pseudacorus</i>	yellow iris yellow flag iris	
<i>Lythrum salicaria</i>	purple loosestrife	

<i>Nymphaea odorata</i>	fragrant water lily	Beaver lk.
<i>Phalaris arundinacea</i>	reed canary grass	
<i>Solanum dulcamara var. dulcamara</i> <i>Solanum dulcamara</i>	European bittersweet climbing nightshade	Ravine tr.
Established Species		
(Established species are abundant or widespread in most areas of the park)		
Scientific name	Common name	Location
<i>Hedera helix</i>	English ivy	
<i>Ilex aquifolium</i>	English holly	
<i>Rubus armeniacus</i> <i>Rubus discolor</i>	Himalayan blackberry	
<i>Sorbus aucuparia</i>	European mountain-ash European rowan	
Trailside Species		
(These are non-native species considered a nuisance, but of minimal threat to natural area biodiversity)		
Scientific name	Common name	Location
<i>Agrostis gigantea</i>	redtop	
<i>Aira caryophyllea</i>	silver hairgrass	Seawall
<i>Anthoxanthum odoratum</i>	sweet vernalgrass	
<i>Arctium minus</i>	burdock	Wren tr.
<i>Bellis perennis</i>	English daisy	
<i>Cerastium fontanum ssp. triviale</i>	mouse-eared chickweed	
<i>Cirsium arvense</i>	Canada thistle	
<i>Cirsium vulgare</i>	common thistle	
<i>Dactylis glomerata</i>	orchard grass	
<i>Daucus carota</i>	Queen Anne's lace wild carrot	Seawall
<i>Digitalis purpurea</i>	common foxglove	
<i>Geranium robertianum</i>	herb Robert	

<i>Glechoma hederacea</i>	ground ivy	Chickadee tr.
<i>Gnaphalium uliginosum</i>	marsh cudweed	
<i>Hesperis matronalis</i>	dames rocket	
<i>Holcus lanatus</i>	common velvet-grass	
<i>Hordeum murinum</i>	wall barley	Seawall
<i>Hypericum maculatum</i>	spotted St. John's-wort	Hanson tr.
<i>Hypericum perforatum</i>	common St. John's wort	
<i>Hypochaeris radicat</i>	hairy cat's ear	
<i>Lactuca muralis</i>	wall lettuce	
<i>Lactuca serriola</i>	prickly lettuce	
<i>Lapsana communis</i>	nipplewort	
<i>Lepidium heterophyllum</i>	purpleanther field pepperweed	
<i>Linum usitatissimum</i>	common flax	Seawall
<i>Lolium multiflorum</i>	Italian ryegrass	
<i>Lotus pedunculatus</i>	big trefoil stalked birds-foot trefoil	Beaver lk., Ravine tr.
<i>Matricaria matricarioides</i>	pineapple weed	
<i>Meconopsis cambrica</i>	Welsh poppy	Tatlow tr.
<i>medicago lupulina</i>	black medic	
<i>Myosotis scorpiodes</i>	common forget-me-not	
<i>Nymphaea odorata</i>	white water lily	
<i>Oenothera glazioviana</i>	red-sepaled evening primrose	Lost Lagoon
<i>Papaver rhoeas</i>	corn poppy	Seawall
<i>Persicaria maculosa</i>	spotted ladythumb	
<i>Philadelphus sp.</i>	mock orange	Ravine tr.
<i>Phleum pratense</i>	Timothy grass	
<i>Phyllostachys sp</i>	bamboo sp.	Seawall
<i>Plantago lanceolata</i>	ribwort plantain	

<i>Plantago major</i>	broad-leaved plantain	
<i>Poa annua</i>	annual bluegrass	
<i>Polygonum aviculare</i>	common knotweed	
<i>Polygonum convolvulus</i> <i>Fallopia convolvulus</i>	black bindweed	
<i>Prunella vulgaris</i> ssp. <i>Vulgaris</i>	European self-heal	
<i>Ranunculus acris</i>	meadow buttercup tall buttercup	Tisdall tr.
<i>Ranunculus repens</i>	creeping buttercup	
<i>Rumex obtusifolius</i>	bitter dock	
<i>Sagina procumbens</i>	procumbent pearlwort	
<i>Senecio sylvaticus</i>	wood groundsel woodland ragwort	Seawall
<i>Silene rubra</i>	campion sp.	
<i>Sisymbrium officinale</i>	hedge mustard	
<i>Sonchus arvensis</i>	perennial sow-thistle	
<i>Sonchus asper</i>	prickly sow-thistle spiny sow-thistle	
<i>Sonchus oleraceus</i>	common sow-thistle	
<i>Stellaria media</i>	chickweed	
<i>Symphytum x uplandicum</i>	hybrid comfrey	Seawall
<i>Taraxacum officinale</i>	common dandelion	
<i>Trifolium dubium</i>	small hop-clover suckling clover	
<i>Trifolium hybridum</i>	alsike clover	
<i>Trifolium pratense</i>	red clover	
<i>Trifolium repens</i>	white clover	
<i>Vicia cracca</i>	tufted vetch	
<i>Vulpia bromoides</i>	barren fescue brome fescue	Seawall
Common English names appear in parentheses. ' ' separates synonyms.		
When only the genus was identified (as yet), "sp" appears in place of the species name.		
Names and taxonomy are believed to be current as of August 21 2011		
Sources: Terry Taylor, David Cook, E-Flora		

