
CHAPTER 2—PROPOSED ACTION AND ALTERNATIVES

ALTERNATIVES

Alternatives evaluated in this final environmental assessment include the No Action and Proposed Action Alternatives.

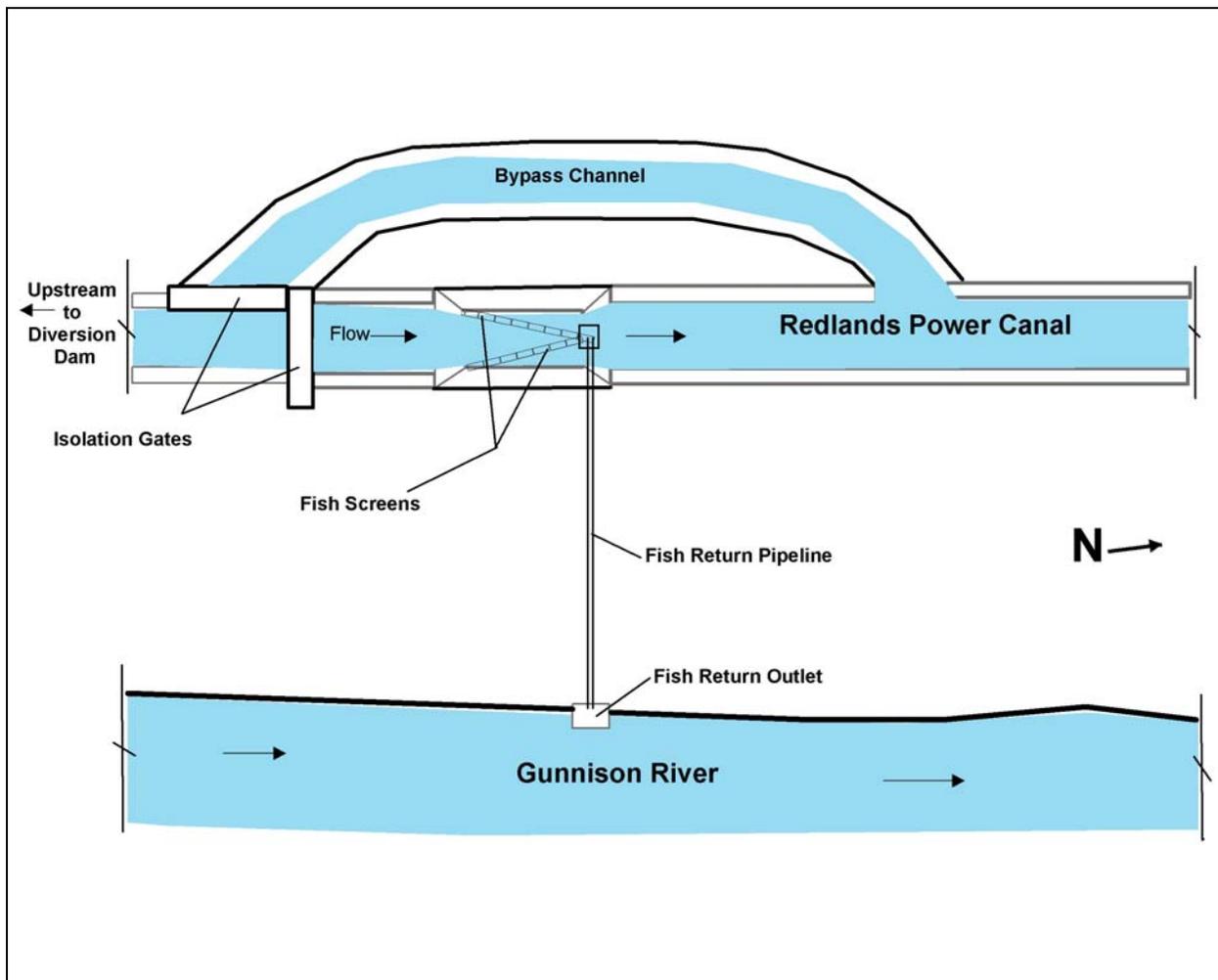
No Action Alternative: Under this alternative, the Recovery Program would not construct or provide funding for operation and maintenance of a fish screen in the Redlands Power Canal. Adult and sub adult Colorado pikeminnow and razorback sucker could continue to become entrained in the Redlands Power Canal and be harmed, harassed or killed (take) by continued Redlands Water and Power Company (RWPC) operations.

Proposed Action: Under the Proposed Action, the Recovery Program would construct a fish screen in the Redlands Power Canal to prevent canal entrainment of adult and sub adult Colorado pikeminnow and razorback sucker. Reclamation would design and construct the fish screen. The Recovery Program would provide funding for operation and maintenance of the fish screen and maintenance of the existing Redlands Fish Ladder to RWCP through the execution of an O&M agreement between Reclamation, the Service and RWCP. RWPC would assume ownership of both the fish screen and fish ladder. The Service would continue to operate the fish ladder. Available funding would be dependent on congressional appropriations.

Fish Screen Design—the fish screen was designed based on the biology and characteristics of the Colorado pikeminnow and razorback sucker. Figure 1 provides a general site plan for the fish screen structure, which includes a fish screen, a bypass channel, and a fish return pipeline. The fish screen would be a “V-type” configuration with each leg of the screen being 160 feet long. The screen is designed for a total diversion of 890 cfs, returning 40 cfs for the fish return pipeline, for a total screened flow of 850 cfs. The mesh size used for the fish screen would be 3/32-inch. The fish pipeline would be constructed using 36-inch PVC pipe with a total length of approximately 460 feet. Maximum screen pipeline flow would be 5% of the diversion or 45 cfs. Upstream and downstream bulkheads would be used for isolation during screen fouling, icing, and other times when the fish screen is bypassed. The canal bypass channel would be constructed to bypass 850 cfs around the fish screen.

Construction—The fish screen would be completed under Reclamation construction contracts. RWPC would continue to participate in the design process to ensure that the fish screen facilities would not conflict with the RWPC operations. Temporary construction easements and/or permits would also be acquired from all affected landowners before construction. Reclamation would negotiate protective measures to reduce impacts to private

Figure 1-Fish Screen Conceptual Drawing



property, rights-of-ways and facilities. Following construction, any damaged area would be restored, as near as practicable, to its original condition.

Before construction, Reclamation and the contractor would obtain any necessary approvals required by the Clean Water Act. Reclamation would request authorization under Regional General Permit N0. 57, Project Benefiting Colorado River Endangered Fishes, to construct a temporary cofferdam to dewater the fish return pipeline outlet in the Gunnison River. If discharging water from dewatering the cofferdam area were needed, the contractor would obtain a Section 402 permit. In river construction would be scheduled during low water conditions during the winter months.

Construction would begin after October 18, 2004. The Redlands Power Canal would be dewatered for fish screen construction from November 1, 2004 to April 1, 2005. The canal

would be dewatered to construct the canal bypass channel and install the upstream and downstream bulkhead isolation structures. Once the bypass channel is completed, RWPC could divert river flows to the Redlands Power Plant to generate hydroelectric power while screen construction continued. Excavated material to construct the bypass channel (about 50,000 cubic yards) would be disposed of on-site in upland areas identified by RWPC on RWPC's property.

Construction access would utilize the existing dam and canal access road. No major road or access improvements are needed.

Estimated Recovery Program costs for construction of the fish screen are about \$5,000,000. Annual operation and maintenance costs for the fish screen are estimated between \$30,000 and \$60,000 funded by the Recovery Program.