RECLAMATION

Managing Water in the West

Environmental Assessment

San Juan-Chama Water Contract Amendments with City of Santa Fe, County of Santa Fe, County of Los Alamos, Town of Taos, Village of Taos Ski Valley, Village of Los Lunas, and City of Española



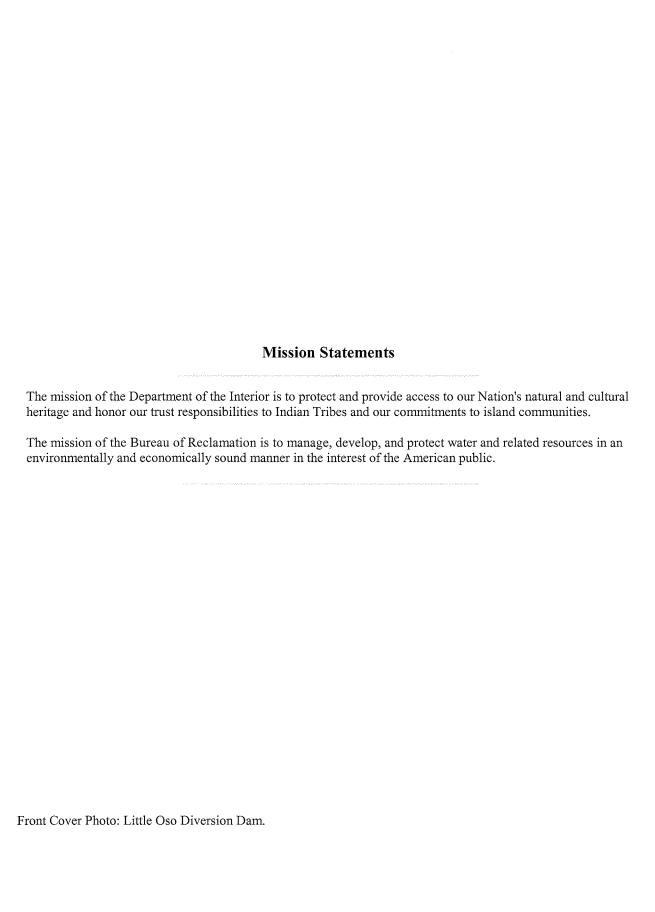


Prepared by:



U.S. Department of the Interior Bureau of Reclamation Albuquerque Area Office

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U.S. Department of the Interior

BUREAU OF RECLAMATION Albuquerque Area Office Albuquerque, New Mexico

FINDING OF NO SIGNIFICANT IMPACT

Environmental Assessment San Juan-Chama Water Contract Amendments with City of Santa Fe, County of Santa Fe, County of Los Alamos, Town of Taos, Village of Taos Ski Valley, Village of Los Lunas, and City of Española

Manager, Environment Division

May 22 2006

Date

Approved by:

FONSI Number: AAO-06-004

BACKGROUND

The San Juan-Chama (SJ-C) Project was authorized by Congress in 1962 through Public Law (PL) 87-483, which amended the Colorado River Storage Act of 1956 (PL 84-485) to allow diversion of Colorado River Basin water into the Rio Grande Basin of New Mexico. The SJ-C Project takes water from the Navajo, Little Navajo, and Blanco Rivers, which are upper tributaries of the San Juan River, itself a tributary of the Colorado River, for use in the Rio Grande Basin, New Mexico. Heron Reservoir serves as storage for SJ-C Project water. Reclamation operates and maintains the Project. Primary purposes of the Project are to furnish a water supply, via trans-basin diversions, to the middle Rio Grande valley for agricultural, municipal, domestic, and industrial uses. The Project is also authorized for incidental recreation and fish and wildlife benefits.

San Juan-Chama Project water is imported to the Rio Grande Basin from the Colorado River to satisfy the State of New Mexico's entitlement of the Colorado River pursuant to the Upper Colorado River Basin Compact of April 6, 1949 (63 Stat. 31). Delivery of New Mexico's Colorado River Compact entitlement through the San Juan-Chama Project has been authorized by the Colorado River Storage Project Act of April 11, 1956 (70 Stat. 105) and the Navajo Indian Irrigation Project and San Juan-Chama Project, Initial Stage Act of June 13, 1962 (76 Stat. 96). The New Mexico Interstate Stream Commission recommended the water quantities allocated to each of the seven entities to the Secretary of the Interior. After the Secretary notified Congress of this recommendation, Reclamation, acting in an authorized delegated capacity for the Secretary, executed contracts with the seven entities for the recommended quantities of water. The use of New Mexico's Compact entitlement is at the direction of the state and not a unilateral option of the Bureau of Reclamation. Reclamation cannot reallocate the State of New Mexico's Upper Colorado River Basin Compact entitlement to other uses or users without compliance to the above list of legislation and the expressed consent of the state.

SUMMARY OF THE PROPOSED ACTION

This Environmental Assessment (EA) addresses the environmental effects of the execution of contract amendments to existing contracts between the Bureau of Reclamation and each of seven SJ-C Project water contractors. The proposed amendments would convert each of these contracts from water service contracts to repayment contracts.

The Proposed Action consists of executing contract amendments to existing SJ-C Project water service contracts that would convert the type of contract from water service to repayment with each of the following SJ-C water contractors: City of Santa Fe, County of Santa Fe, County of Los Alamos, Town of Taos, Village of Taos Ski Valley, Village of Los Lunas, and City of Española. The conversions would result in a change of the term of the contracts and change in the terms of payment by the contractors to the United States. Repayment contracts would have no expiration or renewal dates. Thus, the Proposed Action does not involve the new construction, or additional operation, maintenance, or repair of any conveyance, diversion, treatment, or delivery works.

Alternatives Considered

A No Action Alternative was presented in the Environmental Assessment, in which Reclamation would not execute contract amendments with the City of Santa Fe, County of Santa Fe, County of Los Alamos, Town of Taos, Village of Taos Ski Valley, Village of Los Lunas, and City of Española. If the No Action alternative is implemented, then there would be little change from the current conditions and trends. Contractors would continue to use, store, or lease the SJ-C water. The contracts would expire between 2016 and 2021. Prior to the expiration of each contract, each contractor would approach the United States to renew its contract if it wanted to continue to receive SJ-C water. The United States could then enter into negotiations for the contract renewal. It is assumed that the contracts would be renewed for another 40 year period, with the exception of the Los Alamos County contract which would be renewed for a 10 year period. Based on what is known today, the expectation is that the contracts would be renewed for the same quantities of water as currently are included in the existing contracts.

ENVIRONMENTAL IMPACTS RELATED TO THE RESOURCES OF CONCERN

The following resources and factors were evaluated in detail in the EA for anticipated impacts of execution of the contract amendments: water, biological resources, socioeconomic considerations, cultural resources, environmental justice, Indian trusts assets, and cumulative effects. A summary of impacts within each of these resource areas follows.

Water

If the Proposed Action is implemented, the contracted 8,620 acre ft (af) would continue to be used or stored by contractors or leased to third parties, and municipal surface water development projects may proceed at a faster rate than currently. This could potentially shift its use from primarily offsetting groundwater pumping effects to direct consumption by Municipal and Industrial (M&I) users. Any planned diversion of SJ-C water would be evaluated to ensure that water rights of Pueblos and Tribes recognized as having "prior and paramount" priority, would be protected from foreclosure. River flows and reservoir water levels would continue to fluctuate independent of the Proposed Action. If municipalities conjunctively use surface and ground water supplies or switch entirely to surface water supply, then there could be a minor reduction in net ground water withdrawal.

Biological Resources

The Proposed Action does not require construction or ground disturbance, so no direct impacts to biological resources would result. A small amount of imported water (8,620 af), roughly equivalent to 1/4 to 1 percent of flows at Otowi gage, would continue to be introduced into the Rio Grande Basin. This would have little to no measurable effect on any biological resources. Reclamation would receive first right of refusal to use available water, which could provide beneficial impacts for threatened and endangered species under the supplemental water program. In addition, with increasing contractor use of SJ-C water over time, surface flows in the Rio Chama and Rio Grande would increase slightly, providing benefits to wildlife using riparian corridors.

Socioeconomic Considerations

While the value of water in the region is high, the implementation of the Proposed Action would not likely result in a significant change in crop production, employment, income, indirect business taxes, or value added in the regional economy. Due to the small proportion of the total regional water supply affected by the Proposed Action, if any adverse economic effects would result from the Proposed Action, they would be less than significant.

Cultural Resources

The Proposed Action does not require construction or ground disturbance, so direct impacts to cultural resources would not occur. If water development projects proceed more quickly, then any potential impacts to cultural resources associated with water development projects would be accelerated. Converting to contracts without expiration dates, however, could provide a benefit by reducing the need of some entities to purchase and retire culturally sensitive acequia water rights.

Environmental Justice

No low-income or minority populations would be disproportionately impacted by the Proposed Action.

Indian Trusts Assets

Indian water rights are an Indian Trust Asset of concern to Reclamation. However, there are no existing Indian water rights that would be impacted by the proposed contract amendments. The Proposed Action is not expected to interfere with the quantity or quality of surface or ground water supplies available to tribes.

Cumulative Effects

Cumulative effects are defined as the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertake such other actions. Two large regional water projects are currently underway or under consideration: the City of Albuquerque Drinking Water Project and the City and County of Santa Fe's Buckman Direct Diversion Project. However, the limited impacts of the contract conversions would not contribute to significant cumulative effects associated with the two regional water projects. Other water needs in the basin for Indian tribes, endangered species, agriculture, and other M&I uses may not be fully satisfied.

ENVIRONMENTAL COMMITMENTS

The following environmental commitments will apply if the Proposed Action is selected and implemented:

1. When available for Reclamation's use, the water would be released for environmental purposes to help sustain the Rio Grande silvery minnow and the Southwestern Willow Flycatcher.

- 2. Reclamation will continue to seek and manage supplemental water from all available sources for the benefit of the silvery minnow and the Southwestern Willow Flycatcher.
- 3. Reclamation will continue its strong role in Indian water rights settlements.

COORDINATION

Reclamation sought input from agencies and tribal governments. The New Mexico Interstate Stream Commission is serving as a cooperating agency for preparation of this EA. Coordination with other agencies and organizations included the Bureau of Indian Affairs, U.S. Fish and Wildlife Service, New Mexico State Historic Preservation Officer, Pueblo of Taos, Pueblo of Ohkay Owingeh, Pueblo of Sandia, Ysleta del Sur Pueblo, Pueblo of Nambe, Pueblo of San Ildefonso, Southern Ute Tribe, Santa Ana Pueblo, Pueblo of Tesuque, and Pueblo of Pojoaque.

