

Cheam Lake Wetlands "BioBlitz"
Summary Report
August 2008



Cheam Lake Wetlands “Bioblitz” Summary Report August 2008



Prepared for the SCCP: The South Coast Conservation Program (SCCP) established in 2005, 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/>

Cheam Lake Wetlands BioBlitz partners



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Re-connecting People & Nature



Cover images: Cheam Lake Wetlands inset and Oregon forest snail – Adamah Consultants, shrew mole - Krystal Pyke, spotted skimmer and red-legged frog Gord Gadsden

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Executive Summary

Throughout British Columbia parks and protected areas, and more specifically regional parks and regional reserves 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 diversity such areas support contributes to more effective, ecologically informed decision making by resource managers and the public. BioBlitzes¹ are one of many tools that can facilitate achieving such enhanced decision making. Part contest, part festival, part educational event and scientific endeavor, the Cheam Lake Wetlands BioBlitz, a first for the South Coast Conservation Program (SCCP) and Fraser Valley Regional District (FVRD) Parks offered an innovative approach to identifying species and ecosystem diversity for managed lands.

The site chosen for piloting the BioBlitz in the Fraser Valley Region was a known biodiversity hotspot – the Cheam Lake Wetlands southeast of the village of Harrison Hot Springs on the south side of the Fraser River. The benefits of piloting the BioBlitz at Cheam Lake was that it brought together of a diverse set of stakeholder interests while enhancing pre-existing inventory data.

In all ninety one different species of flora and fauna and six species of conservation interest (federally and/or provincially listed) were identified from the bioblitz. Information gathered through the bioblitz will contribute to the BC Conservation Data Center's (CDC) database and will be shared with land managers and relevant stakeholders. Mapping of species occurrences will be done in the future as part of a continued partnership with the Community Mapping Network and the FVRD. A goal for the SCCP is that the bioblitz data will inform future decision making for species at risk not just occurring in the Cheam Lake Wetlands Regional Park but other FVRD regional parks as well.

The Cheam Lake Wetlands BioBlitz provided a valuable bridging opportunity for the SCCP and the FVRD. With its successful completion, the SCCP is looking forward to future partnerships of this nature. Such partnerships are integral to the work of the SCCP in coordinating and facilitating the maintenance and recovery of species and ecosystems at risk in the South Coast eco-region for the long-term.

¹ The history of BioBlitz - Wiki: <http://en.wikipedia.org/wiki/BioBlitz> , <http://www.pwrc.usgs.gov/blitz/>

Introduction

About "BioBlitzing"



"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?" Center for Conservation and Biodiversity and Connecticut State Museum of Natural History
<http://web.uconn.edu/mnh/bioblitz/>

So what exactly is a "bioblitz"? The term was 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 often 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 Whistler². 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 full bioblitz takes place over a full 24-hour period as different organisms are likely to be found at different times (like 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.

² <http://www.whistlerbioblitz.ca/>

Why a "BioBlitz" for the South Coast?



On the South Coast of BC, urban development and species at risk compete for limited space on the landscape. Images SCCP 2008



The South Coast of British Columbia from the Fraser Canyon to Powell River is home to some of the highest levels of biodiversity and species at risk in the province. More than 30 federally listed species and 250 provincially listed species occur in one of most heavily developed regions in BC (SCCP 2007).

Threats:

- ❑ Habitat loss;
- ❑ Displacement by other species; and
- ❑ Habitat degradation.

Causes:

- ❑ Human activities.
- ❑ Invasive species.
- ❑ External stressors, notably climate change

We know very little about where and why many species occur, and the role places like regional parks play in sustaining their populations. The South Coast "BioBlitz" has the dual benefit of establishing a coarse level baseline for the degree of biodiversity in an area while increasing the public awareness of species at risk, invasive species and the need to conserve biodiversity.

Goals

Key deliverables and targets for piloting the bioblitz on the South Coast:

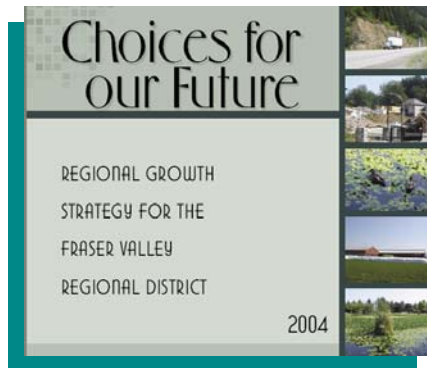
- ❑ Enhancing field identification tools under development by the SCCP for species at risk.
- ❑ Providing training to assist regional park staff and other staff/contractors in the identification of priority, locally relevant species at risk, as well as providing basic inventory methods to improve skill sets.
- ❑ Encourage bioblitz team participants to consider similar survey activities at other priority regional lands/parks in the Lower Mainland in order to add to the regional knowledge base.
- ❑ Report out and inform park managers and land use managers of the biodiversity values present in their management areas.

Objectives

The overall objective of a bioblitz is to increase and improve knowledge of species and ecosystem diversity (i.e. at a park or other managed landscape). The SCCP identified the bioblitz concept as an opportunity to work with project partners to achieve the following additional objectives:

1. Increase the capacity of regional park staff as frontline "managers" to identify species at risk occurring within their areas of management.
2. Engage park staff and other regional staff, community stewardship groups, naturalists, and the public in more effective conservation actions for species at risk.
3. Ensure information and adequate tools are available to maintain species and ecosystem diversity within regional parks and regional reserve areas.
4. Provide necessary baseline information to guide the long-term management and monitoring of species at risk and their habitats in these areas.

Fraser Valley Regional Context



The Fraser Valley Region is considered to be home to some of the highest numbers of species in the SCCP's geographic area of interest. Adjacent to Metro Vancouver, the FVRD, aside from Vancouver and Gulf Islands, supports the only known Garry Oak communities on the mainland of BC³. Efforts have been evolving to develop management priorities for habitat and species conservation in regional parks and protected areas in the Fraser Valley. The regional districts' growth management strategy "Choices for our Future" has been part of a necessary shift towards maintaining and sustaining biodiversity values⁴.

However gaps still exist for regional district resource managers and operational staff to work effectively and collaboratively around issues that involve species at risk. These gaps are not just ones of understanding jurisdictional roles and responsibilities, they also include identifying the necessary components needed to sustain at risk species and ecosystem integrity within and adjacent to regional parks and protected areas. Improved biodiversity based decision making is a critical step to understanding the role other existing and future priority areas play across the regional landscape for conserving species and ecosystems at risk.

Cheam Lake Wetlands Regional Park



Image: Google Earth 2008

Cheam Lake Wetlands Regional Park protects approximately 93 ha of marsh, lake and forested uplands and supports a range of at risk and common flora and fauna including 184 species of birds. Located in the Popkum area north of Bridal Veil Falls and south of the Fraser River, the Cheam Lake Wetlands is in part the result of a century of mining and forestry activity. Marl, a type of clay used to make fertilizer was extracted from the lake and its outlet Cheam Creek since the 1880's. One hundred years later in 1990 the lake, adjacent forested uplands and part of Cheam Creek were declared a regional park. Park partners have included Fisheries and Oceans Canada, Ducks Unlimited and more

