DRAFT

Regional Water Planning Update

Projects, Programs, and Policies

Water Planning Region:_____Middle Rio Grande Region 12_____

Planning Region	County	Regional or System Specific (R), (SS)	Strategy Type (Project, Program or Policy)	Strategy Approach (What issue does strategy address)	Subcategory	Project Name	Source of Project Information	Description	Project lead (Entity or Organization)	Partners (other entities or participants)	Timeframe (Fiscal Year)	Planning Phase	Cost	Need or reason for the project, program, or policy	Comments
Middle Rio Grande		R	Program	Reduce Demand	10.2.1 Urban and Rural Conservation Activities	**R1-5—Urban Water Pricing (A-21)**	Alternative from previous water plan with updates from Steering Committee discussion	The plan recommends that jurisdictions examine a variety of water pricing mechanisms and adopt those that are most effective at conserving water.							This has been very effective in the communities that have implemented it. The steering committee ranked this alternative as highly effective (4/5) and a high priority (5/5) in the future.
Middle Rio Grande		R	Project	Reduce Demand	10.2.1 Urban and Rural Conservation Activities	**R1-7—Treated Effluent Re-use (A-27)**	Alternative from previous water plan with updates from Steering Committee discussion	It is recommended that treated effluent in urban areas be reused where safe and practical, especially in new construction where it can more easily be implemented. Dual piping should be installed where practical in new construction to facilitate this use.							This alternative has two parts, injection of the treated water or irrigation with the water. Irrigation much easier than injection. The steering committee ranked this alternative as moderately effective (3/5) and a high priority (5/5) in the future.
Middle Rio Grande		R	Project	Reduce Demand		**Modify MRG Administrative Area Guidelines to Encourage Reuse**	Water Assembly	The State should modify the MRGAA Guidelines to encourage reuse and recycling of water. For example, prohibit a 1-1 return flow credit (especially junior water users) to offset impacts to senior water rights holders. This would result in less water being pumped and more recycling and reuse. Less waste flows could be offset by additional reservoir releases to offset the flow depletions from past actions. Reduced flow depletions in future years would provide more water for endangered species. Policy changes like these would need to be modeled to determine their full impact.							
Middle Rio Grande		R	Program	Reduce Demand	10.2.1 Urban and Rural Conservation Activities	**R1-2—Outdoor Conservation Programs (A-18, A-22)**	Alternative from previous water plan with updates from Steering Committee discussion	This recommendation is for local governments to implement incentive, regulatory, and/or public education policies so as to reduce high-water use landscaping and convert to xeriscaping to the greatest extent possible. Strengthen the existing programs and support new programs to broaden the geographical coverage so as to meet the target percentages provided in the Preferred Scenario in residential, municipal, industrial, commercial and institutional uses across the region						Most of the urban and suburban consumptive use of water comes from outdoor uses, particularly lawns and trees.	This has been very effective in some regions and not at all in other regions. The steering committee would like to see this alternative prioritized in regions not doing it already, including offering increased incentives to local governments. The steering committee ranked this alternative as highly effective (4/5) and a high priority (4/5) in the future.
Middle Rio Grande		R	Program	Reduce Demand	10.2.1 Urban and Rural Conservation Activities	**R1-3—Rainwater Harvesting (A-44)**	Alternative from previous water plan with updates from Steering Committee discussion	This recommendation is for local governments to implement incentive, public education and/or, if deemed appropriate, regulatory policies to encourage rainwater harvesting to achieve the scenario targets.						Most of the urban and suburban consumptive use of water comes from outdoor uses, particularly lawns and trees.	There are some prohibitions on rainwater harvesting (i.e., homeowners can't collect the rain that would naturally fall on the land, but any roof capture is allowed – stormwater runoff belongs to the state). The steering committee recommends changing the name of this alternative to clarify that this is rooftop harvesting so that it is not in conflict with ISC or EPA regulations. The steering committee ranked this alternative as moderately effective (2/5)
Middle Rio Grande		R	Program	Reduce Demand	10.2.1 Urban and Rural Conservation Activities	**R1-6—Greywater Reuse (A-24)**	Alternative from previous water plan with updates from Steering Committee discussion	Funding technical and educational activities that promote safe and effective greywater reuse should be considered. Municipal and industrial (M&I) use of greywater should be encouraged. Installation of dual piping may be appropriate for new M&I construction. Incentives should be provided to retrofit existing M&I to greywater reuse where the quantities are sufficiently large.							This alternative is not cost effective for home owners who would have to run the double plumbing needed to reuse greywater. Then additional cost to treat the water makes it even more costly to implement. The steering committee ranked this alternative as not very effective (1/5) and a low priority (1/5) in the future.
Middle Rio Grande		R	Program	Reduce Demand	10.2.1 Urban and Rural Conservation Activities	**R1-8—Growth of Parks and Golf Courses**	Alternative from previous water plan with updates from Steering Committee discussion	It is recommended that technologies be applied to achieve an 80% reduction in the current growth rate of water use in parks and golf courses.							This was written such that water use on golf courses and parks be reduced by 80%. This has been effective and done in many places, or has limited the growth of new parks. The steering committee ranked this alternative as highly effective (5/5) , but a low priority in the future (1/5) as it has already been implemented.

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Middle Rio Grande		R	Policy	Reduce Demand	10.2.1 Urban and Rural Conservation Activities	**R1-1—Establish a Domestic Well Policy (A-61)**	Alternative from previous water plan with updates from Steering Committee discussion	The State Engineer should establish a policy to reduce pumping from domestic wells and restrict drilling of domestic wells where surface waters or the aquifer could be impaired.							The steering committee agreed that the issue is important, the policy is good in theory, and public education has increased, but since it is not enforced it has not had the successful impact it could have. Reducing domestic wells from 3 acre-ft. to 1 ac-ft. often had little effect since most people didn't use 3 ac-ft. domestically (unless they were actually irrigating land with this right illegally). The steering committee ranked this alternative as moderately effective (3/5) and a moderate priority in the future.
Middle Rio Grande	Bernalillo	SS	Program	Mitigate Drought, Reduce Demand		**Water Conservation Rebates**	ABCWUA Water Resources Management Strategy	Provide rebates for water efficient appliances and xeric landscaping conversions	ABCWUA		2015-ongoing		$1,200,000 annually		
Middle Rio Grande		R	Program	Reduce Demand	10.2.1 Urban and Rural Conservation Activities	**R1-4—Conversion to Low Flow Appliances (A-18)**	Alternative from previous water plan with updates from Steering Committee discussion	Local governments should implement incentive, public education and/or, if deemed appropriate, regulatory policies so as to encourage all construction, new and old, to utilize effective low flow appliances such as toilets, clothes washing machines, dishwashing machines, showers, automatic shutoff faucets, and broken sprinkler cutoffs. This recommendation should be converted from the current casual to a highly vigorous campaign in residential, municipal, industrial, commercial and institutional uses across the region.							The steering committee ranked this alternative as highly effective (5/5) (as seen by the great reduction in per capita water use in Albuquerque over the last decade), and high priority in the future for regions which have not implemented this yet.
Middle Rio Grande		R		Protect Existing Supplies and Reduce Demand	10.2.1 Urban and Rural Conservation Activities	**R1-9—Recognize Urban and Economic Vitality in the Region (Goal D)**	Goal from previous water plan with updates from Steering Committee discussion	This planning region is defined in terms of it being the largest urban population center in New Mexico and being a major center of current and future economic development in the State as well. Providing economic opportunities for the existing and future populations is vital to this region and protecting existing and future water supplies for this purpose provides benefits for the region and the State as a whole. While municipalities in the region are meeting today's water demands via the aquifer, transitioning to renewable supplies meets the mission of this water plan and maintains the quality of life in the region.							GOAL
Middle Rio Grande		SS		Improve System Efficiency	10.2.1 Urban and Rural Conservation Activities	**Rural Drinking Water and Sewer System Improvements**	Pueblo of Laguna	Replace aging infrastructure and improve/maintain well capacity for both rural and urban drinking water and sewer systems. This would include actions such as replacing aging pipelines, or complete system overhauls in some of the smaller and older systems. This would promote conservation and protect water quality.							
Middle Rio Grande	Bernalillo	SS	Project	Improve System Efficiency		**Steel Waterline Rehabilitation**	ABCWUA Decade Plan	Rehabilitation of steel water lines	ABCWUA		2016-2025		$11,370,000		
Middle Rio Grande	Bernalillo	SS	Project	Improve System Efficiency, Reduce Demand		**AMR Meters**	ABCWUA Decade Plan	Replacement of existing meters with AMI equipped "smart" meters allowing for increased customer usage information and leak detection	ABCWUA		2016-2025		$20,000,000		
Middle Rio Grande	Sandoval	SS	Project	Improve System Efficiency		**AMR Trend**	City of Rio Rancho		City of Rio Rancho		Current	Current	In-house		Sample set to get more consistent profile in meter categories
Middle Rio Grande	Sandoval	SS	Project	Increase Water Supplies		**Purchase Water Rights**	City of Rio Rancho		City of Rio Rancho		Annually	Began 2007	$13,000 to $18,000 per acre foot		748 acre feet every 5 years
Middle Rio Grande	Sandoval	SS	Project	Improve System Efficiency		**Non-revenue Water Gap Analysis**	City of Rio Rancho		City of Rio Rancho		2015	2015	$ 20,000.00		
Middle Rio Grande	Sandoval and Bernalillo	SS	Project	Increase Water Supply Mitigate drought Improve System Efficiency		**Rehabilitate/Replace Wells**	Pueblo of Sandia Water Resources Program	This project would repair or replace aging well infrastructure in order to conserve existing infrastructure and supply additional irrigation water to Pueblo Lands in times of surface water shortages.	Pueblo of Sandia	None	2016-2026	Preliminary planning has begun, to include identification of wells needing rehabilitation and potential long-term usefulness of those wells.	$ 300,000.00	To repair or replace aging well infrastructure.	
Middle Rio Grande	Sandoval	SS	Project	Improve System Efficiency		**Redrill 1200 gpm Well**	City of Rio Rancho		City of Rio Rancho		1 year	PER 2015	$6-7 million		Awaiting RFP for hydrologist
Middle Rio Grande	Sandoval	SS	Project	Improve System Efficiency		**Equip 1600 gpm Well**	City of Rio Rancho		City of Rio Rancho		3 years	Completed	$12-15 million		High arsenic and total dissolved solids, needs advanced treatment
Middle Rio Grande	Sandoval	SS	Project	Improve System Efficiency		**Replace 1400 gpm Well**	City of Rio Rancho		City of Rio Rancho		2 years	Pending	$ 7,000,000.00		
Middle Rio Grande	Sandoval	SS	Project	Improve System Efficiency		**Service Line Replacement**	City of Rio Rancho		City of Rio Rancho		Annually	2014 and on	$1-1.5 million/year		Replacing polyethylene service lines with copper
Middle Rio Grande	Sandoval	SS	Project	Improve System Efficiency		**Rebuild WWPT #1 to MBR**	City of Rio Rancho		City of Rio Rancho		Currently under review	PER 2015	$11-15 million		To get class 1A water for reuse