Table 3. Fungi & Slime Mold

Fungi	Common Name	Location
<i>Biscogniauxia uniapiculata</i>		southwest corner of park
<i>Annulohyphoxylon multiforme</i> <i>Hypoxylon multiforme</i>	carbon cushion	southwest corner of park
<i>Boletus smithii</i>	Smith's bolete	southwest corner of park
<i>Clavulina cristata</i>	crested coral	Beaver Lake
<i>Coprinellus micaceus</i>	mica cap	flower beds near Dining Pavillion
<i>Fomitopsis pinicola</i> <i>Fomes pinicola</i>	red-belted polypore	Beaver Lake
<i>Ganoderma applanatum</i> <i>Fomes applanatus</i>	artist's conk	Beaver Lake
<i>Ganoderma oregonense</i>	Oregon varnished conk	Beaver Lake
<i>Gloeophyllum sepiarium</i> <i>Lenzites sepiaria</i>	rusty-gilled polypore	southwest corner of park
<i>Heterobasidion annosum</i> <i>Fomes annosus</i>	Annosus root, butt rot, conifer-base polypore	Beaver Lake
<i>Hypomyces aurantius</i>		southwest corner of park
<i>Hypoxylon cf investiens</i>		southwest corner of park
<i>Irpex lacteus</i> <i>Polyporus tulipiferae</i>	Milk-white toothed polypore	southwest corner of park
<i>Kretzschmaria deusta</i> <i>Ustulina deusta</i> <i>Ustulina vulgaris</i> <i>Hypoxylon ustulatum</i>	carbon cushion	southwest corner of park
<i>Nidula candida</i>	bird's nest fungus, common gel bird's nest	Beaver Lake
<i>Osteina obducta</i> <i>Oligoporus obductus</i>	bone polypore	southwest corner of park
<i>Panellus stipticus</i>	luminescent Panellus	Beaver Lake
<i>Phaeolus schweinitzii</i> <i>Polyporus schweinitzii</i>	Schweinitz' butt rot Dyer's polypore, dye polypore	southwest corner of park
<i>Phellinus ferreus</i> <i>Fuscoporia ferrea</i>		southwest corner of park
<i>Phellinus hartigii</i> <i>Fomitiporia hartigii</i>	conifer white trunk rot	southwest corner of park
<i>Phycomyces sp</i>		southwest corner of park
<i>Psathyrella sp.</i>		southwest corner of park
<i>Ramaria sp.</i>	coral fungus	Beaver Lake
<i>Royoporus badius</i> <i>Polyporus badius</i> <i>Polyporus picipes</i>	black leg	southwest corner of park

<i>Russula sp.</i>		Beaver Lake
<i>Sawadaea bicornis</i> <i>Uncinula bicornis</i>	Maple powdery mildew	
<i>Scleroderma verrucosum</i>	earth ball fungus	flower beds near Dining Pavillion
<i>Stereum complicatum</i>	crowded parchment	Beaver Lake
<i>Tapinella atrotomentosa</i> <i>Paxillus atrotomentosus</i>	velvet pax	Beaver Lake
<i>Trametes versicolor</i> <i>Coriolus versicolor</i> <i>Polyporus versicolor</i>	turkeytail	southwest corner of park
<i>Trichaptum abietinum</i> <i>Polyporus abietinus</i>	violet-pored bracket fungus purple-toothed polypore	southwest corner of park
<i>Tyromyces caesia</i>	cheese polypore	Beaver Lake
<i>Xylaria hypoxylon</i>	carbon antlers	southwest corner of park
Slime Mold		
Scientific Name	Common Name	Location
<i>Fuligo septica</i>	dog vomit scrambled eggs slime mold	Beaver Lake
Families of fungi observed	Sources: Kent Brothers, Leanne Gallon, E Flora	
ASCOMYCOTA (Ascomycete fungi)	Green highlighting denotes new listings for Stanley Park	
Sordariomycetes (Perithecial / flask fungi)		
BASIDIOMYCOTA (Basidiomycete fungi)		
ZYGOMYCOTA (Zygomycete fungi)		

Table 4. Molluscs

Scientific and common names	Location		
<i>Musculium</i> or <i>Sphaerium</i> (Fingernail Clam sp.)	Beaver Lk.		
<i>Mytilus edulis</i> Blue Mussel	Lumberman's Arch beach seine		
Sources: Jordan Rosenfeld, Isabell Aube			

