

U.S.-MEXICO BORDER INFRASTRUCTURE Meeting Current Needs with an Eye to Future Challenges

By Susan Lauer

With the Colorado River and the Rio Grande as primary water sources, the U.S.-Mexico border region is home to nearly 12 million people along an approximately 2,000-mile stretch from the Gulf of Mexico to the Pacific Ocean. The region's 10 border states have a joint economy that ranks third in the world and its population is outpacing averages in other areas.

Bolstered by trade and new manufacturing plants in Northern Mexico, residents along the Mexican side of the border are among the most privileged in a country where the average per capita income is \$8,340. Still, water infrastruc-

ture is sorely lacking in many areas, with reports of raw sewage flowing down some streets and difficulties with drinking water supply and quality.

Across the border in the United States, the population is among the poorest in the country with the exception of the San Diego area. Overall, 18 percent of U.S. border residents have incomes below the poverty level. The median household income is about \$28,000 for the entire border area and represents only two-thirds of the national median, according to the 2000 United States Census. Average incomes in some U.S. border communities are as little as \$5,000 per year.

In the Colorado River region, the challenge of constructing dependable water infrastructure on both sides of the border is compounded by eight years of drought, decaying existing infrastructure and ongoing pollution problems. Combined with a burgeoning population and looming climate change consequences, the region faces significant water issues. Common waterways yield common concerns, and water and government officials on both sides of the border have been actively working together to find regional solutions that meet specific goals.

"What is the limit? Water is the limit," said border population expert

Continued on page 4

The San Ysidro Treatment Plant (left) is located on the international border with Tijuana just over the fence.



Dear Readers

The news that our friends, the U.S. and Mexican International Boundary and Water Commission (IBWC) Commissioners, died in a small plane crash Sept. 15 about 13 miles over the Texas border in Mexico hit us hard at the



U.S. IBWC Commissioner Carlos Marin, left, and Mexican IBWC Commissioner Arturo Herrera, at our May conference.

Foundation. U.S. Commissioner Carlos Marin and Mexican Commissioner Arturo Herrera were assessing Rio Grande flood conditions in the border areas to coordinate joint response efforts with local officials and the Mexican government. Jake Brisbin, Jr., Executive Director of the Rio Grande Council of Governments, and the pilot also were killed.

The water world is a small community that includes stakeholders, government officials and we who cover them. We have been friends with both Commissioners for several years. Commissioner Herrera served on the Foundation's Colorado River Project Advisory Committee. He was helpful in guiding our program as we analyzed Colorado River border issues. Both

Commissioners Herrera and Marin spoke at many of our conferences and reviewed many of our publications. I know that the word "gentleman" is an old-fashioned word but to me it personifies the way both these men conducted themselves. It's not surprising that they died while working together to coordinate efforts.

It's always sad when we lose respected colleagues in the prime of their careers, and we truly will miss them. Let's remind ourselves that because life is short we need to redouble our efforts to reach agreements and cooperate to solve issues. That would be a fitting tribute.

Rita Schmidt Sudman

Colorado River Project Advisory Members

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Michael Cohen, Pacific Institute
Herb Guenther, Arizona Department of Water Resources
Gary Hansen, Colorado River Indian Tribes
Jeff Kightlinger, MWD of Southern California
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James Lochhead, Brownstein Hyatt Farber Schreck
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The Water Education Foundation thanks all the sources and experts who reviewed this newsletter for balance and accuracy.

The mission of the Water Education Foundation, an impartial, non-profit, organization, is to create a better understanding of water issues and help resolve water resource problems through educational programs.

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WATER EDUCATION
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Basin Briefs

Upper Basin

Colorado's Windy Gap Firming Project Under Environmental Review

The environmental review for Colorado's Windy Gap Firming Project has been prolonged to allow for additional comments to the draft Environmental Impact Statement. In late October the U.S. Bureau of Reclamation (Reclamation) announced a two-month extension for public comment, extending the comment period to Dec. 29.

The Windy Gap Firming Project would divert an additional 30,000 acre-feet of water annually from the Colorado River to fill a new reservoir next to Carter Lake in Colorado.

