

DISTRIBUTION AND DEMOGRAPHICS OF BIRD COMMUNITIES
IN THE GREATER YELLOWSTONE AREAS^{TWS}

Jay J. Rotella and Andrew J. Hansen
Department of Biology
Montana State University - Bozeman 59717

During 1995-97, we estimated the composition and distribution of neotropical migratory bird communities on a 9,000 km² study area in the western portion of the Greater Yellowstone. The study area contains a wide diversity of habitat types and elevations. Our findings indicate that diversity and density of birds are much higher in aspen and cottonwood sites than they are in other habitats (e.g., Douglas fir, lodgepole pine, and others). However, our data also indicate that brood parasites such as brown-headed cowbirds (*Molothrus ater*) and egg predators such as black-billed magpies (*Pica pica*) are not evenly distributed among habitats. Rather, we found that cowbirds, magpies, jays, etc. were much more abundant in cottonwood stands than in aspen and other stand types. Therefore, we also measured reproductive success in hot spots for diversity and density, i.e., aspen and cottonwood stands, to determine if these habitats are beneficial to breeding birds. Preliminary data from both artificial (1994) and natural nests (1995) indicate that nest success is significantly lower ($P < 0.05$) in cottonwood stands than it is in aspen stands or in mature stands of lodgepole pine. Furthermore, preliminary population modeling indicates that cottonwood stands are population sinks for open-cup nesters that are susceptible to brood parasitism (e.g., warblers, sparrows, vireos, etc.) Management implications will be discussed.