

CURRICULUM VITAE

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EDUCATION:

Yale University, Ph.D., Forest Ecology 1984
Cornell University, M.S., Plant Ecology 1977
Harvard College, B.A., Cum Laude 1973

PROFESSIONAL:

1989 to 2017 Associate Professor of Natural Resources,
Rubenstein School of Environmental & Natural Resources,
University of Vermont

2013 to 2014 Co-Director, M.S. Leadership for Sustainability concentration RSEN
2013 to 2015 Program Director, Environmental Science Program RSEN
2003 to 2017 Gund Fellow, Gund Institute for Ecological Economics
2007 Acting Dean, Rubenstein School of Environment & Natural Resources
2003 to 2006 Associate Dean, Rubenstein School of Environment & Natural Resources
1999 to 2003 Acting Associate Dean, School of Natural Resources, University of
Vermont

1998 to 2003 Chair, Natural Resources Planning Program.
1997, 2005 Visiting Scientist, Institut National de la Recherche Agronomique,
Station d'Hydrobiologie Lacustre de Thonon, France

1986 to 1989 Assistant Professor of Urban Ecology,
Center for Urban Horticulture, College of Forest Resources,
University of Washington

1985-1986 Associate Research Scientist, School of Forestry
and Environmental Studies, Yale University

1984-1985 Adjunct Associate in Research, Institute of
Ecosystems Studies, New York Botanical Garden, Cary Arboretum

1981-1985 Associate in Research and Instructor, School of
Forestry and Environmental Studies, Yale University

1975-1978 Associate Project Ecologist, Roy F. Weston, Inc.

PROFESSIONAL DEVELOPMENT RECOGNITIONS:

Service-learning Faculty Fellow - Spring 2009
Writing in the Disciplines Institute Faculty Fellow - Spring 2009
Sustainability Faculty Fellow - 2011-2012
Selected for Hybrid Course Redesign Cohort (CTL) - Spring 2014

TEACHING:

Classes University of Vermont

- Fall 2015-16: NR 385 Applied Ecology, Environment & Society, with Allan Strong. Redesigned for Fall 2015 after one previous offering, hybrid format, required M.S. & Ph.D. course for entering students.
- Fall 2016: ENSC 1 Introduction to Environmental Science
- Spring 2012-2017: NR 356 Conservation, Systems, and Sustainability. Updated course for graduate students emphasizing systems perspectives and sustainability.
- Spring 2011-17: HCol 186/196 Survival Ecology/Ecology for Sustainability, seminar for Honors College sophomores (new course)
- Spring 2014-15: NR 333 Professional Writing, with Bryan Pfeiffer
- Fall 2014-15: ENSC 9 Orientation to Environmental Sciences, with Don Ross
- Fall 2014: Initiated LANDS Field Semester (Emily Brodsky, instructor) assisting with online development for NR 205, NR 206, and 2 NR 285 versions. Students enroll for 18 credits while spending most of their time in the field doing service-learning, outgrowth of the LANDS Summer program.
- Spring 2014: ENSC 285 Science and Systems: Designing Sustainable Outcomes (new course with Elizabeth Calabrese)
- Spring 2014: NR 199 Honors Seminar: Leadership for Sustainability (new topic with guest speakers)
- Fall 2013-2016: NR 306 Envisioning a Sustainable Future, with Allan Strong. Redesigned 2013 for an online format, and again in 2014 to a hybrid format, required M.S. Ph.D. course for entering graduate students.
- Spring 2012-13: NR 378 Land Conservation - Science and Practice. (Integrating Analysis of Natural Resource Issues) Reworked course for graduate students, focused on land conservation, but emphasizing multi/inter-disciplinary integration (with Steven Libby).
- Spring 2012: NR 199 Honors Seminar: Education for Sustainability (new topic with guest speakers)
- Spring 2011: NR 385 Leadership and Relevancy in the 21st Century. First course in the National Park Service Academic Consortium Certificate Program - Leadership for Public Lands and Cultural Heritage. Presents many perspectives and tools for thinking about 21st challenges and opportunities for public land managers. (new course)
- Fall 2009-10: NR 385 Survival Ecology, a new online course presenting ecology to graduate students in the social sciences and humanities: www.uvm.edu/envnr/nr385se
- Spring 2009: NR 385 Conservation in the 21st Century, a new experimental graduate-level course taught in conjunction with Professor HanLing at Peking University and Professor Cecilia Danks. Course delivered online and with Skype technology: www.uvm.edu/envnr/nr385c21
- Spring 2008-2015: ENSC 195 Green of Aiken Internship (with Gary Hawley, Alan McIntosh, and Carl Waite). Student projects to design and manage aspects of the Aiken Center renovation (greening)
- Fall 2008: FOR 228 Ecosystem Ecology adapted to a Service-learning (SL) class.
- Fall 2008: Initiated NR 306 Multicultural Perspectives in Natural Resources
- Spring 2008-2010: Initiated and developed NR 385 Conservation Techniques and Approaches, a graduate-level course for students interested in conservation practice

Spring 2008: co-instructor with Cecilia Danks and Jennifer Jenkins NR 378 Forest Carbon and Communities, required graduate integration course

Spring 2007-2011: NR 385 Land Conservation: Theory and Practice (with Steven Libby)

Fall 2006: Initiated NR 385 Fundamentals of Conservation Science, a graduate-level interdisciplinary science course for students intending to go into conservation practice.

Fall 2005-2010: Initiated and developed NR 376 Graduate Teaching Practicum, a required course for RSENR doctoral students on an academic track to prepare them to be college and university teachers.

Spring 2005: Initiated and developed NR 385 Concepts in Ecosystem and Landscape Ecology, a graduate student course in the fundamental ideas behind ecosystem and landscape ecology with an emphasis on how the fields originated and developed.

Fall 2004-2005: Math 18 Basic Mathematics (w/Joan Rosebush) - developed a WebCT-based mathematics class employing Web tutorials for Rubenstein School students.

Fall 2003: NR 285 Seminar in EcoVillage Design (w/ Robert Costanza, John Todd, Jon Erickson, and others).

Fall 2003: Initiated and developed VS 95 (Vermont Studies) Community and Sense of Place - Reading Vermont's Natural and Human Landscape. A pilot course for a first year honors college class at the University of Vermont. (with Jeffrey Hughes and others).

Summer 2003-2011: Initiated NR 385 Reading the Landscape (cross-listed with HP 395, PSS 297, For 385 in 2005) - a graduate-level, interdisciplinary, field course with Jeff Hughes (Fred Magdoff, Bob McCullough, and Tom Visser joined the course in 2005 to integrate landscape history, agriculture, forestry, and ecology into the syllabus.

Spring 2001-2003: NR 382 Seminar in Research Planning, a graduate course in planning and carrying out research in natural resource fields.

Spring 2000-2003: Developed a new seminar NR 385 Redesigning the Human Environment – a graduate reading seminar.

Summer 1999-2002: Initiated NR 285 A Primer of Ecosystem and Landscape Ecology – an upper level/graduate, week-long, intensive, field course for Ecological Planning and Field Naturalist students.

Summer 1999 Initiated the Ecological Planning curriculum for non-thesis SNR master students to pursue a conservation profession ("sister" program to the Botany Field Naturalist Program).

Spring 1999-2000: Initiated NR 385 Ecosystem Health and Sustainability, an interactive video seminar among the six Land Grant Universities in New England.

Spring 1999-2000: Initiated and developed NR 378 Integrating Analyses of Natural Resource Issues with Clare Ginger, graduate level course emphasizing integration among social and natural sciences.

Fall 1995-8: Initiated NR103 Ecology, Ecosystems and Environment, 3rd Course in the School of Natural Resources Core Curriculum emphasizing ecology and ecosystem processes.

Fall 1995: Initiated NR105 Environmental Problems in Natural Resources , co-instructor with Claire Ginger on this ecology-social science linkage course for the Natural Resources Core Curriculum.

Fall 1994-2011: NR 6 Race and Culture in Natural Resources and part of faculty team developing, and teaching a new course. Course organizer 1995-6, 1998-2003. First year

student introduction to issues of race and culture related to distribution and use of natural resources.

1993-2010: Initiated FOR 228 Ecosystem Ecology, Senior/graduate-level course on measuring and modeling ecosystem structure and function (alternate years).

Spring 1993-95: NR 120 Forest Ecology, undergraduate introductory ecology course

Fall 1991: Organizer, Natural Resource Ecology Seminar Series: Sustainability and Natural Resources - Theory and Practice

Fall 1990-94: ENV5 95 Race and Culture, freshman-level cultural issues course.

Spring 1989-92: NR 272 Assessing Environmental Impact, senior-level "capstone" course in the Natural Resources Core Curriculum.

1989-2010: Initiated NR 220 Landscape Ecology, graduate-level course introducing concepts and training in landscape analysis (taught 6 times in that period).

Classes University of Washington

Assistant Professor, 1986-89. University of Washington.

Winter 1988,89: Initiated FRM 441, Landscape Ecology, with Jerry Franklin. An upper-level/graduate course introducing concepts and discussing case studies (one of the first landscape ecology classes in the country).

Fall 1987,88: Teaching LARC 504, Regional Planning and Design, with Arthur Rice. An interdisciplinary graduate level studio course.

Spring 1987: Initiated FRM 490B, Managing Trees in the Urban Environment, with Alan Wagar. A topics course in Urban Forestry.

1987-1988: Organized Urban Horticulture Seminar Series -- 1. Plants and Urban Environments: Research at the University; 2. Plants in our Urban Future: Visions and Needs.

Other Teaching Roles

Advisor and Coordinator, 1985-86. Project to evaluate the ecological resources of an urban, forested natural area for the New York City Parks Department. One-year grant from the Mary Flagler Cary Charitable Trust for \$20,000 to F.H. Bormann and D. Wang.

Instructor, 1983-86. Yale School of Forestry and Environmental Studies.

Teaching graduate-level advanced ecosystem course with F. Herbert Bormann (1986).

Teaching a project course in computer techniques in ecological research with Thomas G. Siccama (1986). Teaching mini-course with Joyce Berry introducing micro-computers to students (1983-1985).

Teaching Assistant, 1979-81. Yale School of Forestry and Environmental Studies. Responsible for lecturing and assisting students in field and laboratory work for a graduate level course on Terrestrial Ecosystems.

Teaching Assistant, 1973-75. Cornell University. Taxonomy of Vascular Plants (two terms). Evolution and Ecology of Vascular Plants (two terms).

Instructor and Expedition Leader, 1970-72 (summers). National Outdoor Leadership School (NOLS, Lander Wyoming). Responsible for organizing trips and instructing students in wilderness and mountaineering skills. Guided month-long expeditions into the Wind River Range, Wyoming, and shorter trips in New England.

Major Advisor:

1) Jeff Wagner (M.S. Natural Resources Planning 1991)

Project title: A restoration plan for a Vermont Sandplain Community.

2) Laura Mattei (M.S. Natural Resources Planning 1993)

co-advisor with L. Forcier

Project title: Planning river greenways for conservation in New England landscapes: A Vermont Case study.

3) Linda Goldsmith (M.S. Natural Resources Planning - 1993)

Thesis title: A landscape-level evaluation of wetland structure and function in a large multi-use basin.

4) Cathy Borer (M.S. Forestry - 1994)

Thesis title: Eastern white pine responses to chronic ozone exposure: visible injury and growth.

5) Christine Weller (M.S. Natural Resources Planning - 1994)

co-advisor with M. Watzin

Project title: Phosphorus loading prediction models and the effect of wetlands on phosphorus exports to Lake Champlain.

6) David Braun (M.S. Water Resources - 1996)

Thesis title: Patterns of phosphorus export in relation to land use in the LaPlatte River Basin, Vermont.

7) John Ranciato (M.S. Forestry - 1997)

Thesis title: Rapid biomass and nitrogen accumulation in four tropical tree species.

