Niangua River

WATERSHED

INVENTORY AND ASSESSMENT

This information is based on the

Niangua River Watershed Inventory and Assessment

prepared by

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INTRODUCTION

Water is the ultimate integrator. Water quality and biodiversity in aquatic ecosystems are reflections of the environmental quality of the watershed, the subsurface geohydrology, and the atmosphere. Land use and land cover in the watershed, and terrestrial and airborne pollution problems all impact water quality. Water is a universal solvent. It carries dissolved gases, nutrients, and minerals, and at least trace amounts of almost every substance it comes in contact with, from the air to the ground, and into streams and

groundwater aquifers. Although the primary focus of this inventory and assessment is aquatic habitats and communities, we have attempted to view the Niangua Watershed as an ecosystem. The land, air, and water are inter-connected and must be managed with mutual consideration. The creation of this document was considered a secondary objective of our planning effort for the Niangua Watershed. Our primary objective was to thoroughly inventory and organize information about the watershed for day-to-day use and for future planning.

DATA INVENTORY AND MANAGEMENT

The inventory for this document included compilation of a large amount of data and creation of twenty-four databases (Table 1). These databases have been incorporated in a Geographical Information System (GIS) featuring ArcView ® software. Databases were structured to be as compatible as possible with available source databases, yet satisfy our needs. Data was obtained from numerous sources in various formats including hard copies of reports and computer printouts, database files and ASCII text files, and from personal communication. In order to easily determine whether sites described by legal description are located within the watershed, a diagram showing the sections within the watershed was created (Appendix A). Unique, four-character labels were assigned to each site including a letter code (A-Z) that is unique for each feature (e.g. A = animal waste point source). These labels are used to locate sites on maps, and can be used to relate records in multiple databases. Site labels were frequently included in the records extracted from these databases to create tables. In order to obtain UTM coordinates and produce maps, sites were plotted on 7.5 minute topographic maps and marked with the site labels. Then Missouri Department of Conservation's (MDC) Design and Development Division digitized these sites with AutoCad ® software to produce layers for each feature. These layers were combined with layers including streams, roads, county boundaries, and other layers as necessary. MDC's Design and Development Division provided the Universal Transverse Mercator (UTM) coordinates for each site and they were added to the watershed database files. These were used to create XY. event tables in ArcView ®, to produce coverages for each feature, and to create most of the maps in this document. Many of the databases must be updated periodically to add new information (e.g. Section 404, permits and fish collections). This process will hopefully be facilitated by increased coordination between agencies to maintain databases in compatible formats and to improve accessibility. The MDC Fisheries Biometrics and two multi-agency groups, the Missouri Resource Assessment Project (MoRAP) and the Missouri Spatial Data Information System (MSDIS) are addressing this problem.