

# **Building Strong Collaborative Relationships for a Sustainable Water Resources Future:**

**STATE OF NEW MEXICO**

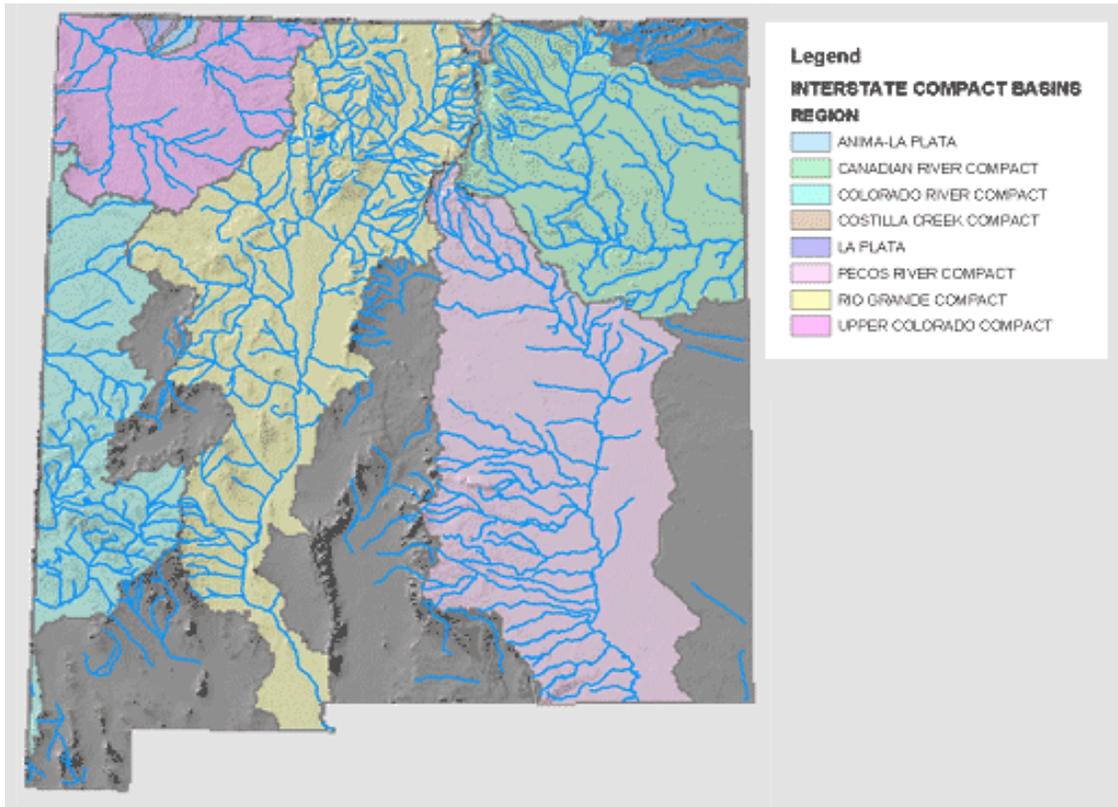
**SUMMARY OF STATE WATER PLANNING**

U.S. Army Corps of Engineers  
Civil Works Directorate  
441 G Street NW  
Washington, DC 20314-1000

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The findings contained in this report are based on the information collected from the literature search and interviews for this initiative and should not be construed as an official Department of the Army position, policy or decision unless so designated by other official documentation.

# STATE OF NEW MEXICO



**Figure 1. Interstate Compact Basins**

## **1. RESPONSIBLE STATE AGENCIES/REGIONAL ENTITIES**

The responsible agencies charged with administering New Mexico's water resources are the Office of the State Engineer (OSE) and the Interstate Stream Commission (ISC), which is located within the OSE. The Interstate Stream Commission manages its activities by river basin consistent with eight interstate stream compacts shown in Figure 1. A river basin is defined as the land area drained by a river and its tributaries. The ISC is also responsible for investigating, protecting, conserving, planning and developing the waters of the state. The governor appointed State Engineer, who serves as secretary, and 8 other governor appointed members from around the state make up the ISC. [http://www.ose.state.nm.us/isc\\_basins\\_programs.html](http://www.ose.state.nm.us/isc_basins_programs.html)

Several programs, divisions, and bureaus exist under the OSE and ISC.

- The ISC oversees the ISC Program which includes: the General Counsel, Colorado/San Juan Basin, Rio Grande Basin, Pecos Basin, Special Water Projects, and Waters Liaison.
- The OSE oversees several programs, divisions, and bureaus including:

### Program Support

- Financial Services Bureau
- Budget Bureau

- Human Resources Bureau
- Information Systems Technology Bureau

Water Resources Allocations Program (WRAP)

- Water Rights Division
  - District I – Albuquerque
  - District II – Roswell
  - District III – Deming
  - District IV – Las Cruces
  - District V – Aztec
  - District VI – Santa Fe
  - Water Administration Technical Engineering Resource System (WATERS) Program
- Dam Safety Bureau
- Hydrology Bureau
- Water Use/Conservation Bureau

Litigation and Adjudication Program

- Staff Support
- Deputy Council
  - Hydrographic Survey
  - Lower Rio Grande Bureau
  - Pecos River Bureau
  - Northern New Mexico Bureau
  - Administrative Litigation Unit
  - Middle Rio Grande Attorney

Interstate Stream Commission Program (as listed above)

Planning & Communication

Hearing Unit

Native American Liaison

Executive Assistant to the State Engineer

Key contact information is listed below (<http://www.ose.state.nm.us/index.html>):

**Office of the State Engineer**

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**Interstate Stream Commission**

Estevan Lopez – Director & Deputy State Engineer  
407 Galisteo Street  
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An Office of the State Engineer organization chart, including phone number, is available at the following location: [http://www.ose.state.nm.us/PDF/ProgramSupport/org\\_chart.pdf](http://www.ose.state.nm.us/PDF/ProgramSupport/org_chart.pdf).