8) Lisa Windhausen (M.S. Water Resources - 1997)

Thesis title: A landscape-scale evaluation of phosphorus retention in wetlands in the LaPlatte River Basin, Vermont, USA.

9) Shelly Gustafson (M.S. Water Resources - 1999)

Thesis title: The effects of adjacent land use on a northern Vermont wetland.

10) Nicole Seltzer (M.S. Water Resources - 2000)

Thesis title: Evaluating phosphorus levels in Lake Champlain using a landscape-scale approach.

11) Jillian Butler (M.S. Natural Resource Planning/Ecological Planning - 2001)

Report title to the Vermont River Conservancy: A threat assessment for the Berlin Pond watershed.

12) Elissa Arnheim (M.S. Natural Resource Planning/Ecological Planning - 2001)

Project title: Moving toward improving protection of the Huntington River watershed.

- 13) Brian Carlson (M.S. Natural Resource Planning/Ecological Planning - 2001)
Report title for The Nature Conservancy: Natural community assessment of the Blueberry Hill Matrix Block, Rutland Co. Vermont. Peer-reviewed publication: Carlson, B., D. Wang, D. Capen, and E. Thompson. 2004. An evaluation of GIS-derived landscape diversity units to guide landscape-level mapping of natural communities. *J. Nature Conservation* 12: 15-23.
- 14) Heather Fitzgerald (M.S. Natural Resource Planning/Ecological Planning - 2002)
Project title: Establishing conservation priorities on Connecticut's Traprock Ridges: A Site Conservation Plan. Nature Conservancy report title: (same title).
- 15) Mary Tess O'Sullivan (M.S. Natural Resource Planning/Ecological Planning - 2002)
Report titles for The Nature Conservancy: (1) Ecologically sensitive areas on Shell Exploration and Production Company's Mahogany Parcel in the Piceance Basin, Colorado, (2) Collaborative partnerships: Blending conservation and corporate interests at the Cathedral Bluffs - A joint venture between the Nature Conservancy and Shell Exploration & Protection Company.
- 16) Thomas Lautzenheiser (M.S. Natural Resource Planning/Ecological Planning - 2002)
Project title: Natural community mapping at the Marsh-Billings-Rockefeller National Historic Park. Report title for the Marsh-Billings-Rockefeller National Historic Park: Natural community report.
- 17) Claudia Rullman (M.S. Forestry - 2002)
Thesis title: Effects of ozone and UV-b radiation singly and in combination on photosynthesis and growth in selected woody species.
- 18) Josh Rapp (M.S. Forestry/Ecological Planning - 2003)
Report title for the Lake Umbagog National Wildlife Refuge and Trust for Public Land: Ecological communities of the Lake Umbagog National Wildlife Refuge: Classification and mapping with the National Vegetation Classification System. Peer-reviewed publication: Rapp, J., D. Wang, D. Capen, E. Thompson, and T. Lautzenheiser. 2005. Evaluating error in using the National Vegetation Classification System for ecological community mapping in northern New England, USA. *Natural Areas Journal* 25(1): 46-54
- 19) Kirsten Lange (M.S. Natural Resource Planning/Ecological Planning - 2003)
Project title and Report title to the Vermont Institute of Natural Science: Landscape Analysis for the Vermont Institute of Natural Science (VINS).
- 20a) Jonathan Kart (M.S. Forestry/Ecological Planning - 2003)
Report title for the Nature Conservancy of New Hampshire: Rare Lepidoptera and shrubland birds: Their presence, distribution and habitat preferences on the Ossipee Pine Barrens Preserve in Carroll County, New Hampshire, A 2002 field survey.
- 20b) Claire Dacey (M.S. Botany/Field Naturalist - 2003)
Report title for New Hampshire TNC: Vegetation of the Ossipee Pine Barrens Preserve, Carroll County, NH.

- 21) Brooke Wilkerson (M.S. Forestry/Ecological Planning - 2004)
Project Title: Long-Term Ecological Monitoring: Design and Applications. Report to the Maine Natural Areas Program: Plot size and power statistics: An assessment of Maine's ecological reserve monitoring plan.
- 22) Kendra Schmiedeskamp (M.S. Natural Resource Planning/Ecological Planning - 2004)
Project title and Report title to the Vermont Nature Conservancy: A natural community assessment of the Stewart Hill matrix block, Chittenden and Franklin Counties, Vermont.
- 23) Michael Miller (M.S. Natural Resource Planning - 2004)
Project Title: Conducting natural resource inventories in Vermont: A case study of the Town of Belvidere, Vermont Natural Resource Inventory.
- 24) Katherine Forrer (M.S. Forestry - 2005)
Project Title: Integrating Sustainability into Forest Management Planning of The University of Vermont's Jericho Research Forest, Jericho, VT.
- 25) Jane Moscowitch (M.S. Natural Resources/Ecological Planning - 2005)
Project Title: Planning for Conservation on the Katahdin Iron Works Property in the Heart of the 100-Mile Wilderness of Maine: An Ecological Assessment and Evaluation of Conservation Planning. Report title for Appalachian Mountain Club: An Ecological Assessment of the Katahdin Iron Works Property in the Heart of the 100-Mile Wilderness of Maine
- 26) Abigail Hood (M.S. Natural Resources/Ecological Planning - 2006)
Report title to Living Futures: Farming for the Future: Design and Assessment of a Vermont Forest Garden.
- 27) Jesse Mohr (M.S. Forestry/Ecological Planning - 2006)
Project title: Ecological Inventory and Forest Planning for the Roger's Tract, University of Vermont's Jericho Research Forest.
- 28) Amanda Devine (M.S. Botany/Field Naturalist - 2006)
Project title: Post-fire dead wood dynamics and implications for carbon storage in the central Oregon Cascades.
- 29) Christopher Nytech (M.S. Natural Resources/Ecological Planning - 2007)
Project title: Learning on the land: A Place-based resource guide to the Putney Central School.
- 30) Brendan Weiner (M.S. Natural Resources/Ecological Planning - 2007)
Project title: From principle to practice: A sustainable approach to managing family forests in Vermont.
- 31) Sarah Bursky (M.S. Natural Resources/Ecological Planning - 2007)
Project title: Building communities on the land: A history of the Prosper Valley, Vermont.
- 32) Katherine Elmer Westdjik (M.S. Natural Resources/Ecological Planning - 2007)

Project title: Engaging minds, building community: An action plan for facilitating community engagement in the Rubenstein School of Environment and Natural Resources.

33) Bryan Foster (Ph.D. - 2008)

Thesis title: Green forestry? Case studies of sustainable forestry and forest certification.

Publications: (1) Foster, B., D. Wang, W.S. Keeton, and M.S. Ashton. 2010. Implementing sustainable forestry using six management concepts in an adaptive management framework. *J. Sustainable Forestry* 29:79-108; (2) Foster, B., Wang, D., Keeton, W. 2008. An exploratory, post-harvest comparison of ecological and economic characteristics of FSC certified and uncertified northern hardwood stands. *J. Sustainable Forestry* 26(3):171-191.

35) David Guiliani (M.S. Natural Resources/Forest Science - DNF)

Master's project – sustainable forestry

36) Corrie Blodgett (M.S. Natural Resources/Forest Science - 2008)

Thesis title: Contextual interaction as a component of biocomplexity – Evidence from a mesocosm experiment, Vermont, USA.

37) Delia Delongchamp (M.S. Natural Resources - 2008)

Dual degree M.S./M.S.E.L. with Vermont Law School

Project title: Opportunities for American Land Stewardship: Designing a Conservation Training Curriculum for the LANDS Program

38) Matthew Peters (M.S. Natural Resources/Ecological Planning - 2008)

Project title: Helping communities understand and protect their landscapes: Vernal pool and Wetland inventory and community engagement in rural Vermont.

39) Erin Haney (M.S. Natural Resources/Ecological Planning - 2008)

Report title for Orange County Headwaters: Vernal Pool and Wetland Inventory and Assessment for the Orange County Headwaters Project.

40) Sara Mulford (M.S. Natural Resources/Ecological Planning - 2008)

Report title for The Institute for Applied Ecology (Corvallis, OR): Prairie Reserve Network Recommendations for the Benton County Habitat Conservation Plan: Prioritizing Conservation Areas Based on Habitat Quality and Contribution to Connectivity within Target Species Networks.

41) Jesse Fleisher (M.S. Natural Resources/Ecological Planning - 2008)

Project title: Facilitating Community Engagement: The Role of Place-Based Education in Williston, Vermont.

42) Ryan Salmon (M.S. Plant Biology/Field Naturalist - 2008)

Report title for the 10% Challenge: A Greenhouse Gas Framework for Climate Change.

43) James Barnes (M.S. Plant Biology/Field Naturalist - 2008)

Report title for the Student Conservation Association and the Land Trust Alliance: The Land Stewardship Program: Serving Land Trusts – Training the Next Generation.

44) Mia Akaogi (M.S. Natural Resources/Ecological Planning – 2009)

Report title for the Green Mountain Conservation Group, NH: An Assessment of Groundwater Vulnerability in the Ossipee Watershed.

45) Ashley Bies (M.S. Natural Resources/Ecological Planning – DNF)

Project title: Evaluating Methods to Monitor Jaguar (*Panthera onca*) Prey Abundance for Early Detection of the Empty Forest Syndrome in Belize and Central America

46) Nathaly Fillion (M.S. Natural Resources/Ecological Planning – 2011)

Report title for the Oficina Nacional de Cambio Climático: Preparing and adapting to climate change in rural Dominican Republic: An assessment of community preparedness for Lake Enriquillo flooding.

47) Lydia Menendez (M.S. Natural Resources/Ecological Planning – 2011)

Report title for the Student Conservation Association: College Sustainability Corps - Program Implementation Manual.

48) Kim Hoffman (M.S. Natural Resources/Ecological Planning – 2010)

Report title for the Green Mountain and Finger Lakes National Forest: A Landscape Analysis of the Green Mountain National Forest's Dorset Mountain Area.

49) Lisa Dunaway (M.S. Natural Resources/Ecological Planning – 2010)

Project title: The Indiana Wildlife Federation Environmental Habitat Steward Certificate Program.

50) Autumn Foushee (M.S. Plant Biology/Field Naturalist – 2011)

(co-advisor with Mary Watzin)

Report title for the The Coos Watershed Association and the South Slough National Estuarine Research Reserve: Identifying Ecological Indicators of Climate Change and Land Use Impacts to a Coastal Watershed.

51) Rosemary Mosco (M.S. Plant Biology/Field Naturalist – 2010)

(co-advisor with Thomas Hudspeth)

Project title: Bringing Climate Change Home: Web-based, Place-based Climate Outreach.

52) Hisashi Kominomi (M.S. Plant and Soil Science - 2010)

Thesis title: Water quality monitoring, siting composting areas, and start-up performance of a stormwater treatment system at Shelburne Farms, a pasture-based dairy farm on the shores of Lake Champlain, Vermont.

53) Jennifer Wright (M.S. Natural Resources/Ecological Planning - 2011)

(co-advisor with Cecilia Danks)

Project title: Engaging communities - Forest Carbon Markets for Small-scale Forest Owners: Potential Program to Build Community Capacity.

54) Rose Graves (M.S. Natural Resources/Ecological Planning – 2011)

Project title: Maintaining Connectivity: Linkage Designs for Wildlife Movement within the Split Rock Wildway Planning Area, Essex County, NY.

55) Neahga Leonard (M.S. Natural Resources/Ecological Planning – 2011)

Project title: Monitoring Patchy Groundcover: A photographic technique for Shenandoah National Park.

56) Pamela Johnston (M.S. Natural Resources/Ecological Planning – 2011)

Project title: Envisioning the Champlain Wildway: Landscape assessment and permeability enhancement for wide-ranging mammals in agricultural lands of Vermont's Champlain Valley.

57) Sam Schafer-Joel (M.S. Plant Biology - 2011)

Project title: A Proposal for Increasing Engagement among Returning Residents of the GreenHouse Residential Learning Community.

