

COLORADO RIVER RECOVERY PROGRAM
FY-2004–2005 PROPOSED SCOPE OF WORK for:
Identification and Curation of Larval and Juvenile Fish

Project No.: 15

Lead Agency: Larval Fish Laboratory, Colorado State University

Submitted by: Kevin R. Bestgen, Project Manager

Darrel E. Snyder, Principal Investigator

Larval Fish Laboratory

Department of Fishery and Wildlife Biology

Room 33 Wagar Building

Colorado State University

Fort Collins, Colorado 80523-1474

Phone: (970) 491-5295

Fax: (970) 491-5091

E-mail: DESnyder@cnr.ColoState.edu

Date: 14 May 2003

Category:

Expected Funding Source:

Ongoing project

Ongoing-revised project

Requested new project

Unsolicited proposal

Annual funds

Capital funds

Other (explain)

I. Title of Proposal: **Identification and Curation of Larval and Juvenile Fish by Colorado State University Larval Fish Laboratory.**

II. Relationship to RIPRAP:

General Recovery Program Support Action Plan

V. Monitor populations and habitat and conduct research to support recovery actions (research, monitoring, and data management).

V.A. Measure and document population and habitat parameters to determine status and biological response to recovery actions.

V.A.1. Conduct standardized monitoring program.

V.A.2. Conduct interagency data management program to compile, manage, and maintain all research and monitoring data collected by the Recovery Program.

V.E. Provide for long-term care, cataloging, and accessibility of preserved specimens.

III. Study Background/Rationale and Hypotheses:

This project provides Larval Fish Laboratory (LFL) taxonomic services for Project 22F, Yampa and Middle-Green Colorado Pikeminnow and Razorback Sucker Larval Abundance.

The project also provides ongoing curation (maintenance and management) of the growing Upper Colorado River Basin (UCRB) portion of the LFL Collection. LFL now holds an estimated 4 million specimens in about 80,000 taxon-specific lots from the UCRB as voucher for the Recovery Program and earlier UCRB investigations. These collections are an invaluable, long-term, historical resource for future reference and research. Some collections are a quarter century old, dating back to 1976. New collections are cataloged and added to the LFL Collection as they are received or processed by LFL. As the holdings of the LFL Collection become better known, we expect use of UCRB collections will increase substantially, both within and outside the Recovery Program.

As part of the curatorial effort, we continue to pursue arrangements to help ensure collection permanency. In part through the efforts of the principal investigator, preliminary plans continue to develop for administratively and physically consolidating most of the university's Natural History Research Collections (including the LFL Collection) to provide better long-term recognition, support, and facilities for those collections as a functional unit of Colorado State University.

IV. Study Goals, Objectives, End Product:

The goal of the project is to provide taxonomic and curatorial services for the Recovery Program. Specific objectives for FY 2004-2005 are to:

- (1) Support Recovery Program researchers by processing, cataloging, and curating preserved fish in specifically designated sets of collections submitted to LFL under this project, currently collections from Project 22F;
- (2) Provide limited taxonomic services and consultation on taxonomic or collection handling matters to other Recovery Program projects and researchers;
- (3) Catalog and incorporate in the LFL Collection other preserved UCRB specimens deposited by Recovery Program projects and researchers;
- (4) Continue curation (maintenance and management) of all cataloged UCRB specimens in the LFL Collection.

The end products for FY 2004-2005 will be:

- (1) Collection data for Project 22F researchers;
- (2) Determinations of specimen identity and related consultations;
- (3) Incorporation of processed Project 22F and other deposited UCRB collections in the LFL Collection and catalog; and
- (4) Continued maintenance, management, and availability of the growing cataloged collection of preserved fish which serve as voucher for Recovery Program investigations and provide a long-term resource for further Recovery Program and public reference and research.

Work is conducted as received and needed.

V. Study Area:

The Recovery Program collections identified, processed, and curated by LFL were or will be collected from cool to warm-water reaches of the UCRB, exclusive of the San Juan River subbasin.

VI. Study Methods/Approach:

Taxonomic Services—We will identify or verify the identity of preserved specimens (mostly larvae) collected under Project 22F and process, catalog, and curate those collections as part of the LFL Collection. Limited taxonomic services and related consultation for other Recovery Program projects and researchers will be provided as needed.

Ongoing Curation—The LFL Collection will continue to serve as the depository for larval and other small fish from preserved Recovery Program collections. Methods for receiving, accessioning, cataloging, maintaining, and managing use of these preserved specimens are provided in our draft "Larval Fish Laboratory Collection Policies and Procedures Manual" (Appendix II, Snyder 1996). We will respond to internal and external requests for collection information and use of specimens; Recovery Program approval will be required for any destructive use or transfer of endangered or rare species. We will continue our effort to ensure collection permanency, in part through planned consolidation of Colorado State University Natural History Research Collections.

