

## CURRICULUM VITAE

JOHN C. VOLIN

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### *Education*

Ph.D. (1994) Department of Forestry, University of Wisconsin-Madison.  
Major in Forestry.

M.S. (1988) Plant Science Department, South Dakota State University.  
Major in Agronomy.

B.S. (1986) Department of Biology, South Dakota State University.  
Double major in Botany and Biology.

### *Current Positions*

Professor and Head, Department of Natural Resources and the Environment (formerly Natural Resources Management and Engineering), University of Connecticut, 2007 - present

Director, Environmental Sciences Program, University of Connecticut, 2013 – present

Associate Director, Eversource Energy Center, University of Connecticut, 2015 – present

### *Past Professional Experience*

LEAD-21 Leadership Development Program, Class of 2012

Professor of Plant Physiological Ecology, Department of Biological Sciences,  
Florida Atlantic University, Davie, FL, 2005 – 2007

Director of Environmental Sciences Graduate Program, Florida Atlantic University,  
Boca Raton, FL. 2001 – 2007

Associate Director of Research, Florida Center for Environmental Studies, Palm Beach  
Gardens, FL. 2003 - 2007

Associate Professor of Plant Physiological Ecology, Department of Biological Sciences,  
Florida Atlantic University, Davie, FL. 2000 – 2005

Chair, Division of Biological Sciences, Florida Atlantic University, Davie, FL. 2000-2002

Assistant Director of Environmental Sciences Graduate Research Program,  
Florida Atlantic University, Boca Raton, FL. 1999-2001

Assistant Professor of Plant Physiological Ecology, Division of Science,  
Florida Atlantic University, Davie, FL. December 1995-2000

Post Doctoral Research Fellow, Department of Forestry, University of Wisconsin-Madison.  
1994-1995.

Research Assistant, Department of Forestry, University of Wisconsin-Madison. 1989-1994.

Computer Systems Manager, Department of Forestry, University of Wisconsin-Madison.  
1992-1993.

Instructor, Cornell Natural Sciences Intern Program, Cornell University, Ithaca, NY.  
Summer 1989.

Project Assistant, Department of Forestry, University of Wisconsin-Madison. 1988-1989.

Research Assistant, Plant Science Department, South Dakota State University,  
Brookings, SD. 1986-1988.

Biology Lab Instructor, Department of Biology, South Dakota State University,  
Brookings, SD. 1987.

### ***Research Grants and Contracts***

#### **Foundation awards:**

Have totaled > \$11 million and are found under *Administrative Highlights* at end of CV.

#### **Federal, State, Private and Tribal Sponsor Awards:**

47 grants totaling > \$12 million.

#### *Active*

“Promoting lifelong STEM learning through a focus on geospatial technology and community engagement,” PI with Chester Arnold, Todd Campbell, Cary Chadwick and David Moss, \$2,995,133, October 2016 – September 2021, National Science Foundation Advancing Informal STEM Learning Program.

“Water and Sustainability: Educative curriculum using online mapping tools to support teacher and student learning,” Co-PI with Chester Arnold (PI), Cary Chadwick, Todd Campbell, David Moss, Emily Wilson and Michael Willig, \$144,000, October 2016 – September 2019, USDA AFRI Challenge Area Water Resources.

“The UConn Climate Corps: Serving Connecticut’s communities while providing a unique undergraduate learning experience,” Co-PI with Chester Arnold (PI), Julianna Barrett, Bruce Hyde, Mark Boyer, Maria Chrysochoou and Sylvain DeGuise, \$150,000, July 2016 – July 2019, University of Connecticut Academic Plan Competitive Grant Program.

“Evaluation of airborne & mobile LiDAR technologies for monitoring roadside vegetation and utility infrastructure,” PI with Jason Parent, Emannouil Anagnostou, Thomas Meyer, David Wanik and Wei Zhang, \$338,062, January 2016 – January 2017, Eversource Energy.

“Stormwise: Vegetation Management and Modeling for Storm Resistant Trees, Resilient Power and Sustainable Futures,” PI with Thomas Worthley, Anita Morzillo, Jason Parent and Christine Kirchhoff, \$1,213,521, June 2015 – January 2018, Eversource Energy.

“Cross-training forestry graduates in landscape-scale sustainability planning: integrating decision science with social-ecological geospatial models,” Co-PI with Chadwick Rittenhouse (PI), Daniel Civco, Thomas Meyer, Mark Rudnicki and Jason Vokoun, \$238,500, May 2014 – April 2019, USDA NIFA Food and Agricultural Sciences National Needs Graduate and Postgraduate Fellowship (NNF) Grants Program.

“Creating a model of green infrastructure implementation that incorporates public education, civic engagement, community building, youth involvement, and artful design and place-making into stormwater management efforts,” PI with Chester Arnold, Jonathan Fogelson, Michael Dietz and Laura Cisneros, \$350,000, April 2014 – April 2016, SURDNA Foundation.

“Stormwise:” An innovative approach to forest stewardship, public outreach and stakeholder collaboration at the landscape scale,” co-PI with Thomas Worthley (PI), Mark Rudnicki and Jeff Ward, \$256,703, July 2013 – June 2016, US Forest Service State and Private Forestry FY 2013 Northeastern Area Competitive Grant Program.

“Assessing capacity for small scale forest products production in CT,” co-PI with Thomas Worthley (PI), \$70,360, October 2013 – September 2018, USDA McIntire-Stennis Program.

“Agroforestry riparian project for biofuel and environmental benefits,” co-PI with John Clausen (PI), Daniel Civco, Julia Kuzovkina, Chadwick Rittenhouse, Gary Robbins, Glenn Warner and Xiusheng Yang, \$70,360, October 2012 – September 2017, USDA Hatch Program.

“Forest susceptibility of non-native woody plant invasion under different forest management practices,” PI with D. Civco, T. Worthley and J. Parent, \$70,360, October 2011 – September 2016, USDA McIntire-Stennis Program.

### *Completed*

“NU Center of Excellence on Storm Hazards Mitigation & Power System Resilience: A 2-yr Demonstration Activity,” co-PI with Emmanouil Anagnostou (PI), Mark Rudnicki, Brian

Hartman and Thomas Worthley, \$1,800,000, March 2013 – May 2015, Northeast Utilities (see Administrative Highlights at end of CV for details).

“Feasibility of a local wood products network for rural lands in urbanizing regions: A pilot study in southern New England,” co-PI with Thomas Worthley (PI), Stephen Swallow and Joshua Berning, \$150,000, October 2011 – September 2013, USDA/NIFA/AFRI Foundational Grants Program.

“Assessing invasion potential under differential canopy leaf phenologies in southern New England temperate forest ecosystems,” co-PI with Thomas Meyer and Thomas Worthley, \$42,216, October 2010 – September 2013, USDA McIntire-Stennis Program.

“Control of invasive black locust (*Robinia pseudoacacia* L.) with small-scale harvesting and processing for locally marketed forest products: A feasibility study,” PI with Mark Rudnicki and Thomas Worthley, \$28,144, October 2009 – September 2011, USDA McIntire-Stennis.

“Evaluating multiple control methods for *Hydrilla verticillata* in the Silvermine River System,” PI with Jason Vokoun, \$149,852, August 2008 - November 2010, Connecticut Department of Environmental Protection.

“Development of a sampling prioritization model to optimize the selection of tree islands in the Everglades Wildlife Management Area for surveying of *Lygodium microphyllum*,” Senior PI with Erik Noonburg, \$158,897, July 2007 – June 2009, Florida Fish and Wildlife Conservation Commission.

“Determining the hydrology of tree islands in the Florida Everglades: implications for restoration,” Senior PI with Mary Ann Furedi, \$249,000, January 2007 – October 2008, South Florida Water Management District, Everglades Restoration Coordination and Verification Program.

