

**DANIEL J. LARKIN**

Plant Science and Conservation

Chicago Botanic Garden

Glencoe, IL 60022

Phone: (847) 835-6931

Email: [dlarkin@chicagobotanic.org](mailto:dlarkin@chicagobotanic.org)

Website: <http://www.chicagobotanic.org/research/staff/larkin.php>

---

**RESEARCH INTERESTS**

Restoration ecology, community ecology, wetland ecology, invasion biology, biodiversity conservation, ecosystem services

**EDUCATION**

**Ph.D. Botany**, University of Wisconsin-Madison. 2006. Major advisor: JB Zedler

**B.A. Biology**, University of California, Santa Cruz. 1998

**PROFESSIONAL APPOINTMENTS**

**Conservation Scientist, and David Byron Smith Family Curator of Native Habitats.** Chicago Botanic Garden (CBG). May 2008–present

**Adjunct Assistant Professor.** Plant Biology and Conservation, Northwestern University (NU). September 2008–present

**Adjunct Associate Professor.** Landscape Architecture, Illinois Institute of Technology (IIT). August 2009–present

**Postdoctoral Fellow.** Center for Urban Environmental Research & Policy and Department of Biology, Loyola University Chicago. Mentor: NC Tuchman. Aug 2006–May 2008

**PUBLICATIONS** (mentored graduate student\*, undergraduate\*\*)

Journals

**Larkin, DJ**, SC Lishawa, and NC Tuchman. In review. Appropriation of nitrogen by the invasive cattail *Typha × glauca*. Aquatic Botany.

**Larkin, DJ**, JF Steffen, RM Hesselink\*\*, and CR Zirbel\*\*. In review. Restoration of a buckthorn-invaded woodland enhances carbon-storage ecosystem services. Restoration Ecology.

Riley, EA\*, and **DJ Larkin**. In review. Comparison of three common wetland assessment methods. Ecological Indicators.

**Larkin, DJ**. 2011. Lengths and correlates of lag phases in upper-Midwest plant invasions. Biological Invasions DOI: 10.1007/s10530-011-0119-3.

Mitchell, ME, SC Lishawa, P Geddes, **DJ Larkin**, D Treering, and NC Tuchman. 2011. Time-dependent impacts of cattail invasion in a Great Lakes coastal wetland complex. Wetlands DOI: 10.1007/s13157-011-0225-0.

Tonietto, R\*, J Fant, J Ascher, K Ellis, and **D Larkin**. 2011. A comparison of bee communities of Chicago green roofs, parks and prairies. Landscape and Urban Planning DOI: 10.1016/j.landurbplan.2011.07.004.

**Larkin, DJ**, MJ Freyman, SC Lishawa, P Geddes, and NC Tuchman. 2011. Mechanisms of dominance by the invasive hybrid cattail *Typha × glauca*. Biological Invasions DOI: 10.1007/s10530-011-0059-y.

Tuchman, NC, **DJ Larkin**, P Geddes, R Wildova, KJ Jankowski, and DE Goldberg. 2009. Patterns of environmental change associated with *Typha × glauca* invasion in a Great Lakes coastal wetland. Wetlands 29:964-975.

**Larkin, DJ**, JM West, and JB Zedler. 2009. Created pools increase food availability for fishes in a restored salt marsh. Ecological Engineering 35:65-74.

**Larkin, DJ**, SP Madon, JM West, and JB Zedler. 2008. Topographic heterogeneity influences fish use of an experimentally restored tidal marsh. Ecological Applications 18:483-496.

**Larkin, DJ**, and RS Tjeerdema. 2000. Fate and effects of Diazinon. Reviews of Environmental Contamination and Toxicology 166:49-82.

#### Book chapters

**Larkin, DJ**. Invited essay. Wetland heterogeneity. Encyclopedia of Wetlands Vol. 1: Structure and Function. BA Middleton and GR Gutenspergen, eds. Society of Wetland Scientists.

Zedler, JB, CL Bonin, **DJ Larkin**, and A Varty. 2008. Salt marshes. Encyclopedia of Ecology, SE Jorgensen and BD Fath, eds. Elsevier, Oxford, pp. 3132-3141.

