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Timothy J. Cline

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EDUCATION

2017 – University of Washington
- PhD – Aquatic and Fishery Sciences

Dissertation title: Challenges and opportunities for aquatic ecosystem management with uncertain global change
Advisor: Daniel Schindler

2010 – University of Wisconsin-Madison with Comprehensive Honors
- BS Biological Aspects of Conservation
- BS Zoology
- Certificate of Environmental Studies

Honors Thesis: Seasonal growth dynamics of largemouth bass (*Micropterus salmoides*) and the effects of catch-and-release angling.
Advisor: James Kitchell

PROFESSIONAL APPOINTMENTS

Postdoctoral Research Fellow, University of Michigan, *Jan 2018-present*
Lecturer, Biology 473 – Limnology, University of Washington, *Sept 2017 - Jan 2018*
National Science Foundation Graduate Research Fellow, School of Aquatic and Fishery Sciences, University of Washington, *Aug. 2012 – Oct. 2016*
Research Assistant, School of Aquatic and Fishery Sciences, University of Washington, *2015, 2016, 2017*
Teaching Assistant, Limnology, School of Aquatic and Fishery Sciences, University of Washington, *Fall 2014, Fall 2016*
Aquatic Research Specialist, Cascade Project/Wisconsin Sea Grant, University of Wisconsin-Madison, *May 2010-Aug. 2012*
Field Technician, University of Wisconsin-Madison, Big Spring Dam Removal, *Nov. 2009-May 2010*
Research Experience for Undergraduates (NSF), University of Wisconsin-Madison, *June 2009-Sept. 2009*

PEER-REVIEWED PUBLICATIONS AND BOOK CHAPTERS

In Print/In Press
§ Indicates mentored undergraduate student author.

19. Winfree, M.M., E. Hood, Svetlana L. Stuefer, D.E. Schindler, **T.J. Cline**, C.D. Arp, S. Pyare. 2018. Landcover and geomorphology influence streamwater temperature sensitivity in salmon bearing watersheds in Southeast Alaska**. Environmental Research Letters**
18. DeFillipo, L.B., D.E. Schindler, J.L. Carter, T.E. Walsworth, **T.J. Cline**, W.A. Larson, T. Buehrens. 2018. Associations of stream geomorphic conditions and the prevalence of alternative reproductive tactics among sockeye salmon populations. **Journal of Evolutionary Biology**

17. **Cline, T.J.**, D.E. Schindler, R. Hilborn. 2017. Fisheries portfolio diversification and turnover buffer Alaskan fishing communities from abrupt resource and market changes. **Nature Communications**.
16. Bentley, K.T., D.E. Schindler, J.B. Armstrong, **T.J. Cline**, G.T. Brooks. 2015. Inter-tributary movements by resident salmonids across a boreal riverscape. **PLOS One** 10(9): e0136985
15. Lisi, P.J., D.E. Schindler, **T.J. Cline**, M.D. Scheuerell, P.B. Walsh. 2015. Watershed geomorphology and snowmelt control stream thermal sensitivity to air temperature. **Geophysical Research Letters** 42, 3380–3388.
14. Kornis, M.S., B.C. Weidel, S.M. Powers, M. Diebel, **T.J. Cline**, J. Fox, and J. F. Kitchell. 2015. Fish community dynamics following dam removal in a fragmented agricultural stream. **Aquatic Sciences** 17: 465-480.
13. Kitchell, J.F., **T.J. Cline**, V. Bennington, and G. McKinley. 2015. Challenges of managing invasive sea lamprey in Lake Superior. In: Keller, R., M. Cadotte, and G. Sandiford (editors). Invasive Species in a Globalized World. University of Chicago Press.
12. **Cline, T.J.**, D.A. Seekell, S.R. Carpenter, M.L. Pace, J.R. Hodgson, J.F. Kitchell, and B.C. Weidel. 2014. Early warnings of regime shifts: evaluation of spatial indicators from a whole-ecosystem experiment. **Ecosphere** 5:102.
11. Bentley, K.T., D.E. Schindler, **T.J. Cline**, J.B. Armstrong, D. Macias, L.R. Ciepiela, R. Hilborn. 2014. Predator avoidance during reproduction: diel movements by spawning sockeye salmon between stream and lake habitats. **Journal of Animal Ecology** 83: 1478–1489.
10. **Cline, T.J.**, J.F. Kitchell, V. Bennington, G. McKinley, E. Moody, B.C. Weidel. 2014. Climate impacts on landlocked sea lamprey: Implications for host-parasite interactions and invasive species management. **Ecosphere** 5:68.
9. Seekell, D.A., **T.J. Cline**, S.R. Carpenter, M.L. Pace. 2013. Direct evidence of alternate attractors from a whole-ecosystem regime shift experiment. **Theoretical Ecology** 6: 385–394.
    - Evaluated as 'Exceptional' by Faculty of 1000 Post-Publication Peer Review Service
8. **Cline, T. J.**, V. Bennington, and J.F. Kitchell. 2013. Rising temperatures expand spatial extent and duration of preferred thermal habitat for Lake Superior fishes. **PLoS ONE** 8: e62279.
    - Featured in *Duluth News Tribune, Wisconsin Sea Grant Press Release,* and *The Daily Climate*
    - Radio features on *NPR Life on Earth, University of Michigan Public Radio- Stateside*
7. Seekell, D.A., **T.J. Cline**, R.J. Winchcombe. 2013. Can Management Reduce Harvest Inequality in Recreational Fisheries? **North American Journal of Fisheries Management** 33: 148–152.
6. Brosseau, C.[§], **T.J. Cline**, J. Cole, J. Hodgson, M. Pace, and B. Weidel. 2012. Does *Daphnia* use metalimnetic organic matter in a north temperate lake: An analysis of vertical migration. **Inland Waters** 2: 193–198.
5. Batt, R.D., S.R. Carpenter, J.J. Cole, M.L. Pace, **T.J. Cline**, R.A. Johnson, and D.A. Seekell. 2012. Resources supporting the food web of a naturally productive lake. **Limnology and Oceanography** 57: 1443–1452.
4. Seekell, D., S. Carpenter, **T.J. Cline**, M. Pace. 2012. Conditional heteroskedasticity forecasts regime shift in a whole-ecosystem experiment. **Ecosystems** 15: 741–747.