CONCLUSION

Based on the analysis presented in the EA, Reclamation finds that there would be no significant impacts associated with implementation of the Proposed Action. Reclamation makes this Finding of No Significant Impact (FONSI) pursuant to the National Environmental Policy Act (NEPA) of 1969 (42 U.S.C. 4321 et seq.) and the Council on Environmental Quality implementing regulations (40 CFR 1500). Reclamation has determined that the Proposed Action does not constitute a major federal action that would significantly affect the human environment. Therefore, no environmental impact statement will be prepared for this proposal.

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Attachments

- Attachment 1 Bureau of Reclamation Indian Trust Asset Policy
- Attachment 2 Correspondence Related to Tribal Scoping Comments and Government-to-Government Consultation
- Attachment 3 Public Scoping Meeting Attendance Sheet and Presentation
- Attachment 4 Agency Correspondence
- Attachment 5 Scoping Summary Report



Chapter 1. Purpose and Need

1.1 Federal Action

The federal action addressed in this Environmental Assessment is the execution of contract amendments to existing contracts between the Bureau of Reclamation and each of seven San Juan–Chama Project (SJ-C) water contractors. The proposed amendments would convert each of these contracts from water service contracts to repayment contracts.

The notable differences between a repayment contract and a water service contract are the provisions covering the terms of payment and length of the contract term. A repayment contract has a repayment scheduled so that the total construction costs allocable to a contractor are repaid over a period of no more than 40 years, whereas a service contract requires annual payments at such rates as in the Secretary's judgment will produce revenues at least sufficient to cover an appropriate share of the annual operation and maintenance cost and an appropriate share of fixed charges. Water service contracts have a specific expiration date, whereas repayment contracts do not. Both contract types require that the contractors pay a share of operations and maintenance (O&M) costs. These costs are the same regardless of the contract type, but may vary annually. Under water service contracts, the obligation to pay O&M costs ends at the termination of the contract term; payment of O&M costs will continue after repayment obligations are met.

The present water service contracts have expiration dates ranging from 2016-2021 and are renewable with the United States. Annual payments are made by the contractors for water service which are proportionate to each contractor's share of construction costs of the San Juan–Chama Project. The contractors requesting contract amendments include the City of Santa Fe, County of Santa Fe, County of Los Alamos (Los Alamos), Town of Taos (Taos), Village of Taos Ski Valley (Taos Ski Valley), Village of Los Lunas (Los Lunas), and City of Española (Española).

1.2 Purpose of and Need for Action

The purpose of the proposed contract amendments is to convert water service contracts to repayment contracts which would not expire. With this change, all thirteen San Juan-Chama Project contractors would have repayment contracts. This action is being proposed by Reclamation at the request of seven SJ-C water contractors. The need for the contract amendments involves the degree of certainty of water supplies available to the contractors under contract with Reclamation for a specific allocation of SJ-C Project water. The contractors have a need to obtain secure and long-lasting water supplies for their respective communities. These contractors express a need to secure repayment contracts to ensure that they hold their allocated SJ-C water for as long a period of time as possible. In general, there is a current reliance on mined groundwater or on inadequate or junior water rights. Financing of conveyance and distribution systems may depend upon these contractors having long-term water supply contracts. Long-term water use and conservation planning is dependent upon secure water sources. Because SJ-C water is the State of New Mexico's entitlement under the Colorado River Compact, the Secretary of the Interior and the State of New Mexico cooperate in allocating SJ-C water. The New Mexico Interstate Stream Commission has recently issued Reclamation three letters indicating strong support for amending the contracts to provide perpetual access by all seven contractors to their currently contracted water supplies.

1.3 Background

The San Juan–Chama Project was authorized by Congress in 1962 through PL 87-483, which amended the Colorado River Storage Act of 1956 (PL 84-485) to allow diversion of Colorado River Basin water into the Rio Grande Basin of New Mexico. The original planning projections for the Project contemplated an ultimate diversion of 235,000 acre-feet per year (AFY), with an initial phase development to accommodate an average annual diversion of up to 110,000 acre-feet (ac-ft). The firm yield of the project was originally determined to be 101,800 AFY, based on hydrologic data for the period from 1935 through 1957. Only the initial phase was authorized (by PL 87-483) and subsequently constructed by Reclamation. That was reduced to 94,200 AFY in 1986, based on updated hydrologic data for the period from 1935 though 1984. In 1989, a Reclamation hydrologic report addendum reduced estimates of the yield of the Project to 96,200 ac-ft annually. A 1999 draft hydrologic report determined the firm yield to be 95,800 AFY but recommended no change from the currently official value of 96,200 AFY. The Project takes water from the Navajo, Little Navajo, and Blanco Rivers, which are upper tributaries of the San Juan River, itself a tributary of the Colorado River, for use in the Rio Grande Basin, New Mexico. Heron Reservoir serves as storage for Project water. Reclamation operates and maintains the Project. Primary purposes of the Project are to furnish a

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water supply, via trans-basin diversions, to the middle Rio Grande valley for agricultural, municipal, domestic, and industrial uses. The Project is also authorized for incidental recreation and fish and wildlife benefits.

San Juan–Chama Project water is imported to the Rio Grande Basin from the Colorado River to satisfy the State of New Mexico's entitlement of the Colorado River pursuant to the Upper Colorado River Basin Compact of April 6, 1949 (63 Stat. 31). Delivery of New Mexico's Colorado River Compact entitlement through the San Juan–Chama Project has been authorized by the Colorado River Storage Project Act of April 11, 1956 (70 Stat. 105) and the Navajo Indian Irrigation Project and San Juan–Chama Project, Initial Stage Act of June 13, 1962 (76 Stat. 96). The New Mexico Interstate Stream Commission recommended the water quantities allocated to each of the seven entities to the Secretary of the Interior. After the Secretary notified Congress of this recommendation, Reclamation, acting in an authorized delegated capacity for the Secretary, executed contracts with the seven entities for the recommended quantities of water. The use of New Mexico's Compact entitlement is at the direction of the state and not a unilateral option of the Bureau of Reclamation. Reclamation cannot reallocate the State of New Mexico's Upper Colorado River Basin Compact entitlement to other uses or users without compliance to the above list of legislation and the expressed consent of the state.

Current and Expected Beneficial Uses

All of the available firm yield of the Project is currently committed by contract or specifically identified for future contracts associated with tribal interests. Project water is committed, primarily by contract, to municipal, domestic, industrial, irrigation, and recreation uses. The currently uncontracted 2,990 ac-ft of Project water has been identified for Indian water rights settlement use in the Taos area. Table 1 lists Project water contractors, water quantities and uses, contract date and renewal date, if applicable.

Table 1. San Juan-Chama Project Water Contractors and Uses

Contracting Entity	Quantity Of Water	Year Contract Executed	Year Contract Expires/Renewable
Municipal, domestic, and industrial purposes:			<u>r</u>
Albuquerque Bernalillo	48,200 ac-ft	1963	repayment/no expiration
County Water Utility Authority	,		1 3
Jicarilla Apache Nation	6,500 ac-ft	1992*	repayment/no expiration
City of Santa Fe	5,230 ac-ft	1976	Dec. 31, 2016
County of Santa Fe	375 ac-ft	1976	Dec. 31, 2016
Pueblo of Ohkay Owingeh	2,000 ac-ft	2001	repayment/no expiration
County of Los Alamos**	1,200 ac-ft	1977	Jan. 10, 2017
City of Española	1,000 ac-ft	1978	Dec. 31, 2018
Town of Belen	500 ac-ft	1990	repayment/no expiration
Village of Los Lunas	400 ac-ft	1977	Dec. 31, 2017
Town of Taos	400 ac-ft	1981	Dec. 31, 2021
Town of Bernalillo	400 ac-ft	1988	repayment/no expiration
Town of Red River	60 ac-ft	1990	repayment/no expiration
Village of Taos Ski Valley	15 ac-ft	1978	Dec. 31, 2017

Allocated, but uncontracted, water currently identified for future Indian water rights settlements and or use:

Taos Area

2.990 ac-ft

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Middle Rio Grande Cons. District Pojoaque Valley Irrigation District***	20,900 ac-ft 1,030 ac-ft	1963 1972	repayment/no expiration repayment/no expiration
Recreation:**** COE - Cochiti Rec Pool	Up to 5,000 ac-ft	1964	
Total Allocation:	96,200 ac-ft		

^{*} Contract in effect mid-1999

^{**} County of Los Alamos obtained annual allocation from the Department of Energy in September 1998.



*** "Soft" number used to offset storage in Nambe Falls Reservoir. Has varied from 800 to 1300 ac-ft on an annual basis.

**** Cochiti Recreation Pool allocations compensate for evaporation losses to maintain a minimum pool of 1,200 surface acres at Cochiti Lake. (PL 88-293)

The form of contract used for seven S-JC contractors is water service, and repayment contracts were executed with the remaining six. The seven contractors with the water service type contracts believe their form of contract should be consistent with the others. The contract forms available are based on Section 9 of the Reclamation Project Act of 1939, under which both contract forms are authorized. The repayment contract is geared toward recovering over a period not to exceed forty years the part of the construction costs allocated to the contractor's water supply. The water service contract provides for water service to the contractor for a period not to exceed forty years at rates sufficient to cover an appropriate share of the annual operation and maintenance cost and appropriate share of fixed charges to be established by the Secretary.

Information provided by the contractors indicates that the municipalities have historically used their allocations differently and each has a different plan for beneficial future uses. The contractors and their existing and future uses are listed below.

<u>City of Española</u>. Española currently uses its SJ-C allocation under New Mexico State Engineer Permit RG-3067 et al approved on December 17, 1980 and RG-3067-S-11 approved August 23, 1996. Under these permits for SJ-C water, Española may divert 2,000 ac-ft and consumptively use their 1,000 ac-ft allocation, based on a 50 percent return flow credit. To offset the depletion effects from ground water pumpage on the Rio Grande, Española uses releases of its SJ-C water and treated effluent. The pre-basin and irrigation rights for the City of <u>Española</u> total 390.13 ac-ft per of consumptive use. Of their pre-basin rights, <u>Española</u> is allowed to divert 780.26 ac-ft per year based on a recognized return flow credit of 50 percent. Based on their pre-basin water rights and SJ-C allocation, <u>Española</u> is allowed to divert up to 2,780.26 ac-ft per year and consume 1,390.13 ac-ft from its wells. Depletive effects from groundwater pumpage on the Rio Grande in excess of 390.13 ac-ft, must be offset by releases of its SJ-C water and treated effluent.

