

# KERRY M. BYRNE, PHD

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Environmental Science and Management  
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## PROFESSIONAL APPOINTMENTS (2017 – Present)

<b>Assistant Professor</b> , Dept. of Environmental Science and Management, <i>Humboldt State</i>	2017 – Pres
<b>Assistant Professor</b> , Dept. of Natural Sciences, <i>Oregon Institute of Technology</i>	2013 – 2017
<b>Courtesy Research Associate</b> , Soil and Crop Sciences Dept., <i>Colorado State University</i>	2013 – Pres
<b>Courtesy Faculty</b> , Dept. of Botany and Plant Pathology, <i>Oregon State University</i>	2015 – Pres

## TEACHING EXPERIENCE (2017 – Present)

Applied Natural History and Ecology (lecture and lab), Applied Ecological Restoration Capstone Course (lecture and lab), Graduate Seminar

## COMPETITIVE GRANTS (2017 – Present)

Fungal community associated with Applegate's milkvetch: a microbial approach to plant restoration. U.S. Fish and Wildlife Service, Pacific Southwest Region. \$16,685 (co-PI with PI Catalina Gempeler)	2020 – 2021
Continued Milkvetch Monitoring. U.S. Fish and Wildlife Service, Pacific Southwest Region. \$15,900 (PI)	2020 – 2021
Quantification and mitigation of large pine mortality after prescribed burning in a drought altered Sierra Nevada mixed-conifer forest, California USA. USDA McIntire-Stennis. \$87,100 (PI)	2020 – 2022
Demographic monitoring of a rare southern Oregon endemic, <i>Astragalus applegatei</i> M. Peck. U.S. Fish and Wildlife Service, Pacific Southwest Region. \$49,595 (PI)	2018 – 2022
Assessing the impacts of drought on the quality and quantity of livestock forage production in northeastern California. California Agricultural Research Institute (ARI) Grants Program. \$43,462 (PI)	2018 – 2020
Demographic monitoring of Applegate's milkvetch at Ewauna Flat Preserve, Klamath Falls, OR. Oregon Department of Agriculture. \$18,003 (PI)	2017 – 2020
Multi-year inventory of <i>L. floccosa</i> ssp. <i>bellingneriana</i> and its habitat. Bureau of Land Management, Lakeview Klamath Falls Office. \$10,238 (PI)	2017
Drought and sagebrush: management implications. Bureau of Land Management, Lakeview Klamath Falls Office. \$72,000 (co-PI Kristen Kaczynski, CSU Chico)	2016 – 2020
Demographic monitoring of a rare southern Oregon endemic, <i>Astragalus applegatei</i> M. Peck. U.S. Fish and Wildlife Service, Pacific Southwest Region. \$58,749 (PI)	2015 – 2017

## INTERNAL FUNDING (2017 – Present)

HSU Sponsored Programs Foundation Research Incentives Program. \$5,047 (2.5 WTU)	2020
Student Research Employment. HSU Graduation Initiative (GI) 2025 Program AY 20-21. \$1680	2020
Student Employment for Seed bank Germination Study. HSU Graduation Initiative (GI) 2025 Program AY 19-20. \$1,950	2020
McCrone Promising Scholar Award. \$1500	2019
Experimental Restoration Method for Novel Nitrogen-Enriched Plant Communities at Lanphere Dunes, Arcata, CA. HSU Research, Scholarship, and Creative Activities Program (RSCA) AY 18-19. \$4,848	2018 – 2019

## FUNDING AWARDED TO STUDENT RESEARCHERS (2017 – Present)

- Effects of drought on biocrusts, soil, and plants in southeastern Oregon sagebrush-steppe. 2020 – 2021  
Native Plant Society of Oregon Field Research Grants Program. \$750 (MS student Allison Nunes)
- Seed bank germination study at Lanphere Dunes, Arcata, CA. Northern California 2019 – 2020  
Botanists Research Scholarship. \$1,000 (undergraduate student Sean Stewart)

## 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**, and others. 2017. Asymmetric 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.
- 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.
- 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.
- 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 Submitted and In Prep

- Byrne, K.M.** Technical Note: a rapid method to estimate root production in grasslands, shrublands, and forests. *Rangeland Ecology and Management*. Resubmitted with revisions.
- Byrne, K.M.**, A. Hasan, R. Ongge\*. Pollinators increase seed set in a self-compatible rare *Astragalus* species. In prep.