58) Zachary Ispa-Landa (M.S. Plant Biology - 2012)

Project title: Whole Farm Assessment Guidebook.

59) Leah Mital-Skiff (M.S. Natural Resources/Ecological Planning – 2012)

Project title: Transformation that Endures: The Journey to Bridge Wilderness and Home.

60) Emily Brodsky (M.S. Natural Resources/Ecological Planning – 2012)

Project titles: Windham Farm and Food Network; Windham Geographic Analysis Project

61) Connor Stedman (M.S. Natural Resources/Ecological Planning – 2013)

Project title: Agroforestry Farming Systems in the Northeast.

62) Ryan Morra (M.S. Natural Resources/Ecological Planning – 2013)

Adjuntas: Paisaje Natural y Social - Developing a Place-Based Landscape Analysis and Community Engagement (PLACE) Program with the Community of Adjuntas, Puerto Rico.

63) Claire Polfus (M.S. Natural Resources/Ecological Planning – 2013)

Project title: The Heights Management Unit - Long Term Management Plan.

64) Laura Yayac (M.S. Natural Resources/Ecological Planning – 2014)

Project title: Designing a Land Stewardship Intern Program for the Southern Maine Conservation Collaborative.

65) Joanne Garton (M.S. Natural Resources/Ecological Planning - 2015)

(co-advisor with Beverley Wemple)

Project title: Evaluating the Effectiveness of Best Management Practices on Rural Back Roads of Vermont: A Retrospective Assessment

66) Madeline Morgan (M.S. Natural Resources/Ecological Planning - 2015)
Project title: Community Engagement at UVM's Horticultural Research and Education Center

67) Katherine Deely (M.S. Natural Resources/Ecological Planning - 2015)
(co-advisor with Elizabeth Thompson)
Project title: An Ecological Assessment of Merck Forest and Farmland Center, Rupert, Vermont.

68) Kathryn Wrigley (M.S. Natural Resources/Ecological Planning - 2015)
Project title: An Ecological Assessment of Glading at Bolton Backcountry in Bolton, Vermont.

69) Jessica Griffen (M.S. Natural Resources/Ecological Planning - 2016)
(co-advisor with Marla Emery)
Project title: Engaging Guests with the Kripalu Landscape: Part A 2015 Natural History Pilot Programs Report and Recommendations, Part B

70) Jamie Ervin (M.S. Natural Resources/Ecological Planning/MELP VT Law Dual Degree program - 2016)
Project title: Describing Forest Structure in Old Growth Southern Blue Ridge Cove Forests – A LIDAR-based Analysis.

71) Lyra Brennan (M.S. Natural Resources/Ecological Planning - 2017)
Project: Ecological Assessment of the Pond Brook Watershed in Monkton, VT

72) Sean Beckett (M.S. Natural Resources/Ecological Planning - 2017)
Project Title: Burlington Geographic - Place-Based Landscape Analysis and Community Engagement in Burlington, Vermont

73) Ellen Gawarkiewicz (M.S. Plant Biology/Field Naturalist - 2017)
Project title: Cultivating Modern Naturalists :Plans for an Undergraduate Field Naturalist Concentration.

74) Julia Runcie (M.S. Natural Resources/Ecological Planning - 2017)
(co-advisor with Lini Wollenberg)
Project title: Guiding Recreation at Travertine Hot Springs – An Environmental Assessment and Photo-monitoring Protocol.

75) Hannah Phillips (M.S. Natural Resources/Ecological Planning - 2017)
(co-advisor with Tony D'Amato)
Project title: Atlas Timberlands Ecological Assessment.

Committee:

Roger Kjelgren (UW: Ph.D. Forestry 1989)

Thesis title: Development of *Liquidambar styraciflua* L. in three urban microclimates.

David Snyderman (UVM: M.S. Botany 1991)

Thesis title: Water relations and ecological implications for *Acer saccharum*, *Schefflera morotoni*, and *Pseudobombax septenatum* resulting from their hydraulic architecture.

Lars Botzjorns (UVM: M.S. Natural Resources Planning 1991)

Project title: Wildlife restoration planning: Lynx in the Adirondacks.

Wieger Schaap (UW: Ph.D. Forest Physiology 1992)

co-advisor with T.M. Hinckley

Thesis title: Use of branch and whole tree exposure systems to evaluate ozone impacts on forest trees

John Alexander (UVM: M.S. Forestry 1992)

Thesis title: Photosynthetic and transpirational response of red spruce to light intensity and air temperature.

Linda Henzel (UVM: M.S. Natural Resources Planning 1992)

Project title: Stream ecology, land use and erosion manual for subwatersheds of the Lake Champlain Basin.

Paula Cali (UVM: M.S. Forestry - 1994)

Thesis title: Winter photosynthesis in red spruce.

Daniel Coker (UVM: M.S. Wildlife Biology - 1994)

Thesis title: Brown-headed cowbird distribution in a forested landscape.

Yvette Ortega (UVM: M.S. Wildlife Biology - 1997)

Thesis title: Roads and edges: Effects on habitat use and reproductive success of forest birds.

Thomas Gilbert (UVM: M.S. Natural Resource Planning - 1998)

Thesis title: Implications of predominantly private land ownership for regional ecosystem management efforts: A case study of the Northern Forest Lands Council.

Erin Talmage (UVM: M.S. Wildlife Biology - 1999)

Thesis title: The bird breeding atlas in Vermont and its relationship to landscape pattern.

Ian Martin (UVM: M.S. Forestry - 1999)

Project title: Data integration and the flawed promise of ecosystem management.

Jessica Orego (UVM: M.S. Forestry - 1999)

Thesis title: Ozone uptake in a forest canopy.

Erik Clapp (UVM: Ph.D. - 2002)

Thesis title: Long-Term Rates of Denudation and Sediment Generation Over Different Spatial Scales Quantified Using in Situ Cosmogenic ¹⁰BE and ²⁶AL in Sediment and Rock.

Kyle Nichols (UVM: Ph.D. - 2002)

Thesis title: Quantifying Desert Surface Processes Using ¹⁰Be and ²⁶Al.

Todd Menees (UVM: M.S. Water Resources - 2001)

Thesis title: Phosphorus storage in the Winooski River flow corridor.

Krista Reinhart (UVM: M.S. Forestry - 2003)

Thesis title: Mercury in Streamwater From Watersheds With Contrasting Land Use in Northern Vermont.

Jamie Ervin (UVM: Ph.D. - 2003)

Thesis subject: Community-Based Conservation Planning at a Watershed Scale: Three Vermont Case Studies and Their Implications for Planning Theory.

James Eikenberry (M.S. Natural Resource Planning/Ecological Planning - 2005)

Project title: Evaluating wetland condition assessment - Seeing the values in biological integrity.
Report title to Fort Greene, 94th Regional Supply Command of the US Army Reserve: The Landscape of Fort Greene: An Ecological, Cultural, and Historical Inventory and Assessment.

Christopher Detwiller (M.S. Natural Resources/Ecological Planning - 2006)

Project Title: Integrated Natural Resource Management -- Defining the Framework and Evaluating the U.S. Army's Approach. Report title to Fort Greene, 94th Regional Supply Command of the US Army Reserve: Prioritizing and Integrating Wetland Function in Planning for Wetland Restoration at Fort Greene, Narragansett, Rhode Island.

Josh Halman (M.S. - Natural Resources – 2007)

Thesis title: Determining the effects of Calcium (Ca) depletion on Red Spruce (*Picea rubens* Sarg.) health: A watershed-based study at Hubbard Brook Experimental Forest

Jeremy Stovall (M.S. Forestry – 2007)

Thesis title: Old-growth forest structure, the below-canopy light environment, and periphyton production in headwater streams of the Adirondack Mountains, New York.

Caitlin McDonough (M.S. Natural Resources/Ecological Planning – 2010)

Report title for the Appalachian Mountain Club: Mountain Watch Alpine Plant Phenology and Citizen Science - A Report on the Reliability of Volunteer Collected Data and Recommendations for the Appalachian Mountain Club.

Charlie Hohn (M.S. Plant Biology - 2011)

Project title: The Lost Channels of Squirrel Hill: Outreach Methods for Citizen Watershed Awareness in Pittsburgh, PA.

Audrey Clark (M.S. - Field Naturalist program - 2012)

Project title: Permeability of Roadways for Large Vertebrates in the Split Rock Wildway Planning Area, Essex County, NY.

Anna Mika (Ph.D. - Natural Resources - 2012)
Thesis title: Impacts of land-use change and wood bioenergy harvesting on carbon storage and net emissions in the northeastern United States.

Elizabeth Calabrese (M.S. - Ecological Design - 2012)
Project title: The architecture of healing

Kirsten Brewer (M.S. - Natural Resources - 2013)
RACE and Conservation Education: A Case Study

Daniel Keeney (M.S. - CDAE - 2014)
Transforming Organic Waste Into A Marketable Product: A Conjoint Analysis Of Bulk Compost Preferences And Strategies For Expanding The Compost Market In Vermont

Senior theses evaluator/advisor:

William S. Heigis (UVM: Environmental Studies 1991)
A cost effectiveness analysis of sewage, septage, and dairy wastewater treatment in Vermont and New Hampshire.

Frank B. DuRoss, Jr. (UVM: Environmental Studies 1996)
A comparison of foliar leaching rates of calcium and nitrogen, between early and late successional species.

Lisa Fredette (UVM: Honors Thesis 2010)
A Study Into The Potential for Fuel Production from Eco-Machine Biomass.

Marian Herbick (UVM: Honors Thesis 2011)
Greening Initiatives: Four Equine Facilities in Chittenden County, Vermont.

Research Apprenticeship Program:

Diem Nguyen - summer 1992
Effect of ozone on photosynthesis of white pine - use of chlorophyll fluorescence.

Bárbara Jiménez - summer 1993
Inhibition of carbon dioxide efflux from soil.

Lisette Averhoff - summer 1994
Phosphorus attenuation in the LaPlatte River.

James Lee - summer 1996
Biotic-abiotic interactions in experimental mesocosms.

UVM Visit Program:

Leslie Frieson - summer 1992
Daily variation in conductance of *Populus* hybrids.

Internship Advisor:

Aubrey Hallam – 1999, Farm Yard Environmental Education, Shelburne Farms

Mark Fabian – 2000, WEB page scripting and development, UVM EMPACT Project

Kristi Cook – 2000, Greenhouse food production at UVM, Gioia Thompson, UVM Environmental Council; 2001, Web site development for the UVM Natural Lands.

George Tucker – 2000, Forest health research, Dr. Paul Schaberg, USDA Forest Service Laboratory, Burlington, VT

Leslie Glenn - 2001-2, Keeping Track, training support and photo essay.

Alison Donovan – 2002, Air emissions from diesel and biodiesel for the UVM CATS bus pool., UVM Environmental Council.

Other independent student programs supervised:

EPSCOR High School Summer Science Program - 1998-99

Teacher: Eileen Toomy, students: Katherine and Jon Bove

Effects of global warming on snow pack and soil water freezing in New England

Tammy Coe, Greg Coffeen, Julie A. Hart - Summer 1998 (Mellon internship)

Students worked on three projects: legacy effects of trees on soils, cation budgets for mesocosms and nitrogen accumulation in pines via associative nitrogen fixation.

Jonah Keane - Summer 1996 (Mellon internship)

Project entitled: A comparison of the effects of different soils, environmental conditions and growth forms on early tree seedling growth in Vermont.

April Shea - Summer 1995 (Mellon summer intern and ENVS independent study)

James Arrigoni, Jr. & J.R. Cantara - Summer 1995 (Mellon summer intern)

Students collaborated on a project to measure the effect of soil on plant growth. Project report entitled: Differential soil weathering as an effect of vegetative growth with *Pinus strobus* and *Acer rubrum*.

Jenny Cyr - Spring 1995 (Helix project)

Initiation of an experiment to begin to understand nutrient cycling in vegetated and unvegetated soil microcosms using the substrate proposed for the Mesocosm experiment being initiated at SNR. This greenhouse experiment would provide an initial estimate of differential leaching rates from the various substrates.