In addition to using SJ-C water for the purpose of offsetting stream depletion effects, Española has also leased unused water for purposes benefiting threatened and endangered species. Because of problems with water quality and production capacity with Española's existing wells, Española has implemented a program to evaluate diverting its SJ-C project allocation directly from the Rio Grande. Española is also evaluating the role it's SJ-C allocation can play in meeting the water supply needs of neighboring Pueblos and small community water systems.

Los Alamos County. Because the community of Los Alamos has historically been largely tied to the Los Alamos Laboratory, the County's population growth has remained relatively flat at approximately 18,000 people with a water demand of approximately 4,000 ac-ft. As the community has begun developing its own identity separate from the Los Alamos Laboratory, Los Alamos County has been preparing for growth and development, with projections for 300 new dwelling units in the near term, along with more retail and office space. Based on recent projections associated with certain land transfers the County could have 25,000 citizens (almost a 40% increase) with over 1 million additional square feet of retail, office, and industrial space by the year 2020. Los Alamos County currently has water rights to 5,541 ac-ft under State Engineer Permit RG-485. Consumptive use in excess of this amount must be offset using the county's 1,200 ac-ft allocation of SJ-C water. Testing of Los Alamos County's aquifer has found contamination in the geological strata, which could impair the County's ability to utilize ground water in the future. Consequently, the 1,200 ac-ft of SJ-C Project water is crucial to the sustainability of the County. With this in mind, in 2004 the County completed the SJ-C Water Utilization Study to evaluate new alternatives to bring SJ-C water to the County with the minimum environmental impact and least long-term maintenance.

<u>Village of Los Lunas</u>. Under State Engineer Permit No. RG-17065, Los Lunas is allowed to divert up to 4,600 ac-ft. The Village currently has 1824.717 AF of consumptive use rights associated with its permit. When Los Lunas' consumptive use exceeds 1824.212 AFY, after a measured



return flow credit, then any additional depletions must be offset with their 400 ac-ft SJ-C allocation or additional water rights. Los Lunas has a very aggressive policy with respect to requiring that subdividers transfer water rights in advance of subdivision development. Los Lunas has implemented a policy that will allocate SJ-C Project water to subdividers to meet a portion of their water rights requirements. Currently five subdividers have indicated that they wish to obtain an allocation of SJ-C Project rights to meet a portion of their water rights requirements. Preliminary indications suggest demand for these rights will total over 600 AFY. Two subdividers have already formally requested allocations that total 120 AFY. It is anticipated that some of these allocations will eventually be replaced by transfers of irrigation rights, but it is expected that all of the Los Lunas' SJ-C Project water will be allocated for new development within the coming year.

City of Santa Fe. Historically, the City of Santa Fe has been the manager and user of the City/County SJ-C allocation. The City has used the SJ-C allocation to offset ground water pumping effects and to offset effects of storing water in or releasing water from McClure and Nichols Reservoirs on the Santa Fe River (operations may be constrained by the Rio Grande Compact). City of Santa Fe has also stored, leased or exchanged unused SJ-C water. As of January 11, 2005, the City and County entered into a Water Resources Agreement in which the joint contract for 5,605 ac-ft of SJ-C allocation was allocated 5,230 ac-ft to the City and 375 ac-ft to the County (see also following paragraph). The City of Santa Fe will continue using its 5,230 ac-ft of SJ-C water to offset stream depletion effects from pumping the Buckman well field and for exchanging water stored in McClure and Nichols Reservoirs on the Santa Fe River. Unused portions of the City's allocation will be stored in reservoirs on the Rio Chama or the Rio Grande. Assuming completion of the Buckman Direct Diversion Project as proposed in 2009, the City will directly divert its SJ-C allocation from the Rio Grande. The direct use of the SJ-C water via the Buckman Direct Diversion Project will permit the City of Santa Fe to meet projected needs through at least 2015 with a renewable resource, while allowing the regional ground water resource to be preserved as a drought reserve. Certain limited but reversible advanced planning activities for the proposed Buckman Direct Diversion Project are currently being undertaken in light of its emergency need, on the assumption that following completion of the EIS process a decision to move forward will be issued. For example, project partners have hired an owner's consultant to do preliminary design, design/build contract management, and construction oversight. The regional partners published a Draft EIS for the Project in November 2004; a Final EIS is expected in 2006. However, even if the Buckman Direct Diversion Project does not go forward as approved, the instant proposed action is still appropriate.

County of Santa Fe. As described above, the City and County of Santa Fe were originally combined as a single contractor for SJ-C water; however the County has requested to become a separate contractor for 375 AFY. Part of the reason for this request is that the City and the County are partners in the Buckman Direct Diversion Project, and the County will use the project to divert its 375 AFY of San Juan Chama water directly from the Rio Grande River. Also, the County of Santa Fe maintains a small water utility with approximately 1,300 customers. The County has historically been a wholesale water supply customer of the City of Santa Fe (with the exception of limited water supply capability that the County maintains off NM 14 in the Valle Vista subdivision).

The County will fill out its 1,700 AFY capacity at the Buckman Direct Diversion project using additional native water rights that it will purchase or lease. The County strictly controls its commitments so as not to exceed capacity. Therefore, the County expects to be able to fully sustain deliveries to customers in the near and mid-term using the diversions described from the Buckman Direct Diversion, continuing diversions from its small well field at Valle Vista, and diversions from a modest County well field, now in the planning stages. Diversions from the latter source are expected to provide backup and drought protection for the County's system that the City-County Water Resources Agreement does not provide. Santa Fe County currently has requests for water service agreements that exceed its present delivery capacity of 875 AFY. It is anticipated that requests within the next ten years will exceed the capacity of the Buckman Direct Diversion Project (1700 AFY, including the 375 AFY San Juan-Chama component, and the 500 AFY of continuing City-to-County deliveries).



Town of Taos. The Town of Taos currently uses it SJ-C Project allocation under New Mexico State Engineer Permits 3769 (infiltration gallery) and RG-37303 et al (wells). Under these permits' conditions of approval, Taos may divert 882 ac-ft and consumptively use up to 490 ac-ft. Any consumptive use in excess of their 98 ac-ft of water rights must be offset by releases of their SJ-C allocation, which is 392 ac-ft after transportation losses, for a total annual permitted consumptive use of 490 ac-ft. Taos also uses treated effluent to offset the depletion effects from ground water pumpage. In addition to using SJ-C water for the purpose of offsetting stream depletion effects, Taos has also leased unused water for purposes of benefiting threatened and endangered species. Taos plans to expand its water services area by 10,900 acres within 40 years and expects its population to approximately triple in that time period. Taos projects that total water demand for the town will be approximately 3,500 ac-ft by the year 2044 and that SJ-C Project water will be necessary to meet this need.

Taos Ski Valley. Taos Ski Valley currently uses its SJ-C allocation under New Mexico State Engineer Permit RG-3751 and 0444-A approved on April 22, 1982. Under the permit's conditions of approval, Taos Ski Valley may divert 418.2 ac-ft annually. Any consumptive use in excess of 10.9 ac-ft must be offset using their 15.0 ac-ft allocation of SJ-C water. In accordance with the permits their SJ-C allocation must be consumptively used between October and April of each year from its infiltration gallery on the Lake Fork tributary of the Rio Hondo. Taos Ski Valley also uses treated effluent to offset depletion effects. In addition to using SJ-C water for the purpose of offsetting stream depletion effects, Taos Ski Valley has also leased unused water for purposes benefiting threatened and endangered species. Taos Ski Valley anticipates that due to new development, demand for water under Permit RG-3751 will increase by approximately 25 percent to 8.5 ac-ft in the next four years. It is anticipated that the balance of the 15 ac-ft of consumptive use under the SJ-C contract will be required within the next 40 years to meet demand from in-fill development.

Chapter 2. Proposed Action & Alternatives

Four alternatives were considered: No Action, Proposed Action, and two alternatives to the Proposed Action. The two alternatives to the Proposed Action were eliminated from further analysis because they are not feasible, not reasonable, or do not fulfill the purpose and need for action. Alternatives fully analyzed in this assessment are the Proposed Action and No Action alternative. The two alternatives have similar water management outcomes. An important distinction between alternatives is that the terms of the contracts have no expiration under the Proposed Action. Table 2 provides a summary of the two alternatives.

Table 2. Summary Comparison of the Alternatives

No Action	PROPOSED ACTION	
Quantity of San Juan–Chama Water: City of Santa Fe - 5,230 ac-ft County of Santa Fe - 375 ac-ft County of Los Alamos - 1,200 ac-ft Town of Taos - 400 ac-ft Village of Taos Ski Valley - 15 ac-ft Village of Los Lunas - 400 ac-ft City of Española - 1,000 ac-ft Total - 8,620 ac-ft	Quantity of San Juan-Chama Water: Same	
Contract Type: Water service	Contract Type: Repayment	



No Action	PROPOSED ACTION
Contract Characteristics: Renewable upon expiration. Annual payments for water service. Annual payments for share of O&M costs, ending at contract expiration.	Contract Characteristics: No expiration date. Annual payments based on allocated construction costs. Annual payment for share of O&M costs, continuing through project life.
Water Use: Water continues to be used or stored by contractors for M&I purposes or leased for M&I purposes. Contractors may use their water to offset effects of groundwater pumping or may develop projects to directly divert their water from the Rio Grande or lease those uses to third parties.	Water Use: Same although the development of water projects to directly divert and use SJ-C water may proceed at a quicker pace.
Uncertainty of Water Use: Since water service contracts are subject to renewal, it may possibly be viewed as some risk to the contractor. Upon contract expiration, Reclamation in all likelihood would negotiate renewals with each of the contractors. Financing water development projects may be more difficult given that the contracts are subject to renewal.	Uncertainty of Water Use: Since repayment contracts have no expiration, it is probably viewed as a more secure and perpetual use. Financing water development projects may be more achievable.

2.1 Proposed Action

The Proposed Action consists of executing contract amendments to existing San Juan–Chama Project water service contracts that would convert the type of contract from water service to repayment with each of the following SJ-C water contractors: City of Santa Fe, County of Santa Fe, County of Los Alamos, Town of Taos, Village of Taos Ski Valley, Village of Los Lunas, and City of Española. The conversions would result in a change of the term of the contracts and change in the terms of payment by the contractors to the United States. Repayment contracts would have no expiration or renewal dates.

The water service contracts have expiration dates ranging from 2016-2021 and are renewable with the United States, possibly pursuant to changed contract provisions. The proposed amendments would eliminate expiration dates and the need to renegotiate and renew the contracts. Any alterations to the contract terms and provisions would have to be done in the form of an amendment to the contract agreeable to both parties. All seven contractors' contracts provide for annual water service payments over 39- or 40-year terms in amounts that equal full repayment of allocated construction costs over the same 39- or 40-year terms. The proposed amendments will not change the amount of money received by the United States. The only change will be that the annual installments will be viewed as repayment of each contractor's allocated construction cost obligation under the amended repayment form of contract, instead of as annual water service charges under the present water service form of contract. The final payment due dates under each contract will remain the same, and operation and maintenance assessments will continue.