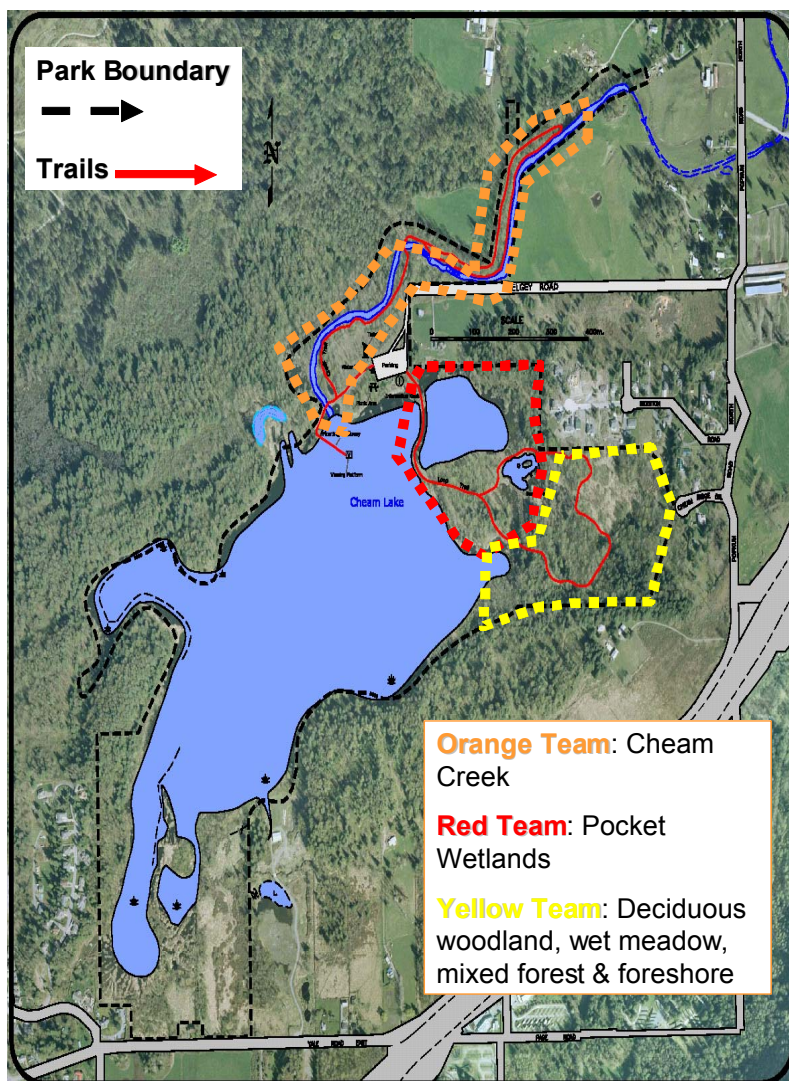
³ <http://www.geog.ubc.ca/biodiversity/GarryOakEcosystems.html>

⁴ <http://www.fvrd.bc.ca/About%20the%20FVRD/regionalgrowthstrategy/Pages/default.aspx>

recently the Chilliwack Field Naturalists. Restoration and acquisition planning with FVRD Parks and local partners is an ongoing effort⁵.

Methods and Tools

While the SCCP has a focus on species of conservation concern attempting an overall biodiversity "reading" through conducting a bioblitz is a complimentary goal. Participants were 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, reptiles and rare plant and animal associations all reflect the unique values that the Cheam Lake Wetlands represent to the local and regional landscape.



The diverse skill sets, local area knowledge and experience of the participants was key to the success of the bioblitz. "Blitz Teams" were assigned various segments of the park, with each segment representing a distinct ecological community (Figure 1). Each team had a team leader who had either familiarity with the ecological values of the site or had sufficient expertise in overseeing a field 'expedition' and assisting with species identification. The team mosaic was complimented by naturalists, consultants and regional/senior agency park staff or other stakeholders who could work together to gather as much information as possible.

Figure 1. Cheam Lake Wetlands BioBlitz sites and ecological associations

⁵ <http://www.greatervancouverparks.com/Cheam01.html>

As part of the bioblitz toolkit, participants were briefed on identifying listed species (Table 1 page 11) as well as an introduction to using geo-referencing and mapping techniques such as global positioning systems (GPS) and ortho photography. Guidelines for documenting field observations and "accounts" from a South Coast species of conservation concern field guide under development by the SCCP were also provided. To compliment the bioblitz team data, "G" traps (minnow traps) and pitfall traps were installed in the lake, pocket wetlands and in potential travel pathways for small mammals and amphibians⁶.

The information on the field forms and photo documentation gathered will assist in expanding occurrence data for many species in the BC Conservation Center Database (BCCDC) as well as through public portals such as the Community Mapping Network.

Cheam Lake Wetlands BioBlitz field forms⁷ (see Appendix 2 for completed forms)

BioBlitz Station Evaluation Form		Cheam Lake Wetlands Regional Park	
Date:		Blitz Station ID:	
Name of recorder(s):			
Owner/Management Jurisdiction: Fraser Valley Regional District			
Management Partners: Chilliwack Field Naturalists			
Ecological Community CWH Variant comments		North American Datum (NAD) 1983	
dominant soil type: sand, loam, gravel, organic etc.	Elevation: Slope: Aspect:	UTM Coordinates at approximate site Center: 10. Precision (+/- m):	1:20000 Map # 92H011 1:50000 Map # 92H04 CHWK FD
moisture regime:			
Identified Disturbance or Threats:			
Adjacent Land Use:			
Connectivity & Ecological Integrity	Excellent	Good	Fair Poor

Blitz Tracking Sheet			
Species Common Name (please list scientific name if possible)	Comments (species is potentially rare,	invasives present, dominance etc.)	UTM (& Precision), photo & number

⁶ Unfortunately trapping efforts proved unsuccessful and only captured a handful of non-native chocolate arion slugs.

⁷ BioBlitz filed forms are based on BCCDC data collection standards and were modified to allow for use by specialists and laypersons and future digital reporting and data archiving.

Findings



Image: Gord Gadsden

Baseline information is a value added component to undertaking any bioblitz. The 2008 Cheam Lake Wetlands BioBlitz was a means not only to update what had become fairly antiquated (i.e. 1992) inventory data, but to confirm local, but not collectively documented naturalists' observations. Through the bioblitz, local area knowledge from the Chilliwack Field Naturalists, species at risk specialists like Denis Knopp and FVRD Parks technicians have all now contributed to expanded the understanding of the complexity and diversity that the wetlands and adjacent Cheam Creek community supports. Many of the provincially

and federally listed species confirmed through the blitz are also priorities for conservation management and outreach for the SCCP.

Table 1. Potential species of conservation interest for Cheam Lake Wetlands Regional Park⁸

Scientific Name	English Name	Global	Provincial	COSEWIC/ SARA Sched.	BC List
Invertebrates					
<i>Allogona townsendiana</i>	Oregon Forestsnail	G3G4	S1S2	E (Nov 2002) Schedule 1	Red
<i>Pachydiplax longipennis</i>	Blue Dasher	G5	S3S4	-	Blue
Amphibians					
<i>Rana aurora</i>	Red-legged Frog	G4	S3S4	SC (Nov 2004) Schedule 1	Blue
<i>Rana pretiosa</i>	Oregon Spotted Frog	G2	S1	E (May 2000) Schedule 1	Red
<i>Bufo boreas</i>	Western Toad	G4	S4	SC (Nov 2002)	Yellow
Reptiles					
<i>Chrysemys picta</i>	Painted Turtle	G5	S3S4		Blue
Birds					
<i>Botaurus lentiginosus</i>	American Bittern	G4	S3B	-	Blue
<i>Butorides virescens</i>	Green Heron	G5	S3S4B	-	Blue
<i>Ardea herodias fannini</i>	Great Blue Heron, <i>fannini</i> subspecies	G5T4	S3B,S4N	SC (May 1997) Schedule 3	Blue
<i>Patagioenas fasciata</i>	Band-tailed Pigeon	G4	S3S4B	HPC	Blue
<i>Tyto alba</i>	Barn Owl	G5	S3	SC (Nov 2001) Schedule 1	Blue
<i>Megascops kennicottii kennicottii</i>	Western Screech-Owl, <i>kennicottii</i> subspecies	G5T4	S3	SC (May 2002) Schedule 1	Blue
Mammals					
<i>Sorex bendirii</i>	Pacific Water Shrew	G4	S1S2	T (May 2000) Schedule 1	Red
<i>Sorex trowbridgii</i>	Trowbridge's Shrew	G5	S3S4	-	Blue
<i>Myotis keenii</i>	Keen's Long-eared Myotis	G2G3	S2	DD (Nov 2003) Schedule 3	Red
<i>Lepus americanus washingtonii</i>	Snowshoe Hare, <i>washingtonii</i> subspecies	G5T3T5	S1	-	Red
<i>Aplodontia rufa rufa</i>	Mountain Beaver, <i>rufa</i> subspecies	G5T4?	S1S2	SC (May 1999) Schedule 1	Red
<i>Clethrionomys gapperi occidentalis</i>	Southern Red-backed Vole, <i>occidentalis</i> subspecies	G5T5	S1	-	Red

Plants

<i>Hydrophyllum tenuipes</i>	Pacific Waterleaf	G4G5	S2S3	-	Blue
<i>Cephalanthera austiniae</i>	Phantom Orchid	G4	S2	T (May 2000)	Red
<i>Actaea elata</i> ; formerly <i>Cimicifuga elata</i>	Tall Bugbane	G3	S1	E (May 2001)	Red

⁸ Table 1 represents a generic summary of key potential species at risk that the Cheam Lake Wetlands Regional Park could support. The only baseline date a 1992 report only identified 5 provincially or federally listed species, of which two, not listed above - the northern goshawk and the western meadowlark likely no longer occur in the area. The Pacific sideband, a blue listed species was also not listed above but is common at Cheam Lake and confirmed through the bioblitz

Three teams totaling ten participants ventured out the afternoon of July 26 2008 to complete the Cheam Lake Wetlands BioBlitz, contributing approximately ninety (90) volunteer hours over the course of the day. In keeping with bioblitz tradition the event spanned twenty four hours, with a bat and owl survey the evening of July 26 and a dawn chorus bird count the morning of July 27. The results of those efforts are listed below (Table 2). Details of species observed, sampled and identified are listed in Appendix 1.

