

Curriculum Vitae

Krissa Skogen

Conservation Scientist
Manager, Conservation and Land Management Internship Program
Chicago Botanic Garden
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Adjunct Professor, Plant Science and Conservation
Northwestern University, Evanston, IL

Education

- Ph.D. University of Connecticut Storrs, Connecticut 2008
Ecology and Evolutionary Biology
“Declining *Desmodium cuspidatum* (Muhl.ex Willd.) DC. Ex Loudon, Multiple approaches to a unique conservation problem”
Doctoral Committee:
Kent Holsinger, major advisor, Gregory Anderson, Zoe Cardon, Gene Likens, & Robin Chazdon
- B.A. Gustavus Adolphus College St. Peter, Minnesota 2000
Biology

Publications

- Skogen, K., K. H. Holsinger, and Z. G. Cardon. 2010. Nitrogen deposition and the decline of a regionally threatened legume, *Desmodium cuspidatum*. *Oecologia*. DOI: 10.1007/s00442-010-1818-7
- Skogen, K., L. Senack, and K. Holsinger. *Accepted*. Dormancy, small seed size and low germination rates contribute to low recruitment in *Desmodium cuspidatum* (Fabaceae). *Journal of the Torrey Botanical Society*.
- Tienes, M., K. Skogen, P. Vitt and K. Havens. 2010. Optimal monitoring of rare plant populations - Report for the USDA Forest Service.
- Johnson-Groh, C., C.Riedel, L. Schoessler and K. Skogen. 2002. *Belowground distribution and abundance of Botrychium gametophytes and juvenile sporophytes*. *American Fern Journal* 92 (2):80-92.

Guest Lectures and Seminars

- Does fragmentation negatively impact plant species pollinated by long-distance dispersers? Variation in floral advertisements, rewards and neutral genetic markers in *Oenothera harringtonii*. The Field Museum. Chicago, IL. April 2010.
- Same but different: using a similar synthetic approach to illuminate the causes and consequences of species decline in two unrelated plant species. Biology Department Seminar, Lawrence University, Appleton, WI. December 2008
- Declining *Desmodium*: Multiple approaches to solving a unique conservation problem. Plant Biology and Conservation Departmental Seminar, Northwestern University, Evanston, IL. October 2008
- Evening primroses, pollinators and practicality. NSF Research Experience for Undergraduates Seminar. Chicago Botanic Garden. July 2008.
- Declining *Desmodium*: Multiple approaches to solving a unique conservation problem. Biology Departmental Seminar, Central Connecticut State University, New Britain, CT. February 2008.
- Using scientific data to inform plant conservation decisions. Guest Lecturer, Biology 327, Vascular Plants. Instructor: T. Mione. Central Connecticut State University, New Britain, CT. February 2008.

Funding & Awards

- National Science Foundation MRI: *Acquisition of Conservation Geographic Information Systems (GIS) Instrumentation*. Co-PIs: P. Vitt, K. Havens, D. Larkin, J. Fant. 2009. \$305,389.
- National Fish and Wildlife Foundation, *Native Plant Conservation Initiative*. Co-PIs: J. Fant, D. Larkin, E. Yates. 2009. \$40,000.
- The Provost's Commission on the Status of Women and The Women's Center. *Outstanding Academic Achievement Award*. 2008.
- Colorado Native Plant Society, *Steinkamp Research Grant*. 2008. \$800.
- Environmental Leadership Program *New England Regional Network, Senior Fellow*. 2007.
- Environmental Protection Agency, *Science to Achieve Results Graduate Fellowship*. 2006. \$110,000.
- National Science Foundation, *Doctoral Dissertation Improvement Grant*. 2006. \$11,990.
- Robert and Patricia Switzer Foundation, *Alternate Fellow*. 2006.
- Torrey Botanical Society, *Research Fellowship*. 2005. \$2500.
- Botanical Society of America, *Karling Graduate Student Research Award*. 2004. \$500.
- New England Botanical Club, *Graduate Research Grant*. 2004. \$1055.
- University of Connecticut, Storrs, CT
Ronald Bamford Endowment, *Graduate Research Grant*. 2003 – 2007. \$5000.
Center for Conservation and Biodiversity, *Research Grant*. 2004 & 2005. \$1500.
Outstanding Teaching Assistant Award, *Nomination*. 2004.
- Summer Institute in Statistical Genetics, North Carolina State University, Raleigh, NC. *Scholarship*. 2003. \$1000.
- National Science Foundation & New England Wildflower Society. *Conservation Biology Fellow*. 2003. \$4000.
- Gustavus Adolphus College, Biology Dept. *Special Recognition Award*. 2000.
- Sigma Xi Scientific Research Society, *Elected member*. 2000.
- Sigma Xi Scientific Research Society, *Research Grant*. 1999. \$500.

