

Executive Summary

This biological assessment (BA) includes the Bureau of Reclamation's (Reclamation) and the Middle Rio Grande Conservancy District's (MRGCD) water management actions taken in the Middle Rio Grande (MRG) from Velarde to Elephant Butte Reservoir Pool and in the Rio Chama, as well as associated maintenance actions to maintain water delivery and protect infrastructure. These maintenance actions also include the cooperative actions of Reclamation and the Interstate Stream Commission. The BA includes, as the conservation measure, the offsetting actions taken by participants of the Middle Rio Grande Endangered Species Collaborative Program (Collaborative Program)/Recovery Implementation Program (RIP), known collectively as "Collaborative Program/RIP." The analysis for this BA is divided into two parts. The water management portion (Part I) is intended to cover specifically described actions that Reclamation and the MRGCD carry out. The maintenance portion (Part II) is designed to be a programmatic description of Reclamation's River Maintenance Program, as well as a description of specific maintenance actions on riverside drains in conjunction with the Interstate Stream Commission (ISC) and MRGCD maintenance actions on diversion structures and riverside delivery systems.

This BA also initiates the Endangered Species Act (ESA) Section 7 compliance process associated with the Collaborative Program/RIP. It is intended that compliance with the contemplated biological opinions (BiOp[s]) associated with this BA and an anticipated supplement describing the proposed actions for the State of New Mexico (ISC and the Office of the State Engineer) and other non-Federal, non-pueblo actions, in combination with the U.S. Army Corps of Engineer's BA, will convey ESA coverage for those actions, including the aforementioned Collaborative Program/RIP conservation measure.

Three species are fully considered in the BA analysis: Rio Grande silvery minnow, Southwestern willow flycatcher, and Pecos sunflower. Least tern are considered "vagrant" within the MRG, likely would not be affected by the actions, and are not analyzed in this BA. The approach to this consultation differs in several ways from the approach of the 2003 consultation, which resulted in the March 17, 2003, Biological Opinion (2003 BiOp). In the 2003 consultation, Reclamation and the U.S. Army Corps of Engineers (Corps) prepared a joint BA, which used a total river depletions-based analysis that looked only at the amount of water reaching the species and critical habitat. It did not examine each action taken, the effect of discrete actions, or the extent of discretion exercised by each entity.

For this BA, Reclamation set out more specifically to identify and describe each of its actions, the actions of non-Federal members of the Collaborative

Program/RIP, and the nature and extent of discretion attendant with each action. Reclamation parsed its discretionary actions related to the Middle Rio Grande Project (MRG Project) from the actions within MRGCD's authority. Reclamation determined that it does not have the discretion to operate the MRG Project diversion structures for several reasons, including that Reclamation does not and has never held any interest in the right to divert water for lands within the MRGCD.

The action area for this BA includes Heron Reservoir and Willow Creek downstream from Heron Dam, the Rio Chama downstream from the confluence with Willow Creek, and in the Rio Grande from Velarde, New Mexico, downstream to San Marcial above the full reservoir pool of Elephant Butte Reservoir. Reclamation and MRGCD have no actions that are considered in this analysis upstream of Velarde. Similarly the River Maintenance that occurs between Elephant Butte Dam and Caballo Reservoir was not included in the analysis. The scope of River Maintenance activities within this reach is not consistent with activities that occur within the Middle Rio Grande and occur under a different authority. Additionally, no endangered species currently are present in this reach.

This BA evaluates the effects of the following water management actions and conservation measures for both Reclamation and MRGCD:

1. Reclamation proposes the following water management actions:
 - a. Operation of Heron Dam and Reservoir as part of the San Juan - Chama Project to deliver water to downstream users.
 - b. Operation of El Vado Dam and Reservoir to store and release water, including response to requests by MRGCD.
2. MRGCD proposes the following water management actions:
 - a. Operation of the MRG Project Diversion Dams to deliver water to meet the agricultural demand of lands with appurtenant water rights, including the lands of the Six MRG Pueblos.¹
 - b. Operation of irrigation drains and wasteways to return water to the river.
3. Reclamation and MRGCD propose the following maintenance activities:
 - a. Reclamation proposes a programmatic strategy for River Maintenance activities that will provide efficient water delivery and protect infrastructure along the Middle Rio Grande.

¹ Cochiti, Santo Domingo, San Felipe, Santa Ana, Sandia and Isleta Pueblos (the Six MRG Pueblos or Pueblos).

- b. Reclamation proposes maintenance activities for the Low Flow Conveyance Channel and former State Drains in coordination with ISC.
 - c. MRGCD proposes maintenance activities for their diversion dams and riverside delivery systems.
4. The proposed conservation measure to offset any adverse impacts caused by the above actions is the Collaborative Program/RIP and the actions contained in the Action Plan, Long-Term Plan, and annual work plan. Specific conservation measures that have been developed and are offered by Reclamation and MRGCD and described in the BA are as follows:
- a. Reclamation's conservation measures:
 - i. The Supplemental Water Program.
 - ii. Adaptive management.
 - iii. Environmental water operations.
 - b. MRGCD's conservation measures:
 - i. Commitment to provide resources necessary for ESA compliance
 - ii. Enhanced coordination.
 - iii. Changes in operation to support instream habitat and flow management.
 - iv. Changes in operation to support spring peak flows.

The status of the silvery minnow and flycatcher has been variable in the last decade since the initiation of the 2003 BiOp. Silvery minnow abundance was at its lowest recorded levels in 2003 and highest in 2005. The silvery minnow abundance has decreased from 2005 levels in recent years. This is likely due to a series of low runoff years. Flycatcher abundance also increased due to the dense vegetation that established from several years of overbank inundation. Pecos sunflower are actively managed on the La Joya State Wildlife Area (SWA) and also were planted at a new location. The Pecos sunflower population appears to be stable to increasing within the MRG. The population variation for silvery minnow and flycatcher is mainly driven by high flow events, while the main portion of the Pecos sunflower population on La Joya SWA is influenced by management activities that provide water through the irrigation system. The RIP will use guidance from the Adaptive Management Plan Version 1 and adaptive management experience of this and other programs to develop a formal Adaptive Management Plan. The RIP will identify specific management activities, monitoring, and research that will be used to evaluate and improve management decisions and will identify the decisionmaking framework for flexible water management and nonflow-related activities that provide for meeting the RIP goals.

The overall effect of the Proposed Action will decrease the amount of water within the MRG during the irrigation season, which is likely to adversely affect all species. Maintenance activities all have short-term direct negative effects to species and their habitat, although long-term (indirect) effects are mixed and dependant on the actions. Conservation measures have been developed to attempt to mitigate these effects, especially by adding additional water to the river during low flow periods as well as the deviation program developed by the Corps to enhance high flow events. Other conservation actions will be more fully developed in the RIP.

The RIP is intended to identify and implement actions that assist in the recovery of the species and provide compliance with Sections 7 and 9 of the ESA for water development and water management activities in the MRG. For the purposes of the RIP and Section 7 consultations, it is assumed that:

1. The RIP will produce a list of actions that can be implemented to assist in the recovery of the species.
2. The funding will be available to implement these actions.
3. Participants will take appropriate steps to implement those actions.
4. Actions will be implemented in accordance with the developed schedule.

The U.S. Fish and Wildlife Service will determine if progress toward recovery has been sufficient for the Program to serve as a reasonable and prudent alternative or measure.