KERRY M. BYRNE, PHD

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EDUCATION

Ph.D., Ecology, *Colorado State University* 2012
Bachelor of Science (Environmental Biology and Management), *University of California, Davis* 2004
Tropical Ecology Study Abroad Program, *University of California*, Monteverde, Costa Rica 2004

PROFESSIONAL APPOINTMENTS

Assistant Professor, Dept. of Environmental Science and Management**,** *Humboldt State* 2017 - Pres
Assistant Professor, Dept. of Natural Sciences**,** *Oregon Institute of Technology* 2013 - 2017
Courtesy Research Associate, Soil and Crop Sciences Dept., *Colorado State University* 2013 – Pres
Courtesy Faculty, Dept. of Botany and Plant Pathology, *Oregon State University* 2015 - Pres
Post-doctoral Research Associate, *University of California, Davis* 2012 - 2013
Graduate Research Assistant, *Colorado State University* 2007 – 2012
Plant Ecologist, *CH2M Hill*, Sacramento, CA. 2005-2007

TEACHING EXPERIENCE

Humboldt State University: Applied Natural History and Ecology (lecture and lab)
Oregon Institute of Technology: Careers in Environmental Science, Soil Science (lecture and lab), Field Methods/Advanced Field Methods in Environmental Science, Principles of Biology (lecture and lab), Environmental Science Research, Plant Ecology (lecture and lab), Botany (lecture and lab), General Ecology (lecture and lab), Evolutionary Biology, Sustainable Human Ecology (lecture and lab)
Colorado State University: Introduction to Grass Taxonomy (intense short course with lab), Rangeland Plants Ecogeography (lecture and lab)

COMPETITIVE GRANTS

"Drought and sagebrush: management implications," Bureau of Land Management, Lakeview Klamath Falls Office. $30,000, awarded, additional $15,000 *pending* (co-PI Kristen Kaczynski, CSU Chico) 2016 – 2020
"Demographic monitoring of a rare southern Oregon endemic, *Astragalus applegatei* M. Peck," U.S. Fish and Wildlife Service, Pacific Southwest Region. $58,749 (PI) 2015 – 2020
"Demographic monitoring of Applegate's milkvetch at Ewauna Flat Preserve, Klamath Falls, OR," Oregon Department of Agriculture. $18,003 (PI) 2017 – 2018
"Multi-year inventory of *L. floccosa* ssp. *bellingeriana* and its habitat," Bureau of Land Management, Lakeview Klamath Falls Office. $10,238 (PI) 2017
"Demographic Monitoring of Applegate's Milkvetch," U.S. Fish and Wildlife Service, Pacific Southwest Region. $13,278 (PI) 2014 - 2016
"Predicting Impacts of Climate Change in Native Grasslands of the Great Plains," The Nature Conservancy John E. Weaver Competitive Grant Program, $1,000 2010

INTERNAL FUNDING

"Phenological changes of important forb species in a changing climate," OIT Resource Budget Commission Award. $1062 (undergraduate co-PI A. Miller) 2017

"Student research opportunities in Biology-Health Sciences and Environmental Science," OIT Resource Budget Commission Award. $5,000 2015

"Pollination study of the Federally Endangered flower, Applegate's milkvetch," OIT Resource Budget Commission Award. $692 (undergraduate co-PI R. Ongge) 2015

"Identify the obligate symbionts of a Federally Endangered plant species," OIT Resource Budget Commission Award. $522 (undergraduate co-PI M. Dalton and co-PI K. Usher) 2015

BICYCLE ADVOCACY FUNDING

"Klamath Falls' second annual National Bike to Work Day Breakfast," Sky Lakes Medical Center Charity Committee Grant. $984 (co-PIs S. Decker and J. Yost) 2016

"Klamath Falls' first annual National Bike to Work Day Breakfast," Sky Lakes Medical Center Charity Committee Grant. $1,000 2015

"Colorado State University Bike Safety Advocacy Program," Colorado State University, Student Learning, Involvement, and Community Engagement Program Grant. $1,800 2009 – 2010

PUBLICATIONS

*undergraduate advisee

Manuscripts published

Wilcox, K.R., Z. Shi, L.A. Gherardi, N.P. Lemoine, S.E. Koerner, D.L. Hoover, E. Bork, **K.M. Byrne**, J. Cahill, Jr., S.L. Collins, S. Evans, A.K. Gilgen, P. Holub, L. Jiang, A.K. Knapp, L. Yahdjian, D. LeCain, J. Liang, P. Garcia-Palacios, J. Peñuelas, W.T. Pockman, M.D. Smith, S.R. White, K. Zhu, and Y. Luo. 2017. Asymetric responses of primary productivity to climate extremes: a synthesis of grassland precipitation manipulation experiments. *Global Change Biology* **23**: 4376 - 4385.

Byrne, K.M., P.B. Adler, and W.K. Lauenroth. 2017. Contrasting effects of precipitation manipulations on plant communities within the Great Plains, U.S.A. *Journal of Vegetation Science* 28: 238-249.

