

BC Wildlife Federation's
Wetland Education Program
Community of Hills BioBlitz, June 2013
Summary Report



This report was prepared for the BCWF's Wetland Education Program (WEP). Established in 1996, WEP is designed to deliver quality wetland education that builds the capacity of individuals and groups to assess their wetland assets, and, using this new knowledge, increase community health. BCWF prides itself on community based wetland education programs that increase the capacity of individuals to steward wetlands in their own backyards! <http://www.BCWFBogBlog.com> | www.bcwf.bc.ca

This report is designed to provide a summary of the findings from the Community of Hills BioBlitz (North of New Denver), which inventoried Hunter Siding Wetland and Bonanza Marsh from June 7th - 9th, 2013. It may be used by organisations or individuals that are interested in continuing wildlife and habitat inventories for the Slokan Valley.

This event would not have been possible without the support of our partners:



Funding for this project was generously provided by:



This report was prepared for:

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Acknowledgements

The contributions and support of the following made the Community of Hills BioBlitz a wonderful event!

Cori Lausen & crew (Leigh Anne Isaac, Gillian Sanders)

David DeRosa

Evan McKenzie

Irene Manley

Jakob Dulisse

Janice Arndt

Jennifer Yeow

Marcy Mahr

Margaret Hartley

Peter Wood

Rhia MacKenzie

Richard Johnson

Ryan Durand

Verena Shaw

The Hills' Community and Fire Hall

Cover photos: *(left)* Walking through Hunter Siding Puddles. Credit: Rachel Schott. *(top right)* Looking at Butterfly Samples. Credit: Rachel Schott. *(middle top right)* Getting Close with Vegetation Surveys. Credit: Rachel Schott. *(bottom top right)* Ground Level Vegetation Sample. Credit: Rachel Schott. *(bottom right)* Western Toad Close-up. Credit: Jason Jobin. BioBlitz Logo Credit: Rachel Schott.

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Introduction

Throughout British Columbia, public and private lands have a significant role in ensuring wildlife habitat conservation for future generations. Collective actions that improve understanding of ecological integrity contribute to more environmentally informed and sustainable decision making. BioBlitzes (otherwise known as "Biodiversity Blitzes") are a collaborative initiative that host scientific researchers and the general public in working together on identifying and inventorying the species that are located in a specific area. The Community of Hills BioBlitz featured specialists in botany, ornithology (birds), entomology (insects), herpetology (amphibians), chiropterology (bats), lepidopterology (butterflies and moths), and limnology (freshwater biology) and was an educational experience for all of the participants.



A rest at Hunter Siding. Credit: Rachel Schott.

BioBlitzes typically take place over a 24-hour period; however, the Community of Hills BioBlitz was incorporated with the BCWF Wetlands Education Program's Wetlandkeepers course, which spans over 2.5 days and focuses on citizen-based approaches towards achieving wetland conservation. The Community of Hills BioBlitz inventoried 97 fauna and 103 flora species at

two locations within the Slokan Valley - the Hunter Siding Wetland and the Bonanza Marsh. The Slokan Valley is one of six priority areas that have been chosen by the Fish and Wildlife Compensation Program's Riparian and Wetlands Action Plan (RWAP) draft for the Columbia Basin, which examines dam impacts on ecosystems and assesses focal areas to invest in habitat restoration and conservation. This venue provided a valuable learning opportunity to unite communities and organisations and enhance their capability of protecting and improving wetland and riparian habitats.



Hunter Siding. Credit: Rachel Schott.

Why the Slocan Valley?

As previously mentioned, the RWAP draft identifies six focal areas within the Columbia Basin for wetland and riparian habitat restoration and protection. The Valley extends from Summit Lake south towards the Slocan River and ending at the Kootenay River west of Nelson. It boasts one of the last largely intact riparian corridors within the entire Columbia Basin because it is not impacted by inundation from dam operations. Of the six focal areas, the Slocan Valley has the second lowest percentage of unsecured land (i.e. classified as “protected”), primarily due to the high rate of private ownership.¹ Both the Valley’s pristine state and uncertain future justify an investment in wetland stewardship and education.



As indicated by the RWAP, goals for organisations and individuals of the Slocan Valley include:

- Determining abundance, distribution, and category of riparian habitats
- Identifying small wetlands outside focal areas for possible protection and management
- Securing or improving cross-valley habitat linkages for wildlife
- Contributing to wetland/riparian land acquisition/covenant opportunities as they arise
- Monitoring restoration treatments
- Recording baseline spring waterfowl and focal species surveys.