In 1985 the Municipal Subdistrict, Northern Colorado Water Conservancy District, finished constructing the Windy Gap Project near Granby, which currently diverts water from the Colorado River to the Front Range via the federal Colorado-Big Thompson Project on a space-available basis. During wet years when water is available for pumping at Windy Gap, Lake Granby is often full with little or no capacity for Windy Gap water. The Windy Gap Firming Project, including

the new Chimney Hollow Reservoir next to Carter Lake, was proposed to store Windy Gap water and ensure reliable future deliveries.

Proponents say the project is needed as important storage to accommodate expected growth in the region. Opponents are concerned that decreased stream flow will hurt tourism, an important industry in Grand County and other areas.

The Northern Colorado Water Conservancy District, which works closely with Reclamation, proposed the project. •

Lower Basin

Reservoir Project in Southern California to Conserve Colorado River Water

Construction of the Drop 2 Storage Reservoir Project near El Centro, Calif., which will conserve water and augment the water supply to the benefit of all seven Colorado River Basin states, began on Oct. 21.

Called a "common-sense water management policy" by Secretary of the Interior Dirk Kempthorne, the \$172 million project will capture and temporarily store an average of 70,000 acre-feet of water

each year. This is the average amount of water that has been released from Parker Dam to meet downstream water orders but, because of changed weather conditions, high runoff into the river, or other factors, is no longer needed and currently cannot be stored because of a lack of storage capacity below Parker Dam.

The captured water will be released for use by the Imperial Irrigation District, which will operate and maintain

the project. The project will reduce water releases from Lake Mead, helping augment the lower Colorado River Basin water supply.

The U.S. Bureau of Reclamation will construct the project, with funding by Southern Nevada Water Authority, Metropolitan Water District of Southern California and Central Arizona Project. The project completion is scheduled for August 2010. •

Plans for Pilot Run of Desalting Plant Presented

The Yuma Desalting Plant is scheduled for a year's pilot run in mid-2009 to see how it will perform for an extended period of time. The plant will operate for 365 days at one-third capacity, treating agricultural runoff and returning the treated 29,600 acre-feet of water to the Colorado River.

The desalting plant was authorized in the 1970s as part of the Colorado River Basin Salinity Control Act to treat high-saline runoff from farm fields in the Wellton-Mohawk Irrigation and Drainage District before sending it downriver to help meet a water treaty to provide 1.5 million acre-feet of water a year to Mexico.

Since the plant was built, however, there has been sufficient flow in the river to meet those requirements, and the plant has sat idle while the runoff was carried by a bypass canal to the Gulf of California to create the Ciénega de Santa Clara wetlands.

The Colorado River Basin States – Arizona, California and Nevada – have expressed renewed interest in the plant due to the enduring drought in the Southwest.

In spring 2007, results from a 90-day trial run at 10 percent indicated the plant did better than expected and at a lower cost, according to Reclamation officials at the time.

The upcoming cost estimate on the pilot run is \$490 per acre-foot of water produced. The sludge from the pretreatment process will be taken to drying ponds at an existing site 22 miles away, and the reject flow from the treatment process will go into the bypass canal to continue to supply water to the Cienega wetlands. Environmentalists are concerned operation of the plant will destroy wetlands by high salinity and lower quantity "reject stream" water.

The public comment period of the final environmental review document is currently underway. •

FEATURE

Continued from front page

Professor Rodolfo Cruz Piñeiro of El Colegio de la Frontera Norte during a border water infrastructure conference in May sponsored by the California Department of Water Resources (California DWR) and the Water Education Foundation.

Along the Colorado River, a treaty –signed in 1944 – between the United States and Mexico allocates a guaranteed quantity of water from the Colorado River to Mexico. In the late 1950s, rapid economic development and increased agricultural water use in the United States increased the salinity of water delivered to Mexico. Lack of adequate wastewater facilities and other basic water quality standards in Mexico have polluted waterways on the U.S. side of the border and have exacerbated the states' efforts to meet U.S. Clean Water Act standards.

