Katherine Chi

102 connections

Content Analyst at Hanover Research

Washington D.C. Metro Area | Research

Current	Hanover Research
Previous	University of Illinois at Urbana-Champaign, Illinois Natural History Survey, Metritech, Inc.
Education	University of Illinois at Urbana-Champaign
Websites	Research Website

Experience

Content Analyst

Hanover Research

November 2014 – Present (1 year 1 month) | Washington D.C. Metro Area

* Use quantitative and qualitative research techniques to produce customized market assessments, environmental scans, and benchmarking reports
* Engage in primary research by interviewing industry experts to develop key insights
* Gather, process, and analyze large datasets to draw conclusions about market trends
* Test survey instruments using SurveyGizmo and Qualtrics; analyze survey responses with MarketSight
* Develop and instruct team members on new data methodologies using software such as Microsoft Excel, Tableau, and OutWit

Graduate Researcher

University of Illinois at Urbana-Champaign

August 2007 – August 2014 (7 years 1 month) | Urbana-Champaign, Illinois Area

* Conducted research as principal investigator for 5 major scientific projects
* Analyzed large datasets using advanced statistical techniques, including general linear and mixed models, model selection, ordination, & path analysis
* Compiled annual reports/recommendations for 7 government agencies & 6 private interest groups
* Composed manuscripts for publication in competitive peer-reviewed journals; successfully published 2 scientific studies

* Delivered public presentations at 10 professional conferences; received recognition as best speaker at 4 conferences
* Wrote and submitted grant proposals; awarded 10 unique grants totaling over $10,000 of funding

College Instructor

University of Illinois at Urbana-Champaign

August 2007 – August 2014 (7 years 1 month) | Urbana-Champaign, Illinois Area

* Consistently ranked “Excellent” on student evaluations for 12 semesters
* Led laboratory exercises in 9 different life science subjects, ranging from general non-majors courses to advanced honors studies
* Lectured on various topics, including biological concepts, research methods, statistics/data interpretation, and writing composition
* Assigned scores on assignments; provided feedback for improvement

Research Mentor/Supervisor

Illinois Natural History Survey

December 2010 – May 2013 (2 years 6 months) | Urbana-Champaign, Illinois Area

* Managed and monitored laboratory tasks for 9 research assistants
* Trained research assistants in data collection techniques
* Advised development of independent projects, leading to presentation of research by 4 student assistants at conferences

Course Coordinator

University of Illinois at Urbana-Champaign

January 2011 – December 2011 (1 year) | Urbana-Champaign, Illinois Area

* Designed critical thinking and problem-solving activities
* Wrote lesson plans, assignments, and rubrics for 13 laboratory experiments
* Organized and led weekly meetings to coordinate duties among 3 instructors

Exam Scorer

Metritech, Inc.

April 2009 – June 2009 (3 months) | Urbana-Champaign, Illinois Area

* Read and evaluated standardized exam essays for ESL students
* Assigned scores to exams using grading rubrics
* Promoted frequently based on speed and precision of scoring

Languages

English
Native or bilingual proficiency

Chinese
Elementary proficiency

Eric Hanson
Co Owner at Gear For the Journey

ROSHAUN WATSON
CUSTOMER SERVICE AGENT at WACCKO

Publications

Seed ecology of Synthyris bullii (Plantaginaceae), a rare endemic of the Midwestern USA

American Journal of Botany

August 2013

Many rare plant species are declining due to habitat destruction and degradation. Because many populations of rare species suffer low recruitment, a good understanding of seed ecology is crucial for developing effective conservation and management plans. In this study we examine the effects of shading, seed longevity, and soilless mixes on seed germination for the rare Midwestern endemic (USA) Synthyris bullii. Seed germination studies were conducted in a greenhouse environment utilizing seeds from populations collected in Illinois in 2008, 2009, and 2010. In the shading study, both control (66.7 ± 1.3%) and green wrap (63.7 ± 1.3%) had similar and greater percent seed germination than the solid white wove paper (59.5 ± 1.3%). Percent seed germination was similar for seeds collected in 2010 and 2009 (59.5 ± 3.3% and 55.1 ± 4.4%, respectively) in the longevity study, but germination was lower for seeds collected in 2008 (27.1 ± 4.0%) compared to both of the other years. For the soilless mixes study, seeds sown in only one of the three media, the Fafard Super-Fine Germinating Mix, emerged (3.5 ± 1.0%). Results from these studies suggest that for S. bullii: (1) seeds may be shade tolerant, (2) seed viability lessens with age, and (3) seedlings require a special soilless mix to grow. The information generated by this study can provide guidelines for better seed storage and germination protocols for the conservation of this rare plant species.

Authors: Katherine Chi

Can floral display size compensate for Allee effects caused by low population abundance and density in Synthyris bullii (Plantaginaceae), a rare species?

American Journal of Botany

March 2014

• Premise of the study: Conservation seeks to address the issues of small population size, and the reproductive limitations confronting these populations. Sparse, small plant populations often suffer Allee effects such as pollinator limitation. However, some studies show that plants in sparse populations experience reduced resource competition. As a result, these plants may produce larger floral displays, which are also predicted to attract pollinators. The negative impacts from reduced floral quantity may thus be offset by improved floral quality.

• Methods: In a 2-yr field study, population abundance and density were quantified for 24 populations of Synthyris bullii (Plantaginaceae), a rare prairie endemic. In each population, data were collected on inflorescence size, fruit/seed set, and seed germination.

• Key results: Inflorescence size had a positive relationship with population inflorescence abundance and density. Fruit set and germination responded positively to floral quality (i.e., flower density). In comparison, seed set showed a positive relationship with only floral quantity (i.e., population abundance).

• Conclusions: Contrary to our predictions, inflorescence size and population size were not inversely related. While attractive floral displays in sparse populations potentially compensate in terms of fruit set, population abundance nevertheless plays an important role in seed set. Because floral quality and quantity differ in their ability to explain reproductive outcomes, studies should examine reproduction at several stages, otherwise the impacts of population size may be overlooked. Allee effects manifesting at a critical stage of reproduction, such as seed production, may act as a bottleneck impeding successful recruitment.

Authors: Katherine Chi

Skills

Research | Teaching | Data Analysis | Scientific Writing | Biology | Ecology | Science | Experimental Design | Editing | Statistics | Grant Writing | Gel Electrophoresis | Genetics | Microsoft Office | Public Speaking | See 31+

Education

University of Illinois at Urbana-Champaign
Doctor of Philosophy (Ph.D.), Botany/Plant Biology
2007 – 2014

Activities and Societies: Graduates in Ecology and Evolutionary Biology, Women in Science, The Wildlife Society

Knox College
Bachelor of Arts (B.A.), Biology, General
2003 – 2007

Activities and Societies: Japanese Club, Mortar Board, WVKC 90.7FM College Radio, Catch (Literary Magazine)

Groups

Graduate College … **The Ecological S…** **Merit Program for…**

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