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Middle Rio Grande	Sandoval	SS	Project	Improve System Efficiency		**Septic Dump Station**	City of Rio Rancho		City of Rio Rancho		Unknown	2014	$ 5,000,000.00		
Middle Rio Grande	Sandoval	SS	Project	Improve System Efficiency		**Upgrade 3 lift stations**	City of Rio Rancho		City of Rio Rancho		2 years		$ 2,500,000.00		LS10 being relocated now as part of NMDOT project
Middle Rio Grande	Sandoval	SS	Project	Improve System Efficiency		**Rebuild WWTP #3 to MBR**	City of Rio Rancho		City of Rio Rancho		5 years	Not started	$ 10,000,000.00		
Middle Rio Grande	Sandoval	SS	Project	Improve System Efficiency		**Purified Water Storage Tank**	City of Rio Rancho		City of Rio Rancho		2015	2013	$ 5,000,000.00		Aquifer injection for potable reuse
Middle Rio Grande	Sandoval	SS	Project	Improve System Efficiency		**Equip the advanced water treatment**	City of Rio Rancho		City of Rio Rancho		2015	2013	$ 5,300,000.00		Aquifer injection for potable reuse
Middle Rio Grande		SS		Improve System Efficiency	10.2.1 Urban and Rural Conservation Activities	**Community Water System Development**	Pueblo of Laguna	Convert homeowners on individual wells to community water systems. This can promote conservation and protect water quality.							
Middle Rio Grande		R		Improve System Efficiency	10.2.1 Urban and Rural Conservation Activities	**Water-Efficient Energy Production**	Pueblo of Laguna	Decrease reliance on energy generation that consumes water (e.g., coal-fired steam turbines) and encourage growth of renewable energy such as wind, solar, etc., that does not rely on water.							
Middle Rio Grande		R	Policy	Protect Existing Supplies	10.2.2 Water Resources Planning and Management	**R2-1—Adjudication and Water Rights Settlement (A-71)**	Alternative from previous water plan with updates from Steering Committee discussion	It is recommended that adjudication process be utilized in the region unless a more expedient, equitable, and less costly process is created. Alternative dispute resolution should be considered as an option. Furthermore, this plan recommends that the legislature appropriate, and the State Engineer direct, sufficient funds to prepare the necessary information, including hydrographic surveys, to identify, quantify and resolve priority ownership rights.							The steering committee consensus was that this is an important issue, but it is not happening very quickly in this region. The steering committee ranked this alternative as a high priority (5/5), but not currently effective (1/5).
Middle Rio Grande		R	Policy	Protect Existing Supplies	10.2.2 Water Resources Planning and Management	**R2-2—Conjunctive Use Management (A-144)**	Alternative from previous water plan with updates from Steering Committee discussion	The plan recommends strengthening conjunctive-use management by encouraging the state legislature to define state water management aims and by directly addressing aspects of New Mexico water law that now prevent conjunctive management of our ground and surface waters. What is needed at the most fundamental level are four things. First, the state should decide the fate of the priority system — including whether and how it should be modified. Second, the state should decide how to make the management of ground water and surface-water rights mutually consistent, and consistent with how water-right priorities are to apply. Third, it should decide what transitional adjustments will be needed to phase in any changes in a fair and equitable manner from our present unbalanced system. Fourth, it should provide clear guidance to its water officers, especially the State Engineer, on the philosophy and principles that are to govern administration of this state's water affairs.							The City of Albuquerque has seen significant improvement in the local groundwater conditions by reducing per capita water use in conjunction with supplementing the groundwater supply with surface water allocations (San Juan River water). The steering committee ranked this alternative as highly effective (4/5) and a high priority (5/5) in the future.
Middle Rio Grande		R	Program	Protect Existing Supplies	10.2.2 Water Resources Planning and Management	**R2-3—Funding Source for Water Activities (A-59, A-58)**	Alternative from previous water plan with updates from Steering Committee discussion	In order to have a reliable funding source for water projects, planning and conservation, a dedicated and reliable recurring revenue stream augmented with federal funds needs to be established. The state is seen as the most appropriate level of authority to impose such a revenue source and to manage the proceeds for the benefit of the state and for the region.	State of NM						This alternative created the Water Trust Board, but the steering committee was torn on how effective this has been. The steering committee ranked this alternative as moderately effective (2/5) and a high priority (5/5) in the future.
Middle Rio Grande		R	Program	Protect Existing Supplies	10.2.2 Water Resources Planning and Management	**R2-4—Elephant Butte Loss Accounting (A-51)**	Alternative from previous water plan with updates from Steering Committee discussion	The Office of the State Engineer and Interstate Stream Commission (ISC) should assure that evaporative losses from Elephant Butte Reservoir are apportioned fairly between the two water-planning regions, Socorro-Sierra and Middle Rio Grande. Spring 2004 information from the ISC indicates that the compact has already apportioned the waters of the basin; evaporative losses are considered neither an asset nor a liability. Therefore, this does not seem to be a viable option.							From a regional planning perspective, the evaporative losses from Elephant Butte are actually part of the Socorro-Sierra regional water balance – but compact delivery obligation effects all users of the Rio Grande. This is a limitation of region based planning. This alternative should include both accounting methods to more closely track evaporation, as well as mechanical methods to reduce evaporation loss such as: surfactant to reduce evap, move storage to more northern reservoirs, maintain reservoir shape and size to minimize isolated pools from forming as water level drops. The steering committee ranked this alternative as not very effective
Middle Rio Grande		R	Program	Improve System Efficiency	10.2.2 Water Resources Planning and Management	**R2-6—Water Resource Database (A-73)**	Alternative from previous water plan with updates from Steering Committee discussion	A regional water resource database needs to be established and maintained within the region and made accessible to all interested parties. This regional data and information can be available as a basis for historical trend analysis, current conditions profile, and future projections of water supply and demand. Currently, the data applicable to this region is maintained by a number of agencies and may not be suitable for centralized accumulation and storage. It is recommended that a regional compilation of data could be achieved through a cooperative networking process with a directory of source locations and other necessary references for retrieving the data							The steering committee ranked this alternative as moderately effective (3/5) and a high priority (5/5) in the future.

