

BETSY VON HOLLE

Assistant Professor

University of Central Florida, Department of Biology

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PROFESSIONAL APPOINTMENTS

Jan 2007 -present **Assistant Professor**, University of Central Florida, Department of Biology

2005 - 2007 **Environmental Fellow**, American Association for the Advancement of Science

2002 - 2005 **National Park Ecological Research Fellow**, Harvard Forest, Harvard University

1996 - 1997 **Biological Technician**, Smithsonian Environmental Research Center

1995 - 1996 **Research Intern**, Smithsonian Environmental Research Center

EDUCATION

Ph.D. **University of Tennessee, at Knoxville** Ecology & Evolutionary Biology 1997-2002

Advisor: Dr. Daniel Simberloff

Dissertation topic: "*Ranking the Components of Ecological Resistance to Plant Invaders in a Southern Appalachian Riparian Forest*"

B.S. **University of California, at San Diego** Ecology, Behavior & Evolution 1990-1994

RECENT AWARDS AND GRANTS

2008 Research Grant, Florida Department of Environmental Protection, (\$14,500)

2008 Research Grant, National Park Service, Cape Cod National Seashore (\$29,258)

2008 Summer Research Fellowship, Marine Biological Laboratories, (\$11,270)

2008 Research Grant, University of Central Florida, College of Science, (\$7,500)

2007 Research Grant, Florida Department of Environmental Protection, (\$14,500)

2005 AAAS Science and Technology Fellowship, Environmental Fellow, (\$160,000)

2005 REU site grant: Harvard Forest REU Program in Forest Ecology, National Science Foundation, A.M.Ellison and K. Donohue, PIs, (*I am one of 10 supporting PIs*, \$800,000)

2005 Research Grant, National Park Service, (\$2,000)

2004 Research Grant (*co-PI with David R. Foster*), Highstead Arboretum, (\$11,200)

2002 National Park Ecological Research Fellowship, National Park Ecological Research Foundation, (\$150,000)

2002 Postdoctoral Training Grant, Andrew W. Mellon Foundation, (\$21,000)

2003 Research Grant, National Park Service, (\$5,000)

2002 Miller Research Fellowship for Basic Science, University of California, at Berkeley, *declined* (\$165,000)

TEACHING EXPERIENCE

Graduate Avanced Ecology 2007, 2009

Invasion Biology 2008

Undergraduate Ecology 2008

PUBLICATIONS (* indicates student co-author)

