

COLORADO RIVER RECOVERY PROGRAM  
FY 2014 ANNUAL PROJECT REPORT

RECOVERY PROGRAM  
PROJECT NUMBER: 170

Development of a centralized recovery program database

CSU cooperative agreement number R14AC00084

Period of performance Oct 1 2014 – Feb 1, 2015.

Lead Agency: Colorado Natural Heritage Program, Colorado State University

Submitted by: Dave Speas

U.S. Bureau of Reclamation—Upper Colorado Regional Office  
125 South State St. room 6107  
Salt Lake City UT 84138-1147  
801-524-3863  
[dspeas@usbr.gov](mailto:dspeas@usbr.gov)

Kirstin Holfelder  
Database and Web Developer  
Colorado Natural Heritage Program  
Colorado State University  
Phone: (970)491-4628  
[kirstin.holfelder@colostate.edu](mailto:kirstin.holfelder@colostate.edu)

Date: Jan 22, 2015

I: Abstract:

The Colorado Natural Heritage Program (CNHP) at Colorado State University is developing an online data system for the Bureau of Reclamation and the Upper Colorado and San Juan River Recovery Programs. CNHP is currently in the middle of the first year of development. Development is on track to deliver a basic online data system by September 2015, as proposed in the original project work plan. The back-end database has been designed and developed, and the website design is in progress. A beta version of the database will be presented to both Recovery Programs in March 2015. Below is a summary of our tasks to date, and accompanying financial information.

II. Study schedule: FY14-FY18

III. Relationship to RIPRAP:

Green River Action Plan

VI. Conduct interagency data management program to compile, manage, and maintain all research and monitoring data collected by the Recovery Program.

#### IV. Accomplishment during FY 2014: Tasks and Deliverables, Discussion of Initial Findings and Shortcomings:

Completed tasks are listed below. Deliverables thus far include 1) the conceptual database design and 2) the mockups of key features. Both were presented at the annual researchers meeting in Moab, UT, in January. After a thorough review of the data collected by the recovery programs, combined with current and future needs communicated to us by BOR and Recovery Program personnel, we have developed a core database capturing all key elements, with the flexibility to expand over time. We also created wireframes of the user interfaces that will allow researchers to filter and query this database.

One challenge has been to deliver a beta version of the database for users to test before field season begins. After March, many users are unavailable to review and test the database due to busy field schedules. We had to scale back the website features in the beta version in order to meet the March deadline. This means there will be less functionality for users to test and review in March. However, we plan to overcome this limitation by working closely with the core data management personnel from April through September while we finish Phase 1 of the online database. This smaller group of power users has the expertise necessary to represent the broader user base, and we will rely on their feedback to transform the beta release into the first version of the online database.

##### List of Completed Tasks (10/1/2014-2/1/2015):

- Server purchased. Software for managing issues (bugs) and source control (tracking versions of the website code) researched and purchased.
- Electrical outlets configured in sever room to accommodate BOR server.
- Operating system installed on server. Database backups and maintenance plan implemented.
- Databases and datasheets provided by recovery team personnel reviewed.
- Preliminary database design completed, based on the datasheets and databases provided by Scott Durst, Travis Francis and Kevin McAbee.
- Conceptual database design refined based on feedback from BOR and Recovery Program personnel.
- Mockups of key features completed.
- Database name determined (Species Tagging, Research and Monitoring System, or STReaMS) and URL purchased, [www.streamsystem.org](http://www.streamsystem.org)
- Core feature set for beta release in March and development schedule outlined.
- All software installed on server. Server becomes fully functional online.
- Database, with all relationships and stored procedures, built on new server.
- Back-end database management code developed (code for inserting, deleting and updating data).
- Conceptual database design presented at annual researchers meeting in Moab, UT, Jan 13-14. Two staff members sent to Moab for the conference, Jan 12-Jan 15 (includes two travel days).
- User management features (for registering, logging in, and managing user accounts) developed and available online.

- Testing of user management features begins.
- Website color scheme, layout and navigation designed.
- Two staff members sent to the Pit Tag Workshop in Stevenson, WA, Jan 26-Jan 30 (includes two travel days).

V. Recommendations:

The project is on track. All tasks have been started or completed within the proposed timeline and several items have been fast-tracked due to the need for a beta release in March. We recommend maintaining the current schedule as planned. See Appendix 1 for the proposed schedule compared to actual work completed.

VI. Project Status: Ongoing

VII. FY 2014 Budget Status

- A. Funds Provided: \$142,829
- B. Funds Expended as of February 1, 2015: \$55,224
- C. Difference: \$87,605
- D. Percent of the FY 2014 work completed, and projected costs to complete: 38% (Note: due to award of funds late in the fiscal year, only a portion of the 2014 funds were expended, however work is ongoing and on track during 2015).
- E. Recovery Program funds spent for publication charges: \$0

VIII. Status of Data Submission (where applicable): Not Applicable

Signed: /s/ Dave Speas  
Principal Investigator

Jan 22, 2015

**ANNUAL PERFORMANCE PROGRESS REPORT (PPR)**

BUREAU OF RECLAMATION AGREEMENT NUMBER: R14AC00084

UPPER COLORADO RIVER RECOVERY PROGRAM PROJECT NUMBER: (new)

Project Title: Development of a centralized recovery program database

Principal Investigator: Kirstin Holfelder  
Database and Web Developer  
Colorado Natural Heritage Program  
Colorado State University  
Phone: (970)491-4628  
kirstin.holfelder@colostate.edu

Project/Grant Period: Start date (Mo/Day/Yr): 10/01/2013

End date: (Mo/Day/Yr): 6/30/2019

Reporting period end date (Mo/Day/Yr): 10/1/2014 through 02/01/2015

Is this the final report? Yes \_\_\_\_\_ No  X

Performance :

Goals have been met or exceeded. Performance thus far has been satisfactory. Based on the status of programming, web design, database design and database development completed to date, we are on track to release a beta version in March and post a basic version of the online database by the end of year 1 (September 2015). See Appendix 1 for the proposed schedule compared to actual work completed.

Appendix 1. Proposed schedule for year 1 and status of actual work accomplished. Shaded boxes indicate the proposed start of tasks.

<b>YEAR 1</b>	<b>Sept-14 - Nov-14</b>	<b>Dec-14 - Feb-15</b>	<b>Mar-15 - May-15</b>	<b>Jun-15 - Aug-15</b>
Work closely with investigators to assess database needs and design	Ongoing	Ongoing		
Purchase and set up server to host database	Complete			
Server security, database backups and server maintenance		Ongoing		
Prepare database mockups		Complete		
Develop SQL server database		In Progress		
QA/QC existing MS Excel and MS Access databases and reformat as needed				
Import existing fishes data into MS SQL Server				
Code web interface for entering and retrieving data				
Code management system for managing users and permissions		In Progress		
Develop canned queries for basic downloads				
Create online help, user manual and system documentation				
Internal testing and stress tests		In Progress		
Post basic version of database online				
Train USFWS and BOR personnel to use the database				
Prepare quarterly, semi-annual and <b>annual</b> reports		Complete		
Project Management and CSU Compliance	Ongoing	Ongoing		