“Potential novel biological control agents of the invasive weed *Lygodium microphyllum*: exploratory surveys and testing of possible pathogenic microbes in Australia and SE Asia,” Senior PI with Elizabeth Aitken, Min Rayamajhi and Michael Tobin, \$140,000, September 2006 – June 2008, Florida Department of Environmental Protection Division of Invasive Species Management Annual Research Proposal Competition for Invasive Plant Management.

“The Invasion of *Lygodium microphyllum* on Tree Islands in the Everglades Protection Area: Exploring its Spatial Distribution,” Senior PI with Mary Ann Furedi, \$108,000, April 2006 – June 2007, Florida Fish and Wildlife Conservation Commission.

“*Lygodium microphyllum* growth in its native versus invaded habitat,” Supplemental Grant to the following grant, \$20,067, April 2006-April 2007, Seminole Tribe of Florida, Water Resources Management Division.

“*Lygodium microphyllum* growth: functional basis for geographical variations,” Senior PI with Elizabeth Aitken, Qinfeng Guo, Kaoru Kitajima, Eric Kruger, Susanne Schmidt and Gimme

Walter, \$238,184 June 2005-June 2007, South Florida Water Management District, Everglades Research Division.

“Hydrological impacts on the ecology of Everglades tree islands,” \$149,000, June 2005 – December 2006, South Florida Water Management District, Everglades Restoration Coordination and Verification Program.

“Crayfish Population Dynamics; Hydrological Influences,” with Michael S. Lott, \$483,000, May 2004-September 2009, South Florida Water Management District, Everglades Restoration Coordination and Verification Program.

“Vegetative Assemblages as Bioindicators of Hydrological Restoration on the Big Cypress Seminole Indian Reservation: Developing a Predictive Quantitative Model,” \$150,000, September 2003 – August 2007, Seminole Tribe of Florida, Water Resources Management Division.

“Developing Vegetative Bioindicators of Hydropattern and Nutrient Levels on the Big Cypress Seminole Indian Reservation,” \$75,000, July 2003 – June 2007, U.S. Department of Interior, Critical Ecosystem Studies Initiative and Seminole Tribe of Florida.

“Landscape Model of Ridge and Slough Topography: Integration of Hydrology and Biological Processes,” with Thomas Givnish, Paul Glaser and Jacqueline Gallagher, \$775,058, August 2002 – September 2006. U.S. Department of Interior South Florida Caribbean Cooperative Ecosystem Studies Unit.

“Predicting habitat spread of the invasive fern, *Lygodium microphyllum*, across the Everglades landscape,” \$150,000, February 2005-July 2006, South Florida Water Management District.

“Release from natural enemies belowground could explain why *Lygodium microphyllum* is such a successful invader in Florida: a potential new direction for searching for an effective biocontrol agent,” \$50,792, July 2004-June 2006, Florida Department of Environmental Protection Division of Invasive Species Management Annual Research Proposal Competition for Invasive Plant Management.

“Fighting extinction, rhino sanctuary evaluation crucial in preservation of black rhino (*diceros bicornis*) in Malawi,” \$14,600, January 2005-January 2006, Florida Atlantic University Research Enhancement Program.

“Modeling optimal management strategies to control the invasion of *Lygodium microphyllum* over the Florida landscape,” \$28,000, August 2003 – July 2004, Florida Department of Environmental Protection Division of Invasive Species Management Annual Research Proposal Competition for Invasive Plant Management.

“Chemical factors limiting forest tree growth in historic flow-ways of the Big Cypress Reservation: The relative roles of [K], [P] and other nutrients,” \$154,000, December 2001 – January 2004, U.S. Department of Interior Critical Ecosystem Studies Initiative.

“Development of a simulation model relating hydrology, topography and edaphic factors to landscape plant community structure in freshwater marshes,” Senior PI with Thomas J. Givnish, \$296,000, August 2001 – October 2003, U.S. Department of Interior Critical Ecosystem Studies Initiative.

“The Effect of Flow Rate on Phosphorus Uptake by Periphyton,” \$205,000, April 2001 – September 2003, U.S. Department of Interior Critical Ecosystem Studies Initiative.

“Hydrologic monitoring of wetlands of the Big Cypress Seminole Indian Reservation,” Senior PI with Jacqueline Gallagher, \$31,000, August 2001 – March 2003, Seminole Tribe of Florida Water Resource Management Division.

“The impact of invasive non-indigenous fish on wetland restoration at the Big Cypress Seminole Reservation,” Senior PI, \$65,000. April 2001 – April 2003, in collaboration with the Florida Caribbean Science Center and the Seminole Tribe of Florida, funding from the United States Geological Survey Eastern Regional Office State Partnership Program.

“Growth response of two invasive non-indigenous fern species, *Lygodium microphyllum* and *Lygodium japonicum* and two native vine species under different light levels,” Senior PI with Michael S. Lott, \$20,000. February 2001-February 2002, Florida Department of Environmental Protection Division of Invasive Species Management Annual Research Proposal Competition for Invasive Plant Management.

“Nutrient dynamics of a natural riparian system: Kissimmee Billy Strand,” \$210,000, February 2000 – September 2002, U.S. Department of Interior Critical Ecosystem Studies Initiative.

“Dispersal, reproduction and physiological ecology of two invasive non-indigenous fern species, *Lygodium microphyllum* and *Lygodium japonicum*,” Senior PI with Daniel F. Austin, Robert W. Pemberton and Michael S. Lott, \$40,000, February 2000-February 2001, Florida Department of Environmental Protection and the South Florida Water Management District.

“Quantifying the floodplain seed bank for the Kissimmee River Restoration Project,” \$5,000, March 1999-August 1999, South Florida Water Management District.

“Ecological impacts of temporary storage of agricultural effluent on forested wetlands,” Senior PI with Daniel F. Austin, \$110,000, October 1998-April 2000, U.S. Department of Interior Critical Ecosystem Studies Initiative.

“Assimilative capacity for phosphorus of C and SF canals on the Big Cypress Reservation,” Senior PI with Daniel F. Austin, \$100,000, October 1998-April 2000, U.S. Department of Interior Critical Ecosystem Studies Initiative.

“Successful management of a South Florida pine flatwood community utilizing a prescribed fire protocol,” \$37,000, October 1997-September 1999, Florida Department of Agriculture and Consumer Services Division of Forestry with matching funds from Florida Atlantic University.

“Seed Dynamics of Native and Exotic Plants in South Florida Hardwood Hammocks,” \$4,200, February 1997-February 1998, Florida Atlantic University Research Initiation Award.

“Plasma Treatment of Pine Seeds and Cones,” \$2,000, February 1997-February 1998, University of Wisconsin-Madison Gift Grant.

"Tree Response to Elevated CO<sub>2</sub> and Herbivory: Growth, Physiology and Insect Performance," Co-PI with Eric L. Kruger (PI) and Richard L. Lindroth, \$190,000, July 1993-July 1996, United States Department of Agriculture National Research Initiative, Plant Responses to Environment Program.

"Synergistic Effects of Elevated CO<sub>2</sub> and O<sub>3</sub>: Impact of Interspecific Differences in Stomatal Conductance and Photosynthetic Pathway," Co-PI with Peter B. Reich (PI) and Thomas J. Givnish, \$80,000, February 1991-January 1993, National Science Foundation.

### *Pending*

“REU site: Interdisciplinary Traineeship on Power Grid Resistance and Resilience to Severe Storms in a Changing Environment,” senior personnel with Marina Astitha (PI), Robert Fahey (Co-PI), Senior Personnel: Emannouil Anagnostou, Anita Morzillo, David Wanik, Thomas Worthley, Jason Parent, Wei Zhang, Ping Zhang and Thomas Meyer. Submitted to National Science Foundation Research Experiences for Undergraduates Program, submitted August 2016.