**Larkin, DJ**, G Vivian-Smith, and JB Zedler. 2006. Topographic heterogeneity: Theory and ecological restoration. Foundations of Restoration Ecology, DA Falk, MA Palmer, and JB Zedler, eds. Island Press: Washington, DC, pp. 142-164.

#### Other

J Zedler, P Zedler, S Glass, B Herrick, J Doherty, M Wegener, **D Larkin**. 2011. Unintended negative impacts of construction projects in the Arboretum. Arboretum Leaflets 23. URL: <http://uwarboretum.org/publications/leaflets/index.php>

Zedler, JB, DA Falk, and **DJ Larkin**. 2007. Upstart views of restoration icons. Bulletin of the Ecological Society of America 88:104-112.

Allen, A, S Kercher, **D Larkin**, H Morzaria-Luna, and M Peach. 2003. Review of book by Perrow, MR, and AJ Davy, eds. 2002. Handbook of ecological restoration. Volume 1: Principles of restoration. Volume 2: Restoration in practice. Cambridge University Press, Cambridge, UK. Ecology and Society 7:4.

#### **SEMINARS**

Ecology and genetics of *Phragmites australis* invasion in the Chicago region. Chicago Wilderness Natural Resources Management Team, April 27, 2011.

Benign invaders and sleeper weeds: using herbarium data to study the dynamics of plant invasions. Morton Arboretum, April 27, 2011.

When the species concept and land management collide: *Phragmites australis* invasion in the Chicago region, Chicago Plant Science Symposium, Apr 16, 2011.

Lying in the weeds: lag phases in upper Midwest plant invasions. Northeastern Illinois University, Mar 10, 2011.

Can restoration overcome the damage caused by engineers? (plant engineers). Northwestern University, Feb 6, 2009.

Effects of *Typha × glauca* invasion on structure and function of Great Lakes coastal wetlands. University of Illinois-Chicago, Sep 9, 2008.

Restoration in human-dominated landscapes: Strategies for reversing homogenization. CBG, Jan 15, 2008.

Complex interactions in a restored wetland and their relevance to developing indicators. US EPA. Newport OR, May 15, 2006.

#### **CONFERENCE PRESENTATIONS** (mentored graduate student\*, undergraduate\*\*)

O'Shaughnessy, J, D Sollenberger, **D Larkin**, and B. Tsang\*. 2011. Constructed gravel hill prairie: 16 years of vegetation monitoring. Poster presentation at the 38<sup>th</sup> Annual Natural Areas Conference. Tallahassee FL, Nov 1–4, 2011.

Pieri, DS\*\*, LA Bailey, AW Wilson, **DJ Larkin**, and LM Egerton-Warburton. 2011. The effects of invasive European buckthorn and restoration on microbial metabolic processes and fungal communities in an oak woodland. Poster presentation at the 96<sup>th</sup> Annual Meeting of the Ecological Society of America. Austin TX, Aug 7–12, 2011.

Zirbel, CR\*\*, **DJ Larkin**, and JF Steffen. 2011. Effects of *Rhamnus cathartica* (common buckthorn) invasion and restoration on woodland carbon sequestration. Poster presentation at the 96<sup>th</sup> Annual Meeting of the Ecological Society of America. Austin TX, Aug 7–12, 2011. **BEST UNDERGRADUATE PRESENTATION AWARD, ESA STUDENT SECTION**

**Larkin, DJ**, JF Steffen, and RM Hesselink\*\*. 2010. Effects of *Rhamnus cathartica* (common buckthorn) invasion and woodland restoration on plant diversity and carbon-storage services. Oral presentation at the Society for Ecological Restoration-Midwest Great Lakes 2<sup>nd</sup> Annual Meeting, Madison WI, Apr 2010.

Olszewski, MM\*\*, P Geddes, **DJ Larkin**, S Lishawa, ME Mitchell, and NC Tuchman. 2010. Effects of the invasive plant *Typha × glauca* on wetland denitrification and emission of nitrous oxide. Poster presentation at ASLO & NABS Joint Meeting. Santa Fe NM, Jun 6–11, 2010.

Mitchell, ME, P Geddes, **DJ Larkin**, S Lishawa, D Treering, M Olszewski, and NC Tuchman. 2010. Constructing a timeline of *Typha × glauca* invasion: ecological impacts after more than fifty years of invasion in Great Lakes coastal wetlands. Oral presentation at ASLO & NABS Joint Meeting. Santa Fe NM, Jun 6–11, 2010.