The Community of Hills BioBlitz examined two wetlands in the northern reaches of the Slocan Valley: Hunter Siding Wetland and Bonanza Marsh. Hunter Siding is entirely crown-owned land and has natural wetlands associated with floodplain activity from Bonanza Creek. It was historically impacted by railroad developments which changed the hydrology of in parts of the area and allowed for the formation of several small wetlands that were visited during the BioBlitz. Bonanza Marsh marks the mouth of Bonanza Creek, which is located on the north end of Slocan Lake and is an important area for wildlife. The land is entirely under private ownership, which demonstrates the significant role of landowner stewardship in ensuring Bonanza Marsh’s conservation. Google images for both sites are provided in Appendix 1 and 2.

¹ Columbia Basin Riparian and Wetlands Action Plan Draft 2012

The Research Team

Dr. Cori Lausen

Field and Research Biologist, Chiropterologist

Cori is a highly experienced bat biologist with numerous ongoing projects involving bat habitat and behaviour, White Nose Syndrome, and bat species diversity. She has conducted over 18 years of bat research with the Fort Shepherd Conservancy area and is currently focusing on winter bat behaviour in the Kootenay region. She led the BioBlitz's bat surveying within the Hunter Siding Wetland and Bonanza Marsh using acoustic recorders and mistnetting techniques. She was successful in inventorying five species at Hunter Siding and six at Bonanza Marsh.



Credit: Jason Jobin

Evan McKenzie

Ecosystem Biologist, Ecological Researcher

Evan is the founder of Evan McKenzie Ecological Research and is an expert in ecosystem and vegetation classification. He monitored the flora species and inventoried 30 shrub and herb species in Hunter Siding and 73 shrub, herb, and moss species in Bonanza Marsh. His expertise was applied towards educating the participants on the methods and skills involved in vegetative surveys and plant identification.



Credit: Rachel Schott

Jakob Dulisse

Wildlife Biologist, Herpetologist

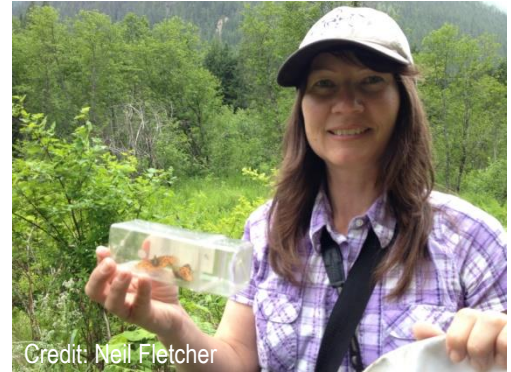
Jakob is founder of Jakob Dulisse Consulting and has worked on initiatives to reduce the Western Toad mortality rates on Highway 6 near Summit Lake. He monitored amphibians in both Hunter Siding and Bonanza Marsh using amphibian traps that were left overnight. He was successful in inventorying three species at Hunter Siding and one at Bonanza Marsh. His experience includes planning mitigation strategies for improving wildlife habitat linkages, which is one of the Slocan Valley's primary RWAP goals. Jakob inventoried four species at Hunter Siding and one at Bonanza Marsh.



Credit: Jason Jobin

Janice Arndt
**Wildlife Habitat Biologist, Lepidopterologist,
Ornithologist**

Janice led the birding session at Hunter Siding Wetland and inventoried 20 species using a quantitative auditory survey. Using a set of external speakers, she played various bird calls followed by 5-minute intervals of silence and recorded the species that responded. As well, Janice conducted a butterfly inventory using mesh nets and inventoried 7 butterflies at Hunter Siding. She is establishing a marsh bird monitoring project to collect long term standardised data to determine population trends over time.



Dr. Peter Wood
Biologist, Entomologist

Peter is the president of the West Kootenay Naturalists Association, a member of the Slocan Pool Advisory Committee, and he recently received the Diamond Jubilee Medal Award from Selkirk College for his outstanding contributions to community service and science education. He conducted aquatic invertebrate sampling at Hunter Siding using mesh and plankton nets. He found 13 types of aquatic insects and larvae.



Ryan Durand
Biologist, Ecological Researcher

Ryan is the founder of Taara Environmental, an organisation that integrates terrestrial and aquatic mapping with land management and planning. He has extensive knowledge about creating baseline inventories, ecosystem mapping and monitoring, and habitat assessments. He taught the group about ecosystem surveying and classification skills, which can be compiled into Sensitive Ecosystem Inventories and help the Slocan Valley achieve their RWAP objectives.



