

I. Project Title:

Removal and control of nonnative fishes in Colorado and Gunnison River floodplain source ponds.

II. Principal Investigator(s):

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III. Project Summary (July 1, 2000 to June 30, 2001):

The purpose of this project is to significantly reduce the number of chronic sources contributing nonnative fishes to riverine habitats. Access for sampling and potential reclamation was successfully negotiated on 37 properties. Sixty seven ponds, that are directly connected to the Colorado or Gunnison rivers and/or lie within the 100 year floodplain, were surveyed to: 1) determine the presence or absence of threatened and endangered fish species, 2) identify nonnative fish species composition, 3) assist recovery efforts in establishing grow-out ponds, 4) evaluate each pond's potential as a source for nonnative fish entering the Colorado or Gunnison rivers, and 5) examine basic water chemistry. Approximately 12,000 native fish, including one razorback sucker, were salvaged from the Government Highline Canal after draining in the fall. Training was obtained by the principal investigator and associated personnel in the: 1) uses and types of screens on the market, 2) application and safe use of pesticides, and 3) boat safety. Information was released to the public through mailings, television spots, and presentations. Twenty-two landowners received monetary incentive payments for allowing sampling and/or reclamation/screening through the incentive program that was initiated FY98/99. Stocking applications were reviewed to ensure compliance with the Nonnative Fish Stocking Regulation. Sixteen ponds were chemically reclaimed, and three outlet screens were installed which effectively screened six ponds. Finally, two inlet screens were also installed at Horsethief Canyon State Wildlife Area.

IV. Study Schedule:

- a. Initial year: 1997
- b. Final year: 2002

V. Relationship to RIPRAP:

General Recovery Program Support Action Plan:

- III. Reduce negative impacts of nonnative fishes and sportfish management activities.
- III.A. Reduce negative interactions between nonnative and endangered fishes.
- III.A.2. Identify and implement viable control measures.
- III.A.2.c. Implement and evaluate the effectiveness of viable active control measures.
- III.B. Reduce negative impacts to endangered fish from sport fish management activities.

VI. Accomplishment of FY 00/01 (July 1, 2000 to June 30, 2001) Tasks and Deliverables, Discussion of Initial Findings and Shortcomings:

- * Access for sampling and potential reclamation of 48, eight, and 11 ponds was successfully negotiated on 31 private, two public, and four municipal properties, respectively. Fifteen private landowners were initially contacted in FY00/01 of which only one did not wish to participate in the Program.
- * Collected physical and/or biological data from 67 ponds having direct connection to the Colorado or Gunnison rivers or that were located within the 100 year floodplain. Of the 67 pond samples 26 contained only nonnative fish species, 20 contained both native and nonnative fishes and two contained only native fish. A total of 2,565 nonnative fish and only 202 native fish were collected in the 48 ponds that supported fish. Of the remaining 19 ponds five were void of fish, eight were ephemeral, two were taken over by the river since the Mitchell report (1995) and four were mistakenly identified as ponds by Mitchell (1995).
- * Native fish were salvaged from the Government Highline Canal at Lewis Wash immediately after draining (11/16/00 & 11/17/00). Approximately 12,000 native fish including approximately 80% roundtail chub, 9% flannelmouth sucker, 10% speckled dace, 1% bluehead sucker and one razorback sucker were returned to the Colorado River.
- * Training was obtained by the principal investigator and associated personnel in the: 1) uses and types of screens on the market, 2) application and safe use of pesticides, and 3) boat safety.
- * Contributed to Nonnative Fish Control I&E efforts: 1) mailed two Listening Log's to approximately 450 PAI's concerning implications of finding endangered fish during intensive sampling of privately owned ponds and progress of the Nonnative Fish Control Program, 2) aired four "Bill's Backyard" television news spots produced by CDOW entitled "Filters Protect Endangered Fish" 7/9/00, "Bonytail Reintroduction's" 7/6/00, Nongame Checkoff Featuring Endangered Fish" 3/31/01, and "Bonytail Stocking" 4/21/01, 3) presented additional Nonnative Fish Control (NNFC) information to CSU FW204 fishery students, Mesa State College Water Quality class, Mesa State College students during an Employer Panel Presentation, teachers at two Project Wild workshops, seven

classes at Palisade High School, two classes at Taylor Elementary School, a biology class at Delta High School and visiting Russian professionals, and 4) displayed informational flyer at Horsethief Canyon SWA kiosk.

