

**Water Supply Reserve Account – Grant and Loan Program  
Water Activity Summary Sheet  
Agenda Item 21a**

**Applicant:** Lower Arkansas Valley Water Conservancy District

**Water Activity Name:** Arkansas River Basin John Martin Wetlands and Neenoshe Reservoir  
Nonconsumptive Needs Quantification

**Water Activity Purpose:** Nonstructural study of nonconsumptive needs

**County:** Bent and Kiowa counties

**Drainage Basin:** Arkansas

**Water Source:** N/A

**Amount Requested:** \$148,975 (Arkansas Basin Account)

**Matching Funds:** \$43,250 (22%)

<b>Staff Recommendation</b>
The proposed project will complete the requirements of the Arkansas Basin's Nonconsumptive Needs Assessment. Staff recommends approval of up to \$148,975 from the Arkansas Basin Account.

**Water Activity Summary:**

The Lower Arkansas Valley Water Conservancy District is seeking to further quantify nonconsumptive needs within the basin. The objectives of the nonconsumptive needs quantification are to 1) Identify flow needs to support wetlands west of John Martin reservoir that support critical environmental and recreational bird habitat, 2) Identify lake levels needed to support habitat of federally listed shore birds, Least Tern and Piping Plover, near Neenoshe Reservoir, and 3) Under a separate scope of work prepare a river restoration plan for 44 miles of Fountain Creek.

This scope of work includes the development of the appropriate methodologies that will be most useful to quantify the needed water for objectives one (1) and two (2). Historical data will be collected, including hydrologic and hydraulic data available from USGS, NWIS and other sources, wetland studies, and wildlife species data. The consultant will then conduct a gap analysis, which will help determine what field data needs to be collected. The consultant assumes that collection of hydrologic and hydraulic data will not be extensive, and focuses on conducting surveys of habitat, plant species, soil type, wildlife, and hydrology indicators. In addition the consultant will collect GPS data and photo documentation.

After data collection, the consultant will quantify the water needed to support these two areas. For John Martin, three methodologies may be used. These include:

- 1) Hydraulic modeling of various flows that are necessary to sustain the wetland. This will only be completed if a hydraulic model has been developed by the Federal Emergency Management Agency (FEMA) for unincorporated Bent County.
- 2) Correlation between upstream Las Animas gage and wetland water level to determine the relationship between river stage and water surface elevation in the wetlands. This method assumes stakeholders will be available to sample the wetland.
- 3) Wetland net water requirements modeling may be used to model the change in water table at the wetland site using DRINMOD to determine the water quantity necessary to produce wet conditions for sustaining wetlands.

For Neenoshe reservoir, the consultant will combine the contour data, the historic water level data and wildlife species habitat data into GIS to identify water levels that will produce sufficient water for fish resources without

significantly impacting wildlife species habitat. This quantification will consider seasonal issues and water year type.

Last a final report and presentation which will include recommendations will be developed.

#### *Threshold and Evaluation Criteria*

The application/project meets all four Threshold Criteria. No Statewide funds are being requested, therefore the evaluation criteria does not apply.

#### *Funding Overview*

Grant funding in the amount of \$148,975 is being requested from the Arkansas Basin Account. Match includes \$2,000 of in-kind services dedicated to the study of John Martin Wetlands and Neenoshe Reservoir, plus \$41,250 to be provided for preparation of a river restoration plan for 44 miles of Fountain Creek.

#### **Discussion:**

This study will assist the Arkansas Basin Roundtable in completing its nonconsumptive needs by quantifying nonconsumptive needs within the basin. The basin indicated that management agreements in the Upper Arkansas fulfilled the identified nonconsumptive attributes in that region, and therefore focused on the main concerns in the Lower Arkansas Basin. Together with the Fountain Creek restoration plan, this project completes phase II of the nonconsumptive needs assessment for the basin.

#### **Issues/Additional Needs:**

- Please specify that outreach to stakeholders, including water users and providers, will be included prior to the development of a final report and presentation, and that these stakeholders, as well as the Basin Roundtable will be presented with the final results.
- Please revise the scope of work to indicate a minimum level of effort with regard to John Martin Reservoir wetlands, and the minimum results that will stem from that analysis. Specifically, the scope should specify that the results will indicate that seasonal and water year quantification ranges will be provided.

#### **Staff Recommendation:**

Staff recommends approval of up to \$148,975 from the Arkansas Basin Account to enable the completion of the Arkansas Basin's Nonconsumptive Needs Assessment, contingent upon the above issues and needs being addressed.

All products, data and information developed as a result of this grant must be provided to CWCB in hard copy and electronic format as part of the project documentation. This information will in turn be made widely available to Basin Roundtables and the general public and will help promote the development of a common technical platform.

In accordance with the revised WSRA Criteria and Guidelines, staff would like to highlight additional reporting and final deliverable requirements. The specific requirements are provided below.

**Reporting:** The applicant shall provide the CWCB a progress report every 6 months, beginning from the date of the executed contract. The progress report shall describe the completion or partial completion of the tasks identified in the scope of work including a description of any major issues that have occurred and any corrective action taken to address these issues.

**Final Deliverable:** At completion of the project, the applicant shall provide the CWCB a final report that summarizes the project and documents how the project was completed. This report may contain photographs, summaries of meetings and engineering reports/designs.

**Engineering:** All engineering work (as defined in the Engineers Practice Act (§12-25-102(10) C.R.S.)) performed under this grant shall be performed by or under the responsible charge of professional engineer licensed by the State of Colorado to practice Engineering.