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Middle Rio Grande		R	Policy	Protect Existing Supply	10.2.2 Water Resources Planning and Management	**R2-7—Watershed Management Plans (A-66, A-33)**	Alternative from previous water plan with updates from Steering Committee discussion	The preservation and management of water resources must be conducted on a regional basis of watersheds and geologic basins. It is recommended that specific watershed management plans should be established in the Middle Rio Grande planning region to achieve common objectives such as: increasing water yield; reducing storm water runoff and preventing soil erosion; improving woodland and rangeland health; increasing infiltration and protecting aquifer recharge zones, and ensuring water quality protection from non-point source pollution. However, watersheds should not be managed to increase water yield at the expense of habitat degradation. It is recommended that a basin-wide coordinating function be established.	It is recommended that governmental jurisdictions, water management agencies, and private water system developers should utilize standard best management practices (BMPs) for watershed protection.						This issue is very important and several studies are ongoing or have been completed on watershed management (Nature Conservancy, NM ISC, etc.). A dual purpose of this work is that healthy watersheds are more resilient to fires. More funding is required to continue and broaden this work. The steering committee ranked this alternative as moderately effective (3/5) and a high priority (5/5) in the future.
Middle Rio Grande		R	Policy	Protect Existing Supply	10.2.2 Water Resources Planning and Management	**Forest Restoration**	Pueblo of Laguna	This is a subset of the Watershed Management Plan that would encourage a focus on forest restoration and wildfire management							
Middle Rio Grande		R	Policy	Protect Existing Supply	10.2.2 Water Resources Planning and Management	**Rangeland Restoration**	Pueblo of Laguna	This is a subset of the Watershed Management Plan that would encourage a focus on rangeland restoration.							
Middle Rio Grande		R	Policy	Improve System Efficiency	10.2.2 Water Resources Planning and Management	**R2-9—Storm Water Management Plans (A-34)**	Alternative from previous water plan with updates from Steering Committee discussion	Storm water runoff can and should be utilized by the region when practicable. It is recommended that local government storm water plans be enhanced and expanded to control runoff, using swales, terraces and retention structures to minimize erosion, enhance infiltration, and recharge, and prevent pollution of surface and ground water. It is recommended that flood control authorities include infiltration, seepage, pollution control and aquifer recharge in their mission.							The steering committee felt that this has been very effective in ABQ but not in other regions. The steering committee ranked this alternative as moderately effective due to limited reach so far (3/5) and a high priority (5/5)in the future.
Middle Rio Grande	Bernalillo	R	Project	Protect Existing Supplies	Storm/Surface Water Control	**SE Valley Storm Water detention at Valle de Oro National Wildlife Refuge**	USFWS	Incorporate storm water treatment into the wetlands of the Refuge and associated Rio Grande floodplain habitat	USFWS	AMAFCA					
Middle Rio Grande	Sandoval	SS	Project	Improve System Efficiency	Storm/Surface Water Control	**Algodones Flood Control System**	2017-2021 ICIP Project List (from ESCAFCA)		Eastern Sandoval County Flood Control Authority (ESCAFCA)		2017-2019		$ 1,400,000.00		
Middle Rio Grande	Bernalillo	SS	Project	Improve System Efficiency	Storm/Surface Water Control	**Mid Bernalillo Flood Conveyance Phase 1, Acequia**	2017-2021 ICIP Project List (from ESCAFCA)		Eastern Sandoval County Flood Control Authority (ESCAFCA)		2017-2020		$ 1,620,000.00		
Middle Rio Grande	Bernalillo	SS	Project	Improve System Efficiency	Storm/Surface Water Control	**South Hill Flood Water Conveyance**	2017-2021 ICIP Project List (from ESCAFCA)		Eastern Sandoval County Flood Control Authority (ESCAFCA)		2017-2021		$ 2,320,000.00		
Middle Rio Grande	Bernalillo	SS	Project	Improve System Efficiency	Storm/Surface Water Control	**Athena Storm Sewer Extension**	2017-2021 ICIP Project List (from ESCAFCA)		Eastern Sandoval County Flood Control Authority (ESCAFCA)		2018 and 2020		$ 1,415,000.00		
Middle Rio Grande	Bernalillo	SS	Project	Improve System Efficiency	Storm/Surface Water Control	**Flood Control - Piedra Liza Outfall**	2017-2021 ICIP Project List (from ESCAFCA)		Eastern Sandoval County Flood Control Authority (ESCAFCA)		2017-2019		$ 400,000.00		
Middle Rio Grande		R	Policy	Improve System Efficiency	10.2.2 Water Resources Planning and Management	**R2-5—Active Administration (A-143)**	Alternative from previous water plan with updates from Steering Committee discussion	The plan encourages active administration by ISC. The State Engineer should establish an improved enforcement program to ensure that only the necessary and allowable water is drawn for municipal uses, agriculture, and other uses. It is recommended that a program be instituted for enforcing water retirements after transfers (both permanent and temporary). It is particularly important that land whose water rights have been retired, transferred or leased not continue to use part or all wet water for which it had been previously entitled.							The steering committee ranked this alternative as moderately effective (2/5) and a high priority (4/5) in the future.
Middle Rio Grande		R	Program	Protect Existing Supply	10.2.2 Water Resources Planning and Management	**Soil and Vegetation Management (A-33)**	Alternative from previous water plan with updates from Steering Committee discussion								The steering committee ranked this alternative as moderately effective (3/5) and a high priority (4/5) in the future.
Middle Rio Grande		R	Policy	Improve System Efficiency	10.2.2 Water Resources Planning and Management	**R2-8—Comprehensive, Integrated, and Continued Water Planning (A-53)**	Alternative from previous water plan with updates from Steering Committee discussion	There must be connection and continuity between water resource planning and other major planning elements in the regional planning process. It is therefore recommended that local government jurisdictions and regional planning agencies work cooperatively to integrate water plans with planning for land use, transportation, economic development, and other planning efforts of regional significance. The scope of regional water resource planning must cover any and all water-related issues. In addition, it is recommended that continuing efforts be made to enhance the quality and quantity of hydrological data for water budgeting. For instance, while well studied, the inflows, consumptive uses, and interaction between ground water and surface water in the region still contain uncertainties. While within reasonable ranges of each other, different studies yield somewhat different numbers. Further study would enhance the credibility of results and recommendations, would help to appraise our success in solving the region's water problems, and would guide us to improved remedial actions.							The steering committee ranked this alternative as moderately effective (2/5) and a high priority (4/5) in the future.
Middle Rio Grande		R	Project	Improve System Efficiency		**Water Budget Studies**	Water Assembly	During the next five years, in preparation for the next regional water plan review and update, several regional reports should be undertaken and updated, such as considering the impacts from a reduction in irrigation water in the MRG. Supply and demand data should be broken out into annual numbers, which would help show the variability of supply and demand.							

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Middle Rio Grande		R	Policy	Improve System Efficiency	10.2.2 Water Resources Planning and Management	**Community Resilience Planning and Implementation**	Pueblo of Laguna	Planning to make communities more drought resilient and able to cope with climate change							
Middle Rio Grande		R	Policy	Improve System Efficiency	10.2.2 Water Resources Planning and Management	**R2-10—Cooperative Regional Water Management (A-67)**	Alternative from previous water plan with updates from Steering Committee discussion	This plan recommends that the local jurisdictions explicitly share the task of balancing the regional water use with renewable supply and implement sustainable water resource management to reduce water consumption, minimize impact on water resources, encourage conservation-oriented economic development; ensure adequate water supplies for any proposed development, protect and enhance the environment, and consider the carrying capacity and location of development, integrate with other major plans in the region. This recommendation could create a mechanism for funding larger projects by pooling resources.							Mechanism to create larger programs by pooling resources (disagreement over priority on this one – some people think this will never happen). The steering committee ranked this alternative as moderately effective (2/5) and a high priority (4/5) in the future.
Middle Rio Grande		R	Program	Mitigate Drought	10.2.2 Water Resources Planning and Management	**R2-11—Water Banking (A-67A)**	Alternative from previous water plan with updates from Steering Committee discussion	Water banking is a term used for several different concepts for leasing water. Only senior water rights that can actually be fulfilled, taking into account the hydrologic system's demands on wet water, may be transferred or "banked". Leasing of water through a water-banking system or entity can only be workable if clearly defined policy is developed. Legislation is recommended that will provide individual and other vested water right holders with a range of options for short-term leasing of water (less than five years) for purposes such as aquifer recharge, Compact deliveries, environmental needs, and meeting demands of other senior users in times of shortage, thereby increasing water management flexibility.							This alternative is difficult to implement until adjudication occurs. The steering committee ranked this alternative as not effective (1/5) and a high priority (4/5) in the future.
Middle Rio Grande	Bernalillo	R	Project	Protect Existing Supplies	R2-11 Water Banking and R2-10 Cooperative Regional Water Management	**NM Strategic Reserve**	USFWS	Place some of the water associated with the Valle de Oro NWR into the NM Strategic Reserve for broader endangered species needs within the middle Rio Grande	USFWS	MRGCD, AMAFCA, NMOSE, BOR					
Middle Rio Grande		R	Policy	Improve System Efficiency	10.2.2 Water Resources Planning and Management	**R2-12—Land Use Management and Planning (includes Growth Management A-52, A-30, In-fill Density A-28, and Conjunctive Management A-144)**	Alternative from previous water plan with updates from Steering Committee discussion	Encourage local jurisdictions to integrate the land use, transportation, economic development, and water components of each of their comprehensive plans; and to integrate their comprehensive plans with the regional water plan.							The steering committee would like to see water use restrictions based on type of development. One shortfall is that the land use plans can be too small in reach, not covering and encompassing a large enough community/area/region to make significant changes. The steering committee ranked this alternative as not effective (1/5) and a moderate priority (3/5) in the future.
Middle Rio Grande		R	Policy	Improve System Efficiency	10.2.2 Water Resources Planning and Management	**Regional Water Planning Program (A-58)**	Alternative from previous water plan with updates from Steering Committee discussion								
Middle Rio Grande	Bernalillo	SS	Project	Improve System Efficiency		**Integrated Resource Master Planning**	ABCWUA Decade Plan	Comprehensive and integrated water resource master planning for all water, wastewater and nonpotable reuse supply, distribution and treatment facilities.	ABCWUA		2016-2017		$1,000,000		
Middle Rio Grande	Sandoval and Bernalillo	SS	Project	Protect Existing Supplies		**Water Resources Plan**	Pueblo of Sandia Water Resources Program	This project would allow the Pueblo of Sandia to develop a long term plan that incorporates robust technical support to protect the Pueblos water resources.	Pueblo of Sandia	None	2016-2026	This project is currently underway. Some studies have been completed such as an aquifer characterization study, Pueblo well drilling rules and regulations drafted, and general drafting of text for plan.	$ 500,000.00	To obtain technical support and/or studies to Pueblo of Sandia to develop water resources plan to protect tribal water resources. Such support or studies may include water budgets, growth projections, regional water policy analysis, conservation initiatives, watershed studies, and adjudication plans.	

