



Fish Communities at Buffalo National River – Status Report

Importance:

The Buffalo River meanders through the Ozark Plateau as one of a few free-flowing rivers remaining in our nation. Buffalo National River (BUFF) protects the Buffalo River corridor with only a small percentage of the watershed within the park boundary. This leaves most of the watershed unprotected by the National Park Service.

In the Ozark Plateau, ground water and surface water interact freely through the porous limestone bedrock that lies beneath shallow soils. This interaction also places water at risk of contamination from human sources. The fish communities of the Buffalo River are good indicators of water quality and stream health with fish community composition indicating environmental conditions. Several species of fish found in the Buffalo River occur only in the Ozark Plateau region and many other species are extremely sensitive to poor water quality.

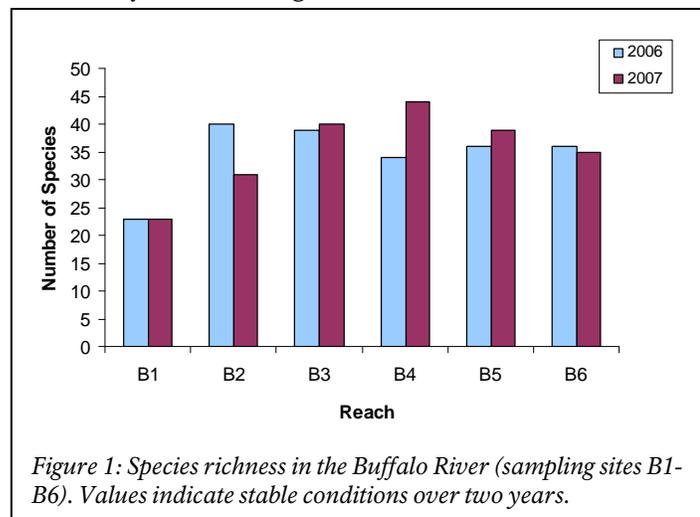


Long Term Monitoring:¹

In May 2006, the Heartland Network Inventory and Monitoring Program began annual fish monitoring at BUFF to assess the status and obtain baseline information on fish communities, physical habitat, water quality, and overall stream health for the Buffalo River. The Network sampled six sites on the river for 2006-2007 to gather that baseline information. Interpretation of data collected through long-term monitoring will equip park managers with a science-based understanding from which they can make informed decisions on aquatic resource management.

Status and Trends:

The high numbers of fish species (diversity or richness) and fish abundance, low occurrence rate of disease and deformity, and high occurrence rate of species associated with good water quality indicate a highly diverse and healthy fish community. The investigators also found that:



1. Overall, fish communities in the mainstem of Buffalo River were similar from one year to the next.
2. Fish communities in the tributaries to Buffalo River showed variability with some demonstrating diverse communities and others with low to moderate diversity.
3. Physical habitat and water quality conditions were similar to those of previous Buffalo River studies.



¹ Dodd, H.R. 2009. Fish community monitoring at Buffalo National River: 2006-2007 status report. Natural Resource Technical Report NPS/HTLN/NRTR-2009/185. National Park Service, Fort Collins, Colorado.