The Water Trust Board (WTB) was established in 2001 to recommend water projects to the State Legislature for appropriation of funding, in the form of grants or loans, from the Water Project Fund. WTB consists of the State Engineer as Chair and the State Cabinet Secretary as the Co-Chair. Other members of WTB include representatives from other state agencies (such as Department of Fish and Game; Energy, Minerals, and Natural Resources; Department of Agriculture; Department of Environment) and representative from various stakeholders (such as Irrigation or Conservancy Surface Water; Irrigation or Conservancy Groundwater; Environmental Community; Acequia Water Users; Navaho Nation; Soil and Water Conservation Districts). More information about the Water Trust Board is available in the “Funding” section below or at [http://www.ose.state.nm.us/more\\_info\\_water\\_trust\\_board.html](http://www.ose.state.nm.us/more_info_water_trust_board.html).

## **2. STATE WATER PLANNING STATUS**

The New Mexico State Water Plan, December 2003, was prepared at the direction of Governor Bill Richardson in response to the 2003 Legislative mandate, the State Water Plan Act located in 72-14-3.1 (Chapter 72 – Water Laws, Article 14 – Interstate Stream Commission; Protection of Interstate Streams, Section 3.1 – State Water Plan; Purpose; Content) of the New Mexico Statutes Annotated (NMSA).

### **State Plan Legislation**

The State Water Plan Act, Section A, directs the ISC, the OSE, and Water Trust Board to prepare and implement a comprehensive state water plan. Section B states that the Plan shall be a strategic management tool for the purposes of:

1. Promoting stewardship of the State’s water resources
2. Protecting and maintaining water rights and their priority status
3. Protecting the diverse customs, culture, environment and economic stability of the State
4. Protecting both the water supply and water quality
5. Promoting cooperative strategies, based on concern for meeting the basic needs of all New Mexicans
6. Meeting the State’s interstate compact obligations
7. Providing a basis for prioritizing infrastructure investment
8. Providing statewide continuity of policy and management relative to our water resources.

Section C of the Plan directs the OSE and the ISC, with the consultation of other appropriate government agencies, to develop a comprehensive, coordinated Plan that:

1. Identify and reflect the common priorities, goals and objectives that will have a positive impact on the public welfare of the state.
2. Establish a clear vision and policy direction for active management of the state's waters.

3. Include an inventory of the quantity and quality of the state's water resources, population projections and other water resource demands under a range of conditions.
4. Include water budgets for the state and for all major river basins and aquifer systems in the state.
5. Develop water conservation strategies and policies; to maximize beneficial use, including reuse and recycling by conjunctive management of water resources and by doing so to promote nonforfeiture of water rights.
6. Include a drought management plan designed to address drought emergencies, promote strategies for prevention of drought-related emergencies in the future and coordinate drought planning statewide.
7. Recognize the relationship between water availability and land-use decisions;
8. Promote river riparian and watershed restoration that focuses on protecting the water supply, improving water quality and complying with federal endangered species act of 1973 [16 u.s.c. § 1531 et seq.] mandates.
9. Consider water rights transfer policies that balance the need to protect the customs, culture, environment and economic health and stability of the state's diverse communities while providing for timely and efficient transfers of water between uses to meet both short-term shortages and long-term economic development needs.
10. Promote strategies and mechanisms for achieving coordination with all levels of government.
11. Integrate regional water plans into the state water plan as appropriate and consistent with state water plan policies and strategies.
12. Integrate plans of water supply purveyors, including those of local governments, privately owned public utilities, associations, cooperatives, irrigation districts and acequias as appropriate and consistent with state water plan policies and strategies, as those plans are completed and submitted to the office of the state engineer.
13. Identify water-related infrastructure and management investment needs and opportunities to leverage federal and other funding.
14. Promote collaboration with and strategic focusing of the research and development of the state's national laboratories and research institutions to address the state's water challenges and to bring to the state demonstration projects in desalination, conservation, watershed restoration, weather modification and other technological approaches to enhancing water supply and management.

Section D acknowledges the time and resources required for essential elements of an effective water management plan such as: completing water rights adjudication, measurement, well inventories, and databases. During the time that the essential elements are gathered, the following work plans and strategies that shall be included in the Plan are:

1. Completion of water rights adjudications, with required supporting documentation, including hydrographic surveys, aquifer mapping and aerial mapping of irrigated land.
2. Creation and completion of a comprehensive database and an electronically accessible information system on the state's water resources and water rights, including file abstraction and imaging of paper files as well as information on pending adjudications.
3. Measuring of surface and ground water uses in the state as necessary for management of the state's water resources.

4. Taking inventory of existing water wells and determining appropriate disposition of unused wells.

Section E directs the ISC and the OSE to consult with governments of Native American nations, tribes and pueblos to formulate a statement of policy and process to guide:

1. Coordination or integration of the water plans of Indian nations, tribes and pueblos located wholly or partially within New Mexico with the state water plan.
2. Final adjudication or settlement of all water rights claims by Indian nations, tribes and pueblos located wholly or partially within New Mexico.

