

Dana Richard Warren

Curriculum Vitae

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Education

- 2008 **Ph.D.** Cornell University, Ithaca, NY. Department of Natural Resources
- 2002 **M.S.** Cornell University, Ithaca, NY. Department of Natural Resources
- 1998 **B.A.** Skidmore College, Saratoga Springs, NY.
Major: Biology; Minor: Environmental Studies

Appointments

Professional – post Ph.D.

- 2010 – Present Assistant Professor, Senior Research
Dept. of Fisheries and Wildlife, Oregon State University, Corvallis, OR
- 2008 – 2010 National Research Council (NRC) Post-doctoral Fellow
NOAA, Northwest Fisheries Science Center, Seattle WA

Graduate School – Ph.D.

- 2006 – 2008 EPA Science to Achieve Results (STAR) Graduate Student Fellow
Cornell University, Ithaca NY
- 2006 Teaching Assistant, Stream Ecology (NTRES 456)
Cornell University, Ithaca NY
- 2005 Biogeochemistry and Env. Biocomplexity NSF IGERT Graduate Student Fellow
Cornell University, Ithaca NY
- 2004 Teaching assistant, Stream Ecology (NTRES 456)
Cornell University, Ithaca NY
- 2003 – 2004 Graduate Research Assistantship, Department of Natural Resources
Cornell University, Ithaca NY

Professional – post M.S.

- 2002 – 2003 Environmental Scientist I
Northern Ecological Associates, Stroudsburg, PA (now a subsidiary of Tetratech)
- 2002 Field and Laboratory Technician – Water Resources Division
U.S. Geological Survey (USGS), Troy, NY

Graduate school – M.S.

1999 – 2001 Graduate Research Assistantship, Department of Natural Resources
Cornell University, Ithaca NY

Publications

- Warren, D.R.**, M.M. McClure. *In Review*. Are hatchery-origin juvenile Chinook a meaningful source of salmon-derived nutrients in the Snake River basin? Submitted to: *Transactions of the American Fisheries Society*
- Kraft, C.E., **D.R. Warren**, W.S. Keeton. *Accepted with minor revisions*. Spatial patterns of wood distribution in northeastern North American streams. *Geomorphology*
- Vaz, P., **D.R. Warren**, E.C. Merten, P. Pinto, C.T. Robinson, F.C. Rego. *In Press*. Burned forests supply contrasting wood pieces into streams and stream side-slopes. *Forest Ecology and Management*
- Ernst, A.G., **D.R. Warren**, B.P. Baldigo. *In Press*. Natural-channel-design stream restorations that changed geomorphology have little effect on macroinvertebrate communities in headwater streams. *Restoration Ecology*
- Warren, D.R.**, M.M. Mineau, C.E. Kraft, E. J. Ward. 2010. Relating fish biomass to habitat and chemistry in headwater streams of the northeastern United States. *Environmental Biology of Fishes* 88:51–62
- Millward, A. A., C.E. Kraft, **D. R. Warren**. 2010. Ice-storm damage greater along the terrestrial-aquatic interface in forested landscapes. *Ecosystems* 13:249-260
- Baldigo, B.P., A.G. Ernst, **D.R. Warren**, S. J. Miller. 2010. Beneficial effects of natural-channel-design restoration of fish assemblages, habitat, and stability in streams of the Catskill Mountains, New York. *Transactions of the American Fisheries Society* 139: 449-467
- Warren, D.R.**, C.E. Kraft, W.S. Keeton, J.S. Nunery, G.E. Likens. 2009. Dynamics of wood recruitment in streams of the northeastern U.S. *Forest Ecology and Management* 258:804-813
- Warren, D.R.**, A.G. Ernst, B.P. Baldigo. 2009. Influence of spring floods on year-class strength of fall and spring spawning salmonids in Catskill Mountain streams. *Transactions of the American Fisheries Society* 138:200-210
- Warren, D. R.**, C.E. Kraft. 2008. Dynamics of large wood in an eastern U.S. mountain stream. *Forest Ecology and Management* 256:808-814
- Warren, D.R.**, G.E. Likens, D.C. Buso, C.E. Kraft. 2008. Status and distribution of fish in an acid-impacted watershed of the northeastern United States (Hubbard Brook, NH). *Northeastern Naturalist* 15:375-390
- Baldigo, B.P., **D.R. Warren**, A.G. Ernst, C.I. Mulvihill. 2008. Response of fish populations to natural-channel-design restoration in streams of the Catskill Mountains, New York. *North American Journal of Fisheries Management* 28:954-969
- Baldigo, B.P., **D.R. Warren**. 2008. Detecting the response of fish assemblages to stream restoration: effects of different sampling designs. *North American Journal of Fisheries Management* 28:919-934