Allison Bush - Summer 1994-Spring 1995 (Coop with VT Forest, Parks and Recreation)

Development of the Home Page and related documents for the Vermont Monitoring Cooperative (VMC). This HTML document was developed for distribution on the World Wide Web (WWW) in cooperation with the ANR's Forest, Parks and Recreation Department. .

Allison Berry - Summer 1994-Spring 1995 (Helix project)

Collection of conductance data from the VMC tower at the Proctor Maple Research Laboratory to develop vertical and time-series information on sugar maple sensitivity to ozone pollution.

Paper for publication entitled: Estimating ozone uptake by a sugar maple canopy.

PROFESSIONAL WORK:

ASSOCIATE PROJECT ECOLOGIST, 1975-1978. Roy F. Weston, Inc. Responsible for management of and research on various environmental projects for private industry and state and federal agencies.

Major projects included:

- Project coordinator for a \$200,000, long-term hydrographic study in the Delaware River Estuary including bathymetric profiling, current surveys, thermal monitoring and tidal marsh heat flux studies - PSE&G Salem Nuclear Generating Station.
- Preparation of a Final Environmental Impact Statement for the Gulf of Alaska Loran C radio navigation chain - U.S. Coast Guard.
- Environmental Assessment of a coal liquefaction facility in southern Illinois, involving baseline terrestrial community descriptions and biological impact analyses - U.S. Dept. of Energy.
- Pre- and post-operational sampling and analysis of nutrients and phytoplankton productivity for a nutrient-rich effluent in the Cape Fear Estuary, North Carolina - Pfizer Co.
- Vegetation inventory and sampling of poly-chlorinated biphenyl (PCB) disposal sites in upstate New York. Assessment of environmental impacts - N.Y. Dept. Environmental Conservation.
- Baseline wildlife inventory for Duval County, Florida. Estimation of fauna densities based on regional land use and color infra-red satellite photography - U.S. Army Corps Engineers.

RESEARCH AND SCHOLARSHIP:

Grants Received:

University of Vermont, Humanities Center - Cultivating Multi-Disciplinary Collegial Networks. 2015-16. To: D. Wang & Adrian Ivakhiv (leads) with Kelly Clark/Keefe (CESS), Cami Davis (CAS-Art), David Massell (CAS-History), Frank Zelko (CAS-History/ENVS). Interpreting the Anthropocene in the Burlington Social-Ecological System. \$750.

USDA C.S.R.E.E.S - (McIntire-Stennis Cooperative Forestry Research Program). 2014-2019. To: W. Keeton (Lead) co-PIs: C. Danks, G. Galford, W. Kuentzel, J. O'Neil-Dunne, T. Ricketts, A. Strong, K. Wallin, D. Wang. Managing The Matrix: A Framework For Assessing Ecosystem Services In Forested Landscapes. \$958,000

USDA Forest Service, Challenge Cost-share Agreement. 2014-2015. To: D. Wang (PI). Glastenbury Wilderness/Bolles Brook Restoration Partnership Project. \$18,510

USDA C.S.R.E.E.S - (McIntire-Stennis Cooperative Forestry Research Program). 2012-2015. Carbon and nutrient fluxes in a warming world: a forest mesocosm study. , . Carol Adair (PI), Gary Hawley, and Deane Wang. \$86,796

USDA C.S.R.E.E.S - (McIntire-Stennis Cooperative Forestry Research Program). Green Roof Stormwater Management in Urban Ecosystems. 2012-2014. To: Gary Hawley (PI), Carl Waite, Alan McIntosh and Deane Wang. \$56,000.

Northern States Research Cooperative. 2011-12. To D. Wang and Connor Stedman (graduate fellowship recipient). Assessing Promising Agroforestry Production Systems for the Northern Forest Region. \$7,350.

USDA Cooperative State Research, Education and Extension Service (CSREES) Higher Education Multicultural Scholars Program. 2009-2014. To: D. Wang. (PD), A. Strong, C. Ginger, E. Riddle, K. Wallin, M. Erb, and M. Vea-Fagnant. Multicultural Scholars Program at UVM - The Rubenstein School of Environmental and Natural Resources. \$120,000.

USDA Forest Service, Challenge Cost-share Agreement. 2009-2012. To: D. Wang (PI). Supporting the Integrated Resource Project. \$18000, renewals, \$17990, 19000, 19000.

National Audubon Society. 2009. To: D. Wang (for James Barnes, awardee). Developing the Land Stewardship Program - A College Conservation Corps for the 21st Century. \$10,000.

USDA C.S.R.E.E.S - (McIntire-Stennis Cooperative Forestry Research Program). 2008 - 2010. To: D. Wang (PI), G. Hawley, J.W. Hughes, W. Keeton, C. Waite. Quantifying Biological Legacies as a Component of BioComplexity - Contrasting Soil Chemistry and Site Productivity. (variable funding).

USDA Cooperative State Research, Education and Extension Service (CSREES) Food and Agricultural Sciences National Needs Graduate and Postgraduate Fellowship Grants. 2009-2013. To D. Wang (PD), C. Ginger, J. Pontius, P. Schaberg, M. Shannon, M. Vea-Fagnant, K. Wallin Forest Ecosystem Health in a Globalizing World: Building a Diverse Community of Scholars. \$236,000.

USDA Cooperative State Research, Education and Extension Service (CSREES) Food and Agricultural Sciences National Needs Graduate and Postgraduate Fellowship Grants. 2008-2013. To D. Wang (PD), W.B. Bowden, M. Grove, A. Strong, A. Troy, M. Watzin. Multicultural Doctoral Education in Ecosystem and Watershed Science – Meeting the Global Challenge of a Diverse Community of Scholars. \$229,5000.

Northern New England Campus Compact. 2008-2009. To M. Shannon (PI), K. Wallin, M. Kolan, S. Libby, M. Watzin, J. Erickson, D. Wang, J. Shane, A. Ivakhiv, L. Wollenberg, S. Harrington, J. Pontius. Rubenstein School of Environment and Natural Resources Engaged Department Initiative.

USDA C.S.R.E.E.S - (McIntire-Stennis Cooperative Forestry Research Program). 2006 - 2008. To: D. Wang (PI), C. Waite. Atmospheric Inputs as Drivers of Forest Ecosystem Health – Supporting Collaborative Research and Monitoring at the VMC Mt. Mansfield Site. (variable funding).

USDA Cooperative State Research, Education and Extension Service (CSREES) Food and Agricultural Sciences National Needs Graduate and Postgraduate Fellowship Grants. 2006-2009. To D. Wang (PD), C. Ginger, A. Strong, M. Watzin, and V. Ramaswamy. Multicultural Fellows: Developing the Next Generation of Conservation Leaders. \$156,000.

Northern States Research Cooperative. 2006-8. To D. Wang (PI) and Jeffrey Hughes. Conservation Leaders in Action: Enabling Community Engagement in the Northern Forest Landscape. \$40,018.

National Oceanic and Atmospheric Administration/Great Lakes Ecological Research Laboratory (NOAA/GLERL). 2006-2009. To D. Wang and S. Lawson. Monitoring Meteorological conditions on Lake Champlain and a Summary Analysis of Annual Mercury Deposition at Underhill, Vermont. \$96,648.

Lake Champlain Basin Program. 2005-6. To A. Troy (PI), D. Wang, and D. Capen. Updating the Lake Champlain Basin Land Use Data to Improve Prediction of Phosphorus Loading. \$63,000.

The Cooperative Institute for Limnology and Ecosystems Research (CILER). 2003-4. To D. Wang (PI) and C. Waite. Monitoring Meteorological Conditions on Lake Champlain: Support for the Colchester Reef Meteorological Station. \$4,000.

The Cooperative Institute for Limnology and Ecosystems Research (CILER). 2003-4. To D. Wang (PI) and C. Waite. Monitoring Meteorological Conditions on Southern Lake Champlain: Establishment of Operation of a New Meteorological Station at Diamond Island. \$13,802.

The Cooperative Institute for Limnology and Ecosystems Research (CILER). 2003-4. To D. Wang (PI) and J. Keeler. Cooperative Work to Understand Long-term Trends in Atmospheric Mercury Deposition in Vermont. \$1,387 subcontract to VT, \$75,387 total.

Northeastern States Research Cooperative. 2003-2006. To D. Wang (PI), B. Foster, C. Danks, W. Keeton, and T. McEvoy. Eco-cruise: Developing a Reliable, Rapid Assessment Protocol for Sustainable Forestry on Non-industrial Private Forest Lands. \$75,460.

Subcontract to D. Wang: National Science Foundation. 2003-6. To K. Keller, B.T. Bormann, C.Y. Li., and J.T. Dickenson. Chemical hydrology of vascular plant growth: Role of root-fungus associations. UVM subcontract \$26,417 (Total \$249,722).

U.S. Environmental Protection Agency. 2003-2005. To: D. Wang (PI), and E. Miller. Atmospheric Mercury in Vermont and New England. \$184,700.

USDA C.S.R.E.E.S - (McIntire-Stennis Cooperative Forestry Research Program). 2002 - 2005. To: D. Wang (PI), C. Waite, G. Hawley, D. DeHayes, J.W. Hughes. Contextual Interaction in Ecological Systems: Phase III - Mesocosm Harvest, Data Collection, and Interpretation (variable funding).

USDI National Park Service, 2001. To: D. Wang. Internship funding for Natural community mapping at the Marsh-Billings-Rockefeller National Historic Park. \$5,000.

New England Interstate Water Pollution Control Commission (US EPA Region I and Lake Champlain Management Conference). 2000-2002. To: M. Watzin (PI) and D.Wang, R.Manning, B. Rosen, W.C.Hession, E.A. Cassell, E.Marsden, W. Kuentzel, A.Shambaugh. Developing ecosystem indicators and an environmental score card for the Lake Champlain Basin Program. \$100,000.

U.S. Environmental Protection Agency, EMPACT. 1999-2001. City of Burlington, Subcontract to: D. Wang and Tim Scherbatskoy (Co-principal Investigators). Burlington EMPACT Project – Community-based Environmental Monitoring in the Burlington Ecosystem. \$500,000 (\$173,578 to UVM).

USDA C.S.R.S - (McIntire-Stennis Cooperative Forestry Research Program). 1998 - 2000. To: D. Wang (PI), D. DeHayes, J.W. Hughes, C. Waite, G. Hawley. Quantifying and Interpreting "Contextual" Interaction In Forested Ecosystems (variable funding).

Yale University. 1990-2001. To: D. Wang. subcontract to F.H. Bormann (A.W. Mellon Foundation). A cooperative agreement for studies on the accumulation of nitrogen and biomass in experimental mesocosms. \$65,711.(4/91 \$8,400 extension; 4/92 \$128,490; 8/94 \$113,199; 10/97 \$107,714; 6/99 \$94,490).

New England Interstate Water Pollution Control Commission (US EPA Region I and Lake Champlain Management Conference). 1998. To: Lenore Budd (Associates in Rural Development, Inc., Burlington, VT) and Deane Wang (via subcontract). Estimation of basinwide land use and phosphorus export. \$40,000 (\$19,735 to UVM).

Andrew W. Mellon Foundation. 1994-1998. To: Don DeHayes, Jonathan Cumming, Jeffrey Hughes, Deane Wang (Co-principal Investigators). Structure, function, and development of northeastern forest ecosystems: The role of biotic-abiotic interactions. \$326,148.

New England Interstate Water Pollution Control Commission (US EPA Region I and Lake Champlain Management Conference). 1995-1997. To: Jeffrey W. Hughes (Co-principal Investigator), Deane Wang, William E. Jokela. Determination and quantification of factors controlling pollutant delivery from agricultural land to streams in the Lake Champlain Basin. \$74,816 phase I

USDA Forest Service Cooperative Agreement. 1994-6. To Tim Scherbatskoy (co-P.I.), D. Wang, and J.W. Hughes. Evaluation of disturbance effects and temporal stability in forest health monitoring plots. \$80,000.

