

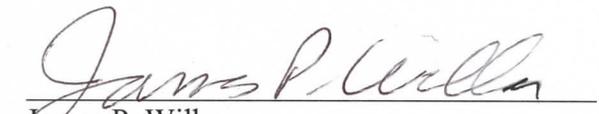
# RECLAMATION

*Managing Water in the West*

## Finding of No New Significant Impact

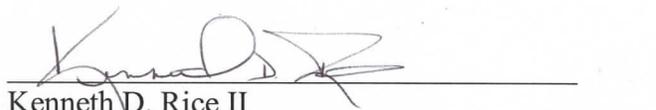
### Implementation of Rio Grande Project Operating Procedures, New Mexico and Texas

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6/21/13  
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# Introduction

In compliance with the National Environmental Policy Act of 1969, as amended (NEPA), the Bureau of Reclamation, Albuquerque Area Office, conducted a supplemental environmental assessment (EA) for a proposed action to continue implementing operating procedures and an Operating Agreement (OA) for the period 2013-2015 for the Rio Grande Project (Project) in southern New Mexico and west Texas. Reclamation is responsible for managing the Project and is the lead agency for the purposes of NEPA compliance for the supplemental EA and for the original 2007 EA (2008-2012) of the operating procedures and OA. The cooperating agencies for this NEPA analysis are the International Boundary and Water Commission, United States Section (IBWC), the El Paso County Water Improvement District No. 1 (EPCWID), the Elephant Butte Irrigation District (EBID), and the Texas Rio Grande Compact Commission.

# Alternatives

The alternatives evaluated in the supplemental EA remain the same as in the 2007 EA: 1) the Proposed Action of continued implementation of the OA and associated procedures, and 2) the alternative of No Action. These two alternatives and the draft assessment of their effects were made available to the public on May 8, 2013. Both alternatives consist of four functions:

- Storing Project water.
- Allocating Project water to the two irrigation districts (EBID, EPCWID) and to Mexico.
- Releasing Project water to satisfy orders from the two irrigation districts and the IBWC on behalf of Mexico.
- Diverting Project water at the diversion dams and distributing the water through the irrigation and drainage system to individual farmers.

As described in both the 2007 and supplemental EAs, the Proposed Action differs from the No Action alternative by providing new provisions for carryover water accounting for any unused portion of the annual diversion allocations to the two irrigation districts and modifying procedures for allocating Project water to the districts to account for the conjunctive use of surface water and groundwater with the EBID and the corresponding effects on Project allocations and deliveries to the districts and Mexico.

## **Public Review of Supplemental EA**

The draft supplemental EA was made available to the public via mailings and Reclamation web page on May 8, 2013. The comment period ended on June 6, 2013. Five comment documents were received. Reclamation's responses to comments provided are in Appendix G. The comments did not result in modifying alternatives or developing and evaluating new alternatives, nor raise issues that would require reissuing the supplemental EA. Some comments resulted in factual corrections, supplementing and modifying certain analyses. Comments were received on topics like groundwater, surface water, Project allocation, water quality, endangered species, State Compact requirements, etc.

## **Decision and Finding of No New Significant Impact**

Based upon a review of the supplemental EA and the supporting documents, Reclamation has decided to implement the Proposed Action because we have determined that continued implementation of the operating procedures and OA for the Project for the next three years will not significantly affect the quality of the human environment, individually or cumulatively with other actions in the area. Continued implementation of the OA would have no new environmental effects that meet the definition of significance as defined in the supplemental EA and 40 CFR 1508.27. Therefore, an EIS is not required. This finding is based on consideration of the context and intensity of the proposed action, as summarized here, as well as the comments received from the public.

A common comment received during initial scoping for this supplemental analysis and on the draft supplemental EA was the duration of the action or time frame for analysis. Reclamation initially intended this supplemental EA to analyze the potential impacts of implementation of the OA on the human environment over the entire remaining period of the OA (i.e., through 2050). However, Reclamation determined that currently available data and models are best suited for projection of potential impacts to the human environment over a limited time frame, in this case, for the 2013-2015. Consequently, Reclamation prioritized its review on the short term, during which the known information will be of the greatest utility to the general public and to decision-makers.

