

Cadie R. Olson

EDUCATION

Master of Science, May 2021

University of Wisconsin-Green Bay

Thesis: **A historical comparison and habitat associations of benthic macroinvertebrate communities in southern Green Bay, Lake Michigan**

Major: Environmental Science and Policy

Emphasis: Ecosystem Management

Bachelor of Science, 2018

University of Wisconsin-Stevens Point

Major: Fisheries

Minors: Biology and Water Resources

Certificate: Geographic Information Systems (GIS)

SKILLS

- Ability to identify benthic macroinvertebrates to genus and species using a dichotomous key, including oligochaete worms and chironomids
- Knowledge of laboratory procedures for processing macroinvertebrates, including subsampling with a Caton tray, gridded-subsampling, Folsom splitters, and mounting of oligochaete worms and chironomids
- Knowledge of a variety of biological sampling techniques, including electroshocking, fyke nets, D-nets, HydroLab equipment, YSI sondes, ponars and other dredge samplers, and Hester-Dendy samplers
- Proficient with ArcGIS, including ArcMap and ArcPro programs
- Experience with RStudio, Fishery Analysis and Modeling Simulator (FAMS), Microsoft Access, WISKI, HOBOWare, and SysStat programs. Proficient in Microsoft Excel, Word, and PowerPoint
- Experience with trailering, backing, and operation of boats and ATVs/UTVs
- Experience with several mark-recapture and monitoring methods, including Floy tagging, PIT tagging, acoustic and radio telemetry tagging, and fin clips
- Familiar with water chemistry analyses for orthophosphate and phosphorus (Lachat, TP via alkaline persulfate digestion) chlorophyll-a, phycocyanin, nitrate/nitrite/ammonia (ion chromatography), and iron (Flame AA)

WORK EXPERIENCE

Missouri Department of Natural Resources (MoDNR), Jefferson City, MO 05/17/2021 – Present

Water Quality Biologist

Led field collection, laboratory processing, and identification of macroinvertebrate samples. Conducted site reconnaissance, selected sites and reference sites, and prepared reports.

Aquatic Ecology and Fisheries Laboratory, UWGB 05/03/2019 – 05/16/2021

Graduate Student

Led field collection and laboratory processing of 268 Ponar samples and 5 Hester Dendy samples to assess the health of the Lower Green Bay and Fox River AOC. Exercised identification of chironomids and oligochaete worms to genus and species levels. Deployed and maintained benthic dissolved oxygen loggers and conducted a bathymetric mapping effort of lower Green Bay. Assisted with the collection of stable isotope samples, including unionid mussels, phytoplankton, zooplankton, macroinvertebrates, and fish (including fyke/gill netting). Led boomshocking surveys for fish stable isotope collection. Analyzed and presented community data.

Minnesota Pollution Control Agency (MPCA), Baxter, MN

05/29/2018 - 05/02/2019

Aquatic Biologist

Led fish and macroinvertebrate biomonitoring crews. Conducted site reconnaissance and obtained landowner permissions. Supported the macroinvertebrate monitoring program by ensuring compliance of SOPs, preparing samples for shipment, selecting anchor sites in watersheds, participating in reviews of aquatic insect data, and digitizing and managing field forms. Calculated human disturbance scores (based on watershed and site level factors related to human development), stream gradient, and sinuosity. Participated in a state-wide analysis of altered watercourses using LiDAR data. Managed YSI water chemistry meters including maintenance, calibration, and training. Assisted with the entry and management of GPS data. Prepared figures, tables, and narratives for the macroinvertebrate section of watershed assessment reports as directed by lead biologists.

Aquatic Biomonitoring Laboratory, UWSP

01/2016 - 05/18/2018

Assistant Laboratory Supervisor

Mounted Chironomids onto microscope slides and sorted field samples to meet standards. Exercised aquatic invertebrate identification to the family, genus, and species levels with a Nikon DS-Fi3 camera scope and skill with a dissecting microscope.

Fort McCoy Fisheries Unit, Fort McCoy, WI

05/23/2017 - 08/31/2017

Fisheries Intern

Performed electrofishing surveys of streams and lakes throughout Fort McCoy using backpack units, barge shockers, and boom shockers. Assisted with habitat surveys and collection of water quality parameters using a YSI sampler. Identified various aquatic and riparian macrophytes for lentic plant assessments. Participated in angling surveys and scale collections of largemouth bass; pressed and prepared scales for aging. Partook in lake profile assessments and collection of chlorophyll samples. Deployed and maintained temperature loggers. Monitored USGS gage stations, including recording stream status readings, collecting precipitation event samples, and conducting maintenance. Performed regular creel surveys. Assisted with lunger assembly and brush bundling for trout habitat restoration.

Wisconsin Department of Natural Resources (WIDNR), La Crosse, WI

07/05/2016 - 08/26/2016

Bureau of Natural Heritage Conservation Intern

Restored prairie and oak savanna habitats and maintained existing remnant sites. Collected seeds and introduced native vegetation to various State Natural Areas. Implemented tree removal, girdling, and herbicide treatments to achieve desired habitats. Applied Triclopyr and glyphosate herbicides via foliar, cut stump, and/or basal bark methods. Participated in mussel surveys, regal fritillary surveys, monarch surveys, fish habitat construction in trout streams, and an eagle rescue.

Minnesota Pollution Control Agency (MPCA), Baxter, MN

06/2015 - 08/2015

Fisheries Intern

Assisted with electrofishing, aquatic invertebrate sampling, and habitat assessments of lotic environments throughout the state of Minnesota. Several electrofishing methods were used, including backpack shocking, stream shocking, and boom shocking. Identified, measured, and recorded sampled fish, including many Cyprinids. Cooperated and communicated with landowners.

RELEVANT COURSES

- Geographic Information Systems
- Water Chemistry
- Plant Taxonomy
- **Field Techniques in Natural Resource Management:** Six weeks of intensive field exercises held at the Treehaven Field Station in Tomahawk, WI, related to forestry, land surveying, fisheries, water resources, wildlife, and soil. Teamwork, vegetation identification, and efficiency with various field equipment was emphasized.
- Ichthyology
- Fisheries Research
- Statistical Methods

TRAINING AND CERTIFICATIONS

- Boater's Safety: June 2015 (MPCA)
- Lifeguard Certification (CPR/AED): January 2017 (American Red Cross)
- Pulp Cut/Chain Saw Safety: October 2014 (UWSP)
- Pesticide Applicator 006.0 (State Natural Areas and Right of Ways): July 2016 (WIDNR)
- Snowmobile and ATV Safety: December 2012 (WIDNR)

AFFILIATIONS

Society for Freshwater Science-Member 2019-Present

Students for Wetland Awareness, Management, and Protection (SWAMP) – Member 2014-2017

- Assisted with annual biological monitoring of a wetland site by collecting soil auger samples, sampling aquatic invertebrates using D-nets, and surveying vegetation. Participated in waterfowl rehabilitation projects, including visual surveys and construction of wood duck boxes.

American Fisheries Society (Student Chapters) – Member 2014-2015, 2019

- Deployed and collected fyke nets on the Wisconsin River and assessed samples.