VII. Task Description and Schedule:

Task 1, Taxonomic Services—As soon as possible after receipt of collections or requests for limited taxonomic assistance or advice.

Task 2, Ongoing Curation—As needed throughout each fiscal year.

VIII. FY-2004 Work:

- Deliverables/Due Dates: LFL will record and submit collection data to Project 22F researchers as soon as the collections are processed. Other taxonomic determinations and related information will be conveyed as soon as possible after it is requested. An annual project report will be submitted to the Recovery Program by the program-specified due date (usually early-December).

– Budget:

	LFL
<u>Task 1 (Taxonomic Services)</u>	
Labor	
PI/Taxonomist (\$5,341/mo. ^a ; 0.77 mo.)	\$4,112
Research Associates (\$2,564/mo. ^a ; 2.57 mo.)	6,585
Work-study Technicians (\$509/mo. ^b ; 1.5 mo.)	763
Supplies ^c	350
Total Direct Costs	11,810

Indirect Cost (15% TDC) ^d	1,772
Task Subtotal (Direct & Indirect Costs)	13,582

Task 2 (Ongoing Curation)

Labor	
PI/Curator (\$5,341/mo. ^a ; 3.85 mo.)	\$20,562
RA/Coll. Man. (\$2,564/mo. ^a ; 1.93 mo.)	4,939
Work-study Technicians (\$509/mo. ^b ; 1.0 mo.)	509
Travel	1,300
Supplies ^c	600
Total Direct Costs	27,910
Indirect Cost (15% TDC) ^d	4,186
Task Subtotal (Direct & Indirect Costs)	32,096
 FY 2004 TOTAL	 \$46,678

^a Salary plus fringe benefits.

^b 30% of wages, rest subsidized by work-study program.

^c 80% vials and jars; 10% preservative, labels, trays, etc.; 10% computer and lab supplies.

^d Assumes MOU in which the University covers the remainder of standard 45% indirect cost rate.

FY-2005 Work (for multi-year study)

- Deliverables/Due Dates: LFL will record and submit collection data to Project 22F researchers as soon as the collections are processed. Other taxonomic determinations and related information will be conveyed as soon as possible after it is requested. An annual project report will be submitted to the Recovery Program by the program-specified due date (usually early-December).

- Budget:

	LFL
<u>Task 1 (Taxonomic Services)</u>	
Labor	
PI/Taxonomist (\$5,578/mo. ^a ; 0.77 mo.)	\$4,295
Research Associates (\$2,677/mo. ^a ; 2.57 mo.)	6,877
Work-study Technicians (\$529/mo. ^b ; 1.5 mo.)	794
Supplies ^c	367
Total Direct Costs	12,333

Indirect Cost (15% TDC) ^d	1,850
Task Subtotal (Direct & Indirect Costs)	14,183

Task 2 (Ongoing Curation)

Labor	
PI/Curator (\$5,578/mo. ^a ; 3.85 mo.)	\$21,473
RA/Coll. Man. (\$2,677/mo. ^a ; 1.93 mo)	5,157
Work-study Technicians (\$529/mo. ^b ; 1.0 mo.)	529
Travel	1,365
Supplies ^c	630
Total Direct Costs	29,155
Indirect Cost (15% TDC) ^d	4,373
Task Subtotal (Direct & Indirect Costs)	33,528

<u>FY 2005 TOTAL</u>	<u>\$47,711</u>
----------------------	-----------------

Footnotes as for FY 2004.

FY-2006 etc. (for multi-year study):

- Deliverables/Due Dates: LFL will record and submit collection data to Project 22F researchers as soon as the collections are processed. Other taxonomic determinations and related information will be conveyed as soon as possible after it is requested. Annual project reports will be submitted to the Recovery Program by the program-specified due date (usually early-December).
- Budget Estimates:
FY 2006: \$50,097 (FY 2005 budget plus 5%).
FY 2007+: FY 2006 budget estimate plus cumulative 5% per year.

IX. Budget Summary:

FY-2004	\$ 45,678
FY-2005	<u>\$ 47,711</u>
Total	\$ 93,389

FY-2006	\$ 50,097 (estimate, FY-2005 plus 5%)
FY 2007+	FY 2006 budget estimate plus cumulative 5% per year.

X. Reviewers: None

XI. References:

Snyder, D. E. 1996. Preserved larval and small-fish collections of the Upper Colorado River Basin: maintenance and cataloging of a valuable historical database. Final Report of the Larval Fish Laboratory, Colorado State University, to the Recovery Implementation Program for Endangered Fish Species in the Upper Colorado River Basin, U.S. Fish and Wildlife Service, Denver, Colorado. (24 April 1996).