- Warren, D.R.,** C.E. Kraft, W.S. Keeton. 2008. Estimating wood volume in streams using the line-intercept method. *Hydrobiologia* 598:123-130.
- Baldigo, B.P., A.S. Gallagher-Ernst, W. Keller, **D.R. Warren,** S.J. Miller, D. Davis, T.P. Baudanza, D. DeKoskie, J.R. Buchanan. 2008. Restoring geomorphic stability and biodiversity in streams of the Catskill Mountains, New York, USA. Pages 587-600. *In* J. L. Nielsen, J.J. Dodson, K.D. Friedland, T.R. Hamon, N.F. Hughes, J.A. Musick, and E. Verspoor, editors. *Proceedings of the Fourth World Fisheries Congress: Reconciling fisheries with conservation, Symposium 49* American Fisheries Society, Bethesda, Maryland.
- Warren, D.R.,** E.S. Bernhardt, R.O. Hall, G.E. Likens. 2007. Forest age, woody debris, and nutrient dynamics in headwater streams of the Hubbard Brook Experimental Forest, NH. *Earth Surface Processes and Landforms* 32: 1154-1163.
- Warren, D. R.,** M.S. Weiss, D.M. Wolfe, B. Friedlander, B. Lewenstein. 2007. Lessons from science communication training *Science* 316: 1122 (Note: This is a Commentary).
- Keeton, W.S., C.E. Kraft, **D.R. Warren.** 2007. Structure and dynamics of old-growth riparian forests and effects on low order Adirondack stream habitats. *Ecological Applications* 17: 852-868.
- Warren, D.R.,** C.E. Kraft. 2006. Invertebrate community and stream substrate responses to woody debris removal from an ice storm impacted stream system, NY USA. *Hydrobiologia* 568: 477-488.
- Warren, D.R.,** S.D. Sebestyen, D.C. Josephson, J.M. Lepak, C.E. Kraft. 2005. Acidic groundwater discharge and *in situ* egg survival in lake spawning brook trout (*Salvelinus fontinalis*) redds. *Transactions of the American Fisheries Society* 134:1193-1201.
- Keeton, W.S., C.E. Kraft, **D.R. Warren,** A.A. Millward. 2005. Effects of old-growth riparian forests on Adirondack stream systems. Pages 39-43 in: K.P. Bennett (tech. ed.). Moving toward sustainable forestry: lessons from old-growth forests. *Proceedings of the 6th eastern old-growth conference, Moultonborough, NH. University of New Hampshire Cooperative Extension Natural Resource Network Report.*
- Warren, D.R.** C.E. Kraft. 2003. Brook trout (*Salvelinus fontinalis*) response to wood removal from high gradient streams of the Adirondack Mountains (NY, USA). *Canadian Journal of Fisheries and Aquatic Sciences* 60:379-389.
- Kraft, C.E. **D.R. Warren.** 2003. Development of spatial pattern in large woody debris and debris dams in streams. *Geomorphology* 51:127-139.
- Kraft, C.E., R.L. Schneider, **D.R. Warren.** 2002. Ice storm impacts on woody debris and debris dam formation in northeastern U.S. streams. *Canadian Journal of Fisheries and Aquatic Sciences* 59:1677-1684.

