

Water Supply Reserve Account – Grant and Loan Program
Water Activity Summary Sheet
March 16-17, 2016
Agenda Item 14(f)

Applicant & Fiscal Agent: Upper Arkansas Water Conservancy District

Water Activity Name: Upper Arkansas Multi-Use Projects Phase I – Lake Ranch Multi-Use Pilot Project (LRMUPP) Feasibility Study

Water Activity Purpose: Multipurpose

County: Chaffee

Drainage Basin: Arkansas

Water Source: Arkansas River

Amount Requested/Source of Funds:

| | |
|-----------|--------------------------|
| \$31,196 | Arkansas Basin Account |
| \$162,944 | <u>Statewide Account</u> |
| \$194,140 | Total Grant Request |

Matching Funds:

Basin Account Match (\$31,196.50) = 16% of total grant request (meets 5% min);

Applicant/3rd Party Match (\$35,569) = 18.3% of total grant request (\$229,709.50)

Basin Account & Applicant Match (\$66,765) = 34.4% of total grant request (meets 25% min)

(refer to *Funding Summary/Matching Funds* section)

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| Staff Recommendation: |
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| Staff recommends approval of up to \$31,196 from the Arkansas Basin Account, and \$162,944 from the Statewide Account to help fund the project titled: Upper Arkansas Multi-Use Projects Phase I – Lake Ranch Multi-Use Pilot Project (LRMUPP) Feasibility Study. |
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Water Activity Summary: WSRA funds, if approved, will be expended to fund the project titled: Upper Arkansas Multi-Use Projects Phase I – Lake Ranch Multi-Use Pilot Project (LRMUPP) Feasibility Study. This project is one of two multi-use projects that the Upper Arkansas Conservancy District is moving forward. These projects aim to integrate multiple water use components to address the “gap” through a multi-purpose approach. the District owns the Lake Ranch property, associated water rights, and has lease agreements for lease fallowing and other project components with the current lessee.

Components of the LRMUPP include: alluvial aquifer storage and return flow mapping; lease fallowing in the forms of interruptible water supply or rotational crop fallowing; low-head low-impact hydropower supply; water supply yield enhancement and delivery improvements; educational demonstrations on alternatives to permanent dry-up, use of small scale hydropower and demonstration plots for irrigation technology and crop science R&D; environmental benefits through wetlands and protection of open space; recreational benefits through the enhancement of the Voluntary Flow Management Program; and, potential collaborations with CPW, CSU Extension, USGS, NRCS, Colorado Water Resources and Power Development Authority (CWRPDA), etc ..

For the purposes of this grant application, the District would like to investigate the feasibility of each component of the LRMUPP. A feasibility study will allow the District to study each complex component of this pilot project and ensure the success of its implementation. Elements of the feasibility study can be transferable to the larger TCPMUP and aid in future projects to come. The LRMUPP will give the District the insight and knowledge needed for implementation of multi-use projects, while gaining vast benefits at the Lake Ranch throughout the process. The LRMUPP's successful implementation will provide a demonstration of how to maximize utilization of State waters and address the "gap" with a multi-purpose approach.

OBJECTIVES:

- To study the feasibility of multi-use projects;
- To improve understanding of how multiple water use components can be integrated into a single project;
- To investigate the use of alluvial aquifer storage;
- To investigate the potential for low-head, low-impact, hydro-power systems;
- To analyze the potential for enhancements of delivery systems;
- To analyze water rights yields and return flows;
- To analyze the use of ATMS and the Lease Fallowing Tool;
- To successfully integrate environmental and recreational needs;
- To develop educational demonstrations on irrigation R&D, ATMs, & hydropower;
- To produce studies and demonstrations that can lead as an example and be transferable to the TCPMUP and future multi-use projects across the State; and,
- To establish the necessary requirements to move the LRMUPP into Phase 2- Implementation.

Discussion: The LRMUPP will help implement projects and processes identified in the Arkansas Basin Implementation Plan. This pilot project will lead as a demonstration for the implementation of the larger TCPMUP that is featured in the Ark BIP. This pilot project will assist in the implementation of future multi-use projects that will have the ability to address the "gap" through a collaborative approach. Specifically, the LRMUPP will address the "gap" through new storage, lease fallowing and delivery system improvements.

MEETING THE NEEDS OF THE COLORADO WATER PLAN:

Critical Action Plan Implementation Goals Met:

1. Supply & Demand (A)- This project will address the supply & demand gap through increased storage, lease fallowing and integrated water management;
2. Conservation (B) - This project has the ability to address conservation by providing a demonstration on new storage technologies to store and manage this conserved water and will provide a demonstration garden on irrigation efficiencies and plant species;
3. Agriculture (D)- This project will demonstrate agricultural viability through Alternative Transfer Methods and protection from permanent "buy & dry";
4. Storage (E)- This project will provide multi-purpose & multi-partner storage options and will demonstrate the use and benefits of alluvial aquifer storage;
5. Watershed Health, Environment, and Recreation (F)- Enhances environmental values through the creation of wetlands and protection of open space. Recreational benefits include the potential enhancement of the Voluntary Flow Management Program;

6. Funding (G) - This project uses a variety of funding mechanisms in the form of matching grants from the Colorado Water Resources and Power Development Small Hydropower Grant Match and UAWCD cash matching. This project is designed to promote sustainability through generating revenue and promoting collaboration through multiple partnerships. Potential revenue can be developed through the hydropower and storage components and future partnerships include CPW, SECWCD, Local Land Trusts, GARNA, CSU Extension, and, more.; and,
7. Education, Outreach, and Innovation (H)- This project will include education and outreach in the form of a demonstration garden to promote innovation in irrigation and plant species; provide a demonstration of the use of small hydropower systems; provide a demonstration on the use of lease fallowing; and provide an example of how to implement multi-purpose/use projects.

Issues/Additional Needs: No issues or additional needs have been identified.

Threshold and Evaluation Criteria:

The application meets all four Threshold Criteria.

Tier 1-3 Evaluation Criteria:

This activity has undergone review and evaluation and staff has determined that it satisfies the Evaluation Criteria. Please refer to WSRA Application for applicant's detailed response.

Funding Summary/Matching Funds:

| <u>Funding Source</u> | <u>Cash</u> | <u>In-kind</u> | <u>Total</u> |
|------------------------------|--------------------|-----------------------|---------------------|
| UAWCD | \$30,569 | \$0 | \$30,569 |
| PEPO match | n/a | \$5,000 | \$5,000 |
| Subtotal Matching Funds | \$30,569 | \$5,000 | \$35,569 |
| WSRA Arkansas Basin Account | \$31,196 | n/a | \$31,196 |
| WSRA Statewide Account | \$162,944 | n/a | \$162,944 |
| Total Project Costs | \$194,140 | \$5,000 | \$229,709 |

CWCB Project Manager: Brent Newman

All products, data and information developed as a result of this grant must be provided to the 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.