- Holmes, T.P., J.E Aukema, **B. Von Holle**, A. Liebhold, E. Sills. *In press, 2009*. Economic Impacts of Invasive Species in Forests: Past, Present, and Future. Invited Chapter: *The Year in Ecology and Conservation Biology*, Edited by R.S. Ostfield and W.H. Schlesinger
- Niemiera, A.X., and **B. Von Holle**. 2009, *in press*. Invasive Plant Species and the Ornamental Horticulture Industry. *Control of Invasive Plants*, Book edited by Inderjit and published by Springer
- Reaser, J., L. Meyerson, and **B. Von Holle**. 2008. Saving camels from straws: How propagule pressure-based prevention policies can reduce the risk of unintentional introductions. *Biological Invasions* 10:1085-1098.
- **Von Holle, B.** and G. Motzkin. 2007. Historical land use and environmental determinants of nonnative plant distribution in coastal northeastern United States. *Biological Conservation* 136: 33-43.
- Neill, C.M., **B. Von Holle**, K. Kleese, *K. D. Ivy, *A. R. Collins, and C. Treat. 2007. Effects of land-use history on soil quality and vegetation: Implications for sandplain grassland restoration. *Biological Conservation* 136:17-32.
- Mack, R.N., **Von Holle B.**, Meyerson, L.A. 2007. Assessing the impacts of invasive alien species across multiple spatial scales: the need to work globally and locally. *Frontiers in Ecology and Evolution* 5(4):217-220.
- Fridley, J. D., Stachowicz, J.J., Naeem, S., Sax, D.F., Seabloom, E.W., Smith, M.D., Stohlgren, T.J., Tilman, D., and **Von Holle, B.** 2007. The invasion paradox: Reconciling pattern and process in species invasions. *Ecology* 88(1): 3-17.
- Niemiera, A.X. and **B. Von Holle**. 2007. Invasive Plants – A Horticultural Perspective. Virginia Cooperative Extension, publication 426-080. Virginia Polytechnic Institute and State University, Blacksburg, VA. 6pp.
- **Von Holle, B.**, *K.A Joseph, *E.F. Largay, and *R.G. Lohnes. 2006. Facilitations between the introduced nitrogen-fixing tree, *Robinia pseudoacacia*, and nonnative plant species in the glacial outwash upland ecosystem of Cape Cod, MA. *Biodiversity and Conservation* 15:2197–2215
- **Von Holle, B.** and D. Simberloff. 2005. Ecological resistance to biological invasion overwhelmed by propagule pressure. *Ecology* 86(12):3213-3218.
- A. M. Ellison, M. S. Bank, B. D. Clinton, E. A. Colburn, C. R. Ford, D. R. Foster, B. D. Kloeppel, J. D. Knoepp, G. M. Lovett, J. Mohan, D. A. Orwig, N. L. Rodenhouse, W. V. Sobczak, K. A. Stinson, J. K. Stone, C.M. Swan, J. Thompson, **B. Von Holle**, and J. R. Webster. 2005. Loss of foundation species: Consequences for the structure and dynamics of forested ecosystems. *Frontiers in Ecology and the Environment*. 9(3): 479-486.
- **Von Holle, B.** 2005. Biotic resistance to invader establishment of a southern Appalachian plant community is determined by environmental conditions. *Journal of Ecology* 93: 16-26
- **Von Holle, B.** and D. Simberloff. 2004. Testing Fox's assembly rule: Does plant invasion depend upon recipient community structure? *Oikos* 105: 551-563
- **Von Holle, B.**, H. Delcourt, and D. Simberloff. 2003. Biological inertia and its application in studies of ecological resistance to invasion. *Journal of Vegetation Science* 14: 425-432
- Weltzin, J.F., N. Muth, **B. Von Holle**, and P. Cole. 2003. Overcoming methodological constraints on experimental investigations of diversity-invasibility relationships - a test using genetic diversity in a model system. *Oikos* 103: 505-518

PUBLICATIONS, *Continued*

- Lockwood, J., D. Simberloff, M. McKinney, and **B. Von Holle**. 2001. How many, and which, plants will invade natural areas? *Biological Invasions* 3 (1): 1-8.
- Wasson, K., **B. Von Holle**, J. Toft and G. Ruiz. 2000. Detecting invasions of marine organisms: Kamptozoan case histories. *Biological Invasions* 2(1): 59-74
- Parker, I.M., D. Simberloff, W.M. Lonsdale, K. Goodell, M. Wonham, P.M. Kareiva, M.H. Williamson, **B. Von Holle**, P.B. Moyle, J.E. Byers, L. Goldwasser. 1999. Impact: Toward a framework for understanding the ecological effects of invaders, *Biological Invasions* 1(1): 3-19.
- Simberloff, D. and **B. Von Holle**. 1999. Positive interactions of nonindigenous species: Invasional meltdown? *Biological Invasions* 1(1): 21-32.

MANUSCRIPTS IN PREPARATION OR REVIEW

- **Von Holle, B.**, *E.F. Largay, *B. Ozimec, *S.A. Clark, J. Oset, K. Lee, and C.M. Neill. *In review, 2009*. Ecosystem effects and legacies of the introduced N-fixing tree, *Robinia pseudoacacia*, in the upland coastal forests of Cape Cod, MA.
- **Von Holle, B.** *In preparation*. Positive interactions may be the key to the invasion paradox: A case study of coastal heathlands in southern New England

MEDIA COVERAGE

- February 2009. Interviewed by the History Channel for 'Life without Humans' documentary
- October 2007. The paper by Von Holle and Simberloff (2005) was identified by Essential Science Indicators as a **Fast Breaking Paper in the field of Environment/Ecology**, which means it was one of the most-cited papers in this field published in the previous two years, <http://www.esi-topics.com/fbp/2007/october07-BetsyVonHolle.html>
- 2006. Nitrogen-fixing tree paves the way for other invaders. *Conservation in Practice* 7(4): 12.
- Nov-Dec 2006. Fellow Betsy Von Holle Travels to India for Indo-U.S. Science and Technology Forum. *American Association for Advancement of Science webpage*, http://fellowships.aaas.org/07_News/07_vonHolle.shtml