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Middle Rio Grande		R	Program	Improve System Efficiency	10.2.3 Water Monitoring and Measurement	**R3-1—Measure All Water Uses (A-7, A-8, A-73)**	Alternative from previous water plan with updates from Steering Committee discussion	Unmeasured water is seen to be a major encouragement to casual or excessive water use. The recommendation is that all uses of water in the region be measured and reported at the single user level. Measuring only particular types of users or particular individual users is publicly seen to be unfair. The recommendation is to establish the measuring program immediately for all new uses, and as a gradual retrofit to existing uses, as soon as possible. This recommendation is for local and state governments to implement incentive, regulatory, and/or public education policies so as to stimulate the prompt installation of appropriate retrofit measurement devices. Besides the direct benefit of water savings, this recommendation will enable much more incisive and efficient management of our surface-water and ground-water supplies. This will entail costs, and the appropriate bodies should consider how these costs would most fairly be borne.							On-farm metering and measurement is not complete, but other uses are pretty well metered. Retrofitting existing infrastructure a high priority. High quality data is essential to manage the supply and understand use. The steering committee ranked this alternative as moderately effective (2/5) and a high priority (5/5) in the future.
Middle Rio Grande		R	Program	Reduce Demand	10.2.4 Agricult	**R4-3—Establish a Local Marketing Infrastructure (A-11)**	Alternative from previous water plan with updates from Steering Committee discussion	A marketing infrastructure should be developed for locally-grown produce, value added products and low- water use alternative crops. In particular, increasing production of low-water alternative crops would reduce overall dependence on water. Research is required to identify the crops and the markets, and a plan for the transition.							The current alt. focuses on low water use crops, which is not very feasible. A regional sorting shed would be needed to bring small AG members together to be more effective. Feasibility studies are already done. The steering committee ranked this alternative as moderately effective (2/5) and a high priority (5/5) in the future.
Middle Rio Grande		R	Program	Improve System Efficiency	10.2.4 Agricult	**R4-1—Upgrade Agricultural Conveyance Systems (A-9)**	Alternative from previous water plan with updates from Steering Committee discussion	The recommendation is to line or pipe a limited number of MRGCD and on-farm ditches so as to obtain a greater efficiency in delivering water to fields. Areas to be lined should be selected after consideration of the impact on water quality, domestic wells, riparian vegetation, wildlife habitat, and so as not lose vital shallow aquifer recharge. New turnouts and improved irrigation water management could also allow for a decrease in diversions while meeting crop needs.							The complication with the alternative remains the same - lining ditches reduces recharge to the shallow aquifer (so water can be gained, but the cost is high for some). More analysis is needed to determine benefits (see current work by Oad and others http://ascelibrary.org/doi/abs/10.1061/(ASCE)0733-9437(2006)132:6(579)) before this can be implemented. Some turnout upgrades have installed for MRGCD since the previous plan. The steering committee ranked this alternative as moderately effective (2/5) and a moderate priority (3/5) in the future.
Middle Rio Grande	Sandoval and Bernalillo	SS	Project	Increase Water Supply Mitigate drought		**New Irrigation Drought Relief Wells**	Pueblo of Sandia Water Resources Program	This project would include geotechnical testing and groundwater investigations on Pueblo of Sandia land, and if found to be feasible, develop irrigation drought relief wells. This project is important to maintain the tradition, culture, and livelihood of agriculture on Pueblo lands in times of surface water shortages.	Pueblo of Sandia	None	2016-2026	This project is currently underway. Some geotechnical testing has been done and consultant recommendations obtained on how to proceed have been received by the Pueblo.	$ 600,000.00	To provide supplementary irrigation water for Pueblo farmers in times of surface water shortages.	
Middle Rio Grande	Sandoval and Bernalillo	SS	Project	Increase Water Supply Mitigate drought Improve System Efficiency		**Rehabilitate/Replace Wells**	Pueblo of Sandia Water Resources Program	This project would repair or replace aging well infrastructure in order to conserve existing infrastructure and supply additional irrigation water to Pueblo Lands in times of surface water shortages.	Pueblo of Sandia	None	2016-2026	Preliminary planning has begun, to include identification of wells needing rehabilitation and potential long-term usefulness of those wells.	$ 300,000.00	To repair or replace aging well infrastructure.	

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Middle Rio Grande	Sandoval and Bernalillo	SS	Project	Improve System Efficiency		**Irrigation Infrastructure Improvement Projects on Sandia Pueblo**	Pueblo of Sandia Water Resources Program	This project would repair or replace aging irrigation (surface water) delivery infrastructure. This project will improve water use efficiency and result in conservation of water.	Pueblo of Sandia	MRGCD US Bureau of Reclamation US Bureau of Indian Affairs	2016-2026	This project is currently underway. Some studies on irrigation infrastructure have been completed, as well as collaboration with MRGCD, US Bureau of Reclamation, and US Bureau of Indian Affairs.	$ 6,000,000.00	To repair or replace aging infrastructure to improve irrigation efficiency and conservation of water.	
Middle Rio Grande		R	Program	Improve System Efficiency	10.2.4 Agricult	**R4-2—Level Irrigated Fields (A-10)**	Alternative from previous water plan with updates from Steering Committee discussion	Many farm fields in the region have been laser-leveled. This recommendation is to encourage farmers through incentive programs to laser level those fields that have not been leveled or that may require a change in grade to facilitate an improved delivery system. This recommendation is for local and state governments (or federal if possible) to implement incentive, regulatory, and/or public education policies to facilitate more efficient delivery of water to those fields. Lobbying of all agencies to broaden the incentive program should commence immediately.							Over 85% of fields over 2 acres in size have been laser leveled (possibly more) as this technology has become more affordable. The steering committee ranked this alternative as very effective (5/5) and a moderate priority (3/5) in the future.
Middle Rio Grande		R	Program	Improve System Efficiency	10.2.4 Agricult	**R4-4—Acequia Efficiency Programs (A-60)**	Alternative from previous water plan with updates from Steering Committee discussion	Acequia culture and rights can be at risk in the environment of increased marketability of water and water rights. It is recommended that special measures be taken to help preserve traditional acequia culture and rights. Traditional community acequias in this region typically require assistance to improve the efficiency of their irrigation networks. The recommendation is that funding for traditional acequias should be made available for purposes of increasing water efficiency within the local acequia system. Recommendations further include providing education to farmers, ranchers, newcomers, and delivery system operators about available support programs and ways to operate more efficient water conveyance systems.							The steering committee ranked this alternative as moderately effective (2/5) and a moderate priority (3/5) in the future.
Middle Rio Grande		R	Policy	Protect Existing Supplies	10.2.4 Agricult	**R4-5 — Recognize Agricultural Traditions in the Region (Goal C)**	Alternative from previous water plan with updates from Steering Committee discussion	Preservation of the region's agricultural base will support the goals of maintaining quality of life present in the region, rural and suburban economies, and the culture and tradition that we value so highly. It should be recognized that the conversion of agricultural land to other uses alters the landscape irrevocably. It is recommended that value based decisions recognize the strong cultural and historical of agriculture in the region, and the overall benefits that agriculture provides to the MRG Region, and to the state as a whole. While some reduction is likely, the Preferred Scenario does not recommend a reduction in crop acreage. Decisions as to crop-type distribution will be left to individual farmers. The state should support the goals of the Federal Farmland Protection Policy Act, as well as any programs that preserve the region's agricultural heritage. It is also recommended that the state share in funding these programs. It is further recommended that the state administer water rights according to the priority system, while considering agricultural use of junior rights equally with other junior uses of water.							GOAL
Middle Rio Grande		R	Program	Protect Existing Supplies	10.2.5 Water	**R5-1 — Mitigate Septic Tank Impacts (A-26, A-47)**	Alternative from previous water plan with updates from Steering Committee discussion	In some areas there is a potential health risk to water users or a contamination risk to the ground water resulting from conventional septic systems. It is recommended that, where such a potential health risk exists, conventional septic systems be replaced by the construction of new or expanded centralized or distributed wastewater treatment systems, including wetlands, or by the use of advanced technology or re- siting for on-site wastewater treatment							A Valencia County study (Master plan) looked at these impacts. Homes with septic have increased inspection (Bern. Co. and NMED regulations). These regulations have started in Bern. Co. but not in the other counties or in rural areas (where it may not be appropriate to enforce). The steering committee ranked this alternative as moderately effective (3/5) and a high priority (4/5) in the future.