Table 2. Species counts detected by team for the Cheam Lake Wetlands BioBlitz

Observations and "Detections by BioBlitz Team" ⁹	Observed in beaver pond & forested wetland	Observed in wet meadow & mixed forest	Observed in Cheam Creek Riparian Area
Species of conservation interest	6	2	3
Common flora and/or fauna identified (including invasive species)	42	20	38
Total number of species detected by BioBlitz Team	48	22	41

- ❑ Total number of species identified during the Cheam Lake Wetlands BioBlitz – ninety one, including six¹⁰ species of conservation interest (federally or provincially listed species).
- ❑ Team One (beaver pond) and Team Three (Cheam Creek) had the overall highest species counts.
- ❑ Team One detected the greatest number of species of conservation interest.
- ❑ The Oregon forestsnail, Pacific sideband snail and red-legged frog were the most frequently detected species of conservation interest for the BioBlitz.
- ❑ Bat species believed to be present are little and big brown bat (based on limited field observations). Keen's long eared myotis may also be present given the proximity to potential suitable habitat such as barns, caves and rock outcroppings and talus.
- ❑ While eastern cottontail was common throughout the park, there were no sightings of the *Washingtonii* or pygmy snowshoe hare sub-species, though suitable habitat exists.
- ❑ Night calling for owls used an amplified pre-recorded playback system and field vocalizations and several interesting observations were made. A juvenile barred owl was detected in Team 2's area in the coniferous forest area adjacent to the west loop trail. As well a pair of great horned owl were heard and observed chasing a barred owl along Cheam Creek on the upper part of the loop trail. The pair was seen again during the day in the same location on during the bird survey on July 27.
- ❑ Team 3 identified two individual slender rein (bog) orchids (and knapweed), and then found a large colony of the orchid species in Team 1's area during the July 27 bird survey.
- ❑ The most common invasive plant species detected was European bittersweet (a nightshade species), Himalayan blackberry, Robert's geranium (herb Robert) and purple loosestrife.

⁹ There is insufficient inventory data and/or anecdotal sighting information to formally identify whether any of the species found during the bioblitz are new or were previously unknown to occur.

¹⁰ Duplicate species sightings between teams have been removed.

Participant Feedback & Recommendations



Image: Gord Gadsden

The contributions and perspectives of participants are integral to improving and fine-tuning future repetitions of any large-scale public event. There were suggestions early on that a bioblitz at the Cheam Lake Wetlands may not provide for any new 'enlightening' information. However in reviewing the feedback from participants it is clear that all who attended, from professional biologists to FVRD staff to conservation partners found the experience worthwhile on many levels.

Some of the benefits listed by participants included:

- ❑ The event provided for improved networking among park partners and mentor-mentoree experiences with specialists and professionals.
- ❑ Participants were able to enhance their field identification and inventory skills for species of conservation concern as well as common species – skills they will apply in other endeavors.
- ❑ A greater understanding and appreciation of the diversity of the Cheam Lake Wetlands and its value in the regional landscape was attained.
- ❑ Park partners came out of the bioblitz experience feeling more connected and enthused about conserving the Cheam Lake Wetlands and biodiversity conservation in general.

In respect to learning outcomes for the SCCP and the FVRD, some key issues were balancing the amount of 'classroom' training with the overall field experience. Many participants felt that given the length of the event, it would have been more appropriate to scale back the time spent talking and increase the time spent doing. Options for the future include:

- ❑ Undertake planning for an event that can work with regional district budgeting timelines (e.g. plan in the fall for a following spring/summer event).
- ❑ Having bioblitz teams work in morning and afternoon shifts, with the morning shift to include the dawn chorus bird count.
- ❑ Not having the evening session (many participants could not stay beyond late afternoon to wait for dusk and the evening owl and bat survey)
- ❑ Have a pre-evening social the day before the BioBlitz instead of the morning training session to allow for participants to become acquainted with each other, the goals of the event and the tools for the bioblitz.

While it was hoped that the opportunity for stakeholder discussions on future park management needs could be part of the bioblitz, participant time availability precluded this from occurring. As the long-term infrastructure and management needs for the park form part of the ongoing partnership the FVRD has along with the park's partners, there will be many opportunities to plan for the future in this regard.

What the results of the bioblitz indicate is that the Cheam Lake Wetlands is a vibrant ecologically rich mosaic capable of supporting a host of common and at risk species and habitats. Plans are underway for control programs for invasive plant species, a significant threat to biodiversity. The most prevalent invasive species appear to be usual South Coast species such as Himalayan blackberry and purple loosestrife. European bittersweet while not as prevalent an invasive in parks in the adjacent Metro Vancouver Region is quite invasive at Cheam Lake. The presence of knapweed as detected at the outlet of Cheam Lake to Cheam Creek is a significant concern and should be addressed along with yellow flag iris and purple loosestrife control. At this point in time threats such as Japanese knotweed or *Lamium* do not appear to have made it to the park, though swift eradication and control measures should be taken to deal with these species should they appear. This will ensure that the most problematic species do not gain a foothold and those in their early stages of colonization are treated before they reach more costly stages of infestation.

Other species which may have implications for native amphibian community health in the park are green frog, though thankfully the American bullfrog does not appear to have colonized Cheam lake (yet). The presence of the green frog may have implications for the listed red-legged frog. It is difficult to ascertain if these two species, very similar in life history and food preferences are undergoing any competition issues. Conditions at Cheam Lake and Cheam Creek may be sufficient to support both species. As well eradication or control of the green frog would be a costly endeavor and difficult at this stage of colonization. The FVRD and its partners may wish to focus on ensuring that the viability and integrity of the many ecosystems the red legged frog and other native amphibians depend upon in at the Cheam Lake Wetlands are maintained. This means reducing fragmentation, protecting aquatic and terrestrial connectivity corridors and breeding and refuge habitats. In doing so many species like the red-legged frog which are sensitive to habitat loss and fragmentation stressors can hopefully continue to hold their own.

Other species such as the northern goshawk, western meadowlark and more recently the western screech owl historically made the Cheam Lake Wetlands their home but now appear to be absent. Western screech owl may have become locally extirpated only in the last year. This small arboreal owl, which was known to be breeding in the area may have been displaced or predated upon by barred owl and was not detected in nest box use areas along Cheam Creek. It should be noted that research in BC and the Pacific Northwest indicates that the presence of Barred Owl may lead to potential local population displacement and/or extirpation of Western Screech Owl and other smaller less aggressive owl species through competition and predation. This combined with the presence of the other larger aggressive owl species (the great horned owl) may preclude the use of the Park for western screech owl. Confirming whether the screech owl is no longer breeding in the park and determining the requirements for its return should it now be absent will likely mean addressing natural and human induced conflicts and stressors. These are all components that can form part of the management dialogue for the park and will benefit native diversity as a whole for the area.