Section F mandates the ISC to ensure public participation and input are integrated throughout the planning process. Section F also mandates the ISC to ensure that representatives of stakeholder groups affected by various plan components participate in the development of those plan components.

Section G allows the ISC to adopt the Plan after public review and comment. Following the adoption, the plan is to be presented to the interim legislative committee that studies water and natural resources.

Section H mandates a minimum periodic review, update, and amendment every five years.

Section I states that nothing in the Plan shall be construed to permit the granting or the condemnation of water rights.

Section J states that nothing in the Plan shall be construed to determine, abridge, or affect the water rights of Native American nations, tribes or pueblos.

Sections C to F of the Plan addresses, at least, the following topics:

- Policy Statements
- Implementation Strategies
- Discussion
- Public Opinion

Since the State Water Plan in 2003 the following planning documents have been created:

- [2004 New Mexico State Water Plan Implementation Report](#)
- [Progress Report: New Mexico State Water Plan - June 2006](#)
- [State Water Plan Review and Proposed Update - June 2008](#)

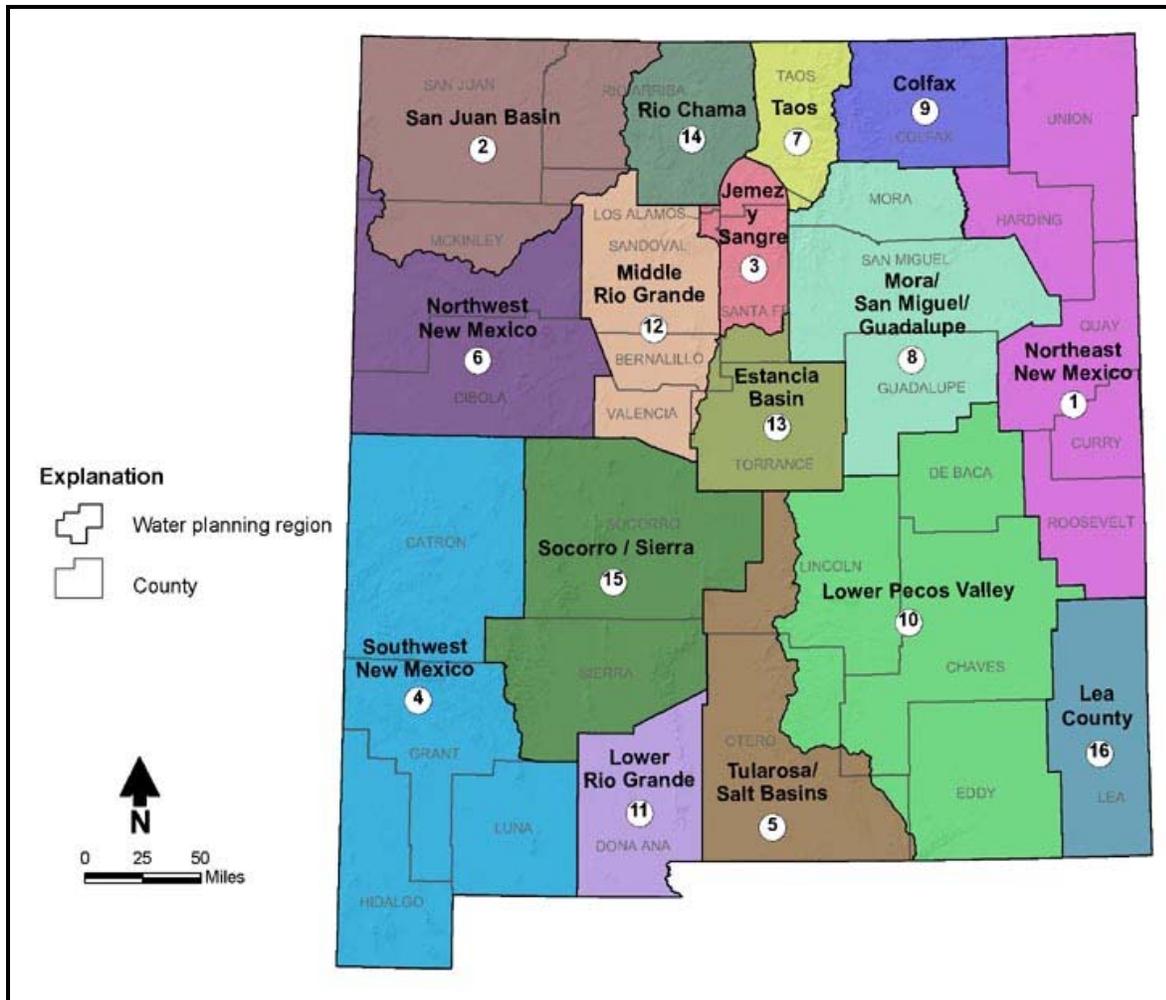
## Regional Water Planning

In 1987, the New Mexico legislature authorized the ISC to administer a regional water planning program as the result of a federal court ruling, which found New Mexico's prohibition against out-of-state transfer of New Mexico ground water as unconstitutional. To insure continuity of New Mexico's water supply for a 40-year horizon, regional planning was initiated.