Tuchman, NC, P Geddes, **DJ Larkin**, KJ Jankowski, MJ Freyman, and L Vail. 2009. *Typha × glauca*: An ecological engineer in Great Lakes coastal marshes? Symposium presentation at the 30<sup>th</sup> Annual Meeting of the Society of Wetland Scientists. Madison WI, Jun 22–26, 2009.

- Vail, LM, NC Tuchman, P Geddes, and **DJ Larkin**. 2009. Soil nutrient changes following *Typha × glauca* invasion in a Great Lakes coastal wetland. Poster presentation at the 30<sup>th</sup> Annual Meeting of the Society of Wetland Scientists. Madison WI, Jun 22–26, 2009.
- Mitchell, ME, P Geddes, **DJ Larkin**, and NC Tuchman. 2009. *Typha × glauca* invasion in wetlands of the Great Lakes region: Are impacts time-dependent? Poster presentation at the 57<sup>th</sup> Annual Meeting of the North American Benthological Society. Grand Rapids MI, May 17–22, 2009.
- Barham, L, NC Tuchman, P Geddes, and **DJ Larkin**. 2009. Reconstructing the history of a Great Lakes coastal wetland with pollen analysis. Poster presentation at the 57<sup>th</sup> Annual Meeting of the North American Benthological Society. Grand Rapids MI, May 17–22, 2009.
- Tuchman, NC, **DJ Larkin**, P Geddes, KJ Jankowski, M Freyman, and L Barham. 2008. Mechanisms of obtaining dominance by invasive plants in Great Lakes coastal marsh ecosystems. Oral presentation at the 56<sup>th</sup> Annual Meeting of the North American Benthological Society. Salt Lake City UT, May 25–28, 2008.
- Barham, L, KJ Jankowski, P Geddes, **DJ Larkin**, and NC Tuchman. 2008. Increased rates of nitrogen fixation following a *Typha × glauca* invasion in a Great Lakes coastal wetland. Oral presentation at the 56<sup>th</sup> Annual Meeting of the North American Benthological Society. Salt Lake City UT, May 25–28, 2008.
- West, JM, **DJ Larkin**, and JB Zedler. 2007. Fish habitat use and trophic relationships in southern California salt marshes: Effects of spatial and temporal heterogeneity. Oral presentation at the 137<sup>th</sup> Annual Meeting of the American Fisheries Society. San Francisco CA, Sep 2–6, 2007.
- Tuchman, NC, KJ Jankowski, P Geddes, L Barham, and **DJ Larkin**. 2007. Impacts of the non-native cattail *Typha × glauca* on wetland structure and biogeochemical cycling of nitrogen. Oral presentation at the 55<sup>th</sup> Annual Meeting of the North American Benthological Society. Columbia SC, Jun 3–7, 2007.
- Larkin, DJ**, and JB Zedler. 2006. Food web effects of topographic heterogeneity. Symposium presentation at the 91<sup>st</sup> Annual Meeting of the Ecological Society of America. Memphis TN, Aug 6–11, 2006.
- Larkin, DJ**. 2006. Manipulating topography to restore structure and function in wetlands. Oral presentation at the 6<sup>th</sup> Annual UW-Madison Arboretum Science Day. Madison WI, May 17, 2006.
- Larkin, DJ**, and JB Zedler. 2006. Topographic heterogeneity: A tool for restoring trophic function in wetlands. Oral presentation at the 11<sup>th</sup> Annual Wisconsin Wetlands Association Science Forum. Madison WI, Feb 2–3, 2006.
- Zedler, JB, JC Callaway, SP Madon, KJ Wallace, **DJ Larkin**, EL O'Brien, and A. Varty. 2005. The effect of tidal creeks on salt marsh functioning. Poster presentation at the 18<sup>th</sup> Biennial Conference of the Estuarine Research Federation. Norfolk VA, Oct 16–21, 2005.
- Larkin, DJ**, JB Zedler, SP Madon, and JM West. 2004. Multiple forms of heterogeneity enhance fish use of a restored tidal marsh. Poster presentation at the 2<sup>nd</sup> Biennial Restore America's Estuaries Conference. Seattle WA, Sep 12–15, 2004.

