

United States Department of the Interior  
Bureau of Reclamation

FINDING OF NO SIGNIFICANT IMPACT

REDUCTION OF WINTER RELEASES FROM NAVAJO RESERVOIR  
TO THE SAN JUAN RIVER (2003-2004)

October, 2003  
Upper Colorado Region  
Western Colorado Area Office  
United States Department of the Interior  
Bureau of Reclamation

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REDUCTION IN WINTER RELEASES FROM NAVAJO RESERVOIR TO THE SAN JUAN  
RIVER (2003-2004)

In accordance with the National Environmental Policy Act of 1969, as amended, and based on the following, the Bureau of Reclamation (Reclamation) has determined that the proposed reduction of minimum releases from 350 cfs to 250 cfs from Navajo Reservoir during the non-irrigation season from November 2003 to April 2004 will not result in a significant impact on the human environment and does not require preparation of an environmental impact statement.

The attached environmental assessment has been prepared by Reclamation using existing resource information and information from discussions with agencies, private fishing clubs, knowledgeable individuals and water users associated with the San Juan River.

Reclamation proposes to reduce minimum releases from Navajo Reservoir from November 1 2003 to the beginning of irrigation season sometime in April 2004. The purpose of this action is to conserve water in Navajo Reservoir while meeting downstream water rights and maintaining target base flows through designated endangered fish critical habitat in the San Juan River. With the current low water level in Navajo Reservoir, and by projecting the anticipated inflow into the reservoir next year, there is a 20% chance that shortages to users and uses would occur in 2004. Reducing the minimum release from 350 cfs to 250 cfs would result in conserving as much as 30,000 to 33,000 acre-feet of water in Navajo Reservoir this coming winter and spring.

Currently, Reclamation is preparing an EIS that addresses the effects of implementing flows recommended for San Juan River endangered fish species in New Mexico and Utah. The flows have been recommended by the San Juan River Basin Recovery Implementation Program (SJRBRIP). Reclamation proposes to implement the flow recommendations resulting from consultation under the Endangered Species Act. Reclamation would implement the proposed action following completion of the EIS by modifying the operations decision criteria of Navajo Reservoir to provide sufficient releases of water at times, quantities and durations necessary to protect endangered fish and their designated critical habitat while maintaining the authorized purposes of the Navajo Unit.

At the present time, the minimum release is 350 cfs from Navajo Reservoir. Lower releases (down to 250 cfs) would occur as recommended under the SJRBRIP flow recommendations and were first tested and monitored in the winter of 1996-1997 (November – February). Based on the results of that Winter Flow Test (Reclamation, 1998), Reclamation believes there were no significant impacts associated with the 250 cfs during the test period. Since there has never been a 250 cfs test conducted during Spring conditions (March and April), and although Reclamation does not believe there would be significant impacts during those months (primarily because releases of less than 350 cfs would only occur during the non-irrigation season), it proposes that monitoring of key habitat indicators downstream of the dam be implemented. Of principle concern would be potential adverse impacts to the downstream trout fishery. Accordingly, the water quality from Navajo Dam to Hammond Diversion would be monitored with water temperature being of principle concern. If water temperatures exceed 68 degrees F for more

than 4 hours a day, Reclamation would increase releases up to 350 cfs to off-set this by extending cooler water further downstream thereby better protecting the trout fishery.

During the period that releases are kept below 350 cfs, Reclamation will commit to the following:

- Monitor water quality of the San Juan River to assess suitability of maintaining trout habitat at three locations from the dam to approximately 12 miles downstream to the Hammond Diversion.
- Request that the New Mexico Game and Fish Department document fisherman use and catch rates in the Quality Waters section of the San Juan River.
- Resource specialists will document observations in memoranda.

Reclamation would increase releases from the reservoir if the following occurred:

- Water quality thresholds dropped to the point that there would be concerns that adverse impacts to the trout fishery were imminent.
- A significant fish kill was identified related to low reservoir releases.
- A determination by Reclamation that public health or safety was being compromised by the test.
- In addition, Reclamation will maintain sufficient releases to meet target base flows for endangered fish downstream from Farmington, New Mexico.

The alternative to the proposed minimum release is no-action, in other words a minimum release of 350 cfs during the winter/spring period.

The environmental assessment did not reveal any significant impacts on resources including socio-economic resources, cultural resources, fish and wildlife, water uses, wetlands, Indian Trust Assets, or recreation.

The provisions, as identified above should provide adequate resource protection. Overall, Reclamation does not expect the proposed flow releases to have a significant effect on the quality of the human environment because of provisions to increase flow releases if significant impacts begin to manifest themselves. Although not expected, the Fish and Wildlife Service will alert Reclamation to any adverse effects to endangered species.