Next Steps



Image: Tamsin Baker

The Cheam Lake Wetlands Bioblitz appears to have been a successful event, achieving for the most part the desired goals and objectives as set out by the SCCP. In respect to the future of bioblitzes for the FVRD, discussions have already arisen about planning for 2009. Suggestions include a new high profile biodiversity hotspot found in the 32 ha East Sector area of Harrison Hot Springs. The Village of Harrison Hot Springs, TLC-The Land Conservancy, the Chilliwack Field Naturalists and the Green Legacy Society are interested in the acquisition of Crown and private land in this area for future parks and protected areas. A bioblitz has been identified as a novel and effective community

partnered activity that would assist in a better understanding of the areas ecological values and natural diversity.

Key to the SCCP and its partners undertaking a bioblitz 'encore' will be ensuring appropriate timing and funding issues are adequately addressed while allowing sufficient advanced planning with existing and potential partners. Bioblitzes as an outreach and partnership development activity can become part of the foundation toolkit for the SCCP. Along with research, management practices development and working with land use decision makers, such tools will assist the SCCP in more effectively actualizing the coordination and facilitation of species and ecosystem at risk conservation on the South Coast.

Appendix 1 Species Detection Data Cheam Lake Wetlands BioBlitz

Table 3. Species of Conservation interest observed for Cheam Lake Wetlands Regional Park (July 26-27 2008)

Species Common name	Species Scientific name	Observed in beaver pond & forested wetland	Observed in wet meadow & mixed forest	Observed in Cheam Creek Riparian Area (Orange Team)	Comments based on Blitz inventory Review	Global-Provincial Rankings
Western pondhawk	<i>Erythemis collocata</i>					G5 S3S4 - Blue
Blue Dasher	<i>Pachydiplax longipennis</i>				one male sunning on trail adjacent to beaver pond - north of parking lot	G5 S3S4 - Blue
Great Blue Heron, fannini subspecies	<i>Ardea herodias fannini</i>					G5T4 S3B,S4N SC (Mar 2008) Blue
Oregon Forestsnail	<i>Allogona townsendiana</i>				uncommon but not rare locally	S1S2 E (Nov 2002) Red
Pacific Sideband snail					uncommon but not rare locally	G4G5 S3S4 Blue
Red-legged Frog	<i>Rana aurora</i>					G4 S3S4 SC (Nov 2004) Blue

G1,S1: critically imperiled / G2,S2: imperiled / G3,S3: vulnerable / G4, S4: apparently secure / G5,S5: secure

E endangered (A wildlife species facing imminent extirpation or extinction.)

T threatened (A wildlife species likely to become endangered if limiting factors are not reversed.)

XT extirpated.

SC special concern (A wildlife species that may become a threatened or an endangered species because of a combination of biological characteristics and identified threats.)

SX presumed extirpated

DD data deficient (A wildlife species for which there is inadequate information to make a direct, or indirect, assessment of its risk of extinction.)

HPC High Priority Candidate – candidate species are those not yet assessed by COSEWIC but which are considered potentially at risk; grouped by High, Mid and Low Priority.

Table 4. Plant Species listings for the Cheam Lake Wetlands Regional Park

Species Common name	Species Scientific name	Observed in beaver pond & forested wetland (Red Team)	Observed in wet meadow & mixed forest (Yellow Team)	Observed in Cheam Creek Riparian Area (Orange Team)	Comments based on Blitz inventory Review
alpine polytrichastrum moss	<i>Polytrichum alpinum</i>				
American speedwell	<i>Veronica beccabunga ssp. Americana</i>				Could be marsh speedwell, both are a butterfly food plant, possibly for listed species
American vetch	<i>Vicia americana</i>				
antifever fontinalis moss	<i>Fontinalis antipyretica</i>				
antitrichia moss	<i>Antitrichia curtipendula</i>				
aulacomnium moss	<i>Aulacomnium palustre</i>				
Aulacomnium moss	<i>Aulacomnium androgynum</i>				
awl-fruited sedge	<i>Carex stipata</i>				
baldhip rose	<i>Rosa gymnocarpa</i>				
baneberry	<i>Actaea rubra (Ait.)</i>				
bentgrass	<i>Agrostis scabra hair</i>				
bigleaf maple	<i>Acer macrophyllum</i>				
bitter cherry	<i>Prunus emarginata</i>				
black cottonwood	<i>Populus balsamifera trichocarpa</i>				
black gooseberry	<i>Ribes lacustre</i>				
black hawthorn	<i>Crataegus douglasii</i>				

Species Common name	Species Scientific name	Observed in beaver pond & forested wetland (Red Team)	Observed in Cheam Creek Riparian Area (Orange Team)	Observed in wet meadow & mixed forest (Yellow Team)	Comments based on Blitz inventory Review
black raspberry	<i>Rubus leucodermis</i> var. <i>leucodermis</i>				
black twinberry	<i>Lonicera involucrata</i>				
blackmat splashzone moss	<i>Scouleria aquatica</i>				
blue skullcap	<i>Scutellaria lateriflora</i>				
blunt spike- rush	<i>Eleocharis obtusa</i>				
bracken fern	<i>Pteridium aquilinum</i> ssp. <i>lanuginosum</i>				
Bracket Fungus	<i>Formetes igniaurus</i>				
Brewer's bitter- cress	<i>Cardamine breweri</i>				
broad-leaved starflower	<i>Trientalis borealis</i> ssp. <i>latifolia</i>				
bunchberry	<i>Cornus canadensis</i>				
buttercup	<i>Ranunculus</i> sp.				
California antitrichia moss	<i>Antitrichia californica</i>				
Canada goldenrod	<i>Solidago canadensis</i>				
Canada waterweed	<i>Elodea canadensis</i>				
casara	<i>Rhamnus purshiana</i>				
clasping twistedstalk	<i>Streptopus amplexifolius</i> var. <i>amplexifolius</i>				
coastal red elderberry	<i>Sambucus racemosa</i>				
common cattail	<i>Typha latifolia</i>				

Species Common name	Species Scientific name	Observed in beaver pond & forested wetland (Red Team)	Observed in Cheam Creek Riparian Area (Orange Team)	Observed in wet meadow & mixed forest (Yellow Team)	Comments based on Blitz inventory Review
common duckweed	<i>Lemna minor</i>				
common mare's-tail	<i>Hippuris vulgaris</i>				
common rush	<i>Juncus effusus</i>				
common spike rush	<i>Eleocharis palustris</i>				
Cooley's hedge-nettle	<i>Stachys chamissonis var. cooleyae</i>				
cow-parsnip	<i>Heracleum maximum</i>				
deer fern	<i>Blechnum spicant</i>				
devil's club	<i>Oplopanax horridus</i>				
Dewey's sedge	<i>Carex deweyana</i>				
dicranoweisia moss	<i>Dicranoweisia cirrata</i>				
dicranum moss	<i>Dicranum fuscescens</i>				
dicranum moss	<i>Dicranum scoparium</i>				
dicranum moss	<i>Dicranum tauricum</i>				
dotted smartweed	<i>Polygonum punctatum</i>				
Douglas' aster	<i>Aster subspicatus var. subspicatus</i>				
Douglas' neckera moss	<i>Neckera douglasii</i>				
Douglas' water-hemlock	<i>Cicuta douglasii</i>				
Douglas-fir	<i>Pseudotsuga menziesii</i>				
dull Oregon- grape	<i>Mahonia nervosa</i>				
enchanter's- nightshade	<i>Circaea alpina</i>				

Species Common name	Species Scientific name	Observed in beaver pond & forested wetland (Red Team)	Observed in Cheam Creek Riparian Area (Orange Team)	Observed in wet meadow & mixed forest (Yellow Team)	Comments based on Blitz inventory Review
eurhynchium moss	<i>Eurhynchium praelongum</i>				
false azalea	<i>Menziesia ferruginea ssp.</i>				
false lily-of-the- valley	<i>Maianthemum dilatatum</i>				
false Solomon's- seal	<i>Maianthemum racemosum</i>				
field mint	<i>Mentha arvensis</i>				
fireweed	<i>Epilobium angustifolium</i>				
fissidens moss	<i>Fissidens limbatus</i>				
five-stamen miterwort	<i>Mitella pentandra</i>				
floating-leaved pondweed	<i>Potamogeton natans</i>				
fringecup	<i>Tellima grandiflora</i>				
Geocalyx liverwort	<i>Geocalyx graveolens</i>				
giant horsetail	<i>Equisetum telmateia ssp. Braunii</i>				
goatsbeard	<i>Aruncus dioicus</i>				
goose neck moss	<i>Rhytidiadelphus loreus</i>				
grass-leaved pondweed	<i>Potamogeton gramineus</i>				
greater bladderwort	<i>Utricularia macrorhiza</i>				
Greene slender toothwort	<i>Cardamine nuttallii</i>				
Hardhack	<i>Spireae douglasii ssp. Douglassii</i>				