One reason this short time frame was selected is that during this three-year period, the International Panel on Climate Change will release its new models of global emissions scenarios which Reclamation can spatially downscale to the Project area, providing a robust model of long-term climate that can be used to analyze implementation of the OA through 2050. In conjunction with a new, project-specific climate model, data and modeling of groundwater can be undertaken and analyzed through an Environmental Impact Statement (EIS). But for the short-

term effects of implementing the OA, Reclamation finds that implementation of the proposed action would not result in any significant effect, as defined by factors of context and intensity.

## **Context**

The supplemental EA presents an analysis of the effects of the Proposed Action on the Project for the next three years. The Project (affected environment for the NEPA analysis) includes Elephant Butte and Caballo dams and reservoirs and the delivery system, including the river, downstream diversion dams, and irrigation facilities. These facilities provide irrigation service to 90,640 acres of the EBID in the Rincon and Mesilla Valleys of New Mexico and to 69,010 acres of the EPCWID in the Mesilla and El Paso valleys of Texas. The districts use project water to irrigate a variety of crops, including lettuce, chilies, onions, cotton, sorghum, and pecans.

The Project includes 159,650 acres of farm land, of which 57 percent are in New Mexico and 43 percent in Texas. The New Mexican allocation of Project water goes to irrigate these lands, while the Texas allocation is distributed between irrigated agriculture and water for the City of El Paso. The Project also provides water to Mexico under an international treaty.

Over the last decade, the Project area has been in a drought. Conditions since 2008 have been substantially affected by severe and sustained drought conditions. While the ongoing drought is comparable in magnitude and duration to the drought of the 1950s, conditions during 2008-2012 are not representative of the range of hydrologic conditions within the basin over the past several decades. Elephant Butte and Caballo reservoirs have been at historically low levels.

Outside the Project area/affected environment, but within the Rio Grande Basin, urban populations have been rapidly growing; for example, Dona Ana and Sierra Counties, New Mexico, where Elephant Butte Reservoir and EBID are located, had a 200 percent population increase between 1970 and 2010. Thus, the context is one of increasing challenges for Federal, state, and local governments and water managers.

## **Intensity**

Within the context summarized above and as described in the supplemental EA, the regulations implementing NEPA require assessment of the significance of impacts based on the following 10 intensity criteria described at 40 CFR 1508.27.

### **1. Impacts that may be both beneficial and adverse.**

A primary benefit of implementing the operating procedures and OA is that it fulfills contractual obligations among Reclamation and the two irrigation districts, and it resolves decades of litigation in compliance with the legal settlement

described in Appendix C of the supplemental EA. In terms of water management and planning, the benefit of implementing the proposed action is that it allows the districts to conserve water through the carryover provision, which may be of particular benefit if the drought continues.

The analysis in the supplemental EA indicates that the OA will result in changes in the allocation of Project water between EBID and EPCWID, with minor effects on Project storage, releases, and deliveries. Estimated changes in Project allocations are consistent with the underlying principles of the OA, including promotion of water conservation through the carryover provision and mitigation of potential negative effects of deviations in Project performance, which result largely from the actions of individual landowners within EBID, on Project allocation and deliveries to EPCWID. Results indicate that the OA will have no effect on the short-term allocation to Mexico.

Effects of the OA on groundwater resources within the Project are generally consistent with the effects on Project surface water deliveries. By maintaining Project allocations and deliveries to EPCWID consistent with historical conditions, the OA will also maintain groundwater recharge via seepage and deep percolation of Project water. In years when the OA results in an increase in Project allocation and delivery to EBID, the OA will result in a corresponding increase in recharge via seepage and deep percolation within EBID as well as a decrease in demand for supplemental irrigation by groundwater pumping within EBID. Conversely, when the OA results in a decrease in allocation, recharge and deep percolation are likely to decrease while demand for supplemental irrigation is likely to increase, which may promote increased groundwater pumping within the district, as permitted by the State of New Mexico.

