



SOUTHERN NEVADA WATER AUTHORITY®

2013 Annual Report

A not-for-profit water agency



Mission

Provide world class water service in a sustainable, adaptive and responsible manner to our customers through reliable, cost effective systems.

History

For more than two decades, the SNWA has been addressing Southern Nevada's unique water needs. Recognizing the importance of the world's most precious and finite resource, the SNWA works with agencies in Nevada, as well as in other Colorado River Basin states and throughout the world, to help protect and preserve water supplies.

Member Agencies

Big Bend Water District

City of Boulder City

City of Henderson

City of Las Vegas

City of North Las Vegas

Clark County Water Reclamation District

Las Vegas Valley Water District

SNWA Board of Directors



Mary Beth Scow, Chair
Las Vegas Valley Water District



Sam Bateman, Vice Chair
City of Henderson



Steve Sisolak
Big Bend Water District



Duncan McCoy
City of Boulder City



Susan Brager
Clark County
Water Reclamation
District



Bob Coffin
City of Las Vegas



Anita Wood
City of North Las Vegas

Executive Management

John J. Entsminger
General Manager

Philip Speight
Assistant
General Manager

David L. Johnson
Deputy General Manager
Engineering/Operations

Julie A. Wilcox
Deputy General Manager
Administration

David Wright
Chief Financial
Officer

Gregory Walch
General Counsel

From the Chair

To our friends and neighbors:

Thanks to the foresight and partnership of our community, employees and leadership, the Southern Nevada Water Authority has sustained our region's water resources through turbulent times and unpredictable hydrologic changes.

The need for a sustainable, replenishable water source is not just a concern for Southern Nevada; it is an issue that impacts our region, nation and world. The SNWA continues to work with its Colorado River partners to manage water in our reservoirs as well as secure alternative water supplies. By 2013, Southern Nevada had banked more than 760,000 acre-feet of water in Arizona and California.

As the Colorado River system continues to experience the impacts of the ongoing drought, the SNWA has helped Southern Nevadans reduce water consumption by 33 percent over the last decade even while the population has grown by 25 percent. The SNWA Conservation Plan projects an estimated community-wide savings of more than 90 billion gallons by 2035.

The SNWA has a long-standing commitment of partnering with the community to address regional water challenges and operations, as exemplified over the last year by the extensive work of the Integrated Resource Planning Advisory Committee (IRPAC). This 21-member citizens committee has provided a variety of recommendations to ensure sustained operations and water resources, including an increase in water rates to meet bond obligations on the community's existing water treatment and distribution system. Going forward, the committee will make additional recommendations to help shape future water policy and programs.

This type of open dialogue was fostered under the outstanding leadership of SNWA General Manager Pat Mulroy, who established some of our community's very first citizens planning committees, and continues today under the leadership of John Entsminger, who took over the helm of the Water Authority when Pat retired in February.

Among his many achievements during his 15 years with the SNWA, John has overseen the IRPAC process and has served as Nevada's lead representative during Colorado River negotiations. He ushers in a new era of strategic planning and water policy initiatives to continue to sustain our resources into the future.

Sincerely,

Mary Beth Scow

Chair

Southern Nevada Water Authority



From the General Manager

To our community, stakeholders and customers:

For much of the past decade, Southern Nevada's economy has faced the two challenges of an unprecedented recession and a historic drought. Balancing the needs of municipalities and the needs of the environment in the face of these challenges requires water providers to adapt and change.

During this period of economic uncertainty, the SNWA realigned our focus to transition from infrastructure expansion—to keep pace with increasing demand in the early part of the decade—to infrastructure maintenance, long-term asset management and enhanced service levels.

As we move forward as an organization, we're continuing to reduce operational and construction expenditures by more than \$19 million. We owe our community the most efficient and responsive organization possible, and these changes will help ensure that we will continue to provide a high level of customer service while ensuring sustainable resources into the future.

Internationally, the SNWA worked with its Colorado River partners and the country of Mexico to negotiate Minute 319, which, in part, outlines conditions for sharing delivery reductions among the countries. These partnerships enable ongoing dialogue regarding the river's future drought challenges.

Regionally, we continue to collaborate with Colorado River Basin states to sustain water resources. A 2007 agreement allows the Basin states to share shortages during drought and low reservoir conditions to extend river resources. We also must look to new resources to sustain our community. The ability to draw upon groundwater within our state is a critical safety net during persistent drought on the river and will only be implemented if drought conditions warrant.

Together, we have the ability to ensure the ongoing vitality of our community while effectively managing our region's—and world's—most precious natural resource.

Sincerely,

John J. Entsminger

SNWA General Manager





Cooperation in the Basin:

Securing our water supply

Despite recent average inflows into the Colorado River system, Lake Mead remains less than half full.

More than a decade of drought depleted runoff to Lake Powell and Lake Mead, leaving Lake Mead hovering at 47 percent capacity in 2013, with the possibility of dropping to 38 percent by the end of 2014.

