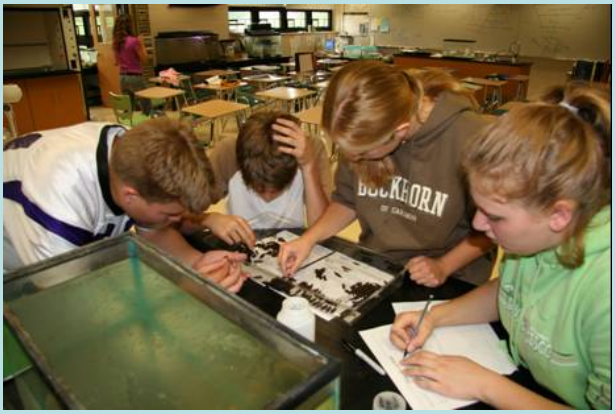
A Longitudinal Quantitative Survey of Dragonfly Communities on the St. Croix River and Its Wisconsin Tributaries



Students Sorting and Identifying Exuviae

St. Croix Snaketail Adult and Exuviae

Students at Grantsburg High School and their instructor quantitatively sampled dragonfly (anisoptera) exuviae from 70 sites on the St. Croix and Namekagon Rivers. An additional 25 sites on six Wisconsin tributaries were also qualitatively sampled. Initial analysis of 16,157 exuviae resulted in 43 species identified. Four species (*Ophiogomphus rupinsulensis* – 16.6%, *Ophiogomphus howei* – 12.7%, *Gomphurus vastus* – 10.6%, and *Neurocordulia yamaskanensis* – 10.1%) comprised 50% of the sample. *Nasiaeschna pentacantha*, a species not previously know to occur in Minnesota, was found at two separate sites. *Ophiogomphus susbehcha* and *Ophiogomphus anomalus*, Wisconsin endangered and Minnesota threatened species, made up 2.4 and 0.1% of the sample respectively. *Susbehcha* was found at 29 sites from Riverside Landing to Franconia with a maximum density of 1.48 exuviae/ft of shoreline. *Anomolus* was more northerly in distribution and rare throughout being found at only ten sites from the headwaters of the St. Croix and Namekagon to Fox Landing, and never reaching a density greater than 0.05 exuviae/ft of shoreline.

Our project involved more than 100 students, and 20 community volunteers who logged more than 2,000 volunteer hours collecting exuviae. 25 additional students have spent more than 1,500 classroom hours sorting, identifying, recording, analyzing and reporting data. In addition to raising community awareness about dragonflies, the St. Croix River, and water quality in general, our results have shed new light on, not only the dragonfly communities of the St. Croix, but species distribution and habitat selection in general. We hope our results will allow wildlife managers to better understand the conditions that facilitate a diverse dragonfly community as well as the specific requirements needed by some or our state's rarest riverine dragonflies. In the near future, we hope to publish our results in a peer review journal. We also hope to continue to research microhabitat selection of larval dragonflies, capture/recapture methods for larvae, and distribution of rare species in the tributaries of the St. Croix River.