

## Todd D. Crail

Lake Erie Center and Department of Environmental Sciences, University of Toledo  
6200 Bayshore Rd. Oregon, OH 43618, (419) 530-8370, todd.crail@utoledo.edu  
<http://www.farmertodd.com>

### PROFESSIONAL PREPARATION

Ph.D. University of Toledo, Biology (Ecology track); 2007-present

M.S. University of Toledo, Biology (Ecology track); 2007

B.A. Bluffton University, Biology; 1995

### GRADUATE ADVISORS

Dr. Jonathan Bossenbroek, Dr. Johan Gottgens

### APPOINTMENTS

2008 – present National Science Foundation GK-12 Graduate Fellow, University of Toledo

2007 - 2008 Research assistant, Lake Erie Center, University of Toledo

2005 - 2007 Teaching assistant, University of Toledo

### AWARDS

2010 – Dr. Robert Brundage Scholarship

### PUBLICATIONS

#### Peer Reviewed:

**Crail, T.D.**, J.F. Gottgens & A.E. Krause (*resubmission* to Canadian Journal of Fisheries and Aquatic Sciences). Fish community response to evolving channel complexity in an agricultural system.

Grabarkiewicz J.D. & **T.D. Crail**. 2007. A new population of rayed bean (*Villosa fabalis*) in a small tributary of the Maumee River, Lucas County, OH. *Ellipsaria* 11(1):7.

#### In Preparation:

**Crail, T.D.**, J.M. Bossenbroek & J.F. Gottgens (*in prep* to Freshwater Biology). *Etheostoma* darter community partitioning of environmental gradients in the Ohio River basin.

**Crail, T.D.** R.A. Krebs & D.T. Zanatta (*in prep* to Journal of Great Lakes Research). The return of native unionid communities to open lake environs in Lake Erie.

**Crail, T.D.** & J.F. Gottgens (*in prep* to the Ohio Journal of Science). Status and distribution of native unionid mussels (Unionidae) in the coastal wetlands of the Winous Point Marsh Conservancy.

#### Other Publications:

Grabarkiewicz J.D. & **T.D. Crail**, 2008. Three Years of Unionid Surveys in Swan Creek, Lower Maumee River Watershed, Lucas Co., OH. Final Report to the Ohio Division of Wildlife, Toledo Naturalists Association, and Metroparks of the Toledo Area: 41pp.

**Crail, T.D.**, J.F. Gottgens & P.T. Mathias. 2007. Status and distribution of native unionid mussels (Unionidae) in the coastal wetlands of the Winous Point Marsh Conservancy. Final Report to the Winous Point Marsh Conservancy: 21 pp.

**Crail, T.D.** & J.F. Gottgens. 2007. Testing the impact of plant colonization on the fish community in headwaters of the Ottawa River, northwest Ohio. Final report to Ohio Lake Erie Commission: 41 pp.

**Crail T.D.** 2006. System design for the ultimate native fish aquarium. *American Currents*, Vol. 32, No. 2.

### FUNDED PROPOSALS

**T.D. Crail** 2010. A new population of the Indiana logperch, *Percina caprodes manitou* (Percidae: Percina) in the headwaters of Maumee River, Michigan, USA & filming a documentary called *The Darters: Warblers of the Water World*. Toledo Naturalists Association, \$700.

Gottgens J.F. & **T.D. Crail**, 2008. The Honey Creek Targeted Watershed Program Proposal. U.S Environmental Protection Agency (\$60,000 – UT share)

Gottgens J.F. & **T.D. Crail** 2007. Mussel Survey of Winous Point Marshes. Winous Point Marsh Conservancy, \$5,000.

Grabarkiewicz, J.D. & **T.D. Crail**, 2007. *The travellin' fish show*. The North American Native Fishes Association, \$1000.

Gottgens J.F. & **T.D. Crail**, 2006. Survey Fish Diversity: Testing the Impact of Vegetative Encroachment. Lake Erie Protection Fund, Lake Erie Commission, \$9,576.

