

## CARL R. RUETZ III

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Grand Valley State University  
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### EDUCATION

Doctor of Philosophy in Fisheries (Minor: Statistics), November 2001

University of Minnesota, St. Paul, Minnesota

Thesis: *Effects of trout and sculpins on benthic macroinvertebrates, periphyton, and leaf litter decay in Valley Creek, Minnesota*

Master of Science in Forest Resources (Fisheries option), June 1997

University of Georgia, Athens, Georgia

Thesis: *Swimming performance of larval and juvenile robust redhorse: implication for recruitment in the Oconee River, Georgia*

Bachelor of Science in Biology (Minor: Chemistry), December 1994

Lake Superior State University, Sault Ste. Marie, Michigan

### PROFESSIONAL EXPERIENCE

Assistant Professor and Assistant Research Scientist, Annis Water Resources Institute (AWRI), Grand Valley State University (GVSU), Muskegon, Michigan, 11/02-present

Post-doctoral Research Fellow, Department of Biological Sciences, Florida International University, Miami, Florida, 11/01-11/02

Doctoral Dissertation Fellow, Graduate School, University of Minnesota, Minneapolis, Minnesota, 9/01-11/01

Research Assistant, Department of Fisheries and Wildlife, University of Minnesota, St. Paul, Minnesota, 9/97-8/01

Instructor (NRES 3000 Colloquium in Natural Resources: Aquatic Ecology), College of Natural Resources, University of Minnesota, St. Paul, Minnesota, Fall 1999

Teaching Assistant (FW5604 Fisheries Ecology & Management), University of Minnesota, St. Paul, Minnesota, Winter 1999

Research Technician, University of Georgia, Athens, Georgia, 6/97-8/97 & 4/95-9/95

Graduate Research Assistant, University of Georgia, Athens, Georgia, 9/95-6/97

Fish and Wildlife Technician, Alaska Department of Fish and Game, Dillingham, Alaska, 6/94-9/94 & 6/93-7/93

### HONORS & AWARDS

President, Michigan Chapter of the American Fisheries Society, 2008

Outstanding Faculty Mentor Award, Graduate and Professional Student Organization, GVSU, Fall 2007

Best Student Paper, Annual Meeting of the Michigan Chapter of the American Fisheries Society (Student: M.J. Breen; Co-authors: C.R. Ruetz III & K.J. Thompson), 2007

Best Student Poster Award, Honorable Mention, American Fisheries Society, 2001

Doctoral Dissertation Fellowship, Graduate School, University of Minnesota, 2001

John E. Skinner Memorial Award, American Fisheries Society, 2000

Olson-Wallace Award in Zoology, University of Minnesota Chapter, Sigma Xi, 2000

Research Assistance Award, American Institute of Fishery Research Biologists, 1999 & 2001

Cargill Fellowship, Department of Fisheries and Wildlife, University of Minnesota, 1997-2001  
 Upper-class Board of Regents Scholarship, Lake Superior State University, 1994  
 National Collegiate Natural Science Awards Winner, 1994  
 GNOSIS Honor Society, Lake Superior State University, 1993

