

**Recommendations for San Juan River Operations and Administration for 2003  
February 20, 2003**

The endorsing parties make the following recommendations for Navajo Dam operations and San Juan River administration in 2003 to the US Bureau of Reclamation and the New Mexico State Engineer for the purpose of establishing a cooperative distribution of water supplies during 2003 among users of water from the San Juan River in New Mexico. The agreement of the endorsing parties to make the recommendations, their commitment to abide by the recommendations if accepted and implemented by Reclamation and the State Engineer, and any results from the implementation of the recommendations shall not be construed to: (1) be a determination or evidence of, or to establish, any party's water rights or consumptive use of water; (2) be a precedent for Navajo Dam operations or water administration in the San Juan River Basin in New Mexico in succeeding years; (3) be an agreement as to the validity or applicability of, or to imply an accepted modification to, the San Juan River Basin Recovery Implementation Program's flow recommendations for endangered fish habitat in the San Juan River or any interpretation thereof; (4) establish any cause and effect relationships between any water uses, including water uses described in section 1 of the recommendations below and water uses not included in section 1, and streamflow impacts, water supplies or shortages; (5) establish any priorities between a given use of water from the San Juan River and other uses of water from either the San Juan River or its tributaries; (6) establish any entitlements to water, including any entitlements of fish to specific instream flows; or (7) alter or amend any pre-existing agreements between parties unless otherwise expressly agreed to by parties to said agreements. The endorsing parties further understand that Reclamation's acceptance of the recommendations may not prevent Reclamation from later implementing in 2003 different dam operating criteria than the criteria presented in the recommendations below if required by the Secretary of the Interior's Record of Decision on the Navajo Dam Operations Environmental Impact Statement currently in preparation.

**1. Water Use Demands**

The following water diversion demands for specified projects or uses shall be recognized for 2003:

	<u>Amount</u> <u>(acre-feet)</u>	<u>Rate</u> <u>(cfs)</u>	<u>Period</u>
Navajo Indian Irrigation Project	204,000	--	3/15-11/15
Hammond Irrigation Project	26,700	90	4/01-10/31
San Juan Generating Station	24,200	--	1/01-12/31
Four Corners Power Plant	31,000	--	1/01-12/31
Minor Jicarilla subcontracts	4,670	--	1/01-12/31
City of Farmington	15,000	--	1/01-12/31
Citizens Ditch	--	160	4/01-10/31
Farmers Mutual Ditch	--	110	4/01-10/31

Fruitland Irrigation Project	--	100	4/01-10/31
Jewett Valley Ditch	--	32	4/01-10/31
Hogback Irrigation Project	--	170	4/01-10/31

The diversion demand amounts listed for the Hammond Irrigation Project, the San Juan Generating Station, the Four Corners Power Plant and the City of Farmington may include amounts to be diverted under contract with the Secretary of the Interior, direct flow rights, and/or subcontracts or agreements with other parties. Also, the diversion amounts listed for the San Juan Generating Station and the Four Corners Power Plant include diversions by BHP Billiton made at the power plants' diversion works for uses at the San Juan/La Plata Mines and Navajo Mines, respectively. The diversion amount for minor Jicarilla Apache Nation subcontracts does not include potential subcontracts with the Nation for supplemental water to mitigate any shortages in supply to the San Juan Generating Station, the Four Corners Power Plant and the mines.

The diversion demand amounts and rates tabulated above are negotiated values that take into consideration differing opinions of the parties as to the demands and rights to divert water under existing conditions, facilities, rights, permits, contracts and applicable law; however, the diversion demand amounts and rates tabulated above and recognized for implementation only during 2003 shall not be construed to be an agreement by the endorsing parties on, a determination of, or evidence of, or to establish, the specific and definitive rights of the parties to divert water for any purpose or project during any particular year or at any particular time. Nevertheless, to put aside differences and cooperate in the administration of the San Juan River during 2003 for the overall benefit of the San Juan River Basin in New Mexico, the endorsing parties agree to limit their diversion of water during 2003 from the San Juan River and/or its tributaries for the specified projects or uses to the quantities or the rates, and to the time periods, specified in the tabulation above. In the event that a water supply shortage is determined to exist on the San Juan River in 2003 using the shortage determination procedure set forth in section 3 below, the endorsing parties agree to further limitations on their diversion of water for the specified projects or uses in accordance with the provisions of section 3.

