

I. Project Title: Fish Screen at the Grand Valley Irrigation Company Diversion Dam.

II. Principal Investigator(s): Bob Norman  
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III. Project Summary:

Project Goals are to design and construct a fish screen for the Grand Valley Irrigation Company (GVIC) diversion canal that will exclude, without harm, adult fish approximately 300 mm in length while allowing unimpeded diversion of the GVIC's decreed water.

IV. Study Schedule:

Construction was completed in May 2002. Problems with operation will require some modifications to the canal geometry to guide the flow into the screen. Modeling by Reclamation's Hydraulics Lab will be completed in February 2003. Efforts will be made to make canal modifications prior to the 2003 irrigation season.

V. Relationship to RIPRAP:

COLORADO RIVER ACTION PLAN: MAINSTEM

II.B.1.b. Screen GVIC diversion to prevent endangered fish entrainment.

II.B.1.b.(1) Design.

II.B.1.b.(2) Construct.

II.B.1.b.(3) Operate and maintain.

VI. Accomplishment of FY 02 Tasks and Deliverables, Discussion of Initial Findings and Shortcomings:

Design was completed and a contract was awarded to Flying Eagle Corporation on September 20, 2001 for the amount of \$2,049,265.00 to construct the GVIC fish screen. Construction began on November 5, 2001 and was substantially completed on April 13, 2002. The final contract cost was \$2,089,238.62.

Water delivery began on April 1, 2002 and the screen was in operation until July 2002. Operation of the fish screen was suspended for the remainder of the irrigation season due to difficulties with screen operations and insufficient river flows to supply water to operate the fish bypass pipe. Some deficiencies were experienced during operation and were remedied as they occurred. Other deficiencies were noted and will be fixed during the winter prior to the 2003 irrigation season.

The biggest problem needing to be fixed is the unequal flow distribution along the screen. The first portion of the screen has very little flow going through it. The middle has about normal flow while the last third has very high flow. This problem appears to be associated with the way the water bends into the canal at the canal head gates. The Bureau of Reclamation hydraulics lab in Denver, Colorado, is currently modeling the fish screen and canal in order to determine the optimum canal configuration to distribute the flow more evenly over the fish screen.

An operation and maintenance contract between GVIC, FWS and USBR for the fish screen was also executed.

VIII. Recommendations:

Continue working with the GVIC to remedy screen operational problems. Reclamation will work with GVIC to determine the best method to fix uneven distribution problems. If possible, canal improvements will be made before the 2003 irrigation season.

IX. FY 02 Budget Status

A. Funds Provided:

Construction	\$1,884,239
Construction engineering and inspection	198,000
Work on operational issues	18,439
GVIC O&M payments (from capital funds)	<u>45,247</u>
Total	\$2,145,925

B. Funds Expended: \$2,145,925

C. Difference: \$ 0

D. Percent of the FY 02 work completed, and projected costs to complete: 100%

E. Recovery Program funds spent for publication charges: N/A

X. Status of Data Submission (Where applicable): N/A

XI. Signed: Robert Norman  
Principal Investigator

1/29/03  
Date