

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

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III. Project Summary:

This ongoing project provides for (1) final identification and cataloging of preserved fish collections for Project 22F (Yampa and Middle-Green Colorado Pikeminnow and Razorback Sucker Larval Abundance), (2) incidental taxonomic services and consultation, and (3) ongoing maintenance and management of the growing Upper Colorado River Basin (UCRB) portion of the LFL Collection, including controlled access to and use of collection holdings and data by UCRB and other researchers.

IV. Study Schedule:

Ongoing project since 1995. Specified project collections (currently Project 22F) are processed annually and the resultant data provided to the principal investigator as soon as logistically possible after the collections are received. General collection maintenance activities (e.g., fluid level and container checks) are conducted each fall or winter; other maintenance and management concerns are addressed as needed and remaining backlog collections cataloged as time permits. Responses to requests for loans, collection use, or information on collection holdings, sampling, sample preservation and handling, and taxonomy also are provided as needed.

V. Relationship to RIPRAP:

This project is related to General Recovery Program Support Action Plan V (monitor populations and habitat and conduct research to support recovery actions, research, monitoring, and data management). Identification of Project 22F collections contributes to Task V.A (measure and document population and habitat parameters to determine status and biological response to recovery actions). The remainder of the project specifically addresses Task V.E (provide for long-term care, cataloging, and accessibility of preserved specimens) and, in that preserved specimens are the ultimate natural history database, contributes to current Task V.A.1 (conduct interagency data management program to

compile, manage, and maintain all research and monitoring data collected by the Recovery Program).

VI. Accomplishments of FY 2007 Tasks and Deliverables, Discussion of Initial Findings and Shortcomings:

The FY 2007 goals and objectives of this ongoing project are being met.

Task 1, Taxonomic Services— For Project 22F, we processed 235 preserved drift-net collections taken in 2006 from the Yampa and Green Rivers in Echo Park (588 lots, 3,207 specimens). Data have been forwarded for analysis and reporting and all specimens have been catalogued and shelved as part of the LFL Collection. Incidental requests from UCRB researchers for taxonomic assistance or consultation on larval-fish sampling and collection handling matters were addressed as received.

Task 2, Ongoing Collection Maintenance and Management—As of September 30<sup>th</sup>, we have (1) added a total of 2,000 lots of fish (46,004 specimens) from UCRB collections or investigations to the catalogued collection (Appendix A), (2) forwarded to the curator at Dinosaur National Monument data on 656 lots of fish that were collected from and recently cross-cataloged with the Monument for upload in the National Park Service (NPS) holdings catalog, (3) made collection holdings and selected data available to UCRB researchers and other interested parties, including specimens used for developmental study of cyprinid larvae for Project 149 and inventory checks requested by the NPS, (4) corrected incidentally found errors in our catalog database, and (5) conducted our annual fluid level and condition check. We now maintain and manage 98,496 lots of cataloged fish collected from the UCRB or used for UCRB Recovery Program investigations (3,313,801 specimens). These holdings represent 98% of all LFL cataloged specimens.

In our continuing effort to pursue improved and more spacious facilities for the LFL Collection and better assure its permanency, we, and the curators of other Colorado State University natural history collections, have renewed planning with university administration for consolidation of university's various natural history research collections in new or specially renovated facilities. Unfortunately, that planning is in its earliest stages and said new facilities, if approved, are not likely to be available for at least a few years. Meanwhile, to resolve LFL's impending and interim need for more collection space and shelving, we have requested cost estimates and will be seeking funds to replace existing fixed shelving in our collection annex with tracked compactor shelving units.

FY 2007 work is behind schedule but we should be caught up early in FY 2008. Among shortcomings, we have yet to catalog some expected sets of 2006 and early 2007 collections (in part due to delays in processing those collections), prepare and submit a newly updated *Access* database version of our catalog records (selected fields, flat file) to the Interagency Database Management Program (IDMP) archive, forward a file of the latest cross-cataloged records to the curator for Dinosaur National Park, resolve some data entry problems with our collection catalog and management program, *Specify*, and install and test the latest updates of that program.

VII. Recommendations:

We recommend continued annual support of Project 15 with sufficient funds for processing newly preserved collections covered by this project, incidental taxonomic services and consultation, and on-going maintenance and management (curation) of all UCRB specimens held by LFL.