Concur:

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Steve McCall  
Environmental Specialist

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Date

Approved:

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Carol DeAngelis  
Area Manager

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Date



# REDUCTION OF WINTER RELEASES FROM NAVAJO RESERVOIR TO THE SAN JUAN RIVER (2003-2004)

## ENVIRONMENTAL ASSESSMENT

October 1, 2003

Prepared by Bureau of Reclamation  
Western Colorado Area Office  
Grand Junction and Durango, Colorado

### INTRODUCTION

#### Purpose and Need

This environmental assessment (EA) was prepared in compliance with the National Environmental Policy Act (NEPA) of 1969 (Public Law 91-190) to evaluate the effects of reduced winter and spring releases from 350 to 250 cfs from Navajo Reservoir to the San Juan River.

The purpose of the proposed reduction in flows is to conserve water in Navajo Reservoir. Reclamation and others are very concerned about the extremely low Navajo Reservoir water level which presently is at 6,000 feet, which is 85 feet below normal maximum water surface. It is estimated that between 30,000 and 33,000 acre-feet of water could be saved from November 2003 to April 2004. This savings would result in either eliminating a shortage to users in 2004, or at the very least, reducing the amount of shortage to users and uses.

#### Background

In October 1999, Reclamation published a Notice of Intent in the Federal Register announcing preparation of an EIS on the operation of Navajo Dam and Reservoir to implement flows recommended by the San Juan River Basin Recovery Implementation Program (SJRBRIP) to assist in the recovery of the endangered Colorado pikeminnow (Ptychocheilus lucius) and razorback sucker (Xyrauchen texanus). Implementing the flow recommendations would result in Navajo Reservoir releases being reduced to 250 cfs periodically throughout the year. Reclamation has committed to implementing the flow recommendations. Reclamation would implement the proposed action by modifying the operations decision criteria of Navajo Reservoir to provide sufficient releases of water at times, quantities and durations necessary to protect

endangered fish and their designated critical habitat while maintaining the authorized purposes of the Navajo Unit, Colorado River Storage Project. Reclamation is in the process of completing a final environmental impact statement that more specifically identifies the expected impacts from implementing the flow recommendations. It is projected to be completed in 2004.

At the completion of a seven-year research study in 1998, the SJRBRIP Biology Committee completed a flow recommendation report that describes the flow recommendations for the endangered fish in the San Juan River downstream from Farmington, New Mexico. The recommendations define the conditions for creating a more natural river flow (natural hydrograph).<sup>1</sup> These recommendations have been accepted by the SJRBRIP and have been provided to the Fish and Wildlife Service (Service) for their use in compliance activities under the Endangered Species Act. It is the position of the Service that these flow recommendations are necessary to protect and enhance habitat for two federally listed endangered fish that occur in the San Juan River. At the present time, the minimum release from Navajo Reservoir is 350 cfs. Minimum releases of 250 cfs would occur under the SJRBRIP flow recommendations and were first tested and monitored in the winter of 1996-1997 and for a seven-day summer test in July 2001 (Reclamation 2002). Due to the ongoing, severe drought conditions, the Service, in coordination with the SJRBRIP, is considering to lower the target threshold this winter for maintaining adequate habitat for the endangered fishes. The final recommendation is expected from the Service sometime in October 2003.

No formal public meetings were held to discuss this proposal, however, some businesses relying on revenue generated from the tailwater trout fishery and one fly fishing club was consulted. Also, input was obtained from the New Mexico Department of Game and Fish, the City of Farmington, the Service, the SJRBRIP and the Jicarilla Apache and Navajo Nations. As feasible, their collective inputs were incorporated in to the proposed action.

#### DESCRIPTION OF THE PROPOSED ACTION

Minimum releases from Navajo Reservoir would be reduced from 350 to 250 cfs starting Monday, November 3, 2003. This minimum release would be in effect until the start of the 2004 irrigation season in April 2004. Releases would only be reduced if hydrological conditions allowed, that is, if downstream water rights and target base flows for the endangered fish could still be met. Releases would be increased throughout the winter as necessary to maintain target base flows through the critical habitat area.

During the period that releases are kept below 350 cfs, Reclamation will commit to the following:

- Monitor water quality of the San Juan River to assess suitability of maintaining trout habitat at three locations from the dam to approximately 12 miles downstream to the

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<sup>1</sup>Holden, P.B. (Ed.). 1999. Flow recommendations for the San Juan River. San Juan River Basin Recovery Implementation Program, Fish and Wildlife Service, Albuquerque NM

Hammond Diversion.

- Request the New Mexico Department of Game and Fish document fisherman use and catch rates in the Quality Waters section of the San Juan River.
- Resource specialists will document observations in memoranda.