### Regional Plan Legislation

The legislation authorizing regional water planning is in NMSA 17-14.44, 1993. The state was divided into 16 regions (See Figure 2) and a template was created for the plans to be completed as funding became available. The initial intent of the regional plans was to provide a basis for the state plan; however, funding ran short and by the time the State Water Plan Act was passed and the State Plan completed in 2003, there were only six of the 16 regional plans. However, since 2003 all regions have developed a regional plan that has been accepted by the ISC. The regional plans with their acceptance year are listed below:

- [Region 1. Northeast New Mexico Regional Water Plan](#), 2007
- [Region 2. San Juan Regional Water Plan](#), 2003
- [Region 3. Jemez y Sangre Regional Water Plan](#), 2003
- [Region 4. Southwest New Mexico Regional Water Plan](#), 2005
- [Region 5. Tularosa, Great Salt and Sacramento River Basins Regional Water Plan](#), 2004
- [Region 6. Northwest New Mexico Regional Water Plan](#), 2004
- [Region 7. Taos Regional Water Plan](#), 2008
- [Region 8. Mora-San Miguel Regional Water Plan](#), 2005
- [Region 9. Colfax Regional Water Plan](#), 2003
- [Region 10. Lower Pecos Valley Regional Water Plan](#), 2001
- [Region 11. Lower Rio Grande Regional Water Plan](#), 1999
- [Region 12. Middle Rio Grande Regional Water Plan](#), 2004
- [Region 13. Estancia Basin Regional Water Plan](#), 1999
- [Region 14. Rio Arriba Regional Water Plan](#), 2006
- [Region 15. Socorro-Sierra Regional Water Plan](#), 2003
- [Region 16. Lea County Regional Water Plan](#), 1999



**Figure 2. New Mexico's 16 Water Planning Regions**

For regional planning, a *Regional Water Planning Handbook*, December 1994, was created by ISC. Additional guidelines include *Criteria and Procedures for Acceptance of Regional Water Plans* (<http://www.ose.state.nm.us/water-info/NMWaterPlanning/criteria.html>) and *Regional Water Planning in New Mexico* (<http://www.ose.state.nm.us/doing-business/water-plan/rwpm-pamphlet.html>). The *Regional Water Planning Handbook* requires that regional plans address five key questions:

1. What is the water supply available to the region?
2. What is the regions current and projected future demand for water?
3. What are the region's alternatives for using available supplies to meet projected water demands?
4. What are the advantages and disadvantages of each alternative with respect to local values and criteria?
5. What are the best water supply alternatives, and how will they be implemented?

The Handbook outlines the following for the Regional Plans:

[Executive Summary](#)

[Introduction](#)

[Documentation of Public Involvement in Planning Process](#)

[Strategy chosen to maximize public involvement](#)

[Background Information](#)

[Legal Issues](#)

[Water Resources Assessment for the Planning Region](#)

[Water Demand](#)

[Water Plan Alternatives](#)

[Evaluations](#)

The Required Assumptions for regional planning according to the Handbook are stated below.

*All planning shall be done within the following parameters. Exceptions to this are possible, but if an exception is to be made, regional water planners must set forth facts and justifications sufficient to indicate that conditions exist within the region to consider such an exception.*

1. *An adequate plan for public participation shall be a prerequisite for regional water planning.*
2. *Plans shall be written on the assumption that New Mexico and federal water law will not change. In the section entitled "Suggested Changes in New Mexico Law" regions are invited to propose changes to New Mexico water law. The more specific these proposed changes are, the more helpful they will be. Such proposed changes should not be relied upon in plan recommendations, although the reasons and effects of changes should be presented to justify the recommended change.*
3. *Plans shall presume all future water needs must be met by management of the water supply currently available to the region. If that is not feasible, as supported by analysis in the planning report, other sources of supply may be proposed if feasible in economic and engineering analysis.*
4. *Water conservation should be the first item considered among feasible water supply alternatives in the management of water to meet current and future water demands. Regional water plans should demonstrate what portion of the future water demand could be met from projections of conserved water. Regional water plans should outline the responsibilities and authorities of each local governing body.*
5. *Population projections shall be based on the Bureau of Business and Economic Research (BBER) model, with any deviations from that model justified. BBER projections and any exceptions shall be reviewed within the public participation program and with Commission staff.*
6. *Analysis of water use shall be broken out into the following categories:*
  - A. **PUBLIC WATER SUPPLY:**  
*All water utilities, publicly or privately owned, which have at least 15 service connections or regularly serve an average of at least 25 individuals daily at least 60 days out of the year. (Safe Water Drinking Act, 1986.) Water used for the irrigation of self-supplied playing fields, golf courses and parks or to maintain the*

*water level in ponds and lakes owned and operated by a municipality which is a public water supplier is also included in this category.*

**B. DOMESTIC:**

*Self-supplied residences which may be single family homes or multiple housing units with less than 25 occupants, where water is used for normal household purposes such as drinking, food preparation, bathing, washing clothes and dishes, flushing toilets, and watering lawns and gardens supplied from a domestic source. Also includes water used by that segment of the population which is served by small community water systems for which reliable population and water use data are unavailable.*

**C. IRRIGATED AGRICULTURE:**

*All diversions of water for the irrigation of crops grown on farms and ranches.*

**D. LIVESTOCK:**

*Water used to raise livestock, maintain self-supplied livestock facilities, and provide for on-farm processing of poultry and dairy products, and evaporation from stock tanks.*

**E. COMMERCIAL:**

*Self-supplied businesses (e.g., motels, restaurants) and institutions (e.g., schools and hospitals), public or private, involved in the trade of goods or provision of services. Self-supplied greenhouses and nurseries primarily engaged in selling products to the general public which are produced on the same premises from which they are sold.*

**F. INDUSTRIAL:**

*Self-supplied enterprises engaged in the processing of raw materials (organic or inorganic solids, liquids, or gases) or the manufacturing of durable or nondurable goods. Water used for the construction of highways, subdivisions and other construction projects is also included.*