The Proposed Action would make the form of contract consistent for all SJ-C Project contractors such that all SJ-C Project contracts would be in the form of repayment contracts with no termination date. With perpetual contracts, contractors would continue to use, store, or lease the SJ-C water. Some contractors have plans to develop direct diversions of their SJ-C water. Since the contracts would have no expiration dates, it is expected that financing water development projects would be achievable. If the Proposed Action is implemented, there would be some possible environmental consequences. These are summarized in Table 3.

2.2 No Action Alternative

The No Action alternative is "the future without the federal project or activity." It consists of Reclamation <u>not</u> executing contract amendments with the City of Santa Fe, County of Santa Fe, County of Los Alamos, Town of Taos, Village of Taos Ski Valley, Village of Los Lunas, and City of Española. If the No Action alternative is implemented, then there would be little change from the current condition and trends. Contractors would continue to use,



store, or lease the SJ-C water. Some contractors have plans to develop direct diversions of their SJ-C water although financing water development projects may be constrained since the contracts have expiration dates. The contracts would expire at various times from 2016 through 2021. Prior to the expiration of each contract, each contractor would approach the United States to renew its contract if it wanted to continue to receive SJ-C water. The United States could then enter into negotiations for the contract renewal. Relevant contract renewal article language for the seven existing contracts includes the following:

<u>City of Española</u>. Article 21 states in part that, "this contract may be renewed at the option of the Contractor for an additional period upon terms and conditions satisfactory to the parties hereto."

<u>Los Alamos County</u>. Article 17 states in part that, "This Agreement shall be effective upon execution of the parties and shall extend for 10 years thereafter: Provided, however, that ERDA shall have the option to renew this Agreement for four succeeding 10-year periods for a total period not to exceed 50 years. ERDA shall give written notice of its exercise of this option at least 90 days prior to the end of each 10-year period".

<u>Village of Los Lunas</u>. Article 21 states in part that, "this contract may be renewed at the option of the Contractor for an additional period upon terms and conditions satisfactory to the parties hereto."

<u>City of Santa Fe</u>. Article 21 states in part that, "this contract may be renewed at the option of the Contractor for an additional period upon terms and conditions satisfactory to the parties hereto."

<u>County of Santa Fe</u>. Article 21 states in part that, "this contract may be renewed at the option of the Contractor for an additional period upon terms and conditions satisfactory to the parties hereto."

<u>Town of Taos</u>. Article 21 states in part that, "this contract may be renewed for an additional 40-year term at the option of the Contractor upon terms and conditions satisfactory to the parties hereto."

<u>Taos Ski Valley</u>. Article 21 states in part that, this contract may be renewed for an additional period of not less than 10 years upon terms and conditions satisfactory to the parties hereto."

For purposes of defining the No Action alternative, it is assumed that the contracts would be renewed for another 40 year period, with the exception of the Los Alamos County contract which would be renewed for a 10 year period. Specific contract renewal terms and conditions that would actually be negotiated many years from now cannot be predicted. Based on what is known today, the expectation is that the contracts would be renewed for the same quantities of water. Currently, the New Mexico Interstate Stream Commission is recommending that these entities be provided perpetual access to their water supplies and we expect that under No Action the State would be supportive of renewals for full supply. It is possible that this expectation could change at some time prior to 2016, but it will not be speculated. The federal Reclamation action associated with contract renewal in the future would require separate environmental clearances through NEPA compliance. The current NEPA analysis was conducted based on the assumption that, upon renewal, each of the contracts would be renewed for the same quantities as the original allocation. If the No Action alternative is selected, there would be some possible environmental consequences. These are summarized in Table 3.

2.3 Alternatives Considered but Eliminated from Detailed Analysis

Reclamation considered two alternatives to the Proposed Action. Reclamation considered not responding to the contractors' requests for conversion and simply not pursuing conversion. This option was eliminated as infeasible because of an obligation to the existing contractors and because it would not fulfill the purpose and need for action. This would also be contrary to the State of New Mexico's desires for use of its Colorado River Compact entitlement. The State is strongly supportive of providing the seven contractors perpetual access to their water supplies.

Reclamation also considered converting the contracts but reducing the contractors' allocations. Water gained by reducing the contractors' original allocations could then possibly be used for other purposes such as endangered species or tribal water resources. This alternative was eliminated as infeasible for a variety of reasons. SJ-C water is imported to the Rio Grande Basin to satisfy New Mexico's entitlement to Colorado River water pursuant to the Upper Colorado River Basin Compact. The Secretary of the Interior has worked with the State of New Mexico in the past to allocate the SJ-C water supply to the current entities. Since original allocation recommendations were made by the State of New Mexico in 1976, no additional requests to change these allocations have been made. SJ-C water represents the State of New Mexico's Colorado River entitlement and cannot be unilaterally reallocated by the



Secretary of the Interior. Presently, the State of New Mexico is recommending that Reclamation provide the seven SJ-C contractors perpetual access to their allocations. This alternative is also counter to the purpose of and need for seeking contract amendments. It would not provide the contractors perpetual access to their contracted water supplies. In addition, it is not reasonable to reduce the contractors' allocations upon which they have planned their futures. The seven contractors have paid into the SJ-C Project and are currently paying for water service. The demand for SJ-C water by municipalities was envisioned to grow over a long period of time. Each year, the seven contractors have taken delivery of most of their water and have appropriately used, stored or leased it.



Table 3. Summary Comparison of Impacts of Alternatives

Affected Resource	No Action	Proposed Action
Water	There would be no change from the current condition with existing trends. Municipalities are expected to gradually grow and consume more water. Surface water development projects for City of Santa Fe, County of Santa Fe, and City of Española of SJ-C water are currently being planned and additional projects could be proposed in the future. This could introduce minor amounts of additional surface water into the Rio Chama and Rio Grande and reduce ground water withdrawals by a minor amount.	Surface water development for 8,620 ac-ft SJ-C water may proceed at a faster rate. This could introduce minor amounts of additional surface water into the Rio Chama and Rio Grande and reduce ground water withdrawals by a minor amount.
Biological Resources	There would be no change from the current conditions with existing trends. As communities grow, there would likely be more direct diversion projects, water treatment plants or plant expansions, and more pipelines constructed. There would be potential impacts to biological resources due to construction and operation of facilities. Riparian areas and fish and wildlife resources could be affected.	If water development projects proceed more quickly, then any potential impacts to biological resources associated with those kinds of projects would be accelerated. Potential impacts to riparian areas and fish and wildlife resources could occur sooner than they would under No Action. There would potentially be very small percentage increase of flow in Rio Chama and Rio Grande and minute changes in reservoir storage in Heron, El Vado, and Abiquiu reservoirs. Reclamation would receive first right of refusal to use available water, which could provide beneficial impacts for threatened and endangered species under the supplemental water program.
Socioeconomic Considerations	No change from current condition with existing trends. Water contracts with expiration/renewal dates may be viewed as a less secure source of water supply for contractors' respective communities.	Water contracts without expiration may be viewed as a more secure water supply for contractors' respective communities. This could possibly facilitate financing water development projects which could accelerate their implementation. Any economic development implications may be realized sooner than under No Action.
Cultural Resources	There would be no change from the current conditions with existing trends. As noted above, there would likely be a trend of more direct diversion projects, water treatment plants or plant expansions, and more pipelines constructed. There would be potential impacts to cultural resources due to construction of facilities but this alternative does not authorize or permit any new project.	If water development projects proceed more quickly, then any potential impacts to cultural resources associated with those kinds of projects would be accelerated. Converting to contracts without expiration dates, however, could provide a benefit by reducing the need of some entities to purchase and retire culturally sensitive acequia water rights.
Environmental Justice	No disproportionately high and adverse human health or environmental effects on minority and low-income populations.	No disproportionately high and adverse human health or environmental effects on minority and low-income populations.
Indian Trust Assets	No Indian trust assets have been identified that could potentially be affected by No Action.	There exist important present and future water needs by tribes and Reclamation is active in Indian water rights settlements. Indian water rights are trust assets; however, there are no existing Indian water rights that would be impacted by the proposed contract amendments. Potentially foreclosing a speculative future opportunity to reallocate water supply to Indian tribes is not an adverse effect to Indian water rights/trust assets.
Cumulative Effects	The most likely future is that the seven contractors remain the same and their allocations remain the same upon renewal. Other water needs in the basin such as for Indian tribes, endangered species, agriculture, and other M&I uses may not be fully satisfied.	Contracting for a term without expiration could possibly speed up the pace of water development projects for 8,620 ac-ft of SJ-C water. Other water needs in the basin such as for Indian tribes, endangered species, agriculture, and other M&I uses may not be fully satisfied.





Chapter 3. Affected Environment and Environmental Consequences

3.1 Scope and Baseline of Analysis

Federal regulations characterize an environmental assessment (EA) as a concise public document which has three defined functions. An EA briefly provides sufficient evidence and analysis for determining whether to prepare an EIS; it aids an agency's compliance with NEPA when no EIS is necessary, i.e., it helps to identify better alternatives and mitigation measures; and it facilitates preparation of an EIS when one is necessary. Since the EA is a concise document, it should not contain long descriptions or detailed data which the agency may have gathered. Rather, it should contain a brief discussion of the need for the proposal, alternatives to the proposal, the environmental impacts of the Proposed Action and alternatives, and a list of agencies and persons consulted. The present EA was prepared in accordance with these regulations. Resources potentially affected by implementation of the Proposed Action were assessed, but other resources were not addressed unless a specific legal requirement exists. Discussions are limited to information relevant to a determination of significance.

Environmental conditions associated with the No Action alternative provide the baseline for a comparison between alternatives. Baseline includes the current condition and any existing trends. A trend relevant to this analysis is the development of surface water direct diversion projects. The City and County of Santa Fe have sought permits for a diversion for their communities to address short term, emergency water needs. A draft EIS has been published for their project, but the final EIS has not yet been published. Albuquerque has begun construction of a new water diversion project for SJ-C water in the fall of 2006. The City of Española is also planning a diversion project which has received recommendations for state and federal funding. The County of Los Alamos has completed a utilization study to determine the best alternative for bringing SJ-C water to the County. Additional SJ-C contractors may propose water development projects as time passes. Another trend which may be relevant to this analysis is the likely decrease of availability of SJ-C water for use in Reclamation's supplemental water program for environmental purposes. Although Reclamation has had the ability to use available SJ-C water in recent years to supplement middle valley flows, the SJ-C source will over time be used to directly meet municipal demands.