- * To promote private landowner compliance to the west slope Nonnative Fish Stocking Regulation we paid to publish a notice in the Grand Junction Daily Sentinel and the Montrose Daily Press. As a result of increased awareness of this regulation 159 permit applications to stock nonnative fish were reviewed. Of the 159 applications 67 wished to restrict stocking to trout, 66 requested permits to stock warmwater fish, and 26 wished to stock both trout and warmwater fish. Of the 92 warmwater stocking requests 70 were for grass carp only, 11 wanted grass carp and additional warmwater species and 11 requested warmwater fish species other than grass carp. Forty-nine of the 92 warmwater stocking requests were conditionally approved (1/4" mesh screens were required prior to stocking). Another 12 did not require screens because they were isolated (no outlet water). Similarly, screens were recommended but not required for 28 of the 92 requests (screens are not regulated above 6500' elevation) and screen requirements were unknown on the remaining three warmwater stocking requests. Landowners who obtain a commercial or private lake license are required to screen their outlets. Forty-three lake licenses were issued in FY00/01. Warmwater fish were listed on 10 of the 43 lake licenses.
- * Chemically reclaimed 16 ponds totaling 123 surface acres.
- * Installed three outlet screens and two inlet screens. One of the outlet screens effectively screened three ponds and another screened two ponds. Another five outlet screens were installed on four ponds at Adobe Creek Golf Course but were later removed due to fouling. The two inlet screens were installed at Horsethief Canyon State Wildlife Area and will be evaluated next fiscal year.
- * Assisted monitoring of fish escapement and movement from Highline Lake into Mack Wash and Salt Creek following installation of the Highline Lake fish screen. Pat Martinez made a presentation on the net's performance to the Elkhead Reservoir screen work group in December 2000. This discussion covered four topics: 1) observations on the net's performance, 2) observations on the net's maintenance, 3) observations on the net's effectiveness in controlling fish escapement, and 4) suggestions for the dam's operation to minimize fish escapement during unscreened flow releases from the lake's bottom outlet. Findings from Highline Lake's net continues to provide information pertinent to existing and future screen installations.

Implementation of a landowner incentive package has facilitated access to private property and expedited nonnative fish reclamation efforts. Several landowners chose to participate in the Nonnative Fish Control Program after they considered how they would personally benefit from the incentive package. Incentive money was paid to 22 private landowners as an access fee. Continued consent building through the Listening Log and word of mouth is necessary to gain further access to private properties.

We are working with the Fish Health Board, aquatic biologists, District Wildlife Managers, federal employees, private fish growers and private landowners to facilitate interpretation of the western slope Nonnative Fish Stocking Regulations. A table was developed in FY99/00 and revised FY00/01 to aid in the interpretation of these regulations with consideration of the intent of the Procedures for Stocking Nonnative Fish Species in the Upper Colorado River Basin (1996) and recent developments such as the 1/4" bar mesh screening criteria.

Water management of ponds at Horsethief Canyon SWA as an alternate Nonnative Fish Control technique was not successful in fiscal year 99/00. Alternate filling of the wetland and drying of the ponds followed by drying of the wetland and filling of the ponds did not result in fish mortality due to the high water table and mild winter. Negotiations to control nonnative fish on this property considered installation of outlet screens but ultimately resulted in the installation of a 0.5mm sheering wedge-wire screen on the intake structure and reclamation of six downstream ponds. Another 0.5mm wedge-wire screen was installed on the intake to the threatened and endangered fish ponds.

- VII. Recommendations: Project should continue in FY01/02 as described in the scope of work.

Microsoft Access will be used to address mail for the Listening Log and Swimming Upstream newsletter. It will also facilitate retrieval of pond/fish/ownership data. The database will be revised as on-the-ground inventories proceed. The lake survey protocol was effective in determining species composition and will be conducted prior to all reclamation projects.

Monitoring and evaluation of experimental screen configurations for prevention of fish escapement, fouling and maintenance should include privately owned screens. Increased agency coordination in identification and application of screening standards is warranted to facilitate compliance with intent of Stocking Procedures until development/ratification of screen guidelines and monitoring protocols is completed.

- VIII. Project Status: Project is on track and ongoing.

IX. FY 00/01 Funds

- A. Funds Provided: \$205,300
- B. Funds Expended:\$182,772 (as of June 30, 2001)
- C. Difference: \$22,528 The remainder of the funds were expended in the months following the end of the state fiscal year and prior to the end of the federal fiscal year.
- D. Percent of the FY 00/01 work completed, and projected costs to complete: 100% of work was completed.
- E. Recovery Program funds spent for publication charges: None

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

XI. Signed: Anita Martinez December 10, 2001
Principal Investigator Date

APPENDIX:

Colorado Division of Wildlife, and U.S. Fish and Wildlife Service. 1996. Procedures for Stocking Nonnative Fish Species in the Upper Colorado River Basin.

