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YOICHIRO KANNO

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Education

Ph.D., Natural Resources, University of Connecticut, Storrs, CT. 2010.

Dissertation: Brook trout populations in headwater stream networks: reproductive biology, riverscape genetics, and climate change impact on abundance

M.E.S., Environmental Studies, Dalhousie University, Halifax, NS, Canada. 2002.

Thesis: Fish community changes in River Philip, Nova Scotia, and an index of sustainable coldwater streams

B.A., Law, Meiji University, Tokyo, Japan. 2000.

Professional Experience

Postdoctoral Research Associate, Silvio O. Conte Anadromous Fish Research Center, U.S. Geological Survey & Department of Environmental Conservation, University of Massachusetts, Amherst, MA (May 2012 – present). Mentored by Dr. Benjamin H. Letcher

Postdoctoral Research Associate (Quantitative Aquatic Ecologist), Department of Biology & Center for the Management, Utilization and Protection of Water Resources, Tennessee Technological University, Cookeville, TN (February 2011 – May 2012). Mentored by Dr. Hayden T. Mattingly

Graduate Research Assistant, Department of Natural Resources and the Environment, University of Connecticut, Storrs, CT (August 2006 – December 2010). Advised by Dr. Jason C. Vokoun

Diplomat, Japanese Ministry of Foreign Affairs (April 1999 – September 2006).

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Peer-reviewed Publications

Published

- [13] DiStefano, R.J., T.R. Black, S.S. Herleth-King, **Y. Kanno**, and H.T. Mattingly. 2013. Life histories of two populations of the imperiled crayfish *Orconectes (Procericambarus) williamsi* (Decapoda: Cambaridae) in southwestern Missouri, USA. **Journal of Crustacean Biology** 33: 15-24.
- [12] **Kanno, Y.**, W.T. Russ, II, C.J. Sutherland, and S.B. Cook. 2012. Prioritizing aquatic conservation areas using spatial patterns and partitioning of fish community diversity in a near-natural temperate basin. **Aquatic Conservation: Marine and Freshwater Ecosystems** 22: 799-812.
- [11] **Kanno, Y.**, J.C. Vokoun, K.E. Holsinger, and B.H. Letcher. 2012. Estimating size-specific brook trout abundance in continuously sampled headwater streams using Bayesian mixed models with zero inflation and overdispersion. **Ecology of Freshwater Fish** 21: 404-419.
- [10] **Kanno, Y.**, C.U. Schmidt, S.B. Cook, and H.T. Mattingly. 2012. Variation in microhabitat use of the threatened spotfin chub (*Erimonax monachus*) among stream sites and seasons. **Ecology of Freshwater Fish** 21: 363-374.
- [9] **Kanno, Y.**, J.C. Vokoun, and B.H. Letcher. 2011. Fine-scale population structure and riverscape genetics of brook trout (*Salvelinus fontinalis*) distributed continuously along headwater channel networks. **Molecular Ecology** 20: 3711-3729.
- [8] **Kanno, Y.**, J.C. Vokoun, and B.H. Letcher. 2011. Sibship reconstruction for inferring mating systems, dispersal and effective population size in headwater brook trout (*Salvelinus fontinalis*) populations. **Conservation Genetics** 12: 619-628.
- [7] **Kanno, Y.**, and J.C. Vokoun. 2010. Evaluating effects of water withdrawals and impoundments on fish assemblages in southern New England streams, USA. **Fisheries Management and Ecology** 17: 272-283.
- [6] **Kanno, Y.**, J.C. Vokoun, and M. Beauchene. 2010. Development of dual fish multi-metric indices of biological condition for streams with characteristic thermal gradients and low species richness. **Ecological Indicators** 10: 565-571.
- [5] **Kanno, Y.**, J.C. Vokoun, D.D. Dauwalter, R.M. Hughes, A.T. Herlihy, T.R. Maret, and T.M. Patton. 2009. Influence of rare species on electrofishing distance when estimating species richness of stream and river reaches. **Transactions of the American Fisheries Society** 138: 1240-1251.
- [4] **Kanno, Y.**, and J.C. Vokoun. 2008. Biogeography of stream fishes in Connecticut: defining faunal regions and assemblage types. **Northeastern Naturalist** 15: 557-576.