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Middle Rio Grande		R	Program	Protect Existing Supplies	10.2.5 Water	**R5-2 — Improved Water Quality Sampling and Testing (A-47)**	Alternative from previous water plan with updates from Steering Committee discussion	It is recommended that the water testing and sampling capabilities be significantly upgraded. The additional testing capabilities should include all of the biological, chemical and radiological threats to public and environmental health that are described in existing state and national water quality guides. In addition, special sampling and testing programs are needed to identify any contaminants that may be introduced into the water supply system. In addition to upgrading the quality of testing of potable water, it is important to improve the quality of testing of wastewater, storm water, and large-scale greywater. Many of these may be continuous automatic testing programs and they may require advanced techniques, which might be developed in cooperation with the national laboratories, state universities and private industry.							Stormwater monitoring has increased since the 2004 plan was written. Rio Grande water quality is also monitored for ESA/BO compliance. While significant data is collected, the reporting for this monitoring could be improved and accessible to the public in one consolidated place for the different entities. The steering committee ranked this alternative as effective (4/5) and a high priority (4/5) in the future.
Middle Rio Grande		R	Program	Protect Existing Supplies	10.2.5 Water	**R5-3—Protect Water from Contamination (A-47, A-50-Well Head Protection)**	Alternative from previous water plan with updates from Steering Committee discussion	It is recommended that programs be established to protect the region's water from contamination and to ensure compliance with federal, tribal, state and local standards for water quality pertaining to surface waters, drinking water, storm water, and wastewater. It is also recommended that programs be established to enforce and protect wellheads from contamination on all public water supply wells within local government jurisdictions.							Improved reporting would be helpful for the AG community (so that irrigation timing could avoid times of high contamination or suspended sediment load). Sediment is a contaminant concern that can be often overlooked in testing and reporting. The steering committee ranked this alternative as effective (4/5) and a high priority (4/5) in the future.
Middle Rio Grande		R	Program	Protect Existing Supplies	10.2.6 Bosque and Other Riparian Habitats	**R6-1—Riparian Habitat Restoration (A-1, A-2)**	Alternative from previous water plan with updates from Steering Committee discussion	This Regional Water Plan recommends that a program of restoration of the Bosque and other key riparian areas throughout the region be instituted. Restore and manage the Bosque and other riparian habitat to reduce evapotranspiration and improve habitat by selectively removing non-native vegetation and promoting native plants. Non-native species in the Bosque and other riparian areas consume large quantities of water. Provided replacement vegetation is appropriately chosen, removal of non-native species is seen to present an opportunity to substantially reduce consumption in the region. The major effect would be to provide more water in the river to meet Compact obligations and to meet environmental obligations. This would reduce the pressure from various sources to divert water from other consumptive uses for Compact and environmental purposes							1,000 acres of 30,000 have been restored in the efforts to create minnow habitat. Bosque del Apache has been seeing improvements in available water with non-native removal. The steering committee ranked this alternative as not very effective (1/5) but remains a high priority (4/5) in the future.
Middle Rio Grande	Bernalillo	R	Project	Protect Existing Supplies	R6-1 Riparian Habitat Restoration and R6-2 Constructed Wetlands	**Riparian Habitat Restoration**	USFWS	The Valle de Oro project is restoring wetlands associated with the former Price Dairy property and associated Rio Grande bosque adjacent to the property	USFWS	AMAFCA, Bernalillo County, US Army Corp of Engineers, NM State Lands Office					
Middle Rio Grande		R	Program	Protect Existing Supplies	10.2.6 Bosque and Other Riparian Habitats	**R6-3—River Restoration (A-63)**	Alternative from previous water plan with updates from Steering Committee discussion	River restoration will provide for the needs of wildlife, provide residents of the region with opportunities for outdoor recreation, and assure that the state is in compliance with endangered species requirements. It is recommended that the state provide the required cost share, if any, of federal restoration programs. The state should also engage in and collaborate with programs designed with the goal of restoring the ecological functioning of the region's rivers and floodplains, including replication of the natural hydrograph of the rivers within the levees. The state should seek to assure that an appropriate quantity of water is available for endangered species and river needs without depriving priority water rights holders or San Juan-Chama Project water contractors of their water except from willing sellers or lessors. The scenario includes recognizing instream flow as a beneficial use.							Significant ESA work (restoring natural flow patterns and flood banks, etc.) has happened towards this alternative since the original plan was written. The steering committee ranked this alternative as not effective (1/5) but remains a high priority (4/5) in the future.
Middle Rio Grande	Sandoval and Bernalillo	R	Project	Protect Existing Supplies Mitigate drought		**Remediate River Incising between Cochiti and Isleta**	Pueblo of Sandia Bosque Program	River incising between Cochiti Dam and Isleta Pueblo has significantly changed the natural system of the Rio Grande, resulting in a sediment starved, incised river. The result is lost habitat for Bosque ecosystems including various endangered species. Additionally, traditional and cultural activities are negatively impaired by this changing system. This project would look to study this reach of the river with various stakeholders, develop mitigation options, and move forward with the construction of engineered solutions and/or policy changes.	Pueblo of Sandia (in Sandia reach)	Army Corps of Engineers US Bureau of Reclamation MRGCD	2016-2026	Initial discussion with agencies have been initiated.	$ 10,000,000.00	To address degradation of habitat, infrastructure, and cultural and traditional uses in this reach of the Rio Grande.	
Middle Rio Grande		R	Program	Protect Existing Supplies	10.2.6 Bosque and Other Riparian Habitats	**R6-2—Constructed Wetlands (A-36)**	Alternative from previous water plan with updates from Steering Committee discussion	This recommendation calls for considering the creation of constructed wetlands for ground-water recharge, storm water capturing, habitat improvement, and hydrological management of riparian areas.							There are several examples of this type of project, especially in Metro ABQ, and the Valle del Oro project. Unfortunately there are not many examples of these types of projects outside the ABQ area. The steering committee ranked this alternative as moderately effective (2/5) and a moderate priority (3/5) in the future.
Middle Rio Grande		R	Program	Protect Existing Supplies	10.2.6 Bosque and Other Riparian Habitats	**Vegetation Removal Products**	Alternative from previous water plan with updates from Steering Committee discussion								This alternative needs a market of people or industry that wants the removed material for it to be successful.

