

## COMPLEMENTING VISUAL SURVEYS WITH WILDLIFE CAMERAS FOR LONG-TERM WETLAND MONITORING

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Freshwater wetlands support high biodiversity, but are also subject to increased drying under projected climate patterns. Recently, the use of automated tools for monitoring has become more feasible. Using automated tools to complement traditional visual surveys increases observation time at surveyed sites possibly capturing different species, recording within-season dynamics, and expanding our understanding of wetland biodiversity in a changing environment. In 2017 and 2018, we placed wildlife cameras at 6 seasonal and 6 permanent wetlands in Grand Teton National Park for a week each in June and August; we also completed a single visual survey of amphibian species during each of these time intervals. We compared the difference in the number of species detected by each method over the summer to assess temporal changes in wetlands with varying hydrology and evaluate effectiveness of each method for monitoring. Based on preliminary results, changes in species richness over the summer were more related to wetland hydrology than the survey method. Although we found the two methods captured a similar change in richness over time, the species observed were complementary. Cameras added six species from four additional taxa to the four amphibian species detected during visual surveys. Cameras also captured seasonal water-level patterns, which may be used to ground-truth climate-based drying models. Further analysis, including cost/benefit assessments, will help us understand the utility of cameras for monitoring wetlands. Automated surveillance tools allow us to sample cryptic species over large spatial and temporal scales, providing an important contribution to biodiversity monitoring.