Adler, P. B., **K. Byrne**, and J. Leiker. 2013. Can the past predict the future? Experimental tests of historically-based population models. *Global Change Biology* **19**: 1793-1803.
Highlighted in *Nature Climate Change*

Robinson T.M.P., K.J. La Pierre, M.A. Vadeboncoeur, **K.M. Byrne**, M.L. Thomey, and S.E. Colby. 2013. Seasonal, not annual precipitation drives community productivity across ecosystems. *Oikos*, **122**: 727-738.

Byrne, K.M., W.K. Lauenroth, and P.B. Adler. 2013. Contrasting effects of precipitation manipulations on production at two sites within the central grassland region, USA. *Ecosystems,* **16**, 1039-1051.

Evans S.E., **K. M. Byrne**, W.K. Lauenroth, and I.C. Burke. 2011. Defining the limit to resistance in a drought-tolerant grassland: long-term severe drought significantly reduces the dominant species and increases ruderals. *Journal of Ecology*, **9:** 1500-1507.
Received Issue 6 (November 2011) Editor's Choice Award

Byrne, K.M., W.K. Lauenroth, P.B. Adler, and C.M. Byrne*. 2011. Estimating Aboveground Net Primary Production in Grasslands: a Comparison of Non-Destructive Methods. *Rangeland Ecology and Management* **64**: 9-12.

Buhnerkempe, M., N. Burch, S. Hamilton, **K.M. Byrne**, E. Childers, K.A. Holfelder, L. McManus, M.I. Pyne, G. Schroeder, and P.F. Doherty, Jr. 2011. The utility of transient sensitivity for wildlife management and conservation: Bison as a case study. *Biological Conservation* **144**: 1808-1815.

Pyne, M.I., **K.M. Byrne**, P.F. Doherty, Jr., K.A. Holfelder, L. McManus, M. Buhnerkempe, N. Burch, E. Childers, S. Hamilton, G. Schroeder. 2010. Survival and Breeding Transitions for a Reintroduced Bison Population: a Multi-state Approach. *Journal of Wildlife Management* **74**: 1464-1471.

PUBLICATIONS, CONT.

Byrne, K.M., W.K. Lauenroth, and L. McManus. 2010. Non-native Plant Species Impacts on Production and Diversity in the Front Range of Colorado. *Western North American Naturalist* **70**: 288-295.

Manuscripts *in prep*

Sudderth, E.A., **K.M. Byrne**, E. Dixon, L.G. Reichmann, L.A. Gherardi, H. Lim, E.B. Sudderth, C.V. Hawkes, P.B. Adler, E.L. Brodie, and O.E. Sala. Local and regional soil microbial and plant responses to changes in precipitation: a cross-site study in arid-subhumid U.S. grasslands. In prep for *Ecosystems.*

Ongge, R.* and **K.M. Byrne**. Pollinators increase seed set in a self-compatible rare *Astragalus* species. In prep for *American Midland Naturalist.*

REPORTS (PEER REVIEWED)

Hiss, A.E., **K. Byrne**, D. Bramlet, F.M. Roberts Jr., and S. White, on behalf of the Riverside County Transportation Commission. 2007. State Route 79 Realignment Project: Final Rare Plant Survey Report. District 8-RIV-79-KP R25.4/R54.4 (PM R15.78/R33.80) 08-494000.

INVITED TALKS AND SEMINARS

"Conservation of Applegate's milkvetch: one of Oregon's most imperiled plants," Oregon Native Plant Society, Siskiyou and Klamath Basin Chapters. 2017

""Restoration Ecology in the Anthropocene: plants, communities, and ecosystems," Humboldt State University, Department of Environmental Science and Management. 2017

"A first look at the reproductive biology & demography of Applegate's milkvetch: Oregon's most imperiled plant," U.S. Fish and Wildlife Pacific Southwest Region, Klamath Falls office. 2016

"Climate change in rangelands: implications for management and conservation. Oregon State University, Master Naturalist Program. 2016

"Grasslands across scales: implications for management and conservation," Chico State University, Department of Geological and Environmental Sciences. 2015

"Flora of Patagonia," Oregon Native Plant Society, Klamath Basin Chapter. 2014

"Planning for Climate Change in North American Grasslands," CH2M Hill, Englewood, CO. 2012

"Climate Change in North American Grasslands: Coupled Ecosystem and Human Consequences," American Association of Geographers Annual Meeting. Washington, DC. 2010

SELECTED PRESENTATIONS

*undergraduate advisee

Kaczynski, K.M, and **K.M. Byrne** (2017). "Predicting changes in California's diverse environments: introducing the ORIDE climate change experiment" (poster). Northern California Botanists Symposium.

Byrne, K.M., R. Ongge*, and J. Reid (2016). "A first look at the reproductive biology of *Astragalus applegatei*: Oregon's most imperiled plant" (poster). Northern California Botanists Symposium.

Adler, P.B., **K.M. Byrne** and J. Leiker (2013). **"**Can the past predict the future? Experimental tests of historically-based population models." Ecological Society of America Annual Meetings.

