

Dray Carl

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Current Address:
221 E 11th Ave.
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EDUCATION

Oklahoma State University, Stillwater, Oklahoma

MS in Natural Resource Ecology and Management (expected graduation Spring 2018)

Specialization: Fisheries and Aquatic Ecology

GPA: 4.0/4.0

Thesis: Stocking saugeye *Sander vitreus x Sander canadensis* to improve crappie *Pomoxis* size structure: Reevaluating a Southern reservoir management strategy

Grant Project: Development of Oklahoma Department of Wildlife Conservation Fisheries Data Analysis Application

Iowa State University, Ames, Iowa

BS in Animal Ecology with a focus in Fisheries and Aquatic Sciences 2015

Magna Cum Laude

Undergraduate Research: An evaluation of attractants to increase catch rates and deplete age-0 Common Carp in shallow South Dakota Lakes

GPA: 3.81/4.00

RESEARCH INTERESTS

- Ecosystem based management of fisheries
- Population and trophic dynamics of fishes
- Recruitment and early life histories of fish populations
- Aquatic invasive species ecology and management

PUBLICATIONS

- **Carl, D. D.**, A. N. Whiles, and D. E. Shoup. *In review*. Reevaluating White Crappie response to saugeye introductions and the importance of control lakes in inland fishery research. *North American Journal of Fisheries Management*
- **Carl, D. D.**, M. J. Weber, and M. L. Brown. 2016. An evaluation of attractants to increase catch rates and deplete age-0 Common Carp in shallow South Dakota lakes. *North American Journal of Fisheries Management* 36(3): 506-513.
- **Carl, D. D.** 2015. To catch a carp. *Field Notes: Iowa State University Department of Natural Resource Ecology and Management Graduate Student Magazine* 6:20-22.

PRESENTATIONS

- **Carl, D. D.**, R. Ryswyk, C. Sager, R. Snow, and D. E. Shoup. 2017. Introducing saugeye to improve crappie size structure: Reevaluating a Southern reservoir management strategy. Annual Meeting of the American Fisheries Society, Tampa, FL.
- Whiles, A. N., **D. D. Carl**, D. E. Shoup. 2017. Influence of saugeye introductions on White Crappie size structure and condition among Oklahoma reservoirs. Southern Division of the American Fisheries Society, Oklahoma City, OK.

- **Carl, D. D.** and D. E. Shoup. 2017. Effects of saugeye introductions on Southern reservoir fish communities. Southern Division of the American Fisheries Society, Oklahoma City, OK.
- **Carl, D. D.**, M. J. Weber, and M. L. Brown. 2015. Can attractants be used to increase catch rates and control age-0 Common Carp abundance? Iowa Chapter of the American Fisheries Society, Ames, IA.
- **Carl, D. D.**, M. J. Weber, and M. L. Brown. 2015. An evaluation of attractants to increase catch rates and deplete age-0 Common Carp. Midwest Fish and Wildlife Conference, Indianapolis, IN.

PROFESSIONAL EXPERIENCE

Graduate Research Assistant, January 2017 – Present

Oklahoma State University, Department of Natural Resource Ecology and Management
Adviser: Dr. Daniel Shoup

Thesis: Stocking saugeye *Sander vitreus x Sander canadensis* to improve crappie *Pomoxis* size structure: Reevaluating a Southern reservoir management strategy

- Collect field data, analyze samples in lab, and analyze data for thesis project
- Write thesis and publications, present findings at various fisheries conferences

Grant Project: Development of Oklahoma Department of Wildlife Conservation Fisheries Data Analysis Application

- Build a relational database with R Shiny and Microsoft Access for Oklahoma Department of Wildlife Conservation fisheries data input, storage, and automated analysis of various fishery metrics

Graduate Teaching Assistant, January 2016 – December 2016

Oklahoma State University, Department of Natural Resource Ecology and Management
Adviser: Dr. Daniel Shoup

- Provided teaching assistance in both the classroom and outdoor lab settings in two classes per semester

Research Technician, October 2015 – December 2015

Iowa Department of Natural Resources (Americorps), Spirit Lake Fisheries Management, Spirit Lake, Iowa

Supervisors: Emily Ball, Mike Hawkins

- Assisted with an Iowa State University research project evaluating factors influencing post-stock survival of advanced fingerling walleyes
- Unique skills obtained: fish blood sampling and analysis (glucose and cortisol), PIT tagging, gastric lavage (small and large fish)