3. **Cline, T.J.**, B.C. Weidel, J.F. Kitchell, and J.R. Hodgson. 2012. Growth response of largemouth bass (Micropterus salmoides) to catch-and-release angling: a 27-year mark-recapture study. **Canadian Journal of Fisheries and Aquatic Sciences** 69: 224–230.
   - Featured in *In Fisherman*, June 20th, 2012
2. Seekell, D.S., C.B. Brosseau[§], **T.J. Cline**, R.J. Winchcombe, and L.J. Zinn. 2011. Long-term change in recreational catch inequality in a trout stream. **North American Journal of Fisheries Management** 31: 1110–1115.
1. Carpenter, S.R., J. Cole, M.L. Pace, R. Batt, W. Brock, **T. Cline**, J. Coloso, J. Kitchell, J. Hodgson, L. Smith, and B. Weidel. 2011. Early Warnings of Regime Shifts: A Whole-Ecosystem Experiment. **Science** 332: 1079–1082.
   - Evaluated as 'Exceptional' and 'Must Read' by Faculty of 1000 Post-Publication Peer Review Service
   - Featured in NSF press release, Science Daily, and BBC

CONTRIBUTED PRESENTATIONS

Cline, T.J., D.E. Schindler, T.E. Walsworth. Ecological tradeoffs between commercial salmon fisheries and foraging opportunities for trout. Western Divisison AFS meeting, May 2017

Cline, T.J., D.E. Schindler, T.E. Walsworth, D.W. French, P.J. Lisi Effect of low snow on the aquatic thermal landscape. American Water Resources Association meeting, Snowbird, Utah, April 2017

Cline, T.J., D.E. Schindler. Ecological tradeoffs between commercial salmon fisheries and foraging opportunities for trout. Quantitative seminar series, University of Washington, Seattle, WA. Feb. 2016.

Cline, T.J., D.E. Schindler. Management for salmon or ecosystems: are they different? A case study of resident fishes. Alaska Salmon Program Symposium, University of Washington, Seattle, WA. Dec. 2015.

Cline, T.J., D.E. Schindler. Changing age structure in salmon populations. Alaska Salmon Program Symposium, University of Washington, Seattle, WA. Dec. 2014.

Cline, T.J., D.E. Schindler, R. Hilborn. What makes fishing communities resilient to ocean tipping points? School of Aquatic and Fishery Sciences Graduate Student Symposium, Nov. 2014.

Cline, T.J., D.E. Schindler, R. Hilborn. What makes fishing communities resilient to ocean tipping points? 2014 Joint Aquatic Sciences Meeting, Portland, OR. May 2014.

Cline, T.J., D.E. Schindler. Valuing population diversity: socio-economic impacts of variability in salmon runs? Alaska Salmon Program Symposium, University of Washington, Seattle, WA. Nov. 2013.