Species Common name	Species Scientific name	Observed in beaver pond & forested wetland (Red Team)	Observed in Cheam Creek Riparian Area (Orange Team)	Observed in wet meadow & mixed forest (Yellow Team)	Comments based on Blitz inventory Review
hemlock water- parsnip	<i>Sium suave</i>				
Hooker's fairybells	<i>Prosartes hookeri var. oregana</i>				
Hooker's willow	<i>Salix hookeriana</i>				
humped bladderwort	<i>Utricularia gibba</i>				
hygrohypnum moss	<i>Hygrohypnum ochraceum</i>				
hypnum moss	<i>Hypnum subimponens</i>				
hypnum moss	<i>Hypnum circinale</i>				
Indian-plum	<i>Oemleria cerasiformis</i>				
isothecium moss	<i>Isothecium stoloniferum</i>				
juniper polytrichum moss	<i>Polytrichum juniperinum</i>				
king gentian	<i>Gentian sceptrum</i>				
Labrador tea	<i>Ledum groenlandicum (Rhododendron groenlandicum)</i>				
lady fern	<i>Athyrium filix- femina ssp. Cyclosorum</i>				
large-leaved avens	<i>Geum macrophyllum ssp.</i>				
Lepidozia liverwort	<i>Lepidozia reptans</i>				
licorice fern	<i>Polypodium glycyrrhiza</i>				
Liverwort sp.	<i>Cephalozia sp</i>				

Species Common name	Species Scientific name	Observed in beaver pond & forested wetland (Red Team)	Observed in Cheam Creek Riparian Area (Orange Team)	Observed in wet meadow & mixed forest (Yellow Team)	Comments based on Blitz inventory Review
Lyell's orthotrichum moss	<i>Orthotrichum lyellii</i>				
Lynbyel's sedge	<i>Carex lynbyei</i>				
Marchantia liverwort	<i>Marchantia polymorpha</i>				
marsh cinquefoil	<i>Potentilla plaustris</i>				
marsh horsetail	<i>Equisetum palastre</i>				
marsh purslane	<i>Ludwegia palustris</i>				
marsh skullcap	<i>Scutellaria galericulata</i>				
marsh speedwell	<i>Veronica scutellata</i>				
marsh violet	<i>Viola palustris</i> var. <i>palustris</i>				
mock orange	<i>Philadelphus lewisii</i>				may only be one location in park along Cheam Creek
mountain sweet-cicely	<i>Osmorhiza berteroi</i>				
nodding beggarticks	<i>Bidens cernua</i>				
Nootka rose	<i>Rosa nutkana</i> var. <i>nutkana</i>				
northern maiden-hair fern	<i>Adiantum aleuticum</i>				
northern water horehound	<i>Lycopus uniflorus</i>				
oak fern	<i>Gymnocarpium dryopteris</i>				
obtuseleaf scleropodium moss	<i>Scleropodium obtusifolium</i>				

Species Common name	Species Scientific name	Observed in beaver pond & forested wetland (Red Team)	Observed in Cheam Creek Riparian Area (Orange Team)	Observed in wet meadow & mixed forest (Yellow Team)	Comments based on Blitz inventory Review
oceanspray	<i>Holodiscus discolor</i>				
Oregon eurhynchium moss	<i>Eurhynchium oreganum</i>				
Oval-leaved blueberry	<i>Vaccinium ovafolium</i>				
Pacific bleeding heart	<i>Dicentra formosa</i>				
Pacific crab apple	<i>Malus fusca</i>				
Pacific ninebark	<i>Physocarpus capitatus</i>				
Pacific sphagnum	<i>Sphagnum pacificum</i>				
Pacific water- parsley	<i>Oenanthe sarmentosa</i>				
Pacific willow	<i>Salix lucida ssp. lasiandra</i>				
paper birch	<i>Betula papyrifera var. commutata</i>				
pathfinder	<i>Adenocaulon bicolor</i>				
pearly everlasting	<i>Anaphalis margaritacea</i>				
Philadelphia fleabane	<i>Erigeron philadelphicus</i>				
piggy-back plant	<i>Tolmiea menziesii</i>				
Plagiochila liverwort sp. (prob. porelloides)	<i>Plagiochila porelloides</i>				
plagiomnium moss	<i>Plagiomnium insigne</i>				
pointed broom sedge	<i>Carex scoparia</i>				
Porella liverwort	<i>Porella navicularis</i>				

Species Common name	Species Scientific name	Observed in beaver pond & forested wetland (Red Team)	Observed in Cheam Creek Riparian Area (Orange Team)	Observed in wet meadow & mixed forest (Yellow Team)	Comments based on Blitz inventory Review
prairie sphagnum moss	<i>Sphagnum palustre</i>				
purple peavine	<i>Lathyrus nevadensis & L. n. var. pilosellus</i>				
purple-leaved willowherb	<i>Epilobium ciliatum ssp. ciliatum</i>				
quack grass	<i>Agropyron replens</i>				
rattlesnake- plantain	<i>Goodyera oblongifolia</i>				
red alder	<i>Alnus rubra</i>				
Red Huckleberry	<i>Vaccinium parvifolium</i>				
red-flowering currant	<i>Ribes sanguineum var. sanguineum</i>				
red-osier dogwood	<i>Cornus stolonifera</i>				
reed canary grass	<i>Phalaris arundinacea</i>				
revolute hypnum moss	<i>Hypnum revolutum</i>				
rice cutgrass	<i>Leersia oryzoides</i>				observed by Denis Knopp in June 08
rough goose neck moss	<i>Rhytidiadelphus triquetrus</i>				
salal	<i>Gaultheria shallon</i>				
salmonberry	<i>Rubus spectabilis</i>				
Scapania liverwort	<i>Scapania sp.</i>				
Schreber's big red stem moss	<i>Pleurozium schreberi</i>				

Species Common name	Species Scientific name	Observed in beaver pond & forested wetland (Red Team)	Observed in Cheam Creek Riparian Area (Orange Team)	Observed in wet meadow & mixed forest (Yellow Team)	Comments based on Blitz inventory Review
Schreber's dicranella moss	<i>Dicranella schreberiana</i>				
Scouler's willow	<i>Salix scouleriana</i>				
self-heal	<i>Prunella vulgaris</i>				
Selwyn's atrachum moss	<i>Atrichum selwynii</i>				
Sharp beaked hazelnut	<i>Corylus cornuta var. californica</i>				
shore pine	<i>Pinus contorta var. contorta</i>				
showy aster	<i>Aster conspicuus</i>				grows among herb Robert
Siberian miner's-lettuce	<i>Claytonia sibirica</i>				
Sitka columbine	<i>Aquilegia formosa ssp. formosa</i>				
Sitka spruce	<i>Picea sitchensis</i>				
Sitka willow	<i>Salix sitchensis</i>				
skunk cabbage	<i>Lysichiton americanus</i>				
small-flowered bulrush	<i>Scirpus microcarpus</i>				
Snake moss	<i>Buckiella undulata</i>				
Snowberry	<i>Symphocaricarpus albus var. laevigatus</i>				
spiny wood fern	<i>Dryopteris expansa</i>				
splendid feather moss	<i>Hylocomium splendens</i>				
spring water- starwort	<i>Callitriche palustris (formerly C. verna)</i>				