Table 5. Insects

Bees, Wasps & Flies		
"Communal Bees"		
Scientific name	Common Name	Location
<i>Apis mellifera</i>	Honeybee	Rose Garden/Dining Pavillion
<i>Bombus vosnesenskii</i>	Yellow-fronted Bumblebee	Rose Garden/Dining Pavillion
<i>Bombus flavifrons</i>	Bumblebee sp.	Rose Garden/Dining Pavillion
<i>Bombus mixtus</i>	Bumblebee sp.	Rose Garden/Dining Pavillion
<i>Bombus vagans</i>	Bumblebee sp.	Rose Garden/Dining Pavillion
<i>Bombus sp.</i>	Bumblebee sp.	Rose Garden/Dining Pavillion
"Solitary Bees"		
Scientific name	Common Name	Location
<i>Anthidium manicatum</i>	Wool Carder Bee	Rose Garden/Dining Pavillion
<i>Duforea sp.</i>		Rose Garden/Dining Pavillion
<i>Megachile sp.</i>	Leafcutter Bee	Rose Garden/Dining Pavillion
<i>Megachile rotundata</i>	Alfalfa Leafcutter Bee	Rose Garden/Dining Pavillion
"Mining Bees"		
Scientific name	Common Name	Location
<i>Andrena sp.</i>		Rose Garden/Dining Pavillion

"Sweat Bees"		
Scientific name	Common Name	Location
Halictus rubicundus		Rose Garden/Dining Pavillion
Halictus tripartitus		Rose Garden/Dining Pavillion
Lasioglossum subgenus lasioglossum, species zonulum		Rose Garden/Dining Pavillion
Lasioglossum subgenus evylaeus		Rose Garden/Dining Pavillion
Lasioglossum subgenus dialictus		Rose Garden/Dining Pavillion
"Plasterer Bees"		
Scientific name	Common Name	Location
Hylaeus modestus		Rose Garden/Dining Pavillion
Other Hymenoptera (wasps)		
Scientific name	Common Name	Location
Vespidae (includes "paper & mud" wasps)		
Vespula maculatum	Bald-faced Hornet	Rose Garden/Dining Pavillion
Vespula sp.	Yellow Jacket	Rose Garden/Dining Pavillion
Sphecidae ("thread-waisted" wasps)		Rose Garden/Dining Pavillion
Sceliphron sp.	Mud Dauber	Rose Garden/Dining Pavillion
Chrysididae ("cuckoo" wasps)		Rose Garden/Dining Pavillion
sp.	Cuckoo Wasp	Rose Garden/Dining Pavillion
Crabronidae (includes "digger" wasps)		Rose Garden/Dining Pavillion
sp.		Rose Garden/Dining Pavillion
True Flies (Diptera)		
Scientific name	Common Name	Location
Calliphoridae ("blow flies")		Rose Garden/Dining Pavillion
Lucila sp.		Rose Garden/Dining Pavillion
Eristalinae ("hover flies")		Rose Garden/Dining Pavillion
Eristalis tenax		Rose Garden/Dining Pavillion

<i>Eristalis anthophorina</i>		Rose Garden/Dining Pavillion
<i>Eristalis arbustorum</i>		Rose Garden/Dining Pavillion
Syrphidae ("flower flies or syrphid flies")		Rose Garden/Dining Pavillion
<i>Chrysotoxum</i> sp.		Rose Garden/Dining Pavillion
<i>Eumerus</i> sp.		Rose Garden/Dining Pavillion
<i>Heliophilus</i> sp.		Rose Garden/Dining Pavillion
<i>Melanostoma</i> sp.		Rose Garden/Dining Pavillion
<i>Seriocomyia</i> sp.		Rose Garden/Dining Pavillion
<i>Syrphus opinator</i>		Rose Garden/Dining Pavillion
<i>Toxomerus</i> sp.		Rose Garden/Dining Pavillion
<i>Xylota</i> sp.		Rose Garden/Dining Pavillion
Plus four more that are clearly other species but unable to key out		Rose Garden/Dining Pavillion
Aquatic Insects (to order)		
Scientific name	Common Name	Location
Hemiptera	Water Boatmen sp.	
Hemiptera	Backswimmer sp.	
Hemiptera	Water Strider	seen at Beaver lake
Odonata	damselfly larva sp.	
Odonata	dragonfly larva sp.	
Trichoptera	caddisfly sp	seen at Beaver lake
Ephemeroptera	mayfly sp	seen at Beaver lake
Lepidoptera (Butterflies)		
Scientific name	Common name	Location
<i>Pieris rapae</i>	Cabbage White	Rose Garden, Dining Pavilion
<i>Pieris marginalis</i>	Margined White	Rose Garden, hollow tree
<i>Nymphalis antiopa</i>	Mourning Cloak	Dining Pavilion
<i>Neophasia menapia</i>	Pine White	Dining Pavilion, North side of Lost Lagoon, Rose Garden
<i>Vanessa atalanta</i>	Red Admiral Red Admirable	NE corner Lost Lagoon
<i>Papilio</i> spp.	Swallowtail butterfly spp.	Prospect Point Picnic Grounds
	Unknown Butterfly	Train & Aquarium Grounds