Another relatively new program in the region is the Middle Rio Grande ESA Collaborative Program, which commenced planning efforts in 2000. The Collaborative Program is designed to improve the status of endangered species, namely, the Rio Grande silvery minnow and Southwestern willow flycatcher, and to protect existing and future water uses. Reclamation's Supplemental Water Leasing Program has provided over 300,000 ac-ft of water to the program through 2005.

3.2 Water

Imported SJ-C water allocated to the seven municipalities is stored in various New Mexico reservoirs and is released into the Rio Chama and Rio Grande at various times. This reservoir and river system is illustrated in Figure 1. The combined total allocations for the seven contractors is 8,620 ac-ft (Figure 2). This quantity represents about 9 percent of the firm yield, or annual expected supply, from the SJ-C Project. SJ-C water is stored in Heron Reservoir and released to the Chama River for delivery to respective contractors. Contractors must take delivery of their water by December 31 of each year. Figure 3 shows how much SJ-C water has been stored in Heron Reservoir and the relative contribution of water (8,620 ac-ft) allocated to the seven municipalities. The no carryover requirement often results in contractors seeking to store their unused water in downstream reservoirs. Historically, the seven contractors have stored SJ-C water in El Vado Reservoir and six of the seven have stored in Abiquiu Reservoir. While Heron Reservoir storage is restricted to SJ-C water, storage in El Vado and Abiquiu reservoirs has been comprised of both native Rio Grande and SJ-C water (Figures 4 and 5). Figures 6 and 7 show the historical contribution of SJ-C water storage by the seven contractors (only five contractors in Abiquiu) compared with the total volumes of SJ-C stored in El Vado and Abiquiu reservoirs. In El Vado Reservoir, the quantity attributable to the seven contractors appears relatively substantial; whereas, in Abiquiu Reservoir, the quantity appears minor in comparison to the total quantity of SJ-C storage. Because SJ-C water is introduced into the Rio Chama and Rio Grande, plots showing mean river flows during the period from 1983-2004 are included for gage sites on the Rio Chama below El Vado Dam (Figure 8), on the Rio Chama below Abiquiu Dam (Figure 9), and at Otowi Gage on the Rio Grande (Figure 10).

During 1982-2004, the seven municipalities took delivery of almost all of their allocations from Heron Reservoir (Figure 11). City and County of Santa Fe took delivery of more than 97 percent of its water and Los Alamos County took delivery of about 75 percent of its water. Overall during the past 23 years, the seven municipalities took delivery of about 90 percent of their SJ-C water.



Figure 1. Location Map

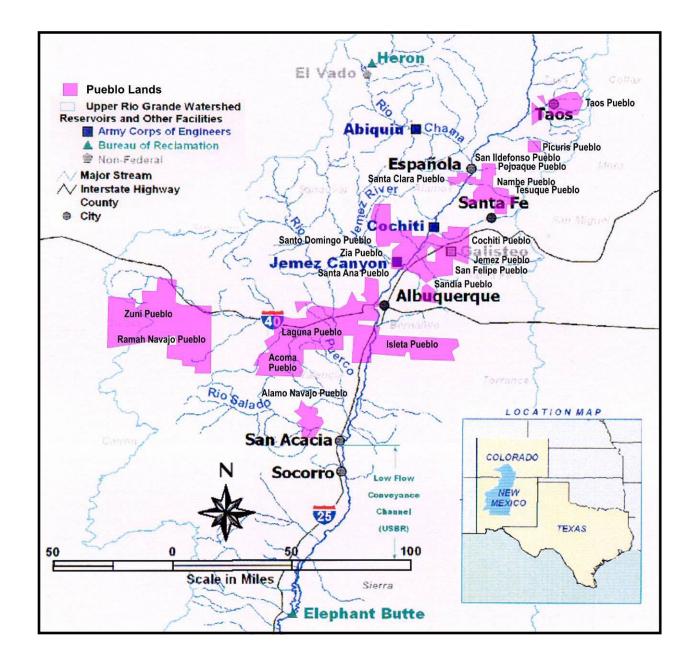




Figure 2

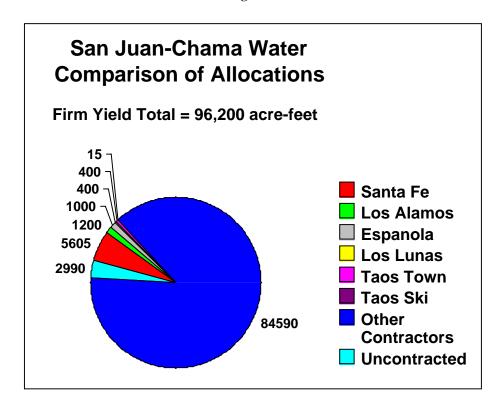


Figure 3

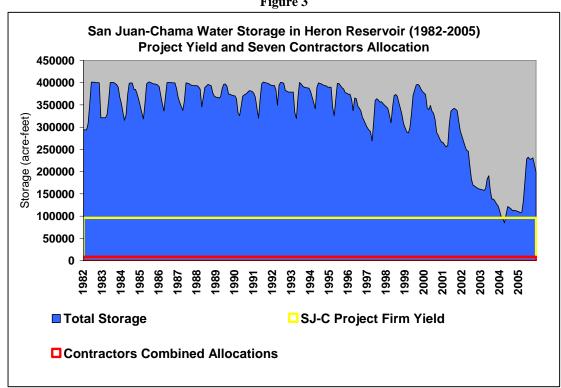




Figure 4

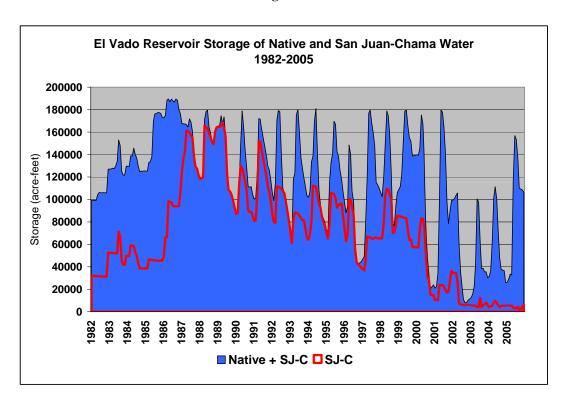


Figure 5

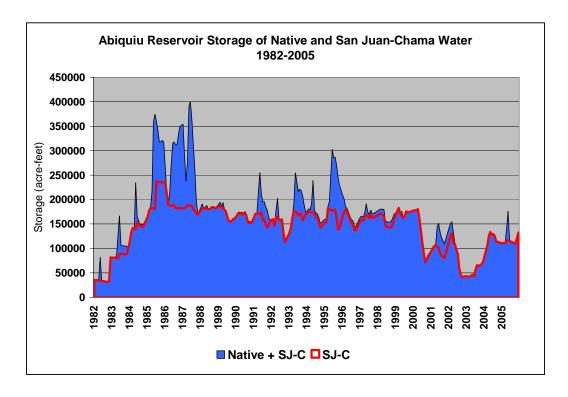




Figure 6

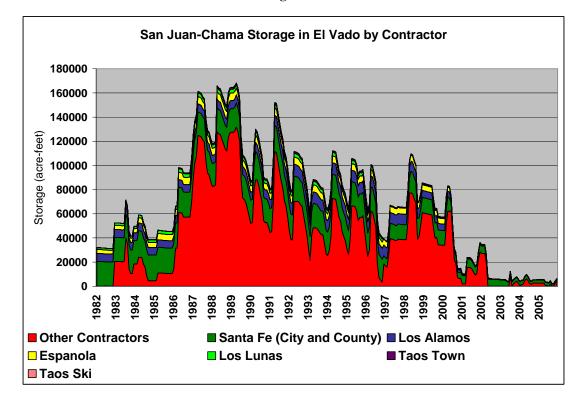


Figure 7

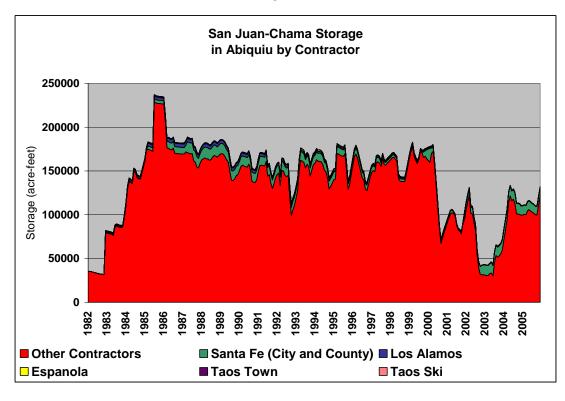




Figure 8

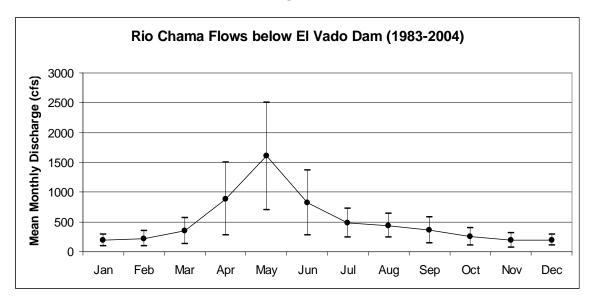


Figure 9

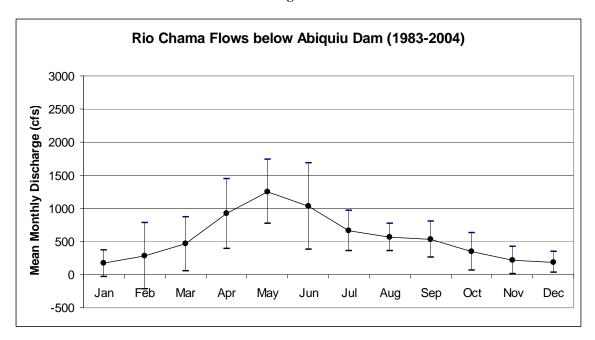




Figure 10

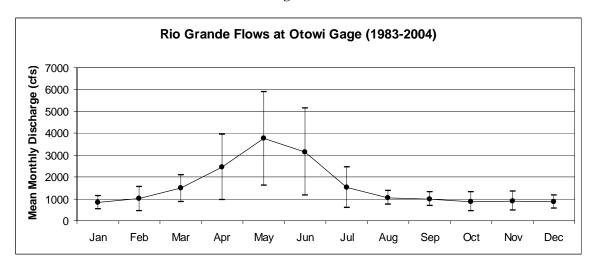
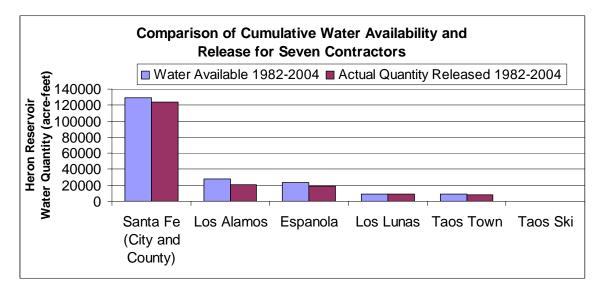


Figure 11





Once the water is released from Heron, it may be stored in a downstream reservoir, used by contractors to offset groundwater pumping effects per state permitting requirements, or leased to third parties for their needs. Some SJ-C water is lost during transport and lost to evaporation during storage. Combined, the allocations of the seven contractors totals 8,620 ac-ft. This water is generally released from Heron Reservoir at various times throughout the year. It flows downstream in the Rio Chama and is either stored in El Vado or Abiquiu Reservoirs or continues to flow downstream in the Rio Grande for the primary purpose of offsetting ground water pumpage effects per the various contractors' State Engineer permits. If the full amount were released to the Rio Grande, it is calculated that approximately 8,448 ac-ft would pass the Otowi gage. This is equivalent to about 704 ac-ft/month or 23 ac-ft/day or a flow of about 11.6 cfs. Figure 10 shows that Otowi flows range from roughly 1,000 cfs to 4,300 cfs during the year.