Species Common name	Species Scientific name	Observed in beaver pond & forested wetland (Red Team)	Observed in Cheam Creek Riparian Area (Orange Team)	Observed in wet meadow & mixed forest (Yellow Team)	Comments based on Blitz inventory Review
star-flowered false Solomon's- seal	<i>Maianthemum stellatum</i>				
stinging nettle	<i>Urtica dioica</i>				
stink currant	<i>Ribes bracteosum</i>				
stream violet	<i>Viola glabella</i>				
sweet gale	<i>Myrica gale</i>				
sweet-scented bedstraw	<i>Galium triflorum</i>				
sword fern	<i>Polystichum munitum</i>				
tall blue lettuce	<i>Lactuca biennis</i>				
tall mannagrass	<i>Glyceria elata</i>				
tetraphis moss	<i>Tetraphis pellucida</i>				
thimbleberry	<i>Rubus parviflorus</i>				
three-leaved foamflower	<i>Tiarella trifoliata var. trifoliaa</i>				
threepetal (small) bedstraw	<i>Galium trifidum</i>				
tiger lily	<i>Lilium columbianum</i>				
trailing blackberry	<i>Rubus ursinus ssp. Macropetalus</i>				
trailing yellow violet	<i>Viola sempervirens</i>				
tree climacium moss	<i>Climacium dendroides</i>				
tree mat homalothecium moss	<i>Homalothecium fulgescens</i>				
trembling aspen	<i>Populus tremuloides</i>				
tufted loosestrife	<i>Lysimachia thyrsiflora</i>				

Species Common name	Species Scientific name	Observed in beaver pond & forested wetland (Red Team)	Observed in Cheam Creek Riparian Area (Orange Team)	Observed in wet meadow & mixed forest (Yellow Team)	Comments based on Blitz inventory Review
vanilla-leaf	<i>Achlys triphylla</i>				common in west upland forest
vine maple	<i>Acer circinatum</i>				
warer-milfoil	<i>Myrophyllum sp.</i>				
water shield	<i>Brasenia schreberi</i>				
water-pepper	<i>Polygonum hydropiperoides</i>				
water-purslane	<i>Ludwigia palustris</i>				
western bog- laurel	<i>Kalmia microphylla ssp. occidentalis</i>				
western flowering dogwood	<i>Cornus nuttallii .</i>				
western hemlock	<i>Tsuga heterophylla</i>				
western meadowrue	<i>Thalictrum occidentale</i>				
western red cedar	<i>Thuja plicata</i>				
western trillium	<i>Trillium ovatum var. ovatum</i>				
western trumpet	<i>Lonicera ciliosa</i>				
wild ginger	<i>Asarum caudatum</i>				
wild gooseberry	<i>Ribes divaricatum</i>				only a couple of locations on Cheam Creek
wood strawberry	<i>Fragaria vesca</i>				

Species Common name	Species Scientific name	Observed in beaver pond & forested wetland (Red Team)	Observed in Cheam Creek Riparian Area (Orange Team)	Observed in wet meadow & mixed forest (Yellow Team)	Comments based on Blitz inventory Review
yellow monkey-flower	<i>Mimulus guttatus</i>				
yellow pond-lily	<i>Nuphar lutea ssp. polysepala</i>				

Invasives

Species Common name	Species Scientific name	Observed in beaver pond & forested wetland (Red Team)	Observed in Cheam Creek Riparian Area (Orange Team)	Observed in wet meadow & mixed forest (Yellow Team)	Comments based on Blitz inventory Review
bull thistle	<i>Cirsium vulgare</i>				
Canada thistle	<i>Cirsium arvense var. horridum</i>				
common burdock	<i>Arctium minus</i>				
common hawthorn	<i>Crataegus monogyna</i>				
Common St. John's wort	<i>Hypericum perforatum</i>				
cutleaf evergreen blackberry	<i>Rubus laciniatus</i>				
European bittersweet	<i>Solanum dulcamara var. dulcamara</i>				
hedge bindweed	<i>Convolvulus sepium</i>				
Himalayan blackberry	<i>Rubus discolor</i>				
smooth hawksbeard	<i>Crepis capillaris</i>				
common dandelion	<i>Taraxacum officinale</i>				
common foxglove	<i>Digitalis purpurea</i>				
creeping buttercup	<i>Ranunculus repens</i>				
dovefoot geranium	<i>Geranium molle</i>				

Species Common name	Species Scientific name	Observed in beaver pond & forested wetland (Red Team)	Observed in Cheam Creek Riparian Area (Orange Team)	Observed in wet meadow & mixed forest (Yellow Team)	Comments based on Blitz inventory Review
English ivy	<i>Helix hedera</i>				
Oneseed hawthorne	<i>Crataegus oxyacantha</i>				
ground-ivy	<i>Glechoma hederacea</i>				
hairy cat's-ear	<i>Hypochaeris radicata</i>				
hemp-nettle	<i>Galeopsis tetrahit var. tetrahit</i>				
Hop	<i>Humulus lupulus var. neomexicanus</i>				
Knapweed	<i>Centaurea sp.</i>				
lady's-thumb	<i>Polygonum persicaria</i>				
marsh cudweed	<i>Gnaphalium uliginosum</i>				
policeman's helmet very	<i>Impatiens glandulifera</i>				
purple loosestrife	<i>Lythrum salicaria</i>				
Robert's geranium (herb Robert)	<i>Geranium robertianum</i>				
small touch- me-not	<i>Impatiens parviflora</i>				
tansy ragwort	<i>Senecio jacobaea</i>				
wall lettuce	<i>Lactuca muralis</i>				
yellow archangel	<i>Lamium galeobdolon</i>				
yellow iris	<i>Iris pseudacorus</i>				
Periwinkle	<i>Vinca minor</i>				
Yellow oxalis	<i>Oxalis corniculata</i>				can be weedy or invasive

Table 5. Bird species of the Cheam Lake Wetlands (courtesy FVRD Parks (January 2008))

**Birds of
 Cheam Lake Wetlands
 Regional Park**

January 2008 edition











Compiled by Gord Gadsden.

The following is a checklist for birds recorded inside the boundaries of Cheam Lake Wetlands Regional Park. This checklist has been created from the best available records and is subject to revisions as new records become available. Data has been collected spanning over 17 years during the Park's pre-flood stages and throughout its restoration to historical levels. Some bird species have become rare over this period while others have become more common.

For more information on the Park's wildlife and bird records, contact the Fraser Valley Regional District Parks Department at (604) 702-5000, toll free 1-800-528-0061 or email at info@fvrd.bc.ca.

You can help with this checklist by leaving birding field notes in the comment box found on information kiosk or by email at info@fvrd.bc.ca. Detailed records for bird species written in italics are especially requested. These birds are either accidental species or simply rare to the checklist area. If possible, phone any rare sightings to the Chilliwack Rare Bird Alert at (604) 792-1239.

The key below explains the checklist's graph layout.

Key:		Common: 15+ seen or heard daily.
		Fairly common: 3-15 seen/heard daily.
		Uncommon: 0-3 seen or heard daily.
		Rare: 1-10 records per year.
		Casual: not seen every year.
		Accidental: single sighting of species.
		Accidental: duration of stay.
		Breeding record(s) in checklist area.
		The total number of documented sightings (1-10) in checklist area of a casual or accidental species.
		Sight record either by a single observer or not photographed but documented by a written description.

Gr. White-fronted Goose

- Snow Goose (3)**
- Cackling Goose
- Canada Goose*
- Mute Swan (2)**
- Trumpeter Swan
- Tundra Swan (3)**
- Wood Duck*
- Gadwall
- American Wigeon
- Eurasian Wigeon (3)**
- Mallard*
- Blue-winged Teal*
- Cinnamon Teal*
- Northern Shoveler
- Northern Pintail
- Green-winged Teal
- Canvasback**
- Redhead (8)**
- Ring-necked Duck
- Greater Scaup**
- Lesser Scaup
- Bufflehead
- Common Goldeneye
- Hooded Merganser*
- Common Merganser
- Ruddy Duck (8)**

- Ring-necked Pheasant (1)**
- Ruffed Grouse*

Common Loon (4)

- Pied-billed Grebe*
- Horned Grebe**
- Red-necked Grebe (5)**
- Eared Grebe (1) sr*
- Western Grebe (2)**