	Unknown Butterfly	Prospect Point Blowdown
<i>Papilio rutulus</i>	Western Tiger Swallowtail	Rose Garden Train & Aquarium Grounds
<i>Pieris spp.</i>	White butterfly spp.	Prospect Point Picnic Grounds, hollow tree
<i>Ochlodes sylvanoides</i>	Woodland Skipper	Rose Garden, Prospect Point Picnic Grounds
Odonata (Dragonflies & Damselflies)		
Scientific name	Common name	Location
<i>Rhionaeschna multicolor</i>	Blue-eyed Darner	Prospect Point Picnic Grounds, Hollow Tree, East of Second Beach, Lost Lagoon NW, Train & Aquarium Grounds, Rose Garden
<i>Pachydiplax longipennis</i>	Blue Dasher	Lost Lagoon NW
<i>Sympetrum illotum</i>	Cardinal Meadowhawk	Rose Garden
	Dragonflies spp.	East of Second Beach
<i>Libellula forensis</i>	Eight-spotted Skimmer	Lost Lagoon NW
<i>Sympetrum spp.</i>	Meadowhawk spp.	Train & Aquarium Grounds
<i>Ischnura cervula</i>	Pacific Forktail	Lost Lagoon NW, Beaver Lake East Shore
<i>Aeshna palmata</i>	Paddle-tailed Darner	Beaver Lake East Shore
<i>Enallagma carunculatum</i>	Tule Bluet	Lost Lagoon NW, Rose Garden
Miscellaneous		
<i>Anisolabis maritima</i>	Maritime Earwig Seaside Earwig	Seawall
Sources: Elizabeth Elle, Sherry Elwell, Graham Gielens, Melissa Todd, Jeff Meggs, Christine Leston, Greg Ferguson, Jordan Rosenfeld,		
BugGuide.net		

Table 6. Other Invertebrates

Scientific and common names
Freshwater invertebrates
Annelida, Oligochaeta (aquatic worm sp.)
Gammaridea sp. (scud)
(all found in Beaver Lk.)
Marine Invertebrates
<i>Balanus glandula</i> (Common Acorn Barnacle)
Amphipoda sp. (amphipod sp.)
(from Lumberman's Arch beach seine)
<i>Membranipora serrilamella</i> (Kelp-encrusting Bryozoan)
Annelida, Oligochaeta (aquatic worm sp.) Lumberman's Arch plankton tow
Sources: Jordan Rosenfeld, Isabelle Aube, Sheila Byers

Table 7. Herptiles (amphibians and reptiles)

Herptiles	
Scientific and Common Name	Location
<i>Rana catesbeiana</i> (Bullfrog)	Beaver Lake
<i>Lithobates clamitans</i> (Green frog)	Beaver Lake
<i>Trachemys scripta elegans</i> (Slider Red-eared Slider)	Beaver Lake
Sources: Robyn Worcester	

Table 8. Fish

Fish		
Scientific name	Common Name	Location
<i>Gasterosteus aculeatus</i>	Threespine Stickleback	Beaver lk., Beaver Crk.
<i>Oncorhynchus clarki clarki</i>	Cutthroat Trout, clarkii subspecies Coastal Cutthroat Trout	Beaver crk
<i>Oncorhynchus kisutch</i>	Coho Salmon	Beaver crk
<i>Cymatogaster aggregata</i>	Shiner Perch	Lumberman's arch (beach seining)
<i>Platichthys stellatus</i>	Starry Flounder	Lumberman's arch (beach seining)
<i>Isopsetta isolepis</i>	Butter Sole	Lumberman's arch (beach seining)

Table 9. Birds

Birds				
Scientific Name	Common Name	Location	BC Listing (red/blue)	Federal listing
<i>Agelaius phoeniceus</i>	Red-winged Blackbird	VPB Parking Lot		
<i>Aix sponsa</i>	Wood Duck	North Lost Lagoon		
<i>Anas platyrhynchos</i>	Mallard	North Lost Lagoon, devonian tr. Beaver lk., seawall		
<i>Ardea herodias faninni</i>	Great Blue Heron <i>faninni</i> ssp.	Devonina tr., beaver lk., North Lost Lagoon	Blue (special concern)	Special concern
<i>Bombycilla cedrorum</i>)	Cedar Waxwing	seawall		
<i>Branta canadensis</i>	Canada Goose	VPB Parking Lot, North Lost Lagoon, coal harbour-brockton point, devonian tr.		
<i>Calypte anna</i>	Anna's Hummingbird	Stone Bridge		
<i>Carduelis tristis</i>	American Goldfinch	VPB Parking Lot, Beaver Lake Trail		
<i>Carpodacus mexicanus</i>	House Finch	VPB Parking Lot		
<i>Certhia americana</i>	Brown Creeper	Train Yard Parking Lot, Pipeline Road		
<i>Colaptes auratus</i>	Northern Flicker	seawall		
<i>Columba livia</i>	Rock Dove	North Lost Lagoon, devonian tr. Beaver lk., seawall		
<i>Corvus caurinuscaurinus</i>	Northwestern Crow	throughout park		
<i>Corvus corax</i>	Common Raven	beaver lk.		

