

Judy P. Che-Castaldo

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Office: 410-919-4993

EDUCATION

- 2011 | Ph.D. in Behavior, Ecology, Evolution, and Systematics Program.
University of Maryland, College Park, MD. Advisor: David W. Inouye
- 2005 | Tropical biology: An ecological approach (a research field course).
Organization for Tropical Studies, San Pedro, Costa Rica
- 2004 | B.S. *magna cum laude* in Biology. The College of William and Mary,
Williamsburg, VA. Research advisor: John P. Swaddle

PROFESSIONAL APPOINTMENTS

- 2012 – 2015 | Postdoctoral fellow. National Socio-Environmental Synthesis Center
(SESYNC), Annapolis, MD
- 2011 – 2012 | Postdoctoral research associate. Department of Plant Science and Landscape
Architecture, University of Maryland (UMD), College Park, MD

PUBLICATIONS

Refereed Journal Articles

- 2015 | Evans, D. M, J. P. Che-Castaldo, D. Crouse, F. W. Davis, T. H. Eason, et al.,
2015. Recovery of endangered and threatened species in the United States. *Issues in Ecology*, accepted pending revisions
- 2015 | Che-Castaldo, J. P. and D. W. Inouye, 2015. Interspecific competition between
a non-native metal-hyperaccumulating plant (*Noccaea caerulescens*, Brassi-
caceae) and a native congener across a soil metal gradient. *Australian Journal
of Botany, special issue on Ultramafic Ecosystems* **63**:141–151
- 2015 | Salguero-Gomez, R., O. R. Jones, C. R. Archer, Y. M. Buckley, J. Che-
Castaldo, et al., 2015. The COMPADRE Plant Matrix Database: An open on-
line repository for plant demography. *Journal of Ecology* **103**:202–218
- 2015 | Wei, C. A., W. R. Burnside, and J. P. Che-Castaldo, 2015. Teaching socio-
environmental synthesis with the case studies approach. *Journal of Environ-
mental Studies and Sciences* **5**:42–49
- 2014 | Che-Castaldo, J. P. and D. W. Inouye, 2014. Field germination and survival
of experimentally introduced metal hyperaccumulator *Noccaea caerulescens*
(Brassicaceae) across a soil metal gradient. *The American Midland Natural-
ist* **171**:229–245
- 2013 | Neel, M. C. and J. P. Che-Castaldo, 2013. Predicting recovery criteria for
threatened and endangered plant species on the basis of past abundances and
biological traits. *Conservation Biology* **27**:385–397

- 2013 Zeigler, S., J. P. Che-Castaldo, and M. C. Neel, 2013. Actual and potential use of population viability analysis in recovery of plant species listed under the U.S. Endangered Species Act. *Conservation Biology* **27**:1265–1278
- 2012 Che-Castaldo, J. P. and M. C. Neel, 2012. Testing surrogacy assumptions: Can threatened and endangered plants be grouped by biological similarity and abundances? *PLoS ONE* **7**:e51659
- 2011 Che-Castaldo, J. P. and D. W. Inouye, 2011. The effects of dataset length and mast seeding on the demography of *Frasera speciosa*, a long-lived monocarpic plant. *Ecosphere* **2**:art126
- 2005 LeClerc, J. E., J. P. K. Che, J. P. Swaddle, and D. A. Cristol, 2005. Reproductive success and developmental stability of eastern bluebirds on golf courses: Evidence that golf courses can be productive. *Wildlife Society Bulletin* **33**:483–493
- 2004 Swaddle, J. P., J. P. K. Che, and R. E. Clelland, 2004. Symmetry preference as a cognitive by-product in starlings. *Behaviour* **141**:469–478

Manuscripts in Preparation

Che-Castaldo, J. P. and M. C. Neel. Species-level persistence probabilities for recovery and conservation status assessment. *Submitted to Conservation Biology*

Salguero-Gomez, R., O. R. Jones, C.R. Archer, et al. COMADRE: A global database of animal demography. *Revise and resubmit to Journal of Animal Ecology*

FUNDING

- 2012 – 2015 Postdoctoral fellowship, National Socio-Environmental Synthesis Center \$55,000/yr
- 2009 – 2011 NSF Doctoral Dissertation Improvement Grant DEB-0909909: Ecology and the use of a metal-hyperaccumulating plant in phytoremediation. PI with David W. Inouye \$7,057
- 2008 Max and Vera Britton Environmental Science Award, and Cosmos Scholars Award, Cosmos Club Foundation \$1,420
- 2000 – 2008 Gates Millennium Scholar, Gates Foundation

AWARDS AND HONORS

- 2010 Distinguished Teaching Assistant Award, UMD
- 2009 Long-term Studies student travel award, Ecological Society of America
- 2009 Outstanding Research Award, Biology Department, UMD
- 2008 College of Chemical and Life Sciences travel award, UMD

RECENT RESEARCH PRESENTATIONS

- 2015 Che-Castaldo, J. P. 2015. Socio-environmental synthesis case study: Recovery under the U.S. Endangered Species Act. Association for Environmental Studies and Sciences, San Diego, CA

