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2007-2008 Annual Report

Office of the State Engineer
Interstate Stream Commission
P.O. Box 25102
Santa Fe NM 87504-5102

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River, unknown; Irrigation in Pecos
Valley, Tim Murrell; Navajo Reservoir,
Mike Stauffer.

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Message from the New Mexico State Engineer

**“One thing is for certain:
Our water supply will remain
variable, and we must continue
to put the tools in place to
manage our variable supply and
ensure adequate water for future
generations.”**

This past year was one of extremes regarding water management in New Mexico. Water supply was relatively good with generous snowfall early in northern New Mexico early in the year producing above-average snowpacks. While northern New Mexico faced concerns of flooding along the Rio Grande and San Juan River, little snow fell on the southern part of the state, and runoff in the southern basins was well below average.

Climate variability makes our state’s future water supply difficult for water managers to predict. One thing is for certain: Our water supply will remain variable, and we must continue to put the tools in place to manage our variable supply and ensure adequate water for future generations.

Several successive years of severe drought highlight that New Mexico must have water management tools in place now. Drought is a slowly evolving natural disaster that challenges us to become prepared. A primary focus of our time and resources is to make sure the state has an emergency action plan for the inevitable future drought cycles. We have made progress on the Active Water Resource Management initiative, or AWRM, launched in January 2004. AWRM refers to a broad range of activities that emphasize permitting transfers, monitoring and metering diversions, and limiting diversions and consumptive use of water to the amount authorized by existing water rights – all within the prior appropriation system.

The objective is not to threaten rights to the use of water, but rather to target protecting and preserving rights to the use of water, in the amount and priority of use of each water rights owner. Progress implementing our emergency plan, using a phased approach in seven key basins, includes the declaration of special water master districts and the hiring of water masters – who act as water liaisons in each district. The next step is metering and measuring of water use, so water can be fairly administered in times of climate variability. Prior to meter installation, we select preliminary locations by having water masters work with area land owners to finalize meter locations, sign ditch agreements to secure state funding, and install meters at a time when crops are not being irrigated.

Water masters are already working successfully with local water right owner on the Cimarron River, the Rio Costilla, the Rio Chama, and the Pecos River. Besides prior appropriations, alternative forms of administration are taking place on the Rio Jemez, the Animas River, and the San Juan River.

This phased approach will take several years to fully implement statewide. We have seen great progress, so far, in a very short period of time.

Also, progress was made on three Indian water right settlements – the Navajo Nation Settlement, the Taos Settlement, and the Aamodt Settlement. All three settlements now require congressional authorization for implementation. We will continue to work with our state and federal representatives to get the funding needed to make these settlements come to fruition. It is imperative that New Mexico settles its Indian water right claims for the certainty that it will bring to water right ownership in the state.

We continue to take steps to ensure the state of New Mexico continues to control its own water future by making substantial progress on the implementation of the Pecos River Settlement Agreement. This historic agreement consists of purchasing and retiring land and associated water rights to bring the Lower Pecos basin into long-term hydrologic

State Engineer
John D’Antonio, PE

balance and includes construction of augmentation well fields to facilitate New Mexico's delivery obligations to the state of Texas.

Other issues of note this past year include a review of New Mexico's first State Water Plan, which sets a workable framework for responsible future water use in our state. The review of the plan was undertaken by agency planning staff in 2007, with input from our agency technical experts as well as input from other state agencies. This document sets the stage for the State Water Plan Update, which will be developed next fiscal year, with considerable public outreach planned for each of the 16 planning regions around the state.

Work continues in the exploration of new sources of water. We will continue to make sure compact deliveries are made while continuing the progress made with endangered species protection and recovery efforts. Work also continues in the adjudication of our state's waters while keeping up with technological improvements.

Now is a time of transition, which is best met with a clear plan for the future. This agency will continue to work in cooperation with other state agencies, counties, and communities to prepare for challenging water issues faced that will affect our state in the years ahead.



John D'Antonio, P.E.

A registered professional engineer in New Mexico and Colorado, State Engineer John D'Antonio has experience in hydraulic design, acequia rehabilitation, water resource management, and water policy development.

Before being appointed by Governor Bill Richardson to the state's chief water post, D'Antonio was cabinet secretary of the New Mexico Environment Department in 2002. He served as director of the Water Resource Allocation Program for the Office of the State Engineer from 2001 to 2002 and served as the State Engineer's Albuquerque district supervisor from 1998 to 2001.

D'Antonio worked 15 years with the U.S. Army Corps of Engineers as a hydraulic design engineer, as chief of the Hydrology, Hydraulics, Sedimentation, and Floodplain Management Program, and as project manager for the Acequia Rehabilitation Program.

A native New Mexican, D'Antonio received a bachelor's degree in civil engineering from the University of New Mexico in 1979.

He has been a member of the Governor's Blue Ribbon Task Force on Water from 1998 to the present.

In his post as State Engineer, D'Antonio is secretary of the Interstate Stream Commission, chairman of the Water Trust Board, Governor's Water Infrastructure Investment Team, and Governor's Drought Task Force and the New Mexico Commissioner to the Rio Grande, Costilla and Upper Colorado river compacts.

D'Antonio and his wife, Cassandra, along with their son, Nick, make their home in Albuquerque.



LA Photo



Past New Mexico State Engineers

John D'Antonio has been State Engineer since his appointment in January 2003. His predecessors and their terms:

David White

April 1905-March 1907

Vernon Sullivan

April 1907-December 1910

Charles Miller

January 1911-July 1912

James A. French

July 1912-December 1918

Leslie A. Gillett

January 1920-December 1920

Charles A. May

January 1921-December 1922

James A. French

January 1923-December 1924

George M. Neel

January 1925-June 1926

Herbert W. Yeo

July 1926-June 1930

George M. Neel

July 1930-June 1932

Thomas M. McClure

July 1932-November 1946

John Bliss

November 1946-November 1953

John R. Erickson

December 1953-February 1955

John Bliss

March 1955-August 1955

Stephen E. Reynolds

September 1955-March 1990

Philip B. Mutz

April 1990-June 1990

Carl L. Slingerland

July 1990-December 1990

Eluid I. Martinez

January 1991-December 1994

Thomas C. Turney

January 1995-December 2002



Executive Summary

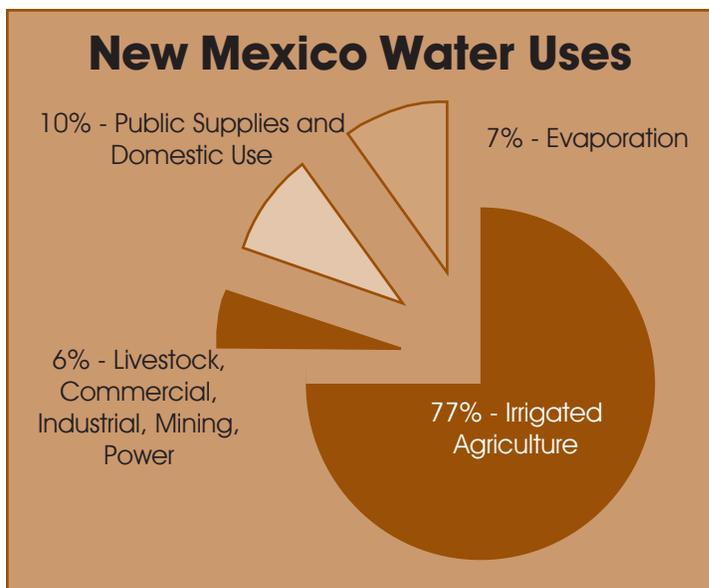
The State Engineer's approval is required for every use of water in New Mexico

The State Engineer is statutorily charged with supervising the state's water resources through the measurement, appropriation, and distribution of all ground and surface water in New Mexico, including streams and rivers that cross state boundaries. Created as the Office of the Territorial Irrigation Engineer in 1905, seven years before statehood, the agency assumed responsibility over all surface water in 1907 and was renamed the Office of the Territorial Engineer. With statehood in 1912, the organization's responsibilities were expanded again to include all groundwater within declared groundwater basins – now 100 percent of the state – and the office was renamed the Office of the State Engineer.

The State Engineer's approval is required for every use of water in New Mexico. State Engineer permission is needed to make a new appropriation, drill a well, divert surface water, or change the place or purpose of use of an existing water right. The Office of the State Engineer acts on water rights applications, evaluates existing water rights, measures and tracks water use and resources, promotes conservation, and performs the scientific, historical and legal research needed to support all of its activities. Additional duties include reviewing subdivision water-supply plans submitted by counties, licensing water-well drillers, inspecting non-federal dams, and rehabilitating diversion dams and irrigations ditches.

Although separate under state law, the Interstate Stream Commission staff members function as a division within the Office of the State Engineer. The State Engineer, appointed by the Governor and confirmed by the state Senate, serves as the Secretary of the Interstate Stream Commission. The Interstate Stream Commission Director serves as the deputy state engineer. The Legislature created the Interstate Stream Commission in 1935 and gave it broad powers to investigate, protect, conserve and develop the state's water supplies. Its separate duties include protecting New Mexico's right to water under eight interstate stream compacts and ensuring the state complies with each of those compacts, as well as developing and promoting regional and statewide water planning.

Water management in New Mexico is guided by several 100-year-old principles in the New Mexico Constitution: (1) All unappropriated water belongs to the public and is subject to appropriation by law. (2) The acquisition or continuation of a water right and where and how much water can be used is dependent on how the water is put to beneficial use. (3) Older water rights



have priority over more recent water rights. Since 1907, a permit from the State Engineer has been required to divert surface water and put water to beneficial use. Permits are required for diverting groundwater anywhere that the State Engineer has declared a groundwater basin, which is now the entire state of New Mexico.

The Office of the State Engineer processes some 19,000 water rights documents a year, with the overwhelming majority involving groundwater. Currently, a third of the applications for new appropriations of groundwater concern domestic or stock uses. More than 100 applications a year draw protests and are then subject to a formal hearing process.

Water management in New Mexico is complicated by the state's long history. Some uses have been in place for centuries, some before written records or water laws. Another key activity of the Office of the State Engineer is legally establishing existing water rights through water rights adjudication. This court process is required by statute and is akin to a quiet title suit for establishing a clear title to land. The first phase of adjudication is a hydrographic survey to locate, quantify and date water uses within a stream system or underground aquifer. The second, or legal, phase of an adjudication starts with the filing of a lawsuit that names water right owners as defendants and ends with a court order that delineates the parameters and priority of each owner's water right. The process provides



Agency Trust Funds

The Ferguson Act of 1898 designated about one-ninth of all land in the state as trust land to benefit certain public institutions. The legislation identified the beneficiaries of the trust land, dedicated the amount of land to be held in trust for each beneficiary and provided for a board made up of the public land commissioner, territorial governor and solicitor general of the territory to assign specific tracts of trust land to each beneficiary.

The act designated 500,000 trust land acres to benefit reservoirs and other irrigation works and 100,000 acres to fund improvements to the Rio Grande. These lands and the trust lands set aside for 19 other beneficiaries are managed by the State Land Office, which transfers the income from certain revenue-raising activities directly to the beneficiaries and deposits the revenue from activities that deplete the resource – such as mining – in the Land Grant Permanent Fund. That fund is invested by the State Investment Council and the investment income is distributed to the trust beneficiaries.

Irrigation Works Construction Fund. The Legislature created the Irrigation Works Construction Fund in 1955 to receive the funds from the trust land acres designated for reservoirs and irrigation works, as well as certain special appropriations. Under the administration of the Interstate Stream Commission, the monies are used to make loans to acequias, and, through contracts with irrigation and water conservancy districts, to individual water users for construction and rehabilitation of on-farm irrigation works. The Irrigation Works Construction Fund pays for technical assistance and design improvements for acequias through an annual contract with the Natural Resources Conservation Service of the U.S. Department of Agriculture. Other contracts with the Conservation Service provide for

watershed planning, agricultural water conservation demonstration projects, and snow surveys. The Irrigation Works Construction Fund is also a source for the non-federal cost-share required by the U.S. Corps of Engineers Acequia Program. Loans also have been made to county flood commissions for protection of irrigation lands and works. Other appropriations have been made for dam rehabilitation and the control of phreatophytes, non-native, high-water-using plants and shrubs. The Irrigation Works Construction Fund also funded the \$14 million payment to Texas ordered by the U.S. Supreme Court to compensate Texas for historic under-deliveries on the Pecos River. It has also been a major source of funding for the Pecos River Lease/Purchase Program aimed at acquiring water rights to improve deliveries to Texas.

Improvement of the Rio Grande Income Fund. Each year the Interstate Stream Commission prepares a plan and budget for projects to be funded by the Improvement of the Rio Grande Income Fund and submits it to the Governor. Ongoing projects include cooperative agreements with the U.S. Bureau of Reclamation for vegetation management in Elephant Butte and Caballo reservoirs, for water salvage in the Middle Rio Grande, and channel maintenance along the Rio Chama below Abiquiu Dam. Through cooperative programs with the U.S. Geological Survey, the fund pays for data collection, hydrologic studies and the evaluation of reclamation projects. The fund has been used to buy San Juan-Chama Project water to establish and maintain a sediment pool in Jemez Canyon Reservoir. Significant grants to the Middle Rio Grande Conservancy District from the fund covered the non-federal share of the Corrales Levee and San Acacia to Bosque del Apache Flood Control projects.



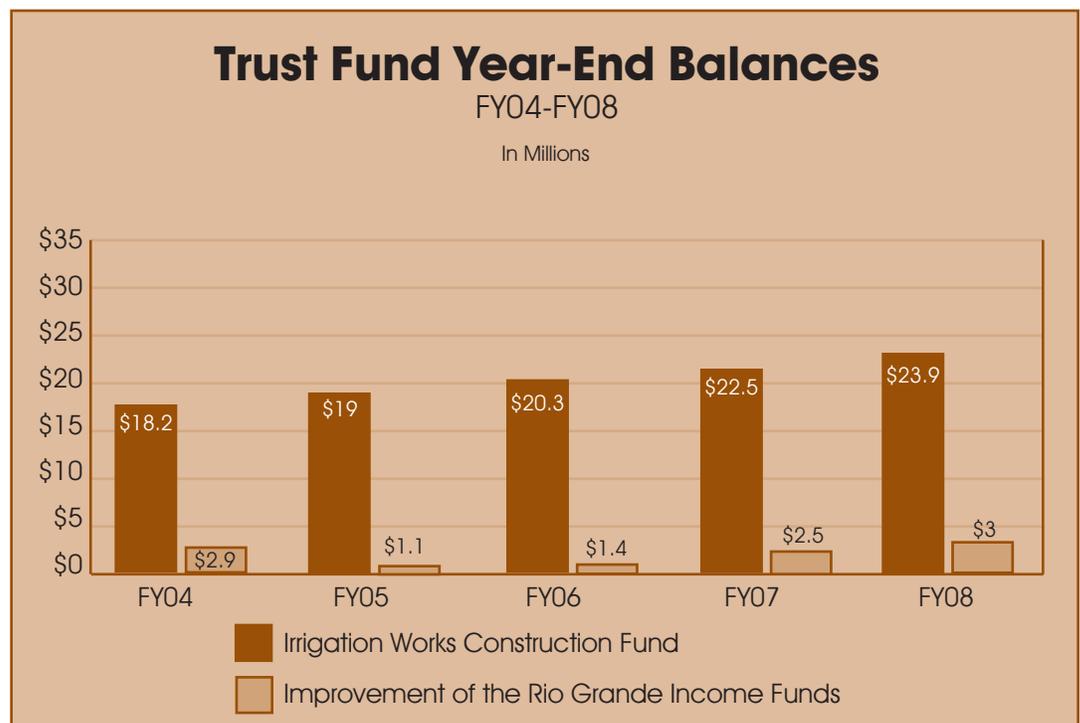
the water right owners with opportunities to challenge the state and each other and to negotiate. The Office of the State Engineer is involved in numerous adjudications, some of which are decades old.

Water management in New Mexico is further complicated by the scarcity of the supply and the eight interstate stream compacts. New Mexico is under pressure to meet its water delivery obligations to other states. Failure to comply can and often does result in litigation. For example, the U.S. Supreme Court in 1988 ordered New Mexico to pay damages to Texas for New Mexico's failure to meet its delivery obligations on the Pecos River and a court-appointed river master monitors New Mexico ongoing compliance.

Optimal management of New Mexico's water is dependent on good information and planning. Those needs have been highlighted both by the increasing demand placed on the limited resource by a growing population and by the added stress of a drought. Office of the State Engineer staff are developing more sophisticated tools for measuring and monitoring water resources, have been active in the development of regional water plans over the past few years, and in 2003 began and completed work on a comprehensive, statewide water plan.

The activities of the Office of the State Engineer and Interstate Stream Commission are financially supported with state general funds and income from state trust land. Although the income from the trust land varies, the agencies received a good portion of their funding in the 2005-2006 fiscal year from the two trust land funds: the Irrigation Works Construction Fund and the Improvements to the Rio Grande Income Fund. The trust lands, set aside under the Ferguson Act of 1898 along with trust lands for some 19 other beneficiaries, are managed by the State Land Office. This agency transfers some income directly to the agencies and the rest to the State Investment Council. The council invests the income generated through activities that deplete the resource – like mining – and the earnings on the investment go into the trust funds.

The dependency of the Office of the State Engineer and Interstate Stream Commission on these funds to meet recurring expenses and the resulting depletion of the fund balances has been brought to the attention of the executive and legislative branches. The agency must receive additional general fund support, the trust funds must be replenished, or both, for substantive and effective water administration to continue.



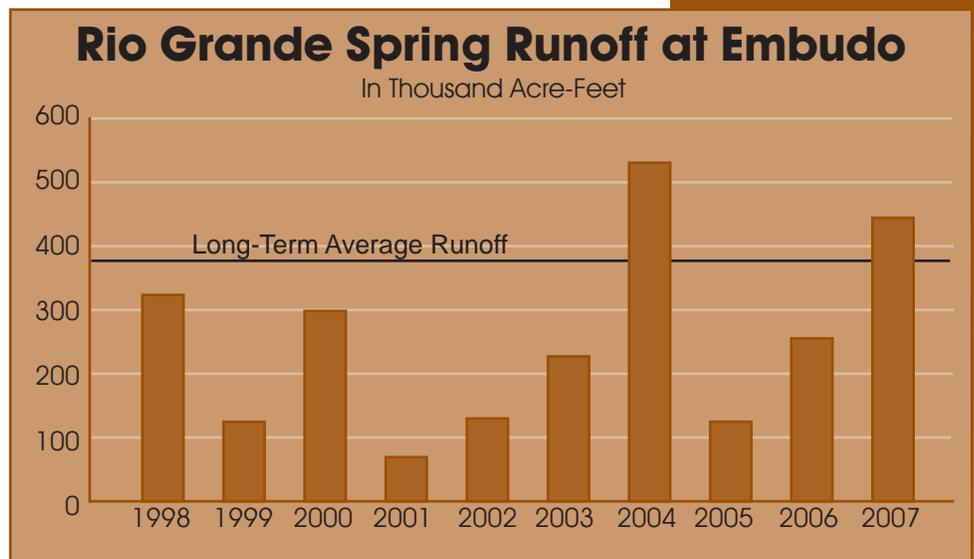
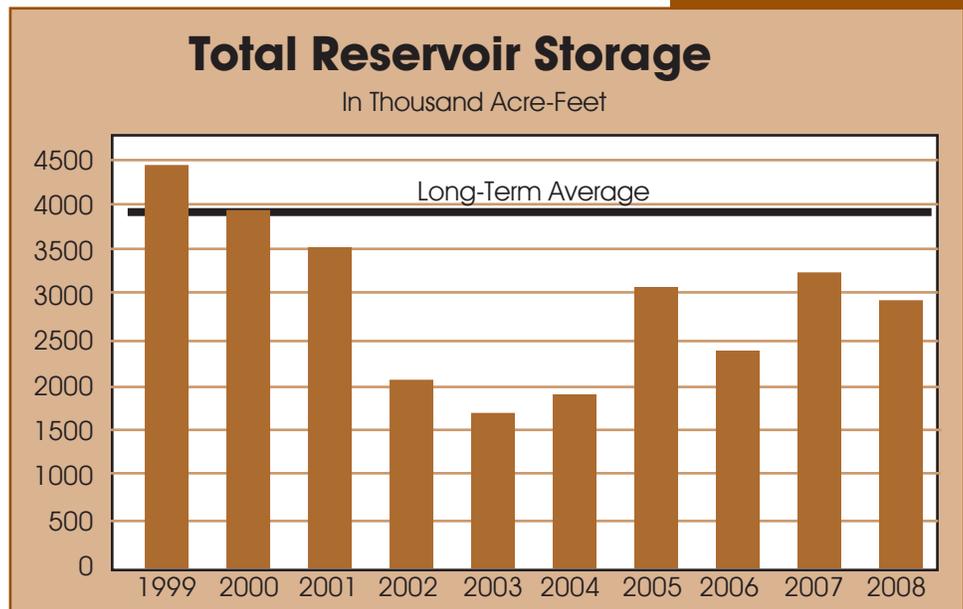
State of the State's Waters



The water supply for the 2007-2008 fiscal year was relatively good. Northern New Mexico received generous snowfall in January and February 2008 that generated above-average snowpacks. Early predictions of spring runoff from northern New Mexico were similarly high – 100 percent to 200 percent of average – raising concerns of flooding in areas along the Rio Grande and San Juan River. New Mexico weather dried out in March and April and the snowpack did not continue to grow. The dry spring reduced the runoff predictions, and the eventual spring runoff ranged from 80 percent to 140 percent of average in most locations, a good runoff but not spectacular. Southern New Mexico, did not fair as well as the northern part of the state. Little snow fell in the south, and runoff in the Mimbres, Rio Hondo, and Gila/San Francisco basins were well below average.

Looking at the Palmer Drought Severity Index (a measure of long-term drought conditions), New Mexico started the 2007-2008 fiscal year in good shape. At the end of July 2007 Palmer Drought conditions in New Mexico ranged from average to “extremely moist.” The following winter, frequent snowstorms kept New Mexico out of the red. But things dried out starting in March, and by June 2008, at the end of a very dry spring, much of New Mexico was in moderate to severe drought. A healthy monsoon season began in July 2008, bringing most of New Mexico back out of drought conditions.

Conditions in the Pacific Ocean are often predictive of New Mexico winter weather, but this year New Mexico bucked the trends. La Niña conditions prevailed in the Pacific during fall 2007 and through the winter and spring of 2008. La Niña, the evil twin of El Niño, tends to push the winter storms up to the northern United States, giving New Mexico warm, dry winters. So this year’s above-average snowpack was a pleasant surprise





to water supply forecasters. By summer 2008, Pacific Ocean conditions were neutral, neither El Niño nor La Niña, and neutral conditions were predicted to continue into the fall and winter.

Surface Water

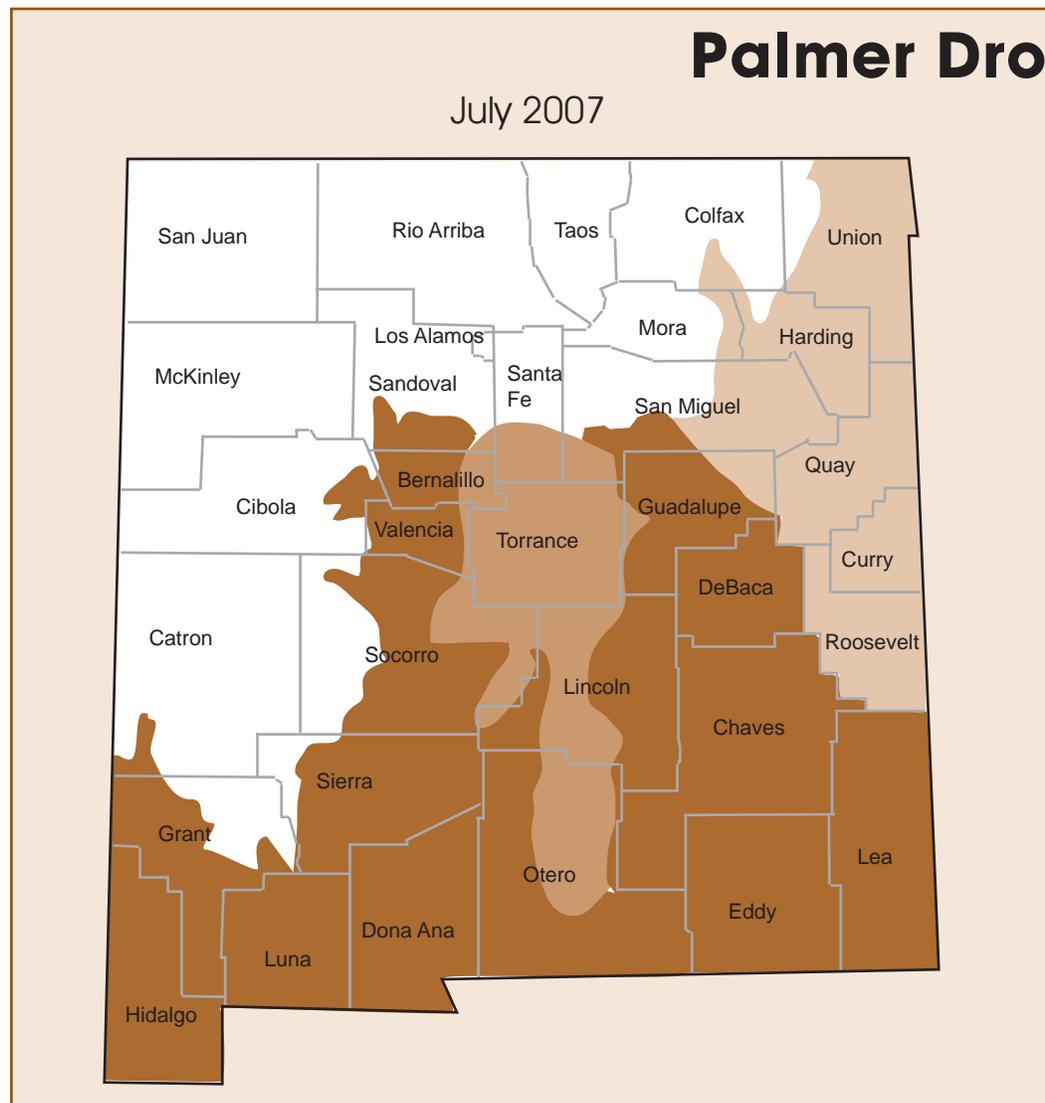
Spring runoff, while above average, was insufficient to refill New Mexican reservoirs. Only the San Juan River system approached 30-year-average reservoir levels. On the Rio Grande, the June 2008 reservoir storage was only 67 percent of average. The Canadian and Pecos River reservoir storage levels were even lower. The total amount of water stored in New Mexico reservoirs in June 2007 was below the 30-year average for June.

These reservoir levels were sufficient to provide a good supply to the irrigators who use river water. On the Rio Grande, the Elephant Butte Irrigation District allotted farmers a full surface water supply of 36 inches. On the Pecos River, Fort Sumner Irrigation District and Carlsbad Irrigation District provided close to a full supply of surface water to irrigators.

Groundwater

Trends in groundwater levels measured in wells vary throughout the state. The principal factors influencing groundwater levels are patterns of aquifer recharge and discharge and variability in aquifer hydraulic properties. Pumping (human-induced discharge) and drought (natural limitation of recharge) superimposed on seasonal fluctuations tend to result in the long-term trends of water-level decline commonly observed in New Mexico.

Not strongly affected by short-term fluctuations in climate, groundwater levels are less reactive to natural weather cycles than surface water levels. Regardless, groundwater



measurements at a given location may vary widely from year to year due to variation in duration of pumping shutdown prior to measurement and proximity of other pumping wells. Groundwater trends are best evaluated over a long period of record.

The state's aquifers likely benefited from recharge derived from the generous extent of 2007 precipitation, further enhanced in some areas by associated reductions in groundwater pumping. Nonetheless, water levels in many New Mexico wells monitored during 2007-2008 continued downward trends evident over the last several decades. In the Estancia Basin, reports of one- to two-foot annual declines were common. Other closed basins in the southwestern part of the state and the Ogallala aquifer in eastern New Mexico saw water levels continue to decline at annual rates ranging generally from a half foot to four feet, primarily in response to pumping for irrigation.

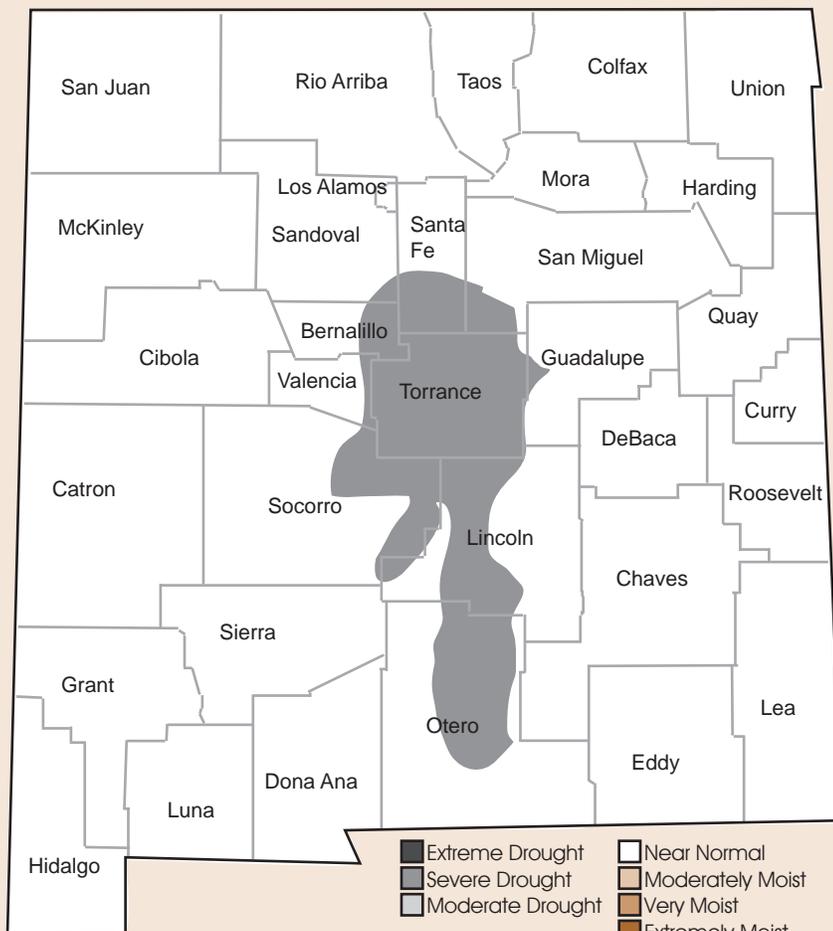
Areas that saw limited annual groundwater level rises or levels that tracked above median statistical trends over the course of the same period, such as southwestern and eastern Albuquerque and locations in Lea County, generally did so following periods of extended earlier aquifer depletions. Groundwater declines ranging from a half foot to three feet annually and related to municipal and industrial pumping were measured in the Albuquerque area (west side and south valley), southern Las Cruces, western Santa Fe, and the Bernalillo/Rio Rancho area.

As New Mexico experiences cyclic below-normal precipitation and increased water demand, heightened reliance on groundwater pumping is inevitable. Aquifer declines will likely affect wells in heavily pumped and drought-stricken areas first, and marginal domestic wells and wells tapping shallow production beds are the most likely to prematurely fail.



Drought Index

June 2008





Program Support

Program Support provides administrative and management support services to the Office of the State Engineer to allow for the smooth functioning of all other programs. The program has four bureaus – Financial Services, Budget, Human Resources and Information Technology Systems – which handle the agency’s payroll, budget planning, contract preparation, fixed assets, accounting, procurement, property management and control, personnel management, and computer systems and communication systems development and support.

Financial Services Bureau

The Finance Bureau is responsible for administering, tracking and reconciling all disbursements and accounts receivable including the disbursement of payments for services under professional services contractual agreements, joint power agreements, joint funding agreements and all building leases for the agency. It is also responsible for administering the expenditures and receipts portion of the agency’s regional water planning efforts, Pecos River water rights leases and purchases, the numerous loans and grants issued under the Dams and Ditch Rehabilitation Program, federal grants, special projects and capital projects. This bureau coordinates all fleet functions to ensure compliance of all transportation rules and regulations, coordinates maintenance, maintains the inventory of leased vehicles and authorizes use of the gasoline credit cards.

Budget Bureau

The Budget Oversight Bureau has responsibility over budget administration, contract administration, property management, and fixed asset control.

Specific budget-related activities of the bureau include coordination of the development of the agency’s annual operating budget as well as the annual appropriation request, coordination of the development of the agency’s capital improvement plan and annual capital outlay appropriation request, tracking of agency revenue and expenditure levels in relation to capital and operating budgets, and facilitation of the development and processing of budget adjustment requests.

Contract activities of the bureau include the tracking and processing of professional service contractual agreements, joint power agreements, and joint funding agreements; disbursement of payments for services provided under agency agreements; and coordination and processing of all agency purchases.

Property management activities include oversight of the agency’s state-owned and leased facilities and coordination of lease agreements, as well as oversight of the agency’s compliance with occupational, fire and safety codes.

Finally, the bureau maintains the agency’s fixed asset inventory, which includes the tracking and monitoring of both the status and location of all capital assets of the Office of the State Engineer.

Human Resources Bureau

The mission of the Human Resources Bureau is to develop, deliver and continuously improve the value of human resource services provided to the agency, its programs and business partners. This is accomplished by providing not only human capital needs but also by ensuring the services provided are sound, based on integrity, and of the quality and breadth necessary for the agency to achieve its short- and long-term objectives. Maximiz-

Director

Herman Garcia

Financial Services Bureau Chief

Dinah Sanchez

Budget Bureau Chief

Curtis Eckhart

Human Resources Bureau Chief

Lynette Rodriguez

Information Systems Technology Bureau Chief

Renée Martinez

ing employee performance is not the only goal; productivity and job satisfaction are equally important. It is essential to develop a workforce dedicated to the agency's mission, strengthened by diversity, and able and willing to meet and exceed the highest standards of conduct and performance.