Reclamation will commit to increasing releases from the reservoir if significant impacts begin to manifest themselves as determined by on-going monitoring activities. Among these would be:

- Water quality began thresholds dropped to the point that there would be concerns that adverse impacts to the trout fishery were imminent.
- A significant fish kill was identified related to lower reservoir releases.
- A determination by Reclamation that public health or safety was being compromised by the minimum releases.
- Base flow through designated Critical Habitat for endangered fish in the San Juan River dropped below the winter 2003-04 target base flows recommended by the Service.

The following events would also be considered by Reclamation in any decision to increase flows above 250 cfs:

- Notification from the New Mexico State Engineer that releases were not sufficient to comply with State water laws to protect senior water rights downstream.
- Notification from the Albuquerque, New Mexico Office of the Fish and Wildlife Service that endangered species were being adversely affected.
- Notification from the New Mexico Department of Game and Fish that significant losses were occurring to the tailwater trout fishery.

Resource specialists will prepare reports on their observations and the data collected during period of reduced flows. News releases will announce the commencement of reduced flow releases as well as any significant changes in releases during the November through March period.

The alternative to the proposed minimum release is no-action, in other words, a minimum release of 350 cfs during the described period. Under this alternative, the estimated 30,000 to 33,000 acre-feet of water would not be saved in Navajo Reservoir which could lead to more severe water shortages in 2004.

## EXISTING ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

### Introduction

For purposes of impact analysis, the project area includes Navajo Reservoir and the San Juan River and its floodplain downstream from the reservoir to the confluence of the Animas River.

The immediate project area includes Navajo Reservoir in New Mexico and Colorado and the San Juan River in New Mexico, Colorado and Utah. The San Juan River Basin encompasses approximately 25,000 square miles and the river extends 350 miles from its headwaters to Lake Powell. Navajo Dam was constructed between 1958 and 1963 and Navajo Reservoir extends into both Colorado and New Mexico. Navajo Reservoir has a capacity of 1.7 million acre-feet, a surface area of 15,610 acres, and 150 miles of shoreline. Approximately 225 miles of the San Juan River are between Navajo Dam and Lake Powell.

Navajo Reservoir has been operated to provide water storage and since 1962 has been operated in a manner that reduced peak spring flows and supplemented flows in other seasons. Releases were generally near or above 1,000 cfs during the early operation years. Since 1992, a minimum flow of 500 cfs has been maintained and high spring releases (5,000 cfs) have been provided to support the SJRBRIP for endangered fish. Last winter, Reclamation dropped releases to 350 cfs from October through mid-May to conserve water in the reservoir.

#### Resources and Impacts

As indicated above, the reduced releases will conserve between 30,000 and 33,000 acre-feet in Navajo Reservoir. Impacts of the proposed action are not anticipated to be significant based on data collected previously related to lower flow releases in the winter and Reclamation's commitment to monitor the affected area for indication of resource problems. If problems are identified releases from the reservoir would be incrementally increased to mitigate developing impacts.

The major tributary to the San Juan in the project area is the Animas River which joins the river at Farmington. The primary water sources for both rivers are associated with snowpack accumulating and associated run-off from the San Juan and La Plata Mountains in Colorado. South of the San Juan River, the region is characterized by desert topography. Broad dry washes carry significant sediment loads during periodic thunderstorm events. The project area is semi-arid to arid; the major part of the basin is less than 6,000 feet in elevation and receives less than 8 inches of precipitation annually. Vegetation ranges from pinyon-juniper mixes around Navajo Reservoir to desert shrubs and grasses around the lower San Juan River. The San Juan River corridor supports riparian species such as cottonwood, willow, and non-native salt cedar and Russian olive.

Major towns and communities include Farmington at the confluence with the Animas River; and Bloomfield, Blanco, and Archuleta upstream and Kirtland and Shiprock downstream from Farmington. Energy development, agriculture, and tourism and recreation are important industries in the area. In particular, agriculture and recreation are closely related to Navajo Reservoir and its release patterns in the San Juan River.

There are diversion structures for irrigation, municipal, and industrial uses of water both upstream and downstream from Farmington and these diversions support a large segment of the

local and regional economy. Most of these water rights would not be exercised during the period of time that flows are proposed to be reduced to 250 cfs. At most, only 40-50 cfs would be diverted from the San Juan River between the dam and the confluence of the Animas River. This would occur primarily at Citizen's Ditch, where the City of Bloomfield diverts its water supply. A significant tailwater trout fishery exists for approximately 12 miles downstream from Navajo Dam. A commercial-guide industry has developed around the fishery, with guided "walk and wade" trips and float-fishing trips. The City of Farmington owns and operates the Navajo Hydropower facility at Navajo Dam.

Other important resources are associated with Navajo Reservoir and the San Juan River including wetlands and riparian habitat, wildlife, cultural resources, and Indian Trust Assets. Overall, the reductions in releases from Navajo Reservoir as proposed should not have a significant effect on the quality of the human environment. Public health and safety are not expected to be adversely affected; however, provisions are included to increase releases if such problems occur. Releases from the reservoir should be adequate to meet actual downstream senior water rights.