<i>Cyanocitta stelleri</i>	Steller's Jay	beaver lk.		
<i>Cygnus olor</i>	Mute Swan	North Lost Lagoon		
<i>Dryocopus pileatus</i>	Pileated Woodpecker			
<i>Empidonax traillii</i>	Willow Flycatcher	Beaver Lake Trail		
<i>Hirundo rustica</i>	Barn Swallow	VPB Parking Lot, North Lost Lagoon, devonian tr.	Blue (special concern)	Threatened
<i>Junco hyemalis</i>	Dark-eyed Junco	South Creek Trail		
<i>Larus canus</i>	Mew Gull	second beach, brockton point, seawall		
<i>Larus delawarensis</i>	Ring-billed Gull	North Lost Lagoon, second beach, brockton point, seawall		
<i>Larus glaucescens</i>	Glaucous-winged Gull	North Lost Lagoon, coal harbour-brockton point, seawall		
<i>Larus occidentalis</i>	Western Gull	seawall		
<i>Lophodytes cucullatus</i>	Hooded Merganser	Stone Bridge		
<i>Megaceryle alcyon</i>	Belted Kingfisher	coal harbour-brockton point		
<i>Melospiza lincolnii</i>	Lincoln's Sparrow	brockton point		
<i>Melospiza melodia</i>	Song Sparrow	Beaver Lake Trail, Cathedral Trail		
<i>Mergus merganser</i>	Common Merganser	seawall, brockton point		
<i>Phalacrocorax auritus</i>	Double-crested Cormorant	seawall, brockton point, North Lost Lagoon		
<i>Phalacrocorax pelagicus</i>	Pelagic Cormorant	coal harbour-brockton point, 7 under lion's gate bridge, 7 on seawall cliffs		
<i>Picoides pubescens</i>	Downy Woodpecker	North Lost Lagoon		
<i>Picoides villosus</i>	Harry Woodpecker	Wren Trail		

<i>Pipilo maculatus</i>	Spotted Towhee	Pipeline Road, Cathedral Trail		
<i>Poecile atricapillus</i>	Black-capped Chickadee	Train Yard Parking Lot, North Lost Lagoon, second beach		
<i>Poecile rufescens</i>	Chestnut-backed Chickadee	Beaver Lk.		
<i>Psaltriparus minimus</i>	Bushtit	devonian tr.		
<i>Selasphorus rufus</i>	Rufous Hummingbird	rose garden		
<i>Sitta canadensis</i>	Red-breasted Nuthatch	Beaver Lake Trail		
<i>Sphyrapicus ruber</i>	Red-breasted Sapsucker			
<i>Stelgidopteryx serripennis</i>	Northern Rough-winged Swallow	nesting @ brockton point		
<i>Strix Varia</i>	Barred Owl	pipeline rd., beaver Lk.		
<i>Troglodytes troglodytes</i>	Pacific Wren	South Creek Trail		
<i>Turdus migratorius</i>	American Robin	brockton point, VPB Parking Lot, North Lost Lagoon		
<i>Wilsonia pusilla</i>	Wilson's Warbler	South Creek Trail		
<i>Zonotrichia atricapilla</i>	Golden Crowned Sparrow	VPB Parking Lot		
Sources: Damion Ruthven, Michael Price, Dave Curror, Robyn Worcester, Roy Teo, Greg Ferguson, Christine Ensing				
BC Conservation Data Center, Bird Studies Canada				

Table 10. Mammals

Mammals

Scientific name	Common Name	Location
<i>Rattus rattus</i>	Roof Rat Black Rat (introduced)	small mammal trapping
<i>Phoca vitulina</i>	Harbour Seal	seawall, foreshore
<i>Lontra canadensis</i>	North American River Otter River Otter	lumberman's arch, seawall
<i>Castor canadensis</i>	American Beaver	beaver lk., tisdall tr.
<i>Myotis yumanensis</i>	Yuma Myotis Yuma Bat	beaver lk., tisdall tr.
<i>Myotis lucifugus</i>	Little Brown Myotis Little Brown Bat	beaver lk.
<i>Tamiasciurus douglasii</i>	Douglas's Squirrel Douglas Squirrel	beaver lk.
<i>Sciurus carolinensis</i>	Eastern Grey Squirrel Grey Squirrel (introduced)	beaver lk., small mammal trapping
<i>Peromyscus maniculatus</i>	North American Deermouse Deer Mouse	small mammal trapping
<i>Procyon lotor</i>	Raccoon	seen and photographed by volunteers

Sources: Robyn Worcester, Brent Matsuda, Damion Ruthven		
BC Conservation Data Center.		
* Up to date common names used by the BCCDC are provided first, older common names or synonyms are provided second		

Appendix 3. Signage, outreach, and marketing for the Stanley Park BioBlitz

2011 South Coast BioBlitz

Come take part in Stanley Park's first ever BioBlitz!