Jennifer Yeow & Verena Shaw CABIN Protocol

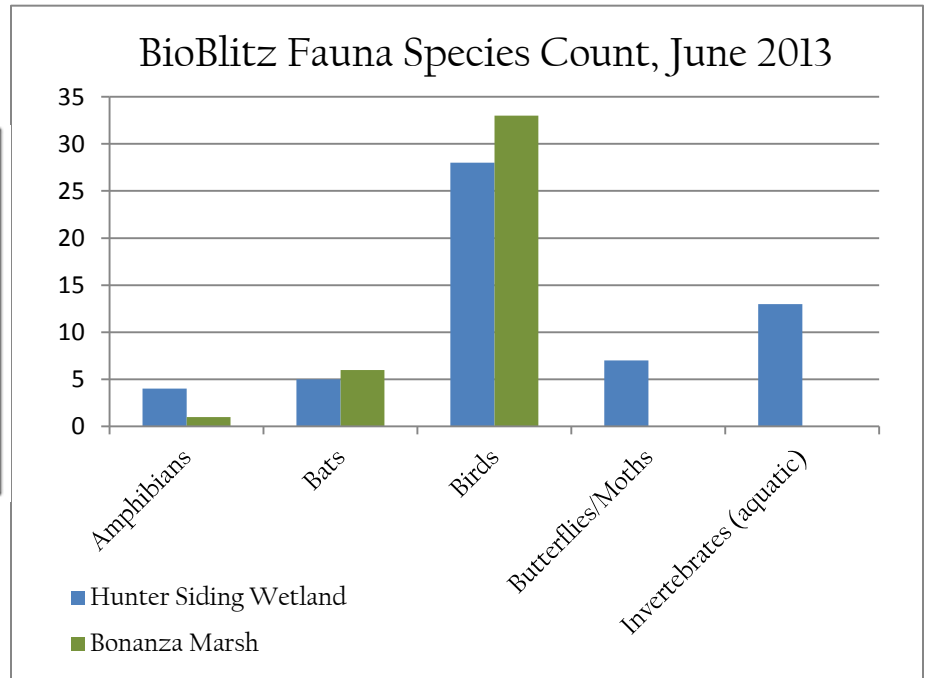
Jennifer is currently on the board of directors for the Slocan River Streamkeepers, and Verena is experienced in ecosystem monitoring and assessment. They taught the group about the CABIN Protocol (Canadian Aquatic Biomonitoring Network), which is a monitoring program used for assessing the health of Canada's freshwater ecosystems. CABIN offers researchers with the ability to make formalized scientific assessments using national standards, which allows for data comparison.



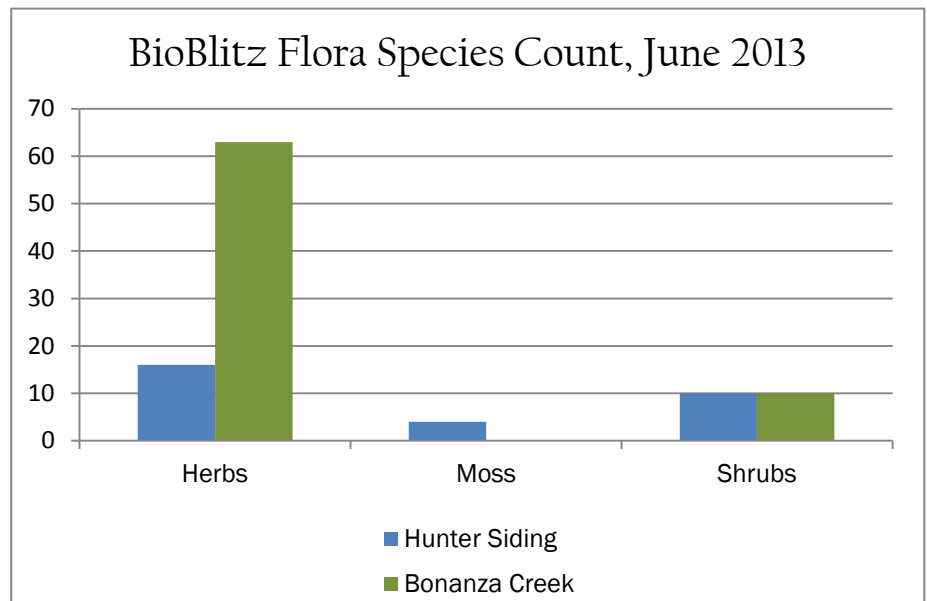
Findings

Baseline information is a valuable component of any BioBlitz. It begins the process of establishing a long term monitoring program, which will allow for data analysis of trends in wildlife populations. The results are broken into two separate categories for the two locations that were surveyed. There were accessibility and equipment restrictions involved with Bonanza Marsh and limited data was collected from this site. As well, the weather at Hunter Siding was overcast with periods of rain, which may have negatively impacted the results.

