

# Jeffrey D. Corbin

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## Research Interests

Plant community and ecosystem ecology; Restoration ecology; Invasive species ecology

## Current Position

2017- Professor, Department of Biological Sciences, Union College

## Previous Positions

- 2012-2017 Associate Professor, Department of Biological Sciences, Union College
- 2006-2012 Assistant Professor, Department of Biological Sciences, Union College
- 2009-2010 Visiting Research Scientist, The Nature Conservancy (Eastern New York Chapter)
- 2005-2006 Adjunct Professor, Department of Integrative Biology, University of California, Berkeley
- 2001-2005 Lecturer, Department of Integrative Biology, University of California, Berkeley
- 1998-2001 Postdoctoral Associate, Department of Integrative Biology, University of California, Berkeley. Supervisor: Dr. Carla M. D'Antonio

## Honors and Awards

Stillman Prize for Excellence in Teaching, Union College (2018)

## Education

- 1992-1998 Ph.D. University of North Carolina at Chapel Hill (1998)  
Major Advisor: Dr. Robert K. Peet  
Thesis title: "The effects of experimental nitrogen and phosphorus addition on a temperate deciduous forest ecosystem."
- 1987-1991 B.A. University of California, Santa Cruz  
Major Advisor: Dr. Laurel R. Fox  
Biology Major, Politics Minor. Honors in the major

**Publications (\* Graduate or † undergraduate student co-author)**

- 32) Zimmerman, C.L., R. Shirer, and **J.D. Corbin**. *Accepted, pending revision*. Native Plant recovery following three years of common reed (*Phragmites australis*) control. *Submitted to Invasive Plant Science and Management*.
- 31) **Corbin, J.D.**, M. Wolford<sup>†</sup>, C.L. Zimmerman, and B. Quirion. 2017. Applying decision support tools to weed management: A retrospective analysis of garlic mustard (*Alliaria petiolata*) control. *Restoration Ecology* 25: S170-S177.
- 30) **Corbin, J.D.**, G. R. Robinson, L.M. Hafkemeyer<sup>†</sup>, and S.N. Handel. 2016. A long-term evaluation of applied nucleation as a strategy to facilitate forest restoration. *Ecological Applications* 26:104:114.
- 29) **Corbin, J.D.** and B. Oakes<sup>†</sup>. 2014. Species Diversity. In Y.Q. Wang (ed.) *Encyclopedia of Natural Resources*. CRC Press, 1086 pp.
- 28) **Corbin, J.D.** 2014. Book review of Allison (2014): *Ecological restoration and environmental change: Renewing damaged ecosystems*. *Ecological Restoration* 32:335-336.
- 27) **Corbin, J.D.** 2013. Toward a new paradigm in conservation and restoration (Review of Hobbs et al. 2013: *Novel Ecosystems: Intervening in the new ecological world order*.) *Ecology* 94:2908-2909
- 26) **Corbin, J.D.** and M.E. Katz. 2012. Effective strategies to counter campus presentations on climate denial. *EOS* 93:252-3
- 25) Sandel\*, B. and **J.D. Corbin**. 2012. Scale and diversity following manipulation of productivity and disturbance in Californian coastal grasslands. *Journal of Vegetation Science* 23:908-216.
- 24) **Corbin, J.D.** and C.M. D'Antonio. 2012. Gone but not forgotten?: Invasive plants' legacies on community and ecosystem properties. *Invasive Plant Science and Management* 5:117-124.
- 23) **Corbin, J.D.** and K. Holl. 2012. Applied nucleation as a forest restoration strategy. *Forest Ecology and Management* 265: 37-46.
- 22) **Corbin, J.D.** and C.M. D'Antonio. 2011. Abundance and productivity mediate invader effects on nitrogen dynamics in a California grassland. *Ecosphere* 2:art32.
- 21) Sandel\*, B., **J.D. Corbin**, and M. Krupa<sup>†</sup>. 2011. Using plant functional traits to guide restoration: A case study in California coastal grassland. *Ecosphere* 2:art23.
- 20) **Corbin, J.D.** and C.M. D'Antonio. 2010. Not novel, just better: Competition between native and non-native plants that share species traits. *Plant Ecology* 209: 71-81.
- 19) Sandel\*, B. and **J.D. Corbin**. 2010. Scale, disturbance and productivity control the native-exotic richness relationship. *Oikos* 119: 1281-1290
- 18) Abraham\*, J., **J.D. Corbin**, and C.M. D'Antonio. 2009. Emergence time and nitrogen availability differentially affect competitive ability of native and exotic perennial grasses in California coastal prairie grasslands. *Plant Ecology* 201:455-456.