**G. MINING:**

*Self-supplied enterprises engaged in the extraction of minerals occurring naturally in the earth's crust; solids, such as coal and smelting ores; liquids, such as crude petroleum; and gases, such as natural gas. Water used for oil and gas well drilling, secondary recovery of oil, quarrying, milling (crushing, screening, and washing, flotation, etc.) and other processing done at the mine site, or as part of a mining activity is included as well as water removed from underground excavations and stored in, and evaporated from, tailings ponds. Mining also includes water used to irrigate new vegetative covers at former mine sites which are being reclaimed. Mine dewatering is included as a use if said water is consumed in some manner such as evaporation ponds. It does not include the processing of raw materials such as smelting ores unless this activity occurs as an integral part of, and is physically contiguous with, a mining operation.*

**H. POWER:**

*All self-supplied power generating facilities.*

**I. RESERVOIR EVAPORATION:**

*Net evaporation from man-made reservoirs, not including stock tank evaporation.*

**J. FISH, WILDLIFE AND RECREATION:**

*All self-supplied playing fields, golf courses and parks, water needed to hold a minimum water level in reservoirs for recreation, fish and wildlife, water used for crops grown for wildlife consumption and self-supplied recreation parks, campgrounds and fish hatcheries.*

<http://www.ose.state.nm.us/doing-business/water-plan/rwp-handbook.html>

### Tying Regional Planning to Statewide Planning

In 2003, ISC appointed members to the Regional Water Plan Advisory Council, from the 16 regions planning areas. The goal of the Advisory Council is to develop a relationship with New Mexico's regional communities for the purposes of understanding regional perspectives on water as well as on a statewide level. The duties of the Advisory Council are: 1) participate in discussions and develop recommendations on procedures for resolving State Plan and Regional Plan differences and 2) work together to develop strategies for the implementation of regional water plans and discuss recommendations for funding the work to be done.

## **3. WATER MANAGEMENT VISION AND GOALS**

### **Common Priorities, Goals, and Objectives**

A list of common priorities was developed during the Plan planning process, which if properly addressed, would have a positive impact on the public welfare of the State. This list included:

- *Ensuring that water is available for the continued and future economic vitality of the State*
- *Ensuring a safe and adequate drinking water supply for all New Mexicans*
- *Developing water resources to expand the available supply*
- *Promoting conservation and the efficient use of water*
- *Promoting drought planning*
- *Protecting, maintaining, and enhancing the quality of the State's waters*
- *Providing for fish and wildlife habitat preservation and maintenance and for river restoration*
- *Protecting senior water rights*
- *Maintaining and enforcing interstate stream compact compliance*
- *Preserving state administrative authority over the State's waters*
- *Completing water rights adjudications.*

From Section C.2 of the Plan, the vision and policy direction for active management of the state's waters include:

- The State shall efficiently and effectively manage its surface and ground water to maximize the use of the State's water supply to satisfy existing water rights and to meet its interstate stream compact obligations.
- The State shall accurately measure its water uses and inventory the quantity and quality of its water supply.

- The State shall promote water markets that enable the efficient management and movement of water rights within the State in accordance with the applicable legislative and legal safeguards.
- The State should devote resources to the OSE sufficient to ensure that, within the required time, the State Engineer has the basin infrastructure, technical data, models, and plans to conduct and credibly defend in court water rights administration in those basins where the consequences of failure to administer are anticipated to be the most severe.

The State Water Plan, 2003 is to be reviewed, updated, and amended every five years. The Plan was reviewed and an update proposed in 2008. The update of the State Water Plan will be conducted over a period of several years. The most important policy areas will be updated first, depending on funding availability. The following list includes the priority areas (in no particular order) from the 2008 review (some are subject to funding availability):

- Place greater emphasis on conservation.
- Recognize impacts of the energy/water nexus.
- Report on progress in implementation of Active Water Resource Management.
- Report on progress in licensing or adjudication of water rights.
- Define what is meant by water budgets, integrate water budget data from completed regional plans, and revise and improve water budgets.
- Conduct technical studies to improve the understanding of water supply and demand.
- Develop a pilot program to define consistent terms and standards for water budgets.
- Place more emphasis on critical infrastructure needs, identifying the needs and costs and providing the information necessary to prioritize them, including economic analysis.
- Report on progress toward implementing the various pending water settlements statewide.
- Include a more detailed State Water Plan implementation schedule that incorporates responsibilities, schedules, and costs.
- Address the impact of climate change on water availability, water management, and other state resources.
- Place greater emphasis on water quality.

[http://www.ose.state.nm.us/PDF/Publications/StateWaterPlans/SWP-Review&Update\\_6-26-08.pdf](http://www.ose.state.nm.us/PDF/Publications/StateWaterPlans/SWP-Review&Update_6-26-08.pdf)

#### **4. SCOPE OF WATER RESOURCES PLANNING AND MANAGEMENT**

The New Mexico State Water Plan is organized to follow the provisions contained in Sections C – F of the State Water Plan Act. The Plan was prepared by the ISC, OSE, and the WTB. Detailed information about population projections, water use, and trends is detailed in the Regional Plans and other technical documents rather than the statewide Plan.