BioBlitz Fauna Species		
	HSW	BM
Amphibians	4	1
Bats	5	6
Birds	28	33
Butterflies/Moths	7	NA
Invertebrates (aquatic)	13	NA



BioBlitz Flora Species		
	HSW	BM
Herbs	16	63
Moss	4	NA
Shrubs	10	10

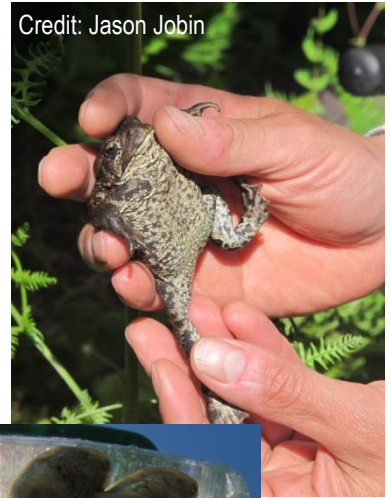


i. Amphibians

The following species were recorded at Hunter Siding Wetland on June 9, 2013:

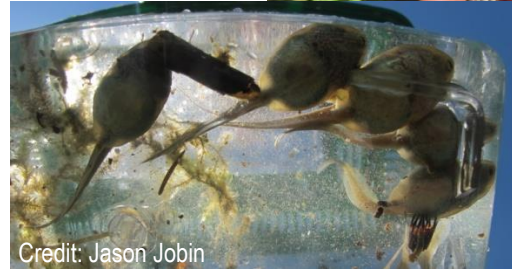
Ambystoma macrodactylum (Long-toed Salamander)
Anaxyrus boreas (Western Toad)
Pseudacris regilla (Pacific Tree Frog)
Rana luteiventris (Columbia Spotted Frog)

Credit: Jason Jobin



The following species were recorded at Bonanza Marsh on June 9, 2013:

Rana luteiventris (Columbia Spotted Frog)



Credit: Jason Jobin

ii. Bats

The following species were recorded at Hunter Siding Wetland on the evening of June 8, 2013:

Lasionycteris noctivagans (Silverhaired Bat)
Myotis californicus (California Myotis)
Myotis evotis (Long-eared Myotis)
Myotis lucifugus (Little Brown Bat)
Myotis yumanensis (Yuma Myotis)



The following species were recorded at Bonanza Marsh on the evening of June 7, 2013:

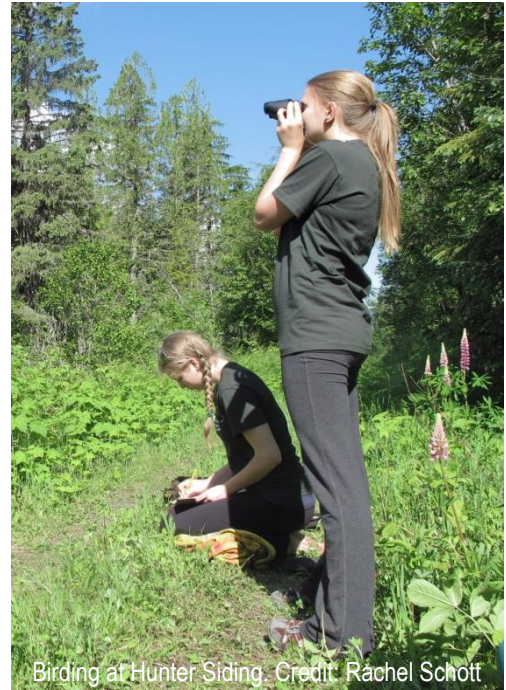
Lasionycteris noctivagans (Silverhaired Bat)
Myotis californicus (California Myotis)
Myotis evotis (Long-eared Myotis)
Myotis lucifugus (Little Brown Bat)
Myotis volans (Long-legged Myotis)
Myotis yumanensis (Yuma Myotis)



iii. Birds

The following species were recorded at Hunter Siding Wetland on June 8, 2013:

