ANDREW L. STEVENS

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**Education**

**University of Wisconsin, Madison** (Fall 2014 – Present)

MS Candidate: Freshwater and Marine Sciences

**Thesis1**: Mercury Concentrations and Isotopes as Possible Indicators of Tumors in White Suckers

**Thesis2**: Fish Consumption Advisory Awareness among “At-Risk” Angler Groups in Wisconsin

Advisory Committee: Dr. Peter McIntyre, Dr. Jim Hurley, Dr. Ian Baird

**University of Wisconsin, Madison** (Fall 2013 – Present)

MS Candidate: Water Resources Management

Project: 9 Springs Creek E-Way Restoration and Community Outreach Project

**Focus:** Fisheries Ecology and Limnology

Adviser: Dr. Ken Potter

**Minnesota State University, Mankato** (2009-2013)

BS: Environmental Science, Cum Laude

Focus: Aquatic Ecology

Minors: Biology and Law Enforcement

Membership: American Fisheries Society and National Biological Honor Society

**Research Experience**

**9 Springs Creek Northern Pike Spawning Habitat Restoration**

UW-Madison Water Resources Management Practicum (Fall 2013 – Present)

* Researching northern pike habitat restoration projects and habitat suitability indexes
* Completed an Index of Biotic Integrity to assess stream quality and biota health
* Proposing a design to reestablish a natural stream meander allowing wetland inundation and connection for flood control, sediment and nutrient removal and spawning habitat
* Currently collaborating with WIDNR, consulting firms and UW faculty statewide
* Adviser: Dr. Ken Potter

**Bioaccumulated toxins and the adverse impacts on juvenile delinquent behavior: A Link to the Environment?**

Minnesota State University Mankato (Spring 2013 – Fall 2014)

* Utilized ArcGIS to map counties with highest number of lakes with contaminant advisories, highest juvenile crime rates and highest minority population increase
* Completed literature review to link impacts of bioaccumulated toxins absorbed through fish consumption with subsequent developmental impairments in juveniles
* Analyzed fish consumption advisory programs to identify shortcomings in dissemination

**Fix Your Stuff! Consumption and Waste by UW-Madison Students**

UW-Madison – S.A.G.E (Fall 2013-Summer 2014)

* Developed a cultural model of consumption behavior of UW-Madison Students for the Center for Sustainability
* Qualitatively compared patterns between Midwest/East/West coast students and alumni
* Developed a baseline and consumption survey for UW-Madison for subsequent work
* Adviser: Dr. Carol Barford

**Demographic Awareness in Hennepin County to MDH Fish Consumption Advisories**

Minnesota State University Mankato (Spring 2013)

* Completed a literature review identifying at risk angler groups and need for improved dissemination of fish consumption advisory information to these groups
* Using ArcGIS, identified contaminated lakes most used by these at-risk angler groups based on demographic population size, relative location to lakes and ease of access
* Provided recommendations for MN state agencies of locations where signage could be located to increase outreach to these groups

**Atrazine Influences on Northern Pike Sperm Motility and Viability in Minnesota**

Minnesota State University Mankato – Water Resources Center (2012-2013)

* Developed project proposal and secured grant for research funding
* Successfully identified a significant difference in sperm motility between populations
* Fish and water samples were collected from multiple lakes and processed
* Collaborated with MN DNR fisheries biologists across the state
* Adviser: Dr. Shannon Fisher

**Professional Work Experience**

**Research Assistant – Development and Testing of the Energy Diary “My Earth” Mobile App**

UW-Madison Consumer Science Department

Spring 2014-Present

* Generated all environmental metric components and calculations for the app using a variety of literature sources
* Implemented metrics via coding website “PARSE”
* Carrying out app testing via recruiting and monitoring of user preferences
* Developed graphics and energy metrics via user preference testing
* Adviser: Dr. Nancy Wong

**Research Assistant – Great Lakes Fish Crossing Barrier Meta-Analysis** UW-Madison Center for Limnology Spring 2014-Present