**Publications, cont.**

- 17) Purcell\*, A.P., **J.D. Corbin** and K.E. Hans. 2007. Urban riparian restoration: An outdoor classroom for college and high school students collaborating in conservation. *Madroño* 54: 258-267.
- 16) **Corbin, J.D.** and M.E. Vasey. 2007 Restoration in a changing world: Case studies from California. *Madroño* 54: 213-214.
- 15) DiVittorio<sup>†</sup>, C.D., **J.D. Corbin** and C.M. D'Antonio. 2007. Exotic propagule supply: a critical determinant of grassland invasion. *Ecological Applications* 17:311-316.
- 14) **Corbin, J.D.**, A. Dyer, and E. Seabloom. 2007. Competitive relations in California grasslands. Pages 156-168 in Stromberg, Corbin, and D'Antonio, editors. "California grasslands: Ecology and Management." UC Press.
- 13) **Corbin, J.D.**, C.M. D'Antonio, A.R. Dyer and M. Stromberg. 2007. Introduction. In Stromberg, Corbin, and D'Antonio, editors. "California grasslands: Ecology and Management." UC Press.
- 12) Reeve-Morghen\*, K., **J.D. Corbin**, and J. Gerlach. 2007. Water relations. In Stromberg, Corbin, and D'Antonio, editors. "California grasslands: Ecology and Management." UC Press.
- 11) Stromberg, M., C.M. D'Antonio and **J.D. Corbin**. 2007. Epilogue: Future directions. In Stromberg, Corbin, and D'Antonio, editors. "California grasslands: Ecology and Management." UC Press.
- 10) Vila, M., **J.D. Corbin**, J. Dukes, J. Pino, and S. Smith. 2007. Linking plant invasions to global environmental change. Pages 93-102 In P. Canadell, D. Pataki, and L. Pitelka (eds). *Terrestrial Ecosystems in a Changing World*. Springer-Verlag. Berlin.
- 9) Thomsen\*, M.A., **J.D. Corbin**, and C.M. D'Antonio. 2006. The effect of soil N on competition between native and exotic perennial grasses from northern coastal California. *Plant Ecology* 186:25-35.
- 8) **Corbin, J.D.**, M.A. Thomsen\*, T.E. Dawson, and C.M. D'Antonio. 2005. Summer water use by California coastal prairie grasses: fog, drought, and community composition. *Oecologia* 145:511-521.
- 7) **Corbin, J.D.** and C. M. D'Antonio. 2004. Competition between native and exotic grasses in California: Implications for an historical invasion. *Ecology* 85:1273-1283.[Featured in *Conservation in Practice* and *San Francisco Chronicle*]
- 6) **Corbin, J.D.** and C.M. D'Antonio. 2004. Can carbon addition increase the competitiveness of native grasses: A case study from California. *Restoration Ecology* 12:36-43.
- 5) **Corbin, J.D.** and C.M. D'Antonio. 2004. Effects of invasive species on soil nitrogen cycling: Implications for restoration. *Weed Technology* 18:1464-1467.