Grants and Fellowships

(D. Warren is the only PI unless noted otherwise)

- 2010 U.S. Geological Survey – Research and Data Collection Grant (\$115,000 over 1.5 yr.)
- *Climate and the Changing Distribution of Trout in the Great Basin*

- 2010 H.J. Andrews Experimental Forest Faculty Seed Money Program (\$6,000)
Lead PI: **D. Warren** (OSU), Co-PI: H. Bechtold, (IES); E. Rosi-Marshall (IES)
- *Influences of riparian forest canopy structure on stream ecosystem function*
- 2010 Northern State Research Cooperative (\$150,000 over 2 years)
Lead PI: E. Rosi-Marshall (IES); Co-PI's: **D. Warren** (NOAA), W. Keeton (UVM), J. Cole (IES).
- *Evaluating the influence of riparian forest structure on stream ecosystems across the northern forest*
- 2008 National Research Council (NRC) Post-Doctoral Fellowship; NOAA Fisheries (~\$110,000 over 2 years).
- *Incorporating nutrient subsidies from anadromous salmon into stream food webs*
- 2006 EPA Science to Achieve Results (STAR) Fellowship – (\$111,000 over 3 years):
- *Impacts of woody debris on stream nitrogen dynamics*
- 2006 Cornell Biogeochemistry and Environmental Biocomplexity Small Grant – (\$3,700):
- *Developing stream succession theory: the role of woody debris in stream N dynamics*
- 2006 Northern State Research Cooperative Grant – (\$20,000)
Lead PI: C. Kraft (CU); Co-PI: **D. Warren** (CU)
- *Estimating wood volume in Northern Forest streams in response to forest age, landscape position and anthropogenic disturbance*
- 2005 Cornell Biogeochemistry and Environmental Biocomplexity IGERT continuing student fellowship (\$30,000)
- 2005 McIntire-Stennis Federal Formula Funds grant – (\$75,000)
Lead PI: C. Kraft (CU); Co-PI: **D. Warren** (CU)
- *Wood addition as a management tool to reduce nutrient and sediment export from forested streams.*
- 2005 Kieckhefer Adirondack Fellowship (\$5,000):
- *Influence of groundwater on fish in Adirondack streams.*
- 2004 Cornell Biogeochemistry and Environmental Biocomplexity Small Grant (\$3,880):
- *The influence of groundwater pH on brook trout reproduction in mountain lakes*
- 2001 Kieckhefer Adirondack Fellowship (\$5,000):
- *Ice storm impacts and woody debris removal in Adirondack tributary streams: Biotic responses, and changes in physical habitat.*
- 2000 Kieckhefer Adirondack Fellowship (\$4,100):
- *Impacts of debris dam removal on biotic and geomorphic characteristics of an ice storm-impacted Adirondack stream.*
- 1997 Howard Hughes Fellow (Undergraduate Summer program), Dartmouth College

Awards

- 2007 Best Student Paper. *NY Chapter American Fisheries Society Annual Meeting.*

- 2006 Student Paper Award. *International Conference on 'Riverine Hydroecology: Advances in Research and Applications.'* Sterling, Scotland.
- 2005 Best Student Paper - Fisheries. *Tri-Society Meeting: NYS American Foresters, NYS Wildlife Society, NYS American Fisheries Society.*
- 2003 Outstanding Graduate Teaching Award – Department of Natural Resources. Cornell University
- 1998 *Phi Beta Kappa* Academic Honors Society, Skidmore College chapter