Natural Resource Aide, May 2015 – October 2015

Iowa Department of Natural Resources, Missouri River Fisheries Management, Onawa, Iowa
Supervisors: Jon Christensen, Van Sterner

- Captured and tagged paddlefish with gillnets to collect data for population characteristics (MICRA) and trawled throughout sampling season for Habitat Assessment and Monitoring Program (HAMP)
- Conducted annual Missouri River fishery surveys (electrofishing, hoop and fyke netting)
- Responsible for data input and preliminary analyses; posted Missouri River fishing reports

Research Technician, May 2014 – May 2015

Weber Fisheries Ecology and Management Lab, Iowa State University, Ames, Iowa

Supervisors: Dr. Michael Weber, Carlos Camacho, Chris Sullivan

- Assisted with graduate student projects researching Asian carp 1) population dynamics and 2) reproductive strategies in southeast Iowa rivers
- Unique skills obtained: electrofishing, trammel netting, ichthyoplankton tows, larval fish identification (over 300 hours), pectoral fin aging, boat and trailer maintenance, data management

Lab Technician, September 2013 – May 2014

Aquatic Research Campus Facility, Iowa State University, Ames, Iowa

Supervisor: Dr. Joseph Morris

- Designed and constructed a new recirculating aquaculture system for the facility
- Monitored water chemistry using spectrophotometer and titration methods in recirculating aquaculture to maintain a suitable environment for the fish culture

TEACHING EXPERIENCE

Graduate Teaching Assistant, January 2016 – December 2016

Oklahoma State University

- Fisheries Management (NREM 4414/5414), Spring 2016, Instructor: Dr. Daniel Shoup
 - Assist students in field and classroom-based labs, grade exams and assignments
- Ecology of Natural Resources (NREM 2013), Spring 2016, Instructor: Dr. Tim O’Connell
 - Aid instructor in lecture setting, grade quizzes and assignments
- Fisheries Techniques (NREM 4424/5424), Fall 2016, Instructor: Dr. Daniel Shoup
 - Prepare boat and fisheries equipment for field labs, assist in leading fisheries-based field labs, grade assignments and exams
- Applied Ecology and Conservation Laboratory (NREM 3012), Fall 2016, Instructor: Dr. Scott Loss
 - Prepare field equipment for various outdoor labs; independently lead students through field labs; grade assignments, lab reports, and group projects

AWARDS AND HONORS

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| ▪ Outstanding Graduate Fisheries Scholarship (OSU) | March 2017 |
| ▪ Robert L. Lochmiller II Endowed Scholarship in Wildlife Ecology (OSU) | March 2017 |
| ▪ Robert M. Jenkins Memorial Reservoir Research Scholarship | February 2017 |
| ▪ Adams County Non-traditional Student Scholarship | August 2016 |
| ▪ ISU Department of Natural Resources Ecology and Management Outstanding Senior Contribution Award | May 2015 |
| ▪ Iowa State University Student Employee of the Year Nominee (Weber Lab) | February 2015 |
| ▪ Iowa Chapter American Fisheries Society Scholarship | Spring 2014 |
| ▪ John Vermazen Fund Scholarship | Spring 2014 |
| ▪ Catt College Scholarship | Spring 2014, Spring 2015 |

CERTIFICATIONS AND EXTENDED EDUCATION
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| ▪ Precision Driving Training (15 passenger van) | August 2016 |
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- Introduction to Identification of Freshwater Fish Eggs and Larvae Using Digital Images and Dichotomous Keys - Midwest Fish and Wildlife Conference, Indianapolis February 2015
- American Red Cross Adult CPR/AED October 2014
- U.S. DOI Electrofishing Safety May 2014
- NSC Defensive Driving II May 2014

ORGANIZATIONS

- American Fisheries Society Parent Chapter 2014 - Present
 - Student Subsection 2016 - Present
 - Oklahoma Chapter 2016 - Present
 - Oklahoma State Student Subunit 2016 - Present
 - Iowa Chapter 2014 - Present
 - Iowa State Student Subunit 2013 - 2015
 - Treasurer and Fundraising Coordinator 2014-15 school year
- OSU NREM Graduate Student Organization 2016 - Present
 - Secretary – 2016-17 school year
- Member of National Society of Collegiate Scholars 2012 – Present

REFERENCES

Dr. Daniel E. Shoup

Associate Professor
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Dr. Michael J. Weber

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Ryan Ryswyk

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Dr. Clay L. Pierce

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Research Unit Assistant Leader
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