



Edmondson Endowed Lecture

Biology Seminar

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Understanding food web dynamics: Ignoring generalists is leading us astray



Monday, February 27, 2017 | 12:00pm
HCK 132 Refreshments at 11:45am

Our understanding of food web dynamics has come a long way since Bob Paine reinvigorated the study of species interaction networks. Our mathematical theory for predator-prey interactions and food web stability in particular has progressed in leaps-and-bounds. Nevertheless, I will argue that we — as both theoreticians and empiricists — are largely ignoring the interactions of generalist predators by assuming that the (more feasible) study of specialist predators will suffice. Despite my academic grandfather’s call for manipulative experiments, I will present two studies of generalist predators that each use a new observational approach to overcome the specialist-biased limitations of manipulative experiments and provide new insight into (i) the dynamics of prey-switching (a.k.a. “adaptive foraging”) and (ii) the properties of predator dependence (a.k.a. “mutual predator effects”) in nature’s species-rich food webs. Finally, inspired by the invitation to speak at UW, I will use the observational approach to conduct a historical comparison of the predator-prey interactions of a focal New Zealand whelk as inferred from natural history surveys made by Bob Paine in 1969-71 and those repeated by me in 2004 (the first field season of my Ph.D. thesis).

Hosted by: William King – Grad Student