Agelaius phoeniceus (Red-winged Blackbird)
Bombycilla cedrorum (Cedar Waxwing)
Carduelis pinus (Pine Siskin)
Catharus fuscescens (Veery)
Catharus ustulatus (Swainson's Thrush)
Cistothorus palustris (Marsh Wren)
Contopus sordidulus (Western Wood Pewee)
Dendroica petechia (Yellow Warbler)
Dumetella carolinensis (Gray Catbird)
Empidonax hammondi (Hammond's Flycatcher)
Empidonax traillii (Willow Flycatcher)
Geothlypis trichas (Common Yellowthroat)
Ixoreus naevius (Varied Thrush)
Melospiza lincolni (Lincoln's Sparrow)
Melospiza melodia (Song Sparrow)
Oporornis tolmiei (MacGillivray's Warbler)
Pandion haliaetus (Osprey)
Parkesia noveboracensis (Northern Waterthrush)
Pheucticus melanocephalus (Black-headed Grosbeak)
Regulus satrapa (Golden-crowned Kinglet)
Setophaga ruticilla (American Redstart)
Tachycineta bicolor (Tree Swallow)
Tachycineta thalassina (Violet-green Swallow)
Troglodytes pacificus (Pacific Wren)
Turdus migratorius (American Robin)
Tyrannus tyrannus (Eastern Kingbird)
Vireo gilvus (Warbling Vireo)
Xanthocephalus xanthocephalus (Yellow-headed Blackbird)



The following species were recorded at Bonanza Marsh on June 8, 2013:

Actitis macularius (Spotted Sandpiper)
Agelaius phoeniceus (Red-winged Blackbird)
Anas carolinensis (Green-winged Teal)
Anas platyrhynchos (Mallard)
Aythya americana (Redhead)
Bombycilla cedrorum (Cedar Waxwing)
Branta canadensis (Canada Goose)
Bucephala clangula (Common Goldeneye)
Carduelis pinus (Pine Siskin)
Circus cyaneus (Northern Harrier)
Contopus sordidulus (Western Wood Pewee)
Empidonax traillii (Willow Flycatcher)
Fulica americana (American Coot)
Geothlypis trichas (Common Yellowthroat)
Haliaeetus leucocephalus (Bald Eagle)
Lophodytes cucullatus (Hooded Merganser)
Megaceryle alcyon (Belted Kingfisher)
Melospiza melodia (Song Sparrow)
Parkesia noveboracensis (Northern Waterthrush)
Pheucticus melanocephalus (Black-headed Grosbeak)
Picoides pubescens (Downy Woodpecker)
Podilymbus podiceps (Pied-billed Grebe)
Porzana carolina (Sora)
Rallus limicola (Virginia Rail)
Setophaga petechia (Yellow Warbler)
Stelgidopteryx serripennis (Northern Rough-winged Swallow)
Tachycineta bicolor (Tree Swallow)
Tachycineta thalassina (Violet-green Swallow)
Turdus migratorius (American Robin)
Tyrannus tyrannus (Eastern Kingbird)
Vireo gilvus (Warbling Vireo)
Vireo olivaceus (Red-eyed Vireo)
Xanthocephalus xanthocephalus (Yellow-headed Blackbird)

iv. Butterflies/Moths

The following species were recorded at Hunter Siding Wetland on June 8, 2013:

Aglais milberti (Milbert's Tortoiseshell)
Boloria epithore (Western Meadow Fritillary)
Cupido amyntula (Western Tailed Blue)
Glaucopsyche lygdamus (Silvery Blue)
Nymphalis antiopa (Mourning Cloak)
Papilio rutulus (Western Tiger Swallowtail)
Polygonia satyrus (Satyr Anglewing)



Credit: Rachel Schott

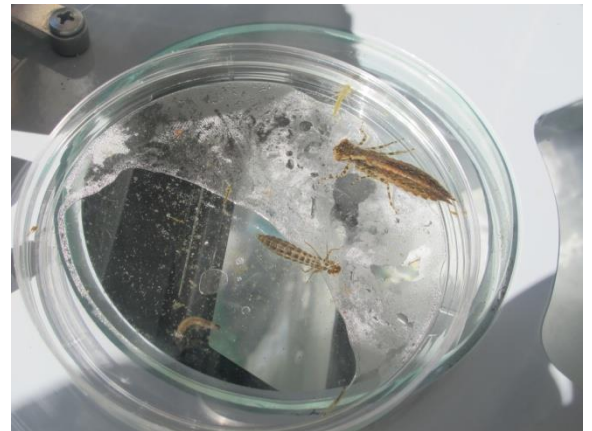
v. Invertebrates (aquatic)