## **OUTREACH**

Invasive Plants: Characteristics and consequences. Presentation to CBG members. Lake Forest IL. Jul 22, 2010.

Terrestrial habitats of the Chicago region. Presentation to K-12 teachers. CBG. Jun 28, 2010 and June 27, 2011.

Ecological restoration: A prescription for healthier habitats. Presentation to the public. CBG. Jun 5, 2010.

*Typha* × *glauca* (cattail) invasion in Great Lakes coastal wetlands. Guest Speaker for the 39<sup>th</sup> Annual Meeting of the Douglas Lake Improvement Association. Pellston MI. Aug 1, 2007.

## **FELLOWSHIPS, AWARDS, AND HONORS**

Selected participant, Science Environment for Ecological Knowledge (SEEK) Early Career Faculty Workshop in Ecoinformatics, National Science Foundation (2007)

Howard Hughes Medical Institute Scientific Teaching Fellow, Wisconsin Program for Scientific Teaching (2005–2006)

Vilas Travel Fellowship, University of Wisconsin (2005)

Honorable Mention, Graduate Research Fellowship, National Science Foundation (2003)

Honors, College Eight, UC Santa Cruz (1998)

Honors, Biology, UC Santa Cruz (1998)

## **FUNDING**

2011–2014. National Science Foundation. \$301,307. REU Site: Plant Biology & Conservation Research Experiences for Undergraduates – From Genes to Ecosystems (PI, w/ J Fant)

2010–2012. U.S. Environmental Protection Agency. \$115,712. Enhancing the Capacity of Wetland Programs to Assess and Manage Habitat for Secretive Marshbird Support (sole PI)

2010–2011. Illinois-Indiana Sea Grant. \$10,000. Ecological Genetics of *Phragmites australis* Invasion in Southern Lake Michigan Coastal Habitats (Seed) (PI, w/ J Fant)

2010–2011. National Fish and Wildlife Foundation. \$45,000. Testing Restoration Effectiveness under a Changing Climate (Co-PI, w/ J Fant, K Skogen, and E Yates)

2010. Bureau of Land Management. \$80,000. Restoration on the Colorado Plateau (Co-PI, w/ K Havens, J Fant, K Skogen, E Yates, R Tonietto, and A Kramer)

2009–2012. National Science Foundation. \$305,389. MRI: Acquisition of a Conservation GIS Laboratory (Co-PI, w/ P Vitt, K Havens, K Skogen, and J Fant)

2008–2010. USEPA. \$75,000. Biodiesel Education: Green-collar Recruiting and Environmental Education for the Next-generation (Co-PI, w/ NC Tuchman, AK Varty, and S Lishawa)

2008–2010. Illinois-Indiana Sea Grant. \$80,000. How Do Plant Species Invasions Affect Water Quality Services Performed By Great Lakes Coastal Wetlands? (Co-PI, w/ NC Tuchman, P Geddes, and D Goldblatt)

2007–2008. US EPA. \$10,000. P3 Phase I: Innovative Biodiesel Production: A Solution to the Scientific, Technical, and Educational Challenges of Sustainability (Co-PI, w/ NC Tuchman and P Geddes)

## **PROFESSIONAL AFFILIATIONS**

Chicago Wilderness  
Ecological Society of America  
Society for Ecological Restoration  
Society of Wetland Scientists  
Wisconsin Wetlands Association

## **SERVICE**

Peer reviewer: *American Midland Naturalist, Archives of Environmental Contamination and Toxicology, BioScience, Ecological Engineering, Estuaries and Coasts, Freshwater Biology, Hydrobiologia, Restoration Ecology, Wetlands Ecology and Management*

NSF Panelist: Major Research Instrumentation, REU Sites

Ad-hoc Reviewer: NSF Ecosystem Studies Program

2011–present. Steering Committee Member and Supervisor of Coordinator, Northeastern Illinois Invasive Plant Partnership

2011. PhD Graduate Admissions Committee, Plant Biology and Conservation, NU

2010. Student Poster Judge for the 2<sup>nd</sup> Annual Meeting of the Society for Ecological Restoration – Midwest-Great Lakes Chapter, Madison WI, Apr 2010