With your help, this 24 hour citizen science relay aims to identify as many living things as possible in the park. Together with scientists, local stewardship groups and YOU we hope to increase our knowledge of the parks native biodiversity.

Events running throughout the two days are free and open to the public. Enjoy hands on participation in pond dips, bat surveys, bird counts, amphibian searches, nature walks and more! Community groups and family activities will be centered at Lumberman's Arch and be sure to visit our interpretative tents at Beaver Lake and at the Nature House on Lost Lagoon. Be part of the BioBlitz and get to know your park better!

Saturday August 20th 3pm – 11pm
Sunday August 21st 9am - 3pm

For further information go to www.stanleyparkecology.ca

Brought to you by:

South Coast Conservation Program

STANLEY PARK ECOLOGY SOCIETY

The 2011 South Coast BioBlitz is graciously funded through Vancity's enviroFund with the assistance of the Fraser Valley Watersheds Coalition

Vancity

Welcome to the Stanley Park BioBlitz!

Free public events will be taking place at the Nature House on Lost Lagoon, Beaver Lake and Lumberman's Arch.

Activities include: Bat Mist Netting, Pond Dips, Bug Walks, Amphibian Studies and more! Program schedules and information are located at the Nature House on Lost Lagoon, Beaver Lake and Lumberman's Arch.

Saturday August 20th from 3:00pm – 11:00pm
Sunday August 21st from 9:00am – 3:00pm

Brought to you in partnership by:

STANLEY PARK ECOLOGY SOCIETY

Figure 6. BioBlitz marketing flyer and event map signage with coding for Smartphone users.

STANLEY PARK
ECOLOGY SOCIETY
Connecting People With Nature

[Home](#) [About](#) [Join • Donate](#) [Events Calendar](#) [News & Info](#) [Volunteer](#) [Jobs](#) [Contact](#)

Nature House

Public Programs

School Programs

Conservation Programs

Urban Wildlife

Co-Existing with Coyotes

Fun & Challenges!

Cob Architecture

Come take part in Stanley Park's first ever

BioBlitz!

With your help, this 24 hour citizen science relay aims to identify as many living things as possible in the park. This event is a partnership between the Stanley Park Ecology Society and the South Coast Conservation Program. Together with scientists, local stewardship groups and YOU we hope to increase our knowledge of the park's native biodiversity.

Events running throughout the two days are free and open to the public. Enjoy hands on participation in pond dips, bat surveys, bird counts, amphibian searches, nature walks and more! Community groups and family activities will be centered at Lumberman's Arch. Plus, be sure to visit our interpretive tents at Beaver Lake and at the Nature House on Lost Lagoon.

Be part of the BioBlitz and get to know your park better!

Stanley Park BioBlitz Public Events Schedule

SPES has been actively promoting urban ecological conservation and stewardship since 1988. That's **8635 days of ecological stewardship and counting!** Help us continue to educate and promote urban ecological conservation and stewardship.

Saturday August 20th

Event	Time	Location	Description
Nature House Displays	10:00am - 3:00pm	Nature House	Come visit Vancouver's only Nature House and learn about the local plants and animals that live in Stanley Park!
Beach Seine	3:15pm - 5:15pm	Lumberman's Arch	Explore the waters off of the Seawall and learn about the creatures that call these waters home!
Hummingbird Trapping	5:00pm - 7:00pm	Lumberman's Arch	Join a local expert as he catches and bands hummingbirds. See these magnificent birds up close and learn about what makes them so special!
Wild Edibles and Medicinal Plant Walk	6:00pm - 7:30	Beaver Lake	Take a walk through the forest and learn how to identify which plants are edible and which ones have medicinal properties.
Bat Mist-Netting	8:00pm - 11:00pm	Beaver Lake	Join a local expert hard at work mist netting bats. Have a look at how this fascinating work is done and find out what bats are in the park!
Owl Survey	8:00pm - 11:00pm	Beaver Lake	Take a walk and learn about local owls. Use an audio recorder to see if you can entice an owl into having a conversation with you!

Site Search

We Are Here:
[Map of Stanley Park](#)
[Close-up Map of Stanley Park](#) (with driving directions to SPES)

represents an external link and/or indicates a new browser window will open. SPES is not responsible for external site content.