Today, facing a finite water source and added water quality concerns, the impor-

tance of both countries working together has never been so high.

“When it comes to the real ties that unite our people, no border or line on a map can divide us, because there is no divide to the air that we all breathe, or the clean water that we all depend on. There is no divide when it comes to the healthy environment, and to the respect for the planet that we all share and there is no divide between our common desire to make the border region an economic powerhouse that will improve the lives of all its residents,” said California Gov. Arnold Schwarzenegger at the Border Governors Conference in August 2008, during which water issues were a key topic. “We are friends and partners, united by our shared geography, our common interests and our history and we can thrive only by working together.”

In the past two decades, border development has increased significantly due primarily to the North American Free Trade Agreement (NAFTA) and the maquiladora program that provides

Gov. Arnold Schwarzenegger stressed the importance of cooperation in his opening speech at the XXVI Annual Border Governors Conference in August.



“What is the limit? Water is the limit.”

*– Professor Rodolfo Cruz Piñeiro.
El Colegio de la Frontera Norte*

economic incentives to foreign assembly plants, mostly U.S.-owned. About 1,700 plants operated in Mexico in 1990, and by 2001 that figure had more than doubled to nearly 3,800 plants, 2,700 of which are in the border region in Mexico.

While the Mexican border communities have a low unemployment rate and high wages compared to other regions of the country, the region's infrastructure has not kept pace with its economic growth. As a result, water resources are strained and the environment and public health are impacted on both sides of the border.

This issue of *River Report* explains the water infrastructure topics being discussed and ongoing measures to improve water resources along the border states.

Taking a Regional Approach

Border water infrastructure and financing needs were key topics during the conference sponsored by the Foundation and California DWR in May. At the conference it was pointed out that the current paradigm of project funding as well as historical infrastructure needs assessments for the border region have generally not addressed regional water management tools, such as water conveyance infrastructure, water storage/reservoir management, agricultural water use efficiency, ground-



“We have a very good mechanism available for sharing costs where there is mutual benefit. That is the NADBank and the BECC. Those institutions allow for U.S. moneys to be spent in Mexico. Some of those moneys will benefit U.S. entities as well.”

*– Plácido dos Santos,
Arizona Water Institute*

water recharge, or water recycling and desalination. Existing financial programs simply have not employed a regional approach along the Colorado River.

During the May conference, the late Arturo Herrera, Mexican commissioner of the International Boundary and Water Commission - which applies boundary and water treaties and settles application disputes - detailed the extensive work that needs to happen to increase Mexican water efficiency:

“At a more regional level, we have to invest more in border irrigation districts, which are possibly the most productive of the two countries,” he said. “Then, the irrigation districts need to modernize to be able to keep on producing more with less water. We must recognize that irrigation districts use about 80 percent of the runoff.

Herrera, who was killed in a plane crash in September, also said, “Then we must realize that administration

of river basins must assure hydraulic continuity between rivers, their tributaries and the main channel. We must improve regional administration of river basins so that this objective is fulfilled. In this process, we will assure water supplies for all needs and we will also assure compliance with all our agreements and international treaties that sustain life along the border.

“And finally we have to recognize that it is necessary to strengthen the institutions that administer or manage water. The challenges here are greater in that these institutions, in many cases, have structures that have not been renovated in 20 years. We have to improve these facilities to achieve the vision of managing the river basin for current and future generations.”

EPA’s Infrastructure Program

Since 1995, the U.S. Environmental Protection Agency (EPA) has allocated funding for border water projects under its Border Environment Infrastructure Funds (BEIF) program. Some 72 proj-

ects have been certified for construction, with EPA contributing \$525 million. The total estimated cost is \$1.5 billion. The projects will eliminate nearly 300 million gallons per day of raw or inadequately treated sewage.

A prioritization process since 2005 ranks potential projects based on effects to human health and environmental impacts (for example, raw sewage). Previously, there was no time limit for completion of projects. Today, however, every project needs to be completed in six years, according to Nancy Woo, Region 9, EPA.