INVITED PRESENTATIONS

- 2008 University of Georgia, University of South Florida
- 2007 University of Florida
- 2006 Smithsonian Environmental Research Center, University of Central Florida, Indo-US Science & Technology Forum
- 2005 Colorado State University, Environmental Protection Agency, ESA Symposium: "The Invasion Paradox: Reconciling Biodiversity and Invasion Patterns Across Spatial Scales", Virginia Polytechnic Institute and State University
- 2004 Columbia University, Institute for Ecosystem Studies, McGill University, Rutgers University, University of Vermont.
- 2003 ESA Symposium: "Parks for Science, Science for Parks"
- 2002 Harvard University, University of Maryland.
- 2000-02 University of Virginia, Mountain Lake Biological Station.

PROFESSIONAL SERVICE

- ◆ Reviewer for the journals *American Naturalist*, *American Journal of Botany*, *Biodiversity and Conservation*, *Biological Invasions*, *Conservation Biology*, *Diversity and Distributions*, *Ecology*, *Ecological Monographs*, *Ecology Letters*, *Ecosystems*, *Ecology and Society*, *Functional Ecology*, *Global Ecology and Biogeography*, *Journal of Ecology*, *Natural Areas Journal*, *Oikos*, *Restoration Ecology*, *Trends in Ecology and Evolution*, *Urban Ecosystems* and the granting agencies *USDA NRICGP*, *Biology of Weedy and Invasive Plants*; *National Science Foundation*, *Population and Evolution*, and Ecology clusters; and *DOE National Institute for Climatic Change Research*
- ◆ NSF/Andrew W. Mellon REU Mentor - Harvard University, Harvard Forest; 2003, 2004, 2005. NSF REU Mentor - University of Virginia, Mountain Lake Biological Station; 2000, 2001.
- ◆ Chair, Florida Exotic Species Pest Plant Council Research Committee (2007-present).

STUDENTS MENTORED - HIGHEST DEGREE ATTAINED (YEAR)

2008

Candice Tiu University of Central Florida, B.S. (2008)
Phillip Senger University of Central Florida, B.S. (*in progress*)

2007

Leia Crosby Connecticut College, B.S. (*in progress*)

2005

Alexandra R. Collins University of Vermont, Ph.D. (*in progress*)
Antonine Cooper Loma Linda University, M.S. (*in progress*)
Kristin D. Ivy Grambling State University, B.S. (*in progress*)

2004

Bethany Burgee Smith College, B.S. (2004)
Sara A. Clark NYU, M.S. (*in progress*)
Thaddeus Miller University of Nebraska, M.S. (*in progress*)

2003

Erin F. Largay Yale University, M.S. (2004)
Rebecca Lohnes Cornell University, Ph.D. (*in progress*)

2002

Alison A. Varty University of Wisconsin, Madison, Ph.D. (*in progress*)

2001

Katherine A. Joseph Virginia Polytechnic Institute and State University, M.S. (2005)
Kerri Huffman Virginia Polytechnic Institute and State University, M.S. (*in progress*)
Corrie Miller University of Vermont, M.S. (*in progress*)
Jelena Pantel University of Texas, at Austin, Ph.D. (*in progress*)

2000

Christopher Nacci Ohio State University, B.S. (1998)
Catherine Bergmann University of Texas, at Austin, M.S. (2005)

1999

Erin F. Campbell Virginia Polytechnic Institute and State University, M.A. (2005)
Barbara Ozimec University of Guelph, M.S. (2007)

CONFERENCE PRESENTATIONS (2002-2008)

- **B.Von Holle.** The effect of climate change on the phenology and distribution of nonnative plants in Florida. *Florida Exotic Pest Plant Council*. Jacksonville, FL. April 2008
- C.R. Brescacin and **B.Von Holle.** Terrestrial vertebrate herbivore grazing effects on plant species richness: A meta-analysis. *Ecological Society of America*. Milwaukee, WI. August 2008