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Middle Rio Grande		R	Policy	Protect Existing Supplies	10.2.6 Bosque and Other Riparian Habitats	**R6-4—Recognize the Importance of Healthy Native Ecosystems of the Rio Grande and its Tributaries (Goal B)**	Alternative from previous water plan with updates from Steering Committee discussion	Healthy native riparian ecosystems mean a river and floodplain habitat adequate to support viable population of a diverse array of plants and animals native to the region. Healthy native riparian ecosystems are important for their own sake, for the ways in which they enhance our quality of life, and for the services that they provide to us.							GOAL
Middle Rio Grande		R	Program	Improve System Efficiency	10.2.7 Water Storage to Reduce Evaporative Losses	**R7-1—Implement Upstream Surface Water Storage (A-45)**	Alternative from previous water plan with updates from Steering Committee discussion	The recommendation is to obtain the necessary permissions to store water in upstream reservoirs with lower evaporation rates if this can be done without significant harm to the riparian environment. So as to minimize impact to the local economy of Elephant Butte, it would be desirable to manage flows to keep Elephant Butte Reservoir storing steady but minimal quantities of water e.g., 400,000 acre-feet of usable water to allow storage of water in upstream reservoirs constructed after 1929 per Rio Grande Compact requirements. The OSE should pursue necessary agreements and authorizations to permit this upstream storage.							This alternative would require a reauthorization for reservoir storage, but there is significant red tape to implement this, and it would be even more difficult to build new reservoirs. An Utton center study from 5-7 years ago looked at this (but not favorable). It is a favorable idea, but difficult to implement. The steering committee ranked this alternative as not effective (1/5) but a high priority (4/5).
Middle Rio Grande		R	Program	Improve System Efficiency	10.2.7 Water Storage to Reduce Evaporative Losses	**R7-4—Water Modeling (A-38, A-143, A-144)**	Alternative from previous water plan with updates from Steering Committee discussion	The state and appropriate federal agencies should improve and increase monitoring and modeling of the surface water system, improve water management at the watershed level, and retain excess water flow from EBR during wet cycles. It is recommended that the state use the modeling data to anticipate and manage EBR spills and to better administer upstream retention and aquifer recharge.							The need for accurate and up-to-date data on the aquifer and river system are very important for planning decisions.. The URGWOM model is the current tool, but continued support of these efforts is important. The steering committee ranked this alternative as effective (4/5) and a high priority (4/5).
		R	Project	Improve System Efficiency		**Interactive Water Budget Modeling**	Water Assembly	Create an open-access, nonproprietary, web-based application for viewing outcomes of specific water management decisions as reflected in changes in land use, including a GIS model for visualization							
Middle Rio Grande	Bernalillo	SS	Program	Mitigate Drought, Reduce Demand, Increase Supply, Protect Existing Supplies		**Water Budget Model Development**	ABCWUA Water Resources Management Strategy	Develop a water budget management tool to inform water resources management decisions	ABCWUA		2015-ongoing		$200,000/ annually		
Middle Rio Grande		R	Program	Improve System Efficiency	10.2.7 Water Storage to Reduce Evaporative Losses	**R7-2—Implement Upstream Aquifer Water Storage (A-46)**	Alternative from previous water plan with updates from Steering Committee discussion	Pump surplus water into the aquifer so as to supplant the requirements to store large quantities in Elephant Butte Reservoir. Technology assessment and engineering feasibility for this recommendation should be started so as to determine whether the option is really practical within this region.							Aquifer storage is happening in several places, however the label of "upstream" is misleading and vague. It would be more accurate to label this alternative simply as "aquifer storage." The steering committee ranked this alternative as moderately effective (2/5) but a moderately priority (3/5).
Middle Rio Grande	Bernalillo	SS	Project	Improve System Efficiency		**Second College Reservoir**	ABCWUA Decade Plan	An additional reservoir to provide more system reliability and redundancy for the College Trunk when College Reservoir 1 is taken out of service for rehabilitation.	ABCWUA		2016-2018		$3,045,000		
Middle Rio Grande	Bernalillo	SS	Project	Improve System Efficiency		**Second Corrales Reservoir No. 6**	ABCWUA Decade Plan	A second 2.3MG reservoir at the Corrales 5 site to double the storage capacity that supplies Ventana Ranch and the north half of Paradise Hills.	ABCWUA		2022-2023		$3,000,000		
Middle Rio Grande	Bernalillo	SS	Project	Improve System Efficiency		**Second Coronado Reservoir**	ABCWUA Decade Plan	Reservoirs needed to provide reaction time for disinfection, storage to meet peak demands and for control of well and booster station pumps.	ABCWUA		2022-2023		$3,050,000		
Middle Rio Grande	Bernalillo	SS	Project	Improve System Efficiency		**Second Leyendecker Reservoir**	ABCWUA Decade Plan	See above	ABCWUA		2022-2023		$3,050,000		
Middle Rio Grande	Bernalillo	SS	Project	Improve System Efficiency		**Second Charles Wells Reservoir**	ABCWUA Decade Plan	Needed for use during rehabilitation of the existing Charles reservoir.	ABCWUA		2020-2021		$3,000,000		
Middle Rio Grande	Bernalillo	SS	Project	Improve System Efficiency		**New Corrales Trunk 5W Reservoir and Transmission Line**	ABCWUA Decade Plan	A 6MG reservoir and 36-inch transmission line to supply a future gravity distribution system in Zone 5W.	ABCWUA		2018-2019		$4,100,000		
Middle Rio Grande	Bernalillo	SS	Project	Improve System Efficiency		**Second Don Reservoir**	ABCWUA Decade Plan	Provide more system reliability and redundancy for the Atrisco Trunk when Don Reservoir No. 1 is taken out of service for rehabilitation.	ABCWUA		2018-2020		$3,050,000		
Middle Rio Grande		R	Program	Mitigate Drought	10.2.7 Water Storage to Reduce Evaporative Losses	**R7-3—Implement Aquifer Storage and Recovery for Drought (A-46)**	Alternative from previous water plan with updates from Steering Committee discussion	Subject to water rights and environmental issues, in order to ameliorate the short term fluctuations is regional supply, it is recommended that surplus water be pumped into the depleted aquifers during wet years, and be retrieved for use during dry years. This system would be smaller than one used to supplant EBR evaporation. Technology assessment and engineering feasibility for these recommendations should be started so as to determine whether these options are really practical within this region.							The intention of this alternative is to take surplus surface flows and inject into the aquifer, however periods of excess surface water are rare. The wording of “Drought” and “Upstream” are misleading on these alternatives. The steering committee ranked this alternative as moderately effective (2/5) and a moderate priority (3/5).
Middle Rio Grande	Bernalillo	SS	Project	Improve System Efficiency, Increase Water Supply, Mitigate Drought, Protect Existing Supplies		**Aquifer Storage and Recovery**	ABCWUA Decade Plan	Planning, design, engineering services, construction, permitting and related activities to construct an aquifer storage and recovery project to store San Juan Chama water in the aquifer.	ABCWUA		2016-2023		$5,390,000		

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Middle Rio Grande		R	Program	Increase Water Supplies	10.2.8 Desalination and Transfer of Water	**R8-1—Develop New Water Supplies through Desalination (A-39)**	Alternative from previous water plan with updates from Steering Committee discussion	The recommendation is for the region to explore the possibility of developing brackish and saline water supplies, both from sources within and outside of the region. The region should track technological advances that would make desalination cost effective. It is further recommended that the region implement projects that will make such water available for use within the region or provide the region with appropriate Rio Grande Compact credits.							Sandoval Co. investigated this option, but it was not economical. Better technology for dealing with the produced salt and for extremely saline groundwater are needed to make this feasible. The steering committee ranked this alternative as not effective (1/5) and a low priority (1/5).
Middle Rio Grande		R	Policy	Increase Water Supplies	10.2.8 Desalination and Transfer of Water	**R8-2—Investigate the Potential for Importing Water (A-69)**	Alternative from previous water plan with updates from Steering Committee discussion	Examine the potential of securing and importing large volumes of water from currently unused sources. This option should be interpreted broadly to include the availability of water from sources such as abandoned mines, and desalinated seawater. Water should not be imported where it would cause environmental harm or economic hardship to communities in the watershed from which water is being imported, or where projects rely upon large federal subsidies provide limited economic benefits.							This alternative is generally unfavored. Taking water from other regions does not solve problems, just delays their impacts while at the same time taking water from others who may need it. The steering committee ranked this alternative as not effective (1/5) and a low priority (1/5).
Middle Rio Grande		R	Policy	Protect Existing Supplies	10.2.8 Desalination and Transfer of Water	**R8-3—Undeclared Water (A-39, A-69, A-143)**	Alternative from previous water plan with updates from Steering Committee discussion	The State Engineer should declare all waters in the state, regardless of depth and quality, so as to enable proper administration and protection of all of the waters in the state.							This alternative was implemented since the original plan was written. It was highly effective (5/5), but since it is essentially complete it is not a priority moving forward (1/5)
Middle Rio Grande		R	Program	Reduce Demand	10.2.9 Public Education	**R9-1—Develop a Water Education Curriculum for Schools (A-56)**	Alternative from previous water plan with updates from Steering Committee discussion	This plan recommends that school curricula and projects be developed to teach children the importance and value of water in the region. Especially important are issues of water conservation, where water comes from, and cultural values associated with water.							ABQ and Rio Rancho has good progress on this, more needed in other communities. The steering committee ranked this alternative as effective (4/5) and a priority (4/5) in the future.
Middle Rio Grande		R	Program	Reduce Demand	10.2.9 Public Education	**R9-2—Implement Adult Public Education Programs**	Alternative from previous water plan with updates from Steering Committee discussion	Establish region-wide and local public education programs to encourage a more complete awareness of the full range of water related subjects among the citizenry, and to enhance voluntary water conservation programs recommended elsewhere in this section							The steering committee ranked this alternative as effective (4/5) and a priority (4/5) in the future.
Middle Rio Grande		R	Program	Increase Water Supplies		**Weather Modification (A-42)**	Alternative from previous water plan with updates from Steering Committee discussion	This alternative contemplated weather modification, such as cloud seeding, to increase water supply.							The steering committee does not generally support this alternative, it should be removed from the alternatives.
Middle Rio Grande		R	Program	Reduce Demand and Protect Existing Supplies		**Public Education and outreach on healthy ecosystems**	USFWS	Valle de Oro NWR is serving as an educational focal point for youth and adults. Community involvement in this project has been strong and instrumental to its nascent success. It is envisioned that the Refuge will play an instrumental role in current and future education about the importance of healthy native ecosystems of the Rio Grande and its Tributaries.	USFWS						
Middle Rio Grande	Bernalillo	R	Program	Mitigate Drought, Reduce Demand		**Water Conservation Education**	ABCWUA Water Resources Management Strategy	TV, radio, outdoor education for all residents of the Middle Rio Grande region	ABCWUA		2015-ongoing		$250,000 annually		
Middle Rio Grande	Bernalillo	R	Program	Mitigate Drought, Reduce Demand		**Water Resources Education Field Trips**	ABCWUA Water Resources Management Strategy	Provide a day-long field trip to the Rio Grande for every fourth-grader in the service area to learn about our water resources and conservation	ABCWUA		2015-ongoing		$200,000/ annually		
Middle Rio Grande	Bernalillo	SS	Program	Mitigate Drought, Reduce Demand		**WaterSmart Classes**	ABCWUA Water Resources Management Strategy	Provide rebates to customers who attend classes on reducing water use outdoors for lawns, xeriscapes and gardens.	ABCWUA		2015-ongoing		$55,000/annually		