- 2015 Che-Castaldo, J. P., M. C. Neel, and C. J. Che-Castaldo. 2015. Comparative demographic analysis to inform endangered species management. Demography Beyond the Population Symposium, Sheffield, UK
- 2014 Neel, M. C., H. Tumas, B. West, and J. P. Che-Castaldo. 2014. Evaluating landscape-level extinction risk: New tools for setting science-based recovery targets. Ecological Society of America (ESA) Annual Meeting. Sacramento, CA
- 2014 Che-Castaldo, J. P. and M.C. Neel. 2014. Assessing extinction risk based on biological traits and extrinsic threats. North American Congress for Conservation Biology. Missoula, MT
- 2014 Che-Castaldo, J. P. 2014. Synthesis of threat and demographic data to improve recovery planning. SESYNC. Annapolis, MD
- 2013 Neel, M. C. and J. P. Che-Castaldo. 2013. Improving endangered species recovery planning. ESA Annual Meeting. Minneapolis, MN
- 2013 Che-Castaldo, J. P. 2013. Synthesis of anthropogenic threat and demographic data to predict extinction risk. SESYNC. Annapolis, MD
- 2012 Neel, M. C. and J. P. Che-Castaldo. 2012. Predicting endangered species recovery objectives using biological traits and patterns of decline. ESA Annual Meeting. Portland, OR
- 2010 Che-Castaldo, J. P. and D. W. Inouye. 2010. Competition between *Thlaspi caerulescens* and *Thlaspi montanum*: Can phytoremediation threaten native plant populations? ESA Annual Meeting. Pittsburgh, PA

Invited Talks

- 2012 Quantifying changes in effective habitat availability and species extinction risk due to changes in habitat area and configuration. U.S. Fish and Wildlife Service. Arlington, VA
- 2012 Synthesis of anthropogenic threat and demographic data to predict extinction risk. National Science Foundation. Arlington, VA
- 2010 Demography of a long-lived monocarpic plant (*Frasera speciosa*) - how dataset length affects the accuracy of demographic parameter estimates. Plenary session at Graduate Research Interaction Day, UMD

Poster Presentations

- 2013 Che-Castaldo, J. P. and M. C. Neel. 2013. Predicting extinction risk based on biological traits and anthropogenic threats. International Congress for Conservation Biology. Baltimore, MD
- 2013 Che-Castaldo, J. P. and M. C. Neel. 2013. Quantifying changes in effective habitat availability and species extinction risk due to changes in habitat area and configuration. Smithsonian Botanical Symposium. Washington, DC
- 2012 Che-Castaldo, J. P., C. Crisafulli, and J. A. MacMahon. 2012. Plant community development and the role of species-level processes in successional dynamics on Mount St. Helens. ESA Annual Meeting. Portland, OR

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| 2012 | Che-Castaldo, J. P. and M. C. Neel. 2012. Predicting endangered species recovery objectives using biological traits and patterns of decline. College of Mathematical and Natural Sciences Postdoctoral Association poster symposium, UMD |
| 2011 | Neel, M. C. and J. P. Che-Castaldo. 2011. Predicting endangered species recovery objectives using biological traits and patterns of decline. Partners in Environmental Technology Technical Symposium & Workshop (SERDP/ESTCP). Washington, DC |

TEACHING AND MENTORING

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| 2013 – 2015 | Teaching Socio-Environmental Synthesis with Case Studies, Co-instructor, 3 short courses |
| 2008 – 2010 | Principles of Ecology, Graduate teaching assistant, 4 semesters |
| 2005 – 2009 | Principles of Biology II, Graduate teaching assistant, 3 semesters |
| 2005 – 2015 | Mentor to 11 undergraduate or volunteer research assistants. SESYNC, UMD, and Rocky Mountain Biological Laboratory |
| 2005 – 2006 | Mentor to international graduate student. Maryland English Institute, UMD |

COMMUNITY OUTREACH/STAKEHOLDER ENGAGEMENT

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| Dec. 2014 | Participated in the US Fish and Wildlife Service’s Species Status Assessment Summit at the National Conservation Training Center, Shepherdstown, WV |
| Jul. 2014 | Participated in the meeting “Best Available Science and Imperiled Species Conservation: Challenges, Opportunities, and Partnerships” at Resources for the Future, Washington, DC |
| Jul. 2006,
Aug. 2008 | Guided groups from The Nature Conservancy on research tours of the Mexican Cut Preserve in Gothic, CO |
| Aug. 2014 | Guest researcher on field trip for field ecology course at the Rocky Mountain Biological Laboratory |

PROFESSIONAL SERVICES

Peer Review

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| Journals | Biological Conservation, Plant Ecology and Evolution |
| Books | Essentials of Conservation Biology 6th ed. Chapter 7: Extinction |

ADDITIONAL TRAINING

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| 2015 | Bayesian Modeling for Ecological & Social Scientists led by Drs. Tom Hobbs and Mary Collins, SESYNC |
| 2013 | Interactive Visualization Tools for Socio-Environmental Data, SESYNC |
| 2011 | Data Management and Spatial Analysis GIS, UMD Libraries |
| 2011 | AIC and Model Selection Workshop, UMD |