### *Patents*

“Cold-Plasma Treatment of Seeds to Remove Surface Materials,” with Raymond A. Young, Ferenz Denes and Sorin O. Manolache. Patent # 6,543,460, April 2003.

### *Honors and Awards*

Sigma Xi scientific research society - 1988

Gamma Sigma Delta honorary academic society - 1988

**Distinguished Community Service Award** conferred by Florida Board of Regents 1999

Florida Atlantic University’s **Researcher of the Year Award** – 2001

First **Educator of the Year Award** presented by the Broward Alliance – 2006

Visiting Fellow, Center for Creative Solutions, Marlboro College Graduate School – 2012 - present

The University of Connecticut’s Neag School of Education’s **David Blick Science Education Award** – 2015

### *Service and Professional Affiliations*

Ecological Society of America

American Association for the Advancement of Science

**Professional Service:**

Board of Directors of the South Dakota Resources Coalition 1987-88  
 Appointed to Broward County's "Natural Resource Protection Advisory Board"-1997 - 2000  
 Project team member for educational use of Natural Areas governed by Broward County Parks and Recreation Division - 1997  
 Appointed to the Ft. Lauderdale, FL, Museum of Discovery and Science's "Science Advisory Board"-1998  
 Natural Areas Fire Committee - 1998  
 Research Committee Chair for the Florida Exotic Pest Plant Council - 1998 – 2007  
 Member of the Board of Directors of the Florida Exotic Pest Plant Council – 2002 - 2004  
 Science Advisory Board Chair for the Florida Native Plant Society – 2000-2001  
 U.S. Department of Interior Critical Ecosystem Studies Initiative Science Advisory Committee 2000 – 2007  
 Technical Review Committee (TRC) member for the South Miami-Dade Watershed Study – 2003 – 2005  
 National Fish and Wildlife Foundation external reviewer for research proposals  
 National Science Foundation external reviewer for research proposals  
 National Council for Science and the Environment, Council of Environmental Deans and Directors, Strategic Opportunities Committee member 2003 – 2005  
 Science Coordination Group member of the Comprehensive Everglades Restoration Plan 2003 – 2007  
 Greater Everglades Wetlands Module Group member 2004 - 2008, includes being named Chair of Everglades Landscape Subgroup as well as Trophic Subgroup member  
 Connecticut Urban Forest Council board member 2007 – 2014  
 Connecticut Forest Conservation and Research Forum committee member 2008 – 2011  
 Natural Resources Working Group Core Team member of the CT Governor's Subcommittee on Climate Change Impacts 2009  
 Independent Scientific Review Panel for synthesis of ecological consequences of extreme depth events on the Florida Everglades to inform the Restoration Coordination & Verification (RECOVER) program, Panel Co-Chair 2011-12  
 National Research Council of the National Academies reviewer of NRC's Water Science and Technology report entitled: "Progress Toward Restoring the Everglades – The Third Biennial Review, 2010" and "The Fifth Biennial Review, 2014"  
 National Council for Science and the Environment, Council of Environmental Deans and Directors, International Committee Chair, 2015

**University Service:****University of Connecticut (2007 – present)**

College of Agriculture, Health and Natural Resources Executive Council 2007 – present  
 Head, Department of Natural Resources and the Environment 2007 – present  
 Nature & Environment: The Edwin Way Teale Lecture Series Committee 2008 – present  
 Environmental Science Undergraduate Program Advisory Committee 2008 – 2012  
 UConn Environmental Policy Advisory Council (EPAC) 2008 – present  
 EPAC Sustainable Development Workgroup Planning Committee Chair 2011 – 2012  
 Center for Environmental Sciences and Engineering Advisory Committee 2008 – present



Provost's Environment Committee 2009 – 2012  
     Environmental Studies Major Subcommittee 2009 – 2012  
     University Environmental Research Initiative Subcommittee Co-Chair 2010 – 2012  
 Provost's Academic Center/Institute Review Committee, 2010 – 2013 (Chair, 2011-13)  
 Vice President for Research Search Committee 2012 – 2013  
 Environmental Science External Review Co-Chair 2012 – 2013  
 Environmental Science(s) Co-Director 2012 – 2013, Director 2013 - present  
 Environmental Studies Undergraduate Program Advisory Committee 2012 – present  
 Greater Horn of Africa Initiative Committee – Office of Global Affairs 2012 – present  
 Landscape Biogeochemist Assistant Professor Search Committee Co-Chair 2012  
 Sustainable Environmental Planning and Management Graduate Certificate Program  
     Committee Chair 2013 – present  
 Graduate Professional Development Workshop Committee member 2012  
 Greater Long Island Sound Environmental Network Advisory Committee 2012 – 2013  
 Environmental Sciences Curriculum Committee, Chair 2013 – 2015  
 University Senate member 2013 – present  
 University Strategic Area Advisory Team on Sustainability and Resilience: Environment and  
     Energy 2013  
 Provost's Annual Report Committee 2013 – 2014  
 Natural Resources and the Environment Departmental Eight-year Program Review Self-Study  
     2013 – 2014  
 Wildlife/Fisheries Ecotoxicologist Faculty Search Committee Co-Chair 2013 – 2014  
 Climate Impact Mitigation and Adaptation Conference Committee 2013 – present  
 Masters in Energy and Environmental Management Committee Co-Chair 2013 – present  
 University Master Plan Advisory Committee 2014 - present  
     University Master Plan Focus Group on Sustainability Committee 2014 – 2015  
 Center for Environmental Sciences and Engineering Executive Council 2014 – present  
 Provost's College of Liberal Arts and Sciences 5-year Dean Review Committee 2014-15  
 Natural Resources Conservation Academy Coordinator Search Committee Chair 2014  
 College of Agriculture, Health and Natural Resources Education Abroad Development Grant  
     Program Committee 2015  
 UConn Reads Steering Committee 2014 – 2015  
 Provost's Centers and Institutes Revisioning Committee 2015 – 2016  
 Eversource Energy Center Associate Director 2015 – present  
 UConn Global Affairs Advisory Board 2016 – present  
 University of Nottingham Education Abroad Committee 2016 – present  
 Kasowitz Colloquium Committee 2016 - present  
 UConn Foundation Board Member (University Senate Faculty Representative) 2016 – present

### ***Book Reviewer***

*Economic Botany*

### ***Manuscript Reviewer***

*American Fern Journal, American Journal of Botany, Applied Vegetation Science, Biological Invasions, Canadian Journal of Botany, Diversity and Distributions, Economic Botany, Environmental Management, Forest Ecology and Management, Frontiers in Ecology and the Environment, Functional Ecology, Functional Plant Biology, International Journal of Plant Sciences, Invasive Plant Science and Management, Journal of Environmental Management, Journal of Freshwater Ecology, Natural Areas Journal, Oecologia, Photosynthetica, Plant Ecology, Planta, PLOS ONE, Southeastern Naturalist, Tree Physiology, Weed Research, Wetland Ecology and Management, Wetlands*