The following species were recorded at Hunter Siding Wetland on June 9, 2013:

Blackfly larva (Family: Simuliidae)
Crane Fly larva (Family: Tipulidae)
Damselfly (Order: Odonata)
Damselfly nymph (Family: Lestidae)
Dragonfly (Order: Odonata)
Dragonfly nymph (Family: Aeshnidae)
Leech (Subclass: Hirudinea)
Mayfly larva (Order: Ephemeroptera)
Mosquito larva (Family: Culicidae)
Snail (Class: Gastropoda)
Stonefly larva (Order: Plecoptera)
Water Beetle (Family: Dystiscidae)
Water Beetle larva (Family: Dystiscidae)
Waterboatman (Family: Corixidae)
Waterstrider (Family: Gerridae)



Credit: Rachel Schott



vi. Plants

The following species were recorded at Hunter Siding Wetland on June 8, 2013:

Herbs

Athyrium filix-femina (Lady fern)
Calamagrostis canadensis (Bluejoint reedgrass)
Carex lenticularis var. *lipocarpa* (Kellogg's sedge)
Carex sp. (Sedge)
Circaea alpina ssp. *alpina* (Enchanter's nightshade)
Equisetum arvense (Common horsetail)
Equisetum hyemale (Scouring rush)
Galium triflorum (Sweet-scented bedstraw)
Geum macrophyllum (Large-leaved avens)
Heracleum maximum (Cow-parsnip)
Juncus ensifolius (Dagger-leaf rush)
Lysichiton americanus (Skunk cabbage)
Ranunculus gmelinii (Small yellow water-buttercup)
Scirpus microcarpus (Small-flowered bulrush)
Urtica dioica (Stinging nettle)
Veronica beccabunga (American speedwell)

Mosses

Brachythecium sp. (Ragged-moss)
Calliergon sp. (Water-moss)
Plagiomnium sp. (Leafy moss)
Rhizomnium sp. (Leafy moss)

Shrubs

Alnus incana ssp. *tenuifolia* (Mountain alder)
Cornus stolonifera (Red-osier dogwood)
Lonicera involucrata (Black twinberry)
Rhamnus purshiana (Cascara)
Rosa nutkana var. *hispida* (Nootka rose)
Rubus idaeus (Red raspberry)
Rubus parviflorus (Thimbleberry)
Salix sitchensis (Sitka willow)
Sambucus racemosa ssp. *pubens* (Red elderberry)
Symphoricarpos albus (Common snowberry)



The following species were recorded at Bonanza Marsh on June 8, 2013:

Herbs

Agrostis slonoifera (Creeping bentgrass)
Anaphalis margaritacea (Pearling everfasting)
Athyrium filix-femina (Lady fern)
Berula erecta (Cut-leaved water parsnip)
Brachythecium sp. (Ragged-moss)
Cardamine breweri var. *breweri* (Brewer's bitter-cress)
Carex aperta (Columbia sedge)
Carex aquatalis (Water sedge)
Carex arcta (Northern clustered sedge)
Carex cusickii (Cusick's sedge)
Carex retrosa (Long-bracted sedge)
Carex sp. (Sedge)
Carex stipata var. *stipata* (Awl-fruited sedge)
Carex utriculata (Beaked sedge)
Centaurea bieberstienii (Spotted knapweed – Exotic species)
Cirsium arvense var. *horridum* (Canada thistle – Exotic species)
Cirsium vulgare (Bull thistle – Exotic species)
Climacium dendroides (Tree-moss)
Comarum palustre (Marsh cinquefoil)
Elodea canadensis (Canadian waterweed)
Eleocharis palustris (Common spike-rush)
Equisetum arvense (Common horsetail)
Equisetum fluviatile (Swamp horsetail)
Equisetum hyernale (Scouring-rush)
Equisetum palustre (Marsh horsetail)
Galium palustre (Marsh bedstraw)
Galium trifidum (Small bedstraw)
Galium triflorum (Sweet-scented bedstraw)
Geum macrophyllum (Large-leaved avens)
Geum triflorum (Old man's whiskers)
Glyceria elata (Tall mannagrass)
Glyceria striata (Fowl mannagrass)
Hieracium sp. (Hawkweed – Exotic species)
Hippuris vulgaris (Common mare's-tail)
Juncus ensifolius (Dagger-leaf rush)
Juncus tenuis (Slender rush)
Juncus sp. (Rush)



