

Operation and Maintenance Report

COLORADO RIVER RECOVERY PROGRAM
FY 2013 ANNUAL PROJECT REPORT

RECOVERY PROGRAM
PROJECT NUMBER 01-WC-40-7050

I. Project Title: Operation and Maintenance of the Fish Screen and Fish Passage Facility at the Grand Valley Irrigation Company Diversion in Palisade.

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III. **Project Summary:**

The Grand Valley Irrigation Company (GVIC) diversion, located on the Colorado River (River) near Palisade, Colorado, diverts water in the GVIC Mainline Canal. A fish passage structure was constructed in the River on the downstream side of and adjacent to GVIC's diversion structure in 1998-1999 during the off water season. The fish screen was constructed in the GVIC canal below the diversion gates on the River in 2002. This fish passage and fish screen is owned by the US Fish and Wildlife Service. GVIC operates and maintains the fish screen and the fish passage through a cooperative agreement with the United States.

IV. **Study Schedule:**

GVIC makes every effort to operate the fish screen whenever diverting water in the GVIC canal from the Colorado River and adequate supply allows for GVIC's decreed diversion amount and needed fish screen by-pass flows. Maintenance of the fish screen/passage is performed following the US Fish and Wildlife Service, the Bureau of Reclamation and GVIC complete an annual inspection and submittal and approval of an annual work plan by GVIC.

V. **Accomplishments of FY 2013 Tasks and Deliverables, Discussion of Initial Findings and shortcomings:**

The following maintenance and activities were completed on the fish screen:

October, 2012

1. Estimate flows thru screen areas for potential screen retrofit; talk w/Kevin Moran, BoR.
2. Estimate flows thru screens @ FS for IWS analysis for potential travelling screen design and installation.

January, 2013

1. Clean snow from project area at screen.

February, 2013

1. Snow removal, generator anti freeze and check fuel, oil.
2. Meet DW Metal works to measure fins on pre-cleaner racks.

March, 2013

1. Lower screens in prep for water/run brusharms/replace belt on pulleys.
2. Reshape canal bed behind screens, fill voids, re-chink.
3. Replace pre-cleaner rack into position.

April, 2013

1. Install 1 new section of new section of pre-cleaner rack system for test by DW Metal.
2. Raised 8 screens and baffles April 12; close by-pass pipe gauge at Cameo, approx. 1,200cfs.
3. Raised two more screens to allow for GVIC flow, total now 10 raised; Cameo gauge station @ 1,325 cfs.

May, 2013

1. Take out NP1 caulking on concrete in prep for slab jacking.
2. Unload 3 new trash racks at fishscreen site.
3. Coordinate rack delivery and meet to sign work contracts for slab jacking.
4. Lowered screens May 15.
5. Set PLC at fishscreen, check air compressor; lower screens May 15; unload 3 more trash racks (new).
6. Raise screens (9) May 16, due to excessive storms in region bringing debris down river.
7. Reset pre-cleaner racks 2 & 3; worked out of brackets, floated up & laid on top of #1 rack (emergency work).

8. Cut ends of fin pins to narrow up pre-cleaner racks; laid racks into place.

June, 2013

1. Lowered 9 screens, June 4, river clean.
2. Clean rack, reset pre-cleaner rack.
3. Pulled pre-cleaner trash rack 2 & 3; repaired fins, bolted all cross bars; reinstalled 2&3, bolted 4 rack top bars; nine wired 1,2,3 down to square beam.
4. Rebuild #4 pre-cleaner trash rack, removed and reset.
5. Assist Ron at fishscreen, brusharm stuck at lower end.

July, 2013

1. Shot grade to confirm screen elevations, adjust baffles at fishscreen, clean pre-cleaner.
2. Re-adjust baffles behind screens.
3. Raised 8 screens July 18; high rains, muddy trashy river; bad storms in DeBeque area.

August, 2013

1. Try to start screens for fish test by FWS (clean down/raised).
2. Lowered 8 screens August 12, back in operation; bypass open to 1.0 ft; murky water.
3. Pulled 7 screens August 23 due to floods in DeBeque fire area/closed by-pass pipe.
4. Clean air compressor, oil leak residue on a/c; lowered 7 screens; open by-pass; water still brown, minimal debris.

September, 2013

1. Raised 7 gates September 9, due to excessive rains & debris loads; closed by-pass pipe.
2. Cleaned & lowered gates September 12, fishscreen operable. Troubleshoot backup generator; not functional.
3. Raised 6 screens; excessive rain, debris loads.
4. Lowered 6 screens September 16; fishscreen operable.

5. Met generator service tech/determined lost prime, transfer switch inoperable; replace battery and charger on remote PLC from gauge station.
6. Raised 7 screens September 22; heavy debris; major rains in region.
7. Lowered 7 screens September 24; fishscreen operable (water muddy, no debris).