CONFERENCE PRESENTATIONS, (2002-2008) *Continued*

- **B. Von Holle**, L. Biven, J. Frithsen, C. Kolar, M. P. Marchetti, S. H. Reichard, A. Ricciardi, and G. M. Ruiz (co-authors listed alphabetically). A ranking scheme for high-impact nonnative aquatic invaders. *Ecological Society of America*. San Jose, CA. August 2007
- Niemiera, A.S, **B. Von Holle**, and R. Harris. Invasive Plants – What are they and what should we do about them? *American Society for Horticultural Science*. Scottsdale, Arizona. July 2007
- **Von Holle, B.** Incorporating time into predictions of impact and spread of nonnative species. *Ecological Society of America*. Memphis, Tennessee. August 2006.
- **Von Holle, B.**, D.R. Foster, and G. Motzkin. Historical land use and environmental determinants of nonnative plant distribution in coastal northeastern United States. *Ecological Society of America*, “*Ecology in an Era of Globalization*”. Merida, Mexico. January 2006.
- **Von Holle, B.** Nonnative species distribution and impacts across spatial scales. *Invited workshop speaker*. “Quantifying the impacts of Invasive Alien Species: What can we learn at the Global Scale?”, *Ecological Society of America*, “*Ecology in an Era of Globalization*”. Merida, Mexico. January 2006.
- **Von Holle, B.**, D.R. Foster, and G. Motzkin. *Invited symposium speaker*. Patterns and mechanisms of plant invasibility across spatial scales: a case study of coastal New England. *Ecological Society of America*. Montreal, Canada. August 2005.
- **Von Holle, B.**, D.R. Foster, and G. Motzkin. Ecological resistance to plant invaders in a mosaic landscape: Cape Cod National Seashore. *Co-organizer of symposium*, “Parks for Science: The National Parks Ecological Research Fellowship Program”, *George Wright Society of America*. Philadelphia, PA, March 2005.
- **Von Holle, B.**, K.A. Joseph, R.G. Lohnes, and E.F. Largay. Facilitations between the introduced N-fixing tree, *Robinia pseudoacacia*, and nonnative plant species in upland forests. *Ecological Society of America*. Portland, OR, August 2004.
- **Von Holle, B.**, E.F. Largay, D.R. Foster, and G. Motzkin. Differential effects of natural and anthropogenic disturbances on habitat invasibility. *Society for Conservation Biology*. New York, NY, July 2004.
- **Von Holle, B.**, D.R. Foster, and G. Motzkin. Ecological resistance to plant invaders in a mosaic landscape: Cape Cod National Seashore. *New England Invasive Plant Summit*. Framingham, MA, September 2003.
- **Von Holle, B.**, D.R. Foster, and G. Motzkin. Historic and current influences on habitat invasibility in a mosaic landscape: Cape Cod National Seashore. *Ecological Society of America*. Savannah, GA, August 2003.
- **Von Holle, B.** and D. Simberloff. Ranking the components of invisibility to biological invasion in a southern Appalachian riparian forest: An experimental manipulation. *Society for Conservation Biology*. Duluth, MN, July 2003.
- **Von Holle, B.** Does flooding disturbance facilitate invasion by non-indigenous species? *Ecological Society of America*. Tucson, AZ, August 2002.
- **Von Holle, B.** Testing Elton’s notion of biotic resistance: Does plant invasion success depend upon species richness of the recipient community? *Society for Conservation Biology*. Canterbury, England, July 2002.

- The economic and ecological effects of non-native forest pests and pathogens, June 2007 – Dec 2008. National Center for Ecological Analysis and Synthesis, Santa Barbara, CA. Organizers: Juliann Aukema and Erica Fleishmann
- Invasive Plants in Protected Areas, Indo-US Science & Technology Forum, Nov. 11-18, 2006, Corbett National Park, India. Organizers: Richard N. Mack and K.G. Saxena
- The link between propagule pressure and nonnative invasion success and impacts, July 24-25, 2006. National Center for Environmental Assessment, US EPA, Washington, DC. Organizers: **B. Von Holle**, D. Simberloff, J. Frithsen and M. Slimak
- Quantifying the impacts of Invasive Alien Species: What can we learn at the Global Scale?, *Ecological Society of America*, “*Ecology in an Era of Globalization*”. Merida, Mexico. January 2006. Organizers: L. Meyerson, R. N. Mack, and **B. Von Holle**
- Coastal Sandplain Science and Conservation Workshop. December 2004. The Ecosystems Center, Marine Biological Laboratories. Organizer: Christopher Neill
- Invasion biology: Toward a theory of impacts. National Center for Ecological Analysis and Synthesis, February 1998, August 1998, and February 1999. Organizer: Ingrid M. Parker