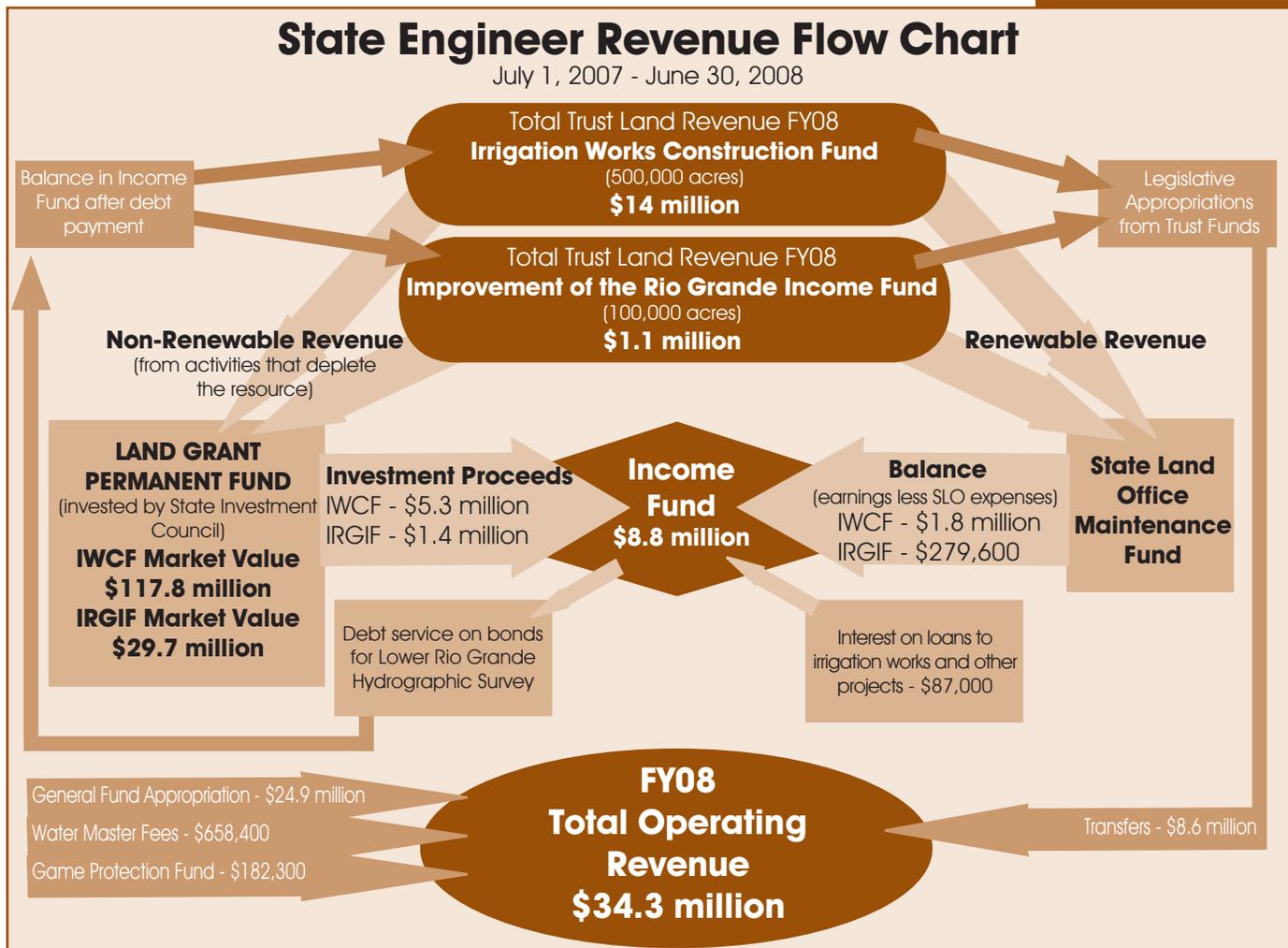
The staff of the bureau is a customer-oriented team that provides day-to-day support to management and staff by recruiting, employing, retaining, and developing employees; maximizing excellent employee relations; and providing proficient consultation and problem resolution on a wide array of human resource topics.

Information Technology Systems Bureau

The Information Technology Systems Bureau develops new computer applications to support the evolving business needs and priorities of the Office of the State Engineer and Interstate Stream Commission. It provides technical support for the wide array of computer technology used by the agency. The agency demand and need for new and enhanced information technology, systems and services is high and growing. The variation of information technologies used by the agency ranges from PC-based hydrographic modeling software and wireless (satellite and radio) water meter data-collection systems to a sophisticated water rights document and transaction processing system. The work activities in the agency are time-, data- and document-intensive. The State Engineer intends to position information technology as a strategic and tactical asset to achieve the goals of the agency.

The agency's major accomplishments in the information technology arena over the past year include the following:

- Completion of Water Rights Research and Accounting System (WRRS) enhancement to convert point of diversion locations to a standard geographic coordinate system;
- Completion of the acquisition, processing, and deployment of statewide "natural





Employees of the Year 2007-2008

Albuquerque

Chris Gallegos
Jeff Peterson
Doug Rappuhn
Water Resources Allocation Program

Maureen Haney
Amy Haas
Interstate Stream Commission

Roswell

Sheila Jordan
Water Resources Allocation Program

Deming

Brian Stevenson
Water Resources Allocation Program

Las Cruces

Linda Filosa
Water Resources Allocation Program

Santa Fe

Kristin Green
Beatriz Vigil
Interstate Stream Commission

Howard Pakin
Elizabeth Mendoza
Program Support

Christy Pittman
Mike Recker
Connie Flint
Lorenzo Romero
Litigation and Adjudication Program

Brian Gallegos
Sharon Pearce
Water Resources Allocation Program

color” aerial imagery;

- Development of the Middle Rio Grande Depletion Study applications, including the map viewer, pre-1907 water rights evaluation, and consumptive-use calculator;
- Implementation of a videoconferencing system to connect Santa Fe, Albuquerque and Las Cruces offices;
- Establishment of the Geographic Information System Subcommittee to report into the agency Information Technology Governance Committee
- Completion of an upgrade to Microsoft Active Directory to improve agency computer network administration and security;
- Installation of a storage area network to address critical agency data storage needs;
- Completion of a performance assessment of the eWATERS application.

The agency’s major technology initiatives for the coming year include the following:

- Implementation of a video-conferencing system to connect agency offices statewide;
- Completion of Active Water Resource Management (AWRM) remote measurement systems in the Nambe-Pojoaque-Tesuque, Mimbres and Pecos basins;
- Completion of the Water Rights Data Analysis, Query and Exchange Project;
- Implementation of virtualization technology to host multiple AWRM measurement systems on a single hardware platform;
- Completion of a web-based water use and conservation plant database.

To support AWRM activities and to make the massive amount of water rights information managed by the agency more accessible to employees and the public, the

Statement of Activities for the Year Ending June 30, 2008

EXPENSES

Current:

Personal services and employee benefits	\$24,062,542
Contractual services	\$10,384,615
Other	\$9,475,476
Interest expense	\$15,053
Depreciation expense	\$924,311
TOTAL EXPENSES	\$44,861,997

PROGRAM REVENUES

Charges for services	\$58,744
Operating grants and contributions	\$11,520,292
Capital grants and contributions	\$170,045
TOTAL PROGRAM REVENUES	\$11,749,081

NET PROGRAM EXPENSE

-\$33,112,916

GENERAL REVENUES

General Fund appropriation	\$24,886,500
Special appropriations	\$10,948,500
Severance tax and General Obligation bonds proceeds appropriations	\$16,868,228
Gain/(loss) on disposal of assets	\$12,288
Reversions	-\$6,448,530
TOTAL GENERAL REVENUES	\$46,226,986

OTHER FINANCING SOURCES (USES)

Interagency transfers in	\$3,457,730
Interagency transfers (out)	-\$1,492,574
TOTAL OTHER FINANCING SOURCES (USES)	\$1,965,156

Change in net assets	\$15,079,226
Net assets, beginning, as originally reported	\$170,877,310
Restatement	
Revenue recorded incorrectly in prior years	-\$10,500,000
Change in accounting treatment of capital appropriations financed with bonds	\$8,206,642
Net assets, beginning, as restated	\$168,583,952
Net assets, ending	\$183,663,178

bureau has made significant enhancements to the WRRS, including its document imaging and management application. The enhancements to this mission-critical information system further streamline the process to capture and manage water rights information for priority basins as established by the State Engineer.

The agency has made investments in wireless monitoring systems in specific water basins to prepare for AWRM activities and to support endangered species agreement and interstate compact compliance activities. At least three of these systems – Mimbres, Nambé-Pojoaque-Tesuque and Pecos – will come online in the coming year. These systems are designed to collect water-flow data using measurement devices on the river and transmit the data via radio or satellite to agency databases and websites.

The agency's website, <http://www.ose.state.nm.us>, is a comprehensive source of information on New Mexico's water resources. The website is regularly updated with important information, including new hot topics, current events, news releases, job opportunities, meeting notices and minutes, basin-specific rules and regulations, regional water plans, and court orders for active adjudications. The website also provides the public with access to selected information managed within the WRRS database. Users are able to look up the well and surface-water information that has been abstracted into the WATERS database. Users may view the actual images of water rights documents using iWATERS. Over the past year and with only 25 percent of water rights documents available online, the agency website recorded 345,162 public downloads of water right documents.

The use and application of geospatial information technologies continue to be essential to the work activities of the agency. The number of geospatial information technology users has grown from 60 to 126 over the past five years.



Statement of Net Assets

June 30, 2008

ASSETS

Current Assets	
Cash and cash equivalents	\$55,850,697
Receivables	\$174,361
Prepaid expense	\$103,992
Escrow deposits	\$21,929
Due from other state agencies	\$23,726,716
Due from federal government	\$448,885
Investments	\$15,128,700
Total Current Assets	\$95,455,280
Noncurrent Assets	
Loans receivable, net of allowance	\$2,953,752
Capital assets, net of depreciation	\$99,053,507
Total Assets	\$197,462,539

LIABILITIES

Current liabilities	
Accounts payable	\$5,387,0827
Accrued salaries and benefits payable	\$1,041,454
Compensated absences (expected to be paid within one year)	\$980,665
Due to state General Fund	\$6,390,159
Total liabilities	\$13,799,360

NET ASSETS

Restricted for:	
Expenditure in future years	\$38,871,840
Pecos river basin land management	\$115,719
Ute Dam operating/construction	\$469,424
Loans	\$2,987,643
Investigation and construction of water conservation projects	\$20,916,923
Improvement and increase of surface flow of Rio Grande River	\$2,988,952
Indian Water Rights Settlement Fund	\$10,000,000
Investment in capital assets	\$99,053,507
Unrestricted net assets	\$8,259,172
Total net assets	\$183,663,180
TOTAL LIABILITIES AND NET ASSETS	\$197,462,540



Public Information/Public Outreach

Public information and public outreach efforts continued to support agency initiatives in the 2007-2008 fiscal year.

A ceremony took place in July 2007 to celebrate the Interstate Stream Commission's completion of the first project of the Strategic Water Reserve: the Vaughan Pipeline. Strategic Water Reserve legislation enabled collaboration between federal and state water

management agencies for the benefit of the environment to protect natural resources without increasing the demand on those resources. Celebration festivities for the completion of the two-mile-long pipeline included a hayride and a river dash with federal and state officials racing against time to get buckets of water to the Pecos River. The pipeline project cost just over \$824,000 and took nearly four months to complete. The pipeline directs water from 10 wells to the Pecos River. Members of the Vaughan family were present at the festivities, which took place on their ranch near Fort Sumner.

Communication staff also worked on the annual joint news conference with sister state agencies the Tourism Department, State Parks Division, and State Forestry Division. The purpose of the news conference was to announce reservoir levels and a good outlook for summer recreational opportunities despite continuing drought conditions around the state. It was well-attended by the news media.

Active Water Resource Management public outreach efforts took place on May 12 in the Mimbres

with a public meeting on the expansion of the Upper Mimbres Water Master District. Continued drought conditions created a situation where current flows of the Mimbres River were about 70 percent of average flows. The meeting presented an opportunity for area residents to ask the State Engineer and his staff questions about measuring and metering, while state funding assistance is available.

In March, a public meeting was held in Truth or Consequences to discuss the state's relinquishment of credit water from Elephant Butte Reservoir. New Mexico's Elephant Butte Irrigation District requested the relinquishment to increase the river diversion allocation of water to its farmers. This provided farmers in the Rio Grande Valley below Caballo Dam with a more reliable supply of surface water for the 2008 irrigation season.

Three public meetings were held in the Rio Gallinas area. An Open House Workshop on August 16, 2007, provided area residents with an opportunity to have valuable one-on-one time with the State Engineer and his staff to address area water issues. The annual Water Master Meeting was held on March 5, 2008, covering the agency's plan to administer the Rio Gallinas in times of shortage as well as the benefits of metering and ditch agreements. Finally, a forum on Managing Water in the Rio Gallinas in 2008 was hosted by the agency in collaboration with the state Department of Game and Fish, U.S.



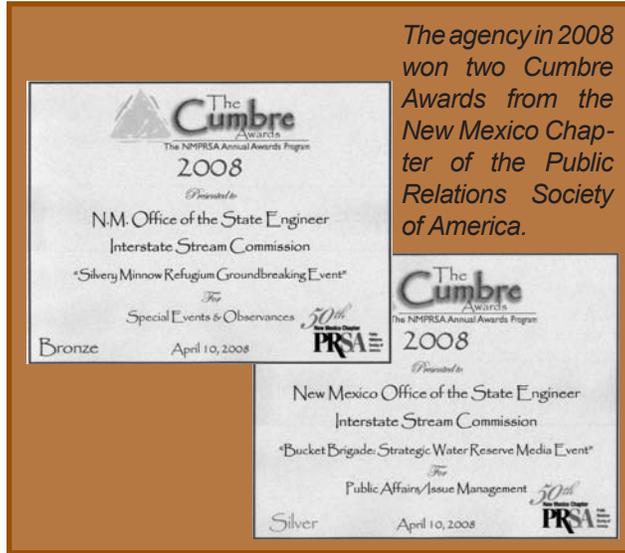
Federal and state officials dash with river water during the Big Splash, a ceremony in July 2007 to celebrate the Interstate Stream Commission's completion of the Vaughan Pipeline, the first project of the Strategic Water Reserve. The event garnered a statewide media award.

Planning and Communication Division Director

Karin Stangl, APR

Department of Agriculture Natural Resources Conservation Services, Tierra y Montes Soil and Water Conservation District, the Rio Gallinas Acequias Association, and the city of Las Vegas on April 31, 2008. The forum provided an opportunity for area residents to learn about the water needs in the Rio Gallinas Basin as well as engineering and funding assistance available from federal and other governmental agencies related to water management.

For the fifth year in a row, the Office of the State Engineer received Cumbre Awards of excellence from the New Mexico Chapter of the Public Relations Society of America. The Cumbre Awards is an annual competition in the state of New Mexico, which recognizes public relations professionals and their respective organizations for their excellence in producing effective campaigns and tactics.



The agency in 2008 won two Cumbre Awards from the New Mexico Chapter of the Public Relations Society of America.

The Planning and Communication Division received a Second-Place Silver 2008 Cumbre Award for the public outreach campaign "Bucket Brigade: Strategic Water Reserve Media Event" in the public affairs/issues management campaign category. This public outreach campaign supported the Interstate Stream Commission's efforts to meet Endangered Species Act needs, thus protecting other water rights in the process.

Also, the division won a Third-Place Bronze 2008 Cumbre Award for the public outreach campaign "Silverly Minnow Refugium

Groundbreaking Event" in the special events and observances category. This campaign supported the Interstate Stream Commission's efforts to satisfy the requirements of the March 2003 biological opinion for the Rio Grande silvery minnow related to Middle Rio Grande water operations. The event was produced in cooperation with Tetra Tech of Albuquerque.

The Cumbre Campaign Awards recognize outstanding achievement in a comprehensive public relations campaign for writing, design production, and management of materials consisting of more than one communication tool, program or component. The campaign must also include planning and evaluation activities.

In fiscal year 2007-2008, the Office of the State Engineer and Interstate Stream Commission continued to expand outreach efforts. The agency continued to mail quarterly issue briefs to legislators, municipal and county leaders, special interest groups, and opinion leaders around the state to better inform them about the State Engineer's and Commission's policies and initiatives. These issue briefs not only promote greater awareness of the role of the Office of the State Engineer and Interstate Stream Commission in funding better water management programs but also generate feedback to help develop successful strategies for expanding outreach efforts in future.

The division is gearing up to facilitate public meetings in each of the 16 planning regions around the state to gather public input to support the agency's State Water Plan Update efforts in fiscal year 2008-2009.



Communication staff organized a "Duckolympics" and ribbon-cutting event to celebrate the completion of the Seven Rivers Pipeline Project near Carlsbad in June 2008. The relay race involved state and federal officials who worked on the project. The pipeline is an important part of implementing the Pecos Settlement.



Legislation and Policy

The more than 100 bills related to water issues introduced in the 2008 state legislative session were closely followed by Office of the State Engineer and Interstate Stream Commission staff. Most died when legislators ran out of time to act on them. Two bills were of particular interest to the agency.

Senate Bill 227, signed into law by Governor Richardson, will help the state meet court-ordered water deliveries on the Pecos River by allowing the Interstate Stream Commission to continue to purchase water rights in the Pecos Valley without having to buy the land. Sponsored by Sen. Phil Griego (D-Mora), the bill allows the state to sell some of the land purchased to acquire water rights back to the original owner. The commission has received numerous verbal commitments to sell water rights since the bill was signed.

Another key bill would have given the State Engineer the ability to declare a deep aquifer (an aquifer below 2,500 acre-feet with salinity greater than 1,000 parts per million) as an underground basin if it were put to beneficial use, effectively placing wells in deep aquifers under the same permitting process as other wells. Senate Bill 262, sponsored by Sen. Carlos Cisneros (D-Questa), died through legislative inaction. The legislation was prompted by concerns about plans to tap into deep aquifers in areas west of Albuquerque and Rio Rancho. Currently, the well owners are only required to submit quarterly reports on quality and quantity. The State Engineer wants to look at deep water as an additional source of water but is concerned about impairment, particularly when deep water is intended to supply permanent residences and infrastructure.

The Legislature passed Senate Joint Memorial 17, sponsored by Sen. Sue Wilson-Beffort (D-Albuquerque), asking the State Engineer to consider water availability within a basin to which water is being exported when reviewing requests for exports of water.

Two bills to fund regional water planning died through lack of action. House Bill 85, sponsored by Rep. Andy Nunez (D-Hatch) would have allocated \$345,000 this year to supplement the \$55,000 received last year. Senate Bill 165, sponsored by Sen. John Arthur Smith (D-Deming), would have allocated \$1.5 million for regional water planning. While the agency did not receive the planning money in Senate Bill 165, the General Appropriation Act (House Bill 2) included about \$600,000 in special appropriations for acequia design and engineering, a state water plan update and water rights administration. In addition, Senate Bill 471 authorizing the issuance of severance tax bonds to fund capital outlay projects included about \$10 million for water-related projects and House Bill 308 authorized the New Mexico Finance Authority to make loans and grants from the water project fund.

Other legislation of interest that died in the legislative session included the following:

- Senate Bill 2 would have provided \$450 thousand to the New Mexico Institute of Mining and Technology for aquifer mapping.
- Senate Bill 27 would have provided \$500 thousand to New Mexico State University for dam safety training. Doña Ana County has a large percentage of the high hazard dams.
- Senate Bill 44 would have provided \$500 thousand for a wireless soil moisture sensor project that could have been used to help implement legislation passed last year to promote conservation in the agricultural industry.
- Senate Bill 47 and the identical House Bill 385 would have provided \$10 million to New Mexico State University to administer phreatophyte removal projects through soil and water conservation districts. Phreatophytes are high-water-use non-native plants like salt cedars.

Water Resources Allocation Program Director

John T. Romero, PE

- Senate Bill 92 would have provided \$10 million for adjudication in the Lower Rio Grande.
- Senate Bill 123 would have provided \$75 thousand for operations of the University of New Mexico Utton trans-boundary resources center.
- Senate Bill 249 would have provided \$150 thousand for an Utton-sponsored conference.
- Senate Joint Memorial 8 would have asked the Office of the State Engineer and the Administrative Office of the Courts to continue to search for ways to improve adjudications.
- Senate Joint Memorial 18 would have encouraged Congress to pass the Northwest New Mexico Rural Water Projects Act, which includes support for the Navajo settlement.
- House Bill 84 would have provided \$800 thousand to New Mexico State University to expand research in water quality and availability. The bill would have helped with State Engineer efforts to establish salinity control on the Rio Grande to reduce risk of being sued by Texas over water deliveries.
- House Bill 303 would have provided \$575 thousand for the acequia and community ditch fund.



Water Committees

WATER TRUST BOARD

The New Mexico State Engineer is the chairman of the Water Trust Board. The Water Trust Board was established in 2001 to recommend water projects to the state Legislature for funding from the Water Project Fund. These water projects, paid for with grants or loans, 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.

In 2007, the Water Trust Board recommended and the Legislature provided \$38.9 million to 23 water projects throughout the state. The 2007 projects recommended by the Water Trust Board based on 32 applications from all over the state.

Members:

- State Engineer John D'Antonio, chairman
- Katherine Miller, NM Department of Finance and Administration secretary, co-chair
- William Fulginiti, NM Municipal League executive director, vice chairman
- Trudy Healy, irrigation/conservancy districts (surface water), treasurer
- Denise Fort, environmental community, secretary
- Preston Stone, soil and water conservation districts
- Thomas Overstreet, irrigation/conservancy districts (groundwater)
- Bruce Thompson, NM Department of Game and Fish director
- Paul Gutierrez, NM Association of Counties executive director
- William Sisneros, NM Finance Authority chief executive officer
- Joanna Prukop, NM Energy, Minerals and Natural Resources Department secretary
- Joseph David Ortiz, acequia water users
- Joe Shirley, Jr., Navajo Nation president
- I. Miley Gonzalez, NM Department of Agriculture director
- Ron Curry, NM Environment Department secretary

GOVERNOR'S DROUGHT TASK FORCE

In May 2003, Governor Richardson established the State Drought Task Force through Executive Order 2003-19. The 12-member Task Force is chaired by the State Engineer and includes the cabinet secretaries from the state departments of Environment, Finance and Administration, Agriculture, Tourism, Economic Development, Indian Affairs, and Energy, Minerals and

Natural Resources. Other members are the executive director of the New Mexico Finance Authority and the directors of the Interstate Stream Commission, Office of Emergency Management, and Governor's Office of Policy and Planning.

The Task Force is charged with monitoring drought conditions statewide and with making drought-mitigation recommendations to the governor whenever appropriate but at least annually. Throughout the year, the Task Force produces a monthly drought status report that has become resource to local and state managers and the news media. The report is published on the Drought Task Force website.

Members:

- State Engineer John D'Antonio, chairman
- Ron Curry, cabinet secretary, NM Environment Department
- Katherine Miller, cabinet secretary, NM Department of Finance and Administration
- Estevan López, director, Interstate Stream Commission
- Joanna Prukop, cabinet secretary, NM Energy, Minerals and Natural Resources Department
- I. Miley Gonzalez, director, NM Department of Agriculture
- Tim Manning, director, NM Office of Emergency Management
- Benny Shendo Jr., cabinet secretary, NM Department of Indian Affairs
- William Hume, director, Governor's Office of Policy and Planning
- Fred Mondragon, cabinet secretary, NM Economic Development Department
- Mike Cerletti, cabinet secretary, NM Department of Tourism.
- William C. Sisneros, chief executive officer, NM Finance Authority

BLUE RIBBON TASK FORCE

The Blue Ribbon Task Force is a group that investigates and engages in discussions regarding current water policies and laws. The Task Force advises the State Engineer, Interstate Stream Commission director, and any other relevant state agencies regarding water policies and laws. The Task Force also provides its recommendations to the governor on an annual basis every November and provides copies to the State Engineer and Interstate Stream Commission director. The chairman is Brian Burnett, president of the civil engineering firm Bohannon-Huston, Inc.



Native American Water Liaison

The Native American Water Resources Program, created by the governor in 1995, is aimed at promoting a spirit of coordination, communication, and good will between tribal and state governments as separate sovereignties. Under Governor Bill Richardson's administration, a statement of policy and process was signed with the 19 New Mexico pueblos to work in good faith to amicably and fairly resolve issues and differences in a government-to-government relationship. This policy and process also extends to other tribes and nations within New Mexico.

Rights to water on Indian grant lands and reservations in New Mexico fall within one or a combination of three different doctrines: pueblo historic use water rights, federal reserve water rights, or water rights established under the laws of the state of New Mexico. Water rights administration, litigation and negotiation leading to a settlement of rights to water are exceedingly complex when Native American water rights are involved.

The Native American Water Liaison deals with matters related to adjudication of tribal and pueblo water rights, negotiations

regarding these rights, and assistance to individual tribes and pueblos. The Liaison's role is to advocate equal protection of all water users, emphasizing conservation and the development of feasible alternative water supplies. An important goal is to resolve disputes between the state of New Mexico and Indian pueblos, tribes, and nations, without costly litigation. While the State Engineer began adjudicating water rights on tributaries to the state's major rivers more than 30 years ago, the water entitlements for most of the state's 22 Indian pueblos, tribes, and nations have not been quantified.

Two major Indian water rights settlements were signed in 2006. The Aamodt Water Rights Settlement, one of the longest running settlements in the federal court system, was signed May 3, 2006, at the State Capitol Building. Shortly thereafter the Taos Pueblo Water Rights Settlement (formerly the Abeyta Settlement) was also signed at a ceremony hosted by Taos Pueblo. Although these significant milestones have been reached at a local level, a significant amount of work remains for these settlements to receive federal legislation and funding. Following the signing of these settlements the New Mexico parties moved the process to Washington, D.C., where well-received presentations were given to congressional and other federal officials.

The Native American Water Liaison is participating in several ongoing issues: the Abousleman case on the Rio Jemez; government-to-government consultation with the Pueblo of Zuni related to Zuni Salt Lake; and the Middle Rio Grande projects, such as the



Native American Water Liaison Myron Arjimo helps hand out goodies to children attending the New Mexico State Fair.

Native American Water Liaison

Myron Armijo

Endangered Species Act Collaborative Program (including restoration and silvery minnow habitat issues).

Outreach to the pueblos, tribes and nations, is an on-going process in efforts to better the relations between the state and Native American governments. The Native American Water Liaison will continue to coordinate the quarterly State-Tribal Water Institute in an effort to encourage involvement from the pueblos, tribes and nations.

The Native American Water Liaison continues to be involved with many of the agency's programs and bureaus to address issues and concerns by the tribes, pueblos and nations. For example, the Liaison has worked with the Middle Rio Grande Bureau on projects on the river and assisted the State Engineer Water Use and Conservation Bureau with legislation on water planning. The Liaison has also worked with several pueblos to resolve issues with acequia associations.





Water Resources Allocation Program

The Water Resources Allocation Program (WRAP) is primarily responsible for processing water-rights applications, conducting the scientific research for making those water rights decisions, maintaining water rights records, and enforcing any conditions or restrictions on water use. Water masters in the program measure stream flow, allocate the water within a stream system based on state law, and regulate and control diversions. Staff also inventories water resources, monitors water use, and cooperates with the U.S. Geologic Survey in monitoring groundwater levels throughout the state.

Additional duties are licensing all well drillers, maintaining and updating the rules and regulations of the State Engineer, inspecting non-federal dams, evaluating subdivision water-supply plans submitted by counties, promoting water conservation, and responding to constituent issues from the Governor's and Lieutenant Governor's offices. In addition to the Water Rights Division, the Water Resources Allocation Program also includes the Hydrology, Water Use and Conservation, and Dam Safety bureaus, and the Water Rights Abstract Bureau, responsible for the Water Rights Research and Accounting System, or WRRS, database project.

Water Rights Division

The Water Rights Division administers water rights throughout the state of New Mexico. The division has district offices in Albuquerque, Roswell, Deming, Las Cruces, Aztec, Cimarron and Santa Fe.

Under New Mexico water law, all ground and surface waters belong to the public and are subject to appropriation under the Doctrine of Prior Appropriation, a constitutional provision that says earlier appropriations have priority over later appropriations. Anyone wanting to use either surface water or groundwater in New Mexico must have a permit from the State Engineer. Before granting a permit for a new appropriation or to change the place or purpose of use of existing water rights, state law requires the State Engineer determine the proposed appropriation or proposed change will not impair existing rights, will not be contrary to the conservation of water within the state of New Mexico, and will not be detrimental to the public welfare of the state. The law also requires the applicant publish legal notice of the purpose of the application in a newspaper to provide anyone with a legitimate objection the opportunity to protest the application.

During fiscal year 2007-2008, the employees of the Water Rights Division processed 1,888 surface water and 19,968 groundwater documents pertaining to the appropriation and use of surface water and groundwater. Most surface water in the state has been considered fully appropriated since March 29, 1907, so most recent water rights activity has involved groundwater primarily. Three underground storage and recovery demonstration project applications were filed with the OSE this fiscal year and two of these have been permitted. The District II Office in Roswell, responsible for licensing all well drillers in the state, issued 10 new and 124 amended or renewed licenses this fiscal year.

The backlog of pending water rights applications varied over the year, from a low of 524 applications in June 2008 to a high of 601 applications in March 2008. The number of pending applications at the end of last fiscal year was 524. During the fiscal year, a total of 826 new applications were received and a total of 901 applications were processed.

During this fiscal year, the Water Rights Division was actively involved in Active Water

Director

John T. Romero, PE

Water Rights Division Bureau Chief

James Sizemore, PE

Hydrology Bureau Chief

Michael Johnson, PG

Dam Safety Bureau Chief

Elaine Pacheco, PE

Water Use and Conservation Bureau Chief

John Longworth, PE

Water Rights Abstract Bureau Chief

Richard DeSimone

Resource Management (AWRM), a program to conjunctively manage both groundwater and surface water within river basins. Water Rights and Water Rights Abstract Bureau personnel played an active role on interdepartmental teams formed by the State Engineer to implement AWRM in water basins identified as high-priority.

Water Rights Division personnel were actively involved in developing district-specific rules and regulations to administer water during times of shortage for the protection of senior water rights. Also Water Rights Division staff worked on new Groundwater Rules and Regulations, expected to be adopted by the State Engineer this fiscal year. Water Rights Abstract Bureau personnel channeled their efforts toward abstracting and imaging water rights documents into the WRRS database in support of the AWRM initiatives.

New applications are being directly entered into the system, and resources are being dedicated to input the thousands of existing records that must be organized, abstracted and entered into the database. Information from priority areas is being entered first to provide the State Engineer with the information and the tools necessary to administer water. Those priority basins are the Lower Pecos, Lower Rio Grande, San Juan, Rio Gallinas, Mimbres, Rio Chama and Nambe-Pojoaque-Tesuque. When a basin's files are completely abstracted into WRRS, a complete listing of every water right within that basin will be available to the water rights experts and the general public at the touch of a button. A complete inventory of water rights within the basin – by amount, priority date, place and purpose of use, etc. – will be immediately available. This information and the speed it can be accessed will be invaluable when processing water rights applications and changes



District Offices

District V

100 South Gossett, Suite A
Aztec, NM 87410

505-334-4571

San Juan Basin, Animas, La Plata
underground basins and basin surface
rights

Jicarilla, Navajo and Ute Mountain Ute
nations

Robert Genualdi, PE, District Supervisor

District VII

PO Box 481
301 East 9th Street
Cimarron, NM 87714
575-376-2918

Clayton, Tucumcari and Canadian
River underground water basins and
basin surface rights

Tim Farmer, District Supervisor

District VI

P.O. Box 25102
407 Galisteo Street Rm 102
Santa Fe, NM 87504
505-827-6120

Northern Rio Grande and Upper Pecos
groundwater basins

Linda Gordan, District Supervisor

District I

Springer Square Building
121 Tijeras NE, Suite 2000
Albuquerque, NM 87102
505-764-3888

Bluewater, Estancia, Middle
Rio Grande, Sandia, and Gallup
underground basins and basin surface
rights.

Jess Ward, District Supervisor

District II

1900 West Second Street
Roswell, NM 88201
575-622-6521

Capitan, Carlsbad, Causey Lingo,
Curry County, Fort Sumner, Hagerman
Canal, Hondo, Jal, Lea County,
Peñasco, Portales, and Roswell Artesian
underground water basins and basin
surface rights

Ogalalla Aquifer
All well-driller license applications

Kenneth Fresquez, District Supervisor

District III

P.O. Box 844
301 South Tin
Deming, NM 88031
575-546-2851

Animas, Cloverdale, Gila-San Francisco,
Hatchita, Lordsburg, Mimbres, Mount Riley,
Nutt-Hockett, Playas, San Simon, Virden
Valley and Yaqui underground water
basins and basin surface rights.

Charles Jackson, District Supervisor

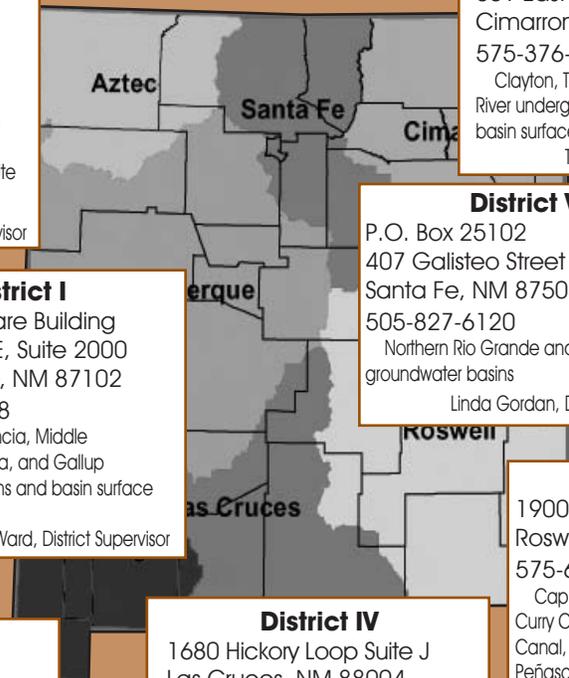
District IV

1680 Hickory Loop Suite J
Las Cruces, NM 88004
575-524-6161

Lower Rio Grande, Mount Riley,
Tularosa, Hueco, Las Animas Creek,
Hot Springs and Salt underground water
basins and basin surface rights

Hydrographic Survey Bureau

Calvin Chavez, District Supervisor





of ownership. Considerable effort will be required to maintain the WRRS database in a current condition. Entering information as transactions occur is a priority for the Office of the State Engineer.