New England Interstate Water Pollution Control Commission (US EPA Region I and Lake Champlain Management Conference). 1993-1995. To: James Hoffmann (Co-principal Investigator), E. Alan Cassell, John C. Drake, Suzanne Levine, Donald W. Meals, Deane Wang. Understanding phosphorus cycling, transport and storage in stream ecosystems as a basis for phosphorus management. \$94,995 phase I, \$90,000 phase II.

USDA Forest Service Cooperative Agreement 23-617. 1991-1994. To: D. Wang (Principal Investigator) with E. Alan Cassell and Roy Whitmore. Understanding the role of wetlands in the landscape -- Ecological and human dimensions. \$49,786; addendum \$22,167. Co-principal investigator with Walter Kuentzel, renewal 1994-5 \$24,845.

USDA C.S.R.S - (McIntire-Stennis Cooperative Forestry Research Program). 1994 - 1997. To: D. Wang. An experimental ecosystem approach to understanding forests (variable funding).

USDA C.S.R.S - (McIntire-Stennis Cooperative Forestry Research Program). 1990 - 1994. To: D. Wang. Effects of ozone pollution on photosynthesis of selected tree species. (variable funding).

USDA Cooperative State Research Service. 1990-1992. To: D. Wang (Principal Investigator), D. Bergdahl, J. Donnelly, T. Scherbatskoy. An integrated study of the effects of ozone and UV-B on leaf function. \$119,916.

University of Washington. 1989-1991. To: D. Wang. subcontract to T. Hinckley (Ozone exposure dynamics). \$45,900 (9/91 \$7,500 extension)

U.S. Environmental Protection Agency, CERL. 1988-1990. To: D. Wang (Principal Investigator), T. Hinckley, R. Edmonds. Ozone exposure dynamics: detailing components of physiological response to ozone. \$82,189.

U.S. Environmental Protection Agency, Office of Exploratory Res. 1987-90. To: D. Wang (Principal Investigator), T. Hinckley, D. Sprugel, K. Vogt, D. Ford. Whole tree growth and development as a function of ozone stress. \$285,400.

Mary Flagler Cary Charitable Trust. 1985-1986. To: F.H. Bormann (P.I.) and Deane Wang. Study of the ecological resources of Hunter's Island. \$20,000.

Mary Flagler Cary Charitable Trust. 1982-1985. To: F.H. Bormann (P.I.) and Deane Wang. The effects of ambient air pollution on plant populations and the structure and function of natural ecosystem. \$109,362.

Curriculum Development:

Smith, S., Davis, J, and Wang, D. 2005. Facilitating Intercultural Discovery. Global Outreach Grant, Office of International Education, UVM. \$1,500.

Wang, D. and Rosebush, J. 2004-5. Building a foundation for mathematical learning in Math 18. UVM Instructional Incentive Grant. \$4,140.

Hughes, J., Wang, D., others. 2002-3. Honors College pilot course planning. Provost's Office. approx. \$57,000.

Wang, D., and Hughes, J. 1999. Field-based ecology curricula using the RV landscape explorer. UVM Instructional Incentive Grant. \$1,500.

Wang, D., Bierman, P., Pintauro, S., Stanley, R., Ginger, C., Kuentzel, W., and Lindsay, J. 1996. Technology in education: Three models for enhancing undergraduate education at the University of Vermont. UVM Information Technology grant. \$49,945

Dissertations:

Doctoral: Fire and nutrient dynamics in a pine-oak forest ecosystem in the New Jersey Pine Barrens. Supervising Professor: Dr. F. Herbert Bormann

Masters: Variation of *Viola pubescens* in the drainage of the Cayuga Inlet, central New York. Supervising Professor: Dr. Robert T. Clausen

Publications (* Peer Reviewed, graduate student/post-docs in bold):

Hill, L. and D. Wang. 2017. Integrating sustainability learning outcomes into a university curriculum - A case study of institutional dynamics. *International J. Sustainability Higher Education*. 19:699-720.

Foster, B., D. Wang, G. Auld, and R.M.R. Cuesta. 2017. Assessing audit impact and thoroughness of VCS forest carbon offset projects. *Environmental Science and Policy* 78:121-141.

***Graves, R.A.**, and D. Wang. 2012. Wildlife habitat linkages in the eastern Adirondacks: Applying functional connectivity modeling to conservation planning for three focal species. *Adirondack J. Env. Studies* Volume 12.

Wang, D. 2012. Biogeochemical and nutrient cycling. IN R. Craig, J. Nagle, B. Parly, O. Schmitz, W. Smith. (eds.). *Berkshire Encyclopedia of Sustainability: Volume 5 - Ecosystem Management and Sustainability*. Berkshire Publishing Group, UK.

***Foster, B.**, D. Wang, W.S. Keeton, and M.S. Ashton. 2010. Implementing sustainable forestry using six management concepts in an adaptive management framework. *J. Sustainable Forestry* 29:79-108

***Foster, B.**, Wang, D., Keeton, W. 2008. An exploratory, post-harvest comparison of ecological and economic characteristics of FSC certified and uncertified northern hardwood stands. *J. Sustainable Forestry* 26(3):171-191.

*Balogh-Brunstad, Z., C. K. Keller, B. T. Bormann, R. O'Brien, D. Wang, and G. Hawley (2008), Chemical weathering and chemical denudation dynamics through ecosystem development and disturbance, *Global Biogeochem. Cycles*, 22, GB1007, doi:10.1029/2007GB002957

*Keller, C.K., R. O'Brien, J.R. Havig, J.L. Smith, B.T. Bormann, and D. Wang. 2006. Tree harvest in an experimental sand ecosystem: Plant effects on nutrient dynamics and solute generation. *Ecosystems* 9: 634-646.

*Dorioz, J.M., Wang, D., Poulenard J., and Trévisan, D. 2006. The effect of grass buffer strips on phosphorus dynamics - a critical review and synthesis as a basis for application in agricultural landscapes in France. *Agric. Ecosys. Environ.* 117: 4-21.

***Rapp, J.**, Wang, D., Capen, D., Thompson, E., and **Lautzenheiser, T.** 2005. Evaluating error in using the National Vegetation Classification System for ecological community mapping in northern New England, USA. *Natural Areas Journal* 25(1): 46-54.

***Beard, K.H.**, Wang, D., Waite, C.E., Decker, K.L., Hawley, G.J., DeHayes, D.D., Hughes, J.W., and Cumming, J.R. 2005. Quantifying ecosystem controls and their contextual interactions on nutrient export from developing forest mesocosms. *Ecosystems* 8:210-224.

***Carlson, B.**, D. Wang, D. Capen, and E. Thompson. 2004. An evaluation of GIS-derived landscape diversity units to guide landscape-level mapping of natural communities. *J. Nature Conservation* 12: 15-23.

***Windhausen, L.W., Braun, D.C.**, and Wang, D. 2004. A landscape scale evaluation of phosphorus retention in wetlands of the Laplatte River Basin, Vermont, USA. pp. 221-240 IN T.O. Manley, P.L. Manley, and T.B. Mihuc. (eds.) *Lake Champlain: Partnerships and Research in the New Millennium*. Kluwer Academic Publishers: New York.

*Wang, D., Dorioz, J-M., Trevisan, **D., Braun, D.C., Windhausen, L.J.**, and Vansteelant, J-Y. 2004. Using a landscape approach to interpret diffuse phosphorus pollution and assist with water quality management in the basins of Lake Champlain (Vermont) and Lac Léman (France). pp. 159-190 IN T.O. Manley, P.L. Manley, and T.B. Mihuc. (eds.) *Lake Champlain: Partnerships and Research in the New Millennium*. Kluwer Academic Publishers: New York.

***Seltzer, N.** and D. Wang. 2004. The importance of hydric soils and near-lake areas as phosphorus source areas in the Lake Champlain Basin: Evidence from a landscape-level model. pp. 143-158 IN T.O. Manley, P.L. Manley, and T.B. Mihuc. (eds.) *Lake Champlain: Partnerships and Research in the New Millennium*. Kluwer Academic Publishers: New York.

***Decker, K.L.**, D. Wang, C. Waite, and T. Scherbatskoy. 2003. Snow removal and ambient air temperature effects on forest soil temperatures in northern Vermont. *Soil Sci. Soc. Am. J.* 67:1234-1243.

*Bormann, B.T., C.K. Keller, D. Wang, and F.H. Bormann. 2002. Lessons from the Sandbox : Is unexplained nitrogen real? *Ecosystems* 5: 727-733.

Wang, D. 2002. Engaging Citizens in Environmental Decision Making: Burlington, Vermont's EMPACT Project. *J. Urban Technology* 9(2): 95-109.

***Gustafson, S.** and D. Wang. 2002. Effects of agricultural runoff on vegetation composition on a priority conservation wetland, Vermont, USA. *J. Environ. Quality* 31(1):350-357.

*Ginger, C, and D. Wang. 2000. Disciplinary integration in graduate natural resources and environmental education. *J. Public Affairs Educ.* 6(2): 83-94.

*Meals, D.W., S.N. Levine, D. Wang, J.P. Hoffmann, E.A. Cassell, J.C. Drake, D.K. Pelton, H.M. Galarneau, and A.B. Brown. 1999. Retention of spike additions of soluble phosphorus in a northern eutrophic stream. *J. N. Am. Benthol. Soc.* 18(2):185-198.

*Wang, D. S.N. Levine, D.W. Meals, Jr., J.P. Hoffmann, J.C. Drake, and E.A. Cassell. 1999. Importance of instream nutrient storage to P export from a rural eutrophic river in Vermont,

USA. pp. 205-223 IN T.O. Manley and P.L. Manley (eds.) Lake Champlain in Transition: From Research Toward Restoration . Water Science and Application. Vol. 1. American Geophysical Union.

*Ginger, C., D. Wang, and L. Tritton. 1999. Integrating disciplines in an undergraduate curriculum. *J. Forestry* 97(1): 17-21.

*Bormann, B.T., D. Wang, F.H. Bormann, G. Benoit, R. April, and M.C. Snyder. 1998. Rapid plant-induced weathering in an aggrading experimental ecosystem. *Biogeochemistry* 43: 129-155.

Hinckley, T.M., D.G. Sprugel, J.R. Brooks, K.J. Brown, T.A. Martin, D.A. Roberts, **W. Schaap**, and D. Wang. 1998. Scaling and integration in trees. pp. 309-337 IN D.L. Peterson and V.T. Parker (eds.) *Ecological Scale - Theory and Applications*. Columbia University Press, New York.

*Jordan-Meille, L., J-M Dorioz, and D. Wang. 1998. Analysis of the export of diffuse phosphorus from a small rural watershed. *Agronomie: Agriculture and Environment* 18: 5-26.

Kuentzel, W.F., L.M. Tritton, D.F. Dennis, and D. Wang. 1997. Thinking about water quality management: Social values, wetland ecology, and landowner practices. p. 156-162 In: *Integrating social science and ecosystem management: A national challenge*, Proceedings. USDA Forest Service Gen. Tech. Rept. SRS-17.

***Weller, C.M.**, M.C. Watzin, and D. Wang. 1996. The Role of Wetlands in Reducing Phosphorus Loading to Surface Water in Eight Watersheds in the Lake Champlain Basin. *Environ. Mangt.* 20: 731-739.

Hinckley, T.M., D.G. Sprugel, J.R. Brooks, K.J. Brown, T.A. Martin, D.A. Roberts, **W. Schaap**, and D. Wang. 1996. Scaling and integration in trees. In: *Ecological Scale: Theory and Applications*. D.L. Peterson and V.T. Parker, (eds.), Columbia Univ. Press, New York.

*Wang, D., T.M. Hinckley, A.B. Cumming, and J. Braatne. 1995. A comparison of measured and modeled ozone uptake into plant leaves. *Environ. Pollut.* 89: 247-254.

