

I. Project Title: Highline Lake screening O&M

II. Principal Investigators:

**Chris Foreman**, (retired Park Manager)

**Alan Martinez**, Park Manager

Highline Lake State Park

1800 11.8 Rd

Loma, CO. 81524

(970) 858-7208

[alan.martinez@state.co.us](mailto:alan.martinez@state.co.us)

III. Project Summary:

A spillway barrier net designed to control escapement of nonnative, warm water fishes from Highline Reservoir (Highline Lake State Park, Colorado) that might enter the Colorado River was installed in August 1999. Research has shown that nonnative fishes eat young, native fish and compete for food and habitat in the river. In addition to keeping the nonnative and native fishes apart, installation of the fish barrier net brings the reservoir into compliance with the nonnative fish stocking requirements established by the states of Colorado, Utah, and Wyoming, and the U.S. Fish and Wildlife Service.

The fish barrier net is made of Dynema, a high molecular weight polyethylene material, which is extremely strong and durable. The net is approximately 363 feet wide, 19 feet deep, weighs 1,400 pounds, and has mesh openings no larger than a quarter inch. The net stretches across an area of the reservoir that empties into a concrete spillway that flows into Mack Wash and Salt Creek before reaching the Colorado River. It is designed to flex with the surge of the current and changing water depth to prevent fish from escaping over or under it.

As this is the first time this separation has been attempted an MOU was reached between the Colorado Division of Parks (CDP), the Colorado Recovery Program, and the Colorado Division of Wildlife (CDOW) to permit CDP to operate and maintain the net with funding from the CDOW and the Colorado Recovery Program.

IV. Study Schedule: 1999- on-going

V. Relationship to RIPRAP: Colorado River Action Plan: Mainstem

The Procedures for Stocking Nonnative Fish Species in the Upper Colorado River Basin (CDOW et al. 1996) included specific reference to the need to screen the spillway at Highline Lake to control escapement of nonnative, warmwater fish species. This requirement prescribed that "Public and private waters that have a direct connection to rivers in the Upper Colorado

River Basin (e.g., Elkhead Reservoir, Highline Reservoir and many ponds) will be equipped or managed with an anti-escapement device or practice acceptable to the Service (USFWS) and the State fish and Wildlife Agency." In addition, the Procedures, section IV.6, state that "The Program (RIP) will pursue funding for equipping public reservoirs with anti-escapement devices" (CDOW et al. 1996, Martinez 1997). Funding from the Recovery Implementation Program for Endangered Fishes in the Upper Colorado River Basin (RIP) became available in 1998 (Martinez 1999) for installation of a fish screen at Highline Lake and the net was installed on 18 August 1999.

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.
- 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.
- III.C. Ensure public involvement occurs as appropriate.

Colorado River Action Plan: Mainstem

- III.B.1.a. Operate and maintain Highline Reservoir net.

VI. Accomplishment of **FY 2006** Tasks and Deliverables, Discussion of Initial Findings and Shortcomings:

Task 1. Install the replacement net: The spillway barrier net that was installed on 18 August 1999 was replaced with an identical net on 21 March 2006.

Task 2. Maintain Protective Buoy Line: The buoy line was inspected on a weekly schedule with the Park's Patrol Boat during the summer season and no issues or problems were identified. The floating sign, buoys, and connecting cable are functioning well.

Task 3. Net Cleaning and Repair Operations (in water): With the replacement of the net in March there was no cleaning of the net done this summer. Throughout the late summer and early fall phone conversations were held with Mike McGuire with the dive team that has been used in the past to clean the net. There was no sign that the buoys holding the net were beginning to suck down so the decision was made not to clean the net this fall. During the spring and fall of 2007 the dive team will again be used to clean the net. This year was again one of constant high flows – the spillway is still spilling and will continue until the canal is turned off later this week.

Task 4. Weekly visual survey—The net top line and floats along with the skirt and the PVC pipe sections that we use to deploy the skirts were visually checked on a weekly basis with the Park Patrol Boat – on weekends the Patrol Boat would be on-the-water for several hours and when time permitted we would examine the net from the water surface. Shore inspection of siltation and debris buildup to the West end of the net showed the improvement to the jetty has eliminated this chronic maintenance issue.

Task 5. Continue to evaluate the siltation issue on the west end of the net – *we think we have solved this maintenance issue with the jetty that was constructed in the spring of 2005.*

VII. Recommendations:

The “letter of Agreement” between CDP, CDOW & CRRIP was updated and a new one was signed in early 2005. The new agreement will remain in place until 2010.

VIII. Project Status:

This project is on-track and on-going

IX. FY 2006 Budget Status:

A. Funds provided: ??

B. Funds Expended: \$0.00

C. Difference:

D. With the net being purchased last year and just going into the water this spring there were no costs this year.

E. Recovery funds spent on publication: \$0

X. Status of Data Submission: NA

XI. Signed: Alan Martinez                      10-31-06  
Principal Investigator                      Date