### Publications, cont.

- 4) **Corbin, J.D.**, C.M. D'Antonio, and S. Bainbridge. 2004. Tipping the balance in the restoration of native plants: Experimental approaches to changing the exotic:native ratio in California grassland. Pages 154-179 In "Experimental approaches to conservation biology," edited by Malcolm Gordon and Soraya Bartol. University of California Press.
- 3) D'Antonio, C.M. and **J.D. Corbin**. 2003. Effects of plant invaders on nutrient cycling: Using models to explore the link between invasion and development of species effects. Pp. 363-384 In: C.D. Canham, J.J. Cole, and W.K. Lauenroth, editors. "Models in Ecosystem Science". Princeton (NJ): Princeton University Press
- 2) **Corbin, J.D.**, P.G. Avis\*, and R.B. Wilbur. 2003. The role of phosphorus availability in the response of soil nitrogen cycling, understory vegetation, and arbuscular mycorrhizal inoculums potential to elevated nitrogen inputs. *Water, Air, and Soil Pollution* 147:141-161.
- 1) Reynolds†, S.A., **J.D. Corbin**, and C.M. D'Antonio. 2001. The effects of litter and temperature on the germination of native and exotic grasses in a coastal California grassland. *Madroño* 48: 230-235.

### General interest writing and communication

- "Trump's reversal jeopardizes U.S. national monuments" – Commentary (Op-Ed) in *Albany Times-Union*, December 19, 2017
- "A critical tip alarmingly approaches" – Commentary (Op-Ed) in *Albany Times-Union*, December 22, 2016
- "Climate change" – Guest on WAMC Radio's Vox Pop show, September 23, 2014
- "Save state forestland from deer" – Commentary (Op-Ed) in *Albany Times-Union*, December 4, 2013
- "The price of climate change" – Commentary (Op-Ed) in *Albany Times-Union*, January 31, 2012
- "Conserving and restoring California coastal prairie grasslands" – *The Ardied* (Publication of Audubon Canyon Ranch). Fall 2008.
- "Save the natives from the invaders" – Open Forum (Op-Ed) contribution in *San Francisco Chronicle* July 5, 2004.

### Symposium organization and participation

- 2014 Organized Oral Session speaker and Workshop Co-Coordinator: "*What's my footprint?: Using online carbon footprint calculators to demonstrate students' energy use and environmental impact.*" Session & Workshop title: Achieving energy and ecological literacies for all: Towards best practices in science education and outreach at the interface. Ecological Society of America Meetings.
- 2012 Symposium Co-organizer: *Novel ecosystems*. Society for Conservation Biology Annual Meeting

### Symposium organization and participation, cont.

- 2011 Symposium speaker: *"Managing novel ecosystems: Can we learn to accept global change?"* New York Natural Heritage Program Invasive Species Symposium
- 2010 Symposium speaker: *"Ecosystem services and invasive plants: examples, mechanisms, and restoration."* Soil & Water Conservation Society Conference
- 2008 Symposium speaker: *Undergraduate curricula in a changing world: Engineering and the Liberal Arts and the pursuit of a sustainable future.* Symposium on Engineering and the Liberal Arts, Union College. (J. Corbin and C. Conley)
- 2007 Symposium Co-organizer and speaker: *Ecological restraints to the restoration of California grasslands.* Speaker: "Reasons for optimism and pessimism in the restoration of native perennial grasses: Lessons from competition studies." Ecological Society of America Meetings
- 2006 Symposium Co-organizer: *Restoration in a Changing World* and Speaker. Speaker: "The hits keep coming: Continuing invasions in California grasslands." Society for Conservation Biology Meetings.
- 2004 Conference organizer and Speaker: *Ecology and management of California grasslands*
- 2003 Symposium organizer: *Exotic species effects on soil and potential impacts on restoration.* Speaker: "Overview of species effects on soils and effects on N cycling". Invasives Species in Natural and Managed Systems Conference
- 2003 Symposium speaker: *"Too much of a good thing: Restoration of native biodiversity following soil nitrogen enrichment"* California Invasive Plant Council Conference.
- 2001 Symposium speaker, *"Getting a foot in the door: Evidence of competitive interference of native perennial grasses over exotic annual grasses in a California grassland."* Experimental Approaches to Conservation Biology Conference.