Graduate Students Advised

- Ricardo Rivera (Northwestern University, M. S. 2012) Major Advisor
- Rebecca Barak (Northwestern University, M. S. 2011) Species interactions between native forbs and invasive cheatgrass (*Bromus tectorum* L.) in the Colorado Plateau. Major Advisor
- Emily Booth (Northwestern University, M. S. 2011) Effects of climate change on plant-pollinator relationships in *Mirabilis multiflora* and *Oenothera caespitosa* subspecies *marginata* at Zion National Park, Utah, USA. Major Advisor.
- Melissa Gray (Northwestern University, M. S. 2011) Effects of community density on reproductive output. Major Advisor.
- Kelly Ksiazek (Northwestern University, M. S. 2011) Patterns of Pollen Limitation and Seed Set on Chicago Green Roofs. Committee Member.
- Megan Kate Gallagher (Northwestern University, M. S., 2011) Plant Performance in prairie restorations: Does seed source matter? Committee Member
- Megan Jensen (Northwestern University, M. S., 2010) Breeding system assessment in a prairie plant community. Committee Member.

Undergraduate Students Advised

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| Evan Hilpman | Colorado College, 2010 | 2008 – Present |
| | Senior thesis co-advisor. Genetic analysis of a Colorado endemic threatened by anthropogenic landscape alteration: <i>Oenothera harringtonii</i> (Onagraceae). <i>Oenothera harringtonii</i> & Colorado Plateau/CARICE Projects. | |
| Sadie Todd | University of Missouri, Columbia | 2009 – Present |
| | <i>Oenothera harringtonii</i> & Colorado Plateau/CARICE Projects. | |
| Heather-Rose Kates | Oberlin College | 2010 |
| | NSF REU Student. Variation in floral morphology in <i>Oenothera harringtonii</i> . | |
| Carrie Klase | Warren Wilson College | 2009 |
| | NSF REU Student. <i>Oenothera harringtonii</i> fruit and seed morphology, weight, and seed viability analyses. | |
| Quincy Roberts | Lake Forest College | 2008 - 2009 |
| Logan Senack | University of Connecticut, University Scholar and Honors Student | 2006 –2008 |

Senior thesis co-advisor. Seed size, germination, and the effects of herbivory in rare and common *Desmodium* species.

Susan Kim	University of Connecticut	2007
Kathryn Sturgeon	University of Connecticut	2005 - 2006
Claudette Casile	University of Connecticut, Honors student	2005
Meagan Ridder	University of Connecticut, Garden Club of America Scholar	2004

Teaching Experience

Fundamentals of Plant Science and Conservation, Instructor Northwestern University,
Evanston, IL

Plant Science and Conservation Winter 2009, 2010

This course provides students with the conceptual and theoretical framework within the field of plant biology (especially ecology) and conservation. This seminar-style class is based on reading and discussion of historical literature paired with more recent research. It provides students with the opportunity to think critically and discuss their thoughts within a structured yet informal setting and provides them with a basic background in reading and writing scientific papers.