- American White Pelican (2)**
- Double-crested Cormorant**

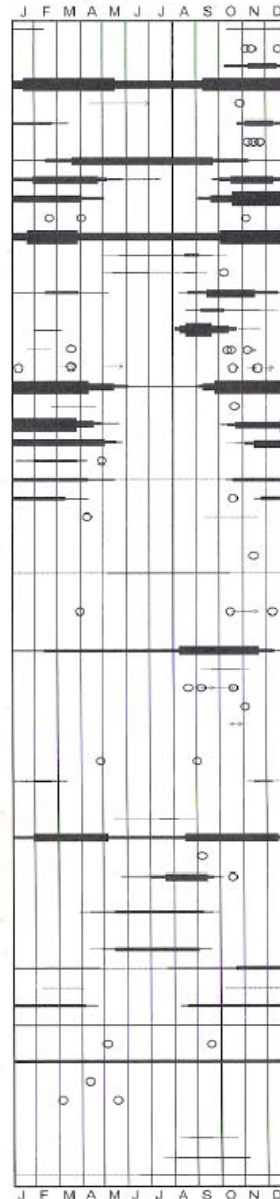
American Bittern

- Great Blue Heron
- Great Egret (1)**
- Green Heron*

Turkey Vulture

- Osprey*
- Bald Eagle
- Northern Harrier
- Sharp-shinned Hawk
- Cooper's Hawk*
- Northern Goshawk (2)**
- Red-tailed Hawk*
- Rough-legged Hawk (1)**
- Golden Eagle (2)**

- American Kestrel
- Merlin
- Peregrine Falcon



- Virginia Rail*
- Sora*
- American Coot

- Killdeer*
- Greater Yellowlegs (5)**
- Solitary Sandpiper**
- Spotted Sandpiper*
- Western Sandpiper (1)**
- Least Sandpiper (1)**
- Long-billed Dowitcher (1)**
- Wilson's Snipe
- Red-necked Phalarope (1)**

- Bonaparte's Gull (1)**
- Glaucous-winged Gull (8)**

- Rock Dove
- Band-tailed Pigeon
- Mourning Dove

- Western Screech-Owl (1)**
- Great Horned Owl**
- Northern Pygmy-Owl (2)**
- Barred Owl*
- Northern Saw-whet Owl

Common Nighthawk

- Black Swift
- Vaux's Swift
- White-throated Swift (1) sr**

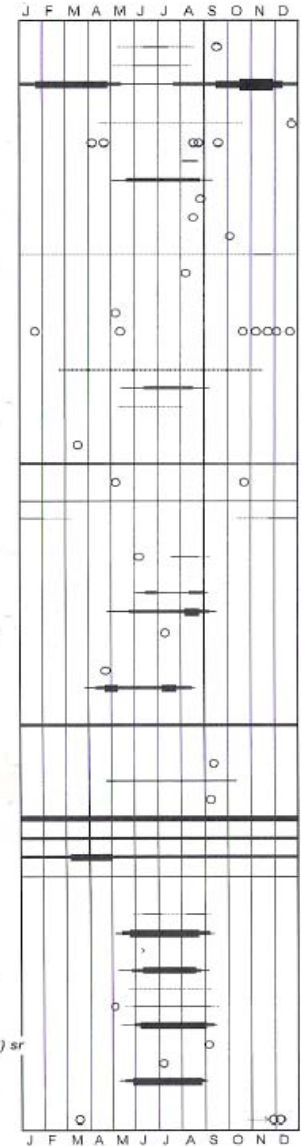
- Anna's Hummingbird (1)**
- Rufous Hummingbird*

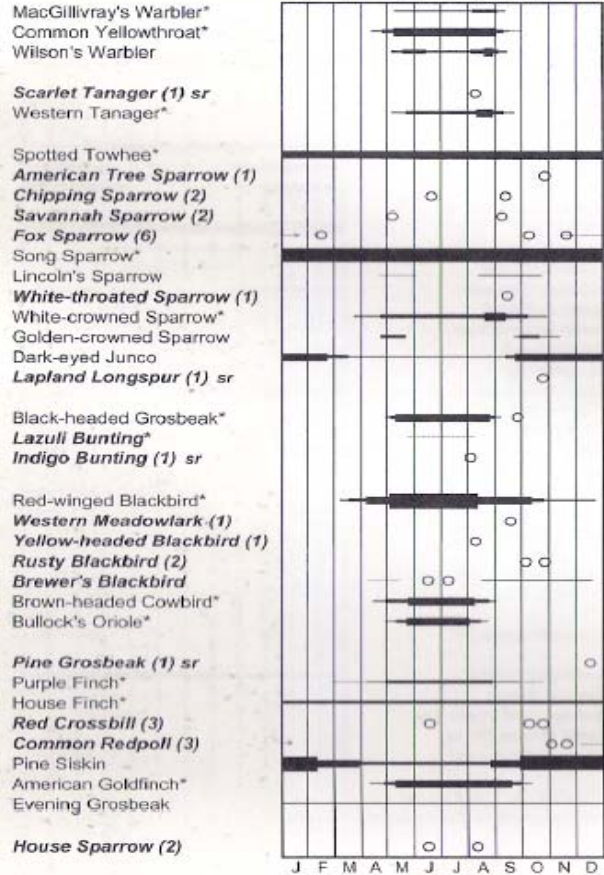
Belted Kingfisher*

- Lewis's Woodpecker (1)**
- Red-breasted Sapsucker*
- Red-naped Sapsucker (1)**
- Downy Woodpecker*
- Hairy Woodpecker*
- Northern Flicker*
- Pileated Woodpecker*

- Olive-sided Flycatcher
- Western Wood-Pewee*
- Alder Flycatcher (1) sr**
- Willow Flycatcher*
- Least Flycatcher**
- Hammond's Flycatcher*
- Pacific-slope Flycatcher*
- Ash-throated Flycatcher (1) sr**
- Western Kingbird (1)**
- Eastern Kingbird*

Northern Shrike (4)





Total: 184 species, including 64 breeding species.

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This checklist has been produced with the support and financial assistance of the Fraser Valley Regional District.

Appendix 2 BioBlitz Team Field Form Data

BioBlitz Station Evaluation Form		Cheam Lake Wetlands Regional Park	
Date: July 26 2008	Blitz Station ID: Red Team Beaver Pond & adjacent forested wetland		
Name of recorder(s): Tricia Kerr, Gord Gadsden, John Lemmens			
Owner/Management Jurisdiction: Fraser Valley Regional District			
Management Partners: Chilliwack Field Naturalists			
Ecological Community CWH Variant comments		North American Datum (NAD) 1983	
dominant soil type: sand, loam, gravel, organic etc. Organic	Elevation: 31-58 m Slope: Aspect::	UTM Coordinates at approximate site Center:10.591319.5449964 Precision (+/- m):	1:20000 Map # 92H011 1:50000 Map # 92H04 CHWK FD
moisture regime: wet			
Identified Disturbance or Threats: invasive plants, neighbouring residential development			
Adjacent Land Use: Woodland			
Connectivity & Ecological Integrity	Excellent Good	Fair	Poor

Blitz Tracking Sheet			
Species Common Name (please list scientific name if possible)	Comments (species is potentially rare,	invasives present, dominance etc.)	UTM (& Precision), photo & number
Blacktail deer <i>Odocoileus hemionus</i>			
Blue dasher <i>Pachydiplax longipennis</i>	one male sunning on trail adjacent to beaver pond - north of parking lot		
Blue-eyed darner dragonfly <i>Rhionaeschna multicolor</i>	may have been Canada darner in and around pond and lake area		
Emerald spreadwing female <i>Lestes dryas</i>			dsc7781-82 ggadsden
English ivy <i>Helix hederata</i>		invasive, should be monitored	
Four spot skimmer dragonfly <i>Libellula pulchella</i>	in and around pond and lake area		ggadsden dsc7767
Green frog <i>Rana clamitans</i>		well established but does not seem to be outcompeting or displacing red-legged frog, should be monitored	ggadsden 046
Hop Humulus <i>lupulus</i> var. <i>neomexicanus</i>		invasive, should be monitored	
Oregon forest snail <i>Allogona townsendiana</i>	shell	Himalayan blackberry, purple loosestrife	10.0591432.5449982 +-5.8m
Pacific sideband <i>Monadenia fidelis</i>	uncommon but not rare locally	Himalayan blackberry	10.0591409.5449990 +-5m