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Middle Rio Grande		R	Program	Mitigate Drought, Reduce Demand		**Develop a Roadmap for Action**	Water Assembly	This proposal is to create a common infrastructure for water planning, incorporating issues such as water rights ownership, lack of common data sets, and lack of common institutional framework. Consider ways to link decision makers with available water resources, including impacts of climate change. The recently updated California Water Plan could be a good example: 1. Strengthen Integrated Regional Water Management 2. Use and Reuse Water More Efficiently 3. Expand Conjunctive Management of Multiple Supplies 4. Protect and Restore Surface Water and Groundwater Quality 5. Practice Environmental Stewardship 6. Improve Flood Management Using an Integrated Water Management Approach 7. Prepare Prevention, Response, and Recovery Plans 8. Reduce the Carbon Footprint of Water Systems and Water Uses 9. Improve Data, Analysis, and Decision-Support Tools 10. Invest in Water Technology and Science 11. Strengthen Tribal/State Relations and Natural Resources Management 12. Ensure Equitable Distribution of Benefits 13. Protect and Enhance Public Access to the State's Waterways, Lakes 14. Strengthen Alignment of Land Use Planning and Integrated Water Management 15. Strengthen Alignment of Government Processes and Tools 16. Improve Integrated Water Management Finance Strategy and Investments							
Middle Rio Grande	Valencia	SS	Project	Increase Water Supply		Detention Pond	2015 WTB application	779	Belen, City of				$925,000		
Middle Rio Grande	Sandoval	SS	Project	Increase Water Supply		Canon del Agua East flood control dam	2015 WTB application	804	Eastern Sandoval County Flood Control Authority (ESCAFCA)				$100,000,000		
Middle Rio Grande	Sandoval	SS	Project	Increase Water Supply		Construction of flood control dam	2015 WTB application	785	Southern Sandoval County Arroyo Flood Control Authority (SSCAFA)				$950,000		
Middle Rio Grande	Bernalillo, Socorro, Valencia, Sandoval	R	Project	Protect Existing Supply		Middle Rio Grande ESA Habitat Restoration and Captive Propagation Facility Improvements	2015 WTB application	542	Office of the State Engineer/Interstate Stream Commission				$450,000		
Middle Rio Grande	Sandoval	SS	Project	Improve System Efficiency		Phase II Treatment System Improvements	2015 WTB application	835	Cuba, Village of				$1,995,141		
Middle Rio Grande	Bernalillo	SS	Project	Protect Existing Supply		Water System Protection and Wildfire Safety in a Wildland Urban Interface	2015 WTB application	833	Ciudad Soil & Water Conservation				$61,494		
Middle Rio Grande	Bernalillo	R	Project	Protect Existing Supply		Riparian Restoration Project through the Greater Rio Grande Watershed Alliance	2015 WTB application	806	Claunch-Pinto SWCD				$600,000		
Middle Rio Grande	Bernalillo, Santa Fe, Torrance	R	Project	Protect Existing Supply		Estancia Basin Watershed Health, Restoration and Monitoring Project	2015 WTB application	612	Claunch-Pinto SWCD				$600,000		
Middle Rio Grande	Bernalillo, Rio Arriba, Santa Fe, Valencia	R	Project	Protect Existing Supply		Riparian Restoration Project through the Greater Rio Grande Watershed Alliance	2015 WTB application	618	Claunch-Pinto SWCD				$600,000		
Middle Rio Grande	Sandoval	SS	Project	Improve System Efficiency		waterline installation	2015 WTB application	769	Bernalillo, Town of				$1,200,000		
Middle Rio Grande	Sandoval	SS	Project	Improve System Efficiency		Rehabilitation of well	2015 WTB application	803	Bernalillo, Town of				$750,000		
Middle Rio Grande	Bernalillo	SS	Project	Improve System Efficiency		Water System Improvements	2015 WTB application	818	Green Ridge MDWCA				$300,000		
Middle Rio Grande	Valencia	SS	Project	Improve System Efficiency		transmission line installation	2015 WTB application	722	Los Lunas, Village of				$2,400,000		
Middle Rio Grande	Sandoval	SS	Project	Improve System Efficiency		North end Upgrade	2015 WTB application	830	Regina MDWCA				$500,000		
Middle Rio Grande	Bernalillo	SS	Project	Improve System Efficiency		Village of Tijeras Water System	2015 WTB application	642	Tijeras, Village of				$603,500		
Middle Rio Grande	Sandoval	SS	Project	Improve System Efficiency		Equipping water treatment facility	2015 WTB application	783	Rio Rancho, City of				$4,800,000		
Middle Rio Grande	Sandoval	SS	Project	Improve System Efficiency		Water reuse storage reservoir	2015 WTB application	789	Rio Rancho, City of				$3,750,000		
Middle Rio Grande	Sandoval	SS	Project	Protect Existing Supply	Economic Development	Forest Restoration	2016-2020 ICIP Project List	29763					$75,000		

