

COLORADO RIVER RECOVERY PROGRAM
FY 2004 ANNUAL PROJECT REPORT

RECOVERY PROGRAM
PROJECT NUMBER: C-6 HYD

I. Project Title: Site surveys, floodability assessments, design and engineering, construction oversight and evaluation for habitat restoration in the Green River, Utah; Colorado River, Colorado; and Gunnison River, Colorado.

II. Principal Investigator(s):
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III. Project Summary:

Goal: To restore floodplain habitats in a manner that will benefit endangered fishes, minimize potential adverse effects, and be cost-effective.

Objectives:

1. To determine overbank flows, with and without habitat restoration;
2. To determine area of inundation as a function of flow, with and without habitat restoration;
3. To compare historical versus existing bottomland hydrology with and without habitat restoration;
4. To characterize pre-restoration baseline channel and site morphology, and post-restoration morphology;
5. To develop design options for habitat restoration.
6. To oversee habitat enhancement (i.e., construction) activities.
7. To monitor restored habitat sites and recommend future maintenance and monitoring

IV. Study Schedule: Initial Year - FY 1995
Final Year – Unknown

V. Relationship to RIPRAP:

GENERAL RECOVERY PROGRAM SUPPORT ACTION PLAN
ACTIVITY II. RESTORE HABITAT

- II.A.2. Screen high-priority sites for potential restoration/acquisition.
- II.A.3. Conduct NEPA for floodplain restoration program.

GREEN RIVER ACTION PLAN: MAINSTEM
ACTIVITY II. RESTORE HABITAT

- II.A. Restore and manage flooded bottomland habitat.
 - II.A.1. Conduct site restoration.
 - II.A.3. Implement levee removal strategy at high-priority sites.

II.A.3.a. Preconstruction (floodability assessments, design, and engineering).

II.A.3.c. Evaluation.

COLORADO RIVER ACTION PLAN: MAINSTEM

ACTIVITY II. RESTORE HABITAT

II.A. Restore and manage flooded bottomland habitat.

II.A.4. Implement levee removal strategy at high-priority sites.

II.A.4.a. Preconstruction (floodability assessments, design, and engineering).

II.A.4.d. Evaluation.

COLORADO RIVER ACTION PLAN: GUNNISON RIVER

ACTIVITY II. RESTORE HABITAT

II.A. Restore and manage flooded bottomland habitat.

II.A.2. Implement levee removal strategy at high-priority sites.

II.A.2.a. Preconstruction (floodability assessments, design, and engineering).

II.A.2.d. Evaluation.

VI. Accomplishment of FY 2004 Tasks and Deliverables, Discussion of Initial Findings and Shortcomings:

Task 1. Hydrographic surveying

There was no hydrographic surveying conducted by Tetra Tech (Tt) in FY 2004 because no additional data was required.

Task 2. Engineering analyses

Engineering analyses was performed to develop and select alternatives for Audubon including cost estimates, HEC-RAS analysis, and floodability analysis.

A hydraulic analysis was also performed on Thunder Ranch to verify final elevations of notches, elevations of levee and hydraulic design of the seepage collection system.

Task 3. Engineering design

Engineering design was performed to finalize plans for Thunder Ranch. In particular, the groundwater seepage collection system and sewer discharge piping was sized and designed including details for construction. Work on Thunder Ranch also included coordination with Reclamation regarding the cultural resources study including site surveys to verify improvements were located outside of any areas of concern. Construction technical specifications and plan details were also prepared.

Engineering design was also performed to finalize plans for Audubon including details and construction specifications.

Task 4. Construction oversight

Construction oversight was performed at Thunder Ranch and Audubon. At the Thunder

Ranch site, this task included coordinating with Reclamation for construction, staking of improvements, and five site visits during construction. At the Audubon site, this task included coordinating with Reclamation for construction, staking of improvements, and one site visit during construction.

As-constructed surveys were conducted at Butch Craig, Thunder Ranch and Audubon. For all three sites, surveys consisted primarily of collecting post-construction topography data, improvement locations and verification of elevations. Data was gathered at Butch Craig in June of 2004, and at Thunder Ranch and Audubon in late August of 2004. This data is currently being incorporated to produce as-built drawings of all three sites.

Task 5. Restoration monitoring

Restoration monitoring was performed at Butch Craig. Monitoring efforts included measuring water surface elevations for both the pond and the river in June of 2004. Due to low runoff flows, post-restoration erosion and sedimentation monitoring was not performed at any other sites.

- VII. Recommendations: The monitoring of water surfaces, erosion and sedimentation at all reconfigured sites should continue in 2005 and beyond. All reconfigured sites that receive significant flows in spring of 2005 should be monitored during peak flow. Monitoring the reaction of the river and bottomlands to various constructed configurations will provide valuable data that can be referenced in refining engineering design for future bottomlands restoration. Other potential sites should be surveyed, analyzed and assessed similar to those bottomlands that have been previously evaluated.

Post construction monitoring is particularly important in FY 2005 for Thunder Ranch and Audubon sites. Also it is recommended to perform and post construction monitoring at recently completed sites of Butch Craig, Above Brennan, Bonanza Bridge, and Escalante (Gunnison).

Specific design-related work recommended include, to the following: feasibility analysis to support NEPA for Hot Spot Complex; final design and construction services for Hot Spot Complex and construction related services for Walter Walker.

- VIII. Project Status: The project should be considered on-track and ongoing. Funding needs may be increased for increased civil design, review of design and assessment of additional sites as they are identified.

IX. FY 2004 Budget Status

- A. Funds \$168,200 (\$40,400 carried over from FY 2003, \$127,800 provided in FY 2004
- B. Funds Expended: \$83,000
- C. Difference: \$ 85,200

- D. Percent of the FY 2004 work completed, and projected costs to complete: 34% completed, \$85,200 projected to complete.
- E. Recovery Program funds spent for publication charges: \$0.00

X. Status of Data Submission (Where applicable): N/A

XI. Signed:

Peggy Bailey, P.E.

Date 11/15/04