### ***Publications (Refereed)***

#### **Journal Articles**

- Espinasse, A., C. Lay and J.C. Volin. 1989. Effects of growth regulator concentrations and explant size on shoot organogenesis from callus derived from zygotic embryos of sunflower (*Helianthus annuus* L.). *Plant Cell, Tissue and Organ Culture* 17:171-181.
- Espinasse, A., J.C. Volin, C.D. Dybing and C. Lay. 1991. Embryo rescue through *in ovulo* culture in *Helianthus*. *Crop Science* 31:102-108.
- Gower, S.T., J.W. Chapman and J.C. Volin. 1991. Stem biomass accumulation rates by four plantation-grown conifers in southwestern Wisconsin. *Northern Journal of Applied Forestry* 8:26-28.
- Tjoelker, M.G., J.C. Volin, J. Oleksyn and P.B. Reich. 1993. Light environment alters response to ozone stress in seedlings of *Acer saccharum* Marsh. and hybrid *Populus* L. I. *In situ* net photosynthesis, dark respiration and growth. *New Phytologist* 124:627-636.
- Volin, J.C., M.G. Tjoelker, J. Oleksyn and P.B. Reich. 1993. Light environment alters response to ozone stress in seedlings of *Acer saccharum* Marsh. and hybrid *Populus* L. II. Diagnostic gas exchange and leaf chemistry. *New Phytologist* 124:637-646.
- Lindroth, R.L., P.B. Reich, M.G. Tjoelker, J.C. Volin and J. Oleksyn. 1993. Light environment alters response to ozone stress in seedlings of *Acer saccharum* Marsh. and hybrid *Populus* L. III. Consequences for performance of gypsy moth. *New Phytologist* 124:647-651.
- Tjoelker, M.G., J.C. Volin, P. B. Reich and J. Oleksyn. 1994. An open-air system for exposing forest-canopy branches to ozone pollution. *Plant, Cell and Environment* 17:211-218.
- Tjoelker, M.G., J.C. Volin, J. Oleksyn and P. B. Reich. 1995. Interaction of ozone pollution and light effects on photosynthesis in a forest canopy experiment. *Plant, Cell and Environment* 18:895-905.

- Volin, J.C. and P.B. Reich. 1996. The interaction of elevated carbon dioxide and ozone on growth, photosynthesis and respiration of three perennial species grown in low and high nitrogen. *Physiologia Plantarum* 97:674-684.
- Lindroth, R.L., S. Roth, E.L. Kruger, J.C. Volin and P. Koss. 1997. CO<sub>2</sub> mediated changes in aspen chemistry: effects on Gypsy moth performance and susceptibility to virus. *Global Change Biology* 3:279-289.
- Volin, J.C., P.B. Reich and T.J. Givnish. 1998. Elevated carbon dioxide ameliorates the effects of ozone on photosynthesis and growth: species respond similarly regardless of photosynthetic pathway or plant functional group. *New Phytologist* 138:315-325.
- Roth, S., R.L. Lindroth, J.C. Volin and E.L. Kruger. 1998. Enriched atmospheric CO<sub>2</sub> and defoliation: effects on tree chemistry and insect performance. *Global Change Biology* 4:419-430.
- Reich, P.B., D.S. Ellsworth, M.B. Walters, J. Vose, J. C. Volin, C. Gresham, and W. Bowman. 1998. Relationship of leaf dark respiration to leaf N, SLA and life-span: a test in six biomes across broad climate gradients. *Oecologia* 114:471-482.
- Kruger, E.L., J.C. Volin and R.L. Lindroth. 1998. Influence of atmospheric CO<sub>2</sub> enrichment in the responses of sugar maple and trembling aspen to defoliation. *New Phytologist* 140:85-94.
- Volin, J.C., C. Morgenstern, D. Austin, D. Owen, F. Mazzotti and V. Volin. 1999. *Bischofia javanica* resists herbicide treatment in a wetland mitigation project. *Ecological Restoration* 17(3):166-167.
- Reich, P.B., D.S. Ellsworth, M.B. Walters, J. Vose, C. Gresham, J. Volin, and W. Bowman. 1999. Generality of leaf trait relationships: a test across six biomes. *Ecology* 80(6):1955-1969.
- Volin, J.C., F.S. Denes, R.A. Young and S.M.T. Park. 2000. Modification of seed germination performance through cold plasma chemistry technology. *Crop Science* 40(6):1706-1718.
- Erickson, J.E., J.L. Cisar, J.C. Volin and G.H. Snyder. 2001. Comparing nitrogen runoff and leaching between newly established St. Augustinegrass turf and an alternative residential landscape. *Crop Science* 41:1889-1895.
- Volin, J.C., E.L. Kruger and R.L. Lindroth. 2002. Responses of deciduous broadleaf trees to defoliation in a CO<sub>2</sub> enriched atmosphere. *Tree Physiology* 22:435-448.
- van den Berghe, E.P., J.K. McCrary, K.R. McKaye, J. Ryan, J.R. Stauffer Jr., A. Konings, J.C. Volin, B. Murphy, L. Lopez Perez and S. Montenegro. 2003. Response to "tilapia: the biological solution." *The Nicaraguan Academic Journal* 4(1):97-107.

- Lott, M.S., J.C. Volin, R.W. Pemberton and D.F. Austin. 2003. The reproductive biology of *Lygodium microphyllum* and *L. japonicum* (Schizaeaceae) and its implications for invasive potential. *American Journal of Botany* 90:1144-1152.
- Volin, J.C., M.S. Lott, J.D. Muss and D. Owen. 2004. Predicting rapid invasion of the Florida Everglades by Old World Climbing Fern (*Lygodium microphyllum*). *Diversity and Distributions* 10:439-446.
- Erickson, J.E., J.L. Cisar, G.H. Snyder and J.C. Volin. 2005. Phosphorus and potassium leaching under contrasting residential landscape models established on a sandy soil. *Crop Science* 45:546-552.
- Kruger, E.L. and J.C. Volin. 2006. Reexamining the empirical relation between plant growth and leaf photosynthesis. *Functional Plant Biology* 33:421-429.
- Givnish, T.J., J.C. Volin, V.D. Owen, V.C. Volin, J.D. Muss and P.H. Glaser. 2008. Vegetation differentiation in the patterned landscape of the Central Everglades: importance of local and landscape drivers. *Global Ecology and Biogeography* 17:384-402.
- Ireland, K.B., N.A. Haji Mohamad Noor, E.A.B. Aitken, S. Schmidt and J.C. Volin. 2008. First Report of *Glomerella cingulata* (*Colletotrichum gloeosporioides*) Causing Anthracnose and Tip Dieback of *Lygodium microphyllum* and *L. japonicum* in Australia. *Plant Disease* 92:1369.
- Gandiaga, S., J.C. Volin, E.L. Kruger and K. Kitajima. 2009. Effects of hydrology on the growth and physiology of an invasive exotic, *Lygodium microphyllum* (Old World climbing fern). *Weed Research* 49:283-290.
- Liu, Z., J.C. Volin, V.D. Owen, L.G. Pearlstine, J.R. Allen, F.J. Mazzotti, and A.L. Higer. 2009. Validation and ecosystem applications of the EDEN water-surface model for the Florida Everglades. *Ecohydrology* 2:182-194.
- Doren, R.F., J.C. Volin and J.H. Richards. 2009. Invasive exotic plant indicators for ecosystem restoration: an example from the Everglades restoration program. *Ecological Indicators* 9S:S29-S36.
- Doren, R.F., J.H. Richards and J.C. Volin. 2009. A conceptual ecological model to facilitate understanding the role of invasive species in large-scale ecosystem restoration. *Ecological Indicators* 9S:S150-S160.
- Dorn, N.J. and J.C. Volin. 2009. Resistance of crayfish (*Procambarus* spp.) populations to wetland drying depends on species and substrate. *Journal of the North American Benthological Society* 28:766-777.