District Activity

The **District I** Office in Albuquerque administers underground and surface waters in the Middle Rio Grande, Estancia, Sandia, Bluewater, Gallup, and Upper Tularosa basins. Because of population growth and concentration in the middle Rio Grande area of the Rio Grande Underground Water Basin, the District I Office processed more domestic well applications than any other area of the state. This fiscal year, the domestic well technicians issued 2,844 permits. Part of the office's effort has been to convert non-use permits to domestic permits and to update owner information. Approximately 3,100 "Condition 9" permits in the Rio Grande Underground Water Basin still must be converted.

On the non-domestic side, the focus of the District I Office is to process applications that primarily move water rights from one place and use to another place and use. Because of declines and uncertainties in the housing market during fiscal year 2008, District I saw a leveling off in the number of applications to transfer water rights from agriculture to urban uses. The number of surface water declarations filed in the office also leveled off. Staff is now reviewing permits in the Estancia Underground Water Basin in an effort to enforce the 2002 guidelines. Results of annual well measurements in the Estancia Basin, a monitoring project in cooperation with the U.S. Geological Survey, are also useful to better administer the basin's guidelines and its critical management areas.

Because of a resurgence of the uranium industry, staff is seeing an increase in applications to drill exploratory and monitoring wells in the Bluewater, Gallup and western Rio Grande underground water basins. District I works cooperatively with other state regulatory agencies and as well as the Hydrology Bureau.

This fiscal year has seen extraordinary advances in data collection and data entry, with the district office making a great leap forward from paper maps and paper files to the Geographic Information System and the WRRS. Working in coordination with the Interstate Stream Commission, the District I Water Rights Office has acquired a complete set of aerial photographs – images from every 10 years from 1935 through the present – covering the Middle Rio Grande Valley from the Otowi gauge to Elephant Butte Reservoir. This historical and current imagery has been scanned and rectified to agency standards and will be used by the Water Rights Division in the evaluation and determination of the validity of water rights within the Middle Rio Grande Valley.

As part of the Middle Rio Grande Conservancy District project, a basin GeoIndex was created as a searchable dataset containing a complete source inventory of available national and local aerial photography within the Middle Rio Grande Valley. The District I WRRS team has been very active with the nearly complete Middle Rio Grande Surface Declaration

Active Water Resource

In 2007, significant progress was made with the Active Water Resource Management (AWRM) initiative in the Lower Rio Grande Water Master District and in the six additional high priority basins statewide. AWRM is guided by a set of statewide rules that provide the tools to move forward with priority administration to help the state be ready for future drought cycles and variability in climate, both wet years and dry years. AWRM tools include measuring and metering, implementing district-specific rules and regulations, creating water master districts and appointing water masters, and developing water master manuals. While these tools are being developed, agency staff continues to encourage and facilitate shortage-sharing agreements among water users in the various basins around the state.

The AWRM initiative puts the tools in place for a phased-in emergency plan to effectively manage New Mexico's water resources, protect senior water right users, and meet state-line deliveries to downstream users. Statewide progress to date has included the hiring of more water masters in all high priority basins, additional funding for metering efforts, and integration of water administration information through our WRRS program. In addition, the challenge to general frame-

Management Progress

work AWRM regulations has resulted in a New Mexico district court decision that confirms the State Engineer's authority to administer water rights statewide and allows the agency to move forward with regulations specific to each of the high priority basins.

In the Lower Rio Grande, one of the major accomplishments is the success of the metering program. To date, a total of 1,840-metered wells have been installed in the Lower Rio Grande Water Master District, which represents 85 percent compliance. As this program is being implemented, efforts are focused on ensuring compliance with the metering requirements, preventing illegal diversions, over-diversions and waste.

Also, significant progress was made on formulating draft, district-specific rules and regulations. During several public meetings, listening sessions, and workshops in the local area, we received many comments, which staff continues to reach and consider as we develop the final draft of the regulations. The period to submit comments before the beginning of the formal adoption process was extended to allow ample time for public input.

Finally, this year saw the formation of a Middle Rio Grande water master team. The four-person team is processing all surface and groundwater declarations within the Middle Rio Grande basin, while getting existing permits up-to-date with meter reading and time extensions. The team has also begun an inventory of all irrigation wells within the Middle Rio Valley with a goal of obtaining global positioning system readings for well locations and pictures and pump descriptions by the end of 2009. This information will be used to update well locations in WRRS. The water master team's larger role will be to use and refine the existing geo-database to prepare for an eventual adjudication of the basin.

The **District II** Office has the responsibility of administering both surface- and groundwater rights within the Roswell, Carlsbad, Fort Sumner, Hondo, Peñasco, Portales, Curry County, Lea County, Capitan, Jal and Causey Lingo basins. In addition, the District II office currently processes all applications for well drillers for the entire state.

Personnel from District II have been involved with the development of well driller regulations within the state, rules and regulations pertaining to the administration of groundwater within the state, administration of water rights on the High Plains, state-wide policy review, surface-water impoundments guideline development, domestic wells policy review, and basin-specific development. District II personnel were closely involved with, and provided detailed exhibits and testimony for, a number of water right hearings associated with protested applications. The District II office also processed 268 well-driller licensing documents, including applications, renewals, and drill-rig supervisor registrations.

During this fiscal year, District II personnel measured water levels within the Fort Sumner, Roswell, Carlsbad, Peñasco, Hondo, Lea County, and Causey Lingo basins. An extensive data review was also performed for this program. District staff provided assistance in the development of the annual aquifer depletion map used by the Internal Revenue Service to determine the cost of the loss for Lea County farmers. Personnel also performed extensive fieldwork associated with the processing of applications and in the oversight of the construction and plugging of Artesian wells.

During this fiscal year, the Roswell Basin Water Master's Office read over 1,458 groundwater meters with an average of seven readings per well per season. Over the course of

Project, the abstracting and imaging of almost all of the surface water declaration. With the Alternate Point of Diversion Project just getting underway, this team is abstracting all permitted and declared alternate points of diversion for surface water in the Middle Rio Grande Valley.

The Middle Rio Grande Transfer Data Project, a corollary of the Interstate Stream Commission's depletion project, involved transferring all declarations and water rights transfers that had been drawn manually on 179 maps to a geo-database that will be available for current validity studies, compliance and enforcement, and future adjudication.





the season, approximately 44.2 percent of these wells were also rated and adjusted for water diverted while inoperative. Similarly the Carlsbad Basin supervisor and water master read over 65 groundwater meters for primary wells and over 111 meters for supplemental wells within the Carlsbad Basin with an average of four readings per well per season. The Pecos River water master continued to assume the responsibility for accounting for surface water diversions from Puerto de Luna to Black River near the state line. This includes surface water measurements in the Fort Sumner Irrigation District, Hagerman Irrigation Company and Carlsbad Irrigation District.

The **District III** Office staff continued to maintain detailed annual records of the diversions and consumptive uses of the water appropriated from the Gila and San Francisco rivers. This process culminates each year with the annual crop inventory of all irrigated lands within the Gila-San Francisco, San Simon and Virden Valley basins. The district has primary responsibility to administer water rights in the Gila-San Francisco, San Simon and Virden Valley basins in accordance with the U.S. Supreme Court decree in *Arizona v. California* and the Globe Equity Decree No. 59. The Gila Basin water master again issued numerous orders related to administration of the decree, including orders to curtail illegal diversions, metering orders, and orders requiring lands without rights to not be irrigated.

Staff members continued to assist water-rights holders in the Animas Valley.

Underground Water Basin complete groundwater declarations and bring existing water rights files up-to-date for the ongoing adjudication process in the basin. District III staff continued processing hundreds of declarations in the basin and continues to work to verify locations of existing wells and current uses using geographic information system (GIS) and global positioning system (GPS) technology. Staff members continued to update and expand the GIS databases for the basins administered by District III, including maintaining the Virden Valley GIS project, the first of this type completed in New Mexico. The Virden Valley GIS was used during the year to help residents identify so-called "hot lands" under the Arizona Water Rights Settlement Act requiring additional filings with the Federal Water Commissioner in Safford, Arizona.

AWRM advancement within District III was highlighted by the hiring of an additional water master for the middle portion of the Mimbres River system and the improved operation of permanent measurement structures in all of the junior ditches in the Upper Mimbres Water Master District. These structures include concrete supported flumes and real-time data transmission equipment, which will allow staff and water-right holders to see actual flow rates at all of the Upper Mimbres diversion structures over the Internet.

Work continued on securing the necessary software and connections to make this real-time data a reality. Work was also completed on a permanent measurement structure for measuring releases and natural outflows from Bear Canyon Reservoir.

The District III Water Rights Abstract Bureau staff completed population of the WRRS database for the San Simon Creek Stream System and related underground basin during the fiscal year, allowing for more efficient water rights administration and easier access to the water right files for staff and water right owners in that area.

Additionally, the District III staff completed crop surveys for the Animas Valley, Playas, Lordsburg, Cloverdale, Yaqui, Hachita and Nutt-Hockett underground water basins and the Mimbres River, and assisted with measurements within the district for the cooperative groundwater-level-monitoring program with the U.S. Geological Survey. The staff also again this year participated in the annual career fair at Deming Hofacket Middle High School, and other outreach activities in New Mexico.

The **District IV** Office staff administers water rights in the Lower Rio Grande, Nutt-Hockett and Tularosa basin. Staff members continue to see a steady increase in the number of applications filed to drill replacement irrigation wells within the Elephant Butte Irrigation District due to the prolonged effects of the ongoing drought.

During fiscal year 2008, District IV Office staff continued to process applications to replace irrigation wells within the Elephant Butte Irrigation District and review and act on applications for water supply systems primarily for municipal uses within the cities of Las Cruces and Alamogordo. The number of new filings slowed down slightly during this fiscal

year, at least partly because farmers received their full allocation, giving staff the opportunity to catch up on pending applications and decrease the turn-around time and backlog volume. For the second year, the number of domestic well permits was down, primarily because of the increase in the filing fee from \$5 to \$125 in 2006. District IV staff continued to hold field office hours twice a month at the Otero County Courthouse in Alamogordo. Visitors to the field office increased significantly during the fiscal year primarily because of a heightened knowledge of water rights in the area. District staff increased their field activities in the La Luz-Fresnal watersheds within the Sacramento Mountains because of the increased number of complaints on illegal uses and an increase in new declarations filed.

As a result of an agreement between the State Engineer and the Pecan Growers Association allotting the orchards 5.5 acre-feet per year, farmers in the Lower Rio Grande scrambled during the winter of 2007-2008 to plant new orchards.

The Lower Rio Grande Water Master District was split into two sections and a new water master was hired to oversee the northern section. In addition to hiring the new water master, two assistant water masters were also hired for the northern section. Water master staff created several new forms and spreadsheets to assist in enforcing the Supplemental Lower Rio Grande Metering Order, Order No. 180. The most significant of these is the Lower Rio Grande Water Master Report, which closely resembles the Reynolds Report and assists in tracking the large number of enforcement and compliance issues within the water master district. The water master staff continuously maintains a database to facilitate fast and efficient data tracking on meter installations and inspections.

During the fiscal year, the water master staff inspected 1,131 wells within the Lower Rio Grande and Hot Springs basins for meter installations using the district map books created by the Interstate Stream Commission. Investigators red-tagged 208 wells for non-compliance with the metering order and documented 50 new wells. The field investigations in the Hot Springs Basin are a big step forward for the basin that has never been the subject of a modern survey.

The **District V** Office administers surface- and groundwater rights in the San Juan Basin. The basin encompasses waters of the upper Colorado River system of New Mexico, which includes the San Juan, Animas, La Plata, Pine, and Navajo rivers, and numerous smaller tributaries and groundwater sources. The vast majority of water usage in the basin



New Water Masters

Seven new water masters were added to the Office of the State Engineer's team in fiscal year 2007-2008 to assist in the administration of the Active Water Resource Management initiative. Funding from the 2007 legislative session provided money for a total of 10 water masters. Three positions are vacant, waiting to be filled next fiscal year.



Craig Cathey

Water masters serve an important function for the agency because they work in the field and make sure that water is equitably distributed to water users in a particular area. **Craig Cathey** was hired as a second water master in the Lower Rio Grande and **Dave Mercer** and **Robin Pirtle** began their duties as assistant water masters, working out of the District IV office in Las Cruces. **Jimmy Hodges** began his duties as a water master in the San Juan Basin in the District V office in Aztec, which includes that portion of northwest New Mexico that lies west of the Continental Divide and north of the Gallup and Grants area. The basin includes the Animas, La Plata, and San Juan rivers, Chaco and Largo washes, and all underground waters in these areas. The cities of Aztec, Bloomfield, and Farmington, as well as portions of the Navajo, Jicarilla Apache and Southern Ute tribes lie within the basin.



David Mercer



Robin Pirtle

Gary Stansifer was hired as the Middle Rio Grande water master, working out of the District I office in Albuquerque. **Jeff Pompeo** was hired for the Santa Fe/Nambe-Pojoaque-Tesuque area, working out of the District VI office in Santa Fe. **Celina Alaniz** was hired for the Rio Peñasco area working out of the District II office in Roswell.



Jimmy Hodges



Gary Stansifer



Jeff Pompeo



Celina Alaniz



comes from surface water supplies emanating in Colorado that account for about two-thirds of all the water entering the state of New Mexico. The San Juan Basin continues to see growth due to the favorable energy market. This growth has led to an increased demand on surface water resources by cities and rural domestic water providers looking to expand their systems.

Recent efforts by District V staff to create geographic information system coverage for the basin continue to pay high dividends. The GIS data can be integrated with real-time county parcel records to assist water rights staff in processing applications and the San Juan Basin water masters in administering diversions. The effort has also been popular with the public in helping them research and understand water rights.

Water Rights Research and Accounting System

The Water Rights Research and Accounting System (WRRS), formerly known as WATERS, was created to make the agency's extensive water right records more readily accessible to staff and the public. The WRRS provides a detailed analysis of water rights in critical water basins throughout the state, a publicly transparent accounting system for over \$16 billion worth of marketable water rights, a more efficient method to process water rights applications, a foundation for water rights adjudications, Internet access to a database on water rights and water use and images of the legal water rights documents, and protection of the up to 100-year-old water right documents. The process is ongoing to analyze and abstract historical documents basin by basin on a priority schedule that parallels agency schedules for Active Water Resource Management and water rights adjudications. To date, 18 major water basins have been completed as well as certain critical files such as those concerning the city of Santa Fe, Intel Corporation and Eldorado area.

For State Engineer staff, WRRS is a critical tool for administering water rights and for active water management. New water right applications and other filings are entered and tracked for compliance, the locations and water levels of wells are entered and stored in the database, and water use is tracked through a meter-reading module, facilitating enforcement of metered appropriations.

For both the staff and public, WRRS provides information on the history of individual water right claims in New Mexico, court orders and decrees, hydrographic survey results, and electronic images of water right documents. Using WRRS on the web, anyone can obtain information concerning water use, including comprehensive data about domestic, irrigation, commercial and other water rights, the location of those rights, and the owner of the rights, as well as details of well construction. In particular, users can determine the amount of permitted water use in a water basin, track changes in water use patterns, bring together regional data on water use, and compile and analyze data to build water-use models. WRRS is capable of downloading to a geographic information system to

create maps of water rights and water wells. WRRS is fulfilling one of the Governor's initiatives to fully automate the agency and help implement the vision of Active Water Resource Management. It will help enable the state to manage its water both in times of plenty and in times of drought.

In fiscal year 2007-2008, the WRRS Project transitioned into the Water Rights Abstract Bureau. The bureau maintains a central office in Albuquerque and has staff in the Las Cruces, Deming and Albuquerque district offices. In fiscal year 2007-2008 the Albuquerque-based staff completed the analysis, abstracting and mapping of water rights for the Hondo River Basin, the Middle Rio Grande pre-1907 water right declarations, and the Estancia Basin domestic well permits. They also substantially completed water rights abstracting for the Fort Sumner and Santa Cruz water basins and the water rights for the cities of Los Lunas and Rio Rancho. In addition, abstract staff in the district offices undertook projects to complete the San Simon, Lordsburg Valley and Animas basins and to update the Lower Rio Grande basin with ongoing water rights adjudication information. In fiscal year 2007-2008 the bureau enhanced its geographic information system capabilities. With the agency's Information Technologies Bureau, the bureau staff completed a project to convert the location of water-wells contained in the WRRS database to a common coordinate system. The major benefits of this are the ability to easily extract this data for water right impairment analyses and mapping into the GIS, among other tasks. Staff has also focused efforts on improving the system's querying and reporting capabilities for both agency staff and the public and is working with the Information Technology Bureau to enhance the website with these improvements.

To access WRRS from the Office of the State Engineer website, click on "WATERS Database" on the home page. Then, click on "iWATERS the internet database query system" in the middle of the page. Just below the iWATERS link are links for definitions of acronyms, Helpful Hints and an iWATERS tutorial. All users are asked to register using their e-mail address as their user identification.

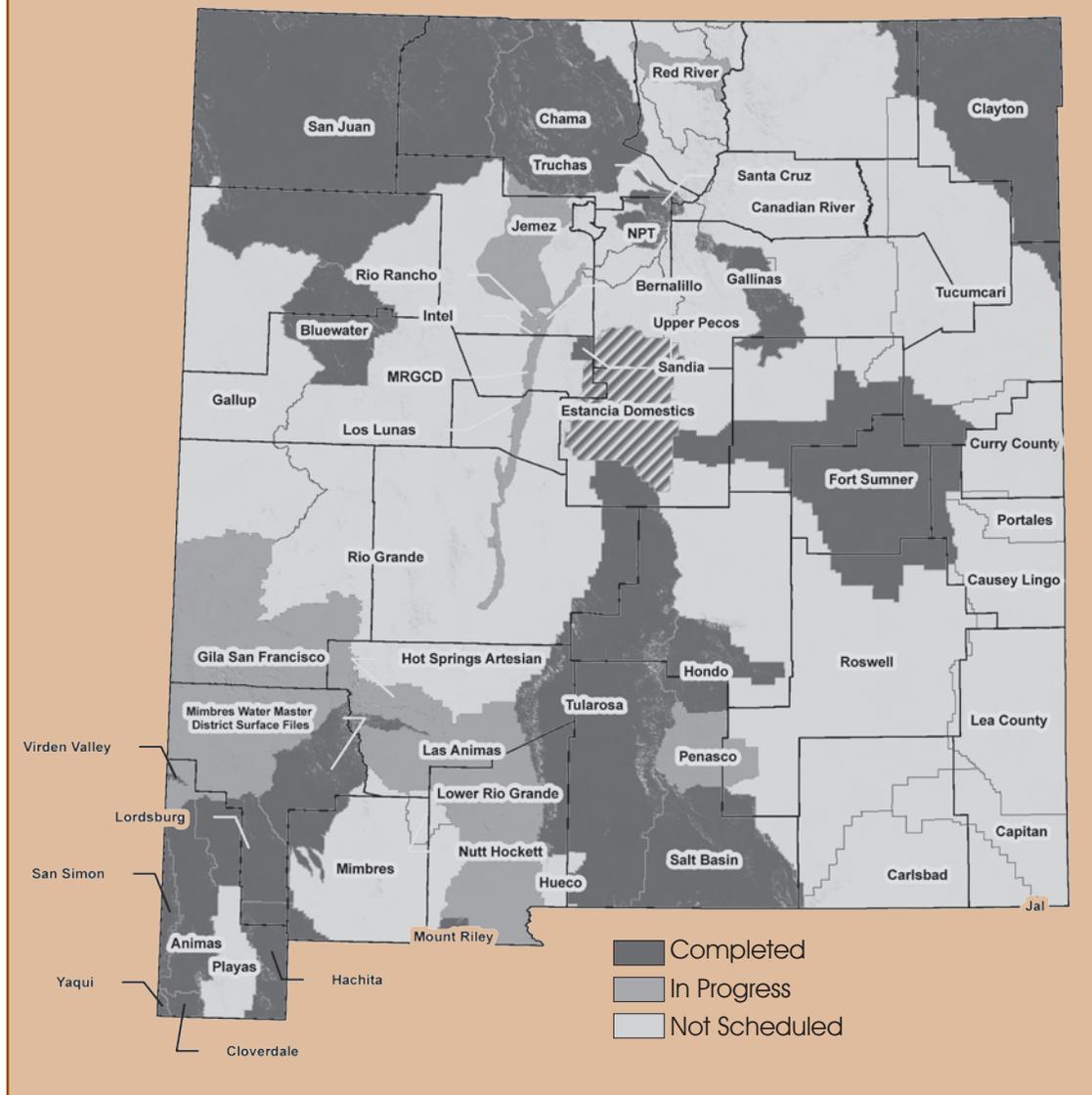
Efforts to advance the State Engineer's AWRM initiative in the basin continued. A second water master was hired to help administer water and assist with compliance issues. As an alternative to priority administration, major water users on the San Juan River once again entered into a voluntary shortage-sharing agreement. The San Juan Basin water masters administered flows of the San Juan River in accordance with this agreement. Great strides were also made in the cooperative approach between water masters and ditch organizations to reduce diversions on Animas River ditches. And finally, in addition to routine maintenance and improvements to metering facilities installed several years ago, the San Juan Basin water masters have concentrated on identifying illegally irrigated lands and unpermitted ponds throughout the basin. The water masters will be instrumental in producing and enforcing compliance orders in the future.



The San Juan Basin adjudication took another step forward during the 2007-2008 fiscal year. Service packages were mailed to the all remaining irrigation water users in the La Plata River Section of the adjudication. Staff from the District V office worked closely with Office of the State Engineer attorneys and the Hydrographic Survey Unit to further their understanding of complex and unique aspects of water rights particular to the La Plata River Section. The District V office has been designated an adjudication document repository for the court.

The **District VI** Office administers water rights within the northern portion of the Rio Grande Basin, the Canadian Basin, the Clayton Basin, the Upper Pecos Basin, the

Status of WRRS Implementation





Tucumcari Basin, and the surface waters within those basins. Those areas of the northern Rio Grande Basin administered by the District VI Office include the areas upstream of Cochiti Dam and Reservoir, the Santa Fe area, the Nambe, Pojoaque, and Tesuque area, the Espanola area, the Truchas, Peñasco, Dixon and Velarde areas, the drainage basins of the Rio Chama, the Rio Ojo Caliente, and the Taos, Questa and Costilla areas. A water master office is maintained in Cimarron for the purpose of administering water under the Cimarron and Rayado decrees.

Personnel from the District VI Office have been involved with the development of rules and regulation pertaining to the administration of groundwater within the state, statewide policy review, surface-water impoundment guidelines development, domestic well policy review, AWRM basin-specific guideline development and water master basin policy review. District VI personnel were closely involved with and provided detailed exhibits and testimony for a number of water rights hearings associated with protested and aggrieved applications and legislatively requested investigations and associated meetings. Personnel also performed extensive fieldwork associated with the processing of applications and in the oversight of the construction and plugging of Artesian wells, including the grouting of deep wells used in oil exploration and production. Applications for wells to be used for geothermal heat have also been reviewed and acted on.

AWRM activities within District VI include three priority basins: the Rio Gallinas (a tributary to the Pecos River), the Nambe-Pojoaque-Tesuque Basin and the Rio Chama. The Nambe, Pojoaque and Tesuque rivers and Rio Chama are all tributaries to the Rio Grande. Active adjudications are ongoing for these stream systems and groundwater basins. In addition to the Cimarron-Rayado water master, six other water masters work out of the Santa Fe Office in these three AWRM priority basins. Water master staff is expected to double in the future.

During the year, a new Nambe-Pojoaque-Tesuque/Santa Fe water master was hired. This new water master has been instrumental in the ongoing issues with the Eldorado Water Users Association and is extensively involved in ongoing monitoring and data tracking. The Rio Gallinas water master now has an office at the Luna Community College in Las Vegas, NM.

Throughout the year, the District VI staff was involved in several public education and outreach activities concerning the three priority AWRM basins. In addition to attending annual water master meetings, staff coordinated other public meetings to assist water users and worked with other water and funding agencies in the state, including the state Department of Game and Fish, Tierra y Montes Soil and Water Conservation District in Las Vegas, and other local soil and water conservation associations. Staff members also attended acequia funding meetings and participated in environmental protection efforts coordinated by the U.S. Natural Resources Conservation Service.

The AWRM team has been working hard to implement water master guidelines to be used prior to adoption of basin-specific rules and regulations. Several members of the District VI staff also participated in the Measurement and Metering Committee meetings. A water master from the Santa Fe Office chairs the Office of the State Engineer Water Master Committee, a subcommittee of the Measurement Committee. District VI waters acquired the Federal Communications Commission licenses to transmit and retrieve water measurement data from radio-equipped measuring stations in support of the State Engineer's AWRM initiatives.

In addition to the statewide water master activities facilitated by the District VI water masters, the water masters have also been busy meeting with consultants, construction crews, community leaders, and representatives of pueblos, the federal Bureau of Indian Affairs, and the federal Bureau of Reclamation to locate, specify and order the equipment necessary for the measurement of surface- and groundwater in the three AWRM priority projects within District VI. About 24 measures stations have successfully been built and equipped in the Nambe-Pojoaque-Tesuque AWRM basins. Provisions are being made for real-time reporting and retrieval of the water measurement data.

District VI staff worked closely with State Engineer hydrologists, the city of Santa Fe, and the public in adoption and implementation of a monitoring plan for observation of

water level changes that may occur due to the pumping of several wells that supply the municipal and county water systems. Staff also continues to be involved with the ongoing permitting of water rights and the performance of extensive field inspections and investigations associated with water right transfers and unpermitted water right activities throughout the district. The ongoing problem of unpermitted ponds for aesthetic, recreational and wildlife and stock watering purposes continues to be an issue that demands a significant amount of staff time to investigate, document, and pursue compliance with state law and State Engineer permitting requirements.

During the 2007 legislation session, the Legislature appropriated funds for a new District VII Office in the northeast area of the state and a water master and three full-time positions for the Mora area who will be stationed at the District VII Office. The office will administer the Canadian, Clayton and Tucumcari basins. The Cimarron-Rayado water master will also work out of this new office.

Hydrology Bureau

The Hydrology Bureau's 14 employees perform a wide range of activities in support of the Office of the State Engineer and the Interstate Stream Commission. Bureau hydrologists develop water resource models and administrative policies, evaluate water availability, assess and quantify hydrologic impacts, provide expert testimony for litigation and adjudication cases, and design and manage technical projects. The bureau also provides geographic information systems (GIS) data management and mapping services and operates the agency library.



Groundwater Basins





The Hydrology Bureau again provided extensive technical support during the 2007-2008 fiscal year to the AWRM initiative. Bureau staff provided project management and GIS support, conducted field investigations and hydrologic analyses, and assisted with agency public outreach efforts. Notably, a flow measurement program in the Rio Gallinas AWRM area initiated last year by the bureau in cooperation with New Mexico Highlands University was expanded to include all active ditches along the Gallinas River. These measurements will provide improved control on water deliveries and a better understanding of the hydrologic system. An improved rotation schedule for water deliveries was implemented and an analysis of snowpack-runoff relationships was performed to improve river flow forecasting. Bureau staff participated in several public meetings, including an open house, the water master's annual meeting, and a public information workshop.

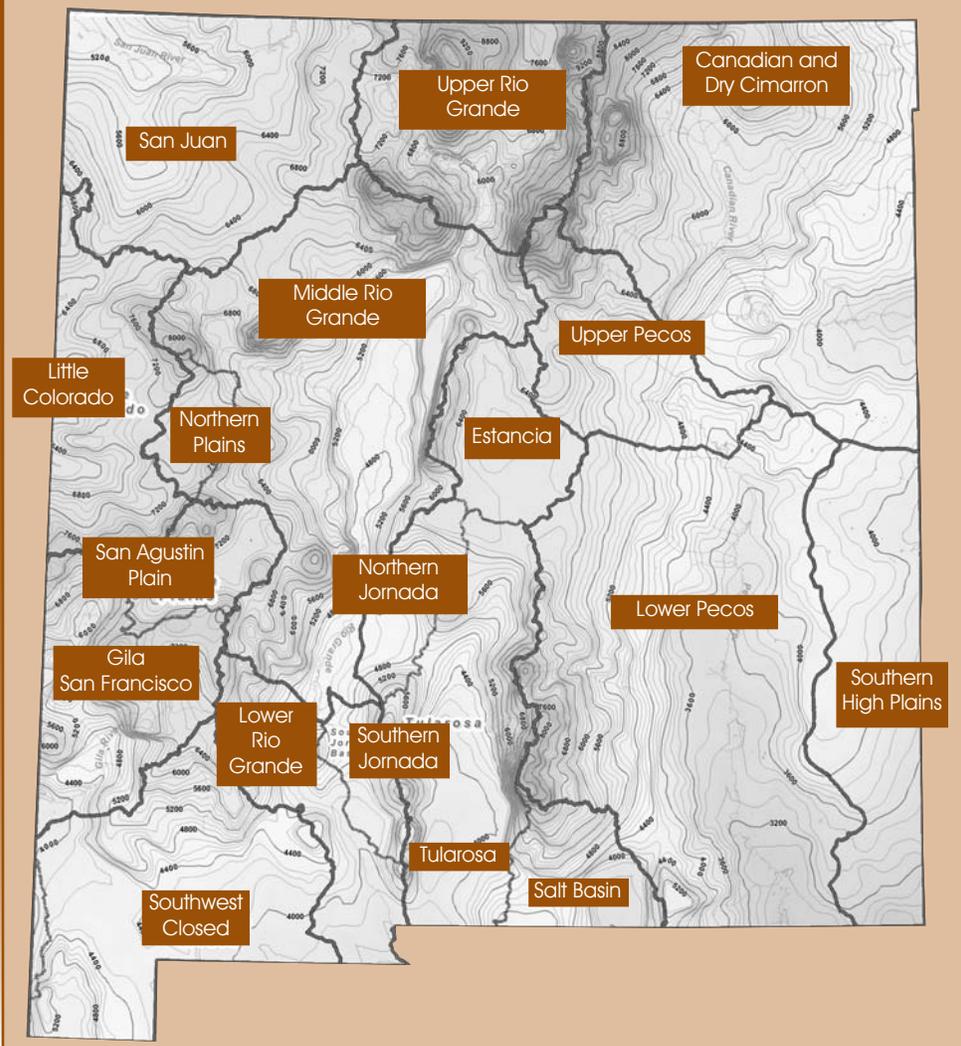
During the fiscal year, the Hydrology Bureau worked on 118 hydrologic investigations in 22 different administrative basins in support of water rights application processing. Of these, 92 investigations involved protested or aggrieved applications processed in cooperation With Water Rights Division and the Administrative Litigation Unit. Notable cases included three important district court trials in which expert testimony by bureau hydrologists played a crucial role: the city of Alamogordo's proposed brackish water well field in the Tularosa Basin, the Bounds domestic well lawsuit in the Mimbres Basin, and the Santa Fe Ski Area water rights transfer case.

The bureau also performed 26 investigations of unprotested applications submitted

by the Water Rights Division that required hydrologic evaluation. An investigation may pertain to a single water rights application or multiple applications and may involve anywhere from a few acre-feet of water up to tens of thousands of acre-feet of water. Not all of the investigations performed during the year were finalized. Several were resolved prior to project completion, and some continued into the 2008-2009 fiscal year.

Bureau hydrologists also assisted Water Rights Division in the evaluation of underground storage and recovery projects proposed by the city of Rio Rancho and the city of Albuquerque and in the review and oversight of exploratory drilling projects to tap deep, non-potable aquifers in Sandoval, Bernalillo and Lincoln counties. Bureau staff also assisted with the enforcements of agency

Surface Basins and Sub-Basins with Groundwater Contours



regulations on well drilling, well construction and well plugging. Bureau hydrologists reviewed 28 plans of operation for artesian well completions or well pluggings involving more than 100 wells in 10 different basins and including 30 field inspections. The bureau also provided support to the Water Use and Conservation Bureau, evaluating water availability for 16 proposed subdivisions in Lincoln, McKinley, Quay, Sandoval, Santa Fe, Socorro and Taos counties.

The bureau continues to develop state-of-the-art technical tools to assess hydrologic impacts. A number of groundwater flow models for various areas within the state prepared by the Office of the State Engineer, the U.S. Geological Survey, and private consultants are available. These models must be updated and new models developed as activity increases in an area. During the fiscal year, bureau staff developed a preliminary model of the San Agustin Plains area to evaluate an application for 54,000 acre-feet of new groundwater appropriations and created a graphical user interface for the Carlsbad Basin model to facilitate district office use. In the Mimbres Basin, bureau hydrologists continued development of a new administrative groundwater model to replace a model that has been in use since the late 1970s. This year the bureau produced a report summarizing the most important aspects of the models it has used or is currently using. Also in the fiscal year the bureau continued populating a statewide aquifer test database. The database now contains tests from approximately 2,000 wells, providing a tool for rapidly determining aquifer hydraulic properties needed for water resource assessments.

The Hydrology Bureau continued to provide assistance to the Interstate Stream Commission and Litigation and Adjudication Program. Bureau staff, working in conjunction with outside experts and contractors, completed and released a new groundwater model for the Mesilla and Rincon basins in the Lower Rio Grande. Review by an outside expert found that the model “appears to be a significant improvement over previous models” and “is a useful tool in understanding the regional aspects of surface water and groundwater interactions.” Bureau staff also worked to evaluate and simulate the operations of the Rio Grande Project, through which Elephant Butte Irrigation District farmers and irrigators in Texas and Mexico receive their shares of Rio Grande water.

The bureau remained integrally involved in state and regional water planning activities during the fiscal year, helping to implement elements of the State Water Plan and participating in the five-year review of the plan. As part of this ongoing review process, the bureau provided input into updating and compiling water supply and demand information from the regional water plans.

The bureau continued its support of agency adjudication efforts across the state, including conducting analyses and participating in settlement negotiations related to the Jemez River adjudication, the Rio San Jose adjudication, and the Aamodt adjudication in the Nambe-Pojoaque- Tesuque area.