##### **Trends Impacting Water Resources**

Because the 2003 Plan was created under the constraints of an ambitious schedule with a lack of an established template and a short time frame, one of the items listed as missing in the 2003 Plan includes: *Technical studies that address water supplies, population projections, water demand, the connection between groundwater and surface water, water conservation, drought management planning, brackish water and desalination, water availability and land use planning, and riparian restoration for protection.*

[http://www.ose.state.nm.us/PDF/Publications/StateWaterPlans/SWP-Review&Update\\_6-26-08.pdf](http://www.ose.state.nm.us/PDF/Publications/StateWaterPlans/SWP-Review&Update_6-26-08.pdf)

The Regional Plans, on the other hand, were designed to provide enough information, analysis, and documentation to answer the following questions:

- What is the region's available water supply?
- What is the region's future water demand?
- How will the region undertake to meet demand with supply?

The trends listed in the *Regional Water Planning Handbook* include: public water supply; domestic (self-supplied residences); irrigated agriculture; livestock; commercial (self-supplied businesses); industrial (self-supplied enterprises processing raw material or manufacturing); mining; power generating facilities; reservoir evaporation; and fish, wildlife, and recreation.

### Population

Since the 2003 Plan, the ISC contracted with University of New Mexico Bureau of Business and Economic Research to provide updated population report with projections. *A Report on Historic and Future Population Dynamics in New Mexico Water Planning Regions, 2008* outlines the historic population from 1990 to 2005 and then projects the population from 2010 to 2060 for each of the 16 water planning regions. The Report may be viewed at:

<http://www.ose.state.nm.us/PDF/Publications/TechnicalReports/BBER-WPR-Estimates-Projections-Aug2008.pdf>.

### New Mexico Water Use by Category, 2005

One of the OSE technical reports that provides a summary of water use information is the *New Mexico Office of the State Engineer Technical Report 52: Water Use by Category, 2005*. This report gives the statewide use for the same trends as in the Regional Plans except for the fish, wildlife, and recreation. The 2005 water use information starting with population is listed below:

**Demographics** - the population of New Mexico increased from 1,819,046 in 2000 to 1,968,353 in 2005, an increase of 149,307, or 8 percent. The statewide population is expected to grow to 3,710,875 by the year 2060.

**Water Withdrawal** - in 2005, withdrawals for all categories combined totaled 3,950,398 acre-feet. Surface water accounted for 2,112,138 acre-feet (53.47 percent) of the total withdrawals; groundwater accounted for 1,838,260 acre-feet (46.53 percent) of the total withdrawals.

**Public Water Supply** accounted for 320,126 acre-feet (8.10) of the total withdrawals. Surface water accounted for 42,092 acre-feet (13.15 percent) of the public water supply withdrawal. Groundwater accounted for 278,034 acre-feet (86.85 percent).

**Self-Supplied Domestic** accounted for 35,796 acre-feet (0.91 percent) of the total withdrawals. In this category, 100 percent of the withdrawals for domestic purposes were from groundwater sources.

**Irrigated Agriculture** accounted for 3,075,514 acre-feet (77.86 percent) of the total withdrawals. Surface water accounted for 1,730,927 acre-feet (56.30 percent) of irrigation withdrawals. Groundwater withdrawals totaled 1,344,587 acre-feet (43.70 percent). Surface water diverted for irrigation resulted in off-farm conveyance losses in canals and laterals, which amounted to 608,901 acre-feet (35.12 percent). The total acreage irrigated (TAI) on farms in 2005 was 875,415.

Approximately 279,665 acres (31.95 percent) were irrigated with surface water; 464,177 acres (53.02 percent) were irrigated with groundwater; and 131,573 acres (15.03 percent) were irrigated with a combination of ground and surface water. Drip irrigation (TDA) accounted for 18,875 acres (2.16 percent); flood (TFA) for 448,599 acres (51.24 percent); and sprinkler (TSA) for 407,941 acres (46.60 percent).

In some areas of the state, surface water was not sufficient to meet the irrigation demand.

**Livestock** accounted for 57,009 acre-feet (1.44 percent) of total withdrawals. Surface water accounted for 3,279 acre-feet (5.75 percent) of withdrawals and groundwater for 53,730 acre-feet (94.25 percent).

**Commercial** uses accounted for 40,578 acre-feet (1.03 percent) of total withdrawals. Surface water accounted for 1,496 acre-feet (3.69 percent) of the withdrawals, and groundwater for 39,082 acre-feet (96.31 percent).

**Industrial** uses accounted for 18,251 acre-feet (0.46 percent) of total withdrawals. Surface water accounted for 1,967 acre-feet (10.78 percent) of the withdrawals and groundwater for 16,284 acre-feet (89.22 percent).

**Mining** accounted for 60,189 acre-feet (1.52 percent) of total withdrawals. Surface water accounted for 1,438 acre-feet (2.40 percent) of the withdrawals and groundwater for 58,751 acre-feet (97.61 percent).

**Power** accounted for 63,642 acre-feet (1.61 percent) of total withdrawals. Surface water accounted for 51,646 acre-feet (81.15 percent) of withdrawals and groundwater for 11,996 acre-feet (18.85 percent).

**Evaporation from reservoirs** with a storage capacity of 5,000 acre-feet or more amounted to 279,293 acre-feet (7.07 percent) of total withdrawals.

<http://www.ose.state.nm.us/PDF/Publications/Library/TechnicalReports/TechReport-052.pdf>

## **Droughts/Climate Change**

The Drought Management Plan, Section C.6 of the State Plan covers drought. Additional drought and climate change information is available on the Governor's Drought Task Force website (<http://www.nmdrought.state.nm.us/>).

