

COLORADO RIVER RECOVERY PROGRAM  
FY 2003 ANNUAL PROJECT REPORT

RECOVERY PROGRAM  
PROJECT NUMBER: C18/19

I. Project Title: Nonnative Fish Control in the Colorado River - Stable Isotope Analysis of Centrarchid Concentration Areas

II. Principal Investigator(s):

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III. Project Summary:

Nonnative fish are known to occur in floodplain ponds, backwaters, beaver ponds, washes and irrigation drainage ditches throughout the Grand Valley reach of the Colorado River. Upon escapement from pond habitats, these fish typically seek backwater or slow moving side channel habitats upon entering the main stem river. It is in these riverine habitats that many nonnative fish species are believed to pose a significant predatory threat to the young life stages of endangered and other native fishes. However, it is uncertain to what extent nonnative fish species, particularly centrarchids in low-velocity riverine habitats, are the result of escapement from off-channel ponds or from resident “in-stream” reproduction. Overall, this study is intended to identify the source of nonnative fishes in the Colorado River through isotopic analysis. The project’s progress was delayed by the time needed to transfer funds to CSU and the time required by CSU to advertise for and select a post-doctoral scientist. Dr. Greg Whitlege was selected as the post-doc for this project and he began working for CSU in October 2003. Dr. Brett Johnson at CSU serves as Greg’s advisor and is a co-investigator on this project.

IV. Study Schedule: Initial year – 2003; Final year – 2004.

V. Relationship to RIPRAP:

General Recovery Program Support Action Plan

III. Reduce negative impacts of nonnative fishes and sport fish management activities.

III.A.2. Identify and implement viable control measures.

Colorado River Action Plan: Mainstem

III. Reduce negative impacts of nonnative fishes and sport fish management activities.

III.A.4.a. Evaluate sources of nonnative fishes and make recommendations.

VI. Accomplishment of FY 2003 Tasks and Deliverables, Discussion of Initial Findings and Shortcomings:

Task 1. Equipment and supplies were purchased by A. Martinez. Initial pond and river sampling sites were randomly selected over the study site (Grand Valley) and included additional samples from the Parachute and Rifle areas. Chemical analyses will initially concentrate on hydrogen (H), oxygen (O), strontium (Sr), and selenium (Se). Results for these were pending at the time this report was written.

Task 2. Sampling commenced November 24-28, 2003.

Task 3. A post-doctoral research associate was hired by CSU once the following CSU criteria were met (completion dates noted in parentheses):

- Approval of search committee (April 15, 2003)
- Development/approval of job description and job announcement (April 15, 2003)
- Position advertised on AFS/ESA websites (6 weeks required; June 1, 2003)
- Approval of interview questions within determined evaluation criteria (April 15, 2003)
- Applications evaluated (July 14, 2003)
- Approval of short list (interviewees) (July 17, 2003)
- Obtain permission to hire (August 7, 2003)
- Post-doctoral research associate (Whitledge) began work (October 1, 2003)

Project Activities: On October 6-8, 2003 Dr. Whitledge traveled to Grand Junction to meet CDOW and USFWS personnel, to explain isotopic/microchemistry research, and to gather information from agency personnel.

During October and November, Dr. Whitledge focused on a literature review pertaining to local biogeochemistry in the Grand Valley, analytical methods for otolith microchemistry, and on making contacts with laboratories specializing in laser ablation ICPMS and low level analysis of dissolved metals.

The principal investigators met with Drs. Whitledge and Johnson at CSU, on November 12-13, 2003, to develop a stratified random sampling plan to describe geographic variation in aqueous chemistry of ponds and river along the Grand Valley. A random subset of ponds was selected at three river mile intervals from a GIS database developed by P. Martinez and N. Nibblelink (Recovery Program Project # 106).

Sampling commenced November 24-28, 2003. Water samples were taken by project personnel using ultra-clean techniques for low level strontium and selenium analysis by the University of Southern Mississippi. Water samples were also obtained for analysis of hydrogen and oxygen isotopes at the University of Alaska at Fairbanks.

Deliverables: Sample analysis was pending at the time this report was written. It is anticipated an overview and current progress will be reported at the annual Researchers meeting in Moab, January 13-14, 2004.

VII. Recommendations:

Recommend continuation of current project: Results from initial sampling are pending and collection of additional samples for isotopic analyses are ongoing.

VIII. Project Status: On track and ongoing

IX. FY 2003 Budget Status

A.	Funds Provided:	\$122,938
B.	Funds Expended:	\$ 39,832

CSU Expenditures as of October 31, 2003:

Faculty and PostDoc Salaries	\$9,963.18
Fringe	\$1,500.64
Indirect Costs	\$1,719.59
Student lab assistant salaries	\$136.79
Indirect Costs	\$20.51
Travel	\$169.20
Indirect Costs	\$25.38
Supplies	\$551.29
Indirect Costs	\$85.69
Copying	\$20.00
Indirect Costs	\$3.00
Advertising (job ad)	\$323.40
Indirect Costs	\$48.51
Mailing	\$3.85
Indirect Costs	\$0.58
Total	\$14,571.61

CDOW Expenditures as of November 30, 2003

Biologist Salary & Fringe	\$8,933.33
Seasonal Salary	\$7,532.36
Biologist Travel	\$506.00
Equipment/Supplies	\$8,265.42
Mailing	\$23.59
Total	\$25,260.70
<b>GRAND TOTAL</b>	<b>\$39,832.31</b>

C. Difference: \$ 83,106

The stringent hiring practices of CSU required several months to hire a post-doctoral associate. This resulted in a delay in the onset of sampling. Therefore, not all funds were expended in FY2003. However, we anticipate accelerated sampling/testing in FY2004 to make up for lost time.

D. Percent of the FY 2003 work completed: 20%

E. Recovery Program funds spent for publication charges: None

X. Status of Data Submission (Where applicable): Not applicable

XI. Signed: Anita Martinez                      11/26/02  
Principal Investigator                      Date

Signed: Patrick J Martinez                      11/26/03  
Principal Investigator                      Date