

Section 12.0 Data Gaps and Information Needs

This section briefly describes gaps in available data for the South Arkansas River and watershed. It focuses on how those data gaps, as well as other information, would be useful toward better understanding of river and watershed components and processes. Such information would also improve the identification and implementation of restoration projects.

Vegetation

- **Weeds**—Conduct a more complete census of lands immediately adjacent to the river to: (1) identify the species, location, and extent of infestations of non-native plant species; (2) determine the degree to which those infestations may compromise existing conditions; and (3) determine available methods of control and likelihood of success. Proper management of non-native plant species would improve habitat quality and functions, but requires more detailed information.

Fish and Wildlife

- **Fish survey**—Conduct a quantitative census of existing fish populations in areas downstream of CCR 210 to: (1) provide baseline information regarding resident populations and (2) allow comparisons over time regarding subsequent projects intended to improve in-stream and streamside habitat. Five years of data are generally needed to establish accurate information regarding fish populations.
- **Fish habitat diversity**—Collect additional information regarding the relative amount and distribution of various types of fish habitat, such as width-depth ratios, pool-riffle ratios, cover types and extent, and overwintering areas. This will help determine the extent to which various types of habitat are limiting factors for the river's fish population.
- **Barriers to fish migration**—Collect additional information regarding potential barriers to fish migration, including water velocities at various weirs and diversions and the extent to which low-flow conditions represent barriers to movement during critical life stages.
- **Corridor connectivity**—Evaluate potential restrictions and barriers to wildlife movement and habitat connectivity in the river corridor.
- **Birds**—Conduct surveys of bird use in the watershed. Little documentation currently exists regarding the importance of existing habitats for migratory birds.

Water Quality

- **Erosion**—Identify the major sources of fine sediments in the river, the relative contribution of those sources, and the habitat conditions and land use practices causing or aggravating erosion. This information will help identify locations where available resources should be focused as well as provide guidance regarding appropriate techniques and projects.
- **Stormwater**—Determine the location of stormwater outfalls in the project corridor and, during storm events, collect and analyze water samples from those outfalls. This information will help determine the impacts of stormwater flows on existing water quality.

Channel and Floodplain Processes

- **Channel parameters**—Collect stream profile and substrate information prior to restoration projects. In this assessment, the parameters of the South Arkansas River channel were collected from four representative reaches. Similar information is required at those locations where stream channel restoration projects are being considered.
- **Habitat monitoring**—Designate one or more reference or control reaches and collect information related to in-stream and streamside habitats. This information will serve as a baseline against which to judge the effectiveness of subsequent restoration projects.

There are three kinds of lies: lies, damned lies, and statistics.

Mark Twain
“Chapters from My Autobiography”