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- [3] Bourret, S.J., R.W. Tingley, III, **Y. Kanno**, and J.C. Vokoun. 2008. Maximum daily consumption and specific daily metabolic demand of juvenile flathead catfish. **Journal of Freshwater Ecology** 23: 413-419.
- [2] **Kanno, Y.**, and J. MacMillan. 2004. Developing an index of sustainable coldwater streams using fish community attributes in River Philip, Nova Scotia. **Proceedings of the Nova Scotian Institute of Science** 42: 319-338.
- [1] **Kanno, Y.**, and K. Beazley. 2004. Freshwater fish considerations for aquatic conservation systems planning in Nova Scotia. **Proceedings of the Nova Scotian Institute of Science** 42: 375-391.

In Review

- [14] **Kanno, Y.**, J.C. Vokoun, and B.H. Letcher. In review. Paired stream-air temperature measurements reveal fine-scale thermal heterogeneity within headwater brook trout stream networks. **River Research and Applications** (Submitted on 08/29/2012).

Funded Research Proposals

- **Scientific support for the Cumberland Habitat Conservation Plans, 2011-2012.** \$312,512. The Nature Conservancy, Tennessee Chapter. 2011-2012. **Co-PI** with H.T. Mattingly (PI).
- **Investigating stream temperature and brook trout population fragmentation: riverscape genetics in thermally-contrasting headwater stream channel networks in Connecticut.** \$72,989. Connecticut Department of Environmental Protection (State Wildlife Grants Program). 2008-2010. J.C. Vokoun (PI); **Y. Kanno** wrote 95% of grant proposal as a graduate student.
- **Evaluating effects of water withdrawals on fish assemblages in Connecticut streams.** \$46,918. Connecticut Department of Environmental Protection (State Wildlife Grants Program). 2007-2009. J.C. Vokoun (PI); **Y. Kanno** wrote 95% of grant proposal as a graduate student.

Technical Reports

Vokoun, J.C., and **Y. Kanno**. 2010. Brook trout (*Salvelinus fontinalis*) populations in headwater channel networks in Connecticut: riverscape genetics and abundance projections under climate change. Completion Report *submitted to* Connecticut Department of Environmental Protection. University of Connecticut, Storrs. 43pp.

Vokoun, J.C., and **Y. Kanno**. 2009. Evaluating effects of water withdrawals and impoundments on fish assemblages in Connecticut streams. Completion Report *submitted to* Connecticut Department of Environmental Protection. University of Connecticut, Storrs. 31pp.

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Teaching Experience

Classes taught

Instructor. **NRE 3205: Stream Ecology**. Spring 2010. Department of Natural Resources and the Environment, University of Connecticut. 34 undergraduate students (student rating 9.0 out of 10.0 – mean of 11 institutional metrics).

Guest Speaker. **BIOL 4840: Limnology**. Lectured two units on “Fluvial geomorphology and lotic habitat”. Fall 2011. Department of Biology, Tennessee Technological University. 25 undergraduate students.

Guest Speaker. **EVS 7120: Endangered Species Biology**. Lectured one unit on “Climate Change”. Spring 2011. Department of Biology, Tennessee Technological University. 10 graduate students.

Guest Speaker. **NRE 2345: Introduction to Fisheries and Wildlife**. Lectured two units on “Genetics in Wildlife and Fisheries”. Fall 2010. Department of Natural Resources and the Environment, University of Connecticut. 80 undergraduate students.

Guest Speaker. **EEB 4200: Biology of Fishes**. Lectured a unit on “Lotic Fish Ecology”. Spring 2009. Department of Ecology and Evolutionary Biology, University of Connecticut. 30 undergraduate students.

Guest Speaker. **NRE 2010: Natural Resources Measurements**. Lectured a unit on “Fisheries Data Collection”. Fall 2008. Department of Natural Resources and the Environment, University of Connecticut. 35 undergraduate students.

Field Laboratory. **NRE 3205: Stream Ecology**. Led field labs in which students were assigned to collect benthic macro-invertebrates and identify them, use backpack electrofishing to collect fish assemblage data, and measure stream discharge at a transect. Spring 2007-2010. Department of Natural Resources and the Environment, University of Connecticut. 30 undergraduate students.