To determine which projects are certified for funding, EPA consults with Mexico’s Comisión Nacional del Agua (Conagua) to determine if projects proposed within Mexico are a priority for Mexico as well. Conagua is responsible for coordinating Mexico’s match component from either the federal, state or local governments

“Their support is critical,” Woo said. “A successful project also results in a stronger utility.”



Wastewater Treatment Plant of Piedras Negras.

Financing the Infrastructure

Key to funding environmental infrastructure along the U.S.-Mexico border are the North American Development Bank (NADBank) and the Border Environment Cooperation Commission (BECC), which work closely with EPA. The BECC was created to address environmental pressures that could be caused by increased trade and development associated with NAFTA. NADBank is funded and governed equally by the United States and Mexico as a funding source for projects certified by the BECC.

“We have a very good mechanism available for sharing costs where there is mutual benefit. That is the NADBank and the BECC. Those institutions allow for U.S. moneys to be spent in Mexico. Some of those moneys will benefit U.S. entities as well,” said Plácido dos Santos of the Arizona Water Institute.

Overall, NADBank has provided funding assistance to 119 water infrastructure projects throughout the U.S.-Mexico border region through \$930.5 million in U.S. loans and grants. The BECC has certified 138 environmental infrastructure projects which will cost nearly \$3 billion to build. Of the projects certified, 75 are located in the United States and 63 are in Mexico.

“Without the help of extraordinary projects, such as those of NADBank, with its support of drinking water and drainage projects, we would not be able to meet the needs of our cities,” said Sábas Campos Almódovar, director general for the Comisión Estatal de Agua de Tamaulipas.

As with all public works projects, adequate financing is crucial, including funding from the federal governments, which will need to make substantive investments in border infrastructure.

For instance, in August, a \$56.8 million wastewater project in Piedras Negras, the Mexican city of Coahuila, was nearing completion. Once completed, it will bring wastewater collection services for the first time to some residents in the Villa de Fuente neighborhood. The work is part of a three-phase project to



“Working together is not always easy. We are like a husband, wife and mother-in-law working together for many years.”

— Armando Perez-Gea,
NADBank

be completed by 2018 that includes the construction of a wastewater treatment plant and collection system to provide service to 100 percent of the city.

“This project exemplifies how the Bank can work to provide assistance for projects that have a binational impact, improving water quality in shared watersheds such as the Rio Grande,” said Jorge C. Garcés, managing director of the NADBank. “We look forward to seeing the completion of all three phases of this important project that is improving the quality of life in this vibrant border community.”

NADBank is providing \$8.4 million in grant assistance through its Border Environment Infrastructure Fund (BEIF), funded by EPA, and a \$2.4 million low-interest loan. To date, \$9.9 million have been disbursed towards the construction of the collection system and sewer hookups. The remaining costs will be covered by grant funds from Conagua, the Coahuila state and local authorities.

When it comes to EPA, BECC and NADBank working together, “Working together is not always easy,” joked

Armando Perez-Gea, director of project development of the Core Sectors of NADBank. “We are like a husband, wife and mother-in-law working together for many years.”

Earlier this year, the matter of efficiency and control arose with EPA’s Office of the Chief Financial Officer and some members of Congress who expressed concerns about how projects were being earmarked for funding before final designs were firmed up. No money should be allocated without complete project plans, they asserted.

Since 2005, under its prioritization program, EPA ranks proposed projects based on health and environmental impact, and requires a final design and project completion within six years of funding. Yet in fiscal years 2005 and 2006, EPA awarded \$35.1 million to NADBank to construct border projects that did not have complete designs. These were approved to ensure funds would be available once planning was complete.

A 2008 report by EPA’s Office of the Chief Financial Officer noted if this process continues, between \$34 million and \$37 million of the funds Congress appropriated for the program for 2007 and 2008 will not be needed until fiscal year 2010 or beyond, once design plans are completed.

In order to improve the process, recommendations by EPA’s Office of the Chief Financial Officer included the requirement that project planning and design needs be completed before awarding grant funds for construction. In addition, a plan should be developed to fund other projects with the unobligated funds and prepare work plans that contain required project information.