### Other Contributed Papers (Last 5 years)

- 2018 *Biological soil crusts in the northeast: They aren't just for deserts any more.* Northeastern Natural History Conference (J. Corbin and R. Thiet).
- 2017 *Alternative vegetation states persist more than a decade after restoration.* Ecological Society of America Meetings (J. Corbin, A. Doran ('17) and A. Rosa ('17)).
- 2017 *Assessing feasibility in invasive plant management: A retrospective analysis of garlic mustard (Alliaria petiolata) control.* Society for Ecological Restoration – Northeastern Chapter Conference (J. Corbin, M. Wolford ('16), C. Zimmerman, B. Quirion)
- 2016 *An invasive tree's soil nitrogen legacy declines with time-since-restoration and with prescribed fire.* Ecological Society of America Meetings (J. Corbin, S. Sandoval ('16), B. Fitzgerald ('22), and K. Peterson ('17))

- 2016 *Invasive black locust's legacy effects on nitrogen cycling at the Albany Pine Bush.* Northeast Natural History Conference (S. Sandoval ('16) and J. Corbin)

#### **Other Contributed Papers (Last 5 years), cont.**

- 2012 *When the circus comes to town: Countering campus presentations on climate denial.* American Geophysicists Union Conference (Poster) (J. Corbin)

#### **Research and Curricular Support**

- 2015 NY6 Liberal Arts Consortium, Upstate-Global Collective. "Faculty Fellows Working Group: Upstate and global impacts of invasive species." \$66,000
- 2010 Union College ESPE Program – Mellon Foundation-funded interdisciplinary team. "New York's Energy Future." \$150,000
- 2007 Li-Cor Education Initiative Fund – "Integrating classroom, laboratory and field research in gas exchange and photosynthesis at Union College." \$25,000
- 2005 Pacific Coast Science and Learning Center (National Parks Service) – "Practical restoration tools to increase native grass establishment in invaded habitats." \$2,000
- 2005 UC Berkeley Chancellor's Committee on Sustainability, Green Campus Fund – "Restoration of native biodiversity in the Grinnell Natural Area of Strawberry Creek." \$1,500
- 2002 University of California Herbarium, L.R. Heckard Foundation – "Geographical differences in water utilization by *Nassella pulchra*." \$2,400
- 2000-2003 National Science Foundation – Research Experience for Undergraduates (REU) supplements. \$24,000
- 2000 National Science Foundation – "Feedbacks between species composition and ecosystem nutrient cycling in a California grassland." C. M. D'Antonio Lead PI. \$310,000
- 1998 Marin Community Foundation – "Preservation of native grass biodiversity in bush lupine- and broom-invaded coastal prairie ecosystems." C.M. D'Antonio and J.D. Corbin. \$90,000

#### **Supervision of undergraduate research**

- 2018 Anna Browne (Union Scholar; Poster Presentation at 2018 Northeastern Natural History (NENH) Conference); Jessica Gilbert (Poster Presentation at 2017 NY6 Symposium and 2018 NENH Conference); Jacqueline Sharry (Poster Presentation at 2018 NENH Conference); and Samantha Williams (Poster Presentation at 2018 NENH Conference)
- 2017 Anna Doran (Poster Presentation at Northeastern Chapter of Society for Ecological Restoration Conference), Rachel Fried, Ashley Rosa (Poster Presentation at Northeastern Chapter of Society for Ecological Restoration Conference)