Field Laboratory. **NRE 2010: Natural Resources Measurements**. Led fisheries field lab in which students were given experience participating in tote-barge stream electrofishing to perform a three-pass depletion population estimate for white sucker. Fall 2006-2010. Department of Natural Resources and the Environment, University of Connecticut. 30 undergraduate students.

College-teaching training

While a doctoral student, I took the following training classes on college-level teaching:

- **EDCI 5830-001 Fundamentals of Teaching & Learning**
Description: provide the basics for understanding how to teach in an undergraduate program. Department of Curriculum and Instruction.
- **EDCI 5830-002 Reflections on Teaching Practices**
Description: identify difficult or troublesome aspects of the participants' instruction in a seminar format. Department of Curriculum and Instruction.
- **NRE 6450: Teaching Practicum**
Description: hands-on training to increase teaching effectiveness mentored by my major Ph.D. supervisor. Department of Natural Resources and the Environment.

Society Membership

American Fisheries Society (2002-present)

Ecological Society of America (2007-present)

Awards/Honors

- 2010 Doctoral Dissertation Fellowship, Graduate School, University of Connecticut (USD \$2,000).
- 2010 Predoctoral Fellowship, Department of Natural Resources and the Environment, University of Connecticut (USD \$1,461)
- 2010 Summer Fellowship for Advanced Graduate Students, Department of Natural Resources and the Environment, University of Connecticut (USD \$1,100)
- 2010 Southern New England Chapter Student Travel Award to attend 140th American Fisheries Society's Annual Meeting in Pittsburgh, Pennsylvania (USD \$350)
- 2010 Best Student Poster Award, for the poster entitled "Evaluating effects of water withdrawals and impoundments on fish assemblages in Connecticut streams", The 66th Northeast Fish and Wildlife Conference, Boston, Massachusetts (USD \$200)
- 2010 Best Student Poster Award, for the poster entitled "Evaluating effects of water withdrawals and impoundments on fish assemblages in Connecticut streams", Southern New England Chapter of American Fisheries Society 2010 Winter Meeting, Avery Point, Connecticut (USD \$50)
- 2008 Grant from Weantinoge Landtrust (Connecticut) to partially defray cost of the brook trout project (see "Funded Research Proposal" above) (USD \$1,000)

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- 2008 Southern New England Chapter Student Travel Award to attend 138th American Fisheries Society's Annual Meeting in Ottawa, Ontario (USD \$500)
- 2008 John Moring Travel Award to attend 64th Northeast Fish and Wildlife Conference, Galloway, New Jersey (USD \$300)
- 2002 Dr. J. G. Ogden Memorial Prize for the top student in "Limnology (BIOL 5068)", Dalhousie University, Department of Biology (CAD \$300)
- 2001 Thesis Research Award, Dalhousie University, School for Resource and Environmental Studies (CAD \$700)

Professional Service

Journal manuscript review

Ecology of Freshwater Fish (1), International Review of Hydrobiology (1)
Molecular Ecology (1), North American Journal of Fisheries Management (3)
Northeastern Naturalist (1), Transactions of the American Fisheries Society (6)

Oral presentation judge, 65th Annual Conference of Southeastern Association of Fish and Wildlife Agencies, Nashville, Tennessee. October 22-26, 2011.

Local fish expert, Fish Biological Condition Gradient workshops organized by the Connecticut Department of Environmental Protection. 2011-2012.

President, American Fisheries Society-University of Connecticut Student Chapter. 2008-2009.

Vice-President, American Fisheries Society-University of Connecticut Student Chapter. 2007-2008.

Oral Presentations (presenter underlined)

[12] **Kanno, Y.**, J.C. Vokoun, and K.E. Holsinger. 2011. Assessing climate change impact on size-specific abundance of brook trout in headwater stream networks using hierarchical regression modeling. Southern New England Chapter of American Fisheries Society 2011 Winter Meeting, Woods Hole, Massachusetts. January 20, 2011.

[11] **Kanno, Y.**, J.C. Vokoun, and B.H. Letcher. 2010. Fine-scale landscape genetic structure of brook trout in a headwater stream network in Connecticut. American Fisheries Society 140th Annual Meeting, Pittsburgh, Pennsylvania. September 14, 2010.

