

I. Project Title: Design and installation of the Highline Reservoir fish barrier net

II. Principal Investigator:

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III. Project Summary:

A fish barrier net designed to ensure that nonnative, warmwater fishes stocked in Highline Reservoir at Highline State Park, Colorado, do not escape through the spillway and enter the Colorado River where endangered fish recovery efforts are occurring was installed in the spillway approach 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. Ayres Associates, Inc., of Boulder, Colorado, was the design engineer; Redden Nets of Bellingham, Washington, was the net manufacturer; and Ashley Construction of Grand Junction, Colorado, installed the net.

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 the Colorado River. Rigging attaches to the spillway's sides and to 13 anchors secured on the bottom of the lake. It is designed to flex with the surge of the current and changing water depth to prevent fish from escaping over or under it.

IV. Study Schedule:

The fish barrier net was installed in Highline Reservoir in August 1999. Operation, maintenance, and evaluation of the barrier net are ongoing under separate efforts.

V. Relationship to RIPRAP:

Colorado River Action Plan: Mainstem

III.A. Reduce negative impacts to endangered fishes from sport fish management activities.

VI. Accomplishments of FY 99 Tasks and Deliverables, Discussion of Initial Findings and Shortcomings:

The fish barrier net was installed in Highline Reservoir in August 1999. Operation and maintenance of the barrier net is being conducted as a separate Recovery Program project by the Colorado Division of Parks and Outdoor Recreation, Highline State Park (Chris Foreman, Park Manager). The effectiveness of the barrier net in preventing escapement of target nonnative fishes is being evaluated by the Colorado Division of Wildlife (Patrick Martinez) as part of a Federal Aid Project.

VII. Project Status: Design and installation of the fish barrier net completed.

VIII. FY 99 Budget Status:

A.	Funds Provided:	\$225,000
B.	Funds Expended:	\$225,000
C.	Difference:	\$0.0

*A detailed spending summary that includes the engineering and administrative costs of the project will be posted to the list server at a later date.

X. Status of Data Submission: Not applicable.

XI. Signed:	Robert Muth for	
	<u>Ray Tenney</u>	<u>1/6/2000</u>
	Principal Investigator	Date