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Jonathan T. Rowell* (jtrowell@uncg.edu). *Harvesting Ideally Motivated Populations: Ecological and Evolutionary Implications.*

Although some organisms can allocate their population distributions to maximize individual fitness, not all fitness components are directly observable to the motivated individual. Mortality risk is difficult to perceive, and it may spatially vary due to the presence of environmental conditions, concealed predators, or human-induced harvesting. This non-observability can create sinks and ecological traps within the populated area. Here I consider the regional implications in a model of an ideally motivated population when there is additional mortality within a restricted area such as a harvest zone. I examine the resulting population dynamics over differing time-scales, develop a range limit profile for harvested populations, and examine the conditions by which a population is at risk of sudden collapse due to variations in different aspects of a harvesting operation (intensity, breadth, and central location). The point of collapse is then compared with the optimal harvest rate. Finally, I demonstrate that harvest zones also induce selection pressure on a heritable, non-genetic factor (proximity fitness) that creates a successional pattern that may be confused with local fitness selection or migratory response to environmental or competitive conditions. (Received September 22, 2014)