

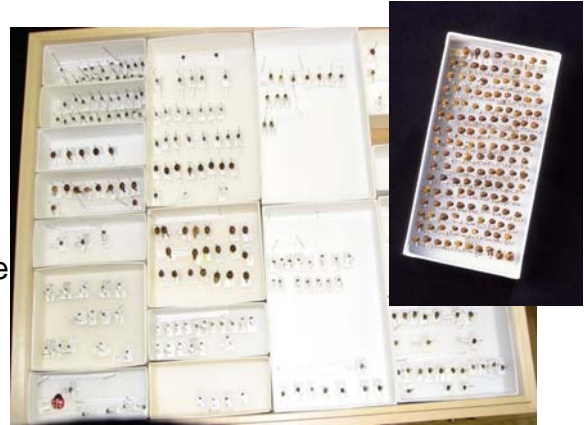
**Note: Dr. Giberson retired in 2015 and is no longer accepting students**

## Giberson Laboratory - Research

### RESEARCH PROJECTS:

#### LONG TERM TRENDS IN INSECT BIODIVERSITY USING MUSEUM COLLECTIONS: 2010-2017

This has been a collaborative project with Dr. Dave McCorquodale of Cape Breton University to look at the major insect groups in the maritimes by examining insect collections. To date, we have examined and databased information on Bumblebees and Lady beetles, and plan to add other groups of beetles and aquatic insects. I am also continuing to examine archived samples of aquatic insects from along the Mackenzie River in the western Canadian Arctic.



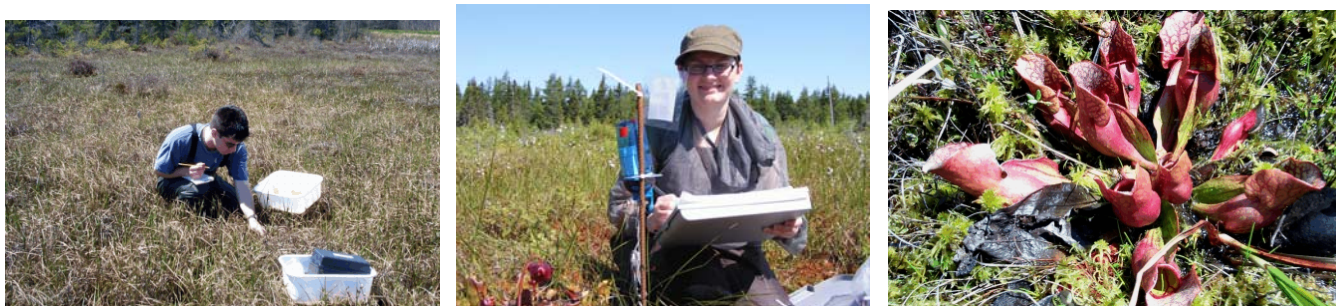
#### SPECIES DIVERSITY AND LAND USE INFLUENCES IN PEI & NS STREAMS: 1992-2015

My students and I sampled streams and springs in the Maritimes to determine aquatic insect species composition in these streams, and relate it to physical habitat variables. We have also looked at various land use influences, such as agriculture and forestry, on the organisms that live in the streams.



#### PITCHER PLANT STUDIES: 1999-2015

My students and I studied the insect inhabitants of pitcher plants in PEI bogs for several years. We focussed on the insect life histories and the limnological features of the pitcher plant habitat.



## AQUATIC INSECT STUDIES IN THE CANADIAN ARCTIC



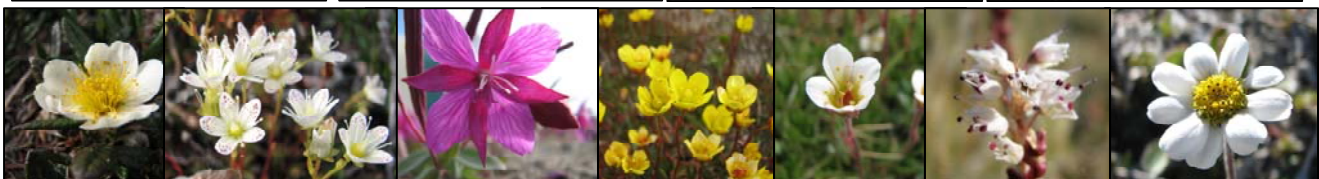
Projects in arctic rivers and streams included expeditions to Ellesmere Island, the Horton, Thelon and Coppermine Rivers, and sampling near the communities of Norman Wells (NT), Yellowknife (NT), Rankin Inlet (NU), Arviat (NU), and Baker Lake (NU). Most recently, these projects involved interactions with local youth and community members to provide training and guidance for water quality monitoring.

