September 19, 2011

Statement of Work

WATER ACTIVITY NAME - Fountain Creek Fish Marking and Monitoring Study

GRANT RECIPIENT – Fountain Creek Watershed Greenway and Flood Control District

FUNDING SOURCE – Colorado Water Conservation Board – Water Supply Reserve Account, Basin Account ($35,000—Arkansas Basin Funds)

WSRA Funds will only be applied towards the production of a professional report detailing the study results and findings).

INTRODUCTION AND BACKGROUND

Provide a brief description of the project. (Please limit to no more than 200 words; this will be used to inform reviewers and the public about your proposal)

This grant request is for the study of the movement of the Flathead Chub, which is state species of special concern.

Colorado Springs Utilities received a non-consumptive statewide grant for the design and planning of a fish passage for an 8' diversion structure located on Clear Springs Ranch, a Colorado Springs Utilities owned property in El Paso County. This application will fund the study of this fish, specifically where it is and how it moves up and down Fountain Creek in relation to the fish passage. It will aid in the planning of the fish passage design and the future monitoring of Colorado Springs Ranch diversion structure as well as other impediments along Fountain Creek.

OBJECTIVES

The primary objectives of this project are to answer the following questions:

1. When do flathead chub move throughout the year?

2. Do flathead chub migrate upstream to spawn, and if so, how far do they migrate?

3. Do flathead chub pass upstream through the Clear Springs Ranch Diversion (CSRD) as currently operated and configured?

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TASK 1 – Marking and Monitoring

Description of Task

The proposed project will rely on a "mark-recapture" design where flathead chub will be collected from 9 sites located 0 to 32 km (0 to 20 miles) downstream from the CSRD and at an additional site just downstream from another potential barrier located 9.6 km (6 miles) upstream of the CSRD (fig. 1). (See attachment to this application)

Method/Procedure

Adult flathead chub will be marked subcutaneously with a Visual Implant alphanumeric tag (VI Alpha tag). VI Alpha tags are a small fluorescing tag that display an alphanumeric code when exposed to a UV-light.

These tags allow researchers to track fish movement when previously marked individuals are recaptured. Because flathead chub are expected to spawn in summer (June – August) and migrate upstream to the CSRD prior to and/or during that time, initial fish marking, recapture and monitoring efforts began in April 2011 and continued through October 2011 (fig. 1). Results from this initial effort have determined when flathead chub move, their migration upstream to spawn, and how far they migrate within the bounds of the sampling locations (Questions 1 and 2). Additionally, the grade control structure upstream from the CSRD presumably blocks farther upstream migration, and is a likely place to recapture and monitor any marked fish that pass through the CSRD. Recaptured fish at this site will monitoring i.e. determination of whether flathead chub pass upstream through the CSRD under its current configuration (Question 3).

A few fishways have been installed in Colorado plains streams, yet none have integrated an understanding of fish movement patterns. Results of this study will allow project managers to ensure that design criteria based on swimming performance of flathead chub are met in the fishway during peak periods of flathead chub movement. Additionally, these results will inform future monitoring efforts, as they will identify the location of flathead chub populations within Fountain Creek that are most likely to use the fishway. Ultimately, results from this study will improve efforts to reconnect stream habitats for many Great Plains fish species and serve as a model for improving fish passage through other man-made barriers in the region. Finally, this project provides the necessary baseline information that will be needed to evaluate the efficacy of the fishway in the future.

Deliverable: Scientific Journal

One scientific journal article is planned for this project with a draft delivered to the funding entity by March 2012. Additionally, results will be communicated to project managers as appropriate throughout the study period. For example, results (timing of movement, evidence for or against upstream spawning migration) will inform design, construction, and operation of the fishway that began in April 2011.

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REPORTING AND FINAL DELIVERABLE

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 statement 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.

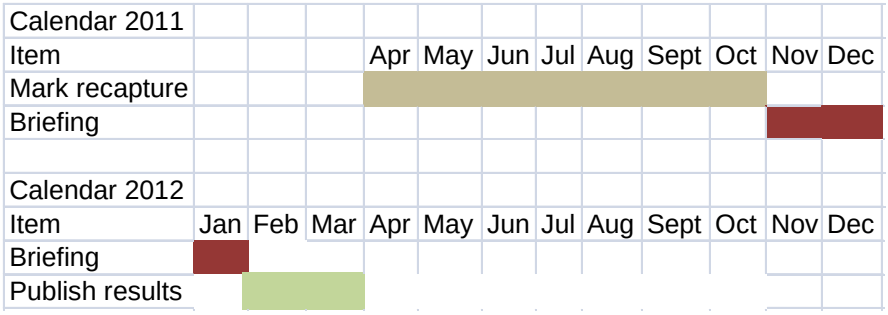
BUDGET

Provide a detailed budget by task including number of hours and rates for labor and unit costs for other direct costs (i.e. mileage, $/unit of material for construction, etc.). A detailed and perfectly balanced budget that shows all costs is required for the State's contracting and purchase order processes. Sample budget tables are provided below. Please note that these budget tables are examples and will need to be adapted to fit each individual application. Tasks should correspond to the tasks described above.

Total Budget		
		Lump Sum Amount
1. Tasks : Marking and Monitoring		
A. USGS Labor		$53,800.00
B. CDOW Labor		$65,650.00
2. Other Direct Costs		
A. Equipment, Materials, Travel		$24,850.00
Total Estimated Costs		***$144,300.00***
In-Kind Contributions		
1. CDOW		$90,500.00
2. USGS		$18,800.00
Total In-Kind Contributions		***$109,300.00***
Estimated Costs		$144,300.00
Less In-Kind Contributions		$109,300.00
Total Requested Grant Amount		***$35,000.00***

SCHEDULE

Provide a project schedule including key milestones for each task and the completion dates or time period from the Notice to Proceed (NTP). This dating method allows flexibility in the event of potential delays from the procurement process. Sample schedules are provided below. Please note that these schedules are examples and will need to be adapted to fit each individual application. **The WSRA funds will pay for costs associated with the production of the final report documenting the study and findings. The report is expected to be delivered to the CWCB in March 2012. WSRA funds will not be used to pay for the study itself.**



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PAYMENT

Payment will be made based on actual expenditures and invoicing by the applicant. Invoices from any other entity (i.e. subcontractors) cannot be processed by the State. The request for payment must include a description of the work accomplished by major task, and estimate of the percent completion for individual tasks and the entire water activity in relation to the percentage of budget spent, identification of any major issues and proposed or implemented corrective actions. The last 5 percent of the entire water activity budget will be withheld until final project/water activity documentation is completed. 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 help promote the development of a common technical platform.