

Long Term Changes in the Fish Fauna of the Platte River: A Comparative Study

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In the midwest, the human activities that have the greatest and most widespread impact on rivers often are related to agriculture. Impoundments and diversions of water have resulted in precipitous reductions in fish species diversity in some midwestern rivers. In the Platte River system, hydrologic alteration caused by the operations of Kingsley Dam and associated facilities has had a profound impact on the morphology of the river, causing extensive encroachment of woody vegetation and shrinking of the channel. R.E. Johnson's study (1939-1941) of the fishes in Nebraska, conducted before the dam was completed, offers a rare opportunity for a comparison of long term changes in the fishes of the Platte system. At five sites between Kingsley Dam and Grand Island that were sampled by Johnson in 1939-40, I repeated fish collections in 1992-95. I compared these recent collections with Johnson's descriptions of habitat and fish species composition. Species richness decreased at three sites, increased at one site, and remained the same at one site. However, species composition changed at all sites; only 64% of the species collected by Johnson were also collected by me. The largest differences occurred at the sites with the greatest amount of hydrologic alteration.