The Hydrology Bureau continued its joint efforts with the U.S. Geological Survey to collect and store streamflow and groundwater-level data throughout New Mexico. The bureau continued to supervise the agency’s statewide water-level monitoring program, performing or overseeing monitoring activities in several basins in the southwestern part of the state (Animas, Cloverdale, Hachita, Lordsburg, Playas, San Simon, and Yaqui), as well as the Carlsbad, Capitan Reef, Lower Canadian, Curry County, Portales, San Agustin Plains, Santa Fe County, Tularosa and Upper Rio Grande areas.

In fiscal year 2008, the bureau geographic information system (GIS) program took a lead role in agency involvement with the National Hydrography Dataset (NHD) for New Mexico. The dataset is a comprehensive set of digital spatial data that contains information about surface water features such as lakes, ponds, streams, rivers, springs and wells. The Office of the State Engineer has been asked to become the “state steward” for the new high-resolution dataset. Under this program, the bureau will be responsible for validation of proposed edits to the New Mexico dataset submitted by federal, state and local entities.

Under Hydrology Bureau management, the Office of the State Engineer library continued to organize its collection and expand access to its materials during the fiscal year. This





year the librarian initiated a volunteer program, bringing five volunteers into the library. The librarian continued to network with other libraries and agency staff around the state to promote the library and make its resources known and available.

Dam Safety Bureau

The Dam Safety Bureau regulates dam safety in New Mexico. In ensuring the safety of dams, the bureau performs inspections to verify the dams are operated and maintained in a safe condition, reviews plans for new dams and modifications and repairs to existing dams, and issues permits to construct and operate the dams. The bureau inspects construction to verify the dams are built or repaired in accordance with the plans on file with the State Engineer. Safety orders are issued when a serious dam safety deficiency exists

with the potential to result in a threat to life and property. The bureau also manages state funds for the rehabilitation of dams. Activities involved in the managing of state funds include preparing scopes of work, evaluating engineering proposals, reviewing project deliverable items, managing contracts, and coordinating activity with the dam owner. The bureau also received a one-year federal grant to improve the New Mexico Dam Safety Program.

During the 2007-2008 fiscal year, the bureau inspected 105 dams on the inventory. Two other dams on file with the bureau but not listed in the inventory were also inspected to resolve the jurisdictional status. The two dams were determined to be non-jurisdictional. The State Engineer issued a safety order for Talpa Dam requiring the owner to limit storage due to the poor condition of the dam. The State Engineer also issued an amended safety order for Cabresto Dam to open the gate due to the anticipated high spring runoff and to allow access to the dam and reservoir for the rehabilitation project. An engineering vacancy and the need to address management of capital outlay funds significantly reduced the number of inspections performed this year. The inspection frequency of dams will be reduced next year to address the lack of resources in the dam safety program.

The bureau reviewed plans for 13 new dams during fiscal year 2008. Plans were accepted, a permit was issued and construction

is underway for the 98th Street Dam, owned by the Albuquerque Metropolitan Arroyo Flood Control Authority. Two dams, reviewed for the city of Aztec and the village of Magdalena, were redesigned as non-jurisdictional below-grade ponds. Pending projects include flood control dams in Los Lunas as part of the Los Morros Business Park, three wastewater ponds for the village of Magdalena, a private water storage dam in Lea County and an acequia diversion dam in Guadalupe County.

Construction on new dams permitted in previous years continues or has been completed. The city of Albuquerque's dam to store San Juan Chama water and a dam to provide flood control is near completion. Construction was delayed in 2008 while activity centered on the treatment plant construction. Construction on the Mosaic Potash flood control dam in Eddy County, permitted in fiscal year 2007, was delayed because of rain. Documentation to change the location is being reviewed to better facilitate construction. Construction was completed this fiscal year and project close out documents have been received for the Montoyas Arroyo Flood Control Dam owned by the Southern Sandoval County Arroyo Flood Control Authority.

Many existing dams in New Mexico are well over 50 years old and investigations and rehabilitation are required. The bureau has identified 167 safety-deficient dams with 126 of the dams classified as having "high or significant hazard potential." The hazard potential classification is not a rating of the condition of the dam but a measure of the potential downstream damage if the dam were to fail. The failure of a dam classified as having "high

Hydrologic Investigations in Support of Applications

Basin	Protested or Aggrieved	Unprotected	Total
Bluewater	2	1	3
Canadian River	2	0	2
Carlsbad	3	2	5
Causey-Lingo	0	1	1
Clayton	1	2	3
Estancia	1	1	2
Fort Sumner	0	1	1
Gallup	1	1	2
Gila-San Francisco	2	0	2
Hondo	8	1	9
Hot Springs	1	0	1
Lea County	1	0	1
Lower Rio Grande	8	0	8
Middle Rio Grande	17	10	27
Portales	0	3	3
Roswell	3	0	3
Sandia	1	0	1
San Juan	0	1	1
Tucumcari	0	2	2
Tularosa	3	0	3
Upper Pecos	3	0	3
Upper Rio Grande	28	0	28
Surface Permits	7	0	7
Total	92	26	118

hazard potential” will cause loss of life while one identified as having “significant hazard potential” will cause significant property damage but no loss of life. The number of unsafe dams is expected to increase over time because not all dams have been inspected since initiating the condition classification of existing dams.

The Dam Safety Bureau reviewed plans to investigate, analyze, repair, modify or rehabilitate 33 existing dams during the fiscal year, including 15 classified as having high hazard potential. Seven of the projects received state capital outlay funds, which requires project management by the bureau. A discussion of the more significant projects is provided below:

Springer Dams 1 and 2 are owned by the town of Springer and the dams provide drinking water for the community. The dams are subject to a State Engineer order limiting storage due to their poor condition. The town hired their own engineer and a project agreement with the bureau is in place to reimburse expenses with capital outlay funds. The geotechnical analysis was reviewed by the bureau and found incomplete. The planning phase is expected to be completed next fiscal year and design and construction is planned for the 2009-2010 fiscal year.

Bloomfield Dam is owned by the city of Bloomfield and the dam provides drinking water for the community. The Office of the State Engineer is providing full project management services for this rehabilitation project with capital outlay funds. The spillway for the dam is in poor condition, and the capacity is undersized. Additional investigations have discovered the valves are inoperable in the open position, prohibiting inspection of the outlet conduit. The intake tower is in poor condition, and an old irrigation pipeline running along the downstream toe needs to be replaced to ensure it does not jeopardize the new spillway construction. The bureau negotiated a revised work order to address the outlet conduit and valves and the design is pending. An additional work order for designing a new intake tower will be addressed next fiscal year. Construction is anticipated in the 2010 fiscal year.

Cabresto Dam is in Taos County in the Carson National Forest and jointly owned by the Cabresto Lake Irrigation Company and Llano Community Ditch Association. The Office of the State Engineer is providing full project management services. Cabresto Dam is subject to a State Engineer safety order requiring monitoring and prohibiting storage until the rehabilitation project is complete. Cabresto Dam has uncontrolled seepage around the outlet conduit and through the right abutment, an undersized spillway, and outlet conduit concerns. Preliminary investigation continues on Cabresto Dam, including assessing alternatives and collecting environmental data to address the National Environmental Policy Act process.

Lake Roberts Dam in Grant County is owned by the New Mexico Department of Game and Fish, which is managing the project. The dam has an undersized and deteriorated spillway and is the subject of a State Engineer repair order. The State Engineer has committed \$2 million in capital outlay funds for construction. A preliminary design was reviewed by the bureau, which raised questions about construction and availability of materials.

Power Lake Dam is owned by the city of Santa Rosa and is used for recreational purposes. The city hired its own engineer and a project agreement with the bureau is funding the rehabilitation design with capital outlay funds. Progress on this project has been slow and engineering design is incomplete. The bureau is requiring a peer review process for the engineering work. In addition, the bureau hired a geotechnical consultant to supplement the incomplete investigation. The supplemental geotechnical investigation was completed and accepted by the bureau. A complete design package is anticipated next fiscal year.

Los Alamos Canyon Dam is a recreational pond owned by Los Alamos County. The dam owner initiated work on this dam to address the loss of storage from sediment deposition into the reservoir after the Cerro Grande fire in 2000. The Water Trust Board is providing partial construction funds. Investigations to evaluate the current condition of the dam, the hazard potential classification, and removal of sediment from the reservoir are complete and have been approved by the bureau. A complete design is anticipated next year.

Project review, modification or reclamation monitoring on 12 tailings dams classified as having either high or significant hazard potential continues or is completed. A permit to raise a tailings dam in Taos County that stores tailings from molybdenum mining in Ques-



Dam Safety Inspections

Year	Dams Inspected	Orders Issued
1998	155	4
1999	126	3
2000	96	0
2001	103	2
2002	198	2
2003	172	4
2004	160	1
2005	168	2
2006	162	4
2007	190	2
2008	107	2



ta was approved and construction completed this fiscal year. A permit to build a raise to Arizona Public Service ash pond in San Juan County was also approved and construction completed this fiscal year. The remaining 10 tailings dams in Grant County are reclamation projects owned by Freeport McMoran. Reclamation work is underway at three Phelps Dodge tailing dams and three Chino tailings dams. The reclamation is being coordinated with the state Environment and Energy, Minerals and Natural Resources departments. The dams will remain on the Office of the State Engineer inventory several years after reclamation is complete to ensure reclamation measures are functioning as intended.

The bureau is also providing full project management for a project to develop a library of extreme historical storm events in New Mexico and develop a geographic-information-system-based tool to analyze the extreme precipitation for a watershed above a dam. Capital outlay funds are being used for the project. The tool will help engineers design spillways for dams. The tool will reduce the cost of rehabilitating dams by providing more reasonable precipitation design standards. Data on storms is being collected and an analysis tool for the Rio Grande drainage area is expected to be ready to test next fiscal year. Additional phases on the area west of the continental divide and to address the eastern plains area are anticipated.

The bureau received a one-year grant from the Federal Emergency Management Administration to improve the New Mexico Dam Safety Program. The grant was used to provide travel and training to staff in the field of dam safety.

Subdivisions Reviewed

Year	Reviewed
1999	149
2000	116
2001	104
2002	94
2003	84
2004	119
2005	151
2006	153
2007	101
2008	130

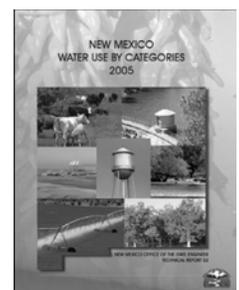
Water Use and Conservation Bureau

The Water Use and Conservation Bureau inventories ground- and surface water withdrawals and depletions by category, county, and river basin; maintains water-use databases; and analyzes crop, weather, and water-use data. The bureau quantifies water requirements for irrigation and other uses and prepares technical reports for the water resources investigations and adjudication activities of the Water Resources Allocation and Litigation and Adjudication programs. The bureau coordinates water conservation activities, including developing and distributing educational materials to school children, the general public, public water suppliers, and businesses; conducting workshops; and assisting public water suppliers, irrigation districts, and government institutions in carrying out their water conservation programs. In addition, the Water Use and Conservation Bureau performs reviews, at the request of county commissions, of water supply plans for proposed subdivisions throughout the state.

In fiscal year 2008, the bureau completed and published *New Mexico Water Use by Categories 2005* to make available to the public the most comprehensive, current and useful New Mexico water use data. Water withdrawals in New Mexico counties and river basins were tabulated for nine water use categories: public water supply, self-supplied domestic, irrigated agriculture, self-supplied livestock, self-supplied commercial, industrial, mining, power and reservoir evaporation. The report can be accessed on the agency website at http://www.ose.state.nm.us/publications/technical_reports/wateruse.html.

Also this year, the bureau continued work on consumptive irrigation requirements for the Lower Rio Grande, the Rio San Jose and the Northern Rio Grande in support of water rights adjudications. The bureau developed a crop irrigation requirement spreadsheet application and a database of estimated evapotranspiration that covers the entire ground surface of New Mexico. Additionally, landscape coefficients have been developed for trees, shrubs, groundcover, mixed and turf grass. The bureau will continue to use these tools to calculate irrigation requirements for crops and landscapes in New Mexico.

At the request of the Administrative Litigation Unit, the bureau prepared and reviewed technical exhibits for the city of Bernalillo and West Rim Mutual Domestic Water Users



Association to support protested applications of an aggrieved appeal in district court cases and the Eldorado Area Water and Sanitation District to support conditions of an emergency application. In addition, the bureau provided review of water development plans for the city of Santa Rosa.

The bureau continued implementing House Memorial 42, which requires the State Engineer to convene representative stakeholders to perform a review of the 40-year water planning statute. Additionally, the bureau was active in the 2008 legislative session and provided water use and conservation expertise for review of the Governor's Water Innovation Fund Request for Information.

The Water Use and Conservation Bureau continues to assist drinking water suppliers in implementing the most state-of-the-art approaches for system analysis. The bureau completed research and pilot projects on standardizing a gallons-per-capita-per-day methodology to be used by drinking water suppliers in the state. The city of Santa Fe, the city of Gallup, Santa Fe County, and El Vadito de Los Cerrillos partnered with the Office of the State Engineer to pilot test the methodology. Results from the research, pilot projects, and partnerships have contributed to the development of the per-capita use calculator. The calculator is scheduled for publication on the Office of the State Engineer website in October 2008.

The bureau received two \$25,000 U.S. Bureau of Reclamation Water Conservation field services grants to complete Water Conservation Training Audits and Retrofits for Food

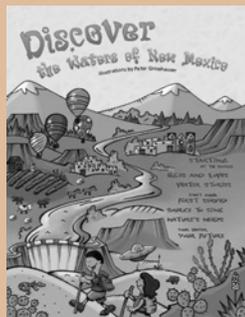


Water Conservation Education

The Water Use and Conservation Bureau manages an active outreach program related to water conservation education. This program evolved in response to the increasing pressures on the state's limited water supply and the realization that, for many parts of the state, water conservation may be the only practical method to meet the high demand for water. The program encourages wise water use by New Mexico citizens, businesses, organizations and water suppliers. The education program consists of distributing free publications and holding workshops, developing multi-level education curricula, participating in water fairs, and partnering with business, government and citizens groups.

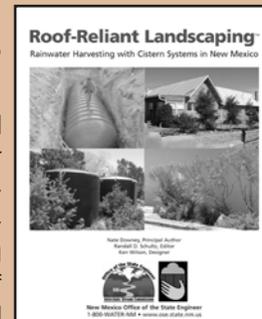
Significant contributions made during the 2007-2008 fiscal year:

- The bureau distributed more than 85,000 pieces of educational water conservation materials to schools, municipalities, businesses, organizations and individuals.
- The bureau published, in conjunction with Project WET, a national non-profit specializing in water education, *Discover the Waters of New Mexico*. The Office of the State Engineer worked with a leadership team composed of Project WET, teachers, utilities, and other state agencies. The team developed activities, pilot-tested the booklet in 12 classrooms, and secured drawings and photographs. The result of



the effort is a well-rounded, multi-faceted booklet for 8 to 12 year olds.

- The bureau co-sponsored with the New Mexico Water Conservation Alliance, Saving Every Drop: NM Landscaper Training. The training provided multiple tracks of presenters, exhibitors, and Irrigation Association, Inc., classes and certification opportunities.
- The bureau participated in the Santa Fe Children's Water Festival, the Xeriscape Conference and the New Mexico State Fair.
- The bureau made presentations at Albuquerque Mayor Martin Chavez's Sustainability Conference, the New Mexico Rural Water Association Annual Conference, multiple county extension events, and various community events.
- The bureau completed a U.S. Bureau of Reclamation grant for educational publications that included Roof-Reliant Landscaping: Rainwater Harvesting with Cistern System in New Mexico. The publication outlines how to install rainwater harvesting systems and precipitation-only landscapes. Publication will be available on the Office of the State Engineer website starting in October 2008.
- The bureau participated in state and national associations involved in water conservation and environmental education activities.





Services and Landscape DVD Series - How to Use New Mexico's Outdoor Water More Efficiently. The food service grant has completed training and audits in the city of Gallup and Los Alamos County. The research and a first draft of the script for the Landscape DVD Series are complete. Both grants are scheduled for completion in the summer of 2009.

An important task performed by the Water Use and Conservation Bureau is the review of proposed subdivisions throughout the state. By law, county commissions must submit subdivision proposals to the State Engineer with a request for an opinion as to whether the subdivision will meet several certain criteria related to water. The county commissions are not required to follow the opinion issued by the State Engineer. In fiscal year 2007-2008, the bureau reviewed 130 subdivision and development proposals, issued positive opinions on 44 proposals, negative opinions on 70 proposals, and deferred opinions on 16 proposals.

Bureau staff also provides technical assistance on subdivision-related activities to county staff, subdividers, developers, consultants, and the general public. In fiscal year 2007-2008, the bureau assisted Lincoln and Doña Ana counties in development of their subdivision regulations.

The bureau performs a multi-step review of the subdivision, including reviews of the disclosure statement and any identified land and water use covenants and restrictions, the water-demand analysis for technical correctness and reasonableness, proof of existing water rights sufficient to meet the maximum annual water requirement, and, if required, the water availability assessment for technical soundness, supported with reasonable conclusions and that demonstrate sufficient water supplies to meet the long-term demands of the subdivision. The bureau also verifies that the assessment is consistent with the disclosure statement and the water demand analysis. All errors, omissions, and deficiencies are noted, and an opinion is issued in a memorandum. The memorandum, along with a cover letter from the Water Use and Conservation Bureau Chief are sent to the requesting county commission.

The bureau maintains and updates a database containing a summary of all subdivisions and development reviews. This database can be accessed on the agency website at http://www.ose.state.nm.us/water_info_subdivision.html. The Office of the State Engineer publication on the requirements of subdivision proposals and review, *Water Conservation and Quantification of Water Demands in Subdivisions: A Guidance Manual for Public Officials and Developers* is also available online at http://www.ose.state.nm.us/publications/tech_rpts/rpt-48/rpt-48-toc.html.

Hearing Unit



During the 2007-2008 fiscal year, the Office of the State Engineer incorporated an alternative dispute resolution (ADR) component within the administrative hearings process. Charles Kinney, a trained mediator who oversaw the agency's 2006 pilot ADR project, was hired as the State Engineer's ADR officer. Kinney has developed ADR processes that dovetail with the administrative hearing process. The agency-facilitated ADR is offered as an option in those cases where the potential for negotiated settlement is good. The ADR process generally runs concurrent with the hearing schedule. Parties who request agency-facilitated ADR are expected to engage in the process in good faith.

The agency is committed to continuing use and expansion of ADR in the context of disputed applications. In that regard, the State Engineer's hearing examiners have completed ADR training, specifically designed for administrative judges, presented by the National Judicial College. The non-presiding hearing examiner is available to assist as a co-mediator, bringing his experience, knowledge and expertise to the process.

Addition of the ADR component has resulted in a significant increase in the number of cases remanded to the Water Rights Division of the Office of the State Engineer based on facilitated settlement. During fiscal year 2007-2008, 59 applications were remanded to the Water Rights Division following withdrawal, dismissal or settlement of protests, as compared with 31 during the previous fiscal year, and the number of matters in which a formal administrative hearing was required decreased. The results to date indicate that use of the ADR process can be a cost-effective option for participants involved in disputed applications for water use.

During the 2007-2008 fiscal year, 84 new hearing matters were opened and 81 matters were closed. Of the 81 closed matters, final dispositive orders were entered for 22. The final orders include six applications granted in whole or in part, subject to conditions, four applications denied, and 12 dismissed upon withdrawal. With the 59 applications remanded to the Water Rights Division for disposition, 83 cases were pending on the unit's docket as of June 30, 2008.

A number of issues of significant interest were addressed in hearing decisions entered during the 2007-2008 fiscal year. A brief synopsis of the matters wherein the issues arose follows:

Hearing No. 03-029 re Initial Application and Seven Amended Applications by Lions Gate Water (LGW). State Engineer order granting the Water Rights Divisions motion for summary judgment and affirming the action rejecting the subject applications issued August 31, 2007.

LGW submitted an initial application and seven amended applications from February through April 2003 for a permit to appropriate surface water within the Gila-San Francisco Basin in New Mexico. The Office of the State Engineer rejected or returned all of the applications between March and April 2003 based on a determination that there is no unappropriated water available in the Gila-San Francisco Water Basin in New Mexico. Following a hearing on WRD's motion for summary judgment and LGW's cross-motion for summary judgment, and based on the undisputed material facts presented therein, the State Engineer found that no unappropriated water exists in the Gila-San Francisco Water Basin to satisfy LGW's applications pursuant to decrees, orders and decisions entered by the U.S. Supreme Court in *Arizona v. California*, the U.S. District Court for the District of Ari-

Hearing Officers

Victor Kovach
Andy Core
Charles Kinney

Hearing Unit Administrator

F. Eileen Serna



zona in *United States v. Gila Valley Irrigation Dist.*, the Grant County District Court in New Mexico, *ex rel. State Engineer v. Anderson* and New Mexico, *ex rel. State Engineer v. Acosta*, and 43 USCS § 1524(f) (Colorado River Basin Project Act) and the Arizona Water Settlements Act.

The decision of the State Engineer was appealed to the 6th Judicial District Court, Cause No. CV-07-038.

Hearing No. 04-035 re Application by Dorothy A. Anderson and the U.S. Bureau of Land Management. State Engineer decision granting a temporary transfer and lease issued on May 29, 2008.

The applicants sought a permit to temporarily change the location of well and place and purpose of use of 28.08 acre-feet of artesian groundwater from a well used for irrigation of land in Carlsbad to a well located approximately 10 miles south of Carlsbad near the intersection of Highway 62/180 and the Black River Village Road, for commercial water sales for oil and gas exploration. The application was of the type contemplated by the Water Use Leasing Act, NMSA section 72-6-1 through 72-6-6 (2003), with the proposed use at the move-to location to be undertaken by Gregory Rockhouse Ranch, LLC, as lessee. The evidence presented established that the move-from and move-to wells obtained water from the same source: the Capitan Reef aquifer. Additionally, the evidence established that granting the application would not impair existing water rights and would not diminish or alter the flow of the Black River. A permit was issued for diversion of up to 19.656 afy (consumptive irrigation requirement appurtenant to 9.36 acre move-from lands) for a temporary period of five years subject to conditions.

Hearing No. 06-059 re Application by L & R Bezner LTD. State Engineer decision granting the application, in part, issued on April 30, 2008.

L & R Bezner Ltd., filed eight applications for permits to appropriate and supplement the underground waters of the Clayton Underground Water Basin. The applicant requested that it be permitted to divert a total of 2,000 acre-feet per year of water from two well groups, each consisting of one primary well and three wells to be used as alternative diversion points, with each group diverting 1,000 acre-feet per year and irrigating a 500

acre crop circle. The two 500 acre crop circles are to be in Union County, approximately 18 miles south of Clayton and 6 miles northwest of Sedan, New Mexico. Union County, the town of Clayton and 35 other individuals, couples and entities protested. The technical evidence presented indicated that granting the application would significantly accelerate the reduction of the water columns for 11 “impacted wells” and that, absent mitigation, the ability of the owners of the impacted wells to exercise their water rights could be

impaired. The application was granted, in part, subject to conditions of approval, including a requirement that applicants, prior to diverting any water from the permitted wells, provide documentation as the State Engineer finds necessary to establish that the impacted wells will not go dry due to applicant’s pumping or that applicants have obtained

New Hearing Officer

Charles B. Kinney was hired as an alternative dispute resolution officer for the Office of the State Engineer’s Hearing Unit in November 2007.

Kinney received his bachelor’s degree from New College in Sarasota, Fla., in 1973. He then earned both his master’s degree and master’s of business administration from the University of Michigan in Ann Arbor in 1976 and 1986, respectively. Kinney received his law degree from the University of New Mexico School of Law in May 2007. He graduated magna cum laude.

Prior to becoming ADR officer, Kinney was a mediator for the State Engineer’s Hearing Unit, where he served as lead mediator in disputed water rights cases. Before that, he worked as a law clerk for the Office of the State Engineer’s Administrative Litigation Unit, where he assisted with drafting legal documents and performed legal research.

The results of a pilot program conducted in the summer and fall of 2006 reflected that adding an ADR component to the Hearing Unit would significantly reduce the amount of time and resources expended in the processing and resolution of disputed applications for water use. This position contributes to the State Engineer’s goals and strategic plan, as well as providing consistency with the Governmental Dispute Resolution Act and the Governor’s ADR initiative.

waivers from the owners of the wells, acquired the wells or mitigated the impacts through assumption of financial responsibility for deepening or replacement of the wells to sustain production at existing levels.

The status of the Office of the State Engineer hearing decisions, referenced in prior annual reports as matters pending on appeal, follows:

Hearing No. 03-71; 03-72; and 03-073 Consolidated re Applications by Gilbert and Deborah Graves, OSE File Nos. 0701 and 0786 into 05130; 05131 into 4883; 05132 into 05131. State Engineer decision partially approving two applications and denying one application seeking to reconfigure the points of diversion and use of surface water of the Rio Tusas was appealed to the 1st Judicial District Court, Cause No. D 117-CV-2007-00008/00009. The trial occurred in March 2008 and a decision is pending.

Hearing No. 05-016 re Application by Santa Fe Ski Company, OSE File No. 01929 into 3919. State Engineer decision approving application to transfer a surface water right from land served by the Chupadero Irrigation Company Ditch, which diverts from the Rio Chupadero, upstream to a point of diversion on the Rio en Medio for snow-making purposes at the Santa Fe Ski Area, subject to conditions, including the limiting of diversions to November 1 through March 31, was appealed to the 1st Judicial District Court Cause No. D-101-CV-06-2295. Trial was held February 6-7 and March 3-4, 2008. A district court decision granting the permit, entered on June 5, 2008, is consistent with the decision of the OSE.

Hearing No. 04-027 re Application by Roy D. Mercer, LLC, OSE File No. 06286 and RG-10260. Appeal of State Engineer's decision issued December 21, 2005, is pending in the 13th Judicial District Court, D-1314-CV-2006-00048.

Hearing No. 02-017 re Application by City of Albuquerque Public Works Department, OSE File No. 4830. An appeal of the State Engineer's decision of July 8, 2004, conditionally approving the city of Albuquerque Public Works Department's application to divert surface water from the Rio Grande for its drinking water project was filed in the 2nd Judicial District Court, CV-2004-5036. The district court issued its decision on April 13, 2006, and the matter is on appeal in the New Mexico Court of Appeals, No. 26,757.

Hearing No. 02-035 re Applications by City of Alamogordo, OSE File No. T-3825 --T-3825-S-9. The State Engineer's decision of December 29, 2004, partially approving, subject to conditions, the city of Alamogordo's applications to drill 10 wells for diversion, desalination and use of groundwater of the Tularosa Underground Water Basin for municipal, industrial and commercial purposes was appealed in the 12th Judicial District Court, CV-2005-019, 043 and 049. The trial was held in January 2008. The district court entered its order approving a revised permit on April 7, 2008, and the matter is on appeal in the New Mexico Court of Appeals, No. 28,643.

Hearing No. 03-004 re Applications by City of Santa Fe, OSE File Nos. RG-20516-S-10 thru RG-20516-S-13. The State Engineer's decision of September 15, 2004, conditionally approving the city of Santa Fe's application for permits for supplemental wells for the continued diversion of up to 10,000 acre-feet per year of groundwater authorized under permit No. RG-20516 et al., (Buckman permit) was appealed in the 1st Judicial District Court, D-101-CV-2004-2038. On October 3, 2007, the district court issued an order adopting a settlement agreement and remanding to the State Engineer for amendment of the permit.

Copies of selected State Engineer hearing decisions and the hearing examiner's report and recommendations are posted on the agency's website (www.ose.state.nm.us). Information concerning the status of pending matters on the Hearing Unit docket is also available on the website. To view posted information concerning hearing matters select the category "Water Information" from the index at the agency's home page.





Litigation and Adjudication Program

Chief Counsel and LAP Director

DL Sanders

Deputy Chief Counsel

Gregory C. Ridgley

Deputy Director, Support

Joseph Schleicher

Managing Attorney, Northern New Mexico

Arianne Singer

Managing Attorney, Lower Rio Grande

Frank Reckard

Managing Attorney, Pecos River

William S. Cassel

Hydrographic Survey Bureau Chief

Dario Rodriguez

Managing Attorney, Administrative Litigation Unit

Hilary Lamberton

The chief counsel serves as the legal advisor to the State Engineer, supervises all litigation in the district courts, and handles all appeals to state and federal appellate courts. The chief counsel also advises the deputy chief counsel, who directly supervises the work of Litigation and Adjudication Program (LAP) attorneys and technical staff in water rights adjudications and administrative proceedings.

Program attorneys are commissioned as special assistant attorneys general to represent the state of New Mexico in all water rights adjudications in the state and federal district courts. Program attorneys also represent the Water Rights Division of the Water Resources Allocation Program in all water-related administrative hearings and the State Engineer in appeals of his administrative decisions to the courts. They also conduct legal proceedings on the State Engineer's behalf to prevent illegal uses of water. LAP's technical staff in the Hydrographic Survey and Mapping Bureau performs hydrographic surveys and provides the foundation documents for all adjudications. Other survey staff is assigned to specific adjudication bureaus and work closely with legal staff to provide technical and field support for ongoing adjudications.

The attorneys, engineers, surveyors, legal assistants, and administrative support staff in the three adjudication bureaus in Santa Fe (Northern New Mexico, Lower Rio Grande, and Pecos) primarily work on completing the 12 adjudications pending throughout the state. LAP also maintains a Lower Rio Grande (LRG) adjudication survey office in Las Cruces, staffed with engineers, surveyors, and other technical personnel to support the Lower Rio Grande adjudication and serve as a local contact point for water rights owners involved in that adjudication.

Water Rights Adjudications

The State Engineer is mandated by law to perform hydrographic surveys and investigations of each stream system and source of water supply in the state, beginning with those most used for irrigation. Typically, before an adjudication suit is filed, the Hydrographic Survey and Mapping Bureau performs a hydrographic survey to locate, map, quantify, and establish priority dates for all water rights within the geographic scope of the adjudication or within a section of the adjudication. On completion of the hydrographic survey, the State Engineer transmits its findings to the New Mexico Attorney General through the chief counsel or deputy chief counsel for permission to file suit on behalf of the state for the judicial determination of each water right. The legal basis and elements of each water

The Water Rights Adjudication Process

The state files a lawsuit in state district court for the adjudication of all water rights within the stream system or aquifer. All water rights owners and claimants are joined and become parties in the lawsuit.

In the subfile phase, the state sends an offer of judgment to each water-right claimant. The claimant can agree with or challenge the description of the water rights. After all questions have been resolved, either through negotiation or litigation, the court enters a subfile order to confirm the individual agreement between the state and a water right claimant.

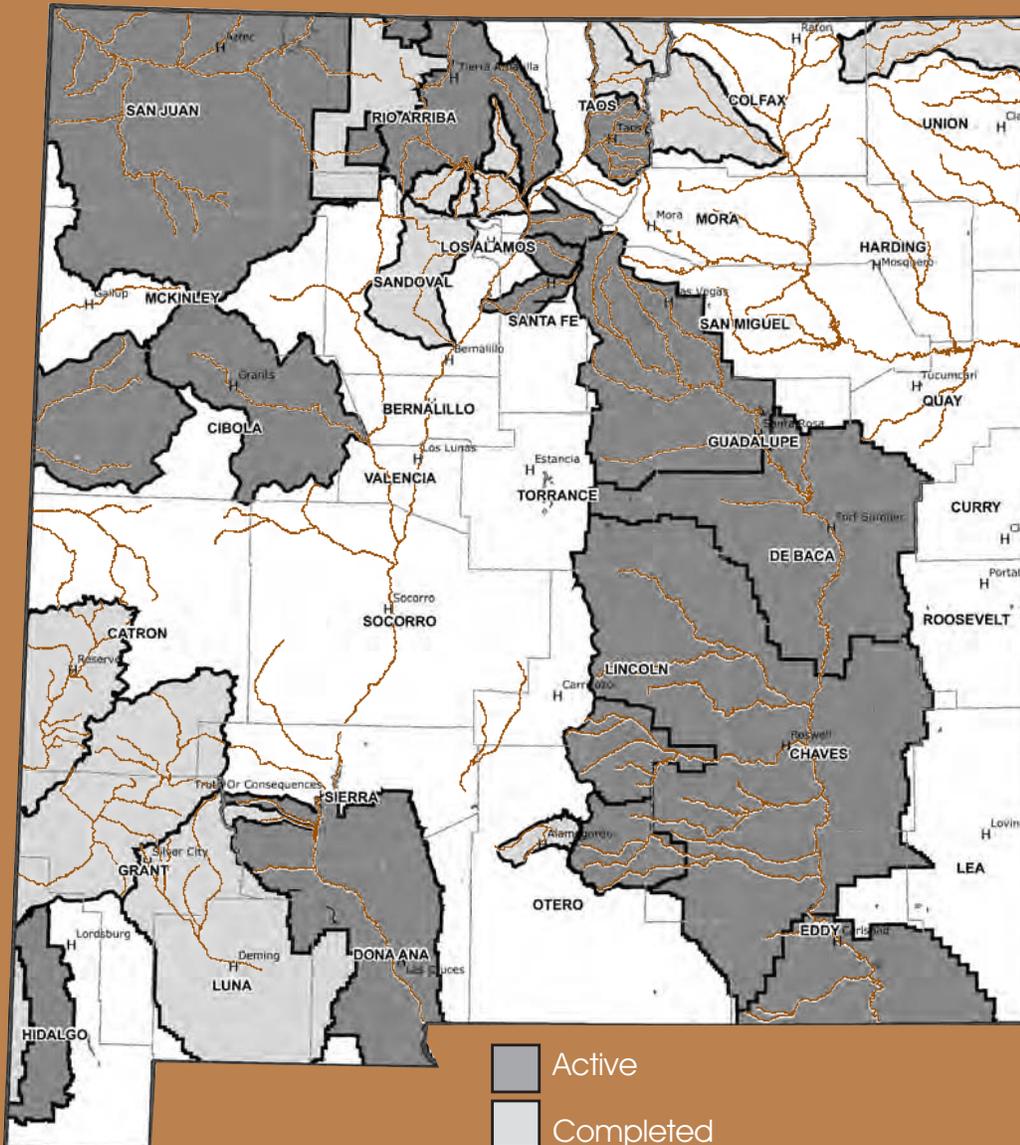
The court issues a partial final decree defining the water rights in the adjudicated area.

right are reduced to a written offer of judgment and then served on the water right owner. During this subfile phase of the adjudication, individual water rights are adjudicated between the state and individual defendants, either through negotiation or litigation. Once each water right has been established, defendants may challenge the water rights of others during the inter se (literally “among themselves”) phase of the adjudication. After inter se challenges have been resolved, the adjudication court issues a final decree defining the water rights of each and every defendant in the adjudication.