The Proposed Action changes the amount of storage at Elephant Butte in comparison to the historical operations as a result of water conserved under the OA as carryover only in the amount that would not have been carried over historically. This may affect the Rio Grande Compact (Compact) in two ways; the OA generally decreases the amount of time under Article VII restrictions under the Compact, and increased storage under the OA also increases evaporation from the reservoir that may have impacts on the delivery computation for New Mexico. However, under the OA during the period 2013-2015, reservoir levels are likely to stay low, keeping Article VII in effect during this period. Severe drought conditions are a reality for 2013, therefore any carryover in allocation will be as a consequence of the timing of release and not from an intention to accumulate any carryover. Little, if any, carryover is expected in 2014 and 2015 unless unusual hydrologic events occur. Therefore, the potential for impacts to Compact calculations as a result of the OA are unlikely.

At Elephant Butte Reservoir, the Proposed Action could result in slightly higher reservoir levels than the No Action over the next three years. If the rising water levels are seasonal and the flooding is of short duration, most native plants and wildlife would prefer those conditions. There would be either no effects from

these patterns of storage, release and allocation on natural resources, cultural resources, and socioeconomic resources, or the effects would be minor. None of the projected effects rose to the level of significance defined for each resource.

**2. Degree of effect on public health or safety or a minority or low-income population.**

Elephant Butte and Caballo reservoirs were built to manage flooding on the Rio Grande and flood control would continue under both alternatives. These storage facilities would continue to benefit public safety and prevent downstream flooding. In terms of public health, the supplemental EA evaluated effects on the quality of the City of El Paso's drinking water. But the finding was that the City's drinking water was above regulatory standards during the five years the OA was implemented and projections are that due to continued water quality treatments, there would be no public health impacts from implementing the OA.

Minority and low-income populations that are classified as environmental justice communities are present in the counties within the affected environment for the NEPA analysis. There are no community adverse effects and no disproportionate effects on minority or low-income populations from implementing the Proposed Action.

**3. Unique characteristics of the geographic area, such as parks, prime farmlands, wetlands, wild and scenic rivers.**

While Project lands are irrigated farmlands, they are not prime farmlands, nor is this segment of the Rio Grande classified as wild and scenic. The Rio Grande from Elephant Butte Reservoir downstream through the Project area has been canalized and most of the natural vegetation removed from the bankline, but recently the IBWC and its partners have begun to restore the form and function of some areas of the Rio Grande. The river channel below Elephant Butte and Caballo Reservoirs is deep, narrow and operations under both alternatives would not appreciably affect overbank flooding. Pursuant to Executive Orders 11990 and 11988, the Proposed Action would have no adverse effects on wetlands or floodplains. In summary, the Proposed Action would have no significant impact on unique characteristics.

Elephant Butte Reservoir is a state park, and the largest, most heavily visited reservoir in the region. A regional travel cost model was applied to the two alternatives based on the projected water surface elevations. The three year average annual economic benefits are projected to be \$3,061,500 under the action alternative compared to \$2,855,330 under no action. This is a difference of \$206,173: an amount that does not rise to the level of significance given the overall recreational benefits to the region.

**4. Degree to which possible effects on the quality of the human environment are likely to be highly controversial.**

The Proposed Action is supported by the irrigation districts and the State of Texas. Hydrologists working for the state of New Mexico have not agreed with the predicted effects of the Proposed Action on whether groundwater pumping within New Mexico and under authority of the New Mexico State Engineer, both by irrigators within the federal projects and by domestic and municipal/industrial pumpers, affects the water supply in the federal project, and whether allocations under the federal project can consider and account for the effects of this groundwater pumping.

As explained in Appendix C, Comprehensive Background, in August 2011, the New Mexico Attorney General filed a complaint over Project water allocations under the OA, and the calculation of Rio Grande Compact credit waters remaining on account. New Mexico has also contended that the Proposed Action affects the use of groundwater, a resource under New Mexico's jurisdiction. Since the 1950s, some individual farmers in New Mexico have been substituting or supplementing groundwater to their surface water. However, although the Proposed Action may affect the incentive for irrigators within the New Mexico portion of the federal project to pump groundwater, the decisions of individual farmers to pump groundwater or substitute groundwater for surface water are not caused by Reclamation's actions, but are determined more by factors that are not under the control of Reclamation. The public was afforded opportunities to comment on the Proposed Action, and groundwater was identified as an issue involving disagreements over the predicted effects on the human environment.