- Volin, J.C., E.L. Kruger, V.C. Volin, M.F. Tobin and K. Kitajima. 2010. Does release from natural enemies belowground explain the invasiveness of *Lygodium microphyllum*? A cross-continental comparison. *Plant Ecology* 208:223-234.
- Soti, P.G. and J.C. Volin. 2010. Does water hyacinth (*Eichhornia crassipes*) compensate for simulated defoliation? Implications for effective biocontrol. *Biological Control* 54:35-40.
- Volin, J.C. 2010. *Gestalt* of an invader. *Current Conservation* 4:29-32.
- Larsen, L., N. Aumen, C. Bernhardt, V. Engel, T. Givnish, S. Hagerthey, J. Harvey, L. Leonard, P. McCormick, C. McVoy, G. Noe, M. Nungesser, K. Rutchey, F. Sklar, T. Troxler, J. Volin, D. Willard. 2011. Recent and historic drivers of landscape change in the Everglades ridge, slough, and tree island mosaic. *Critical Reviews in Environmental Science and Technology* 41:344-381.
- Glaser, P.H., J.C. Volin, T.J. Givnish, B.C.S. Hansen and C.A. Stricker. 2012. Carbon and sediment accumulation in the Everglades (USA) during the past 4000 years: rates, drivers, and sources of error. *Journal of Geophysical Research Biogeosciences* Vol. 117, G03026, doi: 10.1029/2011JG001821, p. 1 -18. (*in press online 7/14/12*). Editor's choice for Research Spotlight.
- Dreiss, L.M. and J.C. Volin. 2013. Influence of leaf phenology and site nitrogen on invasive species establishment in temperate deciduous forest understories. *Forest Ecology and Management* 296:1-8.
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### **Contributions in Books and Monographs**

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- Owen, D. J.C. Volin and W.A. Dunson. Spatial and temporal patterns of surface water quality on the Big Cypress Seminole Indian Reservation, pp. 412-413. Joint conference on the Science and Restoration of the Greater Everglades and Florida Bay Ecosystem. *In: Proc. GEER 2003 Science Conference*. April 2003. Palm Harbor, FL.
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- Larsen, L., N. Aumen, C. Bernhardt, V. Engel, T. Givnish, S. Hagerthey, J. Harvey, L. Leonard, C. McVoy, G. Noe, M. Nungesser, K. Rutchey, F. Sklar, T. Troxler, J. Volin and D. Willard. The Role of Flow and Transport Processes in Ridge/Slough/Tree Island Pattern Dynamics, pp. 243-244. Greater Everglades Ecosystem Restoration Planning, Policy and Science Meeting Everglades Restoration 2050 – Advancing the Science to Achieve Success. *In: Proc. GEER 2008 Science Conference, August 2008, Naples, FL.*
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- Noonburg, E.G. and J.C. Volin. Development of a Sampling Prioritization Model to Optimize the Selection of Tree Islands in the Everglades Wildlife Management Area for Surveying of *Lygodium microphyllum*, p. 319. Greater Everglades Ecosystem Restoration Planning, Policy and Science Meeting Everglades Restoration 2050 – Advancing the Science to Achieve Success. *In: Proc. GEER 2008 Science Conference, August 2008, Naples, FL.*
- Owen, D., J.C. Volin, J. Allen, M.A. Furedi, C. Coronado-Molina, F.H. Sklar and A. Higer. Characterization of Tree Island Hydrology in the Central Everglades: An Application of the EDEN Water Surface Model, p. 336. Greater Everglades Ecosystem Restoration Planning, Policy and Science Meeting Everglades

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- Volin, J.C., E.L. Kruger, V.C. Volin, M.F. Tobin and K. Kitajima. Release from Natural Enemies Belowground Helps Explains the Invasiveness of *Lygodium microphyllum* in Florida: A Cross-continental Comparison, p. 453. Greater Everglades Ecosystem Restoration Planning, Policy and Science Meeting Everglades Restoration 2050 – Advancing the Science to Achieve Success. *In: Proc. GEER 2008 Science Conference, August 2008, Naples, FL.*
- Soti, P.G. and J.C. Volin. Does water hyacinth (*Eichhornia crassipes*) compensate for simulated defoliation? Implications for effective biocontrol, p. 356. Greater Everglades Ecosystem Restoration, The Everglades: A Living Laboratory of Change, Planning, Policy and Science Meeting. *In: Proc. GEER 2010 Science Conference, July 2010, Naples, FL.*
- Bandy, L.A., J.C. Volin and T.J. Givnish. Trophic focusing of nutrients on tree islands in the Florida Everglades, p. 357. Greater Everglades Ecosystem Restoration, The Everglades: A Living Laboratory of Change, Planning, Policy and Science Meeting. *In: Proc. GEER 2010 Science Conference, July 2010, Naples, FL.*
- Rand, C., J.C. Volin and R. Ricard. “Buy Local.” Consumer behavior and wood products. New England Society of American Foresters 92<sup>nd</sup> Winter Meeting. April 3-6, 2012 UMass Amherst, Amherst, Massachusetts.
- Boukili, V.K.S., R.L. Chazdon and J.C. Volin. Using plant functional traits to refine ecological restoration techniques: A seedling transplant experiment. *In: Proc. Ecological Society of America 97<sup>th</sup> Annual Meeting, Aug. 2012, Portland, OR.*
- Presentations at Meetings (posters)***
- Tjoelker, M.G., J.C. Volin, J. Oleksyn and P.B. Reich. Leaf gas exchange along a light gradient in a sugar maple forest canopy experimentally exposed to ozone pollution. pp. 457. *In: Proc. Ecological Society of America. Aug. 1993. Madison, WI.*
- Lindroth, R.L., S. Roth, E.L. Kruger and J.C. Volin. Consequences of enriched atmospheric CO<sub>2</sub> and defoliation for tree-insect interaction. I. foliar chemistry. pp. 267. *In: Proc. Ecological Society of America. Aug. 1996. Providence, RI.*
- Roth, S., R.L. Lindroth, J.C. Volin and E.L. Kruger. Consequences of enriched atmospheric CO<sub>2</sub> and defoliation for tree-insect interaction. II. insect performance. pp. 381. *In: Proc. Ecological Society of America. Aug. 1996. Providence, RI.*
- Volin, J.C., D. Owen, W.A. Dunson and D.F. Austin. The change in forested wetland canopy coverage after forty years of desiccation compared to seven years of rehydration. pp. 351. *In: Proc. Ecological Society of America. Aug. 2000. Snowbird, UT.*

- Owen, D., J.C. Volin, D. Cole and W.A. Dunson. Modeling the assimilative capacity for phosphorus through the canal system of the Big Cypress Seminole Indian Reservation. Greater Everglades Ecosystem Restoration Science Conference. Dec. 2000 Naples, FL.
- Lott, M.S., J.C. Volin and D. Owen. Dispersal, reproduction and physiological ecology of two invasive non-indigenous fern species; *Lygodium microphyllum* and *L. japonicum*. In: Proc. Ecological Society of America. Aug. 2001. Madison, WI.
- Kirkpatrick, S., J.C. Volin, D. Owen, W.A. Dunson and W.F. Loftus. Temperature and hypoxia tolerance of the indigenous dollar sunfish (*Lepomis marginatus*) and the non-indigenous black acara (*Cichlasoma bimaculatum*). In: Proc. Ecological Society of America. Aug. 2002. Tucson, AZ.
- Hiaasen, B.A., J.C. Volin and S.P. Simmons. The effect of water velocity on periphyton taxonomic composition of experimental mesocosms receiving water from stormwater treatment areas, pp. 262-263. Joint conference on the Science and Restoration of the Greater Everglades and Florida Bay Ecosystem. In: Proc. GEER 2003 Science Conference. April 2003. Palm Harbor, FL.
- Kirkpatrick, S.W., J.C. Volin and W. Loftus. Temperature and hypoxia tolerances of the indigenous dollar sunfish (*Lepomis marginatus*) and the non-indigenous black acara (*Cichlasoma bimaculatum*), pp. 309-310. Joint conference on the Science and Restoration of the Greater Everglades and Florida Bay Ecosystem. In: Proc. GEER 2003 Science Conference. April 2003. Palm Harbor, FL.
- Simmons, S.P., J.C. Volin and D. Owen. The effects of water velocity on phosphorus uptake by periphyton: Implications for improving phosphorus capture by stormwater treatment areas, pp. 495. Joint conference on the Science and Restoration of the Greater Everglades and Florida Bay Ecosystem. In: Proc. GEER 2003 Science Conference. April 2003. Palm Harbor, FL.
- Dunker, K.J., J.C. Volin and W.F. Loftus. Non-indigenous fishes in restored and natural wetlands in the Everglades Big Cypress Swamp. In: Proc. Ecological Society of America. Aug. 2003. Savannah, GA.
- Hiaasen, B.A., J.C. Volin and S.P. Simmons. The effect of water velocity on the periphyton taxonomic composition of mesocosms in the Everglades. In: Proc. Ecological Society of America. Aug. 2003. Savannah, GA.
- Lott, M.A. and J.C. Volin. The growth and physiological ecology of two invasive non-indigenous fern species, *Lygodium microphyllum* and *Lygodium japonicum*. In: Proc. Ecological Society of America. Aug. 2003. Savannah, GA.
- Muss, J.D., J.C. Volin and D. Owen. Predicting the landscape spread of *Lygodium microphyllum* in South Florida. In: Proc. Ecological Society of America. Aug. 2003. Savannah, GA.