Teaching

- 2007 Science Communication (BIOEE 771, 2cr.), Cornell University, Ithaca, NY
- Co-created and co-taught a graduate course on science communication with a fellow student. Course included writing press releases, conducting interviews, being interviewed, visits to media outlets (print, radio, and TV), a communication workshop, and guest lectures by science reporters. (Note: This course is now offered through the Communications Dept. at Cornell: COMM 566)
- 2001, '03, '06 Stream Ecology (NTRES 456), Cornell University, Ithaca, NY
- Taught a weekly lab section and guest lectured. Lab responsibilities included: 15-30 min lecture at the beginning of each lab, leading lab activity, creating and running the electrofishing lab for all sections, grading weekly lab reports; grading larger lab project papers; contributing questions and grading exams.
- 2001-2008 Mentoring, Cornell University, Ithaca, NY
- I supervised a total of seven undergraduate and recent graduate field technicians while at Cornell (three of whom are currently in graduate school). I provided guidance on grant proposals and graduate school applications for recent grads, and one of the undergraduates wrote his senior thesis using data from our work together.

Invited Seminars and Lectures

- 2011 Oregon State University, Corvallis OR (Invited lecture) Stream Ecology - FW550
- *Hydrology*
- 2011 Oregon State University, Corvallis OR (Invited lecture) Stream Ecology - FW550
- *Geomorphology*
- 2010 University of Puget Sound (Invited seminar)
- *Assessing juvenile salmon production in a stream food web and the quantification of salmon-derived nutrients in a managed river system*
- 2009 University of Michigan, Ann Arbor, MI (Invited seminar)
- *Large-scale human impacts on stream ecosystems: Land-use legacies, hatchery-derived nutrients, and changing hydrology.*

- 2008 The Ohio State University, Columbus OH (Invited seminar)
- *Stream ecosystem responses to environmental change.*
- 2008 The Ohio State University, Columbus OH (Invited lecture)
- *Fish communities and their role of fish in stream ecosystems.*
- 2008 American Association for the Advancement of Science (AAAS), Annual Meeting.
(Invited speaker – I was one of six instructors for this 90 min. workshop)
- *Creating science communication training programs for young scientists (Workshop).*
- 2007 Connecticut College, New London, CT (Invited seminar.)
- *Stream restoration.*
- 2006 Connecticut College, New London, CT (Invited seminar)
- *Brook trout ecology in the Northeastern US*
- 2005 Cornell University, Ithaca NY . (Invited lecture: Stream Ecology – NTRES 456)
- *Lateral linkages in stream ecosystems*
- 2004 Cornell University, Ithaca NY . (Invited lecture: Stream Ecology – NTRES 456)
- *Riparian areas and woody debris*
- 2003 Skidmore College, Saratoga Springs, NY. (Invited lecture: Ecology – BI370),
- *Life history strategies*

Professional Service

Society Memberships:

American Fisheries Society (AFS)
Ecological Society of America (ESA)
North American Benthological Society (NABS)

Peer review for:

Journals: *Canadian Journal of Fisheries and Aquatic Sciences, Earth Surface Processes and Landforms, Ecological Applications, Ecological Engineering, Ecology, Ecology of Freshwater Fish, Environmental Science and Technology, Fisheries Management & Ecology, Forest Ecology and Management, Hydrobiologia, Journal of Environmental Management, Journal of Fish Biology, Marine and Freshwater Research, North American Journal of Fisheries Management, Northern Journal of Applied Forestry, River Research and Applications, Transactions of the American Fisheries Society*

Grants and Fellowships: *Cornell Biogeochemistry and Environmental Biocomplexity Small Grant Competition (served on the review committee for 3 funding cycles), Oregon Chapter of the American Fisheries Society (OR AFS) Student Scholarships (external reviewer)*

Book Chapters: *“Chapter 8: Monitoring and evaluation of restoration actions” in Stream Restoration: a guide to planning, implementation and evaluation. P. Roni and T. Beechie (editors). Publisher (Wiley/Blackwell)*

Committees and Leadership:

- 2006 Co-President: Cornell Biogeochemistry and Environmental Biocomplexity Graduate Student Association
- 2005-2008 Seminar Committee: Cornell Biogeochemistry and Environmental Biocomplexity Seminar Series, committee chair – Fall 2007
- 2000 Treasurer: Department of Natural Resources Graduate Student Association