Lemna minor (Common duckweed)
Leucanthemum vulgare (Oxeye daisy – Exotic species)
Medicago lupulina (Black medic – Exotic species)
Mentha arvensis (Field mint)
Myosotis laxa (Small-flowered forget-me-not)
Myriophyllum sibiricum (Siberian water-milfoil)
Persicaria amphibian (Water smartweed)
Perasites sagittatus (Arrow-leaved coltsfoot)
Phalaris arundinacea (Reed canary grass – Exotic species)
Plantago lanceolata (Ribwort plantain – Exotic species)
Poa palustris (Fowl bluegrass)
Poa pratensis (Kentucky bluegrass)
Prunella vulgaris ssp. *lanceolata* (Self-heal)
Ranunculus acris (Meadow buttercup – Exotic species)
Ranunculus gmelinii (Small yellow water-buttercup)
Rhizomnium sp. (Leafy moss)
Rumex acetosella (Sheep sorrell – Exotic species)
Rumex crispus (Curled dock – Exotic species)
Scirpus microcarpus (Small-flowered bulrush)
Schoenoplectus (Bulrush)
Solidago canadensis (Canada goldenrod)
Sparganium emersum (Emersed bur-reed)
Stuckenia sp. (Pondweed)
Triflorum (Clover – Exotic species)
Typha latifolia (Common cattail)
Veronica beccabunga (American speedwell)

Shrubs

Alnus incana ssp. *tenuifolia* (Mountain alder)
Amelanchier alnifolia (Saskatoon)
Comus stolonifera (Red-osier dogwood)
Crataegus douglasii (Black hawthorn)
Lonicera involucrate (Black twinberry)
Rosa nutkana var. *hispida* (Nootka rose)
Rubus idaeus (Red raspberry)
Salix sitchensis (Sitka willow)
Symphoricarpos albus (Common snowberry)
Viburnum edule (Highbush-cranberry)



Image Credit: Eryne Donahue.

Moving Forward

The Community of Hills BioBlitz was successful in uniting organisations and individuals with common ecological goals, however, further research and monitoring are required at both locations to ensure that the areas are thoroughly inventoried. WEP hosted a follow-up meeting after the BioBlitz and invited several organisations and individuals who are involved in the Slokan community. WEP's Slokan Valley Wetlands Working Group established key objectives to making progress towards achieving the valley's RWAP goals. A summary of the Wetlands Working Group is available on www.BCWFBogBlog.com.



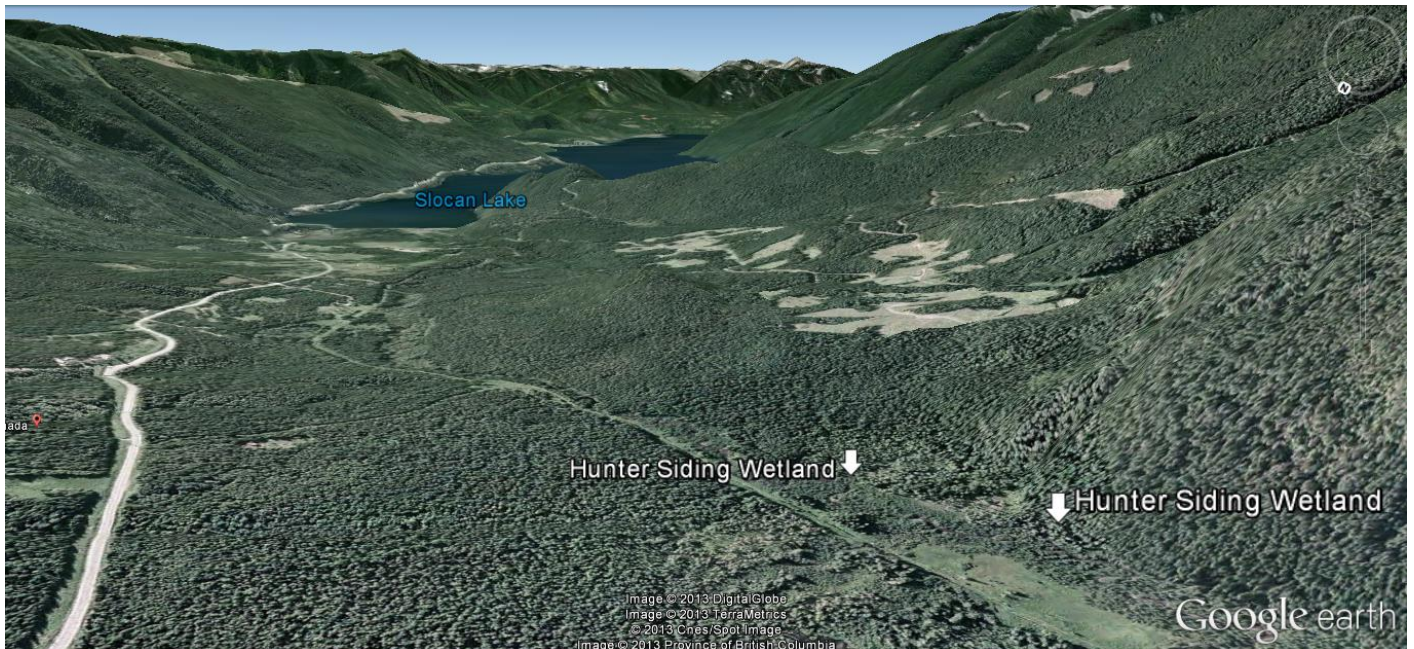
A Wetlands Consortium. Credit: Rachel Schott