[admin](#)

Sunday August 21st

Event	Time	Location	Description
Small Mammal Trapping	8:00am	Beaver Lake	Check small mammal traps with our local expert and learn about the small fuzzy creatures living in the forest of Stanley Park.
Bird ID Walk	9:00am - 11:00am	Nature House	Take a walk around Lost Lagoon and meet the birds that call it home. Learn how to identify birds by their feathers and song!
Nature House Displays	10:00am - 3:00pm	Nature House	Come visit Vancouver's only Nature House and learn about the local plants and animals that live in Stanley Park!
Partner Organization Displays	10:00am - 3:00pm	Lumberman's Arch	Come and meet some of the environmental organizations working in your neighbourhood!
Native Plant Garden Tour	11:00am - 12:00pm	Nature House	Learn about the importance of native plants, how to grow and care for them and what wildlife they attract!
Beaver Lake Amphibian trapping	11:00am - 12:00pm	Beaver Lake	Take a look at the creatures living in Beaver Lake. Help pull out amphibians traps and identify what you find with our environmental educators!
Beaver Lake Pond Dip	12:00pm - 2:00pm	Beaver Lake	Try your hand at catching the aquatic insects that call Beaver Lake home and use our magnifying loops to see them up close and personal!
Insect Identification Walk	1:00pm - 2:30pm	Nature House	Take a walk around Stanley Park and learn about the creepy crawlies in the forest all around you!
Freshwater Fish Trapping	1:30 - 3:00pm	Beaver Lake	Join us as we examine fish traps in Beaver Creek, one of the only three natural salmon bearing streams remaining in Vancouver!
State of the Park Discovery Walk	1:30pm - 3:30pm	Nature House	Tour the areas and discuss the issues presented in Stanley Parks first ever State of the Park Report!

Figure 7. BioBlitz event schedule posted online through various sites and at event stations

By **Rebecca Bollwitt**

August 17th, 2011, 1:10 PM (PT)

0

9

12

0

Share

comments

Like

Be the first of your friends to like this.

posted in: [environment](#), [stanley park](#), [vancouver](#) | tags: [events](#), [non-profit](#), [parks](#)

Stanley Park will host its first-ever BioBlitz this weekend. According to the organizers at the [Stanley Park Ecology Society](#), a Bioblitz is "an extravaganza of many hands-on exploratory inventories of nature."



Participants will be in specific groups alongside science experts and given a designated amount of time to identify as many plants, insects, birds, amphibians, fish, and intertidal creatures as they can. They're calling all "citizen scientists" to help out with this massive undertaking for 24 hours this weekend (12 hours on both Saturday and Sunday).

Schedule for Saturday, August 20, 2011

Nature House Display

Time: 10:00am to 3:00pm

Meet at: Nature House (Lost Lagoon)

Wild Edibles and Medicinal Plant Walk

Time: 6:00pm to 7:30pm

Meet at: Beaver Lake

Beach Seine

Time: 3:15pm to 5:15pm

Meet at: Lumberman's Arch

Bat Mist-Netting

Time: 8:00pm to 11:00pm

Meet at: Beaver Lake

Vancouver Events Calendar

SPORTS - MUSIC - THEATRE - FAMILY - VANCOUVER 2010



Home Events Submit Event Search Newsletter Tools RSS Login

Events >> **Events Calendar**

Event Calendar

Aug 2011						
<	S	M	T	W	T	F
	01	02	03	04	05	06
	07	08	09	10	11	12
	14	15	16	17	18	19
	21	22	23	24	25	26
	28	29	30	31		

Note: Event Times in PST

Translate Vancouver Events

Select Language

Powered by Google Translate

go back to English click below

Key Vancouver Links

[Vancouver Annual Events](#)

[Vancouver Webcams](#)

[Vancouver Attractions](#)

[Vancouver Bed & Breakfasts](#)

[Whistler Information Guide](#)

City Guides

[Vancouver](#)

[Calgary](#)

[Edmonton](#)

[Winnipeg](#)

[Ottawa](#)

[Toronto](#)

[Halifax](#)

City Event Calendars

[Calgary Events Calendar](#)

Recommended

[Insurance in Canada](#)

[Banks in Canada](#)

[Add Photos from Events](#)

follow us on twitter



Events Submit Event Search Newsletter Tools RSS

Vancouver Events

Search Google Custom Search

Like 82 people like this.

Hotel Downtown Nanaimo

Excellent Waterfront Location Deluxe Rooms & Suites from \$109

[www.mayfairhotelsandresorts.com](#)

AdChoices

Find upcoming events in Vancouver, BC! | Find and buy Vancouver Event Tickets

[Vancouver Movie Showtimes](#) - [Vancouver Movie Listings](#)

[Add your Vancouver event to our calendar free!](#)

[Add to Google](#) [Local Events](#) [Annual Events](#) [Weekend Events](#) [Summer Events](#)

Stanley Park BioBlitz!

Come to Stanley Park to participate in its first ever 'BioBlitz'! With your help, this 24 hour citizen science relay aims to identify as many living things as possible in Stanley Park. Together with scientists, local stewardship groups and YOU we hope to increase our knowledge of the parks native biodiversity.