Addressing Tijuana’s Wastewater Issues

Since the Border Water Infrastructure Conference, contracts have been awarded for an important wastewater project addressing the pollution caused by Tijuana sewage flows crossing the international boundary and dumping into the

Pacific Ocean near San Diego. Over the past 65 years, as the population of Tijuana has increased from 5,000 residents to over 1 million people, so have the magnitude and complexity of sewage flows, including volumes as well as the need for a higher level of effluent treatment to comply with CWA for effluent discharged on the U.S side of the border.

The question has been whether to upgrade a secondary treatment facility near San Diego to treat 25 million gallons a day (mgd) or to build 59 mgd capacity secondary facilities in Mexico under a public/private partnership known as the Bajagua Project. The estimated capital cost for the 25 mgd U.S. facility is \$101 million in 2008 dollars compared to the Bajagua estimate of \$195.6 million for construction of a 59 mgd facility in



Litter and trash plague the Tijuana River Estuary near San Diego.

All-American Canal

On the U.S. side of the border, one important and controversial project is the lining of the All-American Canal to reduce seepage. The project includes construction of 23 miles of lined canal adjacent to the existing canal – originally constructed in the 1930s - that will save the equivalent amount of water that can support 500,000 people. The Imperial Irrigation District, San Diego County Water Authority (SDCWA) and U.S. Bureau of Reclamation are jointly overseeing the \$250 million project, expected to be completed in Spring 2010. California taxpayers, through the state's Department of Water Resources, are paying \$200 million for the project, with another \$20 million coming from bond funding. SDCWA will pay the remaining \$30 million for the project.

The All-American Canal provides irrigation water to more than 500,000 acres of farmland in some of the most productive agricultural regions in the United States and to several small cities.

Yet, for decades, water seeping from the canal has also been the primary source of water for some farmers in the Mexicali Valley and the Andrade wetlands, habitat for several endangered species. Every year, an estimated 67,700 acre-feet of water - enough to satisfy the demands of about 135,000 California families - seeps through an unlined portion of the All-American Canal, percolates into the groundwater basin shared with Mexico and is pumped from wells for agricultural use, according to U.S. Interior Department estimates.

Lining the original canal and the construction of an ancillary canal will stop this Colorado Water seepage and send an equivalent amount of water to coastal Southern California. According to the U.S. International Boundary and Water Commission, the canal project does not violate the Treaty of 1944 signed by Mexico, which guarantees a share of the river's surface water.

When Reclamation issued a Supplemental Information Report in January 2006, which determined that a supplemental Environmental Impact Statement/En-

vironmental Impact report (EIS/EIR) was not required, the Mexican government objected to the project and filed a complaint with IBWC. The business organization Consejo de Desarrollo Economico de Mexicali and the city of Calexico filed a motion for an emergency injunction pending appeal against the United States and the Imperial Irrigation District.

In August 2006 the 9th U.S. Circuit Court of Appeals issued an injunction to stop work on the canal. Late that year, Congress passed legislation that includes a rider waiving environmental requirements and ordering the U.S. Secretary of the Interior to proceed with the project, and the injunction was lifted in early 2007.

Mexico has continuing resentment about the project and especially their perception of unilateral U.S. actions, which it felt did not follow proper diplomatic channels and protocol. This antagonism continues to challenge efforts to improve binational cooperation, and is one of the most important outcomes of the lining project. •

Mexico, according to an April report issued by the Government Accountability Office (GAO) entitled the International Boundary and Water Commission (IBWC): Two Alternatives for Improving Wastewater Treatment on the U.S./Mexico Border.

In May, the U.S. IBWC announced a decision to upgrade the existing South Bay International Wastewater Treatment Plant (SBIWTP) in San Ysidro near San Diego to secondary standards rather than construct a secondary facility in Mexico. This announcement was a milestone after litigation and court decisions about the project have been ongoing for more than a decade.