Twelve adjudications are currently pending in New Mexico courts, involving water rights within the Rio Grande, Pecos, Upper Colorado River, and Lower Colorado River drainages. These adjudications include the Pecos River stream system (from its headwaters east of Santa Fe to the Texas state line) initiated in 1956, several tributaries to the Rio Grande, filed between 1966 and 1983, the San Juan River stream system, filed in 1975, and the Lower Rio Grande stream system, filed in 1986. Within the scope of these adjudications are most of New Mexico’s Indian pueblos and tribes, federal government agencies, irrigation districts, reclamation and conservancy projects, municipalities, counties, community ditches, and thousands of individual claimants. The work is further complicated by the fact that some adjudication actions were filed in state court, while others were filed in federal court.



Status of Adjudications





Hydrographic Survey and Mapping Bureau

In the initial stages of adjudication, the hydrographic survey staff gather all the information necessary to legally describe and map a water right and then document their findings in a hydrographic survey report. The surveyors search county ownership records, State Engineer water rights records, and other historical documents. They also perform field

Acequia Outreach

The Acequia Liaison Officer assists the Office of the State Engineer/Interstate Stream Commission in responding to a wide variety of acequia issues. Community acequias are irrigation ditch systems governed by a board of three commissioners and a mayordomo who distributes the water to the members. Acequias are organized as local political subdivisions under state law and have a number of powers and responsibilities.

The liaison assists the Water Resources Allocation Program with issues and questions regarding water right transfers, water banking, and active water resource management, often assisting water masters with issues and questions raised in the field. He also assists the Interstate Stream Commission's Acequia Program with the review of bylaws to qualify acequia applicants for funds under both state legislative appropriations and federal cost share programs. The liaison meets with acequias at their meetings to advise them on a number of issues including governance, bylaws, easements, and water distribution. He attends field offices with staff of the Litigation and Adjudication Program in the Chama and Gallinas water rights adjudications to assist water rights claimants with questions regarding their claims and related acequia concerns.

During FY 2008, the liaison worked with the Native American Water Liaison on issues involving acequias and Ohkay Ohwingeh and Pojoaque pueblos.

The liaison worked with the new community liaison to help educate water users on active water resource management with special emphasis in the Gallinas basin. Both liaisons worked with the water master to develop agreements with the acequias for the purpose of installing metering devices. They are also assisting the city of Las Vegas, Storrie Lake Project, and the acequias to find resources to repair the Storrie diversion. Both liaisons also worked with acequias in the Mimbres on metering issues and along the Sapello River on many concerns including watershed restoration. Both liaisons testified before the interim legislative Water and Natural Resources Committee about their work in adjudications and in the Gallinas Basin.

The liaison assisted the director of the Water Resources Allocation Program with the scheduling of meetings of the Measurement Committee, which assists the State Engineer with the implementation of metering in a number of basins in New Mexico. His involvement has been significant in convincing the acequias of the need for metering of acequia diversions.

The Measurement Committee, in coordination with the Water Master's Committee, assisted in metering efforts this year in the Mimbres, Nambe-Pojoaque-Tesuque, and Gallinas basins. The liaison also facilitates communication of issues and questions between the New Mexico Acequia Commission and the Office of the State Engineer/Interstate Stream Commission, often scheduling agency staff members to speak at Acequia Commission meetings. The commission is an eleven-member panel appointed by the Governor to advise the Governor, the Legislature, the State Engineer, the Interstate Stream Commission, and other state and federal agencies on acequia issues. The liaison also promotes communication between the New Mexico Acequia Association and the agency. The liaison kept the acequia community informed about appeals involving acequia issues pending in the State Engineer's Administrative Litigation Unit. The liaison lectured University of New Mexico students on acequias and spoke to students from Canada on the same subject.

surveys, conduct interviews, and acquire and analyze aerial imagery, both current and historical. The survey, however, can only be as accurate as the documents it relies upon.

A completed hydrographic survey report for all water rights within the scope of the adjudication, or section of the adjudication, is filed with the State Engineer and a copy is provided to the special assistant attorneys general who prosecute the adjudication on behalf of the State. The survey is a compilation of all identifiable water rights, their elements, a map of the lands to which they are appurtenant for irrigation, and their validity at the time they were surveyed. This filed survey is presumed to be correct, and any party wishing to dispute that information has the burden of proving that it is incorrect.

To make its hydrographic surveys as accurate as possible, the Office of the State Engineer has implemented the following innovations in recent years:

- The Hydrographic Survey and Mapping Bureau, together with staff from the Water Resources Allocation Program, now conducts field offices prior to beginning a survey. This new procedure is designed to improve the efficiency and accuracy of the initial field survey and to better inform water rights claimants about the survey and the adjudication processes. Disputed issues that may arise between surveyors and claimants are narrowed and more easily resolved in later proceedings. This process has been successfully used in the Zuni, San Juan, and Animas Valley hydrographic surveys and adjudications.
- All hydrographic surveys are now based on geographic information systems and computer mapping technologies. Interpretation of aerial imagery is performed using digital or ortho-rectified imagery (computer-generated imagery corrected for visual distortions caused by orientation and terrain), and all field measurements are made with global positioning systems receivers. The bureau now uses digital ortho-rectified imagery in all its active surveys.
- In coordination with the Interstate Stream Commission, bureau staff has been acquiring high-resolution digital aerial imagery. This is a long-term program to replace analog aerial photography by computer-based digital imagery. The first digital imagery was purchased in 1999 for portions of the Lower Rio Grande Hydrographic Survey. In 2003, imagery for the San Juan, Costilla, and Los Piños/San Antonio areas was acquired. In 2004, imagery for the Peñasco/Mescalero area was acquired. In 2005, the State Engineer and Interstate Stream Commission organized a statewide acquisition of digital aerial imagery. In 2008 the State Engineer acquired digital aerial imagery for the Lower Rio Grande and the Fort Sumner areas, and together with the Interstate Stream Commission acquired digital aerial imagery for the Middle Rio Grande area.
- Bureau staff members also have worked with the Interstate Stream Commission to develop remote sensing mapping tools for use with satellite imagery to perform cropping area estimates for the entire state. These estimates will be used to develop a water use model for New Mexico. Initial results for the Lower Rio Grande area are very encouraging and Survey Bureau staff plans to continue the project using enhanced satellite images from Landsat, a joint project of the U.S. Geological Survey and NASA. These new technologies are proving to be a means for dramatically increasing the accuracy of, and reducing the time necessary to conduct and complete, a survey.
- New databases developed in LAP also significantly enhance the ability to analyze the results of a survey. These computer-based tools also allow LAP to readily disseminate hydrographic survey results to the public, to automate the production of maps and basic subfile pleadings, and to effectively track the status of individual subfile proceedings. Closer coordination between engineers and attorneys within LAP has proven extremely fruitful: Problems are identified and solved as they arise, reducing the need for global corrections at the end of the process.

Administrative Litigation Unit

Attorneys from the Administrative Litigation Unit (ALU) of LAP represent the Water Rights Division in administrative hearings before the State Engineer's Hearings Unit on protested or aggrieved applications for water use permits. The attorney assigned to an application works with the applicant and anyone filing a protest to informally resolve



For more information on the status of adjudications, see the appendix starting on page 72.



disputed matters to eliminate the need for a formal administrative hearing. If a matter cannot be resolved informally, the application goes to hearing. Most applications are scheduled for a hearing within nine months of being sent to the Hearings Unit.

ALU attorneys also represent the State Engineer in a variety of proceedings in the district and appellate courts. ALU attorneys represent the State Engineer when any administrative decision on an application is appealed to the courts. In addition, the ALU handles cases in the district courts that involve declaratory judgment actions or petitions for mandamus related to pending applications or rulemaking decisions of the State Engineer.

The ALU also brings enforcement actions in the district courts to help the Water Rights Division address issues such as over-diversions or illegal uses of water. ALU attorneys are pursuing enforcement actions along the Rio Chama, the San Juan River, the Pecos River, and the Lower Rio Grande. The unit recently completed an effort, working together with the Lower Rio Grande water master, to bring all irrigation well owners in the Lower Rio Grande into compliance with the metering conditions of their groundwater permits. In the 2008 fiscal year, the Lower Rio Grande enforcement focus shifted to bringing all unpermitted irrigation well owners into compliance with the State Engineer's metering order, which requires all such wells to be metered. The same progressive enforcement approach that successfully achieved the metering of permitted wells is being applied to the new group of well owners. The enforcement actions will vary from informal requests to comply with metering requirements to injunction actions in district court if necessary. At least 1,500 irrigation well owners will be affected by the new enforcement focus.

New Community Liaison

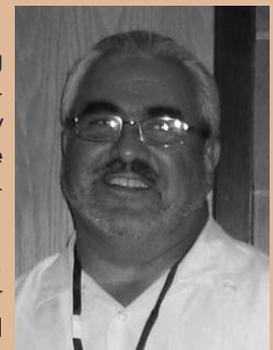
A new community liaison was hired to work statewide for the Litigation and Adjudication Program in an effort to better inform and educate citizens about the objectives and benefits of the Active Water Resource Management initiative.

Richard Trujillo began working for the agency in November 2007. Before that, he worked 11 years as administrator of water, wastewater, gas and solid waste operations for the city of Las Vegas. He supervised nearly 60 employees, administered \$13 million in budgets, was responsible for approval and administration of all utility construction designs, and served as lobbyist for the city of Las Vegas, acquiring over \$21 million for water and wastewater projects.

Trujillo also worked more than 17 years for the Public Service Company of New Mexico, in both electric and water sectors. He is experienced in water supply and filtration, distribution design and construction, drafting and design of highway and utility relocation permits, as well as new and existing overhead and underground residential and commercial electric system design and improvements and right-of-way relocations. He also worked for Bergstral, Shaw and Newman consulting firm as the utilities relocation and construction consultant.

Trujillo gained valuable education over a span of 15 years in the engineering technician program within the Public Service Company of New Mexico's electric operation design program. He is also certified through the Federal Energy Management Program by the U. S. Department of Energy in water resource management, surface and groundwater, pipeline safety, and emergency preparedness for utilities.

He is working with area acequia associations, municipal and county officials, state elected officials and other special interest water groups, including water rights owners, agricultural, municipal, residential, business and recreational water users.



Interstate Stream Commission Program



The New Mexico Interstate Stream Commission, created by Chapter 25 of the 1935 legislative session laws, has broad powers to investigate, protect, conserve and develop New Mexico's waters, including both interstate and intrastate stream systems. The Commission has eight unsalaried members appointed by the Governor. The ninth member is the State Engineer, who under state law is the secretary of the Commission. The Commission director serves as the deputy state engineer.

The Commission's authority under state law includes negotiating with other states to settle interstate stream controversies. New Mexico is a party to eight interstate stream compacts including the Colorado River, Upper Colorado River Basin, La Plata River, Animas-La Plata Project, Rio Grande, Costilla Creek, Pecos River, and Canadian River compacts. Commission staff is also responsible for compliance with provisions of the U.S. Supreme Court decisions governing water allocations on the Pecos, Canadian and Gila rivers. To assure compact compliance, staff analyzes streamflow, reservoir levels, and other data on the stream systems and implements projects both within and outside of New Mexico.

The Commission is also authorized by statute to investigate and develop the water supplies of the state and institute legal proceedings in the name of the state for planning, conservation, protection, and development of public waters. The Commission promotes and funds the development of regional water plans and is responsible for statewide water planning that integrates and reconciles the regional plans. Under the State Water Plan Act, enacted in 2003, the Commission was directed to work with the Office of the State Engineer and the Water Trust Board to develop the comprehensive State Water Plan and to review and update it periodically.

The Commission is responsible for programming, budgeting, and directing expenditures from several sources: the Commission operating budget; the Ute Dam Construction Fund, because the Commission owns and operates Ute Dam and Reservoir; the Pecos Land Management Fund, created in 2005 to allow revenues generated from Commission-owned land to be used for land, maintenance, and operation of augmentation wells; special appropriations; and two trust funds – the Improvement of the Rio Grande Income Fund and the Irrigation Works Construction Fund. Both trust funds were created by the Ferguson Act of 1898, which set aside grants of trust land in what was then the Territory of New Mexico to generate income for specified beneficiaries.

Planning and Communication

Strategic planning and effective communication are both critical areas of focus for the Office of the State Engineer and Interstate Stream Commission. Public communication is essential to planning activities that integrate resource-based science and public policy, while complying with both state and federal law.

Regional Water Planning

New Mexico's Legislature recognized the state's need for water planning and created the state's regional water planning program in 1987 to balance current and future water demands with available water supplies for the various regions of the state. The Legislature gave the Interstate Stream Commission the responsibility of overseeing a regional

Commission Director/Deputy State Engineer

Estevan López, PE

ISC General Counsel

Tanya Trujillo

Planning and Communication Director

Karin Stangl

Rio Grande Basin Manager

Rolf Schmidt-Petersen

Pecos Basin Manager

Dr. Bhasker Rao

Colorado/San Juan Basin Manager

John Whipple

Other Basins, Acequias and Irrigation Projects Bureau Manager

Craig Roepke



Interstate Stream Commissioners

• **Jim T. Dunlap**, chairman, is a businessman and rancher. The Farmington native owns the L-Bar Ranch and the Farm Center, a John Deere dealership. From 1976 to 1986, Dunlap managed the Lower Valley Water System. He also is a retired vocational agriculture teacher. Dunlap's water-related activities have included being president of the National Rural Water Association, director and founder of the New Mexico Rural Water Users Association, president of the Upper La Plata Water Users Association, president of the Lower Valley Water Users Association, and vice chairman of the San Juan Water Commission.

Dunlap served three terms as a San Juan County commissioner, including two and a half terms as commission chairman, and was a volunteer fireman. He is vice chairman of the San Juan County Communications Authority and a member of the Lion's Club, the Secretary of Agriculture's Water 2000 Project, the New Mexico Farm Bureau, the New Mexico Cattle Growers' Association, and the New Mexico Farm and Ranch Heritage Foundation. Dunlap is also an advisor to the Kirtland Future Farmers of America and Colorado State University. He has served as the president of the Northwest Teachers Association, president of the Farmers Mutual Ditch Association, and president of the New Mexico Vocational Agriculture Teachers Association. Dunlap received a master's degree in vocational education in 1967 and a bachelor's degree in 1954 from New Mexico State University.

• **Julia Davis Stafford** is a fourth-generation rancher from northeastern New Mexico. Since 1873, her family has run the CS Cattle Company, Inc. In 1986, Davis Stafford and her husband returned to the area to run the ranch. From 1983 to 1984, she worked for the New Mexico Public Defender's Office as a staff attorney. From 1985 to 1986, Davis Stafford worked with the New Mexico Environment Department as a staff attorney. During Gary Johnson's administration, she was appointed to the Governor's Blue Ribbon Task Force for Water Issues. Previously, Davis Stafford was involved with the Colfax County Regional Water Plan Steering Committee and currently is an active member of the Cimarron River Watershed Management Group. She serves on the board of Mountain States Mutual Insurance Company. Davis Stafford received a law degree in 1982 and a bachelor's degree in English in 1978 from the University of New Mexico.

• **Mark S. Sanchez**, of Corrales, currently serves as the executive director of the Albuquerque Bernalillo County Water Authority. Previously, he served as a director of City Council Services for the city of Albuquerque. He has held executive positions in government and the non-profit sector in the areas of water and wastewater, governmental policy, housing and social services, and community and economic development. Also, he served on the Albuquerque Public Schools Board of Education for six years as an elected official. Sanchez has a masters of science in business administration from New Mexico Highlands University, as well as a master of arts in public administration from the University of New Mexico. He also attended the Southwest Leadership Program for Local and State Government in 2003 and the John F. Kennedy School of Government in Cambridge, Massachusetts in 1991.

• **Patricio Garcia** is a native of Rio Chama whose family has lived in the Rio Chama Valley since the 1700s. A land-use planner for the past 10 years, Garcia is currently the Planning Department director for Rio Arriba County. In 2000, he was instrumental in obtaining the Western Planners Four Corners Planning Award for an environmental ordinance that protects county farmland and water rights. He has also worked as an outreach worker for mutual domestic water associations, and as a mineral exploration driller at sites including Heron Lake Dam, Cochiti Lake Dam, and Nambé Dam. Garcia belongs to the Rio Chama Acequia Association and is the secretary of the Acequia Martinez y Duranes. He also worked as a Volunteer in Service to America (VISTA). A Vietnam War veteran, Garcia served in the U.S. Navy from 1965 to 1968. Garcia attended New Mexico State University, and received an associate's degree from Northern New Mexico Community College in 1975.

• **Buford Harris** is a farmer from Mesilla whose family has raised cotton and alfalfa in the Mesilla Valley for four generations. Harris studied business and agriculture at New Mexico State University from 1977 to 1981.

• **Blane Sanchez**, a tribal member and resident of Isleta Pueblo, is the first New Mexico pueblo/tribal member to serve on the Commission. His professional work includes facilitation, management of tribal environmental and water quality standards programs, and natural resources management with the Bureau of Indian Affairs. Sanchez is also the first pueblo/tribal member to receive a master's degree from the Water Resources Program at the University of New Mexico, which he earned in December 2005. He received a bachelor's degree in range science from New Mexico State University in 1981.

• **J. Phelps White III** is a retired farmer and rancher and a native of Roswell. He serves as president for the Community Foundation of Chaves County and is a member of the board of directors of the Historical Society for Southeastern New Mexico Foundation. He is a past president of the Roswell Rotary Club, the New Mexico Woolgrowers Inc., and the New Mexico State University Foundation. White attended the New Mexico Military Institute and served in the U.S. Army. He received a bachelor's degree of business administration from the University of Texas in 1955. He served as an officer in the U.S. Army from 1955 to 1957.

• **James Wilcox**, a resident of Carlsbad, is a consultant to the state potash industry. He worked for Mosaic Potash for 32 years prior to retiring in 1999. He continues to serve Mosaic as a consultant. While employed at Mosaic, he was responsible for the Human Resources, Safety, and Public Relations departments, as well as management of water resources. He also served as chairman of the National Mining Association's Safety Committee, chairman of the U.S. Labor Department's Mining Industry Committee on Substance Abuse, and chairman of the Palmer Drug Abuse Program, in Carlsbad. Wilcox has received numerous awards of recognition from his peers, the State of New Mexico, and the U.S. Department of Labor for his efforts to enhance safety in the mining industry.

planning grant program and the planning process itself. The Commission has worked with all regions of the state to prepare regional water plans. Once regional water plans are completed, the Office of the State Engineer and Commission staff must review them. A regional water plan is considered completed when the Commission accepts it.

The Interstate Stream Commission accepted the last of the regional water plans, the Taos Regional Water Plan, in June 2008. All 16 regional water plans in New Mexico have now been completed and accepted by the Commission.

Work to integrate New Mexico's first State Water Plan (2003) with regional water plans continues. The Regional Water Planning Advisory Council (formerly the State-Water Plan-Regional Water Plan Ad Hoc Committee) met almost monthly throughout 2007 and 2008. In addition to continuing its work as directed by the Commission to provide advice on how to resolve policy differences between the State Water Plan and regional plans, the Advisory Council also has begun discussions on how to approach integrating regional water planning efforts with the State Water Plan, as provided for in the State Water Plan statute (72-14-3.1). This regional water planning stakeholder group provides the necessary regional perspectives for efforts to update the State Water Plan in 2008, as mandated by the State Legislature. The Planning and Communication Division staffs and facilitates these meetings. A synthesis study of the completed 16 regional plans was completed in 2007. The plan will be used in the integration of regional plans into the State Water Plan.

Fiscal year 2009 funding for regional planning is \$55,000. Despite the limited funding, a study to update three regional plans remains a priority: Lea County (2000), the Lower Rio Grande (1999), and the Lower Pecos Valley (2001).

State Water Planning

Progress continues to be made on all 98 implementation strategies identified in the State Water Plan. A State Water Plan Review was published to set the stage for the work needed for the State Water Plan Update next fiscal year. Staff is reviewing the plan for technical accuracy, as well as to update programs and policies that will continue to provide for the best management of current and future water issues facing New Mexico.

An update of the State Water Plan is scheduled for completion in 2009-2010. State law requires the State Water Plan to be periodically reviewed and updated in response to changing conditions. At a minimum, the plan must be reviewed every five years. Some of the changed conditions since 2003 include a state population that has surpassed 2 million people, increased demand, climate change issues, water rights adjudication, changed water laws and court decisions, as well as completion of all the regional water plans.

A demographic study was completed in 2008. Updated population estimates for all 16 regions will provide a basis for updating regional population estimates – a vital indicator for water use projections. This applied research forms the basis of population estimates and projections for the entire state and is available to all state agencies.

State Water Plan Update efforts will include facilitated public meetings in all 16 planning regions around the state to gather public input on how to prioritize resources for this effort. Efforts will culminate in a published document in 2009.



Water Plan Progress Report

A review of the New Mexico State Water Plan is required every five years and the plan must be updated the plan as needed. This document summarizes the review and presents a proposed work program for conducting the update in 2008.

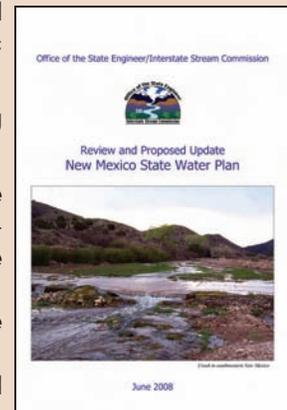
The *Review and Proposed Update of the New Mexico State Water Plan* was completed and made available to the general public in June 2008.

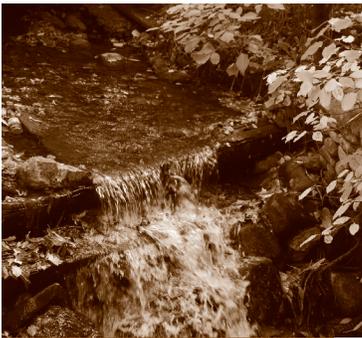
The review answers the following questions:

- How well did the 2003 State Water Plan meet legislative objectives? What was missing in the first plan?
- What progress has been made since 2003?
- What conditions have changed since the first plan?

Update efforts will include extensive public outreach, which will begin in spring 2009.

The review document can also be downloaded from the Office of the State Engineer's website at www.ose.state.nm.us.





Canadian River Basin Activity

INTERSTATE STREAM ADMINISTRATION

Compact/ Decree/Settlement Administration

Ute Reservoir impounds the waters of the Canadian River 32.1 miles upstream from the Texas border. The Commission owns and operates the dam and reservoir, which was constructed in 1962. Originally built with a capacity of 110,000 acre-feet, the construction of a raised spillway in 1984 increased the capacity to over 246,600 acre-feet. However, the conservation pool is limited to 200,000 acre-feet under the 1993 U.S. Supreme Court decree in *Oklahoma and Texas v. New Mexico*.

At the upstream end of the Canadian River Basin, the Commission is also responsible for regulating flows out of Eagle Nest Reservoir in support of a negotiated settlement of the Cimarron River water users. Eagle Nest Reservoir was purchased in 2002 by the New Mexico Game and Fish Commission. Eagle Nest dam operations are the responsibility of the Interstate Stream Commission under the terms of a joint powers agreement with the New Mexico Department of Game and Fish.

Cimarron Water Users Negotiated Settlement. Commission staff completed revisions to the Operations Manual for Eagle Nest Dam in early 2008. These revisions were approved by the settlement parties on May 2, 2008. In June, the Department of Game and Fish filed an application for a change in the permit with the Water Rights Bureau of the Office of the State Engineer to include the terms of the settlement. Commission subcontractors completed the scale-model overtopping analysis of Eagle Nest Dam begun in early 2007. The Department of Game and Fish is working with the Dam Safety Bureau on a response to this study.

Canadian River Compact. Under the Canadian River Compact, New Mexico has a right to impound and use the water upstream of Ute Reservoir. Only when stored volumes in Ute Reservoir and other small reservoirs downstream of Conchas Dam exceed 200,000 acre-feet must water be released to Texas. In fiscal year 2008, this threshold was not reached and no water was released at Ute Dam. Repairs to the Ute Reservoir spillway were completed last year, with minor remedial work during the winter of 2008-2009.

FEDERAL MANAGEMENT ISSUES

Eastern New Mexico Rural Water Project Environmental Assessment

National Environmental Policy Act documentation for the Eastern New Mexico Rural Water Project (Ute Pipeline) was initiated in late 2007. The U.S. Bureau of Reclamation, Albuquerque Area, and the Commission are joint lead agencies on the environmental assessment with the Eastern New Mexico Rural Water Authority as project proponent.

A purpose and need statement and set of alternatives to the proposed action was developed in early 2007. Data collection and analysis also began in the same period. Scoping meetings were held in September of 2007 in Logan, Clovis and Portales. The project schedule envisions a draft Environmental Assessment completed by December 2008 and a final document in the first half of 2009. Money to develop the environmental assessment has come from Water Trust Board funds.

Arkansas River Shiner Management Plan

The Commission continued to support the Arkansas River Shiner Management Plan, an Endangered Species Act agreement among New Mexico, Texas, Oklahoma, and the U.S. Fish and Wildlife Service. The plan applies to the Canadian River from Lake Meredith in Texas to Ute Lake in New Mexico and provides for control of salt cedar, maintenance of current levels of base flows, management of activities of off-road vehicle enthusiasts, and other voluntary activities that will maintain and enhance the existing habitat of the shiner. In November 2007, Commission staff participated in a workshop with other plan members at Lake Meredith, near Sanford, Texas.

WATER PLANNING AND DEVELOPMENT

Ute Reservoir Master Plan

In 2007, work on the Ute Lake Ranch Golf Course began under an agreement between the owner and the Commission. A contract for construction supervision was awarded by

the Commission to Bohannon Huston, Inc. Regular inspections assured that the developer complied with the agreed-on design of the golf course and the installation of best management practices, assuring that Ute Reservoir is not adversely impacted.

Also in 2007, the Commission approved the creation of a Ute Reservoir Advisory Group to help develop public consensus on inputs to Commission policy at the reservoir. The first meeting of the Advisory Group was in late summer 2007, and it continued to meet through June 2008. The group met in September 2007 to settle on format and extent of the group. Over a series of monthly meetings, the group developed a list of values and mission statement for the management of Ute Reservoir and, following this, specific goals for the master plan. These were presented to the Commission at a subsequent meeting and approved.

During the 2008 legislative session, \$250,000 was appropriated to the Commission for the study of a joint intake structure on the south shore of the reservoir. The intake would divert water from the reservoir for use by the Eastern New Mexico Rural Water Authority, Quay County, and the city of Tucumcari.

Eastern New Mexico Rural Water Authority Assistance

On August 14, 2007, U.S. Senators Jeff Bingaman and Pete Domenici of the Energy and Natural Resources Committee held Senate hearings in Clovis on the status of the Eastern New Mexico Rural Water Project. Favorable testimony was presented by the State Engineer and supported by Commission staff.

Senators Bingaman and Domenici introduced an authorization bill for the pipeline project in April 2008. A companion bill was introduced by U.S. Representative Tom Udall in the House of Representatives on the same day. In June, the House bill was passed. Action on the Senate bill was expected in September 2008. If passed, authority to appropriate federal money for the delivery of Ute water to eastern New Mexico will be established for the first time since the construction of the reservoir in 1962.

Colorado River Basin Activity

INTERSTATE STREAM ADMINISTRATION

Upper Colorado River Basin Compact

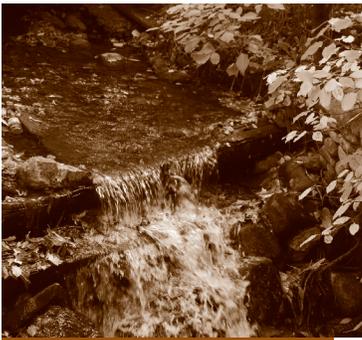
The Upper Colorado River Basin Compact, signed by Arizona, Colorado, New Mexico, Utah, and Wyoming in 1948 and ratified by Congress in 1949, created the Upper Colorado River Commission to administer its provisions. The commission consists of representatives of the United States and all compact states except Arizona, and has an office and staff in Salt Lake City, Utah. During calendar year 2007, the commissioners and staff directed much of their effort toward investigating the coordinated operation of Lakes Powell and Mead on the Colorado River. Because of the recent extreme multi-year drought in the Colorado River Basin, storage of water in Lakes Powell and Mead remains at relatively low levels despite above-average snowmelt runoff in 2008. A number of meetings were held, including meetings of the seven Colorado River Basin states and the U.S. Department of the Interior, to discuss potential management strategies for operation of the two reservoirs under low storage conditions.

The commissioners and staff during fiscal year 2008 also worked to support congressional appropriations for authorized projects, participated in salinity control program activities and the Glen Canyon Dam Adaptive Management Program, participated in cooperative water planning activities initiated by the International Boundary and Water Commission, and prepared analyses of environmental impact statements and federal water resource legislation.

La Plata River Compact

The State Engineers of Colorado and New Mexico administer the provisions of the La Plata River Compact. Disagreements between the State Engineers over Colorado's state-line deliveries of water to New Mexico under the compact continue to occur from time to time, but no significant disputes occurred during fiscal year 2008.





For information on stream activity in the Pecos River Basin, see page 60. For the Rio Grande Basin, see page 65.

FEDERAL MANAGEMENT ISSUES

Operating Plan for Colorado River Reservoirs

The 1968 Colorado River Basin Projects Act requires the Secretary of the Interior, in consultation with the Colorado River Basin states and other interests, to prepare the annual operating plan for the Colorado River system reservoirs. The plan is developed through meetings of the Colorado River Management Work Group. The Secretary approved the 2008 plan in March 2008. The annual operating plan for 2008 reflects implementation of the Record of Decision on the Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations of Lake Powell and Lake Mead that was signed by the Secretary in December 2007.

Colorado River Operations and Water Delivery Shortage Guidelines

In response to a directive from the Secretary of the Interior to the Bureau of Reclamation, the seven Colorado River Basin states entered into discussions on the coordinated operation of the Colorado River mainstream reservoirs. On August 25, 2005, the governors' basin states representatives transmitted to the Secretary of the Interior a letter expressing conceptual agreement in the development and implementation of broad strategies for improved management and operation of the Colorado River, including coordinated reservoir management and lower basin shortage guidelines, system efficiency and management, and water supply augmentation. Further negotiations between the states culminated in a preliminary draft proposal for interim Colorado River operations through 2025 that was submitted through a Bureau of Reclamation scoping process to the Secretary via a letter dated February 3, 2006. A seven basin states agreement was drafted in support of the provisions of the proposal. In February 2007, the Bureau of Reclamation completed a draft environmental impact statement (EIS) on lower basin shortage guidelines and coordinated management strategies for the operation of Lake Powell and Lake Mead, particularly under low reservoir conditions. The EIS included the preliminary seven basin states' proposal as one of the alternatives analyzed but did not identify a preferred alternative.

After further discussion and negotiation, the governors' basin states representatives on April 23, 2007, signed an Agreement Concerning Colorado River Management and Operations that memorializes the consensus recommendation to the Secretary of the Interior for Colorado River management and operations during an interim period through 2025, sets forth agreements regarding pursuit of system augmentation and efficiency projects, and establishes a process for the resolution of claims and controversies between the states in an effort to set aside long-standing disputes on the river. The seven basin states on April 30, 2007, transmitted to the Secretary, via letter, a refined basin states' proposal and their recommendation that the basin states' alternative analyzed in the draft final environmental impact statement together with the modifications outlined in the letter and included in attachments that make up the proposal, be selected as the preferred alternative in the final environmental impact statement and the selected action in the record of decision. The basin states' proposal consists of the following documents: (1) the Agreement Concerning Colorado River Management and Operations; (2) the proposed interim guidelines for Colorado River operations, which builds on the preliminary seven basin states' proposal and would replace the interim surplus guidelines, establish guidelines for coordinated operations for Lakes Powell and Mead, establish shortage guidelines for lower basin uses in the United States, and establish parameters for the intentional creation, storage and release of conserved, exchanged or imported water; (3) a draft forbearance agreement among the lower division states and their major water users to facilitate implementation of a program for the intentional creation, storage, and release of surplus water through conservation, efficiency projects, exchange or importation of water; (4) a shortage sharing agreement between Arizona and Nevada premised on specific reductions in deliveries within the United States by the Interior Secretary dependent upon Lake Mead storage elevations; and (5) delivery agreements to enable and obligate the United States to deliver intentionally created surplus to entities that create it in conformance with rel-

evant provisions of the proposed interim guidelines and the forbearance agreement.

The Bureau of Reclamation in June 2007 announced the preferred alternative for the EIS. The preferred alternative incorporated the key elements of the basin states' proposal. Discussions between the Interior and State Departments regarding possible reductions in water deliveries to Mexico under Article 10(a) of the Mexican Water Treaty of 1944 and possible Mexican participation in the intentionally created surplus program were initiated during fiscal year 2008 and are ongoing. Possible opportunities for non-governmental organizations to participate in the intentionally created surplus program for environmental purposes were included in the EIS and are also being considered. The Bureau of Reclamation completed the final EIS and the Secretary of the Interior signed the Record of Decision adopting the preferred alternative in December 2007. The parties in the Lower Basin, including the States of the Lower Division as appropriate, in 2007 also executed the necessary forbearance, shortage sharing and delivery agreements to implement the Record of Decision.

