# Impacts Of Tourism On Behavior And Demography Of Olympic Marmots[tws]

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Relatively little is known about the impacts of hiking and other recreation on small mammals, whose size and life-history may constrain their responses to disturbance. We tested for effects of recreation pressure on survival and reproduction in Olympic marmots (*Marmota olympus*), a large ground-squirrel that has disappeared from several areas of high human activity levels. We assessed the degree to which anti-predator and foraging behavior and demographic rates differed between heavily visited and unvisited sites. Marmots at heavily visited sites displayed behavioral signs of habituation; they allowed hikers to approach significantly closer before retreating to their burrows, and remained in their burrows for less time after disappearance of hikers. During two-minute focal observation periods, heavily visited marmots looked up more often while foraging although length of each look was the same as that seen in unvisited marmots. By foraging longer, visited marmots did not appear to compensate for this difference. In support of the assumption that energy intake is not limited by human disturbance, marmots at both types of sites had comparable reproductive rates and were in similar body condition as measured by seasonally adjusted body mass. Survival rate estimates for radio-tagged marmots appeared only slightly higher at the low-visitation sites. All these results are consistent with the hypothesis that marmots adjust their behavior to accommodate current levels of tourism without incurring a demographic penalty; however, the possibility that high visitation may decrease marmot survival rates should be investigated further.