

I. Project Title: Colorado River Decision Support System (CRDSS)

II. Principal Investigator:

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III. Project Summary:

The CRDSS supports better decision making with respect to the utilization of Colorado River water resources. It provides computer databases and tools to make informed and timely decisions regarding the use and operation of Colorado's water resources in the Upper Colorado River Basin. The CRDSS operates in accordance with existing compacts and state laws governing the administration of water and water rights, and will allow planning for the optimal use and development of Colorado's water resources to occur.

In relation to the Recovery Program, CRDSS is being used to evaluate the physical and legal water availability at different locations along a stream and to determine the amount of water available for instream flow appropriations. It can also provide information to help determine the impacts of endangered fish flows on Colorado's ability to develop its full compact apportionment.

A large part of these CRDSS efforts have contributed to decision making on the 15-Mile Reach PBO and the accounting system. This accounting system requires significant work every five years. CRDSS has also been used extensively in the development of the Yampa River Management Plan and will be used in the PBO process for the Yampa, Gunnison and White river basins.

IV. Study Schedule:

The project started in 1993. Phase IIIb (extension of basin models) was completed in July 2000. A funded maintenance program has been established to provide Colorado state employees for ongoing maintenance and data updates.

V. Relationship to RIPRAP:

Assess legal and physical availability of water and compact considerations for protection of instream flow water rights.

Green River Action Plan:

Yampa River above (I.B.3.b,c) and below (I.D.2.b,c) Little Snake River (I.C.3.b,c)
White River (I.C.2.)

Colorado River Action Plan:

Colorado River Mainstem (I.A.3.; I.A.4.a.; I.A.4.b.; I.B.3.a,b,c),
Gunnison River (I.B.2.; I.B.3)

San Juan River (San Juan River Recovery Implementation Program)

Provide hydrology support to develop and evaluate flow augmentation needs on the Yampa River.

Green River Action Plan: Yampa River (I.A.1.d.).

VI. Accomplishment of FY 2001 Tasks and Deliverables, Discussion of Initial Findings and Shortcomings:

- The database to run the CRDSS tools and planning models is online and has been fully populated with data including structure diversion records, climate data, water rights information and streamflow data through water year 2000. This can be viewed on the Internet at *cdss.state.co.us*.
- The Yampa planning model was used extensively in the creation of the Yampa River Basin Management Plan.
- The maintenance program provided the following improvements to the CRDSS model that will directly benefit the Recovery Program:
 1. Ability to run the planning models on a daily timestep has been improved. This allows for better calculation of daily instream flows.
 2. An update of irrigated acreage information was commenced in FY 2001 and should be completed in FY 2002. Irrigated acreage information for the 2000 irrigation season was obtained via satellite imagery, orthophotos, and ground investigation. The information will be added to the CRDSS database and the tools and models will be updated accordingly. This should give more accurate consumptive use information.

VII. Recommendations:

No recommendations. CWCB will continue providing funding and staff for use and maintenance of the CRDSS.

VIII. Project Status:

The initial CRDSS project is complete. All other changes, improvements, and updates are part of the ongoing maintenance program.

IX. FY 2001 Budget Status

A. Funds Provided:	\$350,000	State of Colorado funding + in-kind services
B. Funds Expended:	\$350,000	
C. Difference:	\$ 0	

D. % of FY 2001 work completed, projected costs to complete:

100% of the FY 2001 work was completed. The increase in funding reflects the 2-year project to update irrigated acreage information for western Colorado.

E. Recovery Program funds spent for publication charges: \$0

X. Status of Data Submission:

Not applicable, however, the CRDSS models and data can be viewed online at cdss.state.co.us.

XI. Signed: Ray Alvarado

Date: January 17, 2002