## **Funding**

As mentioned previously, the Water Trust Board recommends water projects to the State Legislature for appropriation of funding, in the form of grants or loans, from the Water Project Fund. The Water Project Fund is made up of appropriations from the State Legislature, money that has been set aside from severance tax bond proceeds, and money otherwise allocated to the fund to support water projects. These water projects must be for: water storage, conveyance, or delivery of water to end users; implementation of federal Endangered Species Act of 1973 collaborative programs; restoration and management of watersheds; flood prevention; or water conservation.

## **5. PARTNERSHIPS, STAKEHOLDER, AND PUBLIC INVOLVEMENT**

The state agencies, boards and commissions having statutory authority and responsibility over specific water matters that require policies to guide planning/management include, the New Mexico Interstate Stream Commission (ISC); the Office of the State Engineer (OSE); the New Mexico Environment Department (NMED); the Water Quality Control Commission (WQCC); the Energy, Minerals, and Natural Resources Department (EMNRD); the Department of Game and Fish (NMDGF); the New Mexico Acequia Commission; and the Water Trust Board (WTB). These matters include:

- Conducting and completing water rights adjudications and managing the waters of the state
- Regulating potentially polluting discharges to the state's surface and ground water
- Maintaining compliance with interstate
- Addressing federal mandates such as the Clean Water Act, Endangered Species Act, Resource Conservation and Recovery Act, Safe Drinking Water Act, Wild and Scenic Rivers Act, among others.
- Developing and maintaining comprehensive databases and information systems
- Quantifying and regulating water resources and water quality
- Coordinating with federal agencies within the Departments of Interior, Energy, and Agriculture, and with the U.S. Army Corps of Engineers
- Evaluating and regulating the use of New Mexico's saline and brackish water
- Evaluating and regulating the use of produced water from oil and gas operations

The table below lists several water committees, state agencies, federal agencies, and universities that are involved with water resources in New Mexico. The following web address contains links to each of the listed entities: [http://www.ose.state.nm.us/more\\_info\\_index.html](http://www.ose.state.nm.us/more_info_index.html).

**Table 1. Committees, Agencies and Universities with Water Resources Involvement**

Committees	State Government	Federal Government	Universities
<a href="#">Governor's Drought Task Force</a>	<a href="#">New Mexico State Agency Index</a>	<a href="#">U.S. Geological Survey - New Mexico District, Albuquerque</a>	<a href="#">New Mexico State University (NMSU)</a>
<a href="#">Water Trust Board</a>	<a href="#">New Mexico Office of the Governor</a>	<a href="#">USGS New Mexico Water Science Center</a>	<a href="#">NMSU New Mexico Climate Center</a>
<a href="#">New Mexico Acequia Commission</a>	<a href="#">New Mexico State Legislature</a> (with bill locator)	<a href="#">US Army Corps of Engineers- Albuquerque District</a>	<a href="#">NMSU-CAGE GPS Base Station</a> , Las Cruces
<a href="#">Blue Ribbon Task Force</a>	<a href="#">New Mexico Attorney General</a>	<a href="#">U.S. Bureau of Reclamation – Lower Colorado Region</a>	<a href="#">University of New Mexico (UNM)</a>
<a href="#">Current Drought Status, Water Levels and Climate Conditions</a>	<a href="#">New Mexico Secretary of State</a>		<a href="#">UNM New Mexico Resource Geographic Information System (RGIS)</a>
<a href="#">New Mexico Rural Water Users Association</a>	<a href="#">New Mexico State Land Office</a>		<a href="#">UNM NMERI Community GPS Base Station</a> , Albuquerque

## Public Involvement

As stated in the State Plan Act, legislation requires public input in state water planning. In December 2002, the *Framework for Public Input to a State Water Plan* was published by the ISC and OSE. The goal of the Framework Plan was to develop a better understanding of New Mexico's water supply and the administrative and legal framework in which water resource decisions are made. The intent of the goal was to provide a foundation to develop a state water policy that respects limits created by water availability and guides new water projects that are based on meeting demand within the limits of available water supply. The Framework Plan was published to enable the greatest possible number of New Mexico's citizens to participate in shaping a State Water Plan

Pursuing public involvement began in 2003 with 29 listening meetings held across the state including approximately 1500. Participants provided comments in eight areas: adjudication, administration, conservation and education, reliable data, funding, purpose and place of use, law and regulation, and values and ethics. The *New Mexico State Water Plan: Public Input Process, Public Comment Synthesis*, October 2003 is a published document summarizing the process, synthesis, and themes/categories of the public. The public comment and concerns from these meetings were included the Plan.

## 6. PLAN IMPLEMENTATION STRATEGY

Per the plan review, update, and amendment five-year requirement, the ISC and the OSE, along with other state agencies, have prepared the *State Water Plan Review and Proposed Update*, June 2008. Based on this review, the agencies will begin the several-year update process, which

will include public meetings around the state and other opportunities for public input. The Review and Proposed Update addressed the following questions and topics:

- Why Prepare a State Water Plan?
- What is the State Water Plan Review and Proposed Update?
- How Well Did the 2003 Plan Meet Legislative Objectives?
- What Was Missing in the 2003 Plan, and How Can It Be Improved?
- What Progress Has Been Made Since 2003?
  - Ensuring Safe and Adequate Drinking Water and Promoting Other Water Resource Priorities
  - Adjudications and Settlement of Water Rights and Water-Related Disputes
  - Ensuring Compliance with Interstate Compacts and Protecting Existing Water Rights
  - Protecting Riparian and Aquatic Ecosystems Including Threatened and Endangered Species and Habitats
  - Water Conservation and Infrastructure
- What Conditions Have Changed Since 2003?
- Approach to the Update
- Prioritization of Areas to Update (See Water Management Vision and Goals section above)
- Public Involvement for the Update
- Conclusion

