Alterations to the spatial arrangement and water retention time of California's native ephemeral ponds are a result of extensive habitat destruction over the last century. The spatial and temporal profiles of these ponds are important drivers of community structure, resulting in transient periods of predator-free habitat (PFH) following the regular drying and re-wetting events that reset succession. This transient period is attributed to the lag in the establishment of predator species who arrive later in assembly and colonize proportionately to their resource densities. There is evidence that PFH may benefit a number of broadly classified groups of organisms like "prey," "mosquitos," and "herbivores." Conversely, evidence of keystone predation in ephemeral ponds suggest what may be best for "prey," on the whole, may not bode well for the endemic and listed taxa that exploit these habitats and are rare in occurrence. It follows that changes to PFH has unknown consequences for the species of concern in California's ephemeral ponds. The goal of this study is to determine (1) how species of concern react to PFH, and (2) whether this response changes with increasing pond isolation. To answer question (1), experimental mesocosms (plastic wading pools) will be placed at UC Irvine's San Joaquin Freshwater Marsh Reserve and will receive one of two PFH treatments ("predators added" or "predators excluded"). If PFH facilitates prey occurrence, we expect to see higher species richness in those ponds undergoing the "predator excluded" treatment. Conversely, if keystone predation is a fundamental driver of pond structure, we expect to see the highest levels of richness in the "predators added" treatments. By measuring the relative abundance and biomass of each species, we can differentiate between what is best for "prey" and what is best for species of concern. We will answer question (2) by comparing richness patterns among PFH treatments across two isolation treatments (ponds placed 10m or 400m from a source pond). Because populations are less dense in isolated ponds, the importance of a keystone predator in subduing dominant competitors may be reduced in these habitats. Isolation can also have varying consequences for organisms with different dispersal modes (e.g. wind, flying, hitch-hiking). The relative impact of PFH may change barring differing pre-colonization filters on these organism types. This work will inform critical regional and multiple-species management problems by providing a predictable framework for conserving species of concern in one of California's most endangered habitats.