* Completing a meta-analysis via literature review of papers related to fish passage and are using these to identify species specific passage percentages for different barrier types to attempt to identify spatial trends
* Mapping historic and current barrier locations in ArcGIS to attempt to identify shifts in species specific spawning locations

**Student Consultant – Harbison Creek Stream Restoration Project** Inter-Fluve, Madison, WI 53703 Fall 2014-Present

* Collaboratively developed a re-meander design of a trout stream in southern Wisconsin
* Completed field surveys to assess elevations, topography, bathymetry, stream bed content, vegetation and biota data for the design
* Conducted a historical records review of the property including fisheries data, historic aerial photos, plat surveys, floodplain insurance and zoning plans

**Student Consultant – Quantifying Wetland Ecosystem Services: Can the influence of wetlands on stream hydrology be detected using long term discharge records?**

Wisconsin Wetlands Association – via Zoo955 of UW-Madison Fall 2014

* Compiled a GIS using USGS, WIDNR and WWA wetlands data to try to quantify wetland benefits on hydrology
* Directly consulted with WWA and WIDNR professionals weekly to meet goals
* Adviser: Dr. Peter McIntyre

**Fisheries Management Program Intern** Minnesota Department of Natural Resources**,** Waterville, MN 56096 May-August 2013

* Planned and completed Lake Surveys in many southern Minnesota Lakes
* Conducted IBI sampling surveys and angler interviews
* Compiled and entered data using proper QA/QC procedures for survey reports
* Collected contaminant fish and structures for physiological studies
* Used GPS and many other types of water quality data collection instruments
* Effectively collected fish using a wide variety of sampling gears

**Streams Habitat Program Intern** Minnesota Department of Natural Resources**,** St. Paul, MN 51255 May 2012-August 2012

* Coordinated and conducted fisheries and habitat assessment relationship research
* Assisted with collection of geomorphology data and conducted stream assessment surveys
* Maintained and operated MS Access and Excel data bases
* Effectively conducted pre-positional and backpack electrofishing sampling techniques
* Inspected multiple sites while traveling weekly across the state to collect biological data
* Frequently modified in-field procedures to adapt to situational changes
* Managed weekly spending budget for crew expenses
* Coordinated weekly tasks and assignments

**Research Assistant** Water Resources Center, Mankato, MN 56001 August 2011 – May 2013

* Provided MS database management for MPCA Le Sueur River Citizen Engagement Project
* Published the Minnesota River Basin Weekly Update
* Assisted in the development of the Watershed Nutrient Communication, Minnesota State-level Nutrient Reduction, Strategy Development and Stakeholder Development Tool, an MPCA contracted component, of a broader EPA funded project
* Communicated with members of state agencies, land owners and the general public
* Monitored, collected and analyzed fisheries, vegetation, habitat and water quality data
* Assisted biologists in collection, ordering and analysis of biological data
* Provided lab assistance evaluating scale samples to determine age structure

**Volunteer Research Assistant** Water Resources Center, Mankato, MN 56001 May 2011 – August 2011

* Sampled macro invertebrates and fish species for biotic integrity studies
* Sampled groundwater and nutrient loading with data logger
* Identified fish and macroinvertebrates for biotic integrity study
* Collected vegetation for invasive species research project
* Assisted with shoreline restoration
* Identified fish and macroinvertebrate species using dichotomous keys

**Publications**

Barford, C., Olson, R., Stevens, A., and Wong, N. 2014. Fix Your Stuff: A Report to the Office of Sustainability SIRE Program.

Stevens, A., and Clarke, C. 2015. (Submitted) Bioaccumulated toxins and the Adverse Impacts they have on Juveniles. Journal of Research in Science Teaching.

Stevens, A., and Fisher, S.J. 2012. (Submited) Variations in Northern Pike Sperm Motility and Viability Among Four Minnesota Lakes. Journal of Freshwater Ecology.

Stevens, A., Pallardy, P. and Fisher, S.J. 2012. Atrazine Influence on Northern Pike Sperm Motility and Viability in Minnesota. Journal of Undergraduate Research at Minnesota State University, Mankato, 12(1).

**Professional Presentations**

Stevens, A. 2013. Demographic Awareness in Hennepin County to MDH Fish Consumption Advisories.

