Exponent®
Engineering & Scientific Consulting

Victoria Prescott, Ph.D., PMP

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Professional Profile

Dr. Prescott is an ecologist with expertise in evaluating the impacts of anthropogenic stressors such as climate change and habitat loss on biodiversity. She combines her ecological expertise with her Project Management Professional certification to provide clients with high quality, timely ecological solutions. She has experience integrating fieldwork with data science techniques to model complex systems. She has worked with a variety of environmental data including satellite imagery, climate data, and biodiversity surveys in both terrestrial and aquatic systems. In her current role, Dr. Prescott applies her ecological understanding of biodiversity to real-world scenarios including climate change, chemical contaminants, and regulatory compliance. She is particularly interested in how commercial trade and human uses of plants and wildlife affect biological populations.

As a postdoctoral researcher, Dr. Prescott critically examined the accuracy of a risk assessment tool used by resource agencies to predict species distributions under various climate change scenarios, comparing the outputs of the tool to outputs she generated using machine learning methods. This research focused on freshwater species from a variety of taxonomic groups inhabiting different geographical areas of the world, including Asian clam, silver carp, rusty crayfish, Cuban tree frog, and water hyacinth. Her research concluded that method selection drastically impacts prediction accuracy, potentially resulting in misinformed policy decisions or resource allocation.

Dr. Prescott's dissertation research combined survey data with satellite imagery data to assess odonate (dragonfly and damselfly) diversity across an urban-rural landscape and to identify the environmental factors that influence community composition. Utilizing bird survey techniques to conduct the odonate surveys, her research implemented a novel approach to surveying dragonflies. Further, Dr. Prescott has leveraged satellite imagery data to identify important habitat corridors that maintain gene flow between wolf spider populations across an urban landscape. She has also modeled extinction risk in odonate species found throughout the United States by identifying ecological traits (e.g., geographic range size and length of flight period) that correlate with NatureServe's global conservation status.

Academic Credentials & Professional Honors

Ph.D., University of Louisville, 2016

B.S., Biology, Baylor University, 2011

Licenses and Certifications

Life Cycle Assessment: Quantifying Environmental Impacts from Massachusetts Institute of Technology for Professional Education

Project Management Professional (PMP)

Prior Experience

Lead Scientist, Booz Allen Hamilton, 2019–2023

Statistical Analyst II, Biostat Solutions Inc, 2018–2019

Postdoctoral Fellow, Loyola University Chicago, 2017–2018

Publications

Prescott, V.A., J. Marte, and R.P. Keller (2025). Performance of alternative methods for generating species distribution models for invasive species in the Laurentian Great Lakes. Fisheries, 50:343-354

Prescott, V.A. and P.K. Eason (2018) Lentic and lotic odonate communities and the factors that influence them in urban versus rural landscapes. Urban Ecosystems, 21:737-750

Presentations

Prescott VA, Keller RP. Combining Invasive Species Risk Assessments with Climate Change Scenarios to Predict Future Invaders in the Great Lakes. Oral presentation, Midwest Fish and Wildlife Conference, Milwaukee, WI, 2018.

Prescott VA, Eason PK. Determinants of odonate diversity in ponds versus streams across an urban landscape and the ecological traits that make them resilient to extinction. Oral presentation, Invited seminar at Campbellsville University, Campbellsville, KY, 2016.

Project Experience

· Project manager support regulatory disclosure compliance of personal care products; Organized and maintained complex datasets regarding product compositions including chemicals, vendors, and product components; Assessed vendor-supplied information to determine compliance with state and federal regulations such as CA Proposition 65 and FTC disclosure requirements

· Conducted risk and damage assessments concerning potential aquatic and terrestrial natural resource injuries from anthropogenic causes such as petroleum releases, climate change, and habitat loss

· Provided technical review of agricultural plant ecology and seed viability to determine compliance with farming insurance contracts

· Developed life cycle assessments of aerospace vehicle production and launch

· Investigated environmental impacts related to alleged Clean Water Act violations at wastewater treatment plants

· Project manager for expert testimony on the effects of polychlorinated biphenyls (PCBs) on aquatic resources; Coordinated a team of five individuals and supported development of expert opinions; Assessed anthropogenic causes of population declines across a variety of taxonomic groups including birds, mammals, and fish, using publicly available sources such as state wildlife action plans

· Critically examined risk assessments on the impacts of climate change on aquatic and terrestrial biodiversity including native and non-native species

· Supported the modernization of scientific data pipelines for federal clients by tracking project timelines, monitoring risks and dependencies, and forecasting monthly project costs.

· Integrated data from across client programs to uncover actionable insights and to support data-driven decision-making; Led teams of scientists, and business analysts to develop robust data architectures for federal clients; Provided guidance on data collection methodologies and best practices to eliminate redundant data collection procedures, enhance data quality, and streamline business processes.

· Collected and organized data from various paper and digital sources of laboratory information to identify trends across quality control analyses.

· Assessed impacts of climate change on aquatic species invasions across three different modeling tools including an ArcGIS package developed by U.S. Fish and Wildlife and two machine learning methods.

· Developed species distribution maps based on bioclimatic rasters from Worldclim.org for the current climate and climate projections for 2050 and 2070; Collected species occurrence data from an online database via an R-based application programming interface; Developed models using occurrence and pseudo-absence points obtained from local adaptive convex hulls.

· Assessed impact of land use on odonate community composition and species richness across an urban-rural gradient using CCA, NMDS, and PERMANOVA analyses; Utilized data from the National Land Cover Database 2011 to obtain detailed descriptions of environmental parameters.

· Examined effects of urban landscape on rabid wolf spider genetic diversity by incorporating population genetics results with habitat connectivity models.

· Mined odonate biological data from field guides and online databases to define species distributions, categorize whether species are habitat generalists vs specialists, and quantify length of flight seasons; Correlated ecological traits with NatureServe conservation ranks using ordinal logistic regression to identify predictors of extinction risk in odonates.