The endorsing parties agree during 2003 only to exempt from any use reduction requirement projects or uses in the San Juan River Basin that are not included in the tabulation above and that are not otherwise contrary to adjudicated, permitted or licensed diversion rights; except, that the parties recommend that the Bureau of Reclamation's San Juan-Chama Project diversions be limited in accordance with the provisions of section 3 below if a water supply shortage is determined. Also, amounts diverted by Farmington that shall not be charged against the diversion demand amount listed for the City of Farmington include amounts: (1) diverted for delivery to local water users associations or to the Navajo Tribal Utility Authority-Shiprock; (2) diverted, if any, under the San Juan Water Commission's subcontract with the Jicarilla Apache Nation and so charged against the minor Jicarilla subcontracts; or (3) diverted for non-consumptive use at the Farmington hydro-electric power plant. Diversions by the Citizens Ditch for delivery of water to San Juan Water Commission member entities pursuant to the Commission's subcontract with the Jicarilla Apache Nation shall be charged against the minor Jicarilla

subcontract diversion amount and shall not be charged against the diversion rate limitation for the Citizens Ditch as identified herein. Diversions by ditches for delivery to municipalities, industrial users, domestic water user associations and stock uses may continue outside the specified irrigation season.

## **2. Navajo Dam Release Demands**

The Bureau of Reclamation shall determine the quantity of water anticipated to be needed to be released from Navajo Dam during each month of 2003 in consideration of: (1) the water diversion demands specified in section 1 above and the diversion demands for water uses not included in the demands tabulated in section 1 that are to be met from diversions from Navajo Reservoir or the San Juan River below Navajo Dam; and (2) a target minimum base flow of 500 cfs in the San Juan River below its confluence with the Animas River downstream to Lake Powell. In making said determination, Reclamation shall: (1) distribute the annual diversion demand amounts for the Hammond Irrigation Project, the San Juan Generating Station, the Four Corners Power Plant and the minor Jicarilla Apache Nation subcontracts on a monthly basis using monthly distributions specified by the contractors; and (2) assume that tributary inflow to the San Juan River below Navajo Dam and river losses occur in such amounts daily as reflected by the streamflows that occurred in the San Juan River during 2002. Reclamation shall utilize the following computational procedure in making said determination:

- (a) Compute the daily flows in the San Juan River below its confluence with the Animas River downstream to Lake Powell that occurred during 2002 as the minimum of: (1) the average of the flows in the San Juan River measured at the Shiprock, Four Corners and Bluff gages; and (2) the average of the flows in the river measured at the Farmington, Shiprock and Four Corners gages. If a daily gage record is missing, use the remaining gages in the set. Also, add 20 cfs to the Shiprock gage flows for the period April 1 through October 31 to account for anticipated changes in 2003, as compared to 2002, in the return flows from the Hogback Irrigation Project that reenter the river below the gage. The resultant daily flows shall be assumed to approximate the flow through the reach of endangered fish critical habitat under the combination of minimum probable flow conditions on the Animas River and other tributaries and 2002 San Juan River operations.
- (b) Calculate the daily differences between the approximated daily flows through the reach of critical habitat and the 500 cfs target minimum base flow for the San Juan River below its confluence with the Animas River downstream to Lake Powell. Adjust the daily Navajo Dam release rates made in 2002 for the calculated differences to indicate the daily releases that might be made in 2003 under minimum probable runoff conditions, based on a seven-day running average. Also, adjust the daily dam release rates for any significant differences in the monthly diversion demand amounts for the Hammond Irrigation Project, the San Juan Generating Station, the Four Corners Power

Plant and the minor Jicarilla Apache Nation subcontracts in 2003 as compared to 2002.

