
****RESPONSE OF AMPHIBIAN AND INVERTEBRATE COMMUNITIES TO WETLAND MITIGATION IN THE GREATER YELLOWSTONE ECOSYSTEM**

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In the United States, a “no net loss” of wetlands policy mandates that when wetland impacts cannot be avoided, they must be mitigated by creating or restoring wetlands of equal or greater area. A primary goal of these projects is often habitat replacement, but success is generally evaluated only through presence of wetland-associated vegetation and physical characteristics, which may not be good surrogates for wetland function. Because amphibians and aquatic macroinvertebrates integrate processes at multiple levels and are sensitive to conditions in both the aquatic and surrounding terrestrial environment, evaluating their response to wetland mitigation may be more meaningful. The Wyoming Department of Transportation recently (2008-2013) constructed and restored 38 wetlands in Teton County, WY to mitigate for loss of wetland area caused by a road reconstruction project. Our objectives were to assess differences in species richness and community composition of amphibian and aquatic macroinvertebrate communities among ten constructed, seven impacted and ten reference wetlands. Preliminary results suggest that amphibians and invertebrates have quickly colonized created wetlands, leading to similar species richness among wetland types, but that community composition remains distinct even several years after wetland construction. These results suggest that wetland creation may be an important tool, but that the life histories of target species should be accounted for in the design phase to maximize the probability of native amphibian and invertebrate colonization and persistence.