*Wang, D., M.S. Snyder, and F.H. Bormann. 1993. Potential errors in measuring nitrogen content of soils low in nitrogen. *Soil Sci. Soc. Am. J.* 57(6):1533-1536.

*Bormann, B.T., F.H. Bormann, W.B. Bowden, R.S. Pierce, S.P. Hamburg, D. Wang, M. Snyder, C.Y. Li, and R. Ingersoll. 1993. Rapid N₂ fixation in pines, alder, and locust: Evidence from the Sandbox Ecosystem Study. *Ecology* 74(2): 583-598.

*Wang, D., F.H. Bormann, A.E. Lugo, and R.D. Bowden. 1991. Comparison of nutrient-use efficiency of biomass production in five tropical tree taxa. *For. Ecol. Manage.* 46:1-21.

*Lugo, A.E., D. Wang, and F.H. Bormann. 1990. A comparative analysis of biomass production in five tropical tree species. *For. Ecol. Manage.*31: 153-166.

Wang, Deane. and Wiegner Schaap. 1988. More work on pollution's impact, for plants' sake. *The Scientist* (August 8, 1988).

Wang, D. and **W. Schaap**. 1988. Air pollution impacts on plants: Current research challenges. *ISI Atlas of Science* 1(1):33-39.

*Wang, D., F.H. Bormann and D.F. Karnosky. 1986. Growth suppression of a *Populus* hybrid due to ambient ozone pollution: experimental evidence from field studies. *Environ. Sci. & Tech.* 20:1122-1125.

*Wang, D., D.F. Karnosky and F.H. Bormann. 1986. Effects of ambient ozone on the productivity of *Populus tremuloides* Mich. grown in the field. *Can. J. For. Res.* 16:47-55.

*Turner, R.S., A.H. Johnson and D. Wang. 1985. Biogeochemistry of aluminum in McDonalds Branch Watershed, New Jersey Pine Barrens. *J. Environ. Qual.* 14:314-323.

*Turner, R.S., A.H. Johnson and D. Wang. 1985. Biogeochemistry of lead in McDonalds Branch Watershed, New Jersey Pine Barrens. *J. Environ. Qual.* 14:305-314.

*Johnson, A.H., T.G. Siccamo, D. Wang, R.S. Turner and T.H. Barringer. 1981. Recent changes in patterns of tree growth rate in the New Jersey Pinelands: A possible effect of acid rain. *J. Environ. Qual.* 10:427-430.

Reports:

Troy, Austin, Deane Wang, David Capen, Jarlath O'Neil-Dunne, and Sean MacFaden. 2007. Updating the Lake Champlain Basin Land Use Data to Improve Prediction of Phosphorus Loading. Technical Report No. 54, Lake Champlain Basin Program. 116 p.

Ginger, C., and D. Wang. 2000. Pedagogical experiences in teaching disciplinary integration: Developing integrated frameworks for ecosystem health indicators. *Interdisciplinary Environmental Reviews - Proceedings 2000*. Paper for International Interdisciplinary Conference on the Environment, 21-24 June. Montreal, PQ, Canada. 17 pp.

Hughes, J.W., W. Jokela, D. Wang, and C Borer. 1999. Determination and quantification of factors controlling pollutant delivery from agricultural land to streams in the Lake Champlain Basin. U.S. Environmental Protection Agency Summary Report , Lake Champlain Basin Program Technical Document.

Hegman, W., D. Wang, and C. Borer. 1999. Estimation of basin-wide nonpoint phosphorus export. U.S. Environmental Protection Agency Summary Report , Lake Champlain Basin Program Technical Document.

Hoffmann, J.P., E.A. Cassell, J.C. Drake, S. Levine, D.W. Meals and D. Wang. 1996. Understanding Phosphorus Cycling, Transport and Storage in Stream Ecosystems as a Basis for Phosphorus Management. U.S. Environmental Protection Agency Summary Report. 285 pp. Lake Champlain Basin Program Technical Document

Presentations and Published Abstracts

Ross, D., Bailey, S., Quintana Jones, T., Shanley, J., Villars, T., Wang, D., Wilmot, S. 2014. Twelfth-year Update on a 200-yr Soil Monitoring Study. Proceedings of the December 11, 2014 Vermont Monitoring Cooperative and Mt. Mansfield Science and Stewardship Conference: Science to Policy - Benefitting from Actionable Science. Davis Center, Burlington, VT.

2010 Invited Session. Landscape controls on diffuse nutrient transfers in agricultural catchments
Chair: Aubert Michaud. Institut de recherche et de développement en agroenvironnement, Québec, Canada. Secretary: Deane Wang, University of Vermont, Burlington, Vermont, USA. At the International Water Association 14th International Conference on Diffuse Pollution and Eutrophication, Sept. 12-17, 2010, Beupre, Quebec, Canada.

Wang, D. 2010. How ecologists can approach the issue of climate justice: A proposed framework. IN Symposium on Climate and Justice: Exploring Equity through Land, Water, and Culture (Samir Doshi and Deane Wang organizers). 95th Annual Ecological Society of America Meeting. (1-6 August 2010) Pittsburgh, PA.

Wang, D. 2009. Engaging a Diverse Community of Scholars in Sustainability, Social Justice, and Healthy Ecosystems. Presentation at the October 20-21, 2009: Joint MSP/NNF Project Directors and Beneficiaries Meeting, Waterfront Center, Washington, DC. (Cultivating New Minds: Evolving Needs and Opportunities in Food and Agriculture)

Wang, D., C. Ginger, M. Watzin, M. Veal-Fagnant, J. Bossange. 2009. Diversity Across the Curriculum - Integrating Identity Development, Diversity Requirements, and Student Outcomes. AAC&U Greater Expectations Institute on Leadership to Make Excellence Inclusive, Davis Center June 17 – 21, 2009.

Wang, D., **C. Blodgett**, and C. Waite. 2007. Partitioning Sources of Complexity - Teasing Out Species-Environment Interactions in a Replicated Mesocosm Experiment. Abstracts 92nd Annual Ecological Society of America Meeting. (Joint ESA/SER meeting, 5-10 August 2007) San Jose, CA. (presentation and abstract)

Blodgett, C., D.Wang, and C. Waite. 2007. Contextual interactions can increase unexplained random variability in ecosystem-level studies. Abstracts 92nd Annual Ecological Society of America Meeting. (Joint ESA/SER meeting, 5-10 August 2007) San Jose, CA. (presentation and abstract)

Blodgett, C., D.Wang, and C. Waite. 2006. Abiotic-biotic interactions. Eastern CANUSA Forest Science Conference, 19 – 21 October 2006. Quebec City, QC.

Foster, B., D. Wang, W. Keeton. 2005. Does certification make a difference? Presentation at the IX International Congress of Ecology, 7-12 August, 2005, Montreal, QC.

Dorioz, J.M., Wang, D. (presenter), Michaud, A., Deslandes, J. 2005. Spatial and temporal variability in diffuse P dynamics : Complexity in a pattern-process interaction. Presentation at the IX International Congress of Ecology, 7-12 August, 2005, Montreal, QC.

Balogh, Zs., Keller, C.K., Dickenson, J.T., Wang, D., Hawley, G., and Coe, T. 2004. Plant effects on chemical weathering and denudation processes - experimental ecosystem effects. (presentation) International Association of Geochemistry and Cosmochemistry, 11th International Symposium on Water-Rock Interaction, June 27,-July2, 2004, Saratoga Springs, New York.

O'brien, R., Keller, C.K., Havig, J.R., White, T., Coe, T. A., Hawley, G., and Wang, D. 2003. Field lysimeters in watershed research: the Hubbard Brook Sandbox study. (presentation) Geological Society of America Annual Meeting and Exposition. 2-5 November 2003, Seattle, Washington.

Wang, D., Jenks-Jay, N., and Kaza, S. 2003. Workshop presenters on Institutional Policy at the Vermont Campus Greening Conference. 23-24 October 2003, University of Vermont, Burlington, VT.

Wang, D., **Decker, K.L.**, Waite, C., and Scherbatskoy, T. 2003. Snow removal and ambient air temperature effects on forest soil temperatures in northern Vermont. (presentation) American Geophysical Union 2003 Fall Meeting, 8-12 December 2003, San Francisco, California, USA.

Dorioz, J-M., D. Wang, and D. Trevisan. 2002. Using a landscape approach to interpret diffuse phosphorus pollution and assist with water quality management in the basins of Lake Champlain (Vermont) and lac Le_man (France). (presentation) Lake Champlain Basin Research Consortium, 2002 Spring Conference - Lake Champlain in the New Millennium, May 20-23, Saint-Jean-sur-Richelieu, Quebec.

Wang, D., L. **Windhausen**, and **D. Braun**. 2002. Phosphorus retention in wetlands in the LaPlatte River basin: results from a landscape-level evaluation. (presentation) Lake Champlain Basin Research Consortium, 2002 Spring Conference - Lake Champlain in the New Millennium, May 20-23, Saint-Jean-sur-Richelieu, Quebec.

Wang, D., and **N. Seltzer**. 2002. The importance of hydric soils and near-lake areas a phosphorus source areas in the Lake Champlain basin: evidence from a landscape-level model. (presentation) Lake Champlain Basin Research Consortium, 2002 Spring Conference - Lake Champlain in the New Millennium, May 20-23, Saint-Jean-sur-Richelieu, Quebec.

Gustafson, S. and D. Wang. 2001. Effects of agricultural runoff on vegetation composition of Franklin Bog. (paper) Wetlands & Remediation: The Second International Conference, September 5-6, 2001, Burlington, Vermont.

Decker, K.L.M., D. Wang, D.H. Dehayes, J.W. Hughes. 2001. Interactive effects of species assemblage, climate, and soil type on cation leaching in a complete factorial experiment using lysimeter mesocosms. . Abstracts 86th Annual Ecological Society of America Meeting. Madison, WI. (presentation and abstract)

Decker, K.L.M., D. Wang, F.H. Bormann, M.C. Snyder, and B.T. Bormann. 2001. Differential effects of five forest tree species on early successional soil development: evidence from the Hubbard Brook Sandbox experiment. Gordon Conference on Hydrology and Biogeochemistry of Forested Catchments.

Wang, D., **A. Vota**, T. Scherbatskoy, and B. Rosenbluth. 2000. Community-based environmental monitoring in Burlington, Vermont. (poster) U.S. EPA National Environmental Monitoring Technology Conference, 19-10 September 2000, Boston, Massachusetts.

Seltzer, N. and D. Wang. 2000. Evaluating phosphorus export to surface waters using a landscape-level approach. (presentation) International Association for Great Lakes Research, 43rd Conference, 21-26 May 2000, Cornwall, Ontario.

NR 378 Class, C. Ginger, and D. Wang. 2000. Evaluating frameworks for developing integrated indicators to assess ecosystem health of Lake Champlain. (presentation) International Interdisciplinary Conference on the Environment, 21-24 June. Montreal, PQ, Canada.

Wang, D., F.H. Bormann, G. Hawley, B.T. Bormann, and T. Coe. 1999. Fifteen years of N accumulation on the Hubbard Brook red pine sandbox ecosystem. (presentation) Hubbard Brook Ecosystem Study Annual Cooperators Meeting, 7-8 July 1999, West Thornton, New Hampshire.

Dorioz, J. M., D. Wang, E.A. Cassell, M. Watzin. 1999. Developing an integrated, dynamic framework to understand water quality management in the basins of Lake Champlain, Vermont and Lac Lemans, France. (presentation) Conference on the Adirondacks and the Lake Champlain Basin, Lake Champlain Basin Research Consortium & Adirondack Research Consortium, 26-27 May 1999, Saranac Lake, New York.

NR 378 Class, C. Ginger, and D. Wang. 1999. Comparing integrated frameworks for defining and analyzing the environmental implications of sprawl. (presentation) Tenth International Conference, the Society for Human Ecology, Living with the Land: Interdisciplinary Research for Adaptive Decision Making, 27-29 May 1999. McGill University, Montreal, Canada.