Byrne, K.M. and W.K. Lauenroth (2012). "Contrasting effects of precipitation manipulations on species composition and community structure at two sites within the central grassland region, USA." Ecological Society of America Annual Meetings.

Byrne, K.M. and W.K. Lauenroth (2011). "Changes in soil water affect Net Primary Production in the Central Grassland Region." Ecological Society of America Annual Meetings.

SELECTED PRESENTATIONS, CONT.

Byrne, K.M., W.K. Lauenroth and P.B. Adler (2010). "Precipitation patterns affect soil water content and ecosystem water balance in grasslands in North America." Ecological Society of America Annual Meetings.

Byrne, K.M., W.K. Lauenroth and C.M. Byrne* (2010). "Estimating Aboveground Net Primary Production in Grasslands: a Comparison of Non-Destructive Methods." Society for Range Management Annual Meetings.

AWARDS AND FELLOWSHIPS

Education Scholar, Ecological Society of America.	2016
Travel Award, Strategic Environmental Research and Development Program (SERDP). $500	2012
Best oral presentation, Front Range Student Ecology Symposium, Fort Collins, CO. $200	2011
Editor's Choice Award for publication in *Journal of Ecology*, Issue 6.	2011
Integrative Graduate Education and Research Traineeship (IGERT), Program for Interdisciplinary Mathematics, Ecology, and Statistics, Colorado State University. National Science Foundation. $60,000+	2007 – 2009

SERVICE (PROFESSIONAL)

Ad hoc reviewer: *Ecology*, *Ecosphere*, *Functional Ecology*, *Global Change Biology*, *Journal of Arid Environments*, *Journal of Ecology*, *Oecologia*, *Pedosphere*, *Perspectives in Plant Ecology, Evolution, and Systematics*, *PLOS One*, *Western North American Naturalist*, 2011 - present

Secretary, Native Plant Society of Oregon, Klamath Basin Chapter, 2013 - 2015

SERVICE

Humboldt State University

Member, Advisory Committee on Sustainability	2017 – Pres

Oregon Institute of Technology

Chair, Sustainability Committee	2016 - 2017
Faculty Search Committee Member, Physics Positions (2), Microbiology position (1)	2016 - 2017
International Committee member	2015 – 2017
Assessment Coordinators Committee member	2015 – 2017
Scholarship reader, Oregon Tech Foundation	2015 – 2017
Honors Program mentor	2014 - 2017
Student Assessment Coordinator, Environmental Science Program	2014 - 2017
Sustainability Committee member	2014 – 2017
Advisor, Biology minor	2013 - 2017

RESEARCH ADVISING AND MENTORING

Graduate Committees: Laura Kentnesse (MS, Oregon State University)

Undergraduate mentoring: 10 undergraduate students (OIT); 2 NSF REU students (Colorado State University)

K-12 Teacher mentoring: 1 middle school teacher, NSF RET (Colorado State University)

Plant Identification Coach, Rangeland Ecology Club (Colorado State University, 2008)

PROFESSIONAL DEVELOPMENT

Workshops and Courses

"Sustainability and Climate Change" InTeGrate and Quantitative Undergraduate Biology Education Synthesis (QUBES) Faculty Mentoring Network participant. 2017

"Scaling Up – Bringing research data into undergraduate classrooms" Data Discovery Faculty Mentoring Network participant, Ecological Society of America and QUBES. 2016

"Process Oriented Guided Inquiry Learning (POGIL) northwest workshop," Lewis and Clark College, Portland, OR. 2015

"Structural Equation Modeling & Advanced Structural Equation modeling workshops," Ecological Society of America Conference, Sacramento, CA. 2014

PROFESSIONAL DEVELOPMENT, CONT.

"Teaching T.A.L.K.S. II: faculty professional development conference on assessing quantitative literacy and communication," Portland State University. 2014

"Monitoring Grasslands, Shrubland and Savanna Ecosystems," Bureau of Land Management workshop, Susanville, CA. 2013

"Information-Theoretic Approaches to Formal Inference workshop," Colorado State University 2009

"How to Communicate Research to the Public workshop," Colorado State University 2008

US Army Corps of Engineers Wetland Delineation course, Sacramento, CA. 2006

Webinars

"Implementing Sustainable Transportation on Campus" Association for the Advancement of Sustainability in Higher Education (AASHE) webinar. 2016

"Teaching about Soils as a Critical Resource: Materials and Activities for your Classroom" Science Education Resource Center (SERC) at Carleton College webinar. 2016

"Engaging Across Boundaries: Campus Sustainability Month- Opportunities to Engage" AASHE webinar. 2015

RELATED EXPERIENCE

Ecologist, *CH2M Hill*, Sacramento, CA 2005 – 2007

Botany technician, *University of California, Davis,* Lake Tahoe, CA 2004

Small mammal technician, *Pacific Southwest Research Station, USDA Forest Service*, Teakettle Experimental Forest, CA 2003

Plant pathology technician, *University of California, Davis*, Coast Range, CA 2002

PROFESSIONAL SOCIETIES

California Native Plant Society, Ecological Society of America, Native Plant Society of Oregon, Northern California Botanists