**PEER-REVIEWED PUBLICATIONS** (Mentored Students: †=undergraduate, §=graduate)

- 1) **Ruetz, C.R., III**, D.L. Strouse<sup>§</sup>, and S.A. Pothoven. In Press. Energy density of introduced round gobies compared with four native fishes in a Lake Michigan tributary. Transactions of the American Fisheries Society.
- 2) Parker, A.D., D.G. Uzarski, **C.R. Ruetz III**, and T.M. Burton. In press. Diets of yellow perch (*Perca flavescens*) in wetland habitats of Saginaw Bay, Lake Huron. Journal of Freshwater Ecology.
- 3) Breen<sup>§</sup>, M.J., **C.R. Ruetz III**, K.J. Thompson, and S.L. Kohler. 2009. Movements of mottled sculpins in a Michigan stream: how restricted are they? Canadian Journal of Fisheries and Aquatic Sciences 66:31-41.
- 4) Steinman, A.D., M. Ogdahl, R. Rediske, **C.R. Ruetz III**, B.A. Biddanda, and L. Nemeth. 2008. Current status and trends of Muskegon Lake, Michigan. Journal of Great Lakes Research 34:169-188.
- 5) Cookingham<sup>†</sup>, M.G., and **C.R. Ruetz III**. 2008. Evaluating passive integrated transponder tags for tracking movement of round gobies. Ecology of Freshwater Fish 17:303-311.
- 6) **Ruetz, C.R., III**, D.G. Uzarski, D.M. Krueger, and E.S. Rutherford. 2007. Sampling a littoral fish assemblage: comparing small-mesh fyke netting and boat electrofishing. North American Journal of Fisheries Management 27:825-831.
- 7) Cooper, M.J., **C.R. Ruetz III**, D.G. Uzarski, and T.M. Burton. 2007. Distribution of round gobies in coastal areas of Lake Michigan: Are wetlands resistant to invasion? Journal of Great Lakes Research 33:303-313.
- 8) **Ruetz, C.R., III**, B.M. Earl, and S.L. Kohler. 2006. Evaluating passive integrated transponder tags for marking mottled sculpins: effects on growth and mortality. Transactions of the American Fisheries Society 135:1456-1461.
- 9) **Ruetz, C.R., III**, M.J. Breen<sup>†</sup>, and D.L. VanHaitsma<sup>§</sup>. 2006. Habitat structure and fish predation: effects on invertebrate colonisation and breakdown of stream leaf packs. Freshwater Biology 51:797-806.
- 10) Breen<sup>†</sup>, M.J., and **C.R. Ruetz III**. 2006. Gear bias in fyke netting: evaluating soak time, fish density, and predators. North American Journal of Fisheries Management 26:32-41.
- 11) **Ruetz, C.R., III**, J.C. Trexler, F. Jordan, W.F. Loftus, and S.A. Perry. 2005. Population dynamics of wetland fishes: spatio-temporal patterns synchronized by hydrological disturbance? Journal of Animal Ecology 74:322-332.
- 12) Chick, J.H., **C.R. Ruetz III**, and J.C. Trexler. 2004. Spatial scale and abundance patterns of large fish communities in freshwater marshes of the Florida Everglades. Wetlands 24:652-664.
- 13) **Ruetz, C.R., III**, B. Vondracek, and R.M. Newman. 2004. Weak top-down control of grazers and periphyton by slimy sculpins in a coldwater stream. Journal of the North American Benthological Society 23:271-286.
- 14) **Ruetz, C.R., III**, and D.W. Stephens. 2003. Site selection under differential predation risks by drifting prey in streams. Oikos 102:85-94.

- 15) **Ruetz, C.R., III**, A.L. Hurford<sup>†</sup>, and B. Vondracek. 2003. Interspecific interactions between brown trout and slimy sculpin in stream enclosures. *Transactions of the American Fisheries Society* 132:611-618.
- 16) **Ruetz, C.R., III**, R.M. Newman, and B. Vondracek. 2002. Top-down control in a detritus-based food web: fish, shredders, and leaf breakdown. *Oecologia* 132:307-315.
- 17) **Ruetz, C.R., III**, and C.A. Jennings. 2000. Swimming performance of larval robust redbhorse *Moxostoma robustum* and low-velocity habitat modeling in the Oconee River, Georgia. *Transactions of the American Fisheries Society* 129:398-407.
- 18) **Ruetz, C.R., III**, and C.A. Jennings. 1999. Instantaneous growth and mortality of alevin channel catfish *Ictalurus punctatus* (Siluriformes: Ictaluridae) in the Oconee River, Georgia. *Southeastern Fishes Council Proceedings* 39:1-6.
- 19) **Ruetz, C.R., III**, and C.A. Jennings. 1997. Efficacy of a vacuum benthos sampler for collecting demersal fish eggs from gravel substratum. *Ecology of Freshwater Fish* 6:241-244.

#### OTHER PUBLICATIONS

- 20) Overton, A.S., T.R. Reinert, and **C.R. Ruetz III**. 2000. Keeping the communication lines open between you and your graduate committee. *Fisheries* 25(10):41-43.

#### MANUSCRIPTS IN PROGRESS

- 21) Nelson<sup>§</sup>, K.M., **C.R. Ruetz III**, and D.G. Uzarski. In Revision. Colonization of *Dreissena* mussels in Great Lakes coastal ecosystems: are wetlands resistant to invasion? *Freshwater Biology*.
- 22) Cooper, M.J., **C.R. Ruetz III**, D.G. Uzarski, and B.M. Shafer<sup>†</sup>. In review. Habitat use and diets of round gobies in coastal areas of Lakes Michigan and Huron. *Journal of Freshwater Ecology*.
- 23) **Ruetz, C.R., III**. In prep. Oral and poster presentations at meetings. *In* Scientific communication for natural resource professionals. C.A. Jennings, T.E. Lauer, and B. Vondracek, editors. American Fisheries Society, Bethesda, Maryland.