VIII. Project Status:

On-track and ongoing, but temporarily behind schedule.

IX. FY 2007 Budget Status

- A. Funds Provided: \$51,181
- B. Funds Expended: \$22,232
- C. Difference: \$28,949

Explanation: See paragraph on short comings at end of Section VI.

Also, expected planning efforts with university officials and other collection curators for construction of new, more spacious and appropriate facilities for co-location of university natural history research collections, including the LFL Collection, have been delayed to FY 2008.

- D. Percent of FY 2007 work completed, and projected costs to complete:  
44%, \$28,949
- E. Recovery Program funds spent for publication charges: \$0

X. Status of Data Submission:

Data for Project 22F 2006 collections were internally submitted to Kevin Bestgen in late winter 2007. National Park Service cross-catalog data were submitted to Ann Elder of Dinosaur National Monument on October 6 and 25, 2006. An updated *Access* database version of our catalog for UCRB holdings (selected fields, flat file) was submitted to the IDMP archive on November 6, 2006.

- XI. Signed: Darrel E. Snyder November 7, 2007  
Principal Investigator Date
  
- Signed: Sean C. Seal November 7, 2007  
Principal Investigator Date
  
- Signed: Kevin R. Bestgen November 7, 2007  
Principal Investigator Date

APPENDIX A:

Study-year sets of Upper Colorado River Basin collection-species lots cataloged as part of the Colorado State University Larval Fish Laboratory Collection from October 1, 2006 through September 30, 2007 (2000 lots; 45,872 specimens).

Catalog No.	Field Numbers	Description of Sample Sets
70662	CDOW-82Y-586*	82 Larvae, SN, Yampa R, CO (misidentified)
74984	LFL-90YA-7202*	90 Larvae, DR, Yampa R, Echo Pk, DNM, CO
84337	LFL-95GRU-71824*	95 Larvae, DR, Green R, Echo Pk, DNM, CO
100340-0341	RTM-79WR-RT*	79 RT, SN, White R, CO, Study Series
100342	RTM-83CULTRTUNK*	83 RT, Cultured, Study and Reference Series
100343-0348	LFL-06YA-SM01 to SM04	06 SM Evaluation, Yampa R, CO
100376-0464	LFL-94GR-6282 to 8043	94 Larvae, DR, Green R, Echo Pk, DNM, CO
100465-0475	LFL-95GR-8102 to 8153	95 Larvae, DR, Green R, Echo Pk, DNM, CO
100476-0481	LFL-03YA-YAJ311	03 EL, Yampa R, Juniper Reach, CO
100482-0486	LFL-04YA-YAJ204 to 206	04 EL, Yampa R, Juniper Reach, CO
100487-0598	LFL-05YA-SBF104 to 710	05 Small Bodied Fish, EL/SN, Yampa R, CO
100599-0630	LFL-06YA-SBF002 to 611	06 Small Bodied Fish, EL/SN, Yampa R, CO
100632-0641		
100644-0651		
100652-0661	LFL-06YA-J1C1 to 313	06 EL, Yampa R, Juniper Reach, CO
100662	LFL-06YA-SBF524*	06 Small Bodied Fish, EL/SN, Yampa R, CO
100666-1425	FWS/V-06RZ-001 to 155	06 Larvae, LT, Green R., Vernal, UT
101426-1520	LFL-06GR-7091 to 8071	06 Larvae, DR, Green R, Echo Pk, DNM, CO
101521-1529	LFL-06GR-716SN	06 Larvae, SN, Green R, Echo Pk, DNM, CO
101530	LFL-06DR-MISC**	06 Larvae, DR, Ya or Gr R, Echo Pk, DNM, CO
101531-2003	LFL-06YA-6221 to 8113	06 Larvae, DR, Yampa R, Echo Pk, DNM, CO
102004-2012	LFL-06YA-807SN	06 Larvae, SN, Yampa R, Echo Pk, DNM, CO
102013	LFL-06YA-711A3*	06 Larvae, DR, Yampa R, Echo Pk, DNM, CO
102018-2113	LFL-06GR-LW050 to 067	06 SN, Green R, Lodore-Whirlpool, CO
102115-2374		

\* Separately cataloged portion of a set of previously cataloged collections. \*\* No original label.