

**** Preliminary Assessment of Bat Species Richness and Forage Activity in Anthropogenic and Naturally Occurring Water Sources**

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Human impacts are decreasing critical wildlife resources. In the western U.S., over half of the surface water has shifted to human-made water bodies built for storage instead of naturally occurring streams, wetlands, and lakes, which are becoming more intermittent. Bats rely on surface waters for foraging and drinking, yet the use of different water resources by bats in arid regions is not well understood in North America nor globally. Determining how changes in water availability and water body type influence bat richness is needed to identify potential conservation efforts to avoid population declines. To help address this question in the arid prairie ecosystems of eastern Montana, we conducted preliminary acoustic monitoring in July 2021 and 2022 in areas around Fort Peck and Zortman, MT. We detected an average of 4.0 species of bats at aquatic sites and 3.45 species at terrestrial sites. Most bat species were detected at both anthropogenic and naturally occurring waterbody types, but Townsend's big-eared bat (*Corynorhinus townsendii*) and the long-eared myotis (*Myotis evotis*) were only detected around reservoirs while the spotted bat (*Euderma maculatum*) was only detected around naturally occurring streams. We detected an average of 5.4 species near anthropogenic water sources (reservoirs and stock ponds), compared to 3.5 species near naturally occurring sites (streams). We plan to expand this acoustic monitoring and link it to trends in water availability and prey availability, which will help us understand the how drought-driven changes in the amount and type of surface waters are likely to affect bat communities.