Mexico Issues

Binational Core Group. The International Boundary and Water Commission (IBWC) in March 2008 created a Binational Core Group to address cooperative actions for the use of Colorado River waters in the United States and Mexico. The Group was created as part of a process coordinated by the IBWC to reinforce bilateral cooperation regarding issues related to the lower portion of the Colorado River. The stated objective of the cooperative process is to establish, under the auspices of the IBWC, an international group of representatives of federal, state, and expert non-government organization stakeholders from the United States and Mexico to explore, identify, and ultimately implement water conservation, shortage management, augmentation and environmental initiatives with binational benefits in the areas of environmental, agricultural and urban water use. To meet this objective, the Binational Core Group has established four work groups to pursue cooperative actions relating to conservation, new water sources, environmental issues and system operations. The Upper Colorado River Commission staff participates in meetings of the Group. Any cooperative projects and measures resulting from this process are to be consistent with the 1944 Treaty between the United States and Mexico for the Utilization of the Waters of the Colorado and Tijuana Rivers and the Rio Grande.

Colorado River Delta. Minute 306 to the 1944 Water Treaty between the United States and Mexico establishes a conceptual framework for joint studies to prepare recommendations concerning the riparian and estuary ecology of the Limitrophe Section of the Colorado River and its associated delta. The seven Colorado River Basin states have stated their opposition to any proposed restoration measures that would involve delivery of Colorado River water from the United States to Mexico in excess of the current treaty delivery obligation. The basin states have appointed representatives to a technical committee to maintain contacts, gather information as available, and report to the basin state representatives on the delta issues being considered. The technical committee made no report to the basin state representatives during fiscal year 2008.

Glen Canyon Adaptive Management Program

The Glen Canyon Adaptive Management Program (AMP) was established to assist in efforts to improve conditions in the Colorado River below Glen Canyon Dam for populations of endangered fish species and other uses of the river. In summary of its many goals, the AMP generally seeks to: (1) restore and maintain populations of native species in the Colorado River corridor between Glen Canyon Dam and Lake Mead; (2) maintain a rainbow trout fishery between the dam and the Paria River confluence; (3) conserve sediment resources in Glen, Marble and Grand canyons to improve recreational experiences and preserve cultural resources; and (4) maintain hydroelectric power generation at Glen Canyon Dam. The Glen Canyon Adaptive Management Work Group (AMWG) is a multi-state, cross-interest committee chartered by the Secretary of the Interior to provide advice to the Secretary on the AMP, and the AMWG also directs the efforts of





a Technical Work Group (TWG), which was formed to provide technical information to support management and activity recommendations for the AMP. The State Engineer, or Interstate Stream Commission staff as alternate, represents the State of New Mexico on the AMWG, and Commission staff represents New Mexico on the TWG. The Grand Canyon Monitoring and Research Center (GCMRC), organized under the U.S. Geological Survey, operates within the AMP to define research objectives and develop monitoring programs to meet information needs of the program.

To date, the program has emphasized the evaluation of high flow releases from Glen Canyon Dam to attempt to conserve and enlarge sand bars in the Colorado River through the Glen, Marble and Grand canyons, and the control of non-native fish species detrimental to endangered native fish. Sediment and sand bars provide for native fish habitat, riparian vegetation, rafter campsites and protection of archeological sites. Beach habitat building flows were made from Glen Canyon Dam in 1996, 2004 and 2008. Mechanical removal of trout at the confluence of the Colorado and Little Colorado rivers continued during fiscal year 2008 for the purpose of minimizing trout predation on the population of humpback chub in that area. Daily flow patterns in the Colorado River that might benefit humpback chub and other endangered species in the Grand Canyon also are being evaluated. The recovery plan for humpback chub issued by the U.S. Fish and Wildlife Service in 2003 requires the conservation of the existing population of humpback chub within the Grand Canyon as well as other populations outside the Grand Canyon vicinity.

The Center for Biological Diversity, Sierra Club, Glen Canyon Institute, Living Rivers, and Arizona Wildlife Federation on February 14, 2006, filed suit against the Secretary of the Interior and the Bureau of Reclamation in the U.S. District Court in Arizona claiming that

The Interstate

Colorado River Compact. Signed in 1922, the Colorado River Compact was ratified by California, Colorado, Nevada, New Mexico, Utah and Wyoming by 1929 and approved by Congress in the Boulder Canyon Project Act of 1929. Although Arizona did not ratify the compact until 1944, the President of the United States proclaimed it effective in 1929. It apportions the use of waters of the Colorado River system to the upper and lower basins. Parts of Arizona, Colorado, New Mexico, Utah and Wyoming constitute the upper basin. The lower basin includes parts of Arizona, California, Nevada, New Mexico, and Utah. The compact does not provide for an administrative commission. Instead it provides that each state, through the state official charged with water rights administration, together with certain agencies of the federal government, shall cooperate to promote the systematic determination and coordination of the facts as to flow, appropriation, consumption and use of water in the Colorado River basin; ascertain and publish the annual flow of the Colorado River at Lee Ferry, the point of division between the two basins; and perform such other duties as may be assigned by mutual consent of the signatory states.

Upper Colorado River Basin Compact. Signed in 1948 by Arizona, Colorado, New Mexico, Utah, and Wyoming, and approved by Congress in 1949, the compact creates the Upper Colorado River Commission to administer its provisions with members representing the United States, Colorado, New Mexico, Utah, and Wyoming. Arizona is not included. The UCRC maintains an office and staff in Salt Lake City, Utah. Members of the Commission staff serve as engineering and legal advisers and assist the individual state commissioners.

La Plata River Compact. Dividing the waters of the La Plata River between Colorado and New Mexico, the La Plata River Compact was signed in 1922 and approved by Congress in 1925. The compact provides that the state engineers of the two states shall administer the waters of the La Plata River in accordance with the terms of the compact. This requires daily administration of the flows of the La Plata River except from December 1 through February 15. The compact also provides for cooperative collection, exchange, and publication of streamflow data. Interstate Stream Commission staff monitors and evaluates the daily operation of the river and assists the State Engineer in administering the compact. The La Plata Conservancy District employs a water master to supervise water diversion within the district in New Mexico. The water master and the district's board of directors cooperate with commission staff to collect data necessary for the daily operation analysis.

Rio Grande Compact. Signed in 1938, with Colorado, New Mexico, and Texas as parties and approved by Congress in 1939, the Rio Grande Compact apportions the waters of the Rio Grande above Ft. Quitman, Texas, among the three states. It provides for administration by a compact commission consisting of the state engineers of Colorado and New Mexico, a commissioner appointed by the Governor of Texas, and a representative

the AMP has not resulted in the United States operating Glen Canyon Dam in a way that complies with the Grand Canyon Protection Act, the Endangered Species Act and the National Environmental Policy Act. As part of a negotiated settlement to the suit, the Department of the Interior agreed to prepare a final environmental impact statement on the Glen Canyon Dam Long-Term Experimental Plan that includes experimental options to protect and enhance the resources and uses of the Colorado River between the dam and Lake Mead. At the request of the Secretary of the Interior, the AMWG prepared recommendations for four experimental options to be considered for the Long-Term Experimental Plan. The options include construction and installation of temperature control devices on the outlet penstocks at the Glen Canyon Dam power plant to regulate the temperature and other water-quality parameters (e.g., dissolved oxygen) of water released from Glen Canyon Dam. The AMWG also recommended that the GCMRC prepare a science plan to collect data to monitor and evaluate results of a short-duration release



Stream Compacts

of the United States. The Rio Grande Compact establishes delivery obligations for Colorado and New Mexico. It provides for debits and credits to be carried over from year-to-year until extinguished under provisions of the compact. Accrued credits or debits are an important element of compact accounting. The Engineer Advisers to the compact commissioners meet prior to the annual Rio Grande Compact Commission meeting to prepare data on scheduled and actual delivery of water and other related topics. The U.S. Geological Survey acts as Secretary to the Compact Commission under an annual cooperative agreement, and prepares monthly and annual reports and maintains the official Compact Commission files.

Costilla Creek Compact. Representatives of Colorado and New Mexico signed the Costilla Creek Compact in 1944, and Congress approved it in 1946. The compact was amended through a similar process in 1963. The compact provides for delivery of apportioned water to users in New Mexico and to Colorado at interstate points of delivery on the New Mexico-Colorado state line. It provides for an administrative commission composed of the official in each state charged with administering public water supplies.

The Costilla Creek irrigation system begins south of the Colorado state border in the Sangre de Cristo Mountains of north-central New Mexico and extends some 40 miles downstream via Costilla Creek and irrigation ditches onto the high desert plains of New Mexico and Colorado. The compact requires daily administration of the direct flow and storage waters of the system during the irrigation season. A water master performs this function.

Pecos River Compact. Signed by New Mexico and Texas in 1948 and approved by Congress the following year, the compact provides for a compact commission to administer its provisions. Under state law New Mexico's Pecos Compact commissioner is appointed by the Governor to serve for a term of two years. Texas successfully challenged New Mexico's compliance with the compact and in 1988 the U.S. Supreme Court entered an amended decree governing New Mexico's delivery of Pecos River water to Texas. Under the decree, New Mexico is prohibited from allowing a net shortfall in its deliveries to Texas. The Commission's Pecos River water rights lease/purchase program has increased the flow of water to the state line.

Canadian River Compact. Signed in 1950 with New Mexico, Oklahoma, and Texas as parties and approved in 1952, the compact provides for a compact commission to administer its provisions with one commissioner for each state and one for the United States.

Animas-La Plata Project Compact. The states of Colorado and New Mexico concluded the Animas-La Plata Project Compact, which was approved by Congress in 1968. The compact does not provide for an administrative compact commission. It establishes equal priority for the water supply to be diverted by the project for uses in New Mexico with the priority for the project granted by the Colorado state court.

from Glen Canyon Dam in excess of power plant capacity made to redistribute sediment onto beaches through the Grand Canyon under highly enriched sediment conditions.

The Bureau of Reclamation in December 2007 completed a biological assessment for experimental releases from Glen Canyon Dam for the period 2008-2012 that included making a short-duration beach habitat building test flow under highly enriched sediment conditions. In February 2008, the US Fish and Wildlife Service issued a final biological opinion and the Bureau of Reclamation completed a final environmental assessment for experimental releases from Glen Canyon Dam for the period 2008-2012. The Bureau of Reclamation's Finding of No Significant Impact issued on February 29, 2008, concluded that implementation of the preferred alternative, which included both the proposed beach habitat building test flow and fall steady-flow releases



from Glen Canyon Dam during 2008-2012, would have no significant detrimental impacts on the quality of the human environment or the natural resources below the dam. The proposed beach habitat building test flow was made in March 2008, and field research related to high flows will continue through the fall of 2008. Estimated costs for federal fiscal year 2008 for the monitoring and research associated with beach habitat building test flow are about \$3.2 million, which does not include approximately \$3.3 million estimated by the Western Area Power Administration to purchase replacement power for hydroelectric power generation foregone at Glen Canyon Dam due to power plant bypasses at Glen Canyon Dam during the test.

The GCMRC continues to develop a long-term work plan of monitoring and research in consultation with the AMWG. Experimental research will be coordinated with ongoing monitoring and research projects to maximize cost effectiveness. The monitoring and research plan will be consistent with and implement the experimental actions described in the final Long-Term Experimental Plan. The research center will provide scientific information to support the environmental compliance process, as requested and feasible.

The Grand Canyon Trust on December 14, 2007, filed suit against the Bureau of Reclamation in the U.S. District Court in Arizona claiming that the Bureau of Reclamation is violating the Endangered Species Act in its operation of Glen Canyon Dam by destroying critical habitat for endangered fish and degrading the natural environment within the Grand Canyon National Park and the Glen Canyon National Recreation Area. The suit seeks an order of the court declaring that the Bureau of Reclamation has violated the 1994 Biological Opinion issued by the U.S. Fish and Wildlife Service for the effects of Glen Canyon Dam operations on humpback chub, certain sections of the Endangered Species Act, and the National Environmental Policy Act, and ordering the U.S. Bureau of Reclamation to comply with all provisions of the Endangered Species Act, the 1994 Biological Opinion, and the National Environmental Policy Act. The seven basin states collectively, along with the Colorado River Energy Distributors Association and several water districts within the basin states, entered a motion to intervene in the suit and the court granted the motion on June 3, 2008.

Colorado River Salinity

The Colorado River Basin Salinity Control Act in 1974 authorized the construction, operation and maintenance of certain works in the Colorado River Basin to control the salinity of water delivered to users in the United States and Mexico. Pursuant to the act, the Yuma desalting plant was constructed and began operation in 1992. Operation of the Yuma desalting plant was suspended, and the plant was placed in standby status, in early 1993 because of the operating costs. Due to the recent drought in the Colorado River Basin, the Bureau of Reclamation in 2005 initiated a public process to evaluate methods to replace or recover water that bypasses the desalting plant and is discharged to Mexico through the Main Outlet Drain. As part of the process, the Bureau of Reclamation in 2007 completed a demonstration run of the Yuma desalting plant during which the plant was operated at 10 percent of capacity for a period of three months. During fiscal year 2008, the Lower Division States formed a work group to examine reactivation of the desalting plant as a means to recover a portion of the bypass flows. The Bureau of Reclamation consults with the seven Colorado River Basin states at least annually on the status of the plant and the need to operate during the year.

The Colorado River Basin Salinity Control Forum (Forum) was created by the seven Colorado River Basin states in response to a proposal by the Environmental Protection Agency and promulgation of a regulation (40 CFR 120) on basin-wide salinity control policy that required the states to adopt water quality standards for salinity. Forum activities include reviewing program progress, recommending and sharing the costs of salinity control projects, preparing triennial reviews of water quality standards within the basin, and developing future program objectives. The salinity control program is a cooperative effort of federal agencies and the basin states, and the State Engineer and Interstate Stream Commission staff represent the State of New Mexico in the activities of the Forum

and its technical work group. Current studies show that the numeric criteria of the water quality standards for salinity could be exceeded and damages could escalate without future controls and continued implementation of salinity control projects. An economic damages model is used to estimate current and future damages from salinity, most of which occur in the Lower Colorado River Basin. Presently, there is concern that salinity levels in the Colorado River could rise further if the basin-wide drought continues and storage in mainstem reservoirs continues to be low. The purpose of the salinity control program is to meet the objective of maintaining salinity concentrations at or below the numeric criteria established on the lower mainstem of the Colorado River while allowing the basin states to continue to develop their allocations of water from the Colorado River system. Studies throughout the Colorado River Basin will continue to identify the cost-effective areas for implementation of salinity control projects.

The Forum in October 2005 approved the 2005 Review, Water Quality Standards for Salinity, Colorado River System. The 2005 review was subsequently adopted by each of the basin states into their respective water quality standards and approved by the Environmental Protection Agency. Drafting of the 2008 triennial review was begun in fiscal year 2008, and it is anticipated that the 2008 Review will be completed and adopted in fall 2008.

The Food, Conservation, and Energy Act of 2008, passed into law on June 19, 2008, enacted a new farm bill to replace the Farm Bill of 2002. The new farm bill will allow the Secretary of Agriculture to continue salinity control activities mandated by the Colorado River Basin Salinity Control Act (Public Law 93-320, as amended). The Forum will continue to work closely with the U.S. Department of Agriculture through the subsequent rule-making process to ensure a smooth transition of salinity control program activities. Also, the Food, Conservation, and Energy Act of 2008 amended the Colorado River Basin Salinity Control Act to authorize a Basin States Program providing for an up-front cost share from the Basin Funds, which are generated by hydropower revenues collected from sales of hydropower under the Colorado River Basin Project Act of 1968. The funding is specified to be used for: (1) cost effective measures and associated works to reduce salinity from saline springs, leaking wells, irrigation sources, industrial sources, erosion of public and private land, or other sources; (2) operation and maintenance of salinity control features constructed under the Colorado River Basin salinity control program; and (3) studies, planning, and administration of salinity control activities. The intent of the amendment is to enhance authorized federal salinity control programs of the Bureau of Reclamation and the Department of Agriculture by authorizing the basin states to implement cost-effective salinity control projects that would otherwise not be possible under existing authorities of the federal agencies.

Endangered Species Act Issues on the San Juan River

The San Juan River Basin Recovery Implementation Program is a multi-state, cross-agency effort to conserve populations of Colorado pikeminnow and razorback sucker in the San Juan River Basin while water development in the basin proceeds in compliance with interstate compacts and other applicable laws. The reach of the San Juan River from Farmington to Lake Powell, Utah, has been designated critical habitat for the Colorado pikeminnow, and the reach of the river from the Hogback to Lake Powell has been designated critical habitat for the razorback sucker. Both fish species are listed as endangered under the Endangered Species Act. The U.S. Fish and Wildlife Service in fiscal year 2003 issued recovery plans and goals for the Colorado pikeminnow and razorback sucker. Under the plans, development and maintenance of the San Juan River populations to specific population goals are integral to achieving recovery and delisting of both species. The Fish and Wildlife Service during fiscal year 2008 initiated its five-year review of the recovery goals for these species. Interstate Stream Commission staff represent the State of New Mexico on the Coordination Committee, which directs program activities and approves budgets for the program's technical committees, and on the Hydrology Committee, which provides the program with information relating to river and reservoir operations in the basin.





In fiscal year 2008, the program's Biology Committee (1) conducted research, (2) collected habitat and fish population monitoring data, (3) continued review of monitoring activities and endangered fish augmentation efforts in the San Juan River, and (4) continued review of the program's flow recommendations for the San Juan River in light of new fish and habitat monitoring data. The Biology Committee also continued to evaluate capital works needed to recover the populations of endangered fish species in the San Juan River. The program in fiscal year 2008 replaced the loss of rearing capacity for razorback sucker at ponds on Navajo Indian Irrigation Project lands by contracting for increased razorback sucker fish production and rearing at the Uvalde National Fish Hatchery. The selective fish passage at the Public Service Company of New Mexico's San Juan Generating Station diversion weir continued to be operated during fiscal year 2008 to allow only native fish to move upstream. Native fish, including endangered species, used the fish passage in fiscal year 2008, and non-native fish captured at the fish passage were removed from the river. The Biology Committee in fiscal year 2008 continued to evaluate minor fish passage enhancements at the Arizona Public Service Company's Four Corners Power Plant diversion dam and low-tech options for improving fish passage at the Fruitland Irrigation Project diversion dam. The Bureau of Reclamation also completed engineering design of a weir overflow structure at the head of the Hogback Canal to reduce potential endangered fish entrainment into the canal. Alternative designs are being considered. Funding for these capital recovery measures was authorized by Public Law 106-392, as amended.

In June 2008, a reauthorization bill for the Upper Colorado River and San Juan River recovery programs, S. 3189, was introduced in Congress. The bill would authorize an increase in capital expenditures for the San Juan River recovery program of \$12 million to cover bank stabilization work to protect critical habitat along the Farmers Mutual Ditch west of Farmington and to cover any needed maintenance or repairs to capital projects implemented under the program that might be needed in the future. No additional state cost-shares would be required for these activities. The bill also would extend funding authorities for the program through federal fiscal year 2023 for both capital recovery projects and base program activities such as monitoring and research. Funding authorities for the program under Public Law 106-392, as amended, currently expire at the end of federal fiscal year 2010. The program during fiscal year 2008 also continued to work on an update to the program's long-range implementation plan to guide future recovery efforts.

During fiscal year 2008, the San Juan River recovery program's Hydrology Committee continued work on the development of a hydrology model for the San Juan River Basin. A hydrology model for the basin has been, and may continue to be, used to assess the availability of water supply for meeting endangered fish flow and habitat needs and water development needs, and to evaluate revisions to the program's flow recommendations for the San Juan River. It is anticipated that an updated model revision will be completed in fiscal year 2009. New Mexico has continued to raise concerns about the use of the San Juan River Basin hydrology model in the program or in federal environmental and endangered species compliance activities.

WATER PLANNING AND DEVELOPMENT

San Juan River Water Administration

The State Engineer in December 2004 approved rules and regulations for the implementation statewide of active water resource management. In accordance with the statewide rules and regulations, the Office of the State Engineer anticipates using a public process to develop basin-specific rules and regulations and a water master manual for administering diversions in the San Juan River Basin in accordance with water rights priorities and available flows so as to protect rights and meet New Mexico's commitment under the San Juan River Basin Recovery Implementation Program to protect releases from Navajo Dam made to benefit populations of endangered fish species in the San Juan River.

In the meantime, as a consequence of low storage conditions in Navajo Reservoir following the extreme drought of 2002, major water users on the San Juan River developed and endorsed recommendations and principles for the operation of Navajo Dam and

the administration of diversions from the river for each year beginning 2003. The latest agreement on such recommendations is a two-year agreement that will remain in effect through calendar year 2008. The water users making the recommendations include the Bloomfield Irrigation District, city of Farmington, Hammond Conservancy District, Farmers Mutual Ditch, Jewett Valley Ditch, Public Service Company of New Mexico, Arizona Public Service Company, BHP Billiton, Jicarilla Apache Nation and Navajo Nation. The Navajo Nation approved the recommendations and principles on behalf of the Navajo Indian Irrigation Project and the Fruitland and Hogback irrigation projects. The New Mexico State Engineer and the Bureau of Reclamation have accepted the recommendations and principles, and they assist in implementing them. Under the recommendations and principles, the water users share in the water supply available to meet the water use needs from the San Juan River. No shortages will occur in 2008 under the cooperative recommendations as the runoff and Navajo Reservoir storage will be shared to meet all demands on the river during the year. The Interstate Stream Commission staff assists the State Engineer in water administration in the San Juan River Basin by facilitating these water sharing agreements and by assisting in the monitoring of water uses in the basin in New Mexico and Navajo Reservoir operations.



Colorado River Water Supply Augmentation

Colorado River Augmentation Report. The governors' representatives for the seven Colorado River Basin states on April 23, 2007, signed an Agreement Concerning Colorado River Management and Operations that memorializes the consensus recommendation to the Interior secretary for Colorado River management and operations during an interim period through 2025, sets forth agreements regarding pursuit of system augmentation and efficiency projects, and establishes a process for the resolution of claims and controversies between the states in an effort to set aside long standing disputes on the river. In furtherance of said agreement, the seven basin states caused to be prepared a technical report on the Study of Long-Term Augmentation Options for the Water Supply of the Colorado River System, which report was issued by consultants in March 2008. Augmentation options that were considered and evaluated in the report include brackish water desalination, coalbed methane produced water, conjunctive use (banked water), ocean water desalination, power plant consumptive use reduction, reservoir evaporation control, river basin imports, stormwater storage, vegetation management, water imports using ocean routes, water reuse and weather modification.

Phreatophyte Management Activities. In furtherance of the seven basin states' April 2007 agreement, the basin states in May 2008 entered into a Memorandum of Understanding to coordinate activities for the management and control of tamarisk and Russian olive in the Colorado River Basin. The purposes of the Memorandum of Understanding are to: (1) advance long-term augmentation and system benefit strategies for the Colorado River system; (2) implement a coordinated and integrated approach toward tamarisk and Russian olive management in the Colorado River Basin with the goal of potentially increasing the effectiveness of phreatophyte management and the yield of flows in the Colorado River; and (3) support the development of multi-state, long-term management strategies and demonstration projects in the Colorado River Basin to be administered under the Salt Cedar and Russian Olive Control Act, Public Law 109-320. Public Law 109-320 authorizes the Bureau of Reclamation to work with the Department of Agriculture to carry out an assessment and demonstration program to find the best long-term management strategies for tamarisk and Russian olive.

At the end of fiscal year 2008, final approvals of the seven basin states were pending for an amendment to the Memorandum of Understanding that would specifically provide for the preparation of a study to address four issues associated with phreatophyte management in the Colorado River Basin: (1) the aerial extent of tamarisk and Russian olive; (2) evapotranspiration rates for tamarisk and Russian olive, and for replacement vegetation; (3) methods to control tamarisk and Russian olive, and to revegetate or reclaim treated areas; and (4) programmatic issues. It is anticipated that the study would result in a list



of potential demonstration projects for the basin that could be submitted to the Bureau of Reclamation for cost-sharing pursuant to Public Law 109-320.

Weather Modification. The Colorado River Basin states during fiscal year 2008 continued discussions regarding possibilities for improving the water supply of the Colorado River stream system through wintertime cloud seeding in the Rocky Mountains to improve snowpack in the basin. Existing cloud seeding programs in the upper basin were expanded during the winters of 2006-2007 and 2007-2008, with cost-share contributions from water users on the Lower Colorado River and from local sponsors of cloud seeding programs in the upper basin.

The Interstate Stream Commission in 2007 entered into a five-year agreement with the Colorado Water Conservation Board to support weather modification activities in the San Juan Mountains in Colorado. Pursuant to an amendment to the agreement to specifically provide cost-share funds for winter cloud seeding in 2007-2008, the commission during the winter of 2007-2008 contributed \$42,000 to the Colorado Water Conservation Board for weather modification activities to increase snowpack in the San Juan Mountains and consequent snowmelt runoff in the San Juan River and its tributaries in Colorado and New Mexico for the benefit of water users in both states.

Upper Colorado River Basin Development

Much of the water use apportioned to New Mexico by the Upper Colorado River Basin Compact is put to use through projects in the San Juan River basin developed and operated by the Bureau of Reclamation. These projects include Navajo Dam and Reservoir, the Hammond Irrigation Project and the San Juan-Chama Project. In addition to operation of these projects, the Bureau of Reclamation during fiscal year 2008 continued its construction work on Ridges Basin Dam and the Durango pumping plant for the Animas-La Plata Project, continued to add irrigation facilities to expand the irrigation service area of the Navajo Indian Irrigation Project in accordance with the project authorization, and continued planning and environmental compliance activities for the proposed Navajo-Gallup Water Supply Project.

Navajo Dam and Reservoir. Navajo Dam and Reservoir provides river regulation pursuant to the Colorado River Storage Project Act, and provides storage for the Navajo Indian Irrigation Project, the Hammond Project, and municipal and industrial uses. Navajo Dam and Reservoir also has been operated to produce downstream flow hydrographs that mimic natural spring snowmelt runoff patterns since 1991. This operation is believed to benefit endangered fish populations in the San Juan River. The San Juan River Basin Recovery Implementation Program has recommended river flows and reservoir operating procedures that address the needs of both the species and water users. Operation of Navajo Reservoir to meet the habitat and recovery needs of populations of endangered fish species in the San Juan River provides Endangered Species Act compliance for federal water operations in the San Juan River Basin, including for the San Juan-Chama Project, the Animas-La Plata Project, the Navajo Indian Irrigation Project, the Hammond Irrigation Project, and the proposed Navajo-Gallup Water Supply Project.

The Secretary of the Interior in July 2006 signed a Record of Decision (ROD) on Navajo Reservoir operations that calls for operating Navajo Dam to meet the San Juan River recovery program's recommendations for flows to provide for the habitat needs of endangered fish populations in the San Juan River, and also incorporates adaptive management into Navajo Reservoir operating decisions. Under the ROD, releases from Navajo Reservoir may range from a minimum of 250 cubic feet per second to a maximum of 5,000 cubic feet per second as necessary to meet recommended spring peak flows and target base flows specified by the flow recommendations, or reasonable alternatives. Implementation of the ROD began with the development and implementation of the annual operating plan for Navajo Reservoir for 2007.

Navajo Indian Irrigation Project. Construction of facilities to deliver water to lands under Block 9 of the Navajo Indian Irrigation Project continued during fiscal year 2008. The Navajo Agricultural Products Industry, formed by resolution of the Navajo Tribal Council, is responsible for the operation and management of the project's irrigation works and for the farming and marketing activities of the project.

Animas-La Plata Project. The Bureau of Reclamation during fiscal year 2008 completed construction of the embankment of Ridges Basin Dam, and continued the mechanical and electrical work on the dam's outlet works. The Bureau of Reclamation also continued construction of the Durango pumping plant and Ridges Basin Inlet Conduit facilities to deliver water from the Animas River to Ridges Basin Reservoir (Lake Nighthorse). Construction of the Navajo Nation Municipal Pipeline to convey the Navajo Nation's Animas-La Plata Project water allocation from the Animas River to Navajo communities in the San Juan River valley has not yet commenced.

Also, during fiscal year 2008, a committee consisting of representatives of Animas-La Plata Project participants held several meetings to work towards the development of operations and maintenance criteria for the project. The operating criteria will need to be coordinated with the Bureau of Reclamation and the States of Colorado and New Mexico.

Navajo-Gallup Water Supply Project. The proposed Navajo-Gallup Water Supply Project would deliver water from Navajo Reservoir to Gallup and communities on Navajo Nation lands in both New Mexico and Arizona for municipal and domestic water uses. The project is a key component of the San Juan River Basin in New Mexico Navajo Nation Water Rights Settlement Agreement signed by the State of New Mexico and the Navajo Nation on April 19, 2005. The U.S. Fish and Wildlife Service in January 2007 completed a final draft biological opinion for the project, and the Bureau of Reclamation in March 2007 completed a Planning Report and Draft Environmental Impact Statement for the project. The Bureau of Reclamation also completed a hydrologic determination for the project in April 2007, which was approved by the Secretary of the Interior on May 23, 2007. The hydrologic determination provides the Secretary's determination that sufficient water is reasonably likely to be available from New Mexico's allocation under Articles III and XIV of the Upper Colorado River Basin Compact and from the Navajo Reservoir supply to serve the Navajo Nation's uses under the Navajo-Gallup Project. This determination is required by Section 11 of Public Law 87-483 for Congress to approve the proposed contract to cover the Navajo Nation's water uses under the project. The Bureau of Reclamation during fiscal year 2008 continued its feasibility planning for the project.

New Mexico's congressional delegation in December 2006 introduced legislation in both houses of Congress to authorize the Navajo-Gallup Water Supply Project and to approve the San Juan River Basin in New Mexico Navajo Nation Water Rights Settlement Agreement. The legislation was reintroduced to Congress in April 2007 as S. 1171 and H.R. 1970. The Senate's Energy and Natural Resources Committee held a regular hearing on S. 1171 on June 27, 2007, and a mark-up hearing on S. 1171 on May 7, 2008. The bill was consolidated into S. 3213, the Omnibus Public Land Management Act as Title X, Subtitle B, and reported out of committee on June 26, 2008. The Subcommittee on Water and Power of the House of Representative's Natural Resources Committee held a regular hearing on H.R. 1970 in July 2007, and no further action was taken on H.R. 1970 during fiscal year 2008. The Interstate Stream Commission staff during fiscal year 2008 worked with the New Mexico delegation toward obtaining congressional authorization for the Navajo-Gallup Project and approval of the Navajo Nation Water Rights Settlement Agreement.

Interstate Stream Commission staff participates with the federal agencies, the Navajo Nation, the city of Gallup and others on a steering committee that provides oversight to the planning process for the Navajo-Gallup Water Supply Project. The Commission staff also continues to work with the New Mexico Congressional delegation, the Department of the Interior, the seven Colorado River Basin states, and others to resolve issues regarding the project. A significant remaining issue is the designation and approval of a water supply from the State of Arizona's water allocations for the Navajo Nation's uses within Arizona under the project.

Lower Colorado River Basin Development

Gila River Basin Water Planning. Pursuant to the 1968 Colorado River Basin Projects Act that authorized the Central Arizona Project (CAP), and pursuant to the 2004 Arizona Water Settlements Act, the Secretary of the Interior may contract with water users in





New Mexico for water from the Gila River, its tributaries, and underground sources in amounts that would permit an annual average consumptive use in New Mexico of 14,000 acre-feet in addition to the consumptive use provided by the U.S. Supreme Court's 1964 decree in *Arizona v. California*; provided, that specific flow bypass requirements in New Mexico and other terms are met. To effect the additional depletions in New Mexico, the Secretary also would have to contract with New Mexico water users to physically deliver CAP water from the lower Colorado River mainstream to senior Gila River water users in Arizona to replace by exchange the Gila River water that would no longer be available to the downstream water users in Arizona due to the new uses in New Mexico. Operation of a project or projects to develop the additional consumptive use from the Gila River Basin in New Mexico will be deemed to not impair downstream senior water uses so long as they are operated to meet the specific flow bypass requirements and the appropriate CAP water exchange deliveries are made.

The Arizona Water Settlements Act also provides New Mexico up to \$128 million in non-reimbursable funding to develop the additional Gila River system water. The Interstate Stream Commission must approve any contract between the Secretary and New Mexico water users, or any expenditure of the non-reimbursable federal funds allocated to the State of New Mexico.

The Interstate Stream Commission in fiscal year 2006 initiated a comprehensive planning process designed to utilize the best available science to address, among other things, endangered species and ecological issues that may arise from the additional water development in the Gila River Basin in New Mexico authorized by the Arizona Water Settlements Act. The New Mexico Office of the Governor, the U.S. Fish and Wildlife Service, the Bureau of Reclamation and an organization of local governments referred to as the Southwest Water Planning Group participate in the planning process. During fiscal year 2008, the Commission convened the Southwest New Mexico Stakeholders Group to implement a collaborative water planning process with more complete public participation. Also in 2008, the State of New Mexico appropriated \$800,000 to the Department of Finance and Administration to fund the group's activities, including technical studies.

Pecos River Basin Activity

INTERSTATE STREAM ADMINISTRATION

Compact Deliveries to Texas

The federal Pecos River Master found that, for calendar year 2007, New Mexico was able to meet its compact delivery obligation to Texas and to add 25,200 acre-feet of credit. This increased New Mexico's accumulated delivery credit from 67,300 to 92,500. In 1988, the U.S. Supreme Court found in *Texas v. New Mexico* that New Mexico had under-delivered to Texas, on average, 10,000 acre-feet per year during the period from 1950 to 1983. New Mexico was allowed to clear its past debt with a payment of \$14 million to Texas. However, the court mandated that New Mexico deliver its future water obligations to Texas on an annual basis without ever incurring a cumulative shortfall. Delivery over-ages, or credits, are permitted to accumulate with no limits imposed. The court-appointed river master determines New Mexico's compliance with delivery obligations to Texas on the Pecos River each year.

Water Resource Conservation Project – Pecos River Portion

The New Mexico Legislature, in response to the U.S. Supreme Court order, directed the Commission to purchase and retire adequate water rights on the Pecos River to meet compact obligations and to avoid catastrophic economic consequences that may result from net delivery shortfalls to Texas. About \$33.8 million were spent for acquisition of water rights and water leases between 1991 and 2004. The breakdown is \$19.4 million spent for the purchase and retirement of 27,300 acre-feet of water rights and \$14.4 million spent on leases of water to meet short-term delivery needs. Commission staff estimates that the purchase and retirement of water rights has increased stateline flows by about 8,800 acre-feet per year. The water rights acquisition project has allowed New Mexico to remain in compliance with its Pecos River Compact delivery obligations to date.