[10] **Kanno, Y.**, J.C. Vokoun, and B.H. Letcher. 2010. Fine-scale population genetics of brook trout across headwater stream networks in Connecticut. 2010 Joint Meeting of Ichthyologists and Herpetologists, Providence, Rhode Island. July 9, 2010.

[9] **Kanno, Y.**, J.C. Vokoun, and B.H. Letcher. 2010. Fine-scale population genetics and mating systems of brook trout across headwater stream networks in Connecticut. Southern New

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England Chapter of American Fisheries Society 2010 Summer Meeting, Kingston, Rhode Island. June 23, 2010.

- [8] **Kanno, Y.**, J.C. Vokoun, and B.H. Letcher. 2010. Fine-scale population genetics of brook trout across headwater stream networks in Connecticut. The 66th Northeast Fish and Wildlife Conference, Newton, Massachusetts. April 27, 2010.
- [7] **Kanno, Y.**, J.C. Vokoun, and M. Beauchene. 2009. Development of dual fish-indices of biotic integrity (IBI) for Connecticut streams. The 33rd Annual Meeting of the New England Association of Environmental Biologists, West Brook, Connecticut. March 27, 2009.
- [6] **Kanno, Y.**, J.C. Vokoun, and M. Beauchene. 2009. Development of dual fish-indices of biotic integrity (IBI) for Connecticut streams. The 3rd Connecticut Conference on Natural Resources, Storrs, Connecticut. March 9, 2009.
- [5] **Kanno, Y.**, and J.C. Vokoun. 2008. Can less stream distance be sampled in depauperate regions when estimating fish species richness? American Fisheries Society 138th Annual Meeting, Ottawa, Ontario. August 21, 2008.
- [4] **Kanno, Y.**, and J.C. Vokoun. 2008. Influence of rare species on electrofishing distance when estimating fish species richness in streams. Southern New England Chapter of American Fisheries Society 2008 Summer Meeting, Storrs, Connecticut. June 11, 2008.
- [3] **Kanno, Y.**, and J.C. Vokoun. 2008. Biogeography of stream fishes in Connecticut: defining faunal regions and assemblage types. The 64th Northeast Fish and Wildlife Conference, Galloway, New Jersey. April 29, 2008.
- [2] **Kanno, Y.**, and J.C. Vokoun. 2008. Biogeography of stream fishes in Connecticut: defining faunal regions and assemblage types. University of Connecticut College of Agriculture Graduate Research Forum, Storrs, Connecticut. March 28, 2008.
- [1] **Kanno, Y.**, and J.C. Vokoun. 2008. Biogeography of stream fishes in Connecticut: defining faunal regions and assemblage types. The 2nd Connecticut Conference on Natural Resources, Storrs, Connecticut. March 10, 2008.

Poster Presentations

- [5] **Kanno, Y.**, J.C. Vokoun, and B.H. Letcher. 2010. Sibship reconstruction for inferring mating systems and effective population size in headwater brook trout populations. Wild Trout Symposium X, West Yellowstone, Montana. September 28-30, 2010.
- [4] **Kanno, Y.**, and J.C. Vokoun. 2010. Evaluating effects of water withdrawals and impoundments on fish assemblages in Connecticut streams. American Fisheries Society 140th Annual Meeting, Pittsburgh, Pennsylvania. September 12-16, 2010.
- [3] **Kanno, Y.**, and J.C. Vokoun. 2010. Evaluating effects of water withdrawals and
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impoundments on fish assemblages in Connecticut streams. The 66th Northeast Fish and Wildlife Conference, Boston, Massachusetts. April 27, 2010. ***Won Best Student Poster Award

[2] **Kanno, Y.**, and J.C. Vokoun. 2010. Evaluating effects of water withdrawals and impoundments on fish assemblages in Connecticut streams. The 4th Connecticut Conference on Natural Resources, Storrs, Connecticut. March 8, 2010.

[1] **Kanno, Y.**, and J.C. Vokoun. 2010. Evaluating effects of water withdrawals and impoundments on fish assemblages in Connecticut streams. Southern New England Chapter of American Fisheries Society 2010 Winter Meeting, Avery Point, Connecticut. January 28, 2010. ***Won Best Student Poster Award