### Supervision of undergraduate research, cont.

- 2016 Victoria Cullinan, Sonia Sandoval (Speaker at Northeastern Natural History Conference and Ecological Society of America Conference), Matthew Wolford (Co-Author of Corbin et al., 2017 and Poster Presentation at NY6 Undergraduate Research Symposium), and Colby Richardson (Union Scholar Project)
- 2015 Madeline Frieze
- 2014 Natasha Jhala (Presentation at NCUR) and Lauren Hafkemeyer (Co-author of Corbin et al. 2016)
- 2012 Brittany Oakes (Co-author of Corbin and Oakes 2014), Mital Patel (Oral Presentation at 2012 NCUR)
- 2011 Shabana Hoosein (Oral presentation at 2011 NCUR and poster presentation at 2011 New York Natural Heritage Conference)
- 2010 Tyler Cross (Oral presentation at 2011 New York Natural History Conference), Natalie Koncki (Oral presentation at 2010 Soil and Water Conservation Society Conference)
- 2009 Julie LaSpina (Oral presentation at 2009 NCUR); Niels Olsen; Keely Craig; Colin Cameron
- 2008 Emily Follandsbee, Sarah Conner (Union Scholar)
- 2006 Monika Krupa (Co-suthor of Sandel et al. 2011)
- 2003 Dana Conly (Oral presentation at 2004 Ecological Society of America Conference)
- 2002 Natalie Robinson, Chris Divittorio (Co-author of Divittorio et al. 2007)
- 1999 Sally Reynolds (Co-author of Reynolds et al. 2001)
- 1995-6 NSF-Research Experience for Undergraduates program – Eleanor Bateman, Heather Kieweg, Eric Levy, and Jessica Nehrling,. Mountain Lake Biological Station, VA.

### Invited Seminars

- Adirondack Park Invasive Plant Program Spring Partner's Meeting (Spring 2017)
- Hobart-William Smith Colleges (Winter 2017)
- Friends of the Albany Pine Bush (Spring 2016)
- Cary Institute of Ecosystem Studies (Spring 2014)
- New York State Invasive Species PRISM (Winter 2013)
- Hofstra University (Fall 2011)
- Eastern New York Chapter, The Nature Conservancy (Fall 2009)
- Siena College, Dept. of Biology (Spring 2009)
- Skidmore College, Dept. of Biology (Fall 2008)
- Syracuse University, Dept. of Biology (Fall 2008)

Hamilton College, Dept. of Biology (Spring 2008)

Union College, Dept. of Biological Sciences (Winter 2006)

University of California, Berkeley, Dept. of Integrative Biology (Fall 2005)

California Native Plant Society, Yerba Buena Chapter (Fall 2005)

### **Invited Seminars, cont.**

University of California, Davis, Dept. of Plant Sciences (Summer 2005)

Bodega Marine Reserve (Winter 2005)

University of Rhode Island, Dept. of Natural Resource Science (Fall 2004)

Sonoma State University, Department of Biology (Fall 2004)

University of California, Santa Barbara, Dept. of Ecology, Evolution and Marine Biology (Winter 2004)

Point Reyes National Seashore, Pacific Coast Science and Learning Center (Fall 2003)

California Botanical Society Seminar Series (Fall 2003)

### **Courses taught**

*Genetics, Evolution and Ecology* (Union College – BIO 103)

*Introduction to Environmental Studies* (Union College – ENS 100)

*Plant Ecology* (Union College – BIO 324)

*Advanced topics in Ecology* (Union College – Bio329)

*ESPE Senior Seminar* (Union College – ENS460)

*Ecosystems of California* (UC Berkeley – IB 157)

*Classic Papers in Ecology* (UC Berkeley – IB 250)

### **Professional Service**

Member, Board of Editors, *Northeastern Naturalist* (2011-2014)

Panelist for: National Science Foundation DEB Population and Community Ecology Preproposal Panel (2013)

Reviewer for *Ecology*, *Ecological Applications*, *Ecosystems*, *Journal of Applied Ecology*, *Oecologia*, *Plant and Soil*, and *Restoration Ecology*, among other journals

Reviewer for: National Science Foundation, USDA, CALFED, among other funding agencies

### **Professional Memberships**

American Association for the Advancement of Science



Ecological Society of America

Sigma Xi

Society for Ecological Restoration

Union of Concerned Scientists