Pecos Settlement

Anticipating a delivery shortfall in 2001, the Commission created an ad hoc committee of water users, now called the Lower Pecos River Basin Committee, made up of representatives from five irrigation entities, six municipalities, four counties, the Lower Pecos River Basin Regional Planning Committee, four industries, and the Bureau of Reclamation. Asked to craft a long-term solution to the Pecos River Compact compliance problem, the committee developed a Consensus Plan that included the purchase and retirement of land and appurtenant water rights in the Lower Pecos River Basin, long-term and short-term augmentation pumping from the Roswell Artesian Aquifer to the Pecos River, and short-term leasing of water and water salvage projects. The Legislature authorized and partially funded the committee's plan and the committee is serving in an advisory capacity while the long-term solution is implemented.

An important caveat was placed on the 2003 appropriation by the Legislature requiring the Commission to complete additional agreements to settle Carlsbad Irrigation District water rights adjudication issues. In March 2003, the Carlsbad Irrigation District, Pecos Valley Artesian Conservancy District, the Bureau of Reclamation and the Commission reached a settlement agreement to adjudicate the irrigation district's water rights and implement the Consensus Plan. Commission staff is working to implement the various elements of the Consensus Plan. This includes the purchase of 18,000 acres of irrigated farmland in the Pecos Valley, the development of well fields to augment the flows of the Pecos River, negotiation and execution of necessary contracts to enable Carlsbad Project water to be released for deliveries to the stateline and completion of necessary environmental compliance documents.

In 2007-2008 Commission staff continued to negotiate and acquire land and appurtenant water rights. As of June 30, 2008, the Commission had acquired a total of 11,233 acres with appurtenant water rights in the basin: 6,905 acres in the Pecos Valley Artesian Conservancy District and 4,328 acres in the Carlsbad Irrigation District (CID).

Land Management

The Consensus Plan and the authorizing state statute require that when the Commission purchases water rights, it must also purchase the land associated with those rights. Given this requirement, the Commission as of July 2008 owns a little more than 11,200 acres of land with appurtenant water rights attached to them. Most of these properties are previously irrigated croplands and have a high susceptibility to weeds and erosion. To address these concerns, Commission staff continues to work with agricultural experts to create individual land management plans for all its properties. These plans not only give a snapshot of the current condition of the properties but also recommend future management considerations that will assist in bringing the lands back into a native rangeland condition. Most of these lands have been leased back to original owners or other interested parties thus reducing the land management costs to the Commission.

In 2008, legislation was passed allowing the Commission to sell lands back to the original owners or the public. The Commission staff is in the process of developing plans and processes to dispose of as much lands as possible. Additionally, that legislation allows that future water right acquisitions needed to complete settlement implementation can be also made without also purchasing the land.

Augmentation Pumping

Augmentation pumping sites have been developed in three locations. The primary augmentation well field is in the Seven Rivers area. This well field has 10 artesian wells that were drilled and tested during the period of March 2005 to June 2006. A pipeline has been designed and constructed to deliver water from the Seven Rivers well field to the Pecos River. There are currently two complementary augmentation sites. In December 2004, a pipeline connecting a lateral of the Hagerman Canal to the Rio Felix was completed. The pipeline has the ability to deliver Commission-owned and -leased water to the Pecos River in the winter months. A second pipeline that connects five wells in the Lake Arthur Area to the Pecos River was completed in December 2005. The Com-





mission currently has the capacity to deliver a minimum of 15,750 acre-feet per year as required by the terms of the Pecos Settlement.

FEDERAL MANAGEMENT ISSUES

National Environmental Policy Act

During the 2008 fiscal year, the Commission continued to participate with the U.S. Bureau of Reclamation on three environmental assessments tiered off of the Carlsbad Project Water Operations and Water Supply Conservation Final Environmental Impact Statement (operations EIS): <http://www.usbr.gov/uc/albuq/library/eis/carlsbad/carlsbad.html>. The Commission is a cooperating agency for the preparation of these documents and is involved with the analysis and development of the drafts.

Work continues on the *Pecos River Supplemental Water and Exchange Environmental Assessment*. This environmental assessment is to assess the environmental impacts of using available water sources and exchange options that Reclamation has in order to maintain

Seven Rivers Pipeline

Another milestone was reached in the implementation of the Pecos River Settlement Agreement this fiscal year when the Interstate Stream Commission completed the Seven Rivers Pipeline Project near Carlsbad, New Mexico.

The pipeline stretches from the Seven Rivers area near Carlsbad to Brantley Lake on the Pecos River. It is 12 inches to 36 inches wide and has the capacity to deliver about 40 cubic-feet per second (80 acre-feet per day) to the river.



The Interstate Stream Commission celebrated the completion of the Seven Rivers Pipeline Project near Carlsbad with a ribbon cutting and relay race on June 23, 2008.

When implemented, the settlement will put an end to 50 years of litigation and will result in the adjudication of the Carlsbad Irrigation District's water rights. Additionally, the settlement will help the state comply with obligations under the Pecos River Compact as decreed by the U.S. Supreme Court in 1988.

Augmentation pumping sites have been developed at three locations, including the primary site in the Seven Rivers area. This well field has 10 artesian wells drilled and tested between March 2005 and June 2006. These wells and an additional three private wells have been connected by the series of pipelines.

The Bureau of Reclamation has contributed \$1 million to the Seven Rivers Pipeline Project through the Water 2025 Program for work related

to water efficiency and supply supplementation in compliance with the Settlement Agreement.

The Water 2025 program is aimed at preventing crises and conflict in the West by encouraging voluntary water banks, promoting the use of new technology for water conservation and efficiency and increasing cooperation and collaboration among federal, state, tribal and private organizations. Reclamation is also collaborating with Interstate Stream Commission through a license agreement allowing the project to cross Reclamation land en route to Brantley Reservoir.

compliance with the 2006-2016 biological opinion issued by the U.S. Fish and Wildlife Service (Service) on the operations EIS. The operations EIS commits Reclamation to operate the Carlsbad Project to maintain a minimum target flow of 35 cubic feet per second at the Taiban Gauge and to keep the river continuous in order to conserve the federally threatened Pecos bluntnose shiner. These water sources and exchange options will also meet the contracted irrigation needs of the Carlsbad Project and avoid hindering New Mexico deliveries to Texas. With the continued complexity of water resource issues in the Pecos River Basin, negotiations will continue through 2008 to finalize this environmental assessment.

The environmental assessment for the *Long-Term Lease of Ground Water Rights, Pecos River near Fort Sumner, New Mexico* was finalized with a record of decision entered on July 25, 2007. This environmental assessment permits the Bureau of Reclamation to engage in a 25-year renewable lease with the Commission for water from the Strategic Water Reserve: <http://www.usbr.gov/uc/albuq/envdocs/ea/pecosRiv/gwLease/index.html>.

Endangered Species Act

Responding to a finding by the Service in 1991 that Reclamation operations on the Pecos River were harming the threatened Pecos bluntnose shiner, Reclamation, the Service, the New Mexico Department of Game and Fish (NMGF), and CID agreed to work together to address threats to the survival of the fish. The Commission joined the effort in 1997. Modifications to historic dam

operations to conserve the federally threatened shiner resulted in additional depletions of the fully appropriated Pecos River waters.

The Commission, working closely with Reclamation, developed a methodology to compute depletions due to federal actions to comply with the Endangered Species Act. Reclamation has been offsetting the additional depletions related to Reclamation's modified dam operations for ESA compliance purposes through acquisition and retirement of valid water rights. A formal agreement between Reclamation and the Commission to adopt this method for computing additional depletions and to offset depletions is being negotiated.

Four invertebrate species (Roswell springsnail, Koster's tryonia, Pecos assiminea, and Noel's amphipod) in the Bitter Lake National Wildlife Refuge area in New Mexico and Pecos and Reeves counties in Texas were proposed for listing as endangered with critical habitat under the Endangered Species Act in February 2002. The Center for Biological Diversity (CBD) and Forest Guardians (renamed Wild Earth Guardians - WEG) sued the Wildlife Service in April 2004 to complete the listing process for these species. The Service decided in 2007 that critical habitat designation was unnecessary since the current known occupied habitat locations are in protected areas.

In 2007, CBD and WEG filed suit again to force the Service to designate critical habitat for the four invertebrates. The state Attorney General's Office has filed a Motion to Intervene in the suit to request that the Commission be allowed to represent the state's interest in the case.

The fourth tiered environmental assessment is for habitat restoration activities at the Bitter Lake National Wildlife Refuge. Scoping has begun for the Bureau of Reclamation's Pecos River habitat restoration environmental assessment. This project will aid in the implementation of the 2006-2016 biological opinion by restoring more than one mile of the Pecos River within the refuge. The Commission supports river restoration activities and is assisting with evaluating the potential for new depletions to water resource supplies in the basin resulting from these activities.

Biological Studies. In 2002, the Commission initiated research to increase the knowledge base of information for the federally protected shiner. Two important studies were completed in 2004 and made available to several federal and state agencies. Those studies have been published in peer reviewed scientific journals. One study (Relationship of Fish Mesohabitat to Flow in a Sand-Bed Southwestern River; Kehmeier et al., North American Journal of Fisheries Management 27:750-764, 2007) focused on the relationship between river discharge, habitat availability and habitat use. Results of the study indicated that the habitat types most consistently used by the shiner were available in the same quantities across the full range of flows sampled, indicating that habitat is available to the shiner even at low flows. These results assist in selecting flow needs and associated dam operations being considered as part of the environmental impact statement.

The second study (Simulated Transport and Retention of Pelagic Fish Eggs during an Irrigation Release in the Pecos River, New Mexico; Medley et al., Journal of Freshwater Ecology, Volume 22, Number 3, September 2007) focused on the effect that irrigation block releases have on shiner eggs. By releasing artificial eggs with similar mass and buoyancy to natural eggs after a block release was initiated and collecting these eggs at various distances downstream, the amount of eggs retained in various river reaches could be calculated. The results of the study suggest that most of the eggs produced during increased flows associated with block releases remain close to their population center, and that block releases are not a primary threat to the shiner.

Commission staff and contractors continue to work for greater scientific understanding of the Pecos River fish community. By performing research and publishing peer-reviewed work, important information is generated for the benefit of the public. In 2006, a pilot study evaluating the suitability of employing the depletion method for estimating fish populations on the Pecos River was completed. This method yields population estimates with 95 percent confidence intervals and is commonly used in other biological applications. In 2007, a successful depletion method study was conducted resulting in the first population estimate of Pecos River fishes between the Taiban gage and Bitter Lake National Wildlife Refuge, northeast of Roswell, New Mexico.





Strategic Water Reserve Project. The state has completed two water rights acquisitions in the Pecos River Basin for the strategic water reserve. These water rights will support Reclamation in its Endangered Species Act compliance activities. A pipeline was constructed (Vaughan Conservation Pipeline Project) to convey ground water from wells to the river to help avoid river drying. Reclamation has leased this water from the state as a major part of its ESA compliance activities.

The Vaughan Conservation Pipeline Project provides an innovative solution to some of the complex water management issues in the Pecos River Basin. The importance of this project is underscored by the April 21, 2008 citation from Reclamation Commissioner, Robert W. Johnson, with the Commissioner's Cooperative Conservation Award for 2008. A Supervisory Control and Data Acquisition (SCADA) system is being implemented in conjunction with this project. This SCADA pilot project uses radio technology to provide real-time data and to allow remote control and operation of the Vaughan Conservation Pipeline Project.

WATER PLANNING AND DEVELOPMENT

Rio Hondo Channel Capacity Improvement. A channel capacity analysis performed by the U.S. Army Corps of Engineers concluded the Rio Hondo channel could not maintain adequate flow throughout its length. Work to resolve remaining issues among the affected landowners, the city of Roswell, Chaves County, the Chaves County Flood Commission and the corps is ongoing. A joint powers agreement among the Commission, Chaves County, Chaves County Flood Commission and the city of Roswell to enumerate the responsibilities of those parties in the channel capacity augmentation project was signed

Strategic Water Reserve Project Complete

The Interstate Stream Commission celebrated the first splash of water from the Vaughan Pipeline on Wednesday, July 25, 2007, marking the completion of the first project of the Strategic Water Reserve.

The Strategic Water Reserve legislation has enabled collaboration between the federal and state water management agencies for the benefit of the environment and the public to enhance and protect our natural resources without increasing the demand on those resources. Creative programs, like the Strategic Water Reserve, make possible the implementation of solutions with great promise, such as the Vaughan Pipeline project. This two-mile long pipeline will help meet Endangered Species Act needs, thus protecting other water rights in the process.

The pipeline project started on April 2, 2007, and took nearly four months to complete. The cost was just over \$824,000. However, by leasing water to the Bureau of Reclamation, the Interstate Stream Commission will, over time, recover the capital outlay costs incurred during acquisition of the water rights and construction of the pipeline infrastructure and have a source of funding to support operations and maintenance. In return, Reclamation has an important water resource available to them to remain in compliance with the endangered species flow requirements in its Biological Opinion. The overall result is an arrangement that enhances the environment and protects privately owned water rights in the Pecos River Basin.



Interstate Stream Commission Director Estevan López shakes hands with Rick Gold with the Bureau of Reclamation at the start of the friendly competition of the Big Splash, a celebration of the completion of the Vaughan Pipeline, the first project of the Strategic Water Reserve. Representatives of the New Mexico congressional delegation offices, joined agency staff, local dignitaries and others in a ribbon-cutting and ceremonial bucket brigade.

in October 2002. The city of Roswell commissioned an engineering firm to generate a construction-level design for the channel augmentation. The design was completed in 2003. Natural and cultural resource surveys were conducted in the areas affected by the proposed augmentation. Easements for the project are pending.

Phreatophyte Control. Congress has authorized the Bureau of Reclamation to carry out a program of eradication and management of phreatophytes – high-water-use, non-native plants – in the flood plain of the Pecos River extending from Santa Rosa, N.M., to Girvin, Texas. The states of New Mexico and Texas are required to acquire such lands, easements, rights of way, and other interests in lands as are necessary to carry out the program.

The Commission has contracted with the Bureau of Reclamation for acquisition of new and permanent easements required for the program and contributes \$150,000 annually to the maintenance of the cleared areas. No new phreatophyte clearing was undertaken, but all of the previously cleared areas in New Mexico (33,230 acres) were kept clear by root plowing during fiscal year 2008.

Rio Grande Basin Activity

INTERSTATE STREAM ADMINISTRATION

Rio Grande Compact

Both Colorado and New Mexico met their scheduled 2007 deliveries under the Rio Grande Compact and each remained in an accrued credit status throughout the 2007-2008 fiscal year. During 2007, Colorado under-delivered a total of 5,600 acre-feet reducing their accrued credit as of January 1, 2008, to 7,200 acre-feet; New Mexico over-delivered a total of 32,800 acre-feet for an accrued credit as of January 1, 2008, of 184,500 acre-feet. New Mexico has not been in deficit in compact deliveries on the Rio Grande since 1990.

The most significant management challenge related to the Rio Grande Compact during the 2008 fiscal year remained the impact of Article VII of the compact. Article VII prohibits the storage of native Rio Grande water in post-1929 reservoirs if the amount of usable water in Elephant Butte and Caballo reservoirs is less than 400,000 acre-feet. When Article VII is in effect, New Mexico cannot increase native water storage in McClure and Nichols reservoirs on the Santa Fe River, El Vado Reservoir on the Rio Chama, or in any other reservoir built after 1929 in the Rio Grande Basin upstream of Elephant Butte Reservoir.

Article VII went into effect on January 1, 2007, as a result of the annual change in Compact accounting. Between January 31, 2007 and July 2, 2007, Article VII storage restrictions were lifted because Usable Water in Rio Grande Project Storage (Project Storage) was greater than 400,000 acre-feet. On July 3, 2007, Usable Water in Project Storage fell below 400,000 acre-feet, and Article VII storage restrictions were in effect until January 31, 2008. Commission staff maintained close coordination with the Middle Rio Grande Conservancy District, the city of Santa Fe and the U.S. Bureau of Reclamation throughout the 2008 fiscal year alerting them when they could and could not store native Rio Grande water pursuant to the Compact.

On February 1, 2008, New Mexico offered for relinquishment and Texas accepted 125,000 acre-feet of credit water. As a result of the relinquishment, Rio Grande Project Storage accounting was revised and the Article VII storage restriction was lifted because credit water was converted to Usable Water and the total usable water exceeded 400,000 acre-feet at that time. Article VII was not in effect for the remainder of the 2008 fiscal year.

The relinquishment was initiated at the request of the Elephant Butte Irrigation District. As a result, additional water was available in Rio Grande Project Storage for release to meet irrigation needs in the Lower Rio Grande in both New Mexico and Texas this year. Additionally, water users in the middle Rio Grande will have a right to store a like volume of water in future years when Article VII restrictions are again in effect.

For the middle Rio Grande, the New Mexico Rio Grande Compact Commissioner allocated roughly half of the relinquished water (62,500 acre-feet) to fulfill the commitment New Mexico made to the United States in the 2003 Emergency Drought Water Agreement. That water will provide additional supplies for middle valley farmers and also will be used





to ensure long-term compliance with the Endangered Species Act flow requirements in the Middle Rio Grande. The remainder of the relinquishment has not yet been allocated.

Commission staff continued to work with the staff of the New Mexico Environment Department and New Mexico Attorney General's Office on issues related to threatened interstate compact litigation by the State of Texas over controversies in the Lower Rio Grande (LRG) below Elephant Butte Reservoir. During the past year, significant strides were made in improving our understanding of technical issues in the LRG. One of the principal accomplishments was the public release of the latest version of a numerical groundwater model of the LRG. This model was several years in the making and was developed jointly by technical experts from the State of New Mexico, the Elephant Butte Irrigation District (EBID) and the city of Las Cruces. The new model will allow more accurate and detailed evaluation of potential water-management scenarios, and the potential ramifications on long-term aquifer viability and interstate deliveries.

Significant progress was also made in the area of LRG salinity management during the past year. A well-attended conference was held in May 2007, sponsored by the Rio Grande Compact Commission, which brought together local and regional water managers and researchers to discuss LRG salinity issues. An outgrowth of the conference was the formation of the Rio Grande Project Salinity Management Coalition (Coalition) composed of water managers from the local area and from the three compact states. The overall objectives of the Rio Grande Project Salinity Management Program are to reduce salinity concentrations, loading and impacts in the Rio Grande Project area; to improve water quality; and to increase water supplies for agricultural, urban and environmental purposes.

The Coalition this past year crafted a work scope to move forward with exploring salinity management alternatives in the region, including interception of natural salinity that enters the system in the LRG. A project was established with the U.S. Army Corps of Engineers to carry out the first phase of the Coalition's work scope. The State of New Mexico provided \$250,000 in non-federal match, resulting in a \$1 million project under the Federal Water Resources Development Act (WRDA). The contractual aspects of the WRDA have recently been completed, and the project will be moving forward this year.

FEDERAL MANAGEMENT ISSUES

During the fiscal year, the Commission completed its Record of Decision for the operation of federal water management facilities in the Rio Grande Basin above Fort Quitman, Texas. The Commission participated as a joint lead agency in the review with the Bureau of Reclamation and the Army Corps of Engineers to assure that the resulting operations plan (1) supported New Mexico's compliance with its obligations under the Rio Grande Compact, (2) reflected New Mexico's social and economic interests, and (3) protected the rights of New Mexico's water users.

The Commission, the Bureau of Reclamation, and U.S. Army Corps of Engineers each completed separate Records of Decision. The Commission Record of Decision supports implementation of the Review's preferred alternative designated E-3 as follows:

1. Extension of Heron Reservoir waivers (waivers allow for San Juan-Chama contractors to keep their water in Heron Reservoir beyond the end of the calendar year) from March 30 to September 30 of any year if such extension benefits Reclamation in meeting its ESA obligations and does not affect the firm yield of the San Juan-Chama Project;
2. Work with the Corps, Reclamation and other agencies or entities to implement native water storage in Abiquiu Reservoir for Rio Grande Compact management purposes and environmental and other benefits in the middle valley;
3. Support the Corps in its efforts to maintain the 1,800 cfs flood control release from Abiquiu Reservoir. Specifically, work with the Corps to both communicate the need for maintaining the safe channel capacity to local entities, and support/implement projects that maintain the capacity;
4. Work with the Corps, Reclamation and other agencies and entities to plan, design, and implement projects in the Middle Rio Grande valley to safely increase the

combined flood release capability from Cochiti and Jemez Reservoirs from 7,000 cfs to 10,000 cfs as measured at Albuquerque;

5. Continue use of the low-flow conveyance channel as the primary drain for the San Acacia reach of the Middle Rio Grande valley until a new approach is developed and implemented for the reach that will improve ecosystem function and conveyance efficiency, provide water for irrigation, and reduce depletions within the reach. Given the critical nature of the San Acacia reach, the Commission will take a proactive role in interacting with stakeholders to develop possible new approaches for the reach; and
6. Continue to work with federal and state agencies to improve coordination and cooperation on water operations actions throughout the Upper Rio Grande basin.



Endangered Species Issues

The Commission continued to provide direction and support to staff in the Middle Rio Grande on long-term solutions for endangered species issues. In fiscal year 2008, staff implemented a number of projects that address elements of U.S. Fish and Wildlife Service's 2003 biological opinion for the middle Rio Grande and continued to work closely with the Middle Rio Grande Endangered Species Act Collaborative Program. The goal of the program is to meet endangered species habitat needs in the Middle Rio Grande while simultaneously protecting existing agricultural, municipal, industrial, and other beneficial uses of water.

Water for Farmers

The State of New Mexico relinquished 125,000 acre-feet of accrued Rio Grande Compact credit water in Elephant Butte Reservoir to increase the supply of surface water available for use by New Mexico farmers downstream of the reservoir.

New Mexico's Elephant Butte Irrigation District (EBID) requested the relinquishment to increase the initial river diversion allocation from about 265,000 acre-feet to about 380,000 acre-feet of water. This provided farmers in the Rio Grande Valley below Caballo Dam with a more reliable supply of surface water at the beginning of the 2008 irrigation season.

Relinquishing the water downstream not only improved water supply below Elephant Butte Dam but also allowed for more storage in upstream reservoirs in future drought years.

In those drought years, the relinquishment will also benefit the Middle Rio Grande Conservancy District (MRGCD) and the city of Santa Fe as part of the Emergency Drought Water Agreement and provide additional water to aid Reclamation in meeting the flow targets of the 2003 Biological Opinion. Those targets specify minimum specific flows in certain parts of the river to maintain the habitat of the Rio Grande silvery minnow.

This relinquishment occurred at a time when substantial snowpack had accumulated in the northern mountains and the upstream reservoirs were nearly full. When northern reservoirs are full, most of the runoff from snowmelt flows into Elephant Butte.

The Interstate Stream Commission has contractors working on a pilot channel in the dry delta portion of Elephant Butte Reservoir to optimize the flow of water into the reservoir.



State Engineer John D'Antonio explains the details of a water relinquishment plan during a meeting in Truth or Consequences.



This fiscal year, Commission staff and its contractors completed the construction of the Los Lunas Silvery Minnow Refugium, began a habitat restoration project in the Isleta reach of the Middle Rio Grande, and continued monitoring of restoration projects in the Albuquerque reach.

The Los Lunas Silvery Minnow Refugium will be used to raise endangered Rio Grande silvery minnow, a fish that once was one of the most abundant species in the Rio Grande and its tributaries, including the Pecos River. The fish is now only found in the Middle Rio Grande now between Cochiti Lake and Elephant Butte Reservoir, about 10 percent of its past range. The species was listed as endangered in 1994. A biological opinion from 2003 has a number of requirements, including construction of captive propagation facilities. Captive propagation is being accomplished at several facilities in New Mexico in an effort to preserve genetic diversity, provide refugial population in case of a catastrophic event, and augment wild populations as needed. Fish bred in captivity will also be used to reintroduce Rio Grande silvery minnow in other locations where the fish has been extirpated, such as Big Bend National Park in Texas.

The Los Lunas facility is operated by the Commission on state-owned property. The refugium consists of an outdoor stream that mimics ecological components of the Rio Grande, an indoor hatchery, and storage building. The facility will be staffed by two full time aquaculturists.

Two restoration projects are being conducted by Commission staff and technical consultants. After completion of over 25 acres of restoration work in 2006 and 80 acres of restoration work in 2007, monitoring of fish, geomorphology and vegetation was done in the fall and spring of 2008. Data from the monitoring indicates that the habitats are functioning as designed and that fish are utilizing the areas. The majority of the work was done on islands and bars that have encroached and constrained the river. Modifications to these areas have increased overbanking areas during spring runoff, which appears to be critical for the spawning success of the Rio Grande silvery minnow.

A second project is beginning south in the Los Lunas and Belen area. Similar work is being conducted in this reach of the river with the purpose of increasing floodplain connectivity. More than 45 acres of work are planned in this reach for the first phase. These Commission-led projects have been funded through a variety of sources including grants from the New Mexico Water Trust Board and the federal government and through special appropriations from the state Legislature.

The Commission staff continues to be engaged in decision-making processes for ESA issues on the Middle Rio Grande with federal and nonfederal agencies and nongovernmental organizations. Staff regularly attend Collaborative Program meetings and participate in cost sharing projects with this Program. Staff have continued to help direct federal funding and attention toward finding long-term solutions to the complex issues in the MRG.

WATER PLANNING AND DEVELOPMENT

Improvement of the Rio Grande Income Fund Programs

The Commission continues to use funding from the

Decision Support System

The Interstate Stream Commission and the Middle Rio Grande Conservancy District (MRGCD) have been working collaboratively on infrastructure and operational improvements within the MRGCD conveyance system to improve water deliveries. The main purpose is to minimize river headgate diversions while meeting on-farm irrigation demand. To help do so, the Commission and MRGCD in cooperation with Colorado State University have developed a decision support system (DSS) that seeks to optimize water distribution within the MRGCD conveyance system by implementing rotational water delivery procedures. The modeling results are communicated to ditch riders and farmers. In general, the DSS consists of informational databases and integrated model components, or modules, simulating water demand, water supply and scheduling.

The project was started in 2004, with data collection and DSS model development efforts focused on the Belen Division of the MRGCD. The work included formulation of the basic structure of the model and its programming, the development of data sets for the three main canal service areas of the Belen Division, and meetings with area farmers. During 2005-2006, the DSS was expanded to include the Socorro Division and field validation and testing of the model was performed in the Belen Division. During 2007-2008, the DSS is being used to assist MRGCD with implementation of scheduled water deliveries in the MRGCD's Albuquerque Division. On a parallel track, public outreach and training sessions continued to be conducted to both learn from and educate the farmers and MRGCD ditch riders regarding the DSS, irrigation system improvements and the implementation of rotational water deliveries.

As a combined result of numerous activities, including development and use of the DSS, the MRGCD has reduced its gross river diversions by about 30 to 40 percent since 2000. DSS modeling results indicate that river head gate diversions may be reduced by an additional 5 to 10 percent and still meet on-farm irrigation demand.

Improvement of the Rio Grande Income Fund for numerous high-priority projects involving cooperation with the Bureau of Reclamation to maintain the river channel and associated drainage facilities along the Rio Grande between Velarde and Elephant Butte Reservoir to minimize conveyance losses and non-beneficial consumption of water. The Commission contributes funding and equipment to that effort, and the Bureau of Reclamation contributes manpower and equipment. Each year, work in the lower half of the Middle Rio Grande includes cleaning, mowing, and maintaining several drains; conducting levee repairs; and maintaining a pilot channel through the Elephant Butte Reservoir sediment delta.

Work in the 2008 fiscal year work focused on construction and maintenance of the pilot channel through the sediment delta of Elephant Butte Reservoir to ensure efficient conveyance of Rio Grande water into the active reservoir pool. By spring 2008, the Commission and the Bureau of Reclamation continued successful maintenance of nearly 22 miles of pilot channel through the Elephant Butte Reservoir sediment delta, which effectively conveyed the bulk of the 2008 snowmelt runoff into the reservoir.

As a result of 2008 sediment-laden snowmelt runoff flows, sediment plugs formed in the pilot channel above the Narrows of Elephant Butte Reservoir, and in the river channel at the Bosque del Apache National Wildlife Refuge. The Commission and the Bureau of Reclamation worked successfully on analysis, design, and permitting requirements necessary to remove the sediment plugs in order to maximize conveyance of water to Elephant Butte Reservoir. It is anticipated that both sediment plugs will be removed early in fiscal year 2009, in preparation for the upcoming snowmelt runoff.

The pilot channel also helped to reduce the potential for a catastrophic breach of the river levees upstream of the reservoir during the summer 2007 high-volume monsoonal flows, and contributed significantly to the quantity of water delivered to the reservoir. Commission staff estimates that a properly maintained and functional pilot channel reduces evaporative losses by 15,000 to 20,000 acre-feet per year.

The Commission also continues to work with the Bureau of Reclamation to reduce the non-beneficial consumption of groundwater by invasive phreatophyte vegetation – high-water-use, non-native plants – on up to 11,000 acres of the delta areas at Caballo and Elephant Butte reservoirs. The Commission contributes funding and equipment to the program and the Bureau of Reclamation contributes manpower and equipment. The Legislature has restricted the use of funding for this work to maintenance of previously cleared areas. The primary means of clearing continues to be mowing. This project has been successful in controlling the growth of non-native vegetation at Elephant Butte Reservoir (below the Narrows) as the reservoir has receded.

The Commission is also continuing to conduct monitoring and data evaluation for a sur-



Data Compilation Mapping

During fiscal year 2008, the Office of the State Engineer initiated a comprehensive data compilation project of middle Rio Grande maps, photos, and remote-sensed data as well as water rights information. Goals of the project include completing the aerial photos database, developing a declaration/water rights transfer geodatabase, building geographic information system tools to assist in the OSE validity analysis and developing reports, and conducting a trend analysis of land use in the middle Rio Grande. The project includes an assessment of the quality of available data and testing and building analysis tools to facilitate the water rights transfer evaluation process. This



map, illustrating results from the declaration/water rights transfer database, shows declared water rights (white), dedicated (light gray), transferred (dark gray) and partially transferred (black). The project is ongoing and expected to be completed during fiscal year 2009.



face water and groundwater interaction characterization program in the reach of the Rio Grande from San Acacia to Elephant Butte Reservoir. This program seeks to characterize and understand the hydrology of the reach by refining the understanding of the temporal and spatial interactions between surface water and groundwater. Such an understanding is essential for making sound water management decisions related to endangered species management and Rio Grande Compact compliance. The characterization work included drilling and installing more than 140 piezometers (pressure gauges used to measure groundwater levels); installing staff gauges in the river, the low-flow conveyance channel, and riverside drains; and installing 70 automatic water-level data loggers.

Finally, Commission staff continued to develop a series of high-resolution linked surface water/groundwater models along the Rio Grande bosque in the middle valley. The goal is to complete numerical models from Cochiti Dam to the headwaters of Elephant Butte Reservoir. These models are used to evaluate the interaction among the river, the riverside drains and the riparian vegetation along the Rio Grande corridor.

San Juan-Chama Project

The San Juan-Chama Project is a transbasin diversion authorized in 1962 by federal law to divert Upper Colorado River basin water allocated to New Mexico under the Upper Colorado Basin Compact into the Rio Grande Basin for use in New Mexico. The water is diverted from tributaries to the San Juan River and brought through a tunnel under the Continental Divide to the Rio Chama drainage, where it is stored in Heron Reservoir until it is released to New Mexico contractors for use in the Rio Grande Basin above Elephant Butte Reservoir.

Diversions from the San Juan River Basin by the San Juan-Chama Project in any given year are limited by the available water supply. The project has three points of diversion in Colorado on the Blanco River, the Little Navajo River and the Navajo River. The diversions are operated to provide minimum bypass flows required by the authorizing legislation for the preservation of fish and aquatic life in the Blanco and Navajo rivers.

The total quantity of water delivered into Heron Reservoir during the 2007 calendar year was about 105,000 acre-feet. At the end of the calendar year, storage of San Juan-Chama Project water in Heron Reservoir was approximately 196,500 acre-feet, a slight increase from the end of calendar year 2006. At the end of the fiscal year, San Juan Chama Project water storage in Heron Reservoir exceeded 315,000 acre-feet reflecting diversions into the Project from the high and prolonged spring snowmelt runoff.

Acequia Construction Program

Acequias, or community ditches, are recognized under New Mexico law as political subdivisions of the state. Many of the state's acequia associations have been in existence since the Spanish colonization period of the 17th and 18th centuries. Historically, they have been a principal local government unit for the distribution and use of surface water in many parts of the state. The associations have the power of eminent domain and are authorized to borrow money and enter into contracts for maintenance and improvements. The costs of maintenance and improvements are borne by the individuals served by the irrigation system.

The Commission has established an Acequia Construction Program to assist acequia associations with construction and repair projects. The U.S. Department of Agriculture's Natural Resources Conservation Service (NRCS) and the U.S. Army Corps of Engineers support the Acequia Construction Program. Commission staff coordinates the involvement of these agencies, supports and advises the acequias, reviews design and construction, and manages state and federal support in the form of loans or grants.

In 2006, the Commission entered into a multi-year agreement with the NRCS to provide design work on acequia projects. Previous agreements were on a year-to-year basis. The multi-year agreement allows for more efficient staffing by NRCS. The Commission funds up to \$250,000 of work per year with actual costs based on New Mexico Society of Professional Engineers cost schedules.

The Acequia Construction Program includes five ongoing sub-programs: the Commission's Loan Program, the Commission's 80/20 Acequia Grant Program, the Corps Section 215 Acequia Program, the Corps Section 1113 Acequia Program, and Legislative Special Appropriations Projects (capital projects).

Loan Program. The Commission loan program makes low-interest loans from the Irrigation Works Construction Fund available to acequias, community ditches, and other organizations for construction and repair of irrigation works. Acequia associations may use the loans to pay their share of costs of construction programs. The loans are provided at 2.5 percent interest and the usual repayment period is 10 years.

80/20 Grant Program. The New Mexico State Legislature appropriates funds from the Irrigation Works Construction Fund to the Commission for grants for improvement and repair work on specific acequias. Eighty percent of project cost, up to \$96,000 per project, can be covered by the grant. Total construction costs for a project under this program are capped at \$120,000.