Milestone:

The SNWA has approximately 760,000 acre-feet of water stored in Arizona and California water banks.



2012



2014

Lake Mead reached 47 percent capacity in 2013.

The SNWA continues to lead efforts to insulate the community from the effects of drought, including building a third intake to draw water deeper from within Lake Mead, as well as developing and diversifying water resources.

Construction of Intake No. 3—the most difficult and complex construction project of its kind—is nearly complete. This \$800 million project was recently augmented with a 100-foot deep shaft to join Intake No. 1 to Intake No. 2 and Intake No. 3. This

connection will allow continued water delivery to the water treatment facilities while the Intake No. 3 project is completed.

The SNWA's efforts to extend and diversify Southern Nevada's water resources include watershed management, water banking and water supply augmentation.

Because we live in a desert, banking water within and outside our borders is critical for long-term

survival. Like a savings account, groundwater banking and Intentionally Created Surplus (ICS) credits in Lake Mead provide the SNWA the ability to store water for current and future use. As part of its long-term water resource strategy, the Water Authority had reserved water in years when Nevada's Colorado River allocation exceeded the valley's water demands. The SNWA stores water locally in the Las Vegas Valley Groundwater Basin as well as through banking agreements with Arizona and California. Approximately 360,000 acre-feet are stored in the Las Vegas Valley Groundwater Basin. Permits issued by the Nevada State Engineer and an agreement between the Las Vegas Valley Water District and the SNWA govern the SNWA's recovery of this water.

A portion of banked water—17,378 acre-feet—is allocated for the Las Vegas Valley Groundwater Management Program. The SNWA oversees the program, which includes monitoring groundwater levels, carefully managing pumping and mitigation measures to prevent contamination. The program has succeeded in maintaining and even raising the water table.

SNWA member agencies also hold groundwater rights in the Las Vegas Valley—40,629 acre-feet permitted to the Las Vegas Valley Water District and 6,201 acre-feet permitted to the City of North Las Vegas—that are used primarily to meet peak demands in the summer.

The concept of ICS—credits that accrue when water is returned to Lake Mead—is integral to managing our Colorado River water resources. Southern Nevada is allocated 300,000 acre-feet of river water per year (an acre-foot is enough water to sustain 3.4 Southern Nevada single-family homes annually). Under the 2007 interim guidelines, the SNWA works to create ICS credits by conserving or introducing additional water into the Colorado River. Southern Nevada can withdraw ICS credits from Lake Mead the year they were created or bank the credits for future use.

Through 2013, the SNWA had stored more than 140,000 acre-feet of ICS credits in Lake Mead by delivering leased and owned pre-1929 Muddy and Virgin River water rights and Coyote Spring Groundwater to the lake, and through pilot operations at the Yuma Desalting Plant. In 2014, the SNWA plans to create an additional 30,000 acre-feet of ICS credits from its Muddy and Virgin River water rights. ICS credits created annually are available during declared Colorado River shortages; however, stored credits are not.

The Warren H. Brock Reservoir provides Southern Nevada with an additional 400,000 acre-feet of ICS credits, of which 40,000 acre-feet are available for consumptive use each year. Nevada, California and Arizona water users funded the reservoir—near Gordon Well, Calif.—to capture Colorado River water



Warren H. Brock Reservoir near Gordon Well, Calif., helps Southern Nevada extend its water resources.

that would otherwise go unused in the Lower Basin and pass into Mexico. The states, in exchange, receive a portion of the water savings in the form of ICS credits. These ICS credits can be used under normal Colorado River conditions through 2035.

The SNWA has stored approximately 600,000 acre-feet in the Arizona bank and may choose to store up to 1.25 million acre-feet of water in the bank. The SNWA may utilize water banked in Arizona at a maximum annual rate of 40,000 acre-

feet per year during normal water supply conditions and 60,000 acre-feet per year during a declared shortage. The SNWA banked 75,000 acre-feet of Nevada's unused Colorado River water in California last year as part of its banking agreement with the Metropolitan Water District of Southern California. The SNWA has banked approximately 160,000 acre-feet of water in California, and may recover 30,000 acre-feet per year during normal and shortage conditions.



A 21-member citizens committee provides the SNWA input on funding-related issues and other water initiatives. The committee presented rate recommendations to the SNWA Board of Directors that will help meet bond obligations for the community's existing water treatment and distribution system.



An agreement between the United States and Mexico allows Mexico to defer its Colorado River water delivery and store a maximum 200,000 acre-feet of water annually in Lake Mead through 2016.

The agreement, known as Minute 319, addresses distribution of flows to Mexico under both low and high reservoir conditions, and includes a pilot program that allows the SNWA to invest in that country's infrastructure improvements in exchange for 23,750 acre-feet of ICS credits.

The Department of Interior recognized the SNWA along with other Basin states, the Nature Conservancy and Environmental Defense Fund with the Partners in Conservation Award for their cooperative work on Minute 319.

