

Bio-Blitz 2015

Peace River Valley of northeastern British Columbia

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Some participants in the 2015 Bioblitz

In late June 2015, over 40 biologists and local citizens gathered in Hudson’s Hope, BC to participate in the 2015 Bio-Blitz co-organized by the BSC, Yukon-to-Yellowstone Conservation Initiative (Y2Y), and the Royal BC Museum. Although most participants gathered during the official Bio-Blitz period of June 22-26, the spirit of the BioBlitz continued throughout the summer as a few others sampled in the field in July and August, and therefore contributed to the overall effort.

Most sampling occurred along a ca. 60-km-long stretch of the Peace River between Hudson’s Hope and Fort St. John, with a focus on the 5,550 hectares of valley that will be flooded if the Site C dam (already approved by the BC Government but challenged in court by First Nations and landowners) goes ahead. This area is part of the traditional territory of Treaty 8 First Nations, who have long used the river for their economic, social, and cultural wellbeing.

The Peace River Valley in this area is a convergence of three major ecological zones, the boreal forest, eastern prairies, and mountains. This creates a wide variety of habitats, including aspen parklands, boreal mixedwoods, riparian woodlands, grasslands, a variety of wetland types, flowing water ranging from a large river to small streams, ponds and sloughs, subalpine, and alpine habitats. Each of these different ecotypes contain elements of the other, and this convergence of distinct ecological zones over



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Peace River and adjacent low-lying habitat that may be flooded if the Site C dam goes ahead



a relatively small area supports range extensions of flora and fauna from distant places, such as the Prickly Pear Cactus. This area is home to iconic species such as grizzly bear, mountain caribou, bull trout and trumpeter swans.

Motivated by an opportunity to visit a gorgeous area of our country to sample diverse habitats and document biodiversity before they could be destroyed by flooding, over 30 professional biologists and students came from as far away as Winnipeg to sample plants, insects, spiders, fish, birds, molluscs, other aquatic invertebrates, and even fossils. Most participants were from BC, but about one-third were from Manitoba and Alberta. All were united by enthusiasm and desire to document local biodiversity. The comradery was immediate and inspiring. The gathering of so many biologists in one area also attracted the attention of the media, both local and national; at least seven interviews by participants were given during the start of the Bio-Blitz.

A community centre in Hudson's Hope was secured by Y2Y to serve as the headquarters for the Bio-Blitz. It was here that many participants and local people gathered on the morning of June 22 for the official kickoff. After welcomes from Gwen Johansson (Mayor of Hudson's Hope), Chief Roland Wilson (West Moberly First Nations), Tim Burkhart (Y2Y) and David Langor (BSC), the Bio-Blitz and participants were blessed by a prayer from George Desjarlais from the West Moberly First Nations. Following a group photo and a short mingling period with refreshments, participants started to head out into the field and commence sampling.

The outpouring of generosity and assistance lent to participants by local citizens was enormous. First Nations people were happy to share their detailed knowledge about local habitats and traditional ecology. Landowners generously allowed access to their properties for sampling and helped guide participants to unique habitats and features on the land. Other locals provided river boats and river guides to be available each day of the expedition to ferry scientists to the unique ecosystems of the Peace River Islands as well as the southerly bank of the river, which has no road access and features rare formations such as tufa seeps, where cascading pools of water have formed in a limestone formation. Still other locals lent assistance with sampling, including some interested and inquisitive youth and children. Generously, landowners Ross and Deborah Peck hosted a bonfire social event on their property overlooking the Peace River to bring together participants, locals, and First Nations to discuss their experiences and history of the valley over a delicious barbeque. On June 23, a public open house was held at the community hall to bring in local people to see the collections from the week. This was a



Erica Smith collecting invertebrates in a seep

well-attended event, with more than 100 community members coming through to gaze through microscopes at freshwater molluscs and spiders, sift through plant specimens and watch the entomologists pin and tag insect specimens. The open house was capped off with a presentation by Ron Long, a noted wildlife photographer, on the unique biodiversity of Pink Mountain, an alpine region north of the Peace River Valley, the top of which is habitat for many rare alpine and arctic plants. Several Bio-Blitz participants also visited Pink Mountain during the week to sample this fascinating area. [see the summer issue of the BSC Newsletter for a summary of the Pink Mountain area by Ron Long: <http://biologicalsurvey.ca/newsletter/bscsummer2015.pdf>].

There was much positive interaction among participants who sometimes accompanied each other to provide transportation, increased safety, and assistance. In the evenings, the community hall served as a place for participants to gather and exchange information, make plans for the next day, and examine and prepare specimens collected. These were opportunities to learn of others' interests and about other taxa, and to provide a reciprocal learning environment for interested community and First Nations participants.



We are still far from having a complete tally of the taxa sampled during the Bio-Blitz, but there has been much activity preparing, identifying, cataloging, and databasing specimens. The BC Ministry of Environment is providing a publically-accessible repository for Bio-Blitz data (specimen data, photographs, etc.), and many specimens are being curated into the RBCM holdings.

Some interesting information is starting to emerge based on sampling results (e.g., see the following story on plants by Erica Wheeler and Ken Marr). For invertebrates, it takes much longer to identify samples than to collect them. However, Robb Bennett and Darren Copley have finished identifying the spiders: 491 specimens were collected, representing 18 families, 63 genera and 93 species. Fully one-third of these species are notable records, everything from the most northern or northeastern collection location (9 species) to the most southerly records to date (5 species). For 12 of the species, this was only the second time they had been collected in British Columbia. Four other species had never been reported from British Columbia prior to these surveys in the Peace region. That's four new spider species added to the provincial list, and one of these, *Poeciloneta bihamata* (Emerton) has never been reported west of Quebec.

As identifications continue, it is expected that more interesting species records will



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Bombus species gathering nectar

come to light. In addition to spiders, approximately 1500 specimens were collected for the Royal BC museum holdings and are now also databased. The bees (274 specimens) were sent to Cory Sheffield (Royal Saskatchewan Museum, Regina) and the carabids (157), staphylinids, and Lepidoptera are in the hands of David Langor and Greg Pohl (Canadian Forest Service, Edmonton) for expert identification. Geoff Scudder has agreed to identify the Heteroptera. Currently the totals for the various insect taxonomic levels are as follows: 15 orders, 59 families, and 33 genera; these numbers will grow as more experts contribute their identifications. These results are eagerly awaited by the scientific community and by the people who call this area of the Peace River Valley their home. Stay tuned for additional updates.

The 2015 Peace River Valley Bio-Blitz was regarded by all scientist and community participants as a success, highlighting the rich biodiversity of the Peace River Valley through the thousands of specimens of insect, freshwater invertebrates, plants, mosses, and bird photographs collected, as well as showcasing the generosity and love for the land displayed by the community and First Nations.



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H. Goulet, C. Boudreault and N. M. Schiff. 2015. Revision of the World species of *Xeris Costa* (Hymenoptera: Siricidae). Canadian Journal of Arthropod Identification No. 28. Available online at http://biologicalsurvey.ca/ejournal/gbs_28/gbs_28.html. doi: 10.3752/cjai.2015.28
<http://zoobank.org/References/1360ED3A-8330-43BD-B051-2DDBBD76AA0>

