

Chapter IV

ENVIRONMENTAL COMMITMENTS AND MITIGATION MEASURES

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I. Introduction

This chapter discusses environmental commitments associated with modifying the operations of Navajo Dam and Reservoir to implement the 250/5000 Alternative (Flow Recommendations) (Preferred Alternative). It also includes a discussion of mitigation measures that have been developed or discussed in consultation with cooperating agencies.

II. Measures

Reservoir Operations

Under the Preferred Alternative, releases would range from 250 cubic feet per second (cfs) to 5,000 cfs. A spring peak release of 5,000 cfs is planned for most years. The non-peak spring releases could be as low as 250 cfs to support a target flow in the San Juan River downstream of Farmington of at least 500 cfs for endangered fish habitat and to conserve water for spring releases and for water development.

Navajo Reservoir would be operated to meet spring peak and base flows as is described in the Flow Recommendations. All releases would be made within the operational limitations/constraints of Navajo Dam. Release changes would be limited to increments of 200 cfs or 10 percent of flow, whichever is higher, every 2 hours. The Bureau of Reclamation (Reclamation) would continue a program to keep the public informed of release rates from Navajo Dam.

Currently, some flexibility in reservoir releases exists because water committed under present water rights and/or future development is not fully used. This may be a significant amount of water in many, but not all, years. The release of this water will be incorporated into operations to augment a 250 cfs minimum release during the irrigation season while maintaining a target flow of at least 500 cfs downstream of Farmington.¹ The use of this additional water would be determined through the Navajo Unit operation meetings and discussions with the U.S. Fish and Wildlife Service (Service).

Fish and Wildlife

Per consultation with the Service, Reclamation will develop and implement a Southwestern Willow Flycatcher Management Plan for Navajo Unit lands in cooperation with the Bureau of Land Management (BLM).

The Service's official recommendations are contained in their Fish and Wildlife Coordination Act Report, which is included in volume II, appendix L, of this final environmental impact statement (FEIS). The Service has requested that Reclamation investigate enhancing trout habitat within the Special Regulation Waters downstream from Navajo Dam by creating pools and/or establishing in-stream structures and by stocking and monitoring. Other initial recommendations involve monitoring of riparian and fishery resources, supporting the trout stocking program, and reducing impacts of future water developments. In addition, the Service recommends developing fish passage at the Hammond Diversion Dam and at diversions on the lower Animas River. A complete list of Service recommendations is found in volume II.

The New Mexico Department of Game and Fish (NMDGF) has provided written recommendations for fish and wildlife resources including funding and assisting NMDGF in monitoring the trout fishery and its recreational use. Monitoring of native fishes downstream from the Citizens Ditch was recommended. Also, it was recommended by the NMDGF that Reclamation conduct detailed geomorphic studies of the trout fishery area and the native fish area to identify appropriate mitigation actions to reduce habitat losses. NMDGF also recommended that Reclamation work with both the Hammond Project water users and the Citizens Ditch to investigate fish passage at those diversions. It was suggested that Reclamation work with State agencies on a roundtail chub augmentation program for the San Juan River and its tributaries.

¹ The goal will be to maintain an irrigation season release between 350 and 500 cfs while assuring that a spring peak as described in the Flow Recommendations will not be affected and assuring recommended minimum flows are met. The target downstream from Farmington will be monitored from average weekly gage readings; as such, daily readings of some individual gages may fall below 500 cfs.

For riparian habitat, NMDGF suggested that cottonwoods be planted and protected in the trout fishery area and that flood plain modification be investigated in downstream areas to help restore cottonwoods. NMDGF expressed concerns with water quality impacts in the river reach upstream from Farmington and suggested comprehensive water quality monitoring studies designed to identify factors that may be impacting fish.

Reclamation has recognized in this FEIS that the Preferred Alternative would have adverse impacts on certain resources including the trout fishery, recreation, water quality, and some riparian resources. The Preferred Alternative, however, is designed to help conserve endangered fish species and their habitat and has an overall effect of creating a more natural ecosystem; therefore, Reclamation has not included the specific fish and wildlife mitigation measures recommended by the Service in the Fish and Wildlife Coordination Act report or by the NMDGF in the proposed plan.

As funding allows, Reclamation will continue to work with the State of New Mexico and BLM to implement measures to the extent possible to reduce adverse impact to the trout fishery. Ongoing cooperative efforts include stream habitat work and tamarisk control. New Mexico is expected to continue its programs of stocking, fish monitoring, and recreation use monitoring. Reclamation can provide technical assistance and use of Reclamation lands for habitat improvement projects.

The San Juan River Basin Recovery Implementation Program (SJRBRIP) is expected to continue to monitor downstream fisheries and evaluate needs for fish passage, non-native fish control, and other factors. Reclamation will continue to support Public Law 106-392 funding authorization and will participate in implementation of the SJRBRIP.

Overall, Reclamation will commit to working with resource agencies on measures to reduce adverse impacts of implementing the Preferred Alternative; however, Reclamation will not take a lead responsibility in terms of funding or implementation. Reclamation's participation is based on congressional appropriation of funds.

Reclamation believes that any mitigation measures that require funding and that are in response to implementing the Preferred Alternative should be shared by all parties that benefit from implementation of the Preferred Alternative. These parties would include participants in the SJRBRIP and other beneficiaries.

The following reasonable and prudent measures and terms and conditions are based on the biological opinion for the Preferred Alternative:

- In coordination with the New Mexico Ecological Services Field Office, work with the SJRBRIP to develop and incorporate into their Long Range Plan a methodology and accompanying protocol to monitor incidental take of larval pikeminnow and razorback sucker by October 1, 2006.

- Based on the appropriation of funds from Congress, Reclamation will continue funding the SJRBRIP to avoid jeopardy as a reasonable and prudent measure to minimize take.
- Cooperatively, Reclamation and the SJRBRIP will document the results of larval monitoring in an annual report to the Service.
- Reclamation, in coordination with the SJRBRIP and the Service, shall evaluate the current water temperature modeling study and determine if further research is warranted. Any resulting appropriate options should be implemented and funded through the SJRBRIP.

Indian Trust Assets

The Preferred Alternative would facilitate development of Indian trust water resources more than other alternatives considered. Positive impacts would occur for water projects that have received environmental clearance and potentially for others currently undergoing environmental analysis, including the Navajo-Gallup Water Supply Project.

Cultural Resources

The construction of Navajo Reservoir has had impacts on cultural resources, and these will continue under all alternatives. While the Preferred Alternative is projected to reduce cultural resource impacts, Reclamation is committed to develop and implement a cultural resource management plan through a separate resource management planning process for the Navajo Reservoir area.

Water Diversion Structures

Reclamation has a Technical Assistance to the States Program under which assistance can be provided in evaluating diversion structure designs in relation to riverflow changes. For example, assistance has been provided to the Turley-Manzanares Ditch in developing a preliminary design for its intake structure. The program is subject to availability of funding from Congress. Construction funds are not provided under this program.

Flood Control

Reclamation would coordinate with the Corps of Engineers and National Weather Service as well as with local agencies to assist in reducing potential flooding problems that could result from combinations of spring peak releases and downstream flash floods.

Reclamation would continue to refine and improve methods for relieving potential flood problems that could result from combinations of spring peak releases and downstream flash floods or inflows.