Field and Laboratory Methods in Plant Biology and Conservation Northwestern University,
Evanston, IL

Plant Science and Conservation Fall 2009, 2010

The goals of this course are to (1) familiarize students with various tools and techniques used frequently in the plant biology and conservation research, (2) provide students hands-on experience with a variety of field and laboratory methods used in plant biology and conservation research, and (3) ensure that students complete the course feeling confident in their ability to select and implement the appropriate methods to address a variety of research questions.

Current Topics in Ecology and Evolutionary Biology, Co-instructor University of Connecticut, Storrs, CT
Department of Ecology and Evolutionary Biology Spring and Fall 2007

Weekly undergraduate seminar designed around the EEB weekly seminar series. Students learned how to critically read and discuss current primary literature written by the weekly seminar speaker, met with the speaker and attended the seminar.

Developmental Plant Morphology, Teaching Assistant University of Connecticut, Storrs, CT
Department of Ecology and Evolutionary Biology September 2004 – December
2004

Independently instructed laboratory classes of upper level undergraduate students and graduate students. Acquired skills on designing and implementing a course with a strong laboratory component.

Introduction to Botany, Teaching Assistant University of Connecticut, Storrs, CT
Department of Ecology and Evolutionary Biology September 2003 - December
2003

Independently instructed laboratory classes of undergraduates, focusing on various aspects of plant sciences, providing hands-on experience on topics covered in course lectures.

Principles of Biology, Teaching Assistant University of Connecticut, Storrs, CT
Department of Ecology and Evolutionary Biology September 2002 - May 2003

Co-instructed laboratory classes of undergraduate with another teaching assistant, focusing on general principals in biology, providing hands-on experience for undergraduates not majoring in Biology.

Professional Experience

National Research Council Assessment of Research Doctorate Programs, National Academies of Sciences
2006 – 2007

University of Connecticut, Storrs, CT

Graduate Assistant

Collected and compiled data on doctoral students, faculty and doctoral programs.

Teachers for a New Era Program, Department of Education 2005
University of Connecticut, Storrs, CT
Graduate Assistant
Developed Biodiversity curriculum for Connecticut sixth grade teachers incorporating ecology and evolutionary biology. Special emphasis on hands-on and interactive learning in the classroom and outdoors.

National Science Foundation/New England Wildflower Society 2003
Conservation Research Fellow
Preliminary research to identify causes of decline in New England populations of the large-bracted tick-trefoil, *Desmodium cuspidatum* (Fabaceae).

Argonne National Laboratory, Argonne, IL
Environmental Research Division, Research Aide 2001 - 2002
Studied effects of ambient and elevated CO₂ on soybean root growth and associated mycorrhizae using free-air CO₂ enrichment (FACE) rings in association with the SoyFACE Project at the University of Illinois, Urbana-Champaign. Developed novel methods of quantifying mycorrhizal fungi colonization intensities.

Chicago Botanic Garden, Glencoe, IL
Conservation Science Department Intern, Research Intern 2000 - 2001
Assisted on numerous projects including: Endangered and Threatened Plants of Cook County Inventory, Flora of Cook County Project, Herbarium teaching collection, Baseline Demographic Data and Genetic Analysis of *Viola conspersa*, Reproductive studies of *Platanthera leucophaea*, and outbreeding depression study of *Lobelia cardinalis* and *L. siphilitica*.

Gustavus Adolphus College, St. Peter, MN
Plant Ecology Research Lab, Sigma Xi funded research 1998 - 2000
Rare plant ecology research on *Botrychium* ferns: distribution and abundance of underground reproductive structures (gametophytes, gemmae, and juvenile sporophytes).

University of Arizona, Tucson, AZ
Plant Pathology Department, Intern January 2000
Preliminary research on aluminum toxicity tolerance/avoidance of pea and alfalfa root border cells as a mechanism defining plant growth habit.