- (c) Adjust the computed daily Navajo Dam release rates for maximum dam releases during seven-day periods in consideration of real-time dam operation practices. Also, adjust dam release rates as necessary or possible to maintain minimum releases of 350 cfs during January-April 2003, 500 cfs during May-August 2003, and 250 cfs during September-December 2003.

The determination of Navajo Dam release demands shall be updated if a change in the forecasted runoff or actual runoff for the Animas River suggests that tributary inflow to the San Juan River will be significantly different than the tributary inflow that occurred during 2002. Also, Reclamation may make adjustments to the computational procedure as necessary to incorporate: (1) a Record of Decision on the Navajo Dam Operations Environmental Impact Statement; and (2) discussions with the San Juan Fly Fishing Federation.

### **3. Shortage Determination and Sharing**

The Bureau of Reclamation shall make calculations of any water supply shortage on the San Juan River for 2003 using operations studies for Navajo Reservoir that evaluate monthly dam and reservoir operations through calendar year 2003. The operations studies shall consider: (1) the amount of water physically stored in Navajo Reservoir above elevation 5990 feet; (2) monthly evaporation from Navajo Reservoir to be estimated based on actual and projected storage levels and Navajo Dam evaporation rates; (3) anticipated monthly reservoir inflows estimated by Reclamation; (4) anticipated monthly Navajo Dam releases to meet all demands on the San Juan River below the dam as determined pursuant to section 2 above; and (5) anticipated monthly diversions to the Navajo Indian Irrigation Project. The anticipated monthly reservoir inflows shall be estimated using: (1) for March, the forecasted most probable unregulated inflow to Navajo Reservoir, then adjusted by Reclamation for anticipated operations of Vallecito Dam and the San Juan-Chama Project; (2) for April through July, the forecasted minimum probable unregulated inflow to Navajo Reservoir, then adjusted by Reclamation for anticipated operations of Vallecito Dam and the San Juan-Chama Project under minimum probable runoff conditions; and (3) for August through December, the 90-percent exceedence inflow to the reservoir for the five-month period as determined from the hydrologic record, distributed monthly based on the same percentage distribution that occurred in 2002. As reservoir inflow forecasts become available for the months of August through December, the minimum probable inflow forecasts shall replace the 90-percent exceedence inflows determined from the hydrologic record.

If the operational studies indicate that the reservoir water surface level would fall below elevation 5990 feet at any time during 2003 should the diversion demands at and below Navajo Dam and Reservoir be fully satisfied, then Reclamation shall calculate the amount of shortage to the diversion demands that must occur to prevent the projected water surface level in the reservoir from falling below elevation 5990 feet. Reclamation

shall use iterative procedures to determine the percentage shortage that if applied uniformly to the following demands would result in reductions in water uses on the San Juan River in a total amount equal to that of the calculated amount of shortage: (1) the annual 2003 diversion demand amounts for the Navajo Indian Irrigation Project, the San Juan Generating Station, the Four Corners Power Plant and the minor Jicarilla Apache Nation subcontracts as listed in section 1 above; (2) an annual irrigation depletion demand of 37,000 acre-feet in the aggregate for the Citizens Ditch, the Hammond Irrigation Project, the Farmers Mutual Ditch, the Fruitland Irrigation Project, the Jewett Valley Ditch and the Hogback Irrigation Project; and (3) the 500 cfs target minimum base flow in the San Juan River below its confluence with the Animas River for the time period for which the base flows may be shorted. Reclamation shall provide the results of its reservoir operations studies and calculations of any shortage to the State Engineer and the parties for their review.

The endorsing parties agree that the annual diversion amount limitations for 2003 for the Navajo Indian Irrigation Project, the San Juan Generating Station, the Four Corners Power Plant, the minor Jicarilla Apache Nation subcontracts and the City of Farmington shall be reduced from the diversion amounts identified in section 1 above by the same percentage shortage, if any, as calculated by the Bureau of Reclamation; except, that the annual diversion amount limitation for the City of Farmington shall not be reduced below 11,500 acre-feet. The water users will determine the time schedules for bearing their share of any shortage during 2003. In the event of shortage, the parties also request that Reclamation limit its annual San Juan-Chama Project diversions for 2003 to an amount equal to 107,500 acre-feet less the percentage shortage calculated by Reclamation. If the amount of water already diverted by any user during 2003 exceeds its resultant diversion limitation, then the user shall cease diverting water for the remainder of 2003; alternatively, the user may continue diverting water if it transfers water that may become available within other users' diversion amount limitations or if it acquires and transfers water under valid water rights that currently are in use.