If the Proposed Action is implemented, the contracted 8,620 ac-ft would continue to be used or stored by contractors or leased to third parties, and municipal surface water development projects may proceed at a faster rate than currently. This could potentially shift its use from primarily offsetting groundwater pumping effects to direct consumption by M&I users. Any planned diversion of SJ-C water would be evaluated to ensure that water rights of Pueblos and Tribes recognized as having "prior and paramount" priority, would be protected from foreclosure. According to accounting records from 1982 to 2002, 151,124 ac-ft of a total 163,780 ac-ft allocated to the seven contractors was released from Heron Reservoir. Direct consumption by municipalities may maximize the total release even further. If that were to occur, the Rio Chama and Rio Grande could experience an insignificant increase in discharge (12,656 ac-ft over 19 years or grossly 666 ac-ft/year). River flows and reservoir water levels would continue to fluctuate independent of the Proposed Action. If municipalities conjunctively use surface and ground water supplies or switch entirely to surface water supply, then there could be a minor reduction in net ground water withdrawal.

If the No Action alternative is selected, then the current condition with existing trends would continue. The contracted 8,620 ac-ft would continue to be used or stored by contractors or leased to third parties. The water would continue to contribute insignificantly to basin flows. River flows and reservoir water levels would continue to fluctuate independent of the 8,620 under contract. Municipalities are expected to gradually grow and consume more water. Surface water development projects for City and County of Santa Fe and City of Española of SJ-C water are currently being planned and additional projects could be proposed in the future. This could introduce minor amounts of additional surface water into the Rio Chama and Rio Grande and reduce ground water withdrawals by a minor amount.

3.3 Biological Resources

Potential impacts to biological resources would result from any changes in water management that would result from the Proposed Action. *New construction is not associated* with the Proposed Action although the implementation of water diversion projects may proceed more quickly than they would under No Action, however the completion of such project(s) is speculative. Resources that could potentially be affected would include aquatic species in the Rio Chama and Rio Grande and in Heron, El Vado, and Abiquiu reservoirs, as well as other species associated with those rivers and reservoirs.

If the Proposed Action is implemented, a minor amount of imported water (8,620 ac-ft) would continue to be introduced into the Rio Grande basin. This is roughly equivalent to 1/4 to 1 percent of flows at Otowi gage and would have little to no measurable effect on any biological resources. If the water contracts are amended, then future water development projects may proceed at a faster rate. If water development projects proceed more quickly, then any potential impacts to biological resources associated with those kinds of projects would be accelerated. Potential impacts to riparian areas and fish and wildlife resources could occur sooner than they would under No Action. The types of resources that could be affected include vegetation that is removed or disturbed and aquatic species affected directly by in-river construction or through diversion operations. Any impacts from the construction and operation of subsequent water development projects is out of scope for this environmental assessment and will be dealt with by specific project environmental compliance, such as the restoration of vegetation affected or protection of aquatic species through the use of screens and/or other mechanisms.

If the No Action alternative is selected, then there would be no change from the current condition and existing trends. As described above, 8,620 ac-ft would continue to be introduced into the Rio Grande basin, equivalent to 1/4 to 1 percent of flows at Otowi gage. This would have no measurable effect on any biological resources. As communities grow, there would likely be more direct diversion projects, water treatment plants or plant expansions, and more pipelines constructed. There would be potential impacts to biological resources due to construction and operation of facilities. The types of resources that could be affected include vegetation that is removed or disturbed and



aquatic species affected directly by in-river construction or through diversion operations. The City and County of Santa Fe and the City of Española are currently pursuing diversion projects.

To address supplemental water needs for endangered species, Reclamation would continue to seek to acquire SJ-C water leases from willing contractors including those with water service contracts and repayment contracts. The availability of SJ-C water for Reclamation's supplemental water program is expected to decrease over time.

Threatened and Endangered Species

This section contains information and Reclamation's effect determination intended to serve the requirements under the provisions of Section 7 of the Endangered Species Act regarding consultation with the U.S. Fish and Wildlife Service on potential effect to federally-listed species. Several threatened and endangered species occur in or along the Rio Grande and/or Chama River. These include the Rio Grande silvery minnow (Hybognathus amarus), the bald eagle (Haliaeetus leucocephalus), and the Southwestern willow flycatcher (Empidonax traillii extimus). In assessing potential impacts of the Proposed Action on endangered species, it was determined that the following factors should be considered: (1) flow changes in Rio Chama and/or Rio Grande; (2) changes in Heron, El Vado, and Abiquiu reservoirs; and (3) new construction and/or new water diversions. As discussed above, potential impacts to biological resources due to implementation of the Proposed Action could be an acceleration of potential impacts to riparian areas and fish and wildlife resources. Implementation of the Proposed Action would not permit or authorize any new construction or any new water diversion. Water development will continue under either alternative, but it is expected that financing will be easier to obtain if the contracts are converted to repayment contracts and, thus, planning and construction of water development projects may proceed at a faster rate. The City and County of Santa Fe and the City of Española are currently pursuing diversion projects and are in the midst of environmental compliance processes for those diversions. Other municipalities may or may not choose to develop a direct diversion for its SJ-C water supply, regardless of which form of contract exists.

With implementation of the Proposed Action, flow changes in the Rio Chama and Rio Grande would at the maximum increase flow of 1 percent. If flows increase, they may not be detectable or measurable. This very small percentage increase would not affect the silvery minnow, the flycatcher, or the bald eagle. Likewise it would not improve habitat for any of these species. Changes in water storage would at the maximum decrease storage in Heron Reservoir of grossly 666 ac-ft per year. If this water is stored in El Vado or Abiquiu, then there would be an increase in those reservoirs. Fluctuations in reservoir elevations or surface acres may not be detectable or measurable. Any minute changes in water storage would not affect silvery minnow, the flycatcher or the bald eagle. Since the Proposed Action causes an important administrative change and very little, if any, actual change on-the-ground, Reclamation has determined that the contract amendments will not affect endangered species or their habitats.

3.4 Socioeconomic Considerations

This section considers the potential effects on social and economic characteristics of the region that could occur as a result of the Proposed Action. The economy in north-central New Mexico is based largely on retail trade, accommodation and food services, healthcare and social assistance, and manufacturing. Public administration is one of the largest employers in the region. Agriculture consumes the largest percentage of surface water in the region.

A safe and reliable water supply is critical in providing economic opportunities in the region. In areas with limited supply, such as the southwestern United States, changes in regional water supply can affect economic conditions by defining the location and extent of population growth, the type and extent of agricultural development, and the jurisdictions in which these types of growth can be supported.

The economic growth of a region, and the associated with population growth in a region, is closely tied to a region's water supply. In areas with limited supply, increases in water supply can improve economic conditions. In New Mexico, however, where all surface waters have been fully appropriated and any new use of water must be balanced by shutting down an existing use, increases in the reliability and security of the water supply result in similar economic growth benefits to an increased water supply.

Table 4 below, shows the taxable gross receipts from 1999 to 2003 for each of the Contractors' counties.



(4.1%)

(Los Lunas)

(11.7%)

Table 4. Taxable Gross Receipts from 1999 to 2003 for the Contractors' Counties 1999 2000 2001 2002 2003 County \$ amount \$ amount \$ amount \$ amount \$ amount (% growth) (Contractor) (% growth) (% growth) (% growth) (% growth) Los Alamos \$519,678,602 \$566,526,959 \$602,812,618 \$712,729,841 \$766,637,240 (Los Alamos County) (9.0%)(18.2%)(4.4%)(6.4%)(7.6%)\$431,412,544 \$423,989,009 \$456,980,963 Rio Arriba \$385,409,567 \$411,106,351 (Española) (18.5%)(6.7%)(4.9%)(-1.7%)(7.8%)\$2,827,642,232 \$3,047,604,993 \$3,101,540,344 \$3,226,221,225 Santa Fe (City and \$3,290,437,620 County of Santa Fe) (7.8%)(1.8%)(4.0%)(2.0%)(6.1%)Taos (Taos and Taos \$454,497,221 \$464,051,889 \$486,084,888 \$505,415,242 \$551,732,564 Ski Village) (0.9%)(2.1%)(4.7%)(4.0%)(9.2%)\$489,831,843 \$476,550,001 \$508,071,028 \$514,211,607 Valencia \$574,119,455

Table 4 indicates trends of general economic growth for all of the Contractors' counties between 1999 and 2003, although Rio Arriba and Valencia counties did experience short periods of economic slowing in 2002 and 2000 respectively. The November 2005 report "The New Mexico Economy" in the New Mexico Economic Development Department's New Mexico Factbook describes growth and expansion in all industries and projects continued expansion in all industries through 2010, with the exception of the natural resources and mining sector which is predicted to decline in 2008. Among the industries analyzed, the manufacturing sector gained jobs for the first time in over four years and is projected to continue its growth over the next four years.

