

## **POWDER RIVER FISH COMMUNITIES IN MONTANA: EXPECTED AND DECLINING SPECIES BASED ON HISTORICAL PERSPECTIVES**

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Powder River fish communities in Montana were examined from sampling data going back 30 years to determine an expected native fish community for the purpose of biomonitoring. Four fish species (3 native and 1 introduced) have not been collected in sampling events since 1976. Two introduced species, the plains killifish and the walleye, have been collected in the river since the late 1970s. The total number of reported fish species (19) collected in the river has been stable, but the number of native species has decreased from 17 to 15, and species community composition has changed incrementally over the sampling

period; with noticeable decreases in sturgeon chubs (MT SOC) and increases in sand shiners. Expected fish communities from the upper Powder River (30-220 RM) averaged 7.5 species and were dominated by the typical prairie river species: flathead chubs, longnose dace, plains and western silvery minnows, sand shiners, catfish and river carpsuckers. The lower 30 river miles to the confluence, averaged 8 native fish species with significant species replacements by larger river dominants. We derived frequencies of occurrence for all species collected and compared observed vs. expected communities (O/E) with the existing prairie fish IBI for testing river biointegrity.