In 2006, the U.S. IBWC entered into a development agreement with Bajagua, giving the company exclusive rights to pursue development of the Mexican facility. Yet, Bajagua had difficulties in obtaining a concession and other approval from Mexico authorities. In

August 2007, approval was granted, yet when the IBWC reviewed the project, no permits had been acquired for the rights-of-way necessary for the pipeline to the plant and no agreement had been reached regarding the amount of flow to be intercepted from the Tijuana system.

The project highlights the complexities that can arise when working across borders with two separate governments. Given the different agencies, environmental law and intricacies of government proceedings, unfortunately neither the U.S. nor Mexican proposals could meet the September 30, 2008 U.S. court-ordered deadline in order to comply with the CWA.

In May 2008, the IBWC determined that upgrading the existing plant in San Diego would be the quickest and most cost-effective means of achieving compliance with the CWA. It also would provide better use of U.S. taxpayer funds, noted the late U.S. IBWC Commissioner Carlos Marin, who died in the same plane crash

that claimed his counterpart Herrera's life.

From an engineering perspective, completing secondary facilities at the existing San Diego site is a better technical solution than capturing Mexican sewage for advanced primary treatment in the United States, pumping the effluent across the border and 8.6 miles uphill for secondary treatment in Mexico and then pumping that effluent back across the border again for discharge, noted the U.S. IBWC Record of Decision for the final Environmental Impact Statement.

"The U.S. IBWC believes that secondary treatment facilities in the United States can be implemented more quickly than the Bajagua Project, especially given the uncertainties and complications of building a facility in Mexico that have already affected and will likely continue to affect the implementation schedule," noted the report.

In July, a Request for Proposal (RFP) was issued for construction of the up-



San Ysidro Wastewater Treatment Plant will be upgraded to treat 25 million gallons of wastewater a day.

Calendar

grade of the wastewater treatment plant in San Diego. The contract was awarded in mid-November and the upgrades should be completed by 2012.

Programs and Priorities on Both Sides of the Border

Both Mexico and the United States have set their sights on addressing water issues with new programs.

In Mexico, a six-year state development plan, the 2007-2012 National Water Program (Programa Nacional Hídrico), strives to improve the quality and accessibility to water supplies and sanitation services for its population. In addition, improvements are targeted for technical, administrative and financial development of water infrastructure.

On the U.S. side, EPA's Border 2012 bi-national program focuses on providing safe drinking water for communities along the border. This program takes a "bottom-up" approach – encouraging people living in border communities to get involved to help solve their water issues – to identify issues and projects, and carry them forward at the local level. Task forces comprised of local representatives, governmental officials, non-governmental and community-based organizations, along with other equally important entities and individuals, meet quarterly to address specific regional and community identified concerns and make recommendations.

Border 2012 is the new program taking over from Border XXI, which was active from 1996 - 2001 and supported efforts to monitor surface and subsurface water quality in key border basins. To date, the program has focused on making an assessment of existing water systems and creating a monitoring system to evaluate coastal water quality at beaches near the border.

By 2012, the program aims for a 25 percent increase in the number of homes connected to a potable water supply and wastewater collection and treatment system. Also, a 2012 goal is to achieve a majority of water quality standards in waterways shared by both countries.

January

- 15-16 National Salinity Summit**, sponsored by Multi-State Salinity Coalition, Las Vegas, NV • Contact: Donna Bloom, 775-750-1268
email: donna.bloom@sbcglobal.net, web: <http://wrri.nmsu.edu/conf/NSS.pdf>
- 22-23 Adaptation to Climate Change in the Desert Southwest**, sponsored by University of Arizona College of Law, Tucson, AZ • Contact: Donna Ream at 520-626-1629, e-mail: ream@law.arizona.edu
web: <http://www.law.arizona.edu/adaptationconference>
- 28-30 51st Colorado Water Congress Annual Convention**, Denver, CO
Contact: 303-837-0812, email: cwc@cowatercongress.org
web: http://www.cowatercongress.org/default2.asp?active_page_id=89