(6.6%)

(1.2%)

(-2.7%)

Irrigated agriculture consumes the largest quantity of water of any economic sector. Overall in New Mexico, less than 4 percent of the state's land is under cultivation for crops, but more than half the area of the state is pastureland. Within the Upper Rio Grande Basin, which includes the area affected by the Proposed Action, crop irrigation accounts for the largest proportion of surface water withdrawal in the basin, up to 90 percent in some counties. Table 5 lists the counties affected by the Proposed Action and for each lists the total acreage of farmland, acreage of irrigated farmland, and the percent of farmland that is irrigated. While the percentage of farmland irrigated is a small proportion of the total amount of farmland in these counties, water withdrawal for irrigation is estimated to be 70,000 ac-ft per year in Bernalillo County, 50,000 ac-ft per year in Sandoval County, and 175,000 ac-ft per year in Valencia County. Portions of this irrigation water comes from the SJ-C project in the form of supplemental water provided to the Middle Rio Grande Conservation District (20,900 ac-ft) and the Pojoaque Valley Irrigation District (1,030 ac-ft).

Table 5. Farmland and Irrigated Farmland within the Counties affected by the Proposed Action

			Irrigated Acreage
County	Acreage in Farms (2002)	Acreage in Farms (1997)	(% of 2002 acreage)
Bernalillo	N/A	476,421	7,952 (1.7%*)
Los Alamos	0	0	0 (0%)
Rio Arriba	1,431,119	1,445,320	19,512 (1.4%)
Sandoval	793,197	810,209	10,593 (1.3%)
Santa Fe	683,508	663,010	18,792 (2.7%)
Taos	466,254	310,799	7,750 (1.7%)
Torrance	1,696,831	1,525,329	25,725 (1.5%)
Valencia	368,864	387,884	14,086 (3.8%)
Notes: N/A - No	ot Available	* Based on 1997 acrea	ge

The major crop items by acreage in the counties listed in Table 4 are hay and corn. While the acreage devoted to irrigated corn is greater than that for irrigated hay, average water applications on alfalfa hay (2.5 ac-ft per acre) greatly exceed the average applications for corn for grain (1.3 ac-ft per acre). The USDA NASS 2002 Agricultural Census (Estimated Quantity of Water Applied and Method of Crops Harvested: 2003 and 1998) states that water use for grains ranges from 1.3 feet per acre (for small grains such as oats, rye, etc.) to 2.3 feet per acre for corn

According to 2006 New Mexico Agricultural Statistics, the 2005 average price of hay was \$98 per ton and the average price of corn was \$1.90 per bushel. Yields for hay averaged 2.44 tons per acre, while yields for corn averaged 147.9 bushels per acre. If the entirety of the 8,620 ac-ft of the Proposed Action were used exclusively for the production of hay or corn, this would allow for the production of approximately 8413 tons of hay (valued at \$824,486) or approximately 980,691 bushels of corn (valued at \$1,863,312).



The total amount of SJ-C water is 96,200 ac-ft, and the amount affected by the Proposed Action is 8,620 ac-ft, approximately 9 percent of all SJ-C project water. New Mexico is apportioned an 11.25 percent share of the annual yield from the Upper Colorado Basin share of the Colorado River supply, approximately 670,000 ac-ft of depletions. New Mexico currently uses approximately 400,000 ac-ft of Colorado River water, including the 92,600 ac-ft transferred to the Rio Grande Valley via the SJ-C diversion. The San Juan Basin also provides a groundwater supply of approximately 114,000 ac-ft. Therefore, the overall percentage of regional water supply that would be affected by the Proposed Action would be less than 2 percent.

In New Mexico, all surface waters have been fully appropriated and any new use of water must be balanced by shutting down an existing use. Therefore, increases in the reliability and security of the water supply result in economic growth benefits similar to those of an increased water supply. According to economic theory, there are aspects of all water resources that can be valued monetarily. For instance, there is an objectively determined dollar value of an acre-foot of water for the irrigation of a particular crop. Water uses requiring valuation typically include not only agricultural uses, but also municipal and industrial (M&I) needs, instream uses, such as hydropower and navigation, and recreation uses. Although the value of an acre-foot of water ranges widely across these uses and between locations within New Mexico, \$5,000/acre-foot of water is a figure that is generally utilized in estimates of water value.

Figures 3 through 5 show that while the SJ-C water stored in El Vado and Abiquiu Reservoirs comprises a large portion of the total water stored in these reservoirs, that SJ-C storage makes up a small portion of the water stored in Heron Reservoirs. On average, SJ-C water comprises approximately 35 percent of regional water storage in these reservoirs. However, the portion of water stored by the Contractors seeking contract amendment in this Action accounts for only 12 percent of all SJ-C water and less than 7 percent of the total regional water stored.

If the Proposed Action is implemented, the volume of water used by the Contractors would not change. As a result, while the value of water in the region is high, the Proposed Action would not be likely to result in a significant change in crop production, employment, income, indirect business taxes, or value added in the regional economy. Due to small proportion of the total regional water supply affected by the Proposed Action, if any adverse economic effects would result from the Proposed Action, they would not be significant. Additionally, the water supplies of the affected communities would be more secure, which, in turn would facilitate the financing of water projects. Consequently, capital expenditures associated with these construction costs of and revenue from non-binding end uses would provide benefits to the local and regional economy.

If the No Action alternative is selected, then water development and use by the seven contractors would continue at its current trend. Social and economic change would be expected to continue its course. Although the water service contracts with the seven contractors have been in existence for 22 to 27 years and it is expected that these contracts would be renewed at the end of their contract period, the contracts are subject to renewal and may be viewed as a less secure source of water supply for the respective communities. In addition, three of the contractors have plans to implement water diversion projects and are currently conducting environmental review of those projects, and continuation of the water service contracts could result in the loss or delay of capital expenditures associated with other water development projects and associated end uses and could hinder local and regional economic growth.

3.5 Cultural Resources

Cultural resources could potentially be affected if river flows change, reservoir levels change, or if the level of construction activities would increase as a result of the Proposed Action. If the Proposed Action is implemented, then the contracts would be converted to repayment contracts but there would be little if any on-the-ground activity attributable to the contract conversion. There would be no detectable change in river flows or reservoir levels outside the range of normal operations. If water development projects proceed more quickly, then any potential impacts to cultural resources associated with those kinds of projects would be accelerated. The construction of diversion facilities, pipelines and water treatment plants could affect cultural resources. However, the Proposed Action does not authorize or permit any new construction activities. If a contractor chooses to pursue a water development project, environmental review would be required and potential site specific effects to cultural resources would be identified at that time.

If the No Action alternative is selected, then the contracts would remain as water service. Water use and water development would continue at its current trend. As time goes by, there would likely be construction of additional direct



diversion projects, water treatment plants or plant expansions, and more pipelines. There would be potential impacts to cultural resources due to construction of facilities. However, this alternative does not authorize or permit any new construction activities. If a contractor chooses to pursue a water development project, environmental review would be required and potential site specific effects to cultural resources would be identified at that time. Currently, three of the contractors, the City of Santa Fe, County of Santa Fe, and the City of Española are conducting environmental compliance processes for their respective diversion projects which include assessments of potential effects to cultural resources.

3.6 Environmental Justice

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (1994), directs federal agencies (as well as State agencies receiving federal funds) to assess the effects of their actions on minority and/or low-income populations within their region of influence. The order requires agencies to develop strategies to identify and address any disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority and/or low-income populations.

The U.S. Environmental Protection Agency (EPA) published the *Guidance for Incorporating Environmental Justice Concerns in EPA's NEPA Compliance Analyses* (1998), which indicates that a minority population exists when either:

- The minority population of the affected area is greater than fifty percent of the affected area's general population, or
- The minority population percentage of the affected area is meaningfully greater than the population percentage in the general population or other appropriate unit of geographic analysis.

An environmental justice screening analysis must determine whether any significant impacts of the Proposed Action (if any) would disproportionately adversely affect local low-income and/or minority populations. If a disproportionate impact is determined, mitigation measures must be implemented to reduce the adversity of the impact to a less-than-significant level. According to the federal guidelines, the environmental justice screening analysis assesses whether "the potentially affected community includes minority and/or low income populations." The guidelines indicate that a minority population exists when the minority population is 50 percent or more of the affected area's total population. The 50 percent threshold is also used to determine the presence of low-income populations in the study area.

For the purposes of this analysis, the affected area is considered to be the seven jurisdictions that constitute the contractors seeking contract amendments: City of Santa Fe, County of Santa Fe, County of Los Alamos, Town of Taos, Village of Taos Ski Valley, Village of Los Lunas, and City of Española. Table 6, below, shows the 2000 US Census minority and poverty data for each of the contractors seeking contract amendments.

Table 6. Minority and Poverty Data for Contractors Seeking Contract Amendments

Percent	Percent	Individuals in
Non-White	Hispanic/Latino	Poverty
23.7	47.8	12.3
26.5	49.0	12.0
9.7	11.7	2.9
32.0	54.3	23.1
12.5	16.1	0.0
35.9	58.7	13.5
32.5	84.4	21.6
	Non-White 23.7 26.5 9.7 32.0 12.5 35.9	Non-White Hispanic/Latino 23.7 47.8 26.5 49.0 9.7 11.7 32.0 54.3 12.5 16.1 35.9 58.7

As shown in Table 6, none of the jurisdictions in the affected area have low-income populations of greater than 50 percent. Consequently, any environmental impacts resulting from the Proposed Action are not likely to fall disproportionately on minority populations. The Town of Taos, Village of Los Lunas, and the City of Española all have Hispanic/Latino populations that are over 50 percent of their population, and the City and County of Santa Fe both have Hispanic/Latino populations that approach 50 percent. If any impacts were to result from the Proposed Action, there is a potential that they could disproportionately affect minority populations in these jurisdictions.



The purpose of Executive Order 12898 is to ensure that federal agencies identify and address disproportionately high and adverse human health or environmental effects of federal projects on minority and low-income populations. The other impact analyses performed for Proposed Action conclude that no significant impacts would occur as a result of these contract amendments. Therefore, no population, including populations defined as low-income or minority, would be disproportionately impacted by the Proposed Action.

Under the No Action alternative, the contracts would expire at various times from 2016 through 2021, but it is anticipated that the contracts would be renewed for the same amounts of water. Water development and use by the seven contractors would continue at its current trend. There would likely be construction of additional direct diversion projects, water treatment plants or plant expansions, and more pipelines. There would be potential environmental justice impacts due to construction of facilities. However, this alternative does not authorize or permit any new construction activities. If a contractor chooses to pursue a water development project, environmental review would be required and potential environmental justice impacts would be identified at that time.