Section 1113 and Section 215 Acequia Programs. The federal Water Resource and Development Act of 1986 authorized the Secretary of the Army to undertake measures necessary to preserve and restore the diversion structures and associated canals of acequias. Under both the Section 1113 and Section 215 programs, the federal government funds 75 percent of total project costs. The annual federal funding for Section 1113 and Section 215 Programs, routed through the U.S. Army Corps of Engineers, ranges from approximately \$1.5 million per year to about \$5 million per year. The Commission provides 17.5 percent of the total cost and the acequia association provides 7.5 percent of the total cost.

Under the Section 1113 Acequia Program, the Corps is responsible for all design, National Environmental Policy Act (NEPA) compliance activities, real estate easements, advertisement of the construction bids, contract awards, construction inspection and oversight, and project financial management. Under the Section 215 Acequia Program, the acequia manages construction. NRCS typically completes the project design through the Commission's technical assistance programs. The Corps manages NEPA compliance activities.

In July 2002, the Corps and Commission signed an agreement concerning the Section 215 and Section 1113 programs that clarifies the responsibilities of each agency and specifies criteria for design deadlines, compliance activity schedules, program and project financial reporting, and project prioritization and construction timelines. The agreement supplements a March 8, 1999, agreement between the Corps and the Commission.

Acequia Capital Projects. The New Mexico State Legislature appropriates funds to individual acequias for specific projects. Commission staff reviews plans, specifications, and ditch eligibility; executes contracts and agreements; and inspects the completed projects.



FY08 Completed Acequia Rehabilitation Projects

80/20 Grant Program: Acequia del Marrano (Taos County), \$100,973; Ancon Acequia (Rio Arriba County), \$4,000; Acequia del Bosque (Rio Arriba County), \$6,000.

Section 215 Grant Program: Los Trigos Ditch (San Miguel County), \$176,403; Labadie Ditch (Guadalupe County), \$187,215; La Mesilla Ditch (Rio Arriba County), \$170,712; Red River Ditch (Colfax County), \$228,293.

Section 1113 Program : El Llano Ditch (San Miguel County), \$989,000; Acequia de Chamisal y Ojito (Taos County), \$1 million.

Appendix - Status of Active Adjudications

INTRODUCTION

Twelve water rights adjudications are currently pending in the federal and state courts of New Mexico. These lawsuits were filed to determine the elements of the water rights within the Pecos River stream system, several Rio Grande tributaries, the San Juan River stream system, the Lower Rio Grande stream system, the Zuni River stream system, and the Animas Underground Water Basin.

This Appendix summarizes the work performed and milestones achieved in New Mexico water rights adjudications during the 2008 fiscal year. For the history of adjudications prior to July 1, 2007, please see the Annual Reports for previous fiscal years.

PECOS RIVER STREAM SYSTEM

State of New Mexico ex rel. State Engineer and Pecos Valley Artesian Conservancy District v. Lewis, et al. and State of New Mexico ex rel. State Engineer and Pecos Valley Artesian Conservancy District v. Hagerman Canal Co., Fifth Judicial District Court, Chaves County, Cause Nos. 20294 and 22600, consolidated (Lewis adjudication), involve the adjudication of all ground and surface water rights in the Pecos River stream system. By necessity of scale, this adjudication has been conducted with sub-areas loosely described by the six groundwater basins within the stream system.

ROSWELL ARTESIAN UNDERGROUND BASIN (RAB): Since 2004, the State has opposed motions by the Pecos Valley Artesian Conservancy District and a number of individual claimants to set aside approximately 1700 default subfile orders that were entered in the 1990s. After extensive briefing and hearings, the District Court denied the motions in January 2008. The re-adjudication continues today of approximately 2,000 "relation-back" claims allowed by *State ex rel. Reynolds v. Allman*, 78 N.M. 1, 427 P.2d 886 (1967). Status: Active.

Adjudication of the State law rights for federal holdings was completed in 1996. The only federal reserved water rights claim asserted was for the Bitter Lake National Wildlife Refuge. Following negotiations, the State and the United States reached agreement on this claim, and on January 29, 2008 filed with the Court a consent order signed by both parties. Status: Inactive.

Pecos River Supplemental Adjudication: Since 1982, 33 of the 48 additional surface and groundwater rights claimed to have been omitted from the 1966 RAB decree have been adjudicated. Status: Inactive.

Pecos River Miscellaneous Adjudication: Approximately 90 additional miscellaneous unadjudicated groundwater declarations remain in the RAB and Fort Sumner Groundwater Basins. These claims are being surveyed and adjudicated as they are identified. Status: Active.

RIO HONDO STREAM SYSTEM: Adjudication of the water rights of the Mescalero Apache Tribe (1993 Final Judgment), the Lincoln National Forest (1979 Judgment), and the non-Indian water right owners (entry of consent orders) are nearly complete. A quality assurance/quality control procedure is under way to assess completeness under current adjudication standards. In addition, the United States has announced that it will seek to reopen the Lincoln National Forest judgment. Status: Active.

FORT SUMNER GROUNDWATER BASIN: The Court entered subfile orders for 105 groundwater rights between 1980 and 1995. The hydrographic survey for the surface water rights will take an estimated two years to complete once resources are available. Status: Inactive.

FORT SUMNER IRRIGATION DISTRICT (FSID): Negotiations between the State and FSID have begun and are focused on the threshold issue of determining how to convert the diversion right recognized for FSID in the 1933 Hope Decree of 10,000 acres at 100 cfs (continuous flow) to a yearly volume equivalent based on historic beneficial use. The district contains an estimated 150 subfiles. Status: Active.

CARLSBAD BASIN: For case management purposes, the adjudication of water rights in the Carlsbad Basin has been divided into: (1) the Carlsbad Irrigation District surface rights adjudication (CID); (2) the Carlsbad Underground Water Basin groundwater adjudication (CUB); and (3) the Black River stream system adjudication. The State's focus at present is on the CID surface rights adjudication.

CID Surface Rights Adjudication: The State has filed the Hydrographic Survey Reports for CID Sections One, Two, and Four, and has virtually completed the adjudication of the members' rights in all four Sections of the CID. The State is now seeking to resolve objections raised by individual water users to the State's proposed determination of their water rights. Also before the Court are motions for default judgments against those defendants who did not respond to communications from the State. Additionally, the State is

working with the Court and the CID to establish expedited procedures for resolving errors, omissions, and discrepancies in filed consent orders. These matters should be resolved in mid-2009 and the State looks forward to completing inter se by the end of calendar year 2009. Status: Active.

CUB Groundwater: The completion of the hydrographic survey has been postponed pending the completion of the CID surface rights adjudication. Status: Inactive.

Black River Stream System: Status: Not initiated.

UPPER PECOS UNDERGROUND WATER BASIN: The adjudication of the Upper Pecos Underground Water Basin began with the filing of the Hydrographic Survey Report in 1977. Consent orders for most of the groundwater rights have been entered. The adjudication of this basin will be completed following the completion of Gallinas River activity. Status: Inactive.

GALLINAS RIVER STREAM SYSTEM: In 1991, the State filed with the Court five-volume Gallinas River Hydrographic Survey Report for surface water rights. Since that time, the State has adjudicated approximately thirty percent (30%) of the water right subfiles, including the water rights within the Storrie Lake Irrigation Project (Storrie Project) and portions of the water rights of the city of Las Vegas (City). In June 2008, successful mediation efforts between the State, the City, and twelve community acequias resolved extensive litigation over procedural matters that had stayed the adjudication progress for 1 ½ years. Service of adjudication packets on individual subfile claimants commenced immediately thereafter, and service on the approximately 1,000 remaining subfiles is scheduled to be completed in 2009. Status: Active.

City of Las Vegas Remand: Following the New Mexico Supreme Court's 2004 decision rejecting the city of Las Vegas' claim to a water right under the pueblo rights doctrine, extensive negotiations and litigation have occurred involving the city of Las Vegas, the State, the United States, numerous acequias, and the Storrie Project. This matter is continuing alongside the adjudication of the individual water right claims in the Gallinas stream system. Status: Active.

RIO PEÑASCO STREAM SYSTEM: Status: Not initiated.

RIO GRANDE STREAM SYSTEM

Rio Pueblo de Taos and Rio Hondo. *State of New Mexico ex rel. State Engineer v. Abeyta, et al.*, U.S. District Court Nos. 69-cv-7896 BB and 69-cv-7939 BB, are consolidated lawsuits for the adjudication of all water rights in the Rio Pueblo de Taos and Rio Hondo stream systems.

Taos Pueblo Claims. In the spring of 2006, several years of negotiations culminated in a proposed settlement agreement among the State, the Pueblo, the United States, and non-Indian water right owning parties. On May 30, 2006, all parties except the United States signed the settlement agreement at a ceremony at Taos Pueblo. Federal legislation approving the settlement has been introduced in Congress; passage is necessary before the United States will execute the settlement agreement.

Remaining Claims. With the exception of priority dates, nearly all non-pueblo surface water rights have been provisionally adjudicated in the Taos and Rio Hondo stream systems. Efforts to resolve the remaining non-pueblo claims during the 2007-2008 fiscal year include the following:

Remaining Acequia Claims. In June 2005, twenty acequias filed with the court claims to water from various springs in the Taos and Rio Hondo stream systems. All but one claim has been resolved, and the State has prepared a consent order to resolve the remaining claim.

Court's Errors and Omissions Process. The State and the Court's data manager are nearing the conclusion of a thorough errors and omissions process to prepare for issuance of the partial final decree for non-pueblo water rights. This process identifies and corrects apparent discrepancies between adjudicated subfile orders and hydrographic survey maps.

Subfile Priority Dates. In February 2002, the Court began the process of acting upon special master Zinn's 1993 report on priority dates for non-pueblo subfiles. The Court has entered four orders confirming the priority dates of multiple acequias, and the resolution of one outstanding issue will allow the entry of an order confirming the priority dates of the few remaining acequias.

Santa Fe River. *Anaya v. Public Service Company of New Mexico*, Santa Fe County Cause No. 43, 347, was filed in 1971 and re-filed in 1974. The State intervened in the suit in 1975 and completed the Santa Fe hydrographic survey in 1978.

The city of Santa Fe and the State Engineer are working to identify the City's water

rights and negotiate a consent order. The attorney from the LAP Northern New Mexico Bureau assigned to the Santa Fe adjudication has conducted a detailed review and analysis of the history and status of the adjudication and is adjudicating the remaining subfiles.

Rio Chama. *State of New Mexico ex rel. State Engineer v. Aragon, et al.*, U.S. District Court No. 69-cv-7941 BB, involves the adjudication of all water rights in the Rio Chama stream system, including the claims of the United States, Ohkay Owingeh (previously San Juan Pueblo), and the Jicarilla Apache Nation. The suit was originally filed in State court, and then was removed to the federal District Court in 1969. The federal suit incorporates prior State court orders adjudicating non-federal water rights on the mainstem Rio Chama below Abiquiu Dam and on the Rio Puerco, a tributary to the Rio Chama. For purposes of the survey and the adjudication, the Rio Chama stream system was divided into 8 Sections.

Surface water rights in the Rio Chama mainstem section have been provisionally adjudicated. In 1985, the Court appointed an expert to assist in a redetermination of priority dates for ditches in Section 1, and after completion of a historical report by the court-appointed expert, the State served orders on community acequias and individual irrigators that required them to show cause why those dates should not be revised. Evidentiary hearings were held in 1997 with respect to the disputed priority dates of three community ditches, but the special master has not yet submitted a report to the Court based on those hearings. The State is awaiting action by the Special Master in order to complete the redetermination of priority dates in this section and amend the partial final decree entered in 1971.

In Section 5 (Rio Gallina), all claims with respect to the amount and location of irrigated acreage have been resolved, and, in February 2005, a stipulation was filed with the Court on priority dates for the community ditches. In 2007, the State and community ditches reached a settlement agreement on irrigation water requirements in this section. Individual subfile defendants were served with an Order to Show Cause why the Court should not make a determination of the priority dates and irrigation water requirements as proposed by the State. No objections were filed with the Court, and on April 10, 2008 the Court entered an order making a determination of these water rights elements in all individual subfiles in this section. The State is now planning for the determination of private individual stockwatering claims in Section 5, and a final *inter se* proceeding that will lead to a partial final decree that will encompass all surface water uses in the section.

The determination of claims in Section 3 (Rio Nutrias, Rio Cebolla, and Canjilon Creek) is approximately 95 percent complete. The determination of priority dates and irrigation water requirements has been reserved for future determination.

The defendants in Section 7 (Rito de Tierra Amarilla, Rio Brazos, Rutherford and Plaza Blanca, Cañones Creek, and Village of Chama) have been joined to the adjudication and the determination of claims in these areas is approximately 95 percent complete. As in Sections 3 and 5, the determination of priority dates and irrigation water requirements has been reserved for future determination.

The State has served the United States with a proposed consent order for the reserved water right claim of the United States under the Wild & Scenic Rivers Act below El Vado, and is in the process of preparing a proposed consent order for the United States' claims for stock and wildlife uses in Section 3. A proposed consent order for the United States' claims for stock and wildlife uses in Section 5 was served upon the United States in December 2005 and is awaiting evaluation of a small number of additional claims subsequently raised by the United States.

The water uses of the Jicarilla Apache Nation are subject to a Partial Final Judgment and Decree entered in April 1998. The Jicarilla Apache Nation is presently making a survey of its uses on lands acquired and placed into trust status after the entry of the 1998 decree. The State has reviewed the report and conducted an initial field inspection, but due to the substantial number of uses claimed in the survey, additional reports and field inspections will be required through the summer of 2009.

In the spring of 2007, the United States and Ohkay Owingeh filed Subproceeding Complaints for the adjudication of water rights based on past or present uses of the Pueblo. Numerous parties, including the State, filed Answers to the claims of the Pueblo which will be addressed in a stream-system-wide expedited *inter se* proceeding. A scheduling conference for further proceedings is scheduled for late 2009, to follow the trial on Ohkay Owingeh's separate claims in the Santa Cruz-Truchas adjudication.

Rio San Jose. *State of New Mexico ex rel. State Engineer v. Kerr-McGee Corp.*, Cibola County Cause Nos. CB-83-190-CV and CB-83-220-CV, Consolidated, is the general water rights adjudication suit concerning the Rio San Jose stream system. In September 2002, the Court granted the joint motion of the State and the United States to establish an expedited *inter se* subproceeding to adjudicate the water rights of Acoma Pueblo and Laguna Pueblo based on past and present uses of water. The United States on behalf of the Pueblos, as well as the Pueblos of Acoma and Laguna, have filed their Answers

to the State's Subproceeding Complaint asserting and detailing the water right claims of the Pueblos based on past and present uses of water. Evaluation of these claims by the State and other parties is proceeding.

In the summer of 2004, the State provided extensive notice of the expedited subproceeding to landowners, potential water right claimants and the public at large. The notified water right owners in the stream system were given an opportunity to object to the water right claims of the Pueblos. Approximately 1,200 objections were filed. Of these objectors, approximately 60 have opted to be active parties in the subproceeding. In 2006, the subproceeding transitioned from a procedural to a more substantive posture. The United States, the Pueblos, the State and other parties have submitted their initial disclosures (list of potential witnesses and documents supporting their claims).

In early 2006, following a status conference, the special master signed a pre-hearing order establishing deadlines in the subproceeding for the identification of expert witnesses and production of expert reports, initial dispositive motions, and discovery (April 30, 2010). Some written discovery and deposition discovery has begun. Visits by the parties and their experts to some of the relevant Pueblo and non-pueblo sites occurred in 2006 and 2007. In January 2007, the United States and the Pueblos of Acoma and Laguna served reports from their testifying experts. The State will serve the reports of its testifying experts in August 2008. The expert reports of all other parties are due in August 2009, after which active discovery will commence. Significant legal issues may be raised by motion through mid-2009.

Rio Santa Cruz and Rio de Truchas Systems. *State of New Mexico ex rel. State Engineer v. Abbott, et al.*, U.S. District Court Nos. 68-cv-7488 BB and 70-cv-8650 BB, the consolidated Rio Santa Cruz and Rio de Truchas adjudication suits, were filed in 1968 and 1970, respectively. The suits were consolidated in 1970 because some water right claimants in the Rio de Truchas suit use the Acequia de la Sierra to divert water from the North Fork of the Rio Quemado, a tributary of the Santa Cruz River, for use in the Truchas area.

In 1975, the District Court entered a Partial Final Decree confirming and approving all prior orders adjudicating water rights in the Santa Cruz and Truchas stream systems. The 1975 Decree adjudicated *inter se* the water right claims of 2,500 defendants in approximately 3,500 individual subfile orders. The adjudicated irrigation water rights totaled 5,045.38 acres in the Santa Cruz River System and 2,159.80 acres in the Rio de Truchas system. The decree reserved jurisdiction to adjudicate water right priorities and the water rights of the United States and the Pueblos of San Juan (now Ohkay Owingeh), Santa Clara, and San Ildefonso.

Since the entry of the decree, community acequias in Truchas have identified additional tracts which they claim should have been adjudicated irrigation water rights. In the Rio Santa Cruz, approximately 155 water right claimants submitted written requests for correction to subfile orders adjudicating water rights for 186 tracts of land. To date, 22 claims remain unresolved.

At the time the 1975 Partial Final Decree was entered, approximately 13 community ditches and 300 individuals filed objections to water right priorities adjudicated to other parties in subfile orders. The Court reserved jurisdiction in the 1975 Decree to consider and decide these objections at a later time. The Court appointed two historians to investigate Spanish and Mexican archives to find evidence documenting early irrigation. The historians' draft report was completed in 1986. In 1995, the State filed pleadings describing stream flow allocation rights between community acequias in the Santa Cruz and Truchas systems. The State also took the depositions of individuals who have knowledge of stream flow allocation. The parties fully briefed the issue of the water allocation customs and priorities of the five Truchas acequias in 1998, and have been waiting for a report from the Special Master since December 1998. The Court's historian completed additional research on the Santa Cruz system priorities in 2001.

The water right claims of the Pueblos within the adjudication are now being addressed in a series of subproceedings defined by a procedural order entered by the Court's Special Master. In Pueblo Claims Subproceeding 1, certain water right claims of the Pueblos of Nambé and San Ildefonso were resolved by a negotiated settlement agreement filed on March 15, 2002 and a consent order filed on September 12, 2005. Subproceeding 2, involving Pueblo claims based on past or present uses of diverted water on the lands of Ohkay Owingeh (formerly San Juan Pueblo), was initiated in March 2005 by the filing of subproceeding complaints by the United States and Ohkay Owingeh. The State, Santa Clara Pueblo, the city of Española, Santa Cruz Irrigation District, and acequia associations from the Truchas and Santa Cruz areas filed their Answers to the subproceeding Complaint in 2005. The United States served their expert reports in September 2006 and Ohkay Owingeh served theirs in August 2007. The State will serve its expert reports in September 2008.

Jemez River. *United States v. Abousleman, et al.*, U.S. District Court No. 83-cv-1041

MV, was filed by the United States on its own behalf and on behalf of the Pueblos of Jemez, Santa Ana, and Zia to adjudicate water rights in the Jemez River system.

In 1991, a proposed partial final decree on the water rights of non-federal, non-pueblo parties was prepared and made available for public inspection. The Pueblos filed *inter se* objections to 61 subfiles. Over several years, the Court ruled on all these objections and, on December 1, 2000, the Court entered a Partial Final Decree for the water rights of non-pueblo, non-federal parties in the Jemez stream system.

During the 1996 drought, the Pueblos of Jemez and Zia moved for a temporary restraining order (TRO) and preliminary injunction seeking to curtail non-Indian irrigation diversions above the Pueblos. The Court did not grant the TRO or preliminary injunction, but instead entered an Order adopting a stipulation between the Pueblos and the non-Indian community acequias that established a rotation schedule to share the available supply in dry years.

The Court has entered a Partial Final Decree for the proprietary claims of the United States, except for its Wild and Scenic River claim. A consent order on the United States' Wild and Scenic River claim has been entered by the Court and a proposed partial final decree on the United States' Wild and Scenic River claim has been filed with Court and served on all parties by mail and publication. If no objections are received, the Court is expected to enter a Partial Final Decree on the United States' Wild and Scenic River reserved water right by the end of 2008.

Litigation over the claims of the Pueblos of Jemez, Zia, and Santa Ana, and of the United States on behalf of those Pueblos, dates back to the 1980s. In proceedings addressing claims based upon the historic and existing uses of the Pueblos, the special master held evidentiary hearings in July and December 1988. The special master filed his report and recommendation to the Court on these claims in October 1991, and the United States and the Pueblos filed objections to that report. The Court has not yet ruled on the 1991 special master's report.

In separate proceedings concerning the future use claims asserted by and on behalf of the Pueblos, the special master, in September 1988, recommended rulings to the Court on summary judgment motions argued by the State, the United States, the Pueblos, and non-Indian defendants. The United States and the Pueblos filed objections to the special master's report, and, in December 1989, the Court held oral arguments on those objections.

In 2004, the Court directed the parties to provide additional briefing on the objections to the 1988 and 1991 special master's reports. That briefing was completed in July 2004. In a Memorandum Opinion and Order entered in October 2004, the Court granted in part and denied in part the summary judgment motions of the State and the non-Indian defendants concerning the Pueblos' future use claims. In that same Opinion and Order, the Court declined to act on the special master's 1991 report and recommendation on the Pueblos' historic and existing use claims.

Pursuant to a November 2004 Scheduling Order, the Pueblos provided proposals for the settlement of their claims to the State and non-Indian parties in June 2005. In the spring of 2007, the parties agreed to engage in a time-limited phase of settlement discussions through the end of 2007. The parties then hired a neutral mediator who performed an assessment and presented his conclusions and recommendations to the parties. After application by the parties and approval by the Court, negotiations continued through the end of FY 08, with an October 2008 deadline to develop agreed-upon settlement principles.

Rio Pojoaque System. *State of New Mexico ex rel. State Engineer v. Aamodt et al.*, U.S. District Court No. 66-cv-6639 MV, was filed in 1966 and involves the adjudication of all water rights in the Nambé-Pojoaque-Tesuque stream system, including the rights of the Pueblos of Nambé, Pojoaque, Tesuque, and San Ildefonso. The lawsuit has been active since that time, and a significant portion of those water rights – both Pueblo and non-Pueblo – have been adjudicated.

Global Settlement. Beginning in August 2000, the parties engaged in discussions aimed at resolving through a global settlement all remaining issues in the case, including the claims of the Pueblos. On May 3, 2006, at a ceremony held in the office of Governor Richardson, the *Aamodt* settlement agreement was signed by all governmental parties (with the exception of the United States, which has represented that it will not execute the settlement agreement without an act of Congress).

The settlement agreement is a complex document based on four major concepts. First, the Pueblos would agree to forbear from making priority calls against non-Pueblo surface water right owners except under certain circumstances, thereby preserving existing surface water uses in the stream system. Second, the United States would acquire 2,500 acre-feet of additional water for the Pueblos' economic development, intended, in part, to compensate them for the water they would not be able to take as a result of their forbearance. Third, a pipeline would be constructed at the United States' expense to

deliver water from the Rio Grande to Pueblo and non-Pueblo users in the stream system. Fourth, non-Pueblo parties currently using domestic wells would be encouraged, though not required, to cap their wells, stop pumping groundwater, and hook up to the pipeline.

Legislation to authorize the *Aamodt* settlement has been introduced, and is currently pending in Congress. The Court has ordered that, after the passage of such legislation, the parties will notify the Court of that event, the proposed settlement agreement will be served on all parties to the adjudication, and proceedings to hear any objections to the settlement agreement will follow. This process is expected to extend, at a minimum, into 2010.

Even in the context of a fully funded and approved *Aamodt* settlement agreement, significant adjudication tasks remain to be completed. Priorities for surface water, and quantities and priorities for hundreds of ground water rights, remain to be adjudicated and *inter se* proceedings, as between claimants, will have to be undertaken and completed.

With regard to these tasks, beginning in January 2007, the State began the hydrographic survey of all unadjudicated groundwater uses in the Nambé-Pojoaque-Tesuque stream system to clarify location data, confirm ownership information, and ensure that the final decree includes a comprehensive catalog of groundwater uses. The vast majority of these are domestic wells, primarily post-1982 wells, which were permitted after the January 13, 1983 Court order restricting subsequent well permittees to indoor uses only. There are approximately 1,000 post-1982 wells to be surveyed and adjudicated.

On June 14, 2007, the Court lifted its stay pertaining to adjudication proceedings regarding those post-1982 wells. The State then began joining claimants of water rights under that class of wells and serving them with proposed Domestic Well Orders. That process continues.

On April 9, 2008, the Court lifted its stay pertaining to the adjudication of surface right priorities. The State moved the Court to approve a form of notice and order to show cause why the Court should not adjudicate individual surface water right priorities according to the priority of the ditch which serves the right, which the State hopes to begin serving on claimants in September 2008.

Lower Rio Grande. *State of New Mexico ex rel. State Engineer v. Elephant Butte Irrigation District*, Third Judicial District Cause No. CV 96-888 was originally filed in 1986. This suit involves the adjudication of all rights to the surface or ground waters of the Lower Rio Grande (LRG) stream system. The hydrographic survey divided the stream system into five sections: Nutt-Hockett, Rincon, Northern Mesilla, Southern Mesilla, and Outlying Areas. As of June 30, 2008, the Lower Rio Grande hydrographic survey had identified 13,340 subfiles, the majority of which involve claims to water rights within the Elephant Butte Irrigation District.

From 2001 until the Court ordered new adjudication procedures in March 2007, the Lower Rio Grande Adjudication Bureau served "offers of judgment" on more than 10,000 defendants for over 6,300 subfiles. Under the adjudication procedures in place prior to March 2007, water rights were adjudicated rapidly in the Lower Rio Grande through negotiation, mediation, or formal hearing. Adjudication of subfiles in the Nutt-Hockett Basin is 99 percent complete; adjudication of subfiles in the Rincon Section is 85 percent complete, and there has been significant progress in the adjudication of subfiles in the Northern and Southern Mesilla Sections. Approximately one-third of all the subfiles in the Lower Rio Grande have been adjudicated: As of June 30, 2008, 4,418 subfile orders have been entered in the adjudication.

On March 19, 2007, the Court ordered the State to serve process on all water rights claimants not previously joined as defendants in the adjudication. A separate Case Management Order filed on the same date established procedures for bringing "stream system issues" before the Court. The Court then filed subsequent procedural orders on October 16, 2007 and June 10, 2008. Each of these subsequent procedural orders required that the State complete joinder of all remaining claimants. Pursuant to these orders, the State completed joinder of all claimants on June 30, 2008. Newly joined defendants are required to file an answer indicating whether they claim a water right. The State is required to provide to all defendants who claim a water right an offer of judgment setting out what the State believes to be their water right.

Complying with these procedural orders slowed the pace of adjudication of water rights in the LRG during the 2007-2008 fiscal year. In the spring of 2007, under the new procedures, the State began serving documents joining the approximately 7,750 remaining defendants. Ownership of water rights has changed considerably since the LRG hydrographic survey was completed in 2001. As a result, before documents joining claimants could be mailed, current ownership of the properties associated with water rights claims was checked by LRG Bureau staff and, when appropriate, updated. This was a time-consuming process. As of June 30, 2008, summons had been served joining 16,734 additional defendants, but only 8,893 of these defendants have received an offer of judgment. Service of offers of judgment and entry of new subfile orders have slowed

significantly because resources formerly dedicated to these tasks have been reallocated to the task of joining defendants and complying with the Court's new procedures. This has resulted in a significantly slower pace of adjudication than was achieved under the Court's former procedures.

The Court has imposed deadlines the State is required to meet as it resumes the delivery of offers of judgment. Additionally, the Court may decide to hear stream system issues now that all defendants have been joined. At present, the number of issues to be litigated, and the amount of time that will be required for such proceedings, is not known. If the Court grants motions to hear stream system issues, the State will be forced to allocate resources to the resulting litigation.

LOWER COLORADO RIVER STREAM SYSTEM

Zuni River. The Zuni River adjudication suit, *United States v. A&R Productions, et al.*, U.S. District Court No. 01-CV-0072 BB, was filed by the United States on January 19, 2001. The State was realigned as a plaintiff in 2003. The hydrographic survey was conducted by the United States' contractor, but to the specifications and under the supervision of the Hydrographic Survey & Mapping Bureau of the Office of the State Engineer.

By the end of 2006, the United States' contractor had completed the survey for all non-Indian claimants in the Zuni River stream system. The United States conferred with the State on the survey, and filed the survey reports and maps with the Court.

The United States then prepared, and the State reviewed, proposed consent orders for all water right claimants identified by the survey. The United States has since served them on the claimants. In all, there proved to be 813 total subfiles, of which 473 have now been resolved by the entry of either a Court approved consent order or a default judgment.

Consultation between claimants contesting the offers contained in their consent orders and the State and the United States continue to take place on a regular basis in an effort to settle remaining disputes.

On May 11, 2007, the United States filed its Subproceeding Complaint and Statement of Claims for Water Rights on Behalf of, and For the Benefit of, the Zuni Indian Tribe and Zuni Allottees. Subsequently, the Zuni Tribe timely filed its own Supplemental Subproceeding Complaint. The State and other parties have answered those claims, initial disclosures have been made, and a pretrial scheduling conference is set for August 27, 2008 in Albuquerque.

The remaining Indian claims, of the Ramah Navajo, are scheduled to be filed in early 2010.

UPPER COLORADO RIVER STREAM SYSTEM

San Juan River. *State of New Mexico ex rel. State Engineer v. United States, et al.*, San Juan County Cause No. D-1116-CV-7500184, is a suit to adjudicate all water rights in the San Juan River stream system. The non-Indian, non-federal water rights of the San Juan River Stream System were hydrographically surveyed in the late 1930s and adjudicated by the Echo Ditch Decree in 1948. The State was not a party to that adjudication, however, and no Indian or federal water rights were adjudicated in that decree. The State Engineer conducted a partial survey in the early 1980s, and the Hydrographic Survey & Mapping Bureau is in the process of updating that survey using all available current and historical data, including infrared aerial digital imagery dating from 2003.

The adjudication of subfiles in the La Plata section commenced in August 2006, and consent orders have been sent to almost all claimants in the section. The State continues to locate new owners for the purpose of serving the remaining consent orders, and also is working diligently to complete necessary fieldwork on the remaining subfiles.

Over the past few years, the State and the Commissioner of Public Lands have litigated the legal basis for the Commissioner's claim for federal reserved water rights on State trust land. Ultimately, the adjudication Court granted summary judgment in favor of the State, finding that the Commissioner lacked a valid legal basis for claiming federal reserved water rights appurtenant to State trust lands. The Commissioner appealed the Court's decision on April 13, 2007. Briefing is complete and the parties await either notice that the Court of Appeals has granted oral argument or decided the case.

The State and the Navajo Nation signed the Navajo Settlement agreement in 2005 to resolve the Navajo Nation's water rights in the San Juan basin. The United States has represented that it cannot sign the agreement unless and until Congress first enacts legislation approving the agreement. In April 2007, Senators Bingaman and Domenici introduced S. 1171, and Representative Udall introduced HR 1970. These bills would approve the settlement and authorize federal funding to implement it. Senate and House committees held hearings on these bills in the summer of 2007. In the summer of 2008 the Senate Energy and Natural Resources Committee marked up the bill and included it in the proposed Omnibus Public Lands Management Act (S. 3213), which was reported to the Senate floor for action. Once the bill is signed into law and the United States executes the Navajo Settlement agreement, the State anticipates that a proposed order

adjudicating the Navajo Nation's water rights will be filed with the Court and, after notice is provided, an expedited *inter se* proceeding will be conducted to allow all other water right claimants in the San Juan River stream system the opportunity to raise objections to the proposed adjudication of the Navajo Nation's rights. This process is expected to require several years to complete.

ANIMAS VALLEY UNDERGROUND WATER BASIN

Animas. *State of New Mexico ex rel. State Engineer v. Rosette Inc., et al.*, Sixth Judicial District Cause No. CV 2005-54. In 2004, Rosette Inc. filed a complaint against the United States, in the form of a petition for a general adjudication of groundwater rights, complaining that the federal government did not have jurisdiction over heat that is found in certain public waters in the State of New Mexico and therefore could not collect royalties from Rosette. The State District Court granted summary judgment for the United States and dismissed the case for lack of jurisdiction. In the order of dismissal, the Court noted that a general adjudication of water rights could be pursued because the State Engineer had received funding for a hydrographic survey of the Animas Valley Underground Water Basin ("Animas Basin"), and ordered the State Engineer to bring a complaint for a general adjudication of the Animas Basin. On October 21, 2005, on the relation of the State Engineer the State of New Mexico filed a complaint for the adjudication of all water rights in the Animas Basin. The complaint sought a statutory general adjudication of all rights to the use of the underground waters of the Animas Basin. The District Court conducted a status conference on June 4, 2008.

A status report on the progress of the hydrographic survey and litigation procedures is due by January 31, 2009. The State anticipates establishing litigation procedures with the District Court in order to provide notice to claimants and begin the joinder of water rights owners and service of offers of judgment during 2009.

The State Engineer declared the Animas Basin, located in the southwest "boot heel" of New Mexico, on May 5, 1948, pursuant to Section 72-12-20, NMSA 1978, and extended the basin's boundaries on February 23, 1956, and on September 23, 2005. The majority of groundwater rights in the Animas Basin are subject to permits and licenses issued by the State Engineer after the basin was declared. In conjunction with hydrographic survey activities, LAP hydrographic survey staff have conducted a series of public meetings to provide information and progress reports to members of the local communities and potential water rights claimants.

A Draft Hydrographic Survey Report is anticipated to be completed in early 2009.

Hydrographic survey staff continue to meet with individual claimants to answer questions and obtain additional information necessary to identify potential water rights and water right owners for purposes of making formal offers of judgment. Survey staff also will continue general outreach efforts with potential claimants to ensure that necessary records are filed with the OSE District Office and updated to reflect current ownership and other relevant data. During the first half of 2009, survey staff will focus on resolving subfile discrepancies with water rights claimants prior to making formal offers of judgment in the course of the adjudication.

Agency Organizational Chart