## CONTRIBUTED PRESENTATIONS

- Crail, T.D.**, J.M. Bossenbroek & J.F. Gottgens, 2010. Wind-derived seiches as a means for detecting and monitoring the unionid community in the western basin of Lake Erie. Millennium Conference. Windsor, ON.
- Crail, T.D.**, J.M. Bossenbroek & J.F. Gottgens, 2009. Niche dimension of *Etheostoma* darters in the Ohio River Basin at multiple scales. American Fisheries Society, Nashville, TN.
- Crail, T.D.**, J.M. Bossenbroek & J.F. Gottgens, 2009. A multiscale analysis of *Etheostoma* darter habitat in the Ohio River Basin. Southeastern Fishes Council, Lake Guntersville, AL.
- Crail, T.D.**, J.M. Bossenbroek & J.F. Gottgens, 2009. Wind-derived seiches as a means for detecting and monitoring the unionid community in the western basin of Lake Erie. International Association for Great Lakes Research, University of Toledo, Toledo, OH.
- Tessler, N.R., J.D. Selden, **T.D. Crail** & J.F. Gottgens, 2009. Use of Agricultural Streams in Northwestern Ohio as Spawning Habitat by Native Fishes: Impact of Habitat Heterogeneity. 2009 Annual NANFA Convention, Tampa, Florida.
- Blosser J., B. Bodamer, **T. Crail**, C. Kolinski, G. Mentzer, W. Penamon & C. Stepien 2009. River of Shame Lesson Plan. Lesson Plan Session, National Science Foundation Annual GK-12 Conference, Washington D.C.
- Crail, T.D.** & J.F. Gottgens, 2009 Testing the impact of vegetative colonization on fish community in the headwaters of the Ottawa River, northwest Ohio. STEM Science Poster Session, National Science Foundation Annual GK-12 Conference, Washington, D.C.
- Crail, T.D.** & J.F. Gottgens, 2008. Testing the impact of vegetative colonization on fish community in the headwaters of the Ottawa River, northwest Ohio. Annual Meeting of the Ohio Academy of Science, Toledo, OH.
- Gottgens J.F., **T.D. Crail** & A.I. Arceo, 2008. Contrasting fish communities upstream and downstream of a dam in the Ottawa River, Northwest Ohio. Phase I of a dam removal study. Annual Meeting of the Ohio Academy of Science, Toledo, OH.
- Crail, T.D.** & J.F. Gottgens, 2008. Testing the impact of vegetative colonization on fish community in the headwaters of the Ottawa River, northwest Ohio. Ecological Society of America, Milwaukee, WI.
- Gottgens J.F., **T.D. Crail** & A.I. Arceo, 2008. Contrasting fish communities upstream and downstream of a dam in the Ottawa River, Northwest Ohio. Phase I of a dam removal study. Annual Meeting of the Ohio Academy of Science, Toledo, OH.
- Crail T.D.** & J.F. Gottgens, 2007. Testing the impact of plant colonization on fish communities in agricultural ditches of the Ottawa River, Northwest Ohio. Joint Meeting of Ichthyologists and Herpetologists, St. Louis, MO.
- Crail T.D.** & J.F. Gottgens, 2007. Testing the impact of plant colonization on fish communities in agricultural ditches of the Ottawa River, Northwest Ohio. Conference of the International Association of Great Lakes Researchers, College Station, PA.
- Crail T.D.** & J.F. Gottgens, 2006. Testing the impact of vegetative colonization on the fish community in the headwaters of the Ottawa River, northwest Ohio. Lake Erie Conference, Lorain, OH.
- Crail T.D.** & J.F. Gottgens, 2006. Testing the impact of vegetative colonization on the fish community in the headwaters of the Ottawa River, northwest Ohio. Conference of the International Association of Great Lakes Researchers, Windsor, ON.
- Crail T.D.** & J.D. Grabarkiewicz, 2005. Aquatic Fauna of the Oak Openings Region. Metroparks of the Toledo Area Oak Openings Research Forum, Toledo, OH.
- Gottgens J.F., **T.D. Crail** & A.I. Arceo, 2005. Quantifying the fish community response to dam removal: The case of the Ottawa River, northwest Ohio. Geology Society of America Abstracts with Programs Vol. 38, No. 4., Akron, OH.

## MEDIA COVERAGE

- Interviewed on *Environmentally Sound with Larry Burns*. WJR760 April 27, 2010.
- Quoted in "High school students help investigate large fish kill." Ohio Outdoor News, February 26, 2010.
- Quoted in "UT student to receive Brundage Scholarship", The Toledo Blade, January 18, 2010.  
(<http://www.toledoblade.com/article/20100118/NEWS04/1180312>)
- Quoted in "Scott's watershed team gets immersed in work". The Toledo Blade, December 13, 2009.  
(<http://www.toledoblade.com/article/20091213/COLUMNIST22/912130359>)
- "Fishing for Knowledge at UT". The Toledo Blade, September 20, 2007.  
(<http://www.toledoblade.com/article/20070920/NEWS21/70920020>)
- Quoted in "Wild Ones Relocate Native Plants, Soil from Development Sites." The Maumee Mirror, March 22, 2007.
- "Ottawa River at UT Shows Signs of Life", The Toledo Blade, September 18, 2003.  
(<http://www.toledoblade.com/article/20070920/NEWS21/70920020>)

## INVITED PRESENTATIONS & SYNERGISTIC ACTIVITIES

### 2010

- Meet Your Stream – Fishes of the Blanchard River. Field trip with the Toledo Naturalists Association, Findlay, OH.
- The Secret Lives of Unionid Mussels. Washtenaw County Parks, Milan, MI.
- Ecological dimension and adaptation of fish community in Ten Mile Creek. Invited field trip and lab activity with the Field Ecology course. Lourdes College, Sylvania, OH.
- Enhancing Environmental Education and Careers: Restoration Project for the Ottawa River at the University of Toledo. Toledo Early College High School, Toledo, OH.