3.7 Indian Trust Assets

The U.S. has an Indian trust responsibility (trust responsibility) to protect and maintain rights reserved by or granted to Indian tribes or Indian individuals by treaties, statutes, and executive orders, which rights are sometimes further interpreted through court decisions and regulations. This trust responsibility requires that all Federal agencies, including Reclamation, take all actions reasonably necessary to protect trust assets. Indian trust assets (ITAs) are legal interests in property held in trust by the U.S. for Indian tribes or individuals. "Legal interest" means there is a property interest for which a legal remedy, such as compensation or injunction, may be obtained if there is improper interference. For example, ITAs include land, minerals, hunting and fishing rights, and water rights. A characteristic of an ITA is that it cannot be sold, leased, or otherwise alienated without the U.S.' approval. Reclamation's Indian trust policy was stated in a July 2, 1993 memorandum from Reclamation's Commissioner (Attachment 1). The policy statement is: "Reclamation will carry out its activities in a manner which protects trust assets and avoids adverse impacts when possible. When Reclamation cannot avoid adverse impacts, it will provide appropriate mitigation or compensation."

Reclamation identified Indian water rights as an ITA that could be potentially affected by the Proposed Action. As part of its trust responsibility and effort to identify potential effects of the proposed project on trust resources and tribal cultural resources, Reclamation requested government-to-government consultation with Indian tribes (see Attachment 2.) Indian water rights are an ITA of concern, however, there are no existing Indian water rights that would be impacted by the proposed contract amendments and therefore are not relevant in the analysis of the Proposed Action. The Proposed Action is not expected to interfere with the quantity or quality of surface or ground water supplies available to tribes.

If the No Action alternative is selected, then the status quo continues. There would be no activity resulting in effects to ITAs. Presumably, there would continue to be unmet tribal water needs as well as efforts to acquire SJ-C water for tribes. Prior to contract renewals during 2016-2021, environmental clearances would be needed and potential impacts of those renewals on ITAs would be assessed.

3.8 Cumulative Effects

Cumulative effects are defined as the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertake such other actions. Following are reasonably foreseeable actions that could occur in the timeframe of the Proposed Action:

- The Albuquerque Bernalillo County Water Utility Authority is developing its Drinking Water Project and will consume the allocation of SJ-C water (48,200 ac-ft) formerly allocated to the City of Albuquerque.
- Construction for Albuquerque's water diversion project began in the fall of 2004 and has been continuing through early 2006.
- Both the City and County of Santa Fe are planning to divert and consume their 5,230 ac-ft and 375 ac-ft allocations, respectively, within a decade either through the proposed Buckman Direct Diversion Project, or otherwise.



- The City of Española is also considering direct use of its 1,000 ac-ft allocation and Los Alamos County is planning direct use of its 1,200 ac-ft allocation.
- Currently, Reclamation seeks to lease water from SJ-C contractors for temporary use in its supplemental water program to benefit the Rio Grande silvery minnow.

Even if the M&I diversion projects are delayed or are not constructed, the contractors plan to fully utilize their allotments to offset groundwater pumping effects or as leases to third parties as M&I demand continues to increase. With implementation of these M&I water projects as well as other future diversion projects and associated end uses, there would be less SJ-C water available for other allowable uses. This will not, however, foreclose any "prior and paramount" rights of existing water for the pueblos and tribes.

The trend of decreased availability of SJ-C water for use as supplemental water occurs regardless of whether No Action or the Proposed Action alternative is selected. In either case, Reclamation and other entities will seek and may acquire supplemental water from other sources in the future. Thus, the quantity of supplemental water that may be available in the future could fluctuate as it has since 1996. There is also the possibility, however, that the increased stability of water supply under the Proposed Action may increase supplemental water available for short-term uses as contractors become secure with their SJ-C Project water uses and find they have temporary surpluses. As the jurisdictions of the contractors grow, these surpluses may decrease, and subsequently decrease supplemental water in the long-term.

As municipalities grow in the coming decades, demand for water will increase. Regardless of which form of contract exists, it is likely that the contractors will seek additional native water supplies for their respective communities. If No Action is implemented, it may result in the seven municipalities generally seeking alternative native water supplies somewhat sooner and in somewhat greater quantities. If the Proposed Action is implemented, then the need for additional native water supplies would be somewhat reduced in quantity and the timeline may be extended.

Chapter 4. Consultation & Coordination

4.1 Public Involvement

Public input was requested during scoping and during review of the Draft EA. In addition, Reclamation sought input from agencies and tribal governments. Notice of the proposed contract actions were published in Volume 71, No.36 of the Federal Register dated February 23, 2006.

4.2 Scoping Process

Two public scoping meetings, one on January 7, 2002 and one on November 7, 2005, were held at the Sweeney Convention Center, and the Genoveva Chavez Community Center respectively, in Santa Fe, New Mexico to describe the proposed contract amendments and receive information to focus the environmental analysis on important resource issues. Legal notices announcing the public meeting were published in the Albuquerque Journal, the Journal North (for the 2002 scoping meeting), the Albuquerque Tribune (for the 2005 scoping meeting), the Santa Fe New Mexican, the Taos News and the Rio Grande Sun in Española. A press release was also distributed to these newspapers prior to the 2002 scoping meeting. Letters announcing the public scoping meeting were also sent to 83 tribal, agency, and environmental advocacy groups contacts. Approximately thirty-five individuals representing agencies, municipalities, Native American interests, elected officials, newspapers, or themselves attended the January 2002 meeting and two individuals attended the November 2005 meeting. Lists of attendees and copies of the presentation given are provided in Attachment 3. Verbal comments were received at the meeting and additional written scoping comments were accepted through January 25, 2002 after the 2002 scoping meeting and through December 7, 2005 after the 2005 scoping meeting. Comments received at the meeting and through written agency and tribal correspondence are provided in a scoping summary report (Attachment 5).

4.3 Tribal Consultation

Reclamation consults with Indian Tribes as part of its trust responsibility and seeks an exchange of information regarding potential project effects to Indian trust assets, sacred sites, other cultural or biological resources, tribal health and safety, or other aspects of cultural heritage. Formal requests for government-to-government consultations (Attachment 2) were sent to the following sovereigns:



- Pueblo of Acoma
- Pueblo of Cochiti
- Pueblo of Isleta
- Pueblo of Jemez
- Jicarilla Apache Nation
- Pueblo of Laguna
- Mescalero Apache Tribe
- Pueblo of Nambe
- Pueblo of Ohkay Owingeh

- Pueblo of Picuris
- Pueblo of Pojoaque
- Ramah Navajo Chapter
- Pueblo of San Felipe
- Pueblo of San Ildefonso
- Pueblo of Sandia
- Pueblo of Santa Ana
- Pueblo of Santa Clara
- Pueblo of Santa Domingo

- Southern Ute Tribe
- Pueblo of Taos
- Pueblo of Tesuque
- Ute Mountain Ute Tribe
- Ysleta del Sur Pueblo
- Pueblo of Zia
- Pueblo of Zuni
- Navajo Nation
- Alamo-Navajo Chapter

In addition, the Bureau of Indian Affairs was solicited for input regarding the proposed contract amendments and environmental documentation.

Meetings or conversations took place with representatives of Ysleta del Sur, Southern Ute Tribe, Pueblo, Sandia Pueblo (Sandia Water Task Force), and Santa Ana Pueblo. Government-to-government sessions were held with Pueblo of Taos, Pueblo of Ohkay Owingeh. In addition, written comments were received from Pueblo of Sandia, Pueblo of Ohkay Owingeh, Pueblo of Taos, Ysleta del Sur Pueblo, Pueblo of Nambe, Pueblo of San Ildefonso, Pueblo of Tesuque, and Pueblo of Pojoaque (see letter in Attachment 2). Reclamation was invited to discuss the contract conversion proposal at several meetings of the Six Middle Rio Grande Pueblos Coalition (Coalition). This informal exchange of information (not government-to-government consultation) was conducted at Coalition meetings held in November 2001 and January 2002. The Sandia Pueblo and Reclamation officials also met on December 2, 2005.

4.4 Agency Coordination and Consultation

The New Mexico Interstate Stream Commission is serving as a cooperating agency for preparation of this EA.

The following governments, organizations or persons were or will be consulted regarding the proposed contract amendments:

- City of Santa Fe
- County of Santa Fe
- County of Los Alamos
- Town of Taos
- Village of Taos Ski Valley
- Village of Los Lunas
- City of Española
- U.S. Bureau of Indian Affairs
- New Mexico Interstate Stream Commission
- U.S. Fish and Wildlife Service
- NM State Historic Preservation Officer



Agency correspondence regarding the proposal is provided in Attachment 4. The U.S. Fish and Wildlife Service will be consulted regarding effects to endangered species. The New Mexico State Historic Preservation Office will be consulted regarding effects to cultural resources.

4.5 How Scoping Input Has Been Used

The information obtained through the scoping process has been used to help prepare this EA. A scoping summary report has been prepared to identify important areas of concern (Attachment 5). Topics have been included and described in a way that complies with NEPA and addresses comments and questions that have been raised. Information obtained through scoping led Reclamation to reassess the range of possible alternatives. Reclamation considered not moving forward on the contractors' requests. Reclamation also considered reducing the contractors' allocations and reallocating some water to other uses such as endangered species or tribal water resources. Chapter 2 of this document presents the reasons these alternatives were determined to be infeasible. Interagency coordination also assisted in determining the feasibility of alternatives considered.

4.6 Draft EA Comment Process

The Draft EA was distributed for 30-day public review and comment (April 17, 206 to May 16, 2006). The Draft EA was made available for public review at various libraries, government offices, and on a Reclamation website.

Chapter 5. Environmental Commitments

The following environmental commitments will apply if the Proposed Action is selected and implemented:

- 1. When available for Reclamation's use, the water would be released for environmental purposes to help sustain the Rio Grande silvery minnow.
- 2. Reclamation will continue to seek and manage supplemental water from all available sources for the benefit of the silvery minnow.
- 3. Reclamation will continue its strong role in Indian water rights settlements.

Chapter 6. List of Preparers

Name	Agency/Organization	Degree	Project Role
Lori Robertson	Bureau of Reclamation	M.A., Biology	Environment Division Manager
Charles Fischer	Bureau of Reclamation	M.S., Agronomy and	NEPA Compliance Manager
		Soil Science	
Nancy Purdy	Bureau of Reclamation	B.A., Economics	Contracts & Repayment Specialist
Jeffery Hanson	Bureau of Reclamation	Ph.D., Anthropology	Archaeologist
Kevin Flanigan	NM Interstate Stream Commission	M.S. Hydrology	Water resources
Susan Lee	Aspen Environmental Group	M.S., Applied Earth	NEPA Consultant
		Science	
Jacob Hawkins	Aspen Environmental Group	M.E.S.M.,	NEPA Consultant
		Environmental Science	e
		& Management	