Simmons, S.P., J.C. Volin and D. Owen. Implications of water velocity for phosphorus capture by Storm Water Treatment areas in the Florida Everglades. *In: Proc. Ecological Society of America*. Aug. 2003. Savannah, GA.

Owen, D. J.C. Volin and A.B. Jacobs. Spatial and temporal water quality patterns within the Big Cypress Seminole Indian Reservation. *In: Proc. Ecological Society of America*. Aug. 2004. Portland, OR.

Volin, V.C., J.C. Volin, J.D. Muss and D. Owen. Modeling optimal management strategies to control the invasion of *Lygodium microphyllum* over the Florida landscape. *In: Proc. Ecological Society of America*. Aug. 2004. Portland, OR.

Furedi, M.A., J.C. Volin, M.S. Korvela, S. Miao and L. Rodgers III. Detection and Implications for Management of *Lygodium microphyllum* on Tree Islands in Water Conservation Areas Greater Everglades Ecosystem Restoration Conference Planning, Policy and Science. *In: Proc. GEER 2006 Science Conference*, June 2006, Lake Buena Vista, FL.

Gardner, M.D., J.C. Volin and M.S. Lott. The Effect of Hydroperiod on the Growth of the Crayfish Species *Procambarus alleni* and *P. fallax*: Two Keystone Species in the Florida Everglades. Greater Everglades Ecosystem Restoration Conference Planning, Policy and Science. *In: Proc. GEER 2006 Science Conference*, June 2006, Lake Buena Vista, FL.

Jacobs, A., J.C. Volin and D. Owen. Nutrient Limitation in a Forested Wetland on the Big Cypress Seminole Indian Reservation. Greater Everglades Ecosystem Restoration Conference Planning, Policy and Science. *In: Proc. GEER 2006 Science Conference*, June 2006, Lake Buena Vista, FL.

### ***Invited Presentations***

“The growth and physiological response of perennial plants to increased levels of both carbon dioxide and ozone.” University of New Hampshire. January 1995.

“How plants will react to changes in an elevated CO<sub>2</sub> atmosphere: Impact of O<sub>3</sub> and defoliation.” University of Illinois-Chicago. March 1996.

“Interaction of elevated CO<sub>2</sub> and O<sub>3</sub> on the growth, photosynthesis and respiration of three perennial species grown in low and high nitrogen.” South Florida Water Management District. February 1996.

“The impact of elevated ozone and defoliation on the growth and physiology of grasses and trees grown in an elevated CO<sub>2</sub> atmosphere.” Fairchild Tropical Garden Research Center. October 1996.

- “Elevated CO<sub>2</sub> ameliorates the impact of O<sub>3</sub> pollution on grasses and trees.” Florida Atlantic University. October 1996.
- “Death of southeastern Florida’s largest red maple stand; insects, wind or chemical?” Florida International University. March 1998.
- “Consequences of invasive plant removal on red maple trees in a wetland mitigation project.” DePaul University. May 1998.
- “Modifying seed germination characteristics through plasma chemistry.” University of Wisconsin-Madison. April 1999.
- “Will atmospheric CO<sub>2</sub> enrichment alter the response of deciduous broadleaf trees to defoliation?” University of Miami. November 1999.
- “Plasma treatment of seeds.” Microsymposium on plasma chemistry in polymers, 7<sup>th</sup> Pacific Polymer Conference, Oaxaca, Mexico. December 2001.
- “Ecological responses to restoration in the Greater Everglades Ecosystem.” University of Maryland, Center for Environmental Science. September 2002.
- “The physiological ecology of the invasive non-indigenous Old World climbing fern, *Lygodium microphyllum*.” Florida International University. September 2002.
- “The Big Cypress Seminole Indian Reservation water Conservation Plan, a Critical Project of the Comprehensive Everglades restoration Plan.” National Audubon Corkscrew Swamp Sanctuary. October 2002.
- “Ecological responses to restoration in the Greater Everglades Ecosystem.” Columbia University. November 2002.
- Volin, J.C., J.D. Muss, D. Owen, V.C. Volin, T.J. Givnish and P.H. Glaser. Landscape mapping of ridge and slough topography: Integration of hydrology and biological processes, pp. 561. Joint conference on the Science and Restoration of the Greater Everglades and Florida Bay Ecosystem. *In: Proc. GEER 2003 Science Conference*. April 2003. Palm Harbor, FL.
- Volin, J.C., M.S. Lott, J.D. Muss, D. Owen and J.E. Stewart. The life history patterns of the invasive fern, *Lygodium microphyllum*, at the whole-plant, community and landscape scale, pp. 562-563. Joint conference on the Science and Restoration of the Greater Everglades and Florida Bay Ecosystem. *In: Proc. GEER 2003 Science Conference*. April 2003. Palm Harbor, FL.
- “Explaining and predicting rapid invasion of the Florida Everglades by Old World climbing fern (*Lygodium microphyllum*).” University of Florida. September 2003.

- “Physiological Ecology Research for Restoration in the Florida Everglades.” Chancellor College-University of Malawi. June 2004.
- “The Florida Everglades, the World’s largest restoration: Is the science ready?” Black Hills State University. September 2004.
- “Invasive species and Everglades Restoration.” University of Queensland, Brisbane, Australia. January 2005.
- “Vision of Natural Resource Ecology and Management in the U.S. and Abroad.” Iowa State University. May 2005.
- “Developing optimal management strategies for invasive species: linking physiological ecology with operations research.” IUFRO World Congress 2005, Brisbane, Australia, August 2005.
- “Functional basis for geographical variation in the climbing fern *Lygodium microphyllum*.” ECOFIZZ Conference 2005, Stradbroke Island, Australia, November 2005.
- “Can Soil Environment Help Explain *Lygodium microphyllum* invasion? A Cross Continental Comparison.” South Florida Water Management District, May 2006.
- “Functional basis for geographical variation in growth among invasive species: the importance of comparing native versus non-native habitats.” Special Symposium on Biological Invasion in the Tropics, The Annual Meeting of the Association for Tropical Biology and Conservation, July 2006, Kunming, Yunnan, China.
- “A Vision for Natural Resources Management and Engineering.” University of Connecticut, February 2007.
- “The Florida Everglades: will an alien fern strangle its restoration?” Frontiers in Science Lecture Series, Florida Atlantic University, February 2007.
- “Changes in Landscape Patterning in the Central Everglades: Importance of Surface Water Flow and Soil Thickness.’ Everglades National Park, March 2007.
- “The Florida Everglades: Will an Alien Fern Strangle its Restoration?” University of Connecticut, Department of Ecology and Evolutionary Biology, October, 2007.
- Givnish, T.J. and J.C. Volin. Self-assembly of Patterned Landscapes and Vegetation in the Central Everglades: Importance of Local and Landscape Drivers, pp. 137-138. Greater Everglades Ecosystem Restoration Planning, Policy and Science Meeting Everglades Restoration 2050 – Advancing the Science to Achieve Success. *In:* Proc. GEER 2008 Science Conference, August 2008, Naples, FL.
- “Functional Basis for Geographical Variation in Growth Among Invasive Species: a