Conference Presentations

(First-author only)

- Warren, D.R.**, and M.M. McClure, B. Sanderson, and C. Harvey. 2010 Food web impacts of brook trout invasion in salmon rearing streams of the Snake River basin. (Paper). Ecological Society of America Annual Meeting. Pittsburgh PA. August 7-13.
- Warren, D.R.**, and M.M. McClure. 2009. Mass balance analysis of salmon-derived nutrients in a managed river system: Nutrient subsidies from spawning adults and hatchery smolts. (Paper) *North American Benthological Society Annual Meeting*. Grand Rapids, MI. May 17-21.
- Warren, D.R.**, C.E. Kraft, W.S. Keeton, J.S. Nunery, and G.E. Likens. 2008. Wood accumulation in northeastern streams. (Paper) *Hubbard Brook Ecosystem Study 45th Annual Cooperators Meeting*. Forest Service Headquarters, Woodstock, NH. July 8-9.
- Warren, D.**, K. Judd, D. Bade, G. Likens, C. Kraft. 2007. Season influences of wood on stream nitrate dynamics in forested headwater streams in the northeast US. (Poster) *American Geophysical Union (AGU) Annual Fall Meeting*. San Francisco, CA.
- Warren, D.**, K. Judd, D. Bade, G. Likens, C. Kraft. 2007. Influences of wood on stream nitrate dynamics in forested headwater streams. (Paper) *Hubbard Brook Ecosystem Study 44th Annual Cooperators Meeting*. Forest Service Headquarters, Woodstock, NH. July 10-11.
- Warren, D.R.**, G.E. Likens, D.C. Buso, C.E. Kraft. 2007. Status and Distribution of Fish in an Acid-Impacted Watershed of the Northeastern United States (Hubbard Brook, NH). (Poster) *Hubbard Brook Ecosystem Study 44th Annual Cooperators Meeting*. Forest Service Headquarters, Woodstock, NH. July 10-11.
- Warren, D.R.**, E.S. Bernhardt, R.O. Hall Jr. G.E. Likens, and C.E. Kraft. 2007 Determining the influence of wood on stream nitrate dynamics in forested headwater streams. (Paper) *North American Benthological Society annual meeting*. Columbia, SC. June 3-7.
- Warren, D.R.**, A.S. Gallagher-Ernst, B.P. Baldigo. 2007. Timing and magnitude of spring flooding, and its influence on salmonid year class strength in temperate forest streams. (Paper) *NY chapter American Fisheries Society annual meeting*. West Point, NY Feb 8-9 (Best Student Paper)
- Warren, D.R.**, C.E. Kraft, and W.S. Keeton, E. Bernhardt, R. O. Hall Jr. and G.E. Likens, 2006 Wood in northeastern forest streams: future projections and ecosystem implications. (Poster) *Northeastern Ecosystem Research Cooperative (NERC)*. Durham, NH. October 26-27