Wang, D., **C. Borer**, and W. Hegman. Analyzing phosphorus export from land uses in the Lake Champlain Basin. (presentation) Journée D'information sur la problématique environnementale du phosphore, 26 March 1999. Pavillon de l'Environnement, Université Laval, Quebec.

Ginger, C., and D. Wang. 1998. Experience and experiments in integrating ecology and environmental policy in an undergraduate curriculum. (paper) Second Bi-ennial Conference on University Education in Natural Resources, March 7-10, 1998. Utah State University, Logan, Utah. Natural Resources and Environmental Issues, Vol. 7(1): article 50.

Wang, D., E.A. Cassell, J.C. Drake, J.P. Hoffmann, S.N. Levine, D.W. Meals, Jr., A.B. Brown, G. Gustina, D.K. Pelton, H.M. Galarneau. 1998. Phosphorus cycling, transport, and storage in the LaPlatte River, Vermont. (presentation) Lake Champlain Basin Research Consortium, 1998 Spring Conference, May 26-28, Burlington, VT.

Borer, C., J. Hughes, W. Jokela, and D. Wang. 1998. Phosphorus dynamics in vegetated buffer areas between cornfield and streams in the Lake Champlain Basin. (presentation) Lake Champlain Basin Research Consortium, 1998 Spring Conference, May 26-28, Burlington, VT.

Meals, D.W., J.P. Hoffmann, S.N. Levine, E.A. Cassell, D.Wang, J.C. Drake, D.K. Pelton, H.M. Galarneau, A.B. Brown. 1998. Retention of spike additions of soluble phosphorus in the LaPlatte River, Vermont. (presentation) Lake Champlain Basin Research Consortium, 1998 Spring Conference, May 26-28, Burlington, VT.

Wang, Deane, E. A. Cassell, J.C. Drake, J.P. Hoffmann, S. Levine, D.W. Meals, D.C. Braun, A. Brown, D. Pelton, H. Shabunia, L.J. Windhausen. 1996. Influences on phosphorus output from a rural river in the Lake Champlain Basin, Vermont. *Ecol. Soc. Am. Bull.:* 77(3): 467. (poster and abstract)

Scherbatskoy, Tim, C. Waite, A. Berry, and D. Wang. Analysis of vertical gradients of pollutant uptake within a northern hardwood forest canopy. *Ecol. Soc. Am. Bull.:* 77(3): 393. (presentation and abstract)

Braun, David C., Lisa J. Windhausen, and Deane Wang. 1996. Seasonal variation in phosphorus export as a function of land use in subwatersheds of the LaPlatte River Basin, VT. *Ecol. Soc. Am. Bull.:* 77(3): 51. (poster and abstract)

Wang, D. and F.H. Bormann. 1995. Ecosystem studies in the Hubbard Brook Sandboxes. Hubbard Brook Ecosystem Study Annual Cooperators Meeting, 6-7 July 1995, West Thornton, New Hampshire.

Dennis, D., W. Kuentzel, L. Tritton and D. Wang. 1995. Wetland externalities: Implications for policy and decision-making. Contributed paper at 7th Northeastern Recreation Research Symposium, Saratoga, NY, published in NERR 1995 Proceedings.

Cochran, M.F., R.A. Berner and D. Wang. 1994. Vegetative Enhancement of Chemical Weathering *Mineralogical Magazine*, 58A: 183-184. (presented at the Goldschmidt Conference in Edinburgh, August 1994).

Cochran, M.F., R.A. Berner, M.C. Snyder and D. Wang. 1994. Chemical Weathering Enhancement by Pines and Grasses: Results From the Hubbard Brook Sandbox Experiment, American Geophysical Union, Fall Meeting Abstracts.

Cochran, M.F., R.A. Berner, G. Benoit, F.H. Bormann, T. Rozan, M.C. Snyder, D. Wang. 1994. Enhanced Silicate Weathering Due to Higher Plants: Results from the Hubbard Brook Sandbox Waters, Geological Society of America, Abstracts with Programs (Seattle, October)

Cochran, M.F., R.A. Berner, M.C. Snyder and D. Wang. 1994. Chemical weathering enhancement by pines and grasses: Results from the Hubbard Brook Sandbox Experiment. Geological Society of America Annual Meetings, 1994.

Borer, C., D. Wang, D. DeHayes and G. Hawley. 1992. The effects of ozone on twenty half-sib families of eastern white pine seedlings. Contributed paper at Symposium on The Effects of Air Pollution on Terrestrial and Aquatic Ecosystems in New England and New York. October 19-21, 1992, Waterville Valley, New Hampshire. USDA Forest Service, NE Forest Experiment Stn.

Wang, D., D. Bergdahl, J. Shane, and T. Scherbatskoy. 1992. Interactive effects of ozone and UV-b on the growth of *Populus* and *Acer*. Contributed paper at Symposium on The Effects of Air Pollution on Terrestrial and Aquatic Ecosystems in New England and New York. October 19-21, 1992, Waterville Valley, New Hampshire. USDA Forest Service, NE Forest Experiment Stn.

Bergdahl, D., S. Halik, J. Shane, T. Scherbatskoy and D. Wang. 1992. Altered susceptibility of *Populus* to *Melampsora rust* as a result of ozone and UV-b exposures. Contributed paper at Symposium on The Effects of Air Pollution on Terrestrial and Aquatic Ecosystems in New England and New York. October 19-21, 1992, Waterville Valley, New Hampshire. USDA Forest Service, NE Forest Experiment Stn.

Shane, J., D. Bergdahl, T. Scherbatskoy and D. Wang. 1992. Gas exchange and leaf resistance effects of ozone and UV-b exposures of *Populus* and *Acer*. Contributed paper at Symposium on The Effects of Air Pollution on Terrestrial and Aquatic Ecosystems in New England and New York. October 19-21, 1992, Waterville Valley, New Hampshire. USDA Forest Service, NE Forest Experiment Stn.

Pardo, L.H., C.-Y. Li, B.T. Bormann, F.H. Bormann, W.B. Bowden, R.S. Pierce, M.C. Snyder, and D. Wang. 1992. Associative nitrogen fixation in two experimental *Pinus* ecosystems. Bull. Ecol. Soc. Amer. 73(2):295.

Wang, D. and H. Garabedian. 1992. Issues and approaches: Perceived threats to Vermont's Environment - Air issues. Invited paper at the Conference on Environmental Research for Vermont: An Agenda for the 1990's and Beyond. September 29, 1992, Killington, Vermont. EPSCoR/EPA.

Goldsmith, L. and D. Wang. 1992. Landscape-level evaluation of wetland structure and function in a large multi-use basin. International Association of Ecology, IV International Wetlands Conference. 13-17 September. Columbus, Ohio. (presentation)

Wang, D. 1992. Transition landscapes. Invited paper presented at the Workshop on Special Purpose Landscapes, March 19-20, University of Washington and Washington State Dept. of Natural Resources, Seattle, WA.

Schaap, W., T.M. Hinckley, D.G. Sprugel, and D. Wang. 1991. Functional independence of tree branches under long-term ozone stress: Gas exchange and chlorophyll fluorescence. Meeting of the Society of Plant Physiologists, Albuquerque, NM, 1 July - 28 August 1991.

Wang, D. 1991. The role of forest vegetation in the carbon cycle (invited presentation). Forest stewardship: economic, ecological and ethical perspectives. Meeting of the New England Society of American Foresters, Burlington, VT, 13-15 March 1991.

Bradley, G., J. Clark, and D. Wang. 1990. The impact of development procedures upon the growth and vigor of residual trees. California Watersheds at the Urban Interface - Conference, October 29-31, Ontario, CA. Also presented at New Perspectives for Watershed Management: Balancing Long-term Sustainability with Cumulative Environmental Change - Conference, November 27-29, University of Washington, Seattle, WA. (poster session)

Wang, D., F.H. Bormann, A.E. Lugo, and R.D. Bowden. 1990. Implications of nutrient-use efficiency on fiber harvest for five tropical tree taxa. *Ecol. Soc. Am. Bull.* 71(2): 360-1. (presentation and abstract)

Hinckley, T.M., **W. Schaap**, and D. Wang. 1990. Rapid recovery of photochemical efficiency of PSII in Douglas-fir following ozone treatment. *Ecol. Soc. Am. Bull.* (poster and abstract).

Schaap, W., T.M. Hinckley, D.G. Sprugel, and D. Wang. 1990. Functional independence of Douglas-fir branches under ozone stress. *Ecol. Soc. Am. Bull.* (presentation and abstract).

Coleman, M., D. Wang, and W. Schaap. 1990. Frost hardiness of Douglas-fir foliage exposed to ambient and elevated ozone levels. N. Am. Forest Biology Workshop, Athens, GA. (presentation and abstract).

LA Forum with J. Rodiek, J. Lyle, D. Mitchell and P. Thomas. 1989. Fragile ecosystems. *Landscape Architecture* (issue: March 1989). p. 55-58 (article from workshop)

Schaap, W. and D. Wang. 1989. Effects of ambient ozone on field-grown Douglas-fir saplings in open-top chambers. Symposium on the Effects of Air Pollution on Western Forests. 82nd Air and Waste Management Association Meeting. (presentation and paper)

Wang, D., F.H. Bormann and D.F. Karnosky. 1987. Reply to "Comment on regional tree growth reductions due to ambient ozone: Evidence from field experiments." *Environ. Sci. & Tech.* 21(6):607-608.

Hamburg, S.P., D. Wang and W.N. Herkelrath. 1987. Real-time quantitative monitoring of soil moisture and its implications for investigating nutrient cycles. *Bull. Ecol. Soc. Am.* 68(3):318 (presentation and abstract).

Wang, D. 1987. An analysis of the spatial structure of urban ecosystems. *Bull. Ecol. Soc. Am.* 68(3):441 (presentation and abstract).

Wang, D. 1986. Overview of acid deposition research in the eastern United States. Invited paper presented at the Symposium on causes and effects of air pollution in central California, August 18-19, 1986, Fresno, California.

Wang, D., F.H. Bormann and A.E. Lugo. 1986. Rapid production rates in five tropical tree species and their consequences on long-term nutrient cycling. p. 343. In program of the IV International Congress of Ecology, 10-16 August 1986, Syracuse, NY (presentation and abstract).

Siccama, T.G., D. Wang, F.H. Bormann and M. Arthur. 1986. Long-term forest dynamics at Hubbard Brook, NH, 1965-1982. p. 312. In program of the IV International Congress of Ecology, 10-16 August 1986, Syracuse, NY (presentation and abstract).

Wang, D. 1986. Use of statistics in ecology. *Bull. Ecol. Soc. Am.* 67(1):10-12.

Wang, D., F.H. Bormann and R.S. Turner. 1985. Methodological, spatial and temporal variation in soil moisture characterization, its consequences on estimation of nutrient fluxes and weathering rates in a pine-oak ecosystem. Paper presented at IUFRO Symposium on Water and Nutrient Movement in Forest Soils: Spatial and Temporal Variations. IUFRO Working Group S1.03. Oct. 1985, Hampton Beach, New Hampshire.

Wang, D., F.H. Bormann and D.F. Karnosky. 1985. Effects of ambient levels of air pollution on the growth of native herbs and woody plants at a rural site. *Bull. Ecol. Soc. Am.* 66(2):290 (presentation and abstract).

Turner, R.S. and Wang, D. 1984. Base cation conservation in acidic soils of a forested watershed, New Jersey Pine Barrens. *Agronomy Abstracts* 1984. (presentation and abstract)

Wang, D. 1984. Computer simulations in biology. *Science Software Quarterly* 1(4):73-74 (review).

Wang, D. 1984. Statistics with the IBM personal computer: INSTAT and INSTAT-R. *Science Software Quarterly* 1(1):37-40 (review).

