
HABITAT QUALITY INFLUENCES BIRD COMMUNITY STRUCTURE IN THE BIG HOLE RIVER VALLEY

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Extensive restoration work along the Big Hole River aims at improving habitat conditions for the last remaining fluvial population of Arctic grayling (*Thymallus arcticus*) in the U.S. Riparian-associated birds are also likely to respond positively to such restoration activities. From 2007 to 2009 we conducted surveys to document bird communities during the pre-restoration phase. We detected 111 species across the three survey years, representing 45 percent of bird species known to breed in Montana. We used a repeated measures design to control for potential variation in relative bird abundance among years and to test for differences among three treatment types: reference, control, and restoration. Both vegetation characteristics and bird communities differed significantly among treatments. Eight species selected a priori to be indicators of high quality riparian habitat were significantly more abundant at reference points than at control or restoration points. These species will be used as indicators to measure the success of restoration efforts in the future. The outstanding diversity of birds associated with the Big Hole watershed speaks to the conservation value of restoring this stretch for birds as well as fish.