- Warren, D.R.,** Mineau, M.M. , C.E. Kraft. 2006. Factors influencing fish biomass in northeastern U.S. headwater streams. (Paper) *American Fisheries Society national meeting*. Lake Placid, NY. September 10-14.
- Warren, D.R.,** C.E. Kraft, and W.S. Keeton. 2006 Stream woody debris volume, bankfull width, and riparian forest age in northeastern North America . (Paper) *International Conference on 'Riverine Hydroecology: Advances in Research and Applications'*. University of Sterling, Sterling Scotland (UK). August 14 – 18. (student paper award)
- Warren, D.,** K. Judd, D. Bade, G. Likens. 2006. Woody debris and its influence on stream N dynamics – An update on the current study. (Paper) *Hubbard Brook Ecosystem Study 43rd Annual Cooperators Meeting*. Forest Service Headquarters, Woodstock, NH. July 12-13.
- Warren, D.R.,** E. S. Bernhardt, R.O. Hall Jr. and G.E. Likens. 2005. Forest age, woody debris, and nutrient dynamics in headwater streams of the White Mountains, NH. (Poster) *BGS Geomorphology and Ecosystems meeting*. Buffalo, NY. October 8-9,
- Warren, D.R.,** E.S. Bernhardt, R.O. Hall Jr. and G.E. Likens. 2005. Nutrient dynamics, forest age, and woody debris in headwater streams of the White Mountains, NH. (Paper) *Ecological Society of America annual meeting*. Montreal, QC. August. 8-12.
- Warren, D.R.,** C.E. Kraft. 2005. Fish in streams of the Hubbard Brook watershed. (Paper) *Hubbard Brook Committee of Scientists Meeting*. Forest Service Headquarters, Woodstock, NH. July 8.
- Warren, D.,** K. Judd, D. Bade, G. Likens. 2005. Evaluating the role of woody debris in stream nutrient dynamics within the Hubbard Book system. (Paper) *Hubbard Brook Ecosystem Study 42nd Annual Cooperators Meeting*. Forest Service Headquarters, Woodstock, NH. July 6-7.
- Warren, D.R.,** S.D. Sebestyen, D.C. Josephson, and C.E. Kraft. 2005. Acidic groundwater discharge and *in situ* egg survival in lake-spawning brook trout redds. (Paper) *Adirondack Research Workshop*. Old Forge, NY. March 3.
- Warren, D.R.,** S.D. Sebestyen, D.C. Josephson, J.M. Lepak, and C.E. Kraft. 2005. Lake spawning brook trout and groundwater. (Paper) *2005 Tri-Society Meeting: NYS American Foresters, NYS Wildlife Society, NYS American Fisheries Society*, Syracuse NY, February 3-4. (student paper award)
- Warren, D.R.,** and C.E. Kraft. 2004. Spatial Patterns of large woody debris in a forested stream ecosystem. (Paper) *Ecological Society of America Annual Meeting*, Portland, OR, August 1-6.
- Warren, D.R.,** and C.E. Kraft. 2003. Brook trout response to wood removal from high gradient streams of the Adirondack Mountains, NY, USA. (Poster) *American Fisheries Society Annual Meeting*. Quebec City, Quebec, Canada. August 9 - 14.
- Warren, D.R.,** and C.E. Kraft. 2002. Trout response to debris dam removal in ice storm-impacted streams of the Adirondack Mountains. (Paper) *American Fisheries Society - Northeast Division conference, within the Northeast Fish and Wildlife conference*. Portland, Maine. April 21-24.
- Warren, D.R.,** and C.E. Kraft. 2001. Impacts of debris dam removal on trout populations in Eastern Adirondack streams. (Poster) *Ecological Society of America Annual Meeting*, Madison, WI, August 5-10.

References and Collaborators

- 1) **Dr. Clifford E. Kraft** (*Ph.D. Advisor*)
Associate Professor
Department of Natural Resources
Cornell University
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- 2) **Dr. Michelle M. McClure** (*Post-doc Advisor*)
Senior Researcher
NOAA Fisheries
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- 3) **Barry P. Baldigo** (*collaborator*)
Senior Biologist
U.S. Geological Survey
Troy, N.Y. 12180
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- 4) **John Magee** (*collaborator*)
Fish Habitat Biologist
New Hampshire Fish and Game Dept.
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- 5) **Dr. William S. Keeton** (*collaborator*)
Associate Professor
Rubenstein Sch. Env. & Nat. Res.
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- 6) **Dr. Emma Rosi-Marshall** (*collaborator*)
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- 7) **Dr. Gene E. Likens** (*collaborator*)
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- 8) **Dr. Alex S. Flecker** (*Ph.D. committee member*)
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- 9) **Dr. Emily S. Bernhardt** (*collaborator*)
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- 10) **Dr. Christine L. Goodale** (*Ph.D. committee member*)
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