Wang, D., and R.S. Turner. 1981. The movement of soil nutrient following fire in an upland pine-oak stand in the Pine Region of New Jersey. *Bull. Ecol. Soc. Am.* 62(2):140 (presentation and abstract).

Turner, R.S. and D. Wang. 1981. Acid rain: A tree growth limiting factor in the New Jersey Pinelands? *Bull. Ecol. Soc. Am.* 62(2):142 (presentation and abstract).

Wang, D. 1978. Variation of *Viola pubescens* in the drainage of the Cayuga Inlet, Central New York. *Botanical Society of America, Misc. Publ.* 156 ((presentation and abstract).

UNIVERSITY AND OTHER SERVICE:

University

University of Vermont, General Education Committee, 2017 (newly formed)

Center for Teaching and Learning, Faculty Planning Task Force (charged by Associate Provost Brian Reed to consider mission and scope of CTL into the future) 2014-15.

Faculty Senate Sustainability Curriculum Review Committee (subcommittee of the Curricular Affairs Committee), co-chair 2014-17

Dean's Ad-hoc Committee on Environmental Education curricula at the University of Vermont, 2014-15. (charged with creating a UVM environmental education website and coordinating curricula across academic units, with CEMS, CALS, and CAS).

ALANA Coalition, 1997-2017.

Faculty Senate, Ad-hoc General Education Committee on Sustainability Learning Outcomes, co-chair 2012-2014.

Office of AAEO, Search Committee for Compliance Investigator, 2012

Faculty Senate Steering Committee for General Education, 2011-12. Initiated the Writing and Information Literacy General Education process.

University Committee for Teacher Education, 2011

Senator, Faculty Senate (for RSENR), 2009-12

Writing in the Disciplines (WID) Advisory Board, 2009-11

Faculty Senate Financial and Physical Planning Committee, 2008-9

University of Vermont Press, Editorial Advisory Board, 2004-2009.

University Planning Council, 2002-2005; 2006-2009.

University Ad-hoc Writing in the Disciplines Advisory Committee, 2006-2007.

President's Commission on Racial Diversity, 2002-2006.

Sub-committee Chair for Recommendation for a 6-credit Diversity Requirement, 2005

Member, Interim Vice-Provost for Multicultural Affairs Search Committee, 2006.

Member, Director of University Writing in the Disciplines Search Committee, 2006 (National Search)

University Planning group to select and work with Architect/Engineers for new University Housing, 2001-2005.

Honors College pilot course, planning faculty, 2002-2004.

Affirmative Action Liaison, representing SNR, 2000-2003.

University Review team for Dean Jill Tarule, 2002.

University Environmental Council, Member, 1996-2002.
 Co-Chair: 1998

University Diversity Team, 2000.

University Strategic Change Committee for First-year Programs, 2000.

Dean of Medicine Search Committee, 1999-2000 (National Search)

Residential Life Planning Team for 2020, 1999

University Learning Gateway Planning Committee, 1998-2000

University Seminar faculty and planning committee, 1998-2001

Center for Excellence in Teaching and Learning, Design Team/Managing Committee, 1998-2000

Curriculum Committee, President's Commission on Race and Equality, 1998-1999.

Vice Provost for Undergraduate Education Search Committee, 1998-9 (National Search)

Knight Collaborative Roundtable, member for special meetings to discuss the University's future, called by President Ramaley, spring 1998

Salzburg Seminar representative for UVM, 1999 – Universities Project, Eastern Europe

Salzburg Seminar representative for UVM, 2000

University Senate, Faculty Mentoring Advisory Committee, 2000-2010

University Senate, Faculty Panel to the Presidential Search Committee, 1996

University Senate, Ad-hoc Oversight Committee on Diversity Issues, 1995-1996

University Senate, Student Affairs Committee, 1994-1998

Academic Connections, Planning Team, Spring 1998

University Libraries Advisory Committee, 1993-5

University Senate, Financial Policy Committee, 1990-1994

University Senate, Ad-hoc Financial Exigency Committee, 1991-5

University Committee on Research and Scholarship, 1990-3
 Chair: 1991-93

University Scholar Selection Committee, 1992

Graduate College

Graduate College Executive Committee, 1994-1997, 2000-2003

Graduate College Curriculum Committee, 1994-1997
 Chair: 1996

Graduate College Search Committee for the Dean of the Graduate College, 1993-4

Other academic units

Plant Biology Department Search Committee for Ecosystem Ecologist, 2008-9
(search canceled just prior to interviews, due to recession)

College of Arts and Sciences, ALANA Studies Director, Search Committee, 1994-5
(National Search)

Division of Agriculture, Natural Resources and Extension, Curriculum Development
Committee - Program in Ecological Landscape Design and Management, 1994-1996

Division of Agriculture, Natural Resources and Extension, Greenhouse Committee, 1991-
1996

Environmental Studies Faculty Search Committee, 1990-1 (National Search)

School of Environment and Natural Resources

RSENR, Program Chair, Environmental Science, 2013-2015

RSENR, M.S. Leadership for Sustainability Concentration Faculty 2015-2017.

RSENR, Co-chair for the M.S. Leadership for Sustainability Concentration (with Taylor
Ricketts, Jon Erickson, and Matthew Kolan), 2013-2014 program development for a new
concentration

RSENR, LANDS Program Faculty Director, 2007-2014 (collaboration between UVM and
the Student Conservation Association, Summers 2007-2014, Semester Program Fall
2014)

Fellow, Gund Institute of Ecological Economics, 2003-2017

RSENR, Greening of RSENR (formerly Greening of Aiken) Committee, 2002-2016

RSENR, Ecological Planning Faculty Advisor, 1999-2017

RSENR, Diversity Task Force, 1995-2017

Diversity Curriculum Subcommittee 2006-2015

1998 Building Our Community (BOC) day debate organizer

RSENR, Natural Resources Faculty, 1990-2017

RSENR, Forestry Faculty, 1989-2017

RSENR, Environmental Science Professor Search Committee, 2014-15

RSENR, Community and Sustainability Committee, Chair, 2013-15 (founding chair)

RSENR, Aquatic Ecology/Lake Studies Professor Search Committee, Chair, 2009-10

RSENR, Engaged Department Initiative, Executive Committee, 2009-10

RSENR, Writing in the Disciplines (WID) Steering Committee, 2008-9

RSENR, Water Resources Faculty, 1994-2004

RSENR, Natural Resources Planning Faculty, 1990-2004

RSENR, Natural Resources Planning Program, Chair, 1998-2004

RSENR, Aiken Redesign Architect/Engineer Selection Committee, 2004.
SNR, Economics of Sustainability Professor Search Committee, 2001-2
SNR, Sustainable Forest Ecosystem Professor Search Committee, Chair, 1999-2000
SNR, Search Committee for Assistant Unit Leader, Vermont Cooperative Fish and Wildlife Research Unit, 1999
SNR, Graduate Standards Committee, 1997-2000
SNR, Core Curriculum Committee, 1989-2003, Chair 1999-2003
SNR/CALS, Urban Forestry and Landscape Horticulture Faculty, 1989-1997
SNR, GIS and Remote Sensing Faculty Search Committee, 1995
SNR, Honors & Studies Committee, 1990-3
SNR, Recreation Management Faculty Search Committee, 1991-2
SNR, Dean's Committee on Geographic Information Systems, 1990
SNR, Dean's Committee - to initiate a SNR Ph.D. program, 1990
SNR, Dean's Committee on Computing, Chair, 1989

Other

National Institute of Food and Agriculture, Planning Committee for 2nd Joint Project Directors and Beneficiaries Biennial Meeting, Fall 2009.
Vermont Monitoring Cooperative, Advisory Committee, 1990-2017
Interview panel for Director of Forests, - Forest, Parks and Recreation Department, Agency of Natural Resources, July 2002.
Asian Health Advisory Committee, Burlington Board of Health, 2000.
Panelist, USDA CRSEES, Higher Education Challenge Grants Program Peer Review Panel, 1998.
Panelist, U.S. Commission on Civil Rights, Feb. 1992

ACCOMPLISHMENTS

UVM

Created and implemented the University-wide sustainability requirement - co-chaired (with Laura Hill) the ad-hoc committee that designed and advocated for the general education requirement, presented multiple times to the Faculty Senate, and co-chaired the Senate committee (with Laura Hill) that generated the courses and policies needed to implement the requirement. Started Fall 2012 with 60+ courses by Spring 2017.

Helped create the Center for Teaching and Learning (CTL) - on the faculty committee that designed and advocated for the creation of the Center for Teaching and Learning at the University of Vermont. Part of the Faculty Fellows of the newly created entity. On the Faculty Advisory Committee charged to assist Director Jennifer Dickenson to re-envision the CTL.

Helped create the 6-credit Diversity Requirement for the University of Vermont (prior to the passing of the general education requirement). On the ALANA Coalition Committee to create the learning outcomes for the requirement, on the Senate Committee to develop the requirement and secure passage in the Faculty Senate.

Helped create the Writing and Information Literacy general education requirement - on the Faculty Senate General Education Committee, which subsequently decided to focus first on the UVM writing requirement.

Supported the development of the Writing in the Disciplines program (WID) - on the faculty committee to hire Susan Marie Harrington to help develop writing at the University of Vermont. On her advisory committee as she developed the programming for the WID Office.

SNR/RSENR

Created the Community and Sustainability Committee - passed RSENR Faculty Vote to be incorporated into the School By-Laws.

Created and implemented (with the CSC) the First Rubenstein School Town Meeting (later re-titled as Building Our Community).

Created the Ecological Planning curriculum in collaboration with the Field Naturalist program-1999 to 2017. Graduated 50 EP students, mostly working in non-profit and government conservation organizations. Over 100 pro-bono service-learning projects for regional community partners.

Created the Conservation Consulting Income-Expense account to support graduate education. Students completed over 100 paid community masters projects with an income of approximately \$400,000.

Created the LANDS Summer Internship program (2007-2014) - with graduate student James Barnes, subsequently involving six graduate students and over 70 undergraduate students and almost 50 service-learning projects for dozens of community partners.

Developed the LANDS Semester program (2014) - with graduate student Emily Brodsky

Created the Office of Experiential Learning in the Rubenstein School (while Associate Dean) to encourage and support internships, service-learning, and other formal and informal experiential learning.

Created the Service Learning Teaching Assistantship position to support RSENR Service Learning Courses - with graduate student Kate Elmer (Westdijk). This led to the Service-learning staff position in the Office of Experiential Learning.

Helped develop the first LEED buildings at the University of Vermont - on the building committee of the University Height residential development, which ultimately became the GreenHouse and the Honors College. Advocated for green and LEED features for the building complex.

Helped development of the first LEED Platinum Building at the University of Vermont - on the Greening of Aiken Committee for over a decade - fostered the National Design Competition, advocated for many green features, supported the Greening of Aiken Internships in the Spring term for 8 years.

Helped create the Diversity Curriculum at the Rubenstein School - worked with the Curriculum Subcommittee of the Diversity Task force (and faculty committees prior to that creation) to develop multiple models for NR 6, NR 207, and NR 306. With Clare Ginger created and passed the graduate diversity course requirement, NR 306. Taught and lead the NR 6 class, taught the first and third versions of NR 306.

Created (with Clare Ginger) the Graduate Integration requirement for the Rubenstein School. Taught two versions of the course multiple times.

Created and taught the first international online course in the Rubenstein School with Peking University (2009: Conservation in the 21st Century).

Mentored 75 graduate students to completion of their degree requirements.

Principle investigator/lead on successful grants of approximately \$2.4 million.

Initiated 26 new courses in the University and Rubenstein School.

SOME MEMORABLE FAILURES

In Fall 2002 developed the “UnClass” (a semester "local" program) and signed up 35% of SNR sophomores for the program, canceled because the Dean's target was closer to 50%.

Failed to complete two M.S. candidates.

Failed to institutionalize the LANDS Internship program after running for 8 years

Member of three University Strategic Planning efforts - failed to institutionalize any major strategic recommendations.