Similar to Table 1, the agencies involved with the Plan Update will include:

- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li>▪ Office of the State Engineer</li> <li>▪ Interstate Stream Commission</li> <li>▪ Environment Department</li> <li>▪ Department of Agriculture</li> <li>▪ Department of Game and Fish</li> <li>▪ Energy, Minerals and Natural Resources Department</li> <li>▪ Department of Finance and Administration</li> <li>▪ New Mexico Finance Authority</li> <li>▪ Water Trust Board</li> <li>▪ Water Quality Control Commission</li> </ul> | <ul style="list-style-type: none"> <li>▪ New Mexico Drought Task Force</li> <li>▪ State-Tribal Water Institute</li> <li>▪ New Mexico Acéquia Commission</li> <li>▪ Regional Water Planning Advisory Council</li> <li>▪ Governor's Blue Ribbon Task Force on Water</li> <li>▪ Numerous professional, citizen, agricultural, and planning groups representing various water interests in New Mexico</li> <li>▪</li> </ul> |
|--|---|

## **7. NEEDS, CHALLENGES AND CRITICAL PRIORITIES - INTERVIEW INSIGHTS**

New Mexico like much of the western United States has experience significant growth and at the same time has experience some of the worst drought conditions in the state's history. New Mexico's 2003 Water Plan was created under the constraints of an ambitious schedule with a lack of an established template and a short time frame. The state is focusing on addressing and refining the following topics and priorities that were not fully addressed in the 2003 Plan:

- Technical studies that address water supplies
- Population projections

- Water demand
- The connection between groundwater and surface water
- Water conservation
- Drought management planning
- Brackish water and desalination,
- Water availability and land use planning, and
- Riparian restoration for protection.

In addition the state has identified the following list of priority needs and challenges (in no particular order) from the 2008 review (some are subject to funding availability):

- Place greater emphasis on conservation.
- Recognize impacts of the energy/water nexus.
- Report on progress in implementation of Active Water Resource Management.
- Report on progress in licensing or adjudication of water rights.
- Define what is meant by water budgets, integrate water budget data from completed regional plans, and revise and improve water budgets.
- Conduct technical studies to improve the understanding of water supply and demand.
- Develop a pilot program to define consistent terms and standards for water budgets.
- Place more emphasis on critical infrastructure needs, identifying the needs and costs and providing the information necessary to prioritize them, including economic analysis.
- Report on progress toward implementing the various pending water settlements statewide.
- Include a more detailed State Water Plan implementation schedule that incorporates responsibilities, schedules, and costs.
- Address the impact of climate change on water availability, water management, and other state resources.
- Place greater emphasis on water quality.

To address these needs and priorities the State would benefit from technical and financial support from federal agencies. Full funding of United State Geologic Survey gauging program would help address several needs. In addition it should be noted that many of the Natural Resources Conservation Service dams were built as agricultural dams, and are see more urbanization near these dams and there has been little maintenance and upgrading of these structures.

New Mexico is facing significant challenges in addressing endanger species issues. These issues are made more difficult given the prolonged drought, budget shortfalls, addressing tribal water rights claims, and water adjudication issues. The state needs to see flexibility, cooperation and additional financial support to address this challenge.

It is also important that Federal agencies respect state sovereignty when addressing federal needs.

As New Mexico looks forward it must address: challenges with growth (need for permanent supplies for permanent growth or imported supplies), difficulty managing water been uses and users, explore water transfer markets, address the energy water nexus as the state has significant resources coal, natural gas, and uranium, implement rural water projects such as the Navajo

Gallup pipeline, and address dwindling ground water resources with no apparent renewable supplies. While these are significant challenges creative solutions and financial support will go a long way toward addressing these needs.

## 8. REFERENCES

Much of the language and information in this summary comes directly from reports published by the Office of the State Engineer/Interstate Stream Commission.

Publications from the OSE include: Annual Reports, Strategic Plans, Technical Reports, and quarterly Waterwise Community Briefs. Annual Reports are required of the State Engineer by NMSA 72-2-5. A list of all available OSE/ISC publications can be found at:

[http://www.ose.state.nm.us/publications\\_index.html](http://www.ose.state.nm.us/publications_index.html).

Legislation relating to the OSE and ISC include:

[http://www.ose.state.nm.us/legal\\_legislative\\_49th\\_2009\\_session.html](http://www.ose.state.nm.us/legal_legislative_49th_2009_session.html)

Review and Proposed Update New Mexico State Water Plan, 2008

[http://www.ose.state.nm.us/PDF/Publications/StateWaterPlans/SWP-Review&Update\\_6-26-08.pdf](http://www.ose.state.nm.us/PDF/Publications/StateWaterPlans/SWP-Review&Update_6-26-08.pdf)

Water Atlas: <http://www.ose.state.nm.us/water-info/NMWaterPlanning/nmwateratlas.pdf>

New Mexico Statutes Annotated:

<http://www.conwaygreene.com/nmsu/lpext.dll?f=templates&fn=main-h.htm&2.0>

OSE Technical Reports [http://www.ose.state.nm.us/publications\\_library\\_techrpts.html](http://www.ose.state.nm.us/publications_library_techrpts.html)

Water Use and Data Technical Reports

[http://www.ose.state.nm.us/publications\\_technical\\_reports\\_wateruse.html](http://www.ose.state.nm.us/publications_technical_reports_wateruse.html)