Oren Pollak Grasslands Restoration Fund

2016 Update

The Oren Pollak Research Fund was established in 2000 in memory of Dr. Oren Pollak, a leading grassland ecologist, restoration pioneer, and a champion and mentor for grassland ecology students. As The Nature Conservancy's lead ecologist in California in the early 1990s, Dr. Pollak established the grassland research program which continues today. He later became Director of Science in the Conservancy's Oregon chapter.

Since its establishment, the Oren Pollak Research Fund has provided more than $70,000 in grants – supplying student researchers with the funds necessary to pursue their studies and continue the important work that Dr. Pollak was committed to. This past year, two students received grants. A summary of their research is below. We are grateful to have the partnership of Dr. Pollak's friends, family, and colleagues as we honor his legacy.

2016 Grant Recipients

Lauren Smith, Ph.D. student, Oregon State University
Investigating post-fire recovery of invertebrate-mediated ecosystem services in restored and unrestored grasslands

Study site: Several grassland sites in eastern Oregon, including The Nature Conservancy's Boardman Preserve.

In June 2015, a large wildfire burned through a significant portion of the Boardman Preserve, impacting one-third of Lauren's study plots during her second year of field work. This event provided her with the unusual opportunity to examine the interaction of fire with multiple disturbances and restoration.

Since pre-settlement times, 90 percent of native grassland habitat has declined in North America in response to increasing agricultural activity and annual weed invasions. In the last few decades, climate change has increased the frequency and intensity of wildfires across the western United States. Because of these threats, grasslands are one of the most imperiled ecosystems in North America and are a top priority for restoration. Grasslands also provide essential habitat for many diverse floral and faunal communities, including invertebrates like bees and spiders. Not only do invertebrates form a major component of biodiversity, they also play a vital role in ecosystems through pollination, nutrient cycling,

food for vertebrates, and pest control. Despite their pivotal role in grassland ecosystems, rarely are grassland invertebrates examined.

While very little is known about the effects of grassland restoration on beneficial invertebrate communities, even less is known about how wildfire affects these communities, and interacts with restoration efforts. As wildfires increase across the northwestern United States, learning about fire effects and recovery of beneficial invertebrates is critical. An additional year of post-fire data collection will enhance Lauren's current understanding of wildfire impacts on native bee and spider communities in grassland ecosystems. **With the support of the Oren Pollak Research Fund, Lauren is investigating how two important groups of beneficial invertebrates, native bees and spiders, respond to wildfire in relatively intact, agriculturally degraded, and restored Pacific Northwestern grassland sites**. Ultimately, this study will inform land managers about how fire interacts with other disturbances to impact two important beneficial invertebrate groups in Pacific Northwest grasslands, and will provide guidance on how to restore beneficial spider and bee communities and the role they play in grassland ecosystems.

Vincent Jansen, Ph.D. student, University of Idaho
Using remote-sensing to measure grazing effects on a native grassland ecosystem

Study site: Zumwalt Conservation Area, Oregon

Healthy grasslands need a diverse mix of plant and animal life to function properly. Livestock grazing, if managed carefully, is one management tool that can be used to increase the diversity of vegetation across grasslands. However, to date it has been difficult to measure the effects of grazing on a large scale due to high costs, low repeatability and the limits of traditional field surveys. Because of these limitations, researchers and land managers have begun to use remotely sensed data to monitor important grassland vegetation indicators. Satellite data is commonly used, and has helped measure vegetation cover. Rarely is remotely sensed data used to analyze vegetation patterns, biomass and diversity, but these metrics are needed to measure livestock production and biodiversity. **Vincent is seeking to fill the data gap of accurate monitoring data and knowledge on how livestock grazing impacts vegetation height, biomass and diversity at meaningful management scales.**