Based on data collected during the 1996-97 Winter Flow Test and based on the fact that most of the reduced flows would occur when vegetation would be senescent (winter periods), the reduced ground water supplying riparian vegetation is not expected to have a significant impact.

Based on trout habitat modeling conducted in 1996-97 and modified in 2002 (Valdez, 2002) the reduction in flows between 350 cfs and 250 cfs reduces usable adult rainbow habitat by about 17%. Because this reduction occurs primarily during the winter, cooler water temperatures associated with a corresponding reduction in trout activity the 17% reduction in habitat is believed to be insignificant and not likely to result in trout mortality. This conclusion is supported by trout health evaluations conducted during the winters of 1996-97 (Reclamation, 1998) and 2001-2002 (New Mexico State University, 2001). Native fishes occur primarily downstream of the Hammond Diversion. These fishes are able to withstand reductions in flow to a much greater extent than trout, especially during winter periods, so it is expected that impacts to the native fish populations would be insignificant.

Federally listed threatened and endangered species are not expected to be adversely impacted by the proposed action. Flows through designated Critical Habitat for the two listed endangered fishes will be maintained above the designated target level allowed by the Service as calculated based on a weekly average of flow as measured at four USGS gages downstream from the Animas River confluence. It is, however, anticipated that, even with a minimum release of 250 cfs, the flow will remain above 500cfs the majority of the winter. This assumption is based on measured flows downstream of Farmington being kept above 500 cfs during the 1996-97 Winter Flow Test associated with a 250 cfs reservoir release for the entire winter period. If releases would have been reduced to 250 cfs during the winter of 2002-2003, the flow through the critical habitat area would have been 500 cfs or greater 60% of the time, and 450 cfs or greater 94% of the time. The other two endangered species that may seasonally occur between Navajo Dam and the confluence of the Animas River, the section of river having the greater reduction in flow, are the bald eagle (*Haliaeetus leucocephalus*) and the southwestern willow flycatcher (*Epidonax traillii extimus*). The bald eagle is known to be a common wintertime resident below Navajo

Dam, however, reductions in river flows is not expected to adversely affect this species and possibly enhance its ability to feed on fish from the river by making fish more vulnerable to predation. Since Reclamation does not believe that reduced flows will have an adverse affect on wetland/riparian vegetation below the dam, impacts to nesting or migrating southwestern willow flycatchers is believed to be insignificant. If adverse effects are determined to be occurring on endangered species by the Fish and Wildlife Service, releases from Navajo Reservoir would be increased to mitigate those adverse effects.

Water levels in Navajo Reservoir would increase due to the reduced volume released downstream. This saving, perhaps as much as 33,000 acre-feet, would not result in significant effects to reservoir recreation, fisheries, and cultural resources. River water quality may decline somewhat between the dam and Farmington as the dilution effects of reservoir releases are reduced.

Float fishing in the tailwater fishery may be affected in two manners: lower flows will reduce the depth and navigability of the river and potential clients of commercial guides may avoid the river during the winter. Walk-wade fishing effects are difficult to project. On one hand, publicity on the lower releases may deter some anglers from fishing that during that period. On the other hand, lower flows often attract anglers as wading is easier and that the lower flows may concentrate fish resulting in a higher catch rate.

Hydropower revenues would be reduced during the period that releases were reduced as less water would be available to the City of Farmington for generation. However, as an endorsing party of the 2003 Shortage Sharing Recommendations, and a likely endorsing party for any 2004 shortage sharing agreement, we assume the City would be supportive of this effort in the name of water conservation. The City plans to operate the power plant this winter at the lower releases and will inspect the units periodically to determine if any damage is occurring as a result of the lower flows. With the low elevation of the reservoir, significant impacts to the units are not anticipated.

The saving of water in Navajo Reservoir would have a beneficial effect to Indian Trust Assets since it would result in more water being available for irrigation, municipal, and industrial purposes for the Navajo and Jicarilla Apache Nations in future years, in particular 2004.

## CONSULTATION AND COORDINATION

No formal public meetings were held to discuss this proposal, however, some businesses relying on revenue generated from the tailwater trout fishery and the San Juan Fly Fishing Federation was consulted. The Federation consented to the lowered flows outside of the irrigation season for the winter of 2003-2004. Also, input was obtained from the New Mexico Department of Game and Fish and the New Mexico State Engineer, the City of Farmington, and the Service. The proposed minimum release has been discussed with potentially affected Indian Tribes, other State and Federal agencies and the SJRBRIP. As feasible, their collective inputs were incorporated in to the proposed action.

## SUMMARY

The reduction of minimum releases to 250 cfs for the period described is not expected to result in significant impacts to affected resources.