- Perspective from Temperate to Tropical Ecosystems.” International Conference on Invasive Plants in the Tropics: Ecology, Management and Livelihoods. January 2009, Bangalore, India.
- “The Florida Everglades: Will an Alien Fern Strangle its Restoration?” Pennsylvania State University, School of Forest Resources, September, 2009.
- “The Florida Everglades: Will an Alien Fern Strangle its Restoration?” University of Vermont, Department of Plant Biology, October, 2009.
- “The Florida Everglades: Will an Alien Fern Strangle its Restoration?” University of Wisconsin-Madison, Biology Colloquium, March, 2010.
- “Managing the invasive aquatic plant, *Hydrilla verticillata*, in an urban New England watershed,” Northeast Aquatic Nuisance Species Panel Meeting, November 2010.
- “Aliens vs. Native Species: Who’s Winning in the Florida Everglades?” New York Farmers, Union Club, New York City, February 2011.
- “Functional Basis for Geographic Variation in Growth among Invasive Species: The Case of *Lygodium microphyllum*,” 9<sup>th</sup> INTECOL International Wetlands Conference, Orlando, Florida, June, 2012.
- “Predicting Ecosystem Change in Response to Climate Change: Plant Species and Community Responses,” with Arnold van der Valk and Paul Wetzel, Predicting Ecological Changes in the Florida Everglades in a Future Climate Scenario FAU-CES, USGS, Florida Sea Grant Sponsored Workshop, February 2013.

### ***Courses Taught***

#### **University of Wisconsin-Madison (1995)**

FOR 550 - Forest Ecology

#### **Florida Atlantic University (1996 to 2007)**

BOT 3223 - Vascular Plants  
 BOT 3223L - Vascular Plants Laboratory  
 PCB 4043 - Principles of Ecology  
 BOT 4503 - Principles of Plant Physiology  
 BOT 4503L - Principles of Plant Physiology Laboratory  
 BSC 4930 - Field Trips in Ecology  
 BSC 6936 - Advanced Topics in Ecology  
 BSC 6936 - Advanced Field Ecology  
 PCB 6046 - Advanced Ecology  
 BSC 6936 - Ecosystems of South Florida  
 BSC 6936 - Environmental Sciences Seminar  
 BSC 5931 - Integrating the Environment I



- BSC 6936 - Integrating the Environment II  
 BSC 6936 - Advanced Plant Physiological Ecology  
 BSC 6936L - Advanced Plant Physiological Ecology Laboratory  
 BSC 6936 - Invasive Species Ecology  
 BSC 6936L - Invasive Species Ecology

**University of Connecticut (2008 to present)**

- ENVS 2000 - Integrating Humans and the Environment  
 NRE 4094 - Seminar  
 NRE 4600 - Current Topics in Environmental and Natural Resources  
 NRE 5694 - Natural Resources Seminar  
 NRE 5800 - Graduate Seminar  
 AGNR 3093 - Sustainable Environmental, Food and Agricultural Systems in the US and Italy  
 (team taught semester abroad course in Florence, Italy)  
 UNIV 1810 – FYE Learning Community Seminar – Environmental Science

***Graduate Students and their thesis research:***

**Graduated 2000**

Mike Anderson - M.S. in Environmental Sciences

Hydrologic and topographic gradient effects on woody vegetation of tree islands in the Everglades Wildlife Management Area.

John Erickson - M.S. in Environmental Sciences

Documenting the “Florida Yard” concept for reducing nitrogen runoff and leaching.

**Graduated 2001**

Dara Cole – M.S. in Environmental Sciences

Can Everglades forested wetlands significantly reduce nutrient concentrations in surface waters?

Michelle DaCosta - M.S. in Environmental Sciences

Butterfly populations in the Florida Big Cypress Swamp: can they be used as bioindicators?

Mike Lott - M.S. in Environmental Sciences

The reproductive biology of *Lygodium microphyllum* and *L. japonicum*, two invasive fern species in Florida.

Steve Simmons – M.S. in Environmental Sciences

The effects of flow on phosphorus uptake by periphyton.

Molly Taylor – M.S. in Environmental Sciences

The invasion of *Sphaeroma terebrans*, a marine isopod, on pond apple (*Annona glabra*) trees in a tidally influenced freshwater forested wetland.

**Graduated 2002**

Scott Park – M.S. Environmental Sciences

Can rewatering reverse the effects of regional drainage on forest communities of the Big Cypress Swamp?

Joy Stewart – M.S. Biology

The distribution of the non-indigenous invasive old world climbing fern, *Lygodium microphyllum*, in southern Florida: The relationship to abiotic and biotic variables.  
Erin Keplinger – M.S. Biology – non-thesis

### **Graduated 2003**

Krissy Dunker – M.S. Environmental Sciences

Non-indigenous fishes in restored and natural wetlands on the Big Cypress Seminole Indian Reservation.

Barbara Hiaasen – M.S. Environmental Sciences

The effects of flow on the taxonomic composition of Everglades periphyton.

### **Graduated 2004**

Alyssa Jacobs – M.S. Environmental Sciences

Forest wetlands response to nutrient enrichment on the Big Cypress Seminole Indian Reservation.

### **Graduated 2005**

Kathy Ryan– M.S. Environmental Sciences

The effects of systemic herbicide used for invasive species management on a native Florida scrub seed bank.

Craig van der Heiden– M.S. Environmental Sciences

Utilization distribution as a predictor in modeling black rhino (*Diceros bicornis*) habitat in Africa's southern rift valley.

### **Graduated 2006**

Matthew Gardner– M.S. Environmental Sciences

The Effect of Hydroperiod on the Growth of the Crayfish Species *Procambarus alleni* and *P. fallax*.

### **Graduated 2007**

Sonia Gandiaga – M.S. Environmental Sciences

Effects of hydrology and applied gibberellic acid and paclobutrazol on the growth of the invasive exotic *Lygodium microphyllum* (Old World climbing fern).

Denise Alter – M.S. Environmental Sciences

### **Graduated 2008**

Pushpa G. Soti – M.S. Environmental Sciences

Does water hyacinth (*Eichornia crassipes*) compensate to defoliation? Implications for effective biocontrol.

Sheryl van der Heiden – M.S. Environmental Sciences

Differentiating decomposition rates within the ridge-slough microtopography of the Central Florida Everglades

### **Graduated 2009**

Leslie Bandy – M.S. Natural Resources

Trophic focusing of nutrients on tree islands in the oligotrophic Florida Everglades.

**Graduated 2010**

Nicholas Reif – M.S. Natural Resources

Evaluating multiple control methods for the invasive aquatic plant, *Hydrilla verticillata*, in the Silvermine River System of Southwestern Connecticut.

**Graduated 2011**

Charlotte Rand – M.S. Natural Resources

“Buy Local” consumer behavior and wood products: a case study.

Lindsay Dreiss – M.S. Natural Resources

Differential canopy leaf flushing and site nitrogen status facilitate invasive species establishment in temperate deciduous forest understories.

**Graduated 2014**

Jason Parent – Ph.D. Natural Resources

Using Leaf-off LiDAR in Modeling Forest Canopy Structure and Assessing the Effect of Spatial Resolution in Landscape Analyses.