#### GRANTS & CONTRACTS

- Student Summer Scholars, GVSU, 2009, co-PI (R.A. Thum, co-PI), Population structure of the invasive round goby in Lake Michigan (\$6,000)
- Michigan Department of Natural Resources, 2009-2010, PI (E. Rutherford, co-PI), Reproductive and recruitment success of walleye in the Muskegon River (Total: \$157,817; Ruetz: \$75,085)
- Consumer's Energy, Subcontract from URS, Inc., 2008-2010, PI (K.M. Smith, co-PI), Recruitment and juvenile ecology of lake sturgeon in the Muskegon River (Total: \$92,348)
- Student Summer Scholars, GVSU, 2008, co-PI (R.A. Thum, co-PI), Dispersal and gene flow of an invasive fish in Lake Michigan (\$6,000)
- U.S. Department of Transportation, 2007-2009, co-PI (A. Steinman, PI; R.R. Rediske, X. Chu, co-PIs), A study of surface run-off from US 31/Seaway on Little Black Creek, Muskegon County, Michigan (Total: \$277,440)
- Student Summer Scholars, GVSU, 2007, PI, Risk of multiple predators to stream invertebrates across a gradient of habitat complexity (\$5,929)
- Consumer's Energy, Subcontract from URS, Inc., 2006-2008, PI, Impingement and entrainment monitoring of fishes at the B.C. Cobb Plant located on Muskegon Lake (Total: \$36,500)

- South Florida Water Management District, Subcontract from Malcolm Pirnie, Inc., 2006-2007, PI (A. Steinman, co-PI), Fish relationships to plant community structure and habitat in Lake Okeechobee, Florida (Total: \$31,627)
- National Fish & Wildlife Foundation, Subcontract from Muskegon Conservation District, 2006-2007, PI, Setting delisting targets for fish population and habitat beneficial use impairments for the White Lake Area of Concern (\$11,119)
- Great Lakes National Program Office, Environmental Protection Agency, Subcontract from Timberland Resource Conservation and Development Area Council, Inc., 2006-2007, co-PI (M. Luttenton, co-PI), Restoring fish and wildlife to Muskegon Lake (Total: \$21,411; Ruetz: \$12,050)
- Coastal Management Program, Michigan Department of Environmental Quality, 2006-2007, co-PI (D.G. Uzarski, PI; T.M. Burton, co-PI), Great Lakes coastal wetlands as refuge for native fishes: Are wetlands resistant to invasion by recent exotics? (Total: \$40,000; Ruetz: \$16,400)
- Water Quality Monitoring Grant (Emerging Issues), Michigan Department of Environmental Quality, 2006-2007, co-PI (R.R. Rediske, PI; D.G. Uzarski, co-PI), Assessment of persistent bioaccumulative toxic chemicals in Michigan Fish from several trophic levels (Total: \$68,143; Ruetz: \$6,843)
- Michigan Space Grant Consortium, National Aeronautics and Space Administration, 2006-2007, PI, Movement of the round goby: Understanding the spread of an invasive species (\$5,000)
- Student Summer Scholars, GVSU, 2006, PI, Evaluating tagging methods and movement patterns of round gobies (\$5,420)
- Great Lakes Coastal Program, U.S. Fish & Wildlife Service, 2004-2006, PI (D.G. Uzarski, T.M. Burton, co-PIs), Distribution of round gobies in coastal ecosystems of Lake Michigan: effects of human disturbance (\$10,000)
- Student Summer Scholars, GVSU, 2004, PI, What factors control fyke-net catch? Implications for fish monitoring in Muskegon Lake (\$3,500)

## **AFFILIATIONS**

- Sigma Xi (Full Member), 2000-present
- Ecological Society of America (Sections: Aquatic Ecology, Theoretical Ecology), 1998-present
- North American Benthological Society, 1998-present
- American Institute of Fishery Research Biologists (Associate 1997, Member 2004), 1997-present
- American Fisheries Society (Education Section, Michigan Chapter), 1993-present

