



Fish Communities at Wilson's Creek National Battlefield

Importance: Fish indicate stream health

Fish community composition offers a good indication of long-term environmental conditions within a stream. Many native fish populations have decreased in abundance throughout their ranges, largely because of land use changes that contribute to habitat degradation. Wilson's Creek NB contains portions of three streams with varying degrees of urban and agricultural land use within each watershed. Information on abundance and diversity of native species can indicate a stream's biotic integrity and the quality of fish habitat. Interpretation of data collected through long-term monitoring equips park managers with science-based understanding needed to make informed decisions on aquatic resource management that protects the entire aquatic community.

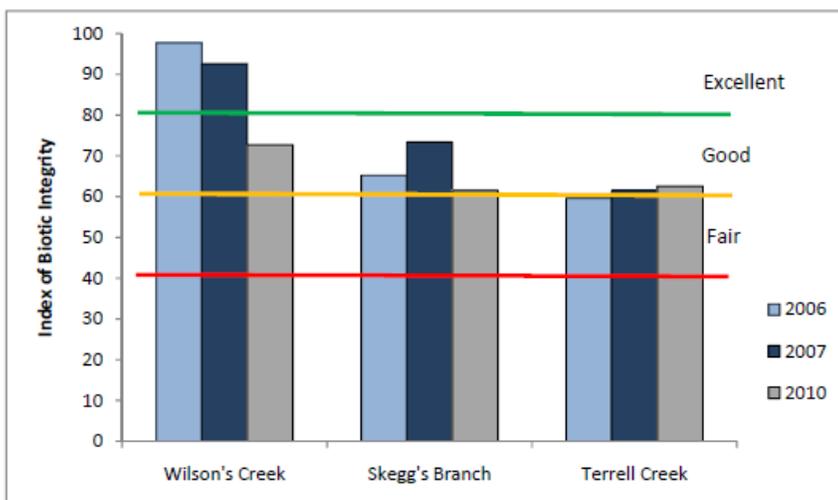


Long-Term Monitoring:¹ Findings inform decision-making

The Heartland Inventory and Monitoring Network sampled fish communities in Wilson's Creek and two tributaries, Skegg's Branch and Terrell Creek in 2006, 2007, and 2010. Fish were captured using electrofishing and identified, measured, and inspected for diseases or anomalies. The network collected physical habitat and water quality information in conjunction with fish sampling. These data establish a baseline condition on which to assess future changes in fish community composition and stream quality.

Status and Trends: Diverse and stable fish communities

Scientists found that, generally speaking, the fish communities are diverse and healthy in all three streams. Despite known water quality issues in Wilson's Creek, that stream maintains high species richness, a large number of species intolerant to siltation and poor water quality, and good biotic integrity. Scientists also found:



Index of Biotic Integrity scores and ratings for reaches sampled at WICR in 2006, 2007, and 2010. These values quantitatively assess the composition of the fish community. Thresholds indicating overall biological health of a stream are set at fair, good, and excellent. All values fell into the good or excellent range.

1. Wilson's Creek fish also showed a higher than expected number of anomalies, such as disease, eroded fins, lesions, tumors, and blackspot parasite.

2. Low occurrence of fish anomalies or diseases and high biotic integrity scores in the two tributary streams suggest that the fish populations are healthy and that streams are in good condition in those two tributaries.

Heartland Inventory and Monitoring Network of the National Park Service. Visit

www.nps.gov/im/units/htln/index.htm

... protecting the habitat of our heritage



¹ Dodd, H. R., D. E. Bowles, and S. K. Mueller, and M. K. Clark. 2011. Fish community monitoring at Wilson's Creek National Battlefield: 2006-2007, 2010 status report. Natural Resource Data Series NPS/HTLN/NRDS—2011/176. National Park Service, Fort Collins, Colorado.