**Graduated 2016**

Frances Champagne – M.S. Natural Resources (co-advised with Thomas Worthley)

Can portable band sawmill operators help address Connecticut’s small scale forest management needs?

Michelle Kosmo – M.S. Natural Resources – non-thesis

Lindsay Dreiss – Ph.D. Natural Resources

The Role of Phenology in Invasive Plant Species Success in Temperate Forest Understories.

**Current Graduate Students**

Amanda Bunce, Jenna Klinck, Danielle Kloster, Nancy Marek

***Administrative Highlights:*****Florida Atlantic University (1996-2007)**

- I was the sole Principal Investigator for FAU for the successful collaborative proposal in partnership with the University of Florida and Nova Southeastern University that was submitted to the US Geological Survey for the development of a South Florida Science Center. The restoration of the Florida Everglades is an \$8 billion project that is estimated to take 30 years to complete. The restoration, called the Comprehensive Everglades Restoration Plan ([www.evergladesplan.org](http://www.evergladesplan.org)), is a joint federal/state partnership that is science based. The USGS is to provide the science for the federal component and to assist in addressing the scientific needs of the restoration with nonfederal partners. In October 2003 the USGS awarded the contract to build the South Florida Science Center with the FAU/UF/NSU consortium. The Center will be designed to house 130 government scientists plus support staff, as well as university faculty and staff to work on

Everglades restoration and other water and environmental issues. As part of this project the three universities proposed to develop a joint Center of Excellence in Environmental Sciences.

- I was the sole Principal Investigator for the proposal FAU submitted to the US Department of Interior's Cooperative Ecosystems Studies Unit (CESU). This successful proposal allowed FAU to become a member of the South Florida Caribbean CESU, which, by 2006, had resulted in over a million dollars in research funding for the university.
- I wrote a legislative initiative that resulted in funding by the State of Florida for a research and teaching greenhouse facility budgeted at \$183,000 per year for operation, maintenance and personnel. Since funding, I wrote the greenhouse plan and was intimately involved in the greenhouse design and development. Construction on the \$1,300,000 greenhouse facility was completed in September 2006.
- I developed a Memorandum of Understanding for research and teaching with Leadership for Environment and Development (LEAD) International. LEAD International is an independent, not-for-profit organization, established in 1991 by The Rockefeller Foundation, and a global network of individuals and non-governmental organizations, committed to sustainable development. The LEAD network is coordinated through an international secretariat based in the campus of Imperial College, London. LEAD's mission is to create, strengthen and support networks of people and institutions promoting change towards sustainable development worldwide. Since the signing of the formal agreement, I worked with the Regional Director of LEAD Southern Africa in developing research projects in eastern and southern Africa.
- I represented the Florida Center of Environmental Studies as well as the FAU Environmental Sciences Program on the strategic opportunities committee of the National Council for Science and Environment's Council for Environmental Deans and Directors.

#### **University of Connecticut (2007 – present)**

- I have worked closely with the College of Agriculture and Natural Resources Director of Development and have had several notable gifts:
  - First-ever endowed Chair in the College: “The George F. Cloutier Endowed Chair in Forestry” (\$1.5 million deferred gift in 2008)
  - The endowed “George F. Cloutier Forestry Scholarship Award” (\$100,000 in 2008)
  - The endowed “David B. Schroeder Scholarship” (\$10,000 in 2008 – currently > \$25,000)
  - The non-endowed “The James V. Spignesi, Jr. Graduate Fellowship” (\$60,000 in 2010)

- The Natural Resources Conservation Academy (\$50,000 per year from 2010-2015)
- Alumnus non-endowed gift of \$100,000 in 2013 to be used in support of forestry program
  
- Worked in collaboration with colleagues in the UConn School of Engineering, College of Agriculture, Health and Natural Resources as well as university administration, including the Vice-President for Research and the Provost, to successfully establish the \$9.0 million **Eversource Energy Center** (<http://www.eversource.uconn.edu/>) in October 2015. The Center is a unique collaborative relationship that seeks to be the foremost energy utility-academia partnership advancing cutting-edge interdisciplinary research and technology assuring reliable power during extreme weather events.
  
- Examples of UConn Program Initiative Highlights:
  - Founder and director of the University of Connecticut’s Natural Resources Conservation Academy ([www.nrca.uconn.edu](http://www.nrca.uconn.edu)), a new outreach program in conservation and land use planning targeted to high school students. The program seeks to reconnect students to nature, and to facilitate their participation in a conservation focused project in their home community.
  - Led collaborative effort in spring 2012 with Departments of Civil and Environmental Engineering and Agricultural Resources Economics to develop a cluster hire initiative in “Climate and Sustainable Water Resources,” which was subsequently approved by the President and Provost. In fall 2012, five new positions were approved to initiate the Climate and Sustainable Water Resources cluster.
  - Provost Environment Committee (2009-2012) – assisted in developing a new cross-college undergraduate major in Environmental Studies, which received final State approval in January 2013, and from 2010-11, co-chaired the subcommittee on a new environmental research initiative for the University charged with developing a focus that aligns with UConn’s academic plan, which has “the Environment” as one of its three pillars. The final recommendation, entitled: “The UConn Environmental Initiative: Sustaining Coupled Human and Natural Systems” was submitted to the Provost in 2011.
  - Organized and led a collaborative team from the College of Agriculture and Natural Resources to respond to two severe storm events that occurred in the Northeast in 2011. This was a multidisciplinary effort that involved forest management, geospatial modeling, tree biomechanics, atmospheric science, urban and community forestry and extension and outreach. Eventually we merged our proposal with a parallel effort in the UConn School of Engineering, and together our proposal entitled “NU Center of Excellence in Storm Mitigation and Power System Resilience: A 2-year Demonstration Activity” was funded for \$1.8 Million by Northeast Utilities in March 2013. This effort led to the successful establishment of the Eversource Energy Center described above.

- Initiated and assisted in the development of a Graduate Certificate program entitled: “Sustainable Environmental Planning and Management,” which was approved the University of Connecticut Board of Trustees in November 2013.
- In collaboration with two colleagues we wrote a proposal to the US DOI’s Cooperative Ecosystems Studies Unit (CESU), which resulted in UConn becoming a full member of the North Atlantic Coast CESU in 2014.
- Helped lead the successful effort to create a new Professional Science Masters program entitled “Masters in Energy and Environmental Management,” which is a collaborative effort among the College of Agriculture, Health and Natural Resources, the College of Liberal Arts and Sciences and the School of Law. The new program was approved by the UConn Board of Trustees in 2015 and will accept its first class in fall 2017.
- International Initiatives:
  - In 2010, assisted in developing Cooperative Agreements with China Agricultural University and Sichuan University to promote collaborative research and education initiatives among faculty and students.
  - In 2011, with NRE faculty and Chinese colleagues helped organize and sponsor two joint conferences entitled: “Sino-US Forum on Eco-hydrology and Water Resources.” The first was held at China Agricultural University and the second at the Chinese Academy of Science & Ministry of Water Resources Institute of Soil and Water Conservation.
  - In 2011, 2013, and 2016 assisted in organizing and teaching a semester study abroad program in Florence, Italy entitled: “Sustainable Agriculture & Food Systems Program.”
  - In 2012, as an extension of the Florence program, I led the effort to develop a new concentration for undergraduate students in the Natural Resources major entitled: “International Studies in Sustainable Natural Resources.”
  - In 2012, as an outcome from the Cooperative Agreements with Chinese Institutions as well as with sustained engagement, the UConn College of Agriculture and Natural Resources developed a 3+2 program with Sichuan University and NRE developed a new summer study abroad opportunity entitled: “Environmental and Natural Resources in China.”