February

- 3-5 Annual Conference**, sponsored by Nevada Water Resources Association, Reno, NV • Contact: 775- 473-5473, email: creativerno@charter.net
web: <http://www.nvwra.org>
- 26-27 14th International Water Conservation and Xeriscape Conference**, sponsored by Xeriscape Council of New Mexico, Albuquerque, NM. • Contact: 505-468-1021, web: http://www.xeriscapenm.com/xeriscape_conferences/2009/index.php
- 12-13 Nevada Water Law**, sponsored by CLE International, Reno, NV
Contact: 800-873-7130,
web: http://www.cle.com/product.php?proid=1068&page=Nevada_Water_Law

March

- 4-6 Water Education Foundation's Lower Colorado River Tour**, Las Vegas, NV
Contact Diana Farmer, 916-444-6240, email: dfarmer@watereducation.org
web: <http://www.watereducation.org/tours>
- 12-13 Water Education Foundation's Annual Executive Briefing**, Sacramento, CA
Contact: Diana Farmer, 916-444-6240, email: dfarmer@watereducation.org
web: <http://www.watereducation.org/conferences>
- 12-13 Colorado Water Law**, sponsored by CLE International, Denver, CO
Contact: 800-873-7130
web: http://www.cle.com/product.php?proid=1075&src=Featured&page=Colorado_Water_Law
- 26-27 Bi-National Drought Conference**, sponsored by California Department of Water Resources and Water Education Foundation, San Diego, CA
Contact: Diana Farmer, 916-444-6240

April

- 6-9 Annual Conference**, sponsored by New Mexico Rural Water Association, Albuquerque, NM • Contact: 505-884-1031
web: <http://www.nmrwa.org/2009conference.php>

May

- 6-9 81st Annual Conference & Exhibition**, sponsored by Arizona Water & Pollution Control Association, Glendale, AZ • Contact: 1-888-559-8844,
web: <http://www.awpca.org/calendar/conference/index.aspx>

June

- 14-16 Western Governors Association Annual Meeting**, Park City, UT
Contact: 303-623-9378, web: <http://www.westgov.org>

Contact Sue McClurg with your calendar items from July 2009 through December 2009 for inclusion in the Summer issue of River Report, smclurg@watereducation.org or 717 K Street, Suite 317, Sacramento, CA 95814

Animas-La Plata Project is Nearly Complete – Reservoir to Hold 120,000 Acre Feet



The completed Ridges Basin Dam contained 1,000 acre-feet of water from winter snow melt in July 2008.

Forty years after it began, the Animas-La Plata Project in Southwestern Colorado and Northwestern New Mexico is 97 percent complete and being touted as an important source of water for the region.

At a near-completion ceremony in mid-October, Colorado Gov. Bill Ritter noted the project will “benefit historic water claims as well as the economies of tribal and non-tribal communities.”

As the first dam built by the U.S. Bureau of Reclamation (Reclamation) in more than a decade, the principal structure is an offstream reservoir in Ridges Basin in Colorado to store water diverted from the Animas River. Named Lake Nighthorse after retired U.S. Sen. Ben Nighthorse Campbell, the reservoir will have a total storage capacity of approximately 120,000

acre-feet and include about 30,000 acre-feet for recreation and fishing. Two Ute tribes each own 40 percent of the 120,000 acre-feet of water to be stored in the reservoir. Non-tribal entities, including municipal and industrial customers, will purchase some of the water.

The project is expected to be finished in 2012 and is “on schedule, under budget and environmentally sound,” said Secretary of the Interior Dirk Kempthorne during the October ceremony.

A pumping plant and inlet conduit will be used to divert water from the Animas River and deliver it to the reservoir for storage. Basin Creek will be used to convey water back to the Animas River for downstream delivery.

As part of the larger project, the Navajo Nation Municipal Pipeline

project is being constructed following the approximate route of an existing pipeline and will deliver water to seven Navajo chapters along the San Juan River from Farmington to Shiprock in New Mexico.

The 29-mile pipeline will eventually more than quadruple the water supply to nearby tribal chapters and mean much to the Navajo Nation in New Mexico, according to Gil Arviso, Vice Chairman of the Nation’s Water Rights Commission.

“It will open the way to more housing, land use and employment opportunities at a time we are looking hard to get more sustainability,” Arviso said.

