

INFLUENCES OF REACH- AND WATERSHED-SCALE HABITAT FEATURES ON FISH DISTRIBUTION IN STREAMS IN THE GREAT PLAINS OF MONTANA

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The prairie biome has become one of the most endangered regions in North America. Consequently, the chance of extinction for many prairie fishes is greater than fishes of other regions; however, prairie streams and fishes have been largely ignored until recently due to a lack of angler interest in these species. In order to effectively conserve fishes, managers must first have insight into the ecology of the species and how communities of fishes may be impacted by natural and human-induced disturbances. This study examines small warmwater streams of the Great Plains of Montana in depth and specifically focuses on how physicochemical, biotic, and watershed-scale characteristics influence the distribution of species and trophic and reproductive guilds are influenced by environmental gradients at the reach and watershed scale. Comparisons of individual species models produced somewhat unexpected results in that no single type of variable (physicochemical, biotic, or watershed) was superior in explaining species distributions. However, these comparisons did highlight the importance of biotic interactions in prairie streams and how they may influence the persistence of prairie fishes. This study provides information into the ecology of fishes of small Great Plains streams but also highlights a need for further research of these systems.