The Public Service Company of New Mexico, the Arizona Public Service Company, BHP Billiton, the Jicarilla Apache Nation and the Navajo Nation have negotiated arrangements whereby water may be made available from within the Navajo Indian Irrigation Project's diversion amount limitation for 2003 to alleviate any shortages to the diversion demand amounts identified in section 1 above for the San Juan Generating Station, the Four Corners Power Plant and the mines that might result from implementation of the recommendations provided herein. The parties have agreed to subcontracts being entered between the Public Service Company of New Mexico, the Arizona Public Service Company and/or BHP Billiton and the Jicarilla Apache Nation for delivery of said water during 2003 to the San Juan Generating Station or the Four Corners Power Plant diversions; provided, that such subcontracts shall not: (1) be for non-shortaged delivery amounts that in aggregate exceed 25,000 acre-feet of diversions; (2) result in any use diverting more water during 2003 than the amount of diversion demand identified for that use in section 1 above; or (3) increase the total amount of water collectively allocated for diversion during 2003 to the Navajo Indian Irrigation Project, the San Juan Generating Station and the Four Corners Power Plant in accordance with the

annual diversion amount limitations provided for herein, subject to agreement of the Navajo Nation. In the event of shortage, the annual water deliveries under the subcontracts to the San Juan Generating Station and the Four Corners Power Plant diversions for use at the power plants or the mines shall not exceed the subcontract delivery amounts less the percentage shortage calculated by Reclamation; provided, that additional deliveries under the Jicarilla subcontracts for uses at the San Juan Generating Station and Four Corners Power Plant may be made up to the level of the contract delivery amounts if the Navajo Nation and the Jicarilla Apache Nation so agree. Additional agreements to transfer or broker water between parties within the water allocations made pursuant to the recommendations provided herein may be negotiated.

The endorsing parties further agree that the diversions for the Citizens Ditch, the Hammond Irrigation Project, the Farmers Mutual Ditch, the Fruitland Irrigation Project, the Jewett Valley Ditch and the Hogback Irrigation Project shall be reduced to effectively short the annual irrigation depletion demand under each ditch or project by the same percentage shortage, if any, as calculated by the Bureau of Reclamation. Prior to the irrigation season, each ditch or project shall choose whether it will reduce its irrigation diversion rate or its irrigation season in order to meet its commitment to reduce irrigation depletions during 2003 if a shortage is determined to occur. If the irrigation diversion rate is to be reduced, then the ditch or project shall limit its diversions during 2003 to a rate not to exceed the diversion rate identified for the ditch or project in section 1 above less the same percentage shortage as calculated by the Bureau of Reclamation. If the irrigation season is to be shortened, then the end date for the period during which the ditch or project may divert water for irrigation uses during 2003 shall be moved forward in time from October 31 until the percentage reduction in irrigation depletion matches the same percentage shortage as calculated by Reclamation. To determine a revised end date to the irrigation season, the following percentages indicating the distribution of the annual irrigation depletion by month shall be used: 5 percent for October; 12 percent for September; 19 percent for August; 22 percent for July; 19 percent for June; 13 percent for May; and 10 percent for April. The revised end date shall be adjusted further to provide credit for any irrigation depletion demand forgone as a result of delaying the start date of the irrigation season past April 1 or as a result of ceasing diversions during the irrigation season. In order for a ditch to receive credit for irrigation depletion demand foregone as a result of ceasing diversions for a period of time after starting irrigation deliveries but prior to ending irrigation deliveries, the ditch must: (1) provide Reclamation and the State Engineer with one-week advance notice of the dates during which diversions will cease; and (2) cease all diversions for any purposes during the dates specified, not to be for a duration of less than one week. Irrigation depletion reductions for partial months shall be estimated assuming a constant daily irrigation depletion rate within each month. Diversions by ditches for delivery to municipalities, industrial users, domestic water user associations and stock uses may continue outside the irrigation season whether the season is shorted or not.