2009. Planning Team Member and Poster Chair for the 30<sup>th</sup> Annual Meeting of the Society of Wetland Scientists

2009. Planning Team, Daniel Burnham Sustainability Conference, Forest Preserve District of Cook County

2009. Planning Committee, City of Chicago Nature & Wildlife Summit

2006–2008. University Sustainability Council, Loyola University Chicago

2006. Symposium convener (with JB Zedler and D.A. Falk): Upstart perspectives on restoration icons, 91<sup>st</sup> Annual Meeting of the Ecological Society of America

2006. Faculty Liaison, Dept. of Botany, UW-Madison

2004–2005. Student Representative, Graduate Admissions Comm., Dept. of Botany, UW-Madison

2004–2005. Graduate Student Co-Chair, Madison Ecology Group, UW-Madison

## **TEACHING**

### **Current courses**

PBC 402/BIO 349: Plant Community Ecology (NU)

PBC 450: Field and Laboratory Methods in Plant Biology and Conservation (team taught, NU)

LA 565: Ecology and Materials Workshop I-Plants and Planning (co-instructor, IIT)

## Previous courses

W002: Wetland Conservation & Management (team taught, Morton Arboretum)  
BIO 395/495: Invasive Species (Loyola)  
ENV SCI 398: Advanced STEP-Biodiesel (team taught, Loyola)  
ENV SCI 395: Solutions to Environmental Problems (STEP) (team taught, Loyola)  
PLANT PATH 375: Microbes Rule (team taught, UW-Madison)

## Other teaching

HHMI Scientific Teaching Fellow, Wisconsin Program for Scientific Teaching (UW-Madison)  
Teaching Assistant, BIO 151 Lab: Introductory Biology (UW-Madison)  
Science Tutor, Biology and Chemistry, Educational Opportunities Program (UC Santa Cruz)

## MENTORING

2010–present. Director, CBG REU Site: Plant Biology & Conservation Research Experiences for Undergraduates – From Genes to Ecosystems

## Graduate students (Plant Biology and Conservation, NU)

### Major Advisor – Current

Jennifer Alyah. Phenological change in Chicago-area wildflowers (M.S. student)

Wesley Glisson. Effects of plant-community structure and restoration on use of wetlands by secretive marshbirds (M.S. student)

Paul Hartzog. Nutrient-cycling ecosystem services in natural and restored freshwater wetlands (Ph.D. candidate)

Rebecca Tonietto. Effects of prairie restoration on native-bee communities (Ph.D. candidate)

Byron Tsang. Constraints on legume establishment during woodland restoration (M.S. student)

Erin Vander Stelt. TBD (M.S. student)

### Major Advisor – Completed

Amy Price. Genetics and ecology of *Phragmites australis* invasion in Chicago-area wetlands (M.S. 2011). **RESEARCH ASSOCIATE WITH KAI RESEARCH, INC**

Elizabeth Riley. Comparison of three common wetland assessment methods (M.S. 2010). **BIOLOGIST WITH THE U.S. EPA**

### Committee Member

Courtney Gill (M.S. 2010)

Melissa Gray (M.S. 2011)

Kelly Ksiazek (M.S. 2011)

## Undergraduate researchers (co-mentor with graduate student\*)

Jackie Beard	2010	Allegra Mount (thesis)*	2011
Joseph (Jeb) Boyer*	2010	Michal Olszewski	2007–2008
Cat Collins*	2010	Dayani Pieri	2010
Becky Cotteleer*	2011	Jeff Price (REU)	2007

Evan Eifler*	2011	Tasi Rodriguez	2004
Rachel Hesselink (REU)	2009	Cindy Stowell	2006–2007
Thea Klein-Mayer (thesis)*	2011	Tyr Wiesner-Hanks*	2011
Mike Lucero	2004–2005	Max Wilson (thesis)	2009
Lisa Mithun (thesis)*	2011	Chad Zirbel (REU)	2010
Bridgette Moen (REU)*	2010		

### **K-12 students**

Kassandra Altantulkhuur (College First, 2010)

Allan Lane (College First, 2009)

Vasilios Stefanis (STEM Research, 2010)

### **Other mentoring**

Guest Speaker: Careers in Ecology. βββ Biological Honor Society (Loyola, 2007)

Panelist: NSF-REU Graduate School Workshop (Univ. Mich. Biol. Station, 2007)