MN GIS/LIS Conference, Rochester, Minnesota Oct 9-11, 2013.

Stevens, A., and Clarke, C. 2013. Bioaccumulated Toxins and the Adverse they have on Juveniles. Mustang International Academic Conference, Monte Carlo Hotel, Las Vegas, Nevada Feb 21-23, 2013.

Stevens, A., and Fisher, S.J. 2012. Variations in Northern Pike Sperm Motility and Viability Among Four Minnesota Lakes. 73rd Annual Midwest Fish and Wildlife Conference. Wichita, KS Dec 9-12.

Stevens, A., Pallardy, P. and Fisher, S.J. 2012. Atrazine Influence on Northern Pike Sperm Motility and Viability in Minnesota. 2012. Undergraduate Research Symposium, Minnesota State University, Mankato.

**Relevant Coursework**

* Fisheries Biology
* Limnology, Aquatic Resources
* Ecology of Fishes
* Advanced Field Ecology
* Hydrology
* Environmental Risk Assessment
* Analysis of Pollutants and Controls
* Global Change Biology
* Biostatistics 571 and 572
* Environmental Regulations
* Water Resources Institutions and Policy
* Technical Communications
* Stream Ecology and Watershed Management
* Intermediate GIS
* Natural Resources GIS Applications
* Environmental Hazards GIS

**Awards and Scholarships**

Second Place Award Recipient. MN GIS/LIS Scholarship Competition. 2013

American Fisheries Society Scholarship, 2012 Minnesota Chapter

Best GIS Project/Presentation. Minnesota State University, Mankato 2013.

Best Presentation Award. 2012 Undergraduate Research Symposium, Mankato, MN

American Legion Courage, Honor, Leadership, Patriotism, and Service Award. 2009

**Skills**

* Effective public speaker and interpersonal communicator
* Surveying using a Geodimeter and or total station equipment
* Conducting interviews and designing surveys for qualitative research
* Conducting in-depth literature reviews and data synthesis
* Knowledgeable in habitat restoration projects pertaining to fish
* Experienced at using trap, seine, gill, sled and fyke nets as well as electro shocking gear
* Collecting and analyzing aging structures in fisheries research
* Developing, maintaining and operating databases as well as app development
* Experience preparing peer-reviewed publications and technical research reports
* Experience carrying out consulting work for a client based objective project
* Effective at identifying native fish and macroinvertebrates using taxonomic keys
* Experience planning and executing index of biological integrity field studies
* Working knowledge of environmental laws, regulations and fisheries management practices
* Experience operating, trailering, maintaining and backing a boat
* Experience conducting outreach and collaborating with multiple agencies/groups
* Using telemetry, orienteering and G.P.S units
* Reviewing Environmental Impact Statements in accordance with NEPA
* Conducting phase I environmental site assessments according to ASTM 1527-05
* Software skills: ArcGIS 10.1, Microsoft Office, Fishpad, ERDAS Imagine, Qualtrics, Parse, R-commander and Hydro-Cad

**Other Work Experience**

**Monsanto Corn Research**, *Research Assistant*, Olivia MN, 56277 (Summers 2005-2010)

**Gander Mountain**, *Fishing Department Salesman*, Mankato MN, 56001 (December 2010 - April 2012)

**References**

**Dr. Ken Potter,** Professor and Director of UW-Madison’s WRM Program

Civil and Environmental Engineering, University of Wisconsin, Madison

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**Dr. Nancy Wong,** Professor, Department Head

School of Human Ecology, University of Wisconsin, Madison

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**Dr. Carol Barford,** SAGE Director

Nelson Institute Center for Sustainability, University of Wisconsin, Madison

1710 University Ave. Room 202. Madison, WI 53726

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**Dr. Colleen Clarke,** Professor, and research advisor

Social and Behavioral Sciences, Minnesota State University, Mankato

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**Dr. Shannon Fisher,** Director, Professor, and research advisor

Water Resources Center, Minnesota State University, Mankato

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**Scott Mackenthun,** Assistant Area Supervisor

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