**5. Degree to which the possible effects on the quality of the human environment are highly uncertain or involve unique or unknown risks.**

Reclamation typically uses computer modeling of reservoirs for planning and NEPA analysis, and these routine models and methods were applied here. There are statistical uncertainties associated with the projections of water resources and related effects on other resources, but are presented in the document and accounted for in Reclamation's analyses. We are not aware of any other available methods that would reduce that uncertainty.

Uncertainties exist for any projection of future hydrologies, for example, we cannot know what kind of water years the next three years will be. Analyses employ statistical methods to characterize the probability associated with the range of possible surface flows. They also assume that the annual diversion ratios during the period 2008-2012 would have been the same under prior operations as the actual diversion ratios under the OA. Future values of the diversion ratio are estimated using a simple serial regression relationship. Assumptions and associated uncertainties are stated in the supplemental EA and detailed in the Technical Appendix F. Appendix F provides a sensitivity analysis and thorough

discussion of associated statistical errors, assumptions of the model, and uncertainties.

**6. Degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration.**

The Proposed Action alternative neither establishes a precedent for future Reclamation actions with significant effects nor represents a decision in principle about a future consideration.

**7. Whether the action is related to other actions which are individually insignificant but cumulatively significant.**

No individually or cumulatively significant impacts were identified for the Proposed Action. Any impacts identified, in conjunction with any adverse impacts of other past, present, or reasonably foreseeable future actions, will result in negligible to moderate impacts to natural, cultural and socioeconomic resources.

**8. Degree to which the action may adversely affect historic properties.**

Facilities of the Project are listed on the National Register of Historic Places and there are prehistoric resources eligible to the National Register within the Project area. The New Mexico State Historic Preservation Officer was consulted when Reclamation transferred title to easements, ditches, laterals, canals, drains, and other rights-of-way, but not storage or diversion structures, which the United States had acquired on behalf of the Project and concurred with a finding of no effect. For this Proposed Action, the characteristics which made the properties eligible and significant for listing on the National Register will not be affected.

**9. Degree to which the action may adversely affect an endangered or threatened species or its critical habitat.**

A biological evaluation was included in the supplemental EA in compliance with Section 7 of the Endangered Species Act. The endangered Southwestern Willow Flycatcher (flycatcher) was of particular concern, given the presence of occupied habitat within Elephant Butte Reservoir and the modeled predictions of a slightly higher water surface elevation under the Proposed Action. The 2007 EA and FONSI resulted in a determination that the proposed OA would have no effect to any proposed or federally listed species or designated critical habitat during the five years (2008 to 2012) covered in the EA. Reservoir elevations in 2008, 2009, and 2010 were slightly higher than an elevation of 4,345 ft, which is the lowest reservoir elevation where flycatchers have occurred. This resulted in inundation of several flycatcher territories in each of those years (up to about 4,353 ft elevation in June 2009). Water levels are estimated to have been an average of 2.4ft high underneath nesting trees during the period flycatchers are usually present (May 1-September 1). No flycatcher nests were flooded, in fact

nests are typically in the mid to upper canopy of the nest tree which is well above any surface water underneath. The number of territories in the area of inundation increased in 2011 and 2012; in retrospect, suggesting that the extent and timing of the inundation in previous years could have indirectly benefited the habitat needed by the flycatcher (Appendix D). Elevations below 4,375 ft are outside of flycatcher designated critical habitat.

Considering the extremely dry forecast for 2013, it is unlikely that this potential for increased inundation would exceed the elevations observed since 2008. It is anticipated that rising water levels would likely occur prior to the start of the flycatcher nesting season with relatively short duration in a manner supportive of most native plants and the flycatcher. Reclamation's finding was that implementation of the proposal would have no effect on listed species nor would it adversely modify critical habitat.

**10. Whether the action threatens a violation of Federal, state, local, or tribal law, regulation or policy imposed for the protection of the environment.**

The Proposed Action violates no federal, state, local, or tribal environmental protection law, regulation, or policy. The Proposed Action is consistent with Reclamation's (2003) Elephant Butte and Caballo Reservoirs Resource Management Plan and EIS and with the IBWC's management plans for the Rio Grande. The Proposed Action would be implemented in compliance and consistent with all requisite approvals or authorizations from cooperating agencies and other government officials.