Gustavus Adolphus College, St. Peter, MN
Plant Ecology Research Lab, Research Assistant 1999
Vegetation map of Gustavus Adolphus College and Linnaeus Arboretum, St. Peter, MN

North Dakota State University, Fargo, ND
Department of Plant Sciences, Research Assistant 1997
Maintenance of sugar beet and wheat plots investigating effects pesticide and herbicide treatments

Leadership, Service and Synergistic Activities

Steering committee member, Botanical Society of America, Certifying Botanists Committee. 2010-2011.
Symposium Co-organizer, Plant/Pollinator Interactions in Fragmented Landscapes, Botanical Society of America, Providence, RI. 2010.

Committee member, Botanical Society of American Karling and Graduate Student Research Awards. 2010 - 2012.

Organizer, Conservation and Land Management Internship Program Training Workshop. Albright Training Center -Grand Canyon National Park. This weeklong meeting brings together 75 CLM interns and 10-15 instructors. Interns attend sessions on the Endangered Species Act, plant inventorying and monitoring, field botany and wildlife biology, conservation genetics, etc. June 2009 & 2010.

Ecology and Evolutionary Biology Department representative. Science, Engineering and Health Professions Collaborative Symposium to promote minorities in the sciences. University of Connecticut. January 2007.

Committee member and graduate student representative, Board of Trustees Distinguished Professor Advisory Committee, University of Connecticut. Fall 2006.

Committee member and graduate student representative, Center for Conservation and Biodiversity, University of Connecticut. 2006 – present.

Committee member, 15th Annual Graduate Student Symposium, Ecology and Evolutionary Biology Department, University of Connecticut, Spring 2006.

Committee member and graduate student representative, Board of Trustees Distinguished Professor Advisory Committee, University of Connecticut. Fall 2005.

Lead author, Vegetation Management Plan, Northeast Utilities Power Company. 2005-2007.

Student Advisory Committee member, Society for Conservation Biology; July 2004-2005.

Co-chair member, Organizing and Fundraising Committees, Northeast Ecology and Evolution Conference 2004. University of Connecticut, Storrs, CT. March 26-28, 2004. Raised \$23,000; Oversaw 4 committees (Abstract/Program, Registration, Website and Internal Recruiting Committees); 210 participants; 135 presentations (oral and poster).

Welcome Committee member, Ecology and Evolutionary Biology Graduate Student Association, 2003

Elected Senator, Representing the Ecology and Evolutionary Biology Graduate Student Association at the Graduate Student Senate. University of Connecticut, 2002-2003.

Reviewed Manuscripts

American Journal of Botany
Annals Botanici Fennici

Professional Associations

Ecological Society of America (2008)
Graduate Women in Science (2006)
Association for Women in Science (2006)
Union of Concerned Scientists (2003)
Society for Conservation Biology (2003)
Botanical Society of America (2003)
New England Botanical Society (2003)
Torrey Botanical Society (2003)
The Nature Conservancy (2002)
Sigma Xi Scientific Research Society (2000)

Published Abstracts (oral presentations unless otherwise noted; * indicates presenting author)

Skogen, K.*, R. Raguso, J. Fant and E. Hilpman. 2010. Does fragmentation negatively impact species pollinated by long-distance dispersers? Variation in floral advertisements, rewards and neutral genetic markers in *Oenothera barringtonii*. Proceedings of the Botanical Society of America annual meeting, Providence, RI. (Abstract).

Skogen, K*, R. Raguso, J. Fant, E. Hilpman*, S. Kelso, and Q. Roberts. 2009. Fragmented fragrances: habitat modification, population structure and reproductive ecology in a rare prairie endemic, *Oenothera barringtonii*. Botanical Society of America, Snowbird, UT.

Skogen, K* and K. Havens. 2008. Demand for botanists on federal lands: Partnerships between botanic gardens and land management agencies. Botanical Society of America, Vancouver, British Columbia, Canada.

Skogen, K*. 2007. Does atmospheric nitrogen deposition contribute to the decline of a native nitrogen-fixing species, *Desmodium cuspidatum*? Botanical Society of America, Chicago, IL.