Resource

Fish and Wildlife Compensation Program. (2012). *Columbia Basin riparian and wetlands action plan draft*. Retrieved from www.bchydro.com

Appendix

1.a. Hunter Siding Wetland. Facing south towards Slocan Lake.



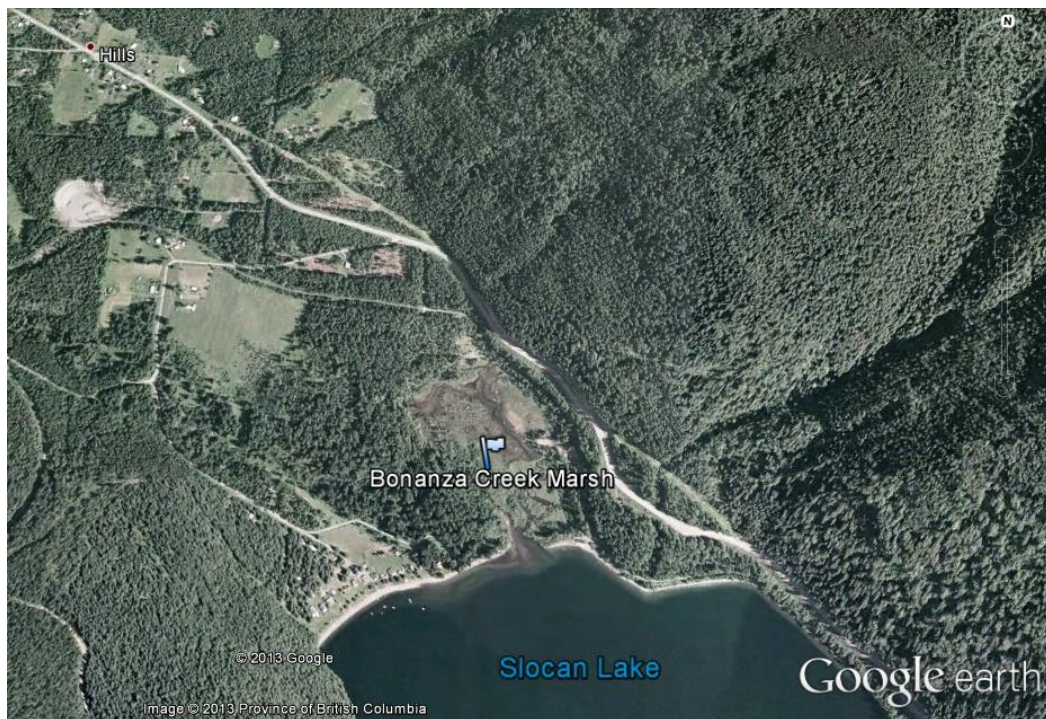
1.b. Google Earth aerial view of Hunter Siding Wetland.



2.a. Bonanza Marsh. Facing south towards Slocan Lake.



2.b. Aerial view of Bonanza Marsh.



In the Media

"Creation of SWAMP." Slocan Lake Research Centre.

Found here: <http://slocanresearch.wordpress.com/2013/06/23/creation-of-swamp/>

"Wetlandkeepers with a Twist of BioBlitz." BCWF Bog Blog.

Found here: http://bcwfbogblog.com/2013/06/29/wk_bioblitz/

"Wetlands Workshop & BioBlitz Teaches Locals Conservation Skills." Valley Voice June 26, 2013. Found here: <http://valleyvoice.ca/valley-voice-online/>

Stay tuned for more upcoming news!

Report was last updated on July 19, 2013.