Planning Region	County	Regional or System Specific (R), (SS)	Strategy Type (Project, Program or Policy)	Strategy Approach (What issue does strategy address)	Subcategory	Project Name	Source of Project Information	Description	Project lead (Entity or Organization)	Partners (other entities or participants)	Timeframe (Fiscal Year)	Planning Phase	Cost	Need or reason for the project, program, or policy	Comments
Middle Rio Grande	Bernalillo	R	Project	Public Welfare	Public Parks (local)	1921 North Valley LL	2016-2020 ICIP Project List	23231					$5,400,000		
Middle Rio Grande	Bernalillo	SS	Project	Public Welfare	Public Parks (local)	2023 Carlito Springs Open Space Rehab	2016-2020 ICIP Project List	28439					$3,000,000		
Middle Rio Grande	Bernalillo	SS	Project	Public Welfare	Public Parks (local)	2026 UNM North Golf Course	2016-2020 ICIP Project List	28418					$1,000,000		
Middle Rio Grande	Bernalillo	SS	Project	Public Welfare	Public Parks (local)	1942 Judge Henry Coors Park	2016-2020 ICIP Project List	24048					$1,000,000		
Middle Rio Grande	Bernalillo	SS	Project	Public Welfare	Public Parks (local)	1935 Tom Tenorio Field-Tournament Play Fields	2016-2020 ICIP Project List	13272					$8,000,000		
Middle Rio Grande	Bernalillo	SS	Project	Public Welfare	Public Parks (local)	1937 Valle del Bosque Park Phs 4 Ballfield Imprv	2016-2020 ICIP Project List	13052					$800,000		
Middle Rio Grande	Bernalillo	SS	Project	Public Welfare	Public Parks (local)	1939 Mesa del Sol Ballfields Nonpotable Wat Infstr	2016-2020 ICIP Project List	12885					$750,000		
Middle Rio Grande	Valencia	SS	Project	Protect Existing Supply	Storm/Surface Water Control	Storm Water Plan	2016-2020 ICIP Project List	28668					$100,000		
Middle Rio Grande	Bernalillo	SS	Project	Improve System Efficiency	Storm/Surface Water Control	1656 Arenal and Coors to Isleta Drain Storm Drain	2016-2020 ICIP Project List	30366					$2,700,000		
Middle Rio Grande	Bernalillo	SS	Project	Improve System Efficiency	Storm/Surface Water Control	Stormwater Quality System Improvements	2016-2020 ICIP Project List	18063					$186,000		
Middle Rio Grande	Valencia	SS	Project	Improve System Efficiency	Storm/Surface Water Control	Valencia Levee Reconstruction	2016-2020 ICIP Project List	27868					$500,000		
Middle Rio Grande	Bernalillo	SS	Project	Improve System Efficiency	Storm/Surface Water Control	10 So Valley Flood Reduct/Dist 2 Storm Drain Proj	2016-2020 ICIP Project List	21683					$23,000,000		
Middle Rio Grande	Bernalillo	SS	Project	Improve System Efficiency	Storm/Surface Water Control	1675 Blake-Isleta to Perry Pnd(Vista del Rio Ph.4)	2016-2020 ICIP Project List	28631					$8,191,550		
Middle Rio Grande	Bernalillo	SS	Project	Improve System Efficiency	Storm/Surface Water Control	135 Joe Sanchez Road Storm Drain	2016-2020 ICIP Project List	21696					$2,400,000		
Middle Rio Grande	Bernalillo	SS	Project	Improve System Efficiency	Storm/Surface Water Control	1800 Sunset Storm Drain	2016-2020 ICIP Project List	28633					$2,452,650		
Middle Rio Grande	Bernalillo	SS	Project	Improve System Efficiency	Storm/Surface Water Control	1660 Barcelona--Valverde to Armijo Drain Stm Drns	2016-2020 ICIP Project List	26340					$542,000		
Middle Rio Grande	Bernalillo	SS	Project	Improve System Efficiency	Storm/Surface Water Control	1616 Sunset-Trujillo Storm Drain Area 1 Phs 2	2016-2020 ICIP Project List	26342					$5,000,000		
Middle Rio Grande	Bernalillo	SS	Project	Increase Supply	Storm/Surface Water Control	1610 Garduno Road Storm Drain	2016-2020 ICIP Project List	26343					$1,600,000		
Middle Rio Grande	Bernalillo	SS	Project	Increase Supply	Storm/Surface Water Control	1635 Black Mesa Drainage Project	2016-2020 ICIP Project List	28398					$28,515,727		
Middle Rio Grande	Bernalillo	SS	Project	Increase Supply	Storm/Surface Water Control	2075 Sunset-Trujillo Storm Drain Area 1	2016-2020 ICIP Project List	28400					$9,600,000		
Middle Rio Grande	Bernalillo	SS	Project	Improve System Efficiency	Storm/Surface Water Control	2076 North Albuquerque Acres Drainage	2016-2020 ICIP Project List	23027					$1,120,372		
Middle Rio Grande	Bernalillo	SS	Project	Increase Supply	Storm/Surface Water Control	133 Bishop Court Storm Drain	2016-2020 ICIP Project List	21690					$5,308,400		
Middle Rio Grande	Bernalillo	SS	Project	Improve System Efficiency	Storm/Surface Water Control	1671 Blake and Tapia Storm Drains	2016-2020 ICIP Project List	30353					$846,000		
Middle Rio Grande	Bernalillo	SS	Project	Increase Supply	Storm/Surface Water Control	1677 Bridge- Atrisco to Isleta Drain Storm Drain	2016-2020 ICIP Project List	30354					$1,483,000		
Middle Rio Grande	Bernalillo	SS	Project	Increase Supply	Storm/Surface Water Control	1708 Foothill Drive and Thompson Lane Storm Drain	2016-2020 ICIP Project List	30355					$718,000		
Middle Rio Grande	Bernalillo	SS	Project	Increase Supply	Storm/Surface Water Control	1713 Gun Club E of Los Padillas Drain Storm Drain	2016-2020 ICIP Project List	30356					$394,000		
Middle Rio Grande	Bernalillo	SS	Project	Improve System Efficiency	Utilities (publicly-owned)	1614 1470 Carnuel Water & Sanitary Sewer	2016-2020 ICIP Project List	21711					$36,000,000		

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Middle Rio Grande	Bernalillo	SS	Project	Improve System Efficiency	Utilities (publicly-owned)	1918 Monticello Sanitary Sewer Lines	2016-2020 ICIP Project List	28627					$3,000,000		
Middle Rio Grande	Bernalillo	SS	Project	Improve System Efficiency	Utilities (publicly-owned)	1652 Lagunitas-Clark Sewer Lines	2016-2020 ICIP Project List	30329					$5,300,000		
Middle Rio Grande	Bernalillo	SS	Project	Improve System Efficiency	Utilities (publicly-owned)	1647 Rio Bravo-Del Rio-Sunstar & Fr Rd Sew Ln Phs2	2016-2020 ICIP Project List	28629					$1,730,000		
Middle Rio Grande	Bernalillo	SS	Project	Improve System Efficiency	Utilities (publicly-owned)	1651 Lagunitas Sewer Lines	2016-2020 ICIP Project List	28630					$3,300,000		
Middle Rio Grande	Bernalillo	SS	Project	Improve System Efficiency	Wastewater	2041 North Edith Utility Improvements proj	2016-2020 ICIP Project List	28436					$3,432,000		
Middle Rio Grande	Bernalillo	SS	Project	Improve System Efficiency	Wastewater	1960 SSHA-WW1 Sandia Heights Sewer Line Extension	2016-2020 ICIP Project List	28658					$51,541,565		
Middle Rio Grande	Bernalillo	SS	Project	Improve System Efficiency	Water Supply	1629 Phase 7 South Valley Drinking Water	2016-2020 ICIP Project List	28647					$5,300,000		
Middle Rio Grande	Bernalillo	SS	Project	Improve System Efficiency	Water Supply	1954 8" Water Line-I-40 N Frontage Rd Wat Serv Ln	2016-2020 ICIP Project List	28652					$796,800		
Middle Rio Grande	Bernalillo	SS	Project	Improve System Efficiency	Water Supply	1981 4" Water Line-I40 N Frontage Rd Wat Serv Line	2016-2020 ICIP Project List	28654					$273,400		
Middle Rio Grande	Bernalillo	SS	Project	Improve System Efficiency	Water Supply	1648 Rio Bravo-Del Rio-Sunstar & Front Rd WL Phs2	2016-2020 ICIP Project List	28656					$420,000		
Middle Rio Grande	Sandoval	SS	Project	Improve System Efficiency		New Laboratory	City of Rio Rancho		City of Rio Rancho		2 years	Started and stopped	$4,000,000		Laboratory and administration building
Middle Rio Grande		SS	Project	Improve System Efficiency	Water Supply	Placitas Acequias Reservoirs Improvements	Corondado SWCD ICIP Plan FY 2017-2021	Design and construct improvements to six exsisting reservoirs of varying sizes to improve irrigation for the three acequia communities of Placitas. Easements to the land where the reservoirs are situated are owned by the acqueias and have been in use for over 150 years. In Phase One, Coronado SWCD procured professional engineering design services from INTERA Inc. by competitive bid for improvements to all six reservoirs. The acequia commissioners subsequently decided that only five reservoirs were in need of repair. On 3/11/15 the commissioners of each acequia approved the 30% design work, and will approve plans for succeeding phases. By mid-April of 2015, 100% of the design work of the three reservoirs and 90% of the design work the fourth reservoir and partial design work for the fifth reservoir had been completed and the initial $75,000 capital outlay grant fully expended. Phases Two through Five will be completion of design work, construction and installation of improvements determined in Phase One. Coronado SWCD will procure services and materials by competitive bid. The project will be phased primarily by number of people served by each acequia, secondarily by completing one reservoir for each acequia, and thirdly by estimates determined in Phase One. Each acequia is the owner/operator and fiscal agent for the reservoirs.	Coronado SWCD		FY 2017-2020		$570,000	The current drought forces the acquieas to make improvements to the structures that were used in past times in order to irrigate with little water. The three acqueias use reservoirs constructed in the 1800's to develop a head of water to enable flow to the lower reaches of their ditches. Because of deterioration, as well as present and projected future drought conditions, only the Las Acqueias de Placitas reservoirs are able to be used this way, but even those are in need of repair. The project will benefit approximately 500 parciantes of the three acqueias, which are political subdivisions.	Project ID# 28992