Skogen, K*. 2007. Does atmospheric nitrogen deposition contribute to the decline of a native nitrogen-fixing species, *Desmodium cuspidatum*? 17th Annual Graduate Student Symposium, Ecology and Evolutionary Biology Department, University of Connecticut.

Skogen, K*. 2006. Atmospheric nitrogen deposition and the decline of a nitrogen-fixing plant species. Environmental Protection Agency Science to Achieve Results Conference, Washington, DC. Poster presentation.

Skogen, K*. and K. Holsinger. 2006. Does size matter? Genetic diversity in declining and secure populations of *Desmodium cuspidatum*. Botanical Society of America, Chico, CA.

- Holsinger, K*, and K. Skogen. 2005. Plant genetic consequences of pollinator declines. National Research Council Workshop on the Status of Pollinators in North America. National Academy of Sciences, Washington, DC.
- Skogen, K*. 2005. Demography and reproductive biology of threatened populations of *Desmodium cuspidatum* (Fabaceae). Botanical Society of America, Austin, TX.
- Skogen, K*. 2004. Exploring causes of decline in the large-bracted tick-trefoil, *Desmodium cuspidatum*, (Fabaceae). 2nd Annual Northeast Ecology and Evolution Conference, University of Connecticut, Storrs, CT.
Poster presentation.
- Skogen, K*. 2003. Exploring causes of decline in the large-bracted tick-trefoil, *Desmodium cuspidatum*, (Fabaceae). 2003 National Science Foundation/New England Wildflower Society Fellowship in Conservation Biology Symposium, New England Wildflower Society, Framingham, MA. Oral and poster presentations.
- Skogen, K*. 2003. Exploring causes of decline in rare plant species. Northeast Ecology and Evolution Conference, Rutgers University, New Brunswick, NJ.
- Skogen, K*. 2003. Exploring causes of decline in rare plant species. 13th Annual Graduate Student Symposium, Ecology and Evolutionary Biology Department, University of Connecticut.
- Bradford, K*, S. Liarakos, K. Skogen, A. Tietmeyer, P. Vitt and K. Havens. 2001. Comparing the ability of two PCR-based techniques, RAPD and ISSR, to detect low levels of genetic diversity 2001 Midwestern Plant Conservation Conference, Chicago Botanic Garden, Glencoe, IL. Poster presentation.
- Tietmeyer, A.*, K. Skogen*, K. Bradford, J. Taylor* and P. Vitt. 2000. Using demographic and genetic indicators to investigate the effects of woodland restoration on the threatened *Viola conspersa*. Sixth Annual Janet Meakin Poor Research Symposium: 2001 Midwestern Plant Conservation Conference, Chicago Botanic Garden, Glencoe, IL. Poster presentation.
- Johnson-Groh, C.L., L. Schoessler*, C.Riedel and K. Skogen. 2000. Underground distribution and abundance of *Botrychium* gametophytes and juvenile sporophytes. Symposium: Biology and Conservation of the Ophioglossaceae--A Tribute to Warren "Herb" Wagner. Botanical Society of America, Portland, OR.
- Johnson-Groh, C.L., L. Schoessler*, C.Riedel and K. Skogen*. 2000. The distribution and abundance of underground gametophytes in four species of *Botrychium* (moonwort ferns). National Conference of Undergraduate Research, Missoula, MT.
- Johnson-Groh, C.L., L. Schoessler*, C.Riedel and K. Skogen*. 1999. Underground distribution and abundance of *Botrychium* gametophytes and juvenile sporophytes. National Sigma Xi Annual Meeting, Minneapolis, MN. Poster presentation.
- Johnson-Groh, C.L., L. Schoessler*, C.Riedel and K. Skogen*. 1999. Underground distribution and abundance of *Botrychium* gametophytes and juvenile sporophytes. International Botanical Congress, St. Louis, MO. Poster presentation.