Red-eared slider turtle <i>Trachemys scripta</i>		introduced turtle, may displace native western pond and painted turtles if they occur in the Cheam Lake Wetlands	
Red-legged frog <i>Rana aurora</i>			ggadsden dsc7795
Tansy ragwort (Stinking Willy) <i>Senecio jacobaea</i>		invasive and noxious weed occurs periodically throughout park	
Tule bluet damselfly <i>Enallagma carunculatum</i>			dsc7756 cheam ggadsden
Western forktail damselfly female <i>Ischnura perparva</i>			dsc7778-79 ggadsden
Western pondhawk <i>Erythemis collocata</i>	uncommon but not rare locally	purple loosestrife, hops	10.0591346.5449981 +-4m dsc7769-7776
Yellow iris <i>Iris pseudacorus</i>		Invasive and spreading - FVRD looking at control	

BioBlitz Station Evaluation Form		Cheam Lake Wetlands Regional Park	
Date: July 26 2008	Blitz Station ID: Yellow team Wet meadow & adjacent mixed forest		
Name of recorder(s): Janne Perrin, Tamsin Baker, Krystal Pyke, Helen Turner			
Owner/Management Jurisdiction: Fraser Valley Regional District			
Management Partners: Chilliwack Field Naturalists			
Ecological Community CWH Variant comments		North American Datum (NAD) 1983	
dominant soil type: sand, loam, gravel, organic etc. sandy loam with good duff layer	Elevation: 45m Slope: Aspect::	UTM Coordinates at approximate site Center:10.591567.5449757 Precision (+/- m):	1:20000 Map # 92H011 1:50000 Map # 92H04 CHWK FD
moisture regime: mesic			
Identified Disturbance or Threats: unauthorized trails, garbage			
Adjacent Land Use: forest and small pocket of rural residential development			
Connectivity & Ecological Integrity	Excellent Good	Fair	Poor

Blitz Tracking Sheet			
Species Common Name (please list scientific name if possible)	Comments (species is potentially rare,	invasives present, dominance etc.)	UTM (& Precision), photo & number
?	lots of seed pods present, panicle inflorescence type		10.0591593.5449834 +-4m kp #101-3735
Barred owl <i>Strix varia</i>		juvenile identified by night call playback, naturalized, may have displaced/predated on previous resident western screech owl pair	
Common gooseberry <i>Ribes divaricatum</i>			10.0591455.5449974 +-5m tb#3-4
Common St. johns wort <i>Hypericum perforatum</i>		invasive noxious weed found along trails and disturbed areas	
<i>Epilobum sp.</i>	possibly purple leaved willowherb		10.0591547.5449973 +-5m tb 1-2
European bittersweet		invasive species	10.0591592.544828 +-4m
Fivestamen miterwort <i>Mitella pentandra</i>			10.0591574.5449764 +-5.9m
Lancetooth snail sp.	possibly carnivorous lancetooth sp.		10.0591551.5449956 +-5m kp#101-3778
Purple loosestrife		invasive species	10.0591593.5449829 +-4m
Self heal <i>Prunella vulgaris</i>		introduced	10.0591544.5449865 kp#101-3760

Species Common Name (please list scientific name if possible)	Comments (species is potentially rare,	invasives present, dominance etc.)	UTM (& Precision), photo & number
Showy aster <i>Aster conspicuus</i>	grows among herb robert		10.0591444.5449997 +-5m tb#7-8
Snail sp.	no lip at all		10.0591593.5449829 +-4m kp#101-2726-29
St. Johns wort <i>Hypericum perforatum</i>		invasive, prevalent throughout park	
Vanilla leaf <i>Achlys triphylla</i>	common		10.0591439.5449979 +-6m
Veronica sp.	possibly American brooklime? Blue 4 petal flowers tiny		10.0591546.5449970 +-5m kp#101-3785
Western or yellow oxalis <i>Oxalis corniculatus</i>	~30cm tall	can be weedy or invasive	10.0591569.5449850 _=3m #101-3742-45
Whorl leaved plant sp	base of red cedar		10.0591444.5449997 +-5m tb#5-6

BioBlitz Station Evaluation Form		Cheam Lake Wetlands Regional Park	
Date: July 26 2008		Blitz Station ID: Orange Team Cheam Creek Riparian	
Name of recorder(s): Rose Garlinski, Greg Ferguson			
Owner/Management Jurisdiction: Fraser Valley Regional District			
Management Partners: Chilliwack Field Naturalists			
Ecological Community CWH Variant comments		North American Datum (NAD) 1983	
dominant soil type: sand, loam, gravel, organic etc. sand, gravel, rocky clay	Elevation: 33-45m Slope: Aspect: north	UTM Coordinates at approximate site Center: 10.591249.5450328 Precision (+/- m): n/a	1:20000 Map # 92H011 1:50000 Map # 92H04 CHWK FD
moisture regime: riparian area quite dry after prolonged heat spell, moist around seeps			
Identified Disturbance or Threats: Himalayan blackberry, edge effects from adjacent rural land uses			
Adjacent Land Use: Rural			
Connectivity & Ecological Integrity	Excellent Good	Fair	Poor

Blitz Tracking Sheet			
Species Common Name (please list scientific name if possible)	Comments (species is potentially rare,	invasives present, dominance etc.)	UTM (& Precision), photo & number
Aquatic burr reed <i>Sparganium simplex</i>		Common aquatic plant throughout creek system	
Barred owl <i>Strix varia</i>		identified by night call playback naturalized, may have displaced/predated on resident western screech owl pair	
Blue-black damselfly - bluet or forktail sp.	common along trail		
Common garter snake <i>Thamnophis sirtalis</i>	sunning on trail		10.591288.5450336 +- 10m
Darner dragonfly sp? Likely Canada darner	yellow face, black & yellow thorax, blue & black abdomen		
Great horned owl <i>Bubo virginianus</i>		pair identified by night call and visual confirmation, were chasing barred owl, may have displaced/predated on previous resident western screech owl pair	
Hop <i>Humulus lupulus var. neomexicanus</i>		invasive, not spreading beyond single plant on creek but should be monitored	10.0590863.5450192 +- 4m
Jelly fungus sp.	possibly a <i>Dacrymyces</i> , <i>Dacryopinax</i> or <i>Exidia</i> sp.		10.0590867.5450189 +- 6m

Knapweed <i>Centaurea sp.</i>		invasive of high concern, may be diffuse knapweed, several plants seeding along southeast area near creek pump station-park trail	10.0590878.5450085 +/- 8m
Lancetooth snail sp.	empty shell		at same coordinates as above
Mock orange <i>Philadelphus lewisii</i>	one large old growth plant along northeast side of bridge before looptrail bridge		
Oregon forestsnail <i>Allogona townsendiana</i>	empty shell adjacent to trail	Himalayan blackberry	10.0591217.5450340 +/- 4.5m
Pacific sideband snail <i>Monadenia fidelis</i>	found July 27 along with numerous Oregon forestsnails and grovesnails along upper level loop trail (rained evening of July 26)		same trail as shrew mole 30m north and south of 10.0591343.5450524
Pacific Banana Slug <i>Ariolimax columbianus</i>		on trail and in moist understory areas	

Species Common Name (please list scientific name if possible)	Comments (species is potentially rare,	invasives present, dominance etc.)	UTM (& Precision), photo & number
Red-legged frog <i>Rana aurora</i>	observed along with same age class greenfroglets along creek and trail edge		10.0590930.5450252 +- 4m 10.0591096.5450397 +- 5m
Shrew mole <i>Neurotrichus gibbsii</i>	smallest of moles, found dead on trail		10.0591343.5450524 +- 3m
Slender rein orchid <i>Platanthera stricta</i>	one of two individual plants along creek, larger colony exists, discovered July 27 at southeast side of wetland in team 1's area.		10.0591250.5450321 +- 4m
Stickywilly <i>Galium aprine</i>	may be sweet scented bedstraw		
Tansy ragwort (Stinking Willy) <i>Senecio jacobaea</i>		invasive and noxious weed growing with knapweed - occurs periodically throughout park	10.0590878.5450085 +- 8m
Wild gooseberry <i>Ribes divaricatum</i>		only a couple of specimens on Cheam Creek	
Yellow-spotted millipede <i>Harpaphe haydeniana</i>		on trail and in understory	

* Two minnow traps and one pitfall trap were installed in this teams section but neither provided any capture data other than chocolate arion slugs.