## INVITED TALKS AND SEMINARS (2017 – Present)

- Astounding *Astragalus* in Humboldt County and beyond. California Native Plant Society, North Coast Chapter. 2019
- Restoring a population of Applegate's milkvetch (*Astragalus applegatei*): lessons learned for conservation. Northern California Botanists Symposium. 2019
- 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

## AWARDS AND FELLOWSHIPS (2017 – Present)

President Alistair McCrone Promising Faculty Scholar Award, Humboldt State University 2019

## SELECT PRESENTATIONS (2017 – Present)

\*undergraduate advisee

Stewart, S.\* and **K.M. Byrne**. The Impact of invasion and removal of *Lupinus arboreus* on seedbanks in coastal sand dune environments (poster). Northern California Botanists Symposium. 2020

Connell, N\*, A. Young\*, and **K.M. Byrne**. Measuring the Importance of Pollinators for *Astragalus applegatei*: A Study Comparing Open vs. Self-Pollinated Seeds” (poster). Oregon Tech Project Symposium. 2017

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

## SERVICE

### Professional

Board Member, Northern California Botanists 2020 – Pres

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, Rangeland Ecology and Management, Science of the Total Environment, Western North American Naturalist*, 2011 - present 2011 – Pres

### Humboldt State University

Co-Chair, Advisory Committee on Sustainability 2019 – Pres

Member, Advisory Committee on Sustainability 2017 – Pres

Faculty Advisor, Environmental Science Honor Society, Pi Epsilon 2018 – Pres

Ad hoc reviewer, IdeaFest journal 2019 – Pres

Member, Agricultural Research Institute (ARI) Grant Application Review Committee 2019 – 2020

## RESEARCH ADVISING AND MENTORING

**Current Graduate Students (Masters):** Allison Nunes, Sean Stewart 2019 – Pres

**Graduate Committees (Masters):** Andres Rodriguez and Joseph Saler (HSU Biology), Melissa Collin and Sean Flemming (HSU Natural Resources), Laura Kentnesse (Oregon State University) 2017 - Pres

**Undergraduate Mentoring:** 7 undergraduate students (HSU) 2017 – Pres

## PROFESSIONAL DEVELOPMENT (2017 – Present)

### Workshops and Courses

Pivot to Online Learning and Teaching, HSU Center for Teaching and Learning 2020

Course Design Institute, HSU Center for Teaching and Learning 2019 – 2020

Drought-Net Research Network PI Meeting and Workshop, Colorado State University 2019

Teaching and Learning tools workshop, HSU New Faculty Learning Community 2018

Creating better syllabi workshop, HSU New Faculty Learning Community 2018

Affordable Textbooks workshop, HSU sustainable learning solutions & HSU Library 2017

Sustainability and Climate Change. InTeGrate and Quantitative Undergraduate Biology 2017

Education Synthesis (QUBES) Faculty Mentoring Network participant

**PROFESSIONAL DEVELOPMENT (2017 – Present), Cont.**

**Webinars and Seminars**

Digitally Enhanced Teaching: Writing Smarter Test Questions, HSU Center for Teaching and Learning	2020
Creating an Engaging Discussion, HSU Center for Teaching and Learning	2020
Getting down to basics: examining language and understanding that support the creation of equitable and inclusive workspaces, HSU Center for Teaching and Learning Professional Development Day	2018
Creating Civil Dialogue in the Classroom: Hate Speech v. Free Speech on College and University campuses, HSU Expanded New Faculty Learning Community	2017
How Students Learn and Instruction Strategies, HSU New Faculty Learning Community	2017

**PROFESSIONAL SOCIETIES**

California Botanical Society, California Native Plant Society, Ecological Society of America, Northern California Botanists, Society for Range Management