Events running throughout the two days are **FREE** and open to the public. Enjoy hands on participation in pond dips, bat surveys, bird counts, amphibian searches, nature walks and more! Community groups and family activities will be centered at Lumberman's Arch. Plus, be sure to visit our interpretative tents at Beaver Lake and at the Nature House on Lost Lagoon.

For more information visit: [www.stanleyparkecology.ca](#)

Saturday August 20th 3:00pm - 11:00pm

Sunday August 21st 9:00am - 3:00pm

Saturday, 20 August, 2011

All Day Event

Cost:

FREE

Categories:

Events

Exhibitions & Shows

Family

Location: Weather

Stanley Park

Vancouver, BC V6G 1Z4

[Browse Events at this Location](#)



Figure 8. Samples of BioBlitz pre-event online coverage

Fall 2011 Newsletter



Bioblitz Captivates Citizen Scientists!

Brian Titano, Conservation Technician

The first BioBlitz in Stanley Park was a unique and unparalleled opportunity for visitors to experience the wonder of nature through a scientific lens. Adults and children alike clamored to see how even the smallest of fish and mammals had an identity and a purpose. Birds, insects, plants and reptiles also played starring roles in this show of biodiversity. Hundreds of "hands on" interactions with nature revealed the Park as a hotspot of biodiversity in Vancouver. Not only were citizens entertained, excited and educated, a total of 143 species not previously listed by the Stanley Park Ecology Society were recorded.

During the International Year of the Forest, on a hot weekend at the end of summer, Stanley Park was buzzing with its first ever "BioBlitz". Co-hosted by the Stanley Park Ecology Society and the South Coast Conservation Program, this biodiversity blitz involved local researchers, ecology experts, stewardship groups and the general public. This 24 hour science relay identified a multitude of living organism types in Stanley Park.

Considering how heavily used Stanley Park is, it's amazing that this type of event had never taken place before. Spanning August 20th and 21st, 20+ scientists with a legion of volunteers and local citizens launched into the Park, clipboards and field guides in hand, to perform a beach seine, small mammal trapping, lichen surveys, fish and amphibian surveys and many more events in a quest to record the diversity of flora and fauna in this 400 hectare urban oasis.

Even those whose skills weren't scientific enough to tell the difference between a huckleberry and a salmonberry were included. Free interpretive events throughout the weekend were delivered to educate people from throughout Metro Vancouver about the Park's biodiversity and hidden wonders.

Highlights of the weekend included hummingbird, bat and owl surveys. Individuals and families were able to interact with a local expert as he effortlessly caught, analyzed, and delicately banded three Anna's hummingbirds over the course of just

1

Sneak Peek

The Fragrance of the Forest 3
Program Events 4, 5
Cool Wildlife Sightings 6
Wild Food Recipe 7

Contact Us

Stanley Park Ecology Society
PO Box 5167
Vancouver BC V6B 4B2
www.stanleyparkecology.ca

School Programs: 604-257-6907
Public Programs: 604-718-6522
Conservation Progs: 604-681-7099
Co-Existing w/Coyotes: 604-681-9453
Stewardship Progs: 604-718-6547
Volunteers: 604-681-7099
Nature House: 604-257-8544

cont'd

an hour. The owl survey delighted observers as three barred owls flew over their heads and called back in response to the recorded calls that the biologist sent out into the dark forest. Five active, healthy bats were transferred from a veil of mist-nets over dark waterways to the hands of researchers and to the eager eyes of more than 30 people who participated until almost midnight.

The BioBlitz was a huge success largely due to the number of interactions between the public and the biologists. At the close of the weekend, more than 1000 individuals from the community had participated in one or more BioBlitz activity. Many individuals stayed engaged all weekend. One young boy participated in the beach seining, hummingbird trapping, amphibian trapping, fish trapping and aquatic insect pond dipping.

For children and adults, the BioBlitz provided an ideal opportunity to escape the hot city and connect to the natural world with the bonus of guidance from local ex-



Three Anna's hummingbirds were caught, banded and released during the BioBlitz.

perts happy to share their knowledge. As the last of the display tents were coming down the organizers celebrated a successful BioBlitz. The positive impact for the public was reiterated as another young boy who had spent the entire weekend under guidance catching frogs, butterflies and insects at Beaver Lake approached and excitedly asked, "Will you be doing all of this again next weekend?" The smiling response from SPES's Conservation Technician was, "Not next weekend, but maybe next year."

Thanks to all the scientists, partner organizations and volunteers who worked to make this weekend such a tremendous success! For a complete list of species identified during the first ever Stanley Park BioBlitz, please check www.stanleyparkecology.ca mid-September.

To keep connecting to nature, SPES has regular interactive walks and events on weekends throughout the year. Check our programs listed on pages 4 and 5, or at www.stanleyparkecology.ca/programs.



A barred owl was spotted in the Stanley Park forest moments before the owl survey began.

Figure 9. Post BioBlitz article SPES Newsletter