In addition, Reclamation announced in late September a \$14.8 million contract for re-alignment of County Road 211 around Lake Nighthorse.

The new 3.75-mile road will be reconstructed entirely on Reclamation land north of the future reservoir because the current road will be inundated when filling of Lake Nighthorse commences. Reclamation anticipates work on the road to be completed in late 2009 or early 2010.

The Animas-La Plata Project fulfills the requirements of the 1988 Colorado Ute Indian Water Rights Settlement Act and the Colorado Ute Settlement Act Amendment of 2000. When completed, the project will provide the Southern Ute Indian Tribe and Ute Mountain Ute Tribe and the people of the four corners area with a water supply without tapping water resources from existing water users in Southwestern Colorado and Northwestern New Mexico.

“Water was an important resource 100 years ago and will be so into the future,” said U.S. Sen. Ken Salazar, D-Colorado. “The project will serve as a template for other places around the West.” •

FEATURE ARTICLE

Continued from page 9

Working to Meet Demands

For the future, meeting the region's existing challenges and providing for increased demands depends on efficiency through improved infrastructure and better management of the region's limited water resources. Solutions should incorporate water conservation, which has been lacking in the region.

"With all the population growth and climate change, it seems like the top priority needs to be conservation. And while certain areas on both sides of the border have done more than others, it seems like in general there needs to be more concentration on conservation," said Halla Razak, the Colorado River programs director for San Diego County Water Authority.

Dos Santos of the Arizona Water Institute also stressed the importance of conservation, starting with analysis of where strides might be made.

"Something that's been overlooked is a comprehensive analysis of water conservation features that can prevent long-term conflicts along the Mexican border," he said.

For the future, desalination also will be an area of focus. "Looking at opportunities for desalting brackish water or even seawater, I would say these would be the two top priorities," Razak said.

Continuing programs that improve management skills and technical abilities in the operations of infrastructure projects will also be important, noted Perez-Gea. In Mexico in general, he noted that water rates are inadequate, which contribute to waste in water usage.

In addition, there isn't the technical expertise to run facilities in the most efficient manner. "For every 10 liters of water produced, less than four liters represent income," he said. By comparison, in the United States, nine or 10 liters of water of every 10 liters produced is sold or passed on to customers. "The



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— Halla Razak,
San Diego County Water Authority

goal is to have water companies behave as companies, not to charge high rates but be professional."

Focus on the Future

The future will bring additional challenges, as population growth in the border region is outstripping national averages. In fact, population on both sides is expected to double over 20 years, which will increase the infrastructure needs. It is estimated that \$8 billion to \$10 billion will be needed in the next 10 years to take care of present water needs.

One trend to watch for is an expanding middle class, which will typically consume more water and energy than a poorer class, adding disproportionately more to the demand, according to Rick Van Schoik, director of the North American Center for Transborder Studies at Arizona State University.

"It may be worse in the border region due to a shift from remote, rural and agricultural to industrial, municipal, and residential land use. Denser populations and more development bring exacerbated urban runoff and nonpoint pollution," he said.

As the region builds up and water demands increase, the result will be a greater dependence on "future" groundwater, risking further "stealing" from the future in the form of subsidence and salt intrusion risk, according to Van Schoik.

What's more, climate change projections indicate that drought conditions will continue and even become more severe, adding to the water woes of the region.

"The expected effects of climate change will result in increased warming and drying of the Southwestern United States and Northwestern Mexico that may result in increasing competition for the region's finite water resources," noted the *Water and Border Area Climate Change, An Introduction* report by the California DWR, released in August 2008. The report's goal is to stress the importance of climate change in water resources planning and management.

"It's important that we realize that drought is a fact of life along the border. We've experienced historical droughts that have been relatively minor in comparison to what natural climate variability could cause, and in the future, we have to think about the effects of climate change, which as we know could relate to increasing aridity in the southwest and changes in precipitation and runoff patterns," said Jeanine Jones, interstate resources manager for California DWR.

"Our infrastructure needs to be designed to cope with this. Our existing infrastructure may not be adequate to deal with the droughts and with the future of climate change," Jones stressed. •



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