## **CERTIFICATIONS**

- Introduction to Electrofishing, Smith-Root, Inc., 2008
- America's Boating Course, U.S. Coast Guard Auxiliary, 2007
- Certified Fisheries Professional (Associate, 1998), American Fisheries Society, 2005

## **PROFESSIONAL SERVICE & ACTIVITIES**

- Michigan Chapter of the American Fisheries Society  
President, 2008 (President-Elect, 2007)  
Nominations Committee, 2007-present  
Auditing Committee, Co-chair, 2006-2008
- Program Committee (Posters), 2009 Annual Meeting, North American Benthological Society, 2008-present
- Book Editorial Advisory Board, American Fisheries Society, 2008-present

Awards Committee, Michigan Chapter Representative, North Central Division of the American Fisheries Society, 2008  
Skinner Award Selection Committee, Education Section, American Fisheries Society, 2008  
Panelist, Graduate Panel, *Beginning Your Professional Journey Workshop*, 68<sup>th</sup> Midwest Fish and Wildlife Conference, 2007  
Student Presentation/Poster Judge  
Ecological Society of America, 2006  
Midwest Fish and Wildlife Conference, 2005, 2007  
North American Benthological Society, 2003  
*Transaction of the American Fisheries Society* Best Paper Subcommittee, Publication Awards Committee American Fisheries Society, 2004 (Member), 2006 (Chair)  
Moderator, Midwest Fish and Wildlife Conference, 2005  
Resolutions Committee, American Fisheries Society, 2004  
Graduate Resources Committee, North American Benthological Society, 1999-2001  
Program Committee, Posters Session, 62<sup>nd</sup> Midwest Fish and Wildlife Conference, 1999-2000  
Student Committee Chairperson, Minnesota Chapter, American Fisheries Society, 1998-2000

University Committees & Service:

Graduate Program and Space Committees, AWRI, GVSU, 2003-present  
Student Scholarship Day Planning Committee, GVSU, 2007  
Freshman Orientation, Faculty Advisor, GVSU, 2007  
Scholarship Competition, Interviewer, GVSU, 2007, 2008  
Search Committee, AWRI, GVSU  
Assistant/Associate Research Scientist in Aquatic Environmental Sciences, 2008  
Assistant Research Scientist (Aquatic Ecologists/Limnologists), 2007  
Research Assistant II, 2006.  
Research/Scholarship Committee, Science and Mathematics Cluster, College of Liberal Arts and Sciences, GVSU, 2004-2005  
Voting Staff, Fisheries Graduate Student Representative, Department of Fisheries and Wildlife, University of Minnesota (U of M), 1998 and 2000  
Seminar Committee, Department of Fisheries and Wildlife, U of M, 1998  
Faculty Search Committee (Assistant Unit Leader), Graduate Student Representative, Minnesota Cooperative Fish and Wildlife Research Unit, U of M, 1998

University Training:

Inclusion Advocate Training for Employment Searches, GVSU, 2007  
Strategies for Building Inclusive Classrooms, Pew Faculty Teaching & Learning Center, GVSU, 2007

Courses Taught:

BIO 362 Fisheries Biology (4 credits), Biology Department, GVSU, Fall every year, 2003-present  
NRM 580/680 Fisheries Management (3 credits), Biology Department, GVSU, Winter 2005, 2007, 2009  
NRES 3000 Colloquium in Natural Resources: Aquatic Ecology (1 credit), College of Natural Resources, U of M, Fall 1999

Guest Lectures:

Experimental design and pseudoreplication, BIO 610 Scientific Methodology (Fall 2006), GVSU  
Ecology of the Everglades: fish population dynamics, BIO 418 Regional Field Biology (Winter 2004) and BIO 440 Limnology (Fall 2004), GVSU  
Competition, BIO 442 Fish Ecology (Winter 2003), GVSU  
Density-independent Population Growth, PCB 5423 Advanced Ecology: Populations and Communities (Fall 2002), Florida International University  
Modeling Stream Drift, FW 8459 Stream and River Ecology (Fall 2000), U of M  
Stream Trophic Interactions, FW 8460 Fish Habitats and Restoration (Fall 1999), U of M

Graduate Advising:

Matthew Altenritter, MS Student, Biology, GVSU, 2008-present  
Recruitment and juvenile ecology of lake sturgeon in the Muskegon River  
William D. Keiper, MS Student, Biology, GVSU, 2007-present  
Ecological effects of road runoff on fish and wetland plants  
Kristin Nelson, MS Student, Biology, GVSU, 2006-2008  
Distribution of zebra mussels in Great Lakes coastal ecosystems: Are wetlands resistant to invasion? *Current Position:* Monitoring Specialist, Huron Pines AmeriCorps member serving Michigan Council of Trout Unlimited  
Matthew J. Breen, MS Student, Biology, GVSU, 2005-2008  
Movement, habitat use, and foraging behavior of mottled sculpins in a coldwater stream. *Current Position:* Native Aquatics Biologist, Utah Division of Wildlife Resources  
Dana L. (VanHaitsma) Strouse, MS Student, Biology, GVSU, 2003-2006  
Selective predation by yellow perch: Are round gobies equivalent to native prey? *Current Position:* Water Bureau, Michigan Department of Environmental Quality

Graduate Committee Member for:

Keto Gyekis, MS Student, Biology, GVSU, 2003-2006  
Aaron Parker, MS Student, Biology, GVSU, 2003-2007  
Nicole Y. Stout, MS Student, Biology, GVSU, 2003-2007  
Nicholas Gressick, MS Student Biology, GVSU, 2005-present  
Grant Poole, MS Student, Biology, GVSU, 2005-present  
Dan Mayes, MS Student, Biology, GVSU, 2006-2007  
Michael Shoemaker, MS Student, Biology, GVSU, 2006-present  
Melissa S. Conte, MS Student, Biology, GVSU, 2006-present  
T. Garrison Sanders, MS Student, Biology, GVSU, 2007-present  
Kristofor N. Nault, MS Student, Biology, GVSU, 2007-present  
Kelli A. Johnson, MS Student, Biology, GVSU, 2007-present  
Julie A. Ryan, PhD Student, Biological Sciences, Western Michigan University, 2008-present  
Megan N. Cookingham, Biology, GVSU, 2008-present

Mentor for undergraduate students:

Michael B. Stacey (Co-mentor with R. Thum), Student Summer Scholars, GVSU, 2008;  
Wipperfurth Student Research Scholarship, AWRI, Fall 2008  
Matthew Altenritter, Student Summer Scholars, GVSU, 2007; Wipperfurth Student Research Scholarship, AWRI, Fall 2007  
Megan N. Cookingham, Student Summer Scholars, GVSU, 2006

Betsy Shafter (Co-mentor with D. Uzarski), Sciencetech Internship, AWRI, Summer 2006  
Melissa Reneski, Allen Hunting Internship, AWRI, Summer 2005  
Matthew J. Breen, Student Summer Scholars, GVSU, 2004; VanderMey Internship, AWRI,  
Winter 2005  
Rita M. Evans, Summer Internship, GVSU, 2004

Invited Academic Seminars:

Great Lakes Environmental Research Laboratory (Ann Arbor, Michigan), 2005  
Departments of Biology and Chemistry, Lake Superior State University, 2004  
Biology Department, Eastern Michigan University, 2003  
Kellogg Biological Station, Michigan State University, 2003  
Department of Biological Sciences, Florida International University, 2002

Invited Public Seminars:

*Invasive fish species in the Great Lakes, Owashtanong Islands Audubon Society (Grand Haven, Michigan), 2008*  
*Distribution of round gobies in Lake Michigan drowned river mouths, Michigan Sea Grant Regional Fishery Workshop (Grand Haven, Michigan), 2006*  
*Distribution and ecological impacts of round gobies, West Michigan Walleye Club (Grand Rapids, Michigan), 2006*

Peer Reviewer:

Acta Zoologica Sinica, American Fisheries Society Books Department, Aquatic Sciences, Archiv für Hydrobiologie, Canadian Journal of Zoology, Ecography, Ecology of Freshwater Fish, Environmental Biology of Fishes, Fisheries, Great Lakes Fishery Trust, Hydrobiologia, Journal of Great Lakes Research, Journal of the North American Benthological Society, Journal of the World Aquaculture Society, North American Journal of Fisheries Management, Oecologia, Proceeding of the Southeastern Fish and Wildlife Association, Transactions of the American Fisheries Society, USFW's Great Lakes Fish and Wildlife Restoration Act Grant Program