### ***2011-17: Re-examination of Mackenzie River Pipeline study samples from 1971-73***

An intensive study on tributaries and main channel sites along the Mackenzie River was carried out as part of the large Mackenzie Pipeline study in the early 1970s. These specimens are being re-examined to update and database taxonomic information for the region.

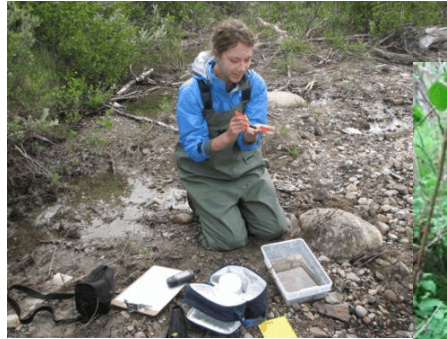
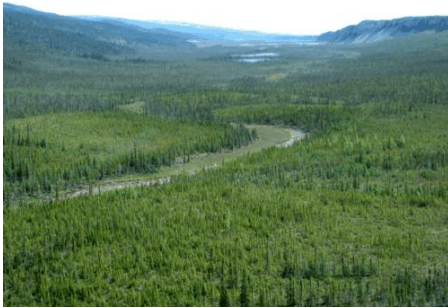
### ***2010: Lake Hazen, Ellesmere Island***

In summer of 2010, I participated in a large project aimed at comparing present day distributions of insects in the Canadian North to those reported in the 1950s and 60s by the Northern Insect Study. We visited sites in Labrador, northern Quebec, and Ellesmere Island in the far north. Ellesmere was well sampled in the late 1940s and 1950s, as part of a project through the Defence Research Board of Canada. The Lake Hazen area, now part of Quttinirpaaq National Park, is known as an “arctic oasis” since the conformation of the nearby mountains focuses sun onto the basin during the summer, and creates temperatures usually only found much further south. Three students (one from UPEI and two from McGill) and I spent two weeks in Hazen Camp, on the west side of the lake, sampling insects using a variety of methods.



**2008-10 Norman Wells, Northwest Territories**

I worked with the Sahtu Renewable Resources board, representing communities along the Mackenzie River in the Northwest Territories, since 2008, on projects aimed at developing a sustainable water quality monitoring program for the area. We worked with local schools and youth to provide training and baseline aquatic insect data for this monitoring program. Masters student, Kristen Vinke (MSc 2013), was the lead on the project, and spent her summers in the community.

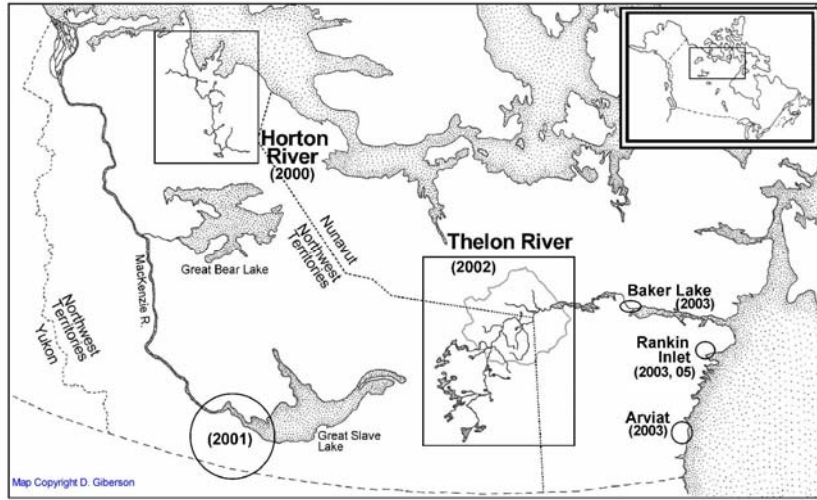


**2008: Kugluktuk, Nunavut**

I was invited to Kugluktuk in 2008 to work with local youth on a project where they learn various environmental monitoring techniques, to build infrastructure in the local community. My part of the project was to show the students how aquatic insects can be used to assess water quality, so we sampled the Coppermine river and other rivers and ponds to collect and identify insects and relate their results to the water quality.



## 2000 - 2005: Aquatic Insect biodiversity studies in the Canadian Central Barrens



This was a multi-year series of expeditions to various arctic localities to collect aquatic insects and fill in some distributional gaps. In 2000, six of us travelled down the Horton River by canoe to sample streams and ponds along nearly 700 km of a northward flowing river. In 2001, other members of the team did a road trip around Yellowknife and Great Slave Lake. In 2002, the team assembled for a second canoe trip, this time 325 km along the Thelon River. Finally, we moved eastward in 2003 and 2005, to sample habitats in and around the communities of Arviat, Rankin Inlet, and Baker Lake.

