

: Grand County Stream Management Plan (SMP)

**Description of grant request:** This proposed project is to develop a scientifically defensible methodology for a SMP for Grand County. The final SMP utilizing this approach would quantify stream flow needs for the Colorado River Watershed in Grand County and thus could provide a template for the nonconsumptive needs assessment required of the CBRT for compliance with HB05-1177.

This project will provide background research of methodologies, approaches, data needs and availability necessary for developing identifying critical reaches relative to stream health. Based on this initial research the project will provide flow prescriptions where necessary data is available. In those critical reaches where existing adequate data does not exist the project will develop a framework to identify problematic stream reaches and recommend scientifically valid approaches to determine flow solutions to address instream flow and other aquatic habitat issues. A more detailed project description is provided in Exhibit A. Completion of this first phase of work will require approximately 6 to 8 weeks. Project cost is just under \$60,000 and Grand County is seeking \$30,000 in assistance from the CBRT funds.

**Who would manage the grant:** Grand County

**CBRT member submitting request:** Lurline Curran, Grand County Manager and Grand County representative on the CBRT

The purpose of this scope of work is to present proposed project tasks for the completion of Phase 1 of the Grand County Stream Management Plan (SMP). The project team includes HabiTech, Inc., Walsh Aquatic Consultants, Inc. and Tetra Tech, Inc. (Tt). This scope of work is the first of several phases and is intended to establish a basis for development of the SMP by reviewing parameters and methodologies, evaluating existing information and data, prioritizing stream reaches and developing an approach for implementing analysis. Ultimately the goal of this and subsequent phases is to produce a SMP for Grand County that identifies problematic stream reaches and presents scientifically valid solutions for instream flow and other aquatic habitat issues. We estimate that to complete this first phase of work will require approximately 6 to 8 weeks to complete the following tasks.

1. ***Establish key parameters and methodologies for developing the SMP.*** Because there are potentially many parameters and methodologies available to measure the health of a stream and the riparian corridor, this task includes time to review and screen available information and studies to document methods that have been accepted and used elsewhere, or are currently being used by other entities here in Colorado. The goal is to develop and recommend guidelines for reviewing types of data and study methodologies that are acceptable to the Management Committee and representative organizations. This also includes recommendations and guidelines for reviewing quality of applicable data.
2. ***Data acquisition and evaluation.*** The purpose of this task is to obtain, review and evaluate available data including general information, reports, data collection, surveys, mapping, studies etc. completed for the study area. The information obtained will be reviewed for completeness, quality, applicability and whether the data includes information pertinent to the key parameters and methodology developed in Task 1. Data will be cataloged and copied (paper and/or electronically) as needed. This task includes review of the work currently being done by the Denver Water Board and TNC to develop a flow template for the Fraser Watershed. This task includes an assessment of the quality of data available and if there are certain methodologies that would take best advantage of available information. This Task and Task 3 will lead to a more detailed proposal for a stream flow management plan that identifies flows and other limiting factors and provides detailed prescriptions (flow magnitude, frequency, duration) to optimize instream ecological needs.
3. ***Physical Habitat and instream flows:*** Under Task 2 all available data relating to stream flows will be reviewed and evaluated; however, in the event that these data are not be suitable for instream modeling purposes, we propose to develop a framework to identify optimum environmental stream flows, in terms of frequency and duration, which are protective of the aquatic environment. Based on our initial Phase 1 data review and the scope developed for instream flow analysis, we anticipate a comprehensive physical habitat and stream flow study being undertaken during the 2007 field season. Data from these field studies will be modeled using current physical habitat modeling techniques (RHABSIM) to develop an index of various instream conditions, including optimum flow requirements for brown trout and other aquatic biota.
4. ***Identify and prioritize critical reaches.*** On a conceptual basis, this task will attempt to confirm and/or expand on the key critical issues, on a reach by reach basis, relative to stream health and flow alterations. Priorities will be established for identifying the most severely impacted reaches and/or the reaches most vulnerable to flow alternations Output from this Task will include a listing of reaches and limiting environmental factor relative

to stream health.

5. ***Document Data Evaluation and Prepare Technical Memorandum and Recommendation:*** A technical memorandum will be prepared to summarize the above Tasks. The Project Team will also prepare recommendations for the development of the next Phase(s) of the Stream Management Plan including immediate needs for data collection in the 2007 field season. Recommendations will also include prioritizing reaches, prioritizing parameters, critical time lines, etc. The Technical Memorandum will include the following:

- a) Results from Task 2 through 4,
- b) Estimates of stream flow needs, as reported (and if available) from existing available data,
- c) A Proposed approach to developing stream flow prescriptions
- d) Data or other limitations to implementing the proposed approach to developing stream flow prescriptions,
- e) Cost and time frames to finish the SMP

6. ***Meetings and Coordination:*** Throughout this effort we anticipate the following:

- a) One meeting with Grand County and/or the management committee.
- b) One working meetings with the Project Team
- c) A cursory 'window shield' tour of the County Representatives.
- d) Travel and time to acquire data filed at the County.
- e) Ongoing coordination with the County, NWCOG and Management Committee