The endorsing parties recommend that the Bureau of Reclamation not make any spring peak flow release from Navajo Dam for endangered fish habitat purposes during 2003 unless the inflow and reservoir storage conditions that are described in the San Juan River

Basin Recovery Implementation Program's flow recommendations for the San Juan River as being necessary for such a release occur. Reclamation, in consultation with the U.S. Fish & Wildlife Service, shall operate the dam during 2003 to maintain a target minimum base flow of 500 cfs in the San Juan River from its confluence with the Animas River downstream to Lake Powell; provided, that Reclamation's operations studies for Navajo Reservoir do not result in the calculation of a water supply shortage. If Reclamation calculates a shortage in accordance with the preceding provisions, then the target minimum base flow through October 31, 2003, shall be reduced by the same percentage as the percentage shortage calculated by Reclamation; provided, that the target minimum base flow shall not be reduced below 250 cfs. The base flow in the San Juan River during 2003 shall be measured as the minimum of: (1) the average of the flows in the river at the Shiprock, Four Corners and Bluff gages; and (2) the average of the flows in the river at the Farmington, Shiprock and Four Corners gages. It is recognized that the actual base flow at times may not meet the target minimum base flow for short periods of time (for example, one or more days) due to hydrologic uncertainty and operational limitations; but, Reclamation shall operate Navajo Dam to maintain the target minimum base flow on a weekly-average basis.

The endorsing parties also agree that during November and December 2003, the San Juan Generating Station, the Four Corners Power Plant, the City of Farmington and the minor Jicarilla Apache Nation subcontractors may divert water from the direct flow of the San Juan River system in excess of any shorted diversion amount limitation if: (1) the concurrent release from Navajo Dam is being maintained at the minimum release rate consistent with the then-current Navajo Dam operating criteria; and (2) the target minimum base flow in the San Juan River from its confluence with the Animas River downstream to Lake Powell is being met and will continue to be met without increasing Navajo Dam releases if the additional diversions are made.

The occurrence and amount of any shortage shall be determined or revised twice a month as runoff forecasts become available from the Colorado Basin River Forecast Center and in consideration also of actual runoff and water supply conditions. The computational procedure set forth above may be adjusted for changed water supply conditions upon agreement of the signatory parties. Reclamation's initial calculation of any shortage shall be made on or prior to March 15 and after the March 1 snowmelt runoff forecasts for the San Juan River Basin become available; and a percentage shortage will be applied if the State Engineer concurs in Reclamation's calculations of any shortage.

#### **4. Dispute Resolution**

The endorsing parties agree to cooperate fully in the implementation of the above recommendations and to abide by the diversion limitations for 2003 provided herein to the extent of their authority and ability. In the event that a dispute should arise regarding the implementation of the recommendations or the performance of an endorsing party under the recommendations, the endorsing parties commit to resolve such dispute in a cooperative, timely and effective manner. If a dispute involves only endorsing parties and cannot be resolved among themselves, the Bureau of Reclamation and the New

Mexico State Engineer may be requested to hear and facilitate resolution of the dispute. The endorsing parties further request that, in order to result in an orderly distribution of water supplies on the San Juan River during 2003 in accordance with the recommendations contained herein, Reclamation and the State Engineer commit to: (1) assist in the measurement, monitoring and administration of streamflows and diversions on the San Juan River and its tributaries, in cooperation also with the Bureau of Indian Affairs; (2) work with the endorsing parties in a coordinated manner on water management and administration issues that may arise during 2003 as a result of implementing the recommendations; (3) assist as may be requested, and to the extent of their authority and ability, in the implementation of any feasible water transfer agreements that may be negotiated between the endorsing parties for 2003; and (4) resolve any disputes in a timely and effective manner, including any disputes between endorsing parties and Reclamation or the State Engineer. The endorsement of the recommendations provided herein by any and all parties shall not be construed to: (1) waive the sovereign immunity of any Indian tribe; or (2) constitute a consent to tribal jurisdiction by any party.