Cline, T.J., D. Seekell, S. Carpenter, J. Hodgson, J. Kitchell, M. Pace, B. Weidel. Spatial early warning signals discerned from prey fish behavior in an ecosystem regime shift experiment. Ecological Society of America Annual Meeting, Portland, OR. Aug. 2012

Cline, T.J., B. Weidel, J. Kitchell, J. Hodgson. Growth response to catch-and-release angling in wild largemouth bass. 6th World Recreational Fishing Conference, Berlin, Germany, Aug. 2011.

Cline, T.J. Sea lamprey in Lake Superior: Responses to increased host abundance and climate change/Growth response to catch-and-release angling in wild largemouth bass. Center for Limnology Trout Lake Station Summer Seminar Series. Boulder Junction, WI. July 2011.

Cline, T.J., J. Kitchell, V. Bennington, G. McKinley. Sea lamprey in Lake Superior: Responses to increased host abundance and climate change. International Association of Great Lakes Research, Duluth, MN, June 2011.

Cline, T.J.Factors affecting the growth of largemouth bass (Micropterus salmodies) and the influence of catch-and-release angling. Science in the Northwoods, Boulder Junction, WI. Oct. 2010.

Posters

Hodgson, J.R.*, C.B Brosseau, T.J. Cline, and L.J. Zinn. Changing Growth Rates as Result of a Top Down Manipulation. American Society of Limnology and Oceanography, San Juan, Puerto Rico. Feb. 2011.

HONORS AND AWARDS

SAFS Graduate Research Fellowship	2017
SAFS Student AFS Travel Award ($300)	2017
National Science Foundation Graduate Research Fellowship ($126,000)	2012
SFS Board of Directors Grant (w./ E. Moody) ($300)	2012
Honors in the Major (Biological Aspects of Conservation, Univ. of Wisc.)	2010
Honors in the Liberal Arts (Univ. of Wisc.)	2010
National Science Foundation Research Experience for Undergraduates ($4000)	2009

TEACHING

Lecturer, Limnology (Biol/Fish 473), University of Washington, Fall 2017
Teaching Assistant, Limnology (Biol/Fish 473), University of Washington, Fall 2014, 2016
Teaching Assistant, Limnology Lab (Biol/Fish 474), University of Washington, Fall 2014, 2016
Guest Lecture, “Oxygen dynamics in lakes”, Limnology, University of Washington, Oct. 2014
Guest Lecture, “Aquatic invasive species and the Great Lakes”, Limnology, University of Washington, Nov. 2012, Nov. 2013, Nov. 2015, Nov. 2016

PROFESSIONAL SERVICES

Graduate Student Representative, Future of Ice Initiative Faculty Search, School of Aquatic and Fishery Sciences, University of Washington (Spring 2015)
Research Derby Organizer, School of Aquatic and Fishery Sciences, University of Washington (Spring 2015, Spring 2016)
Graduate Student Invited Speaker Organizer, School of Aquatic and Fishery Sciences, University of Washington (Spring 2014, Spring 2015)

Manuscript Reviewer for: Canadian Journal of Fisheries and Aquatic Sciences, Ecological Applications, Ecology, Ecology of Freshwater Fishes, Ecosystems, Environmental Biology of Fishes, Journal of Great Lakes Research, Proceedings of the National Academy of Science, Proceedings of the Royal Society B

Proposal Reviewer for: National Geographic Society

PROFESSIONAL AFFILIATIONS

International Association for Great Lakes Research, Member, 2010-*2012*

American Fisheries Society, Member, 2010-*present*
Ecological Society of America, Member 2012-*present*
Association for the Sciences of Limnology and Oceanography, Member, 2014-*present*

UNDERGRADUATE RESEARCH MENTORING

Jenna Keeton – University of Washington 2017
Valuation of coastal fisheries supported by transboundary river systems in Alaska

Cal Buelo – UW-Madison, NSF Research Experience for Undergraduates 2012
Effects of relative prey abundance and shifting density on largemouth bass growth.

Chase Brosseau – St. Norbert College, NSF Research Experience for Undergraduates 2011
Implications of diel vertical migration for carbon utilization in a north temperate lake.

OUTREACH

University of Washington NSF GRFP Workshop Mentor, 2012-2013
Making Waves: Fresh Ideas in Freshwater Science, Society for Freshwater Science Podcast, Co-host, Sept. 2012- *Present*
(www.freshwater-science.org/Education-and-Outreach/Media/Podcast.aspx)
"Warmer temps, larger lampreys", Radio interview, The Sea Grant Files, Minnesota Sea Grant, Duluth, MN. June 2011. (www.seagrant.umn.edu/radio/sgf/)
Parr-fait: An ecological talk show on Madison student radio. Co-host. Fall 2008-Spring 2009
SPICE: Students Participating In Chemical Education, Presenter and Training Committee Co-chair, Fall 2006-Spring 2007