CCAA Impacts on Birds of the Big Hole Watershed

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Through the Big Hole CCAA, a coalition of groups has undertaken extensive restoration work aimed at improving habitat conditions for the last remaining fluvial population of Arctic grayling in the U.S. Riparian-associated birds are also likely to respond positively to such restoration activities, and this is significant because riparian habitats support a greater diversity of breeding birds than any other habitat type in Montana. In the summers of 2007 and 2008 the Avian Science Center obtained permission from participating landowners along the Big Hole River to document bird communities during this pre-restoration phase. We surveyed birds at reference points that serve as the target habitat condition for restoration efforts, and impact points that are currently impaired, but likely to improve with restoration activities. We also measured vegetation at each point to evaluate vegetation quality. We

detected 107 species across the two survey years, and this represents 44 percent of bird species (107/245) known to breed in Montana. This speaks to the outstanding diversity of birds associated with riparian areas in the Big Hole watershed. Both the vegetation characteristics and bird communities were decidedly different between reference and impact sites. Thirteen of the 25 most frequently encountered bird species were detected on a significantly higher proportion of reference points while six species were more frequently encountered on impact sites. We suggest using the occurrence of five species: willow flycatcher (*Empidonax traillii*), veery (*Catharus fuscesens*), northern waterthrush (*Seiurus noveboracensis*), fox sparrow (*Passrella iliaca*) and song sparrow (*Melospiza melodia*), all of which were encountered much more frequently at reference sites, to evaluate the success of restoration work in future years.