October, 2013

1. Met with Mark Werke and Brent Medford (FWS Consultants) on major screen retrofits that may be needed to make.

The fish screen was operated during the following periods:

FISHSCREEN OPERATIONS – 2013 On-Off

Lowered On Date/Time	Raised Off Date/Time	Days On	Days Off	Shutdown Reason
4/1 8:00 am	4/12/ - 10:30 am	11	33	Reduced flows in River/ Cameo 1,200 cfs
5/15 -1:00 pm	5/16 – 2:00 pm	1	19	Rain, excessive River debris Cameo 6,400 cfs
6/04-8:30 am	7/18 -8:00 pm	44	25	Rain, excessive River debris/Debeque storms Cameo 3,000 cfs
8/12 – 8:30 am	8/23 – 4:00 pm	11	4	Rain, excessive River debris Cameo 4,600 cfs
8/27 – 9:00 am	9/9 – 4:00 pm	13	3	Rain, excessive River debris Cameo 2,250 cfs
9/12 – 3:00 pm	9/14 – 5:00 pm	2	2	Rain, excessive River debris Cameo 2,850 cfs
9/16 – 8:30 am	9/22 – 6:00 pm	6	2	Rain, excessive River debris Cameo 3,700 cfs
9/24 – 1:00 pm	11/01 – 8:00 am	39		Water off in canal

Water off- 11/01 – 9:30 am 127 88
Days on Days off

Total Run 215 Days
59% on
41% off

VI. The following major maintenance activities were completed on the FISH PASSAGE.

October, 2012

1. Cleaned behind Obermeyer gate.

November, 2012

1. Closed Obermeyer for OMID to clean channel in front gate to COFF gates.

January, 2013

1. Cleaned snow from project area at screen passage.

April, 2013

1. Raised Obermeyer gate; low water in river.

May, 2013

1. Lowered Obermeyer gate; Cameo 5,500 cfs.

July, 2013

1. Raised Obermeyer gate, low water in river; Cameo 2,640 cfs.
2. Lower/raise Obermeyer gate for FWS boats passage thru gates.
3. Lower Obermeyer gate for FWS boats; left down due to river up 10:30 AM.
4. Raised Obermeyer gate, low water in river; Cameo 2,050 cfs.

August, 2013

1. Lowered Obermeyer gate; Cameo 3,500 cfs.
2. Raised Obermeyer gate, low water in river; Cameo 2,060 cfs.

September, 2013

1. Lowered Obermeyer gate; Cameo 2,480 cfs.

OBERMEYER OPERATIONS -2012

Gate Lowered as Normal Positions	Raised	Lowered	Days Raised	Days Lowered	Reason
	4/01		44		Low water in river Cameo 1,500 cfs
		5/15		49	Cameo 5,500 cfs
	7/3		8		Low water in river Cameo 2,640 cfs
		7/11 10:30 am		9	Cameo 2,400 cfs
	7/20 7:00 am		12		Low water in river Cameo 2,050 cfs
		8/1 8:30 am		11	Cameo 3,500 cfs
	8/12		29		Low water in river Cameo 2,060 cfs
		9/10 11:00 am		53	Cameo 2,480 cfs
		11/1			Water off in canal
TOTAL			93	122	

Total day run -215
 43% Raised
 57% Lowered

VII. Expenditures FY 2013:

Total fiscal period October 1, 2012 – October 31, 2013

Screen/Passage
\$79,910.16

Funds Initially budgeted per Work Plan
\$140,203.22

Break Down of Expenses

Labor Screens -	<u>\$24,328.34</u>
Electrical Screens -	<u>\$ 9,981.68</u>
Phone Screens -	<u>\$ 650.29</u>
Material Screens -	<u>\$43,750.97</u>
Equipment Screens -	<u>\$ 114.75</u>
Labor Passage -	<u>\$ 341.85</u>
Electrical Passage -	<u>\$ 297.87</u>
Material Passage -	<u>\$ -0-</u>
Equipment Passage -	<u>\$ -0-</u>

Administration - \$ 444.41

TOTAL \$79,910.16

VIII. Recommendations:

1. Replace cables for all brush arms.
2. Sand blast and replace hot galvanizing on screen and baffle slots below water surface.
3. Continue evaluating replacing of some wedgewire screens with travelling screens. Price, engineering, operations, installing, etc.
4. Video camera by-pass pipeline, have had no internal inspection on by-pass pipe since 2002.
5. Build HDPE blade for 442 Bobcat bucket for use on new galvanized trash rack.
6. Place curb on diversion to allow screens to perform during lower water in river.

IX. Signed:



Charles D. Guenther
Assistant Superintendent

11/06/13

Date