## **5. Cooperative Activities**

The parties encourage the New Mexico State Engineer and the New Mexico Interstate Stream Commission to proceed expeditiously towards: (1) completion of the San Juan River Basin water rights adjudication; (2) expansion of the Office of the State Engineer's Aztec district sub-office into a full district water rights office; (3) completion of construction and installation of flow measurement devices on all diversions in the San Juan River Basin; (4) acquisition of personnel to monitor and administer water uses in the Basin; (5) development of procedures for administering diversions in the Basin; (6) completion of a Navajo Nation water rights settlement; and (7) implementation of water use data collection and water use accounting procedures. The parties agree to promote or support legislative appropriations and other funding mechanisms to further the efforts of the State of New Mexico in these activities.

The parties also agree to seek opportunities to take or assist additional water conservation measures and to encourage and promote sound water conservation practices among other water users in the San Juan River Basin that are not signatory parties. In anticipation of a shortage being determined for 2003, the parties recommend that: (1) irrigation ditches that divert from the Animas River implement throughout the 2003 irrigation season the diversion rotation system that the Animas River ditches used during dry periods in 2002, such rotation system to include also diversions by the City of Farmington to the extent practical; (2) the La Plata Conservancy District continue to administer diversion rights on the La Plata River during 2003; and (3) municipal, industrial, commercial and domestic water users implement water conservation practices during 2003. The parties request that the Bureau of Reclamation and the State Engineer support and encourage such water conservation activities in the Basin, and that Reclamation and the State Engineer develop and implement improved public education and notification programs beginning in 2003 to: (1) help the public better understand water management issues and activities in the Basin; and (2) let the public know on a regular basis the status of water supply and water

use conditions in the Basin. The recommendations provided herein shall not be affected in any way, however, by any lack of effectiveness in these cooperative efforts.

## **6. Term**

The endorsing parties agree to present the recommendations provided herein to the Bureau of Reclamation and the New Mexico State Engineer as their recommendations, collectively and individually, regarding procedures for operating Navajo Dam and administering diversions in the San Juan River Basin in New Mexico during calendar year 2003. The recommendations shall be effective upon written notice to the endorsing parties that the Bureau of Reclamation and the State Engineer accept and adopt the recommendations for their implementation; provided, that all endorsing parties identified in section 8 below have endorsed the recommendations by providing original signed copies of such endorsement to Reclamation and the State Engineer. The recommendations shall be void and of no effect unless endorsed by all of the parties identified in section 8 below and accepted by Reclamation and the State Engineer prior to March 10, 2003. The recommendations are valid for calendar year 2003 only and shall terminate on January 1, 2004, unless terminated earlier or extended by agreement of the endorsing parties.

## **7. Waiver of Liability**

No party endorsing the recommendations shall hold another endorsing party responsible or liable for any damages or claims that may occur or arise as a result of implementing the recommendations presented herein, including as a result of analyses, decisions or operations made under the recommendations; provided, that the other endorsing party fulfills its commitments and obligations as expressed herein. In the event that an endorsing party does not fulfill its commitments and obligations as expressed herein to the detriment of other endorsing parties and the matter cannot be resolved through dispute resolution as provided in section 4 above, the endorsing parties reserve the right to seek appropriate remedies, if any, under applicable law in state or federal court. An endorsing party's remedies shall not be limited to the enforcement of any commitment or obligation as expressed in the recommendations provided herein and may include remedies that would be available to any party that has not endorsed the recommendations. This provision shall not be construed to: (1) waive the sovereign immunity of any Indian tribe; or (2) constitute a consent to tribal jurisdiction by any party. The endorsing parties waive no rights with regard to non-endorsing water users in 2003 or thereafter.

## **8. Endorsing Parties**

The following entities are endorsing parties to the recommendations herein:

- The Navajo Nation
- The Jicarilla Apache Nation
- The City of Farmington
- Public Service Company of New Mexico
- Arizona Public Service Company

BHP Billiton  
Hammond Conservancy District  
Bloomfield Irrigation District  
Farmers Mutual Ditch  
Jewett Valley Ditch