U.S. Fish and Wildlife Service. 1998. Intra-Service Consultation on Control of Nonnative Fishes in Floodplain Ponds. ES/GJ-6-CO-98-F-004. Denver, Colorado. 13pp.

Mitchell, M. J. 1995. Impact of the procedures for stocking nonnative fish species in the Upper Colorado River Basin on private landowners and the commercial aquaculture industry. Inventory of public and private ponds along the upper Colorado and lower Gunnison Rivers in Colorado. Colorado Department of Agriculture 95-0021. Queen of the River Fish Company, Inc., Longmont, Colorado. 38pp. Plus appendices.

I. Project Title:

Evaluation of the Interagency Standardized Monitoring Program

II. Principal Investigator(s):

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III. Project Summary:

An analysis of the existing Interagency Standardized Monitoring Program (ISMP) fall sampling protocol for young-of-year fishes was conducted per the directive found in the Procedures for Stocking Nonnative Fish Species in the Upper Colorado River Basin (CDOW et al. 1996). The Procedures directed that “the Recovery Program will conduct a peer review study to evaluate the effectiveness of the Interagency Standardized Monitoring Program to detect changes in the survivability and/or abundance of routinely stocked fish.” The Procedures further stated that “Unless the study demonstrates that the ISMP is effective for tracking nonnative fishes, a program would have to be implemented to do so”. The Larval Fish Laboratory (LFL) at Colorado State University (CSU) performed data analysis and report preparation in 1999 and 2000 with the draft report undergoing review and revision in 2001. Findings from this research indicate that the current ISMP fall sampling protocol for backwaters in the upper Colorado River is inadequate for tracking the distribution and abundance of centrarchids in this river reach.

IV. Study Schedule:

- a. Initial year: 1997
- b. Final year: 2001

V. Relationship to RIPRAP:

General Recovery Program Support Action Plan:

- III. Reduce negative impacts of non-native fishes and sport fish management activities.
 - III.A. Reduce negative interactions between non-native and endangered fishes.
 - III.A.2. and III.A.2.c.-Identify, implement, evaluate viable active control measures.

Colorado River Mainstem

III. Reduce negative impacts of non-native fishes and sport fish management activities.

III.A.3.a. Evaluate and make recommendations.

III.A.4. Remove small non-native cyprinids from backwaters and other low-velocity habitats.

VI. Accomplishment of FY 01 (December 1, 2000 to November 30, 2001). Tasks and Deliverables, Discussion of Initial Findings and Shortcomings:

No field work was planned or conducted. Data collected in 1997 and 1998 was analyzed and a draft report underwent friendly and formal Recovery Program review.

VII. Recommendations:

Distribute Final Report and implement its recommendations.

VIII. Project Status:

Further work is planned to identify monitoring needs and develop a sampling protocol to meet the directive provided by the Procedures. The Colorado Division of Wildlife (CDOW), which served as the contract administrator for this project, has arranged for the LFL-CSU to establish a new sample protocol to accurately estimate distribution and abundance of target fish species in backwaters of the Grand Valley reach of the Colorado River. One purpose of this new project will be to effectively monitor status of centrarchids in backwaters over time in relation/response to nonnative fish control efforts, stocking to develop/maintain warmwater sport fisheries and floodplain habitat enhancements. CDOW, which will maintain oversight of this project, facilitated the directing of Recovery Program funds to the LFL via an existing BOR agreement with CSU to minimize start-up delays and overhead scenarios associated with the state's contracting process. Pat Martinez, CDOW, and Kevin Bestgen, CSU, will cooperate to develop a research proposal and its review to establish a sampling protocol.

IX. FY 01 Budget status (December 1, 2000 to November 30, 2001)

A. Funds Provided: \$46,500

B. Funds Expended: \$0

C. Difference: \$46,500

D. Percent of FY work completed, and projected costs to complete: 0% completed, \$46,000 (FY01/02); \$55,000 (FY02/03); \$50,000 (FY03/04) as projected in FY02 and FY03 SOW.

E. Recovery Program funds spent for publication charges: None

X. Status of Data Submission: Expect data will be submitted following completion of final report in winter 2001.

XI. Signed: Kevin R. Bestgen & Patrick J. Martinez
Principal Investigators

10 December 2001
Date