

Understanding biodiversity, from mountains and deserts to people and cancer

Prof. Nancy Huntly

Department of Biology, Utah State University, USA

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Professor Burt Kotler and I started our journeys as ecologists together, as graduate students with similar research interests and adjacent office cubicles, and have remained friends and colleagues. We share interests in consumer-resource interactions and community ecology, and this talk will focus on my research

in those areas. Burt's work has advanced understanding of biodiversity, with many contributions on coexistence of mammals, their predators, and their prey, including on what has been called "the ecology of fear". His approach has leaned to behavior, especially foraging ecology, and communities, mine more to population biology and communities, and I will describe my thoughts on integrating those two views to better understand coexistence in our big and wildly variable world.

I will talk about biodiversity through two primary lenses, the mechanistic one of coexistence theory and a more phenomenological one on how people have formed the world around them through large-scale environmental change and some unique behavior as foragers. I will consider especially how the variability of nature, in time and in space, can and does affect biodiversity. Because we are in part observing the impacts of Burt's career in this seminar series, I will end with some description of how my approach to working as an ecologist has evolved over my career, in particular by more explicitly considering people into ecological models, as collaborators in and beneficiaries of ecological research, and, recently, as ecosystems within which the ecology of cancer plays out.