### 2009

- The Secret Sex Lives of Unionid Mussels. Royal Oak Nature Society, Royal Oak, MI.
- The Secret Sex Lives of Unionid Mussels. Toledo Area Student Watershed Watch 2009 Keynote Speaker, Toledo, OH.
- Meet Your Stream – Fishes of the Maumee River. Field trip with the Maumee Valley Chapter of the National Wild Turkey Federation Annual Kids Day, Grand Rapids, OH.
- Meet Your Stream – Fishes and Mussels of the River Raisin. Field trip with the Toledo Naturalists Association, Toledo, OH.
- See Real Live Fish Up Close – the Field Trip! Field trip with Steps For Kids, Ann Arbor, MI.
- Farmertodd Institute for Senior Hiatus (FISH). Field trip with area high school Seniors during their Senior Projects to understand local fish ecology. Toledo, OH.
- An Aquatic Primer – Careers in Aquatic Systems, Northview High School, Sylvania, OH.
- Mussel Fauna of the Swan Creek Watershed. Toledo Naturalists Association, Toledo, OH.
- See Real Live Fish Up Close! Steps For Kids, Ann Arbor, MI. <http://www.stepsforkids.org>

### 2008

- Discovering hidden life in the Maumee River watershed. Annual Banquet Keynote, Lucas County Soil and Water District, Toledo, OH.
- The Oak Openings Region From the Ground Up: Geological Processes Founding Incredible Biodiversity. Ohio Prairie Conference Keynote Speaker, Toledo, OH.
- Meet Your Stream – Fishes and Mussels of the Maumee River. Field trip with the Toledo Naturalists Association, Toledo, OH.
- *A guide to the Common Fishes of the Toledo Area.* <http://www.farmertodd.com/fishguide>
- Snorkelling North America's Waterways. Southwest Michigan Aquarium Society, Kalamazoo, MI.

### 2007

- The Oak Openings Region From the Ground Up: Geological Processes Founding Incredible Biodiversity. Michigan Botanical Society, Ann Arbor, MI.
- North American Pearly Mussels: Who you callin' Fat Mucket?! Toledo Naturalists Association, Toledo, OH.
- Fear Not the Deep Substrate! Convention of the North American Native Fishes Association, Banquet Speaker, Greensboro, NC.
- *The travellin' fish show.* Interpretive poster printed with a grant from the North American Native Fishes Association.
- *40 feet at the Southview Prairie.* Interpretative sign placed along the University Parks Bike Path at the Sylvania Southview prairie remnant.

### 2006

- Ecology of the Unionidae of Southeast Michigan. Invited seminar and field trip, Washtenaw Community College, Ann Arbor, MI.
- Ecology of the Oak Openings Region. Invited seminar and field trip, Owens Community College, Toledo, OH.
- Native Plant Gardens – Tomorrow's Home? Toledo Chapter of Wild Ones, Toledo, OH.
- A Simple Headwater Sample Design for Amateurs (That the Professionals Will Want to Use Too). Convention of the North American Native Fishes Association, Cape Girardeau, MO.
- Meet Your Stream – Fishes and Mussels of the River Raisin. Field trip with the Washtenaw County Park district, Ann Arbor, MI.
- *Freshwater Mussels of the Maumee River.* Interpretative display in the Department of Environmental Sciences, University of Toledo, Toledo, OH.

### 2005

- The Karner Blue Butterfly Reintroduction to the Oak Openings Region - A Look at a Successful Federally Endangered Animal Reintroduction. Toledo Chapter of Wild Ones, Toledo, OH.
- North American Pearly Mussels: Who you callin' Fat Mucket?! Toledo Chapter of Wild Ones, Toledo, OH.
- Native Plants – A weed by any other name. Toledo Seed Swap, Toledo, OH.

**2004**

- Meet Your Stream - University of Toledo Honors Service Learning/Community Service After School Enrichment Program
- Native Fish – Jewels in our Streams. Lourdes College, Sylvania, OH.
- Native Fish – Jewels in our Streams. Maumee Valley Country Day School, Toledo, OH.

**PUBLISHED PHOTOGRAPHY**

Smith, G.R. 2010. *Guide to Great Lakes Fishes*. University of Michigan Press, Ann Arbor, MI.

Holm, E., N.E. Mandrak & M.E. Burridge 2009. *The ROM Field Guide to Freshwater Fishes of Ontario*. Royal Ontario Museum, Toronto, Canada.

Grabarkiewicz, J.D. & W.S. Davis, 2008. An introduction to freshwater mussels as biological indicators. EPA-260-R-08-015. U.S. Environmental Protection Agency, Office of Environmental Information, Washington, DC.

Grabarkiewicz, J.D. and W.S. Davis. 2008. An introduction to freshwater fishes as biological indicators. EPA-260-R-08-016. U.S. Environmental Protection Agency, Office of Environmental Information, Washington, DC.

**PROFESSIONAL MEMBERSHIPS**

- Ecological Society of America
- American Society of Ichthyologists and Herpetologists
- Southeastern Fishes Council
- Freshwater Mollusk Conservation Society