

Development of an Index of Biotic Integrity for the Little Arkansas River Basin, Kansas

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Received: 26 January 2000/Accepted: 3 July 2000

Abstract. An index of biotic integrity (IBI) was developed for the Little Arkansas River Basin (LARB) in south-central Kansas by establishing a reference condition for the watershed. Twelve metrics, in six categories, were chosen for use in the IBI. Fish assemblages from 30 sites were selected to represent the highest quality sites (reference sites) remaining in the LARB. In addition, 20 historical sites were used to show changes in the watershed over the last century. The modified IBI was then tested at 10 sites within the basin to assess the affects of urban and agricultural disturbances on fish community structure in the Wichita area. IBI scores were statistically lower for the urban versus the agricultural sites. Overall, IBI scores rated from poor to fair, supporting the contention that the fish communities within the LARB are impaired.