Discussions continue between the U.S. and Mexico to identify projects to benefit both nations' water resources, including negotiating a comprehensive long-term agreement regarding management of the Colorado River.

These types of collaborations are essential to finding innovative water solutions to address the challenges of changing climate and hydrologic conditions. In March 2013, the Nevada Board of Examiners approved \$4 million in funding for Nevada's first Center of Excellence—a public-private venture between Nevada's Desert Research Institute, IBM,

the Governor's office of Economic Development and the SNWA. The Center of Excellence will be a global resource in water development research, commercialization of water development technologies and water management.

The SNWA collaborates with the Basin states and the U.S. Bureau of Reclamation (BOR) to address the declining flows of the Colorado River and find long-term solutions to offset the potential imbalances predicted by a recent BOR study. The Colorado River Basin Supply and Demand Study, funded in part by the SNWA and other Basin states, projects a future average river imbalance reaching 3.2 million acre-feet annually by 2060 and a nearly 10 percent decline in Colorado River inflows due to a warmer, drier climate.

The Basin states, through joint efforts, have begun enacting measures to extend and sustain the Colorado River system. River and reservoir management guidelines approved by the Secretary of the Interior in 2007 paved the way for several of these measures. These interim guidelines allow the Basin states to share shortages during drought and low reservoir conditions as well as extend river resources.

Locally, the SNWA extends Southern Nevada's river allocation of 300,000 acre-feet each year through a variety of measures that stretch every drop. Water

that flows through our taps and down the drain is reclaimed, treated and used as a resource in Southern Nevada. Reclaimed water accounts for roughly 40 percent of the water we use, making it Southern Nevada's second-largest water resource.

Southern Nevada reclaims wastewater through return-flow credits and direct reuse. Approximately 200,000 acre-feet are returned to the Colorado River each year for return-flow credits. Direct reuse accounts for about 17,000 acre-feet per year. When Southern Nevada directly reuses additional reclaimed Colorado River water for irrigation or cooling, it is a form of recycling. Nearly all of the total wastewater flows returned for treatment are reused in Southern Nevada through direct reuse and Colorado River return-flow credits.

While the SNWA collaborates and works to extend Nevada's Colorado River allocation, we must also look to new resources to sustain our community. The Water Authority has made acquisition of groundwater rights in east-central Nevada part of a long-term planning strategy—the first applications for groundwater rights were filed in 1989—to provide Southern Nevada a critical safety net during persistent drought on the Colorado River.

The Nevada State Engineer in 2012 granted the SNWA nearly 84,000 acre-feet of water annually in four east-central Nevada valleys. The U.S.



The SNWA acquired water rights in east-central Nevada as part of a long-term planning strategy.

Bureau of Land Management (BLM) released a Record of Decision in 2012 supporting its decision to grant the SNWA rights-of-way in the basins where it currently has permitted water rights. The BLM decision was based on more than 20 years of environmental monitoring and data collection. While this decision excludes rights-of-way in Snake Valley, it does not prevent the SNWA from pursuing its groundwater applications there, an action that is subject to additional environmental analysis.

In 2013, the White Pine County District Court ruled that the Nevada State Engineer must collect

additional data and recalculate the volume of water associated with groundwater permits granted to the SNWA in Spring, Cave, Dry Lake and Delamar valleys in 2012. The State Engineer appealed the decision to the Nevada Supreme Court; the SNWA is also party to that appeal.

The construction schedule for the groundwater development project will be dictated as Colorado River conditions warrant.



Partnering for higher standards:

Enhancing our water quality

It goes directly from tap to glass. When we fill that glass, we don't think about the extensive journey and rigorous treatment that brought water to us. We simply drink it.

But at the SNWA's Southern Nevada Water System, which includes the Alfred Merritt Smith and River Mountains water treatment facilities, scientists do think about water quality. Even though Southern Nevada's drinking water surpasses required federal Safe Drinking Water Act standards, the SNWA continuously pursues a higher standard, not just for Southern Nevada, but as part of a global commitment. The Water Authority works to advance water quality through research projects and collaborations with other agencies.

Milestone:

The SNWA Water Quality Laboratory and Applied Research & Development Center lets scientists optimize existing treatment techniques and research new treatment technologies.

Two such research projects team the SNWA with the U.S. Environmental Protection Agency (EPA) and other organizations to examine water-quality issues affecting water providers globally. The SNWA and Clarkson University in New York are identifying affordable, sustainable and effective water treatment for small systems; while a partnership with the Regional Municipality of Halton in Ontario, Canada, is exploring the effects of bromate—a disinfection by-product formed during ozone treatment—and researching control strategies to manage bromate levels in drinking water.

The SNWA also conducts water-quality research projects that examine the use of different materials to detect contaminants, remove by products and organic matter and advance wastewater treatment.

There are many scenarios that can affect water quality. The SNWA works to identify and help mitigate these risks before they can impact environmental or public health, even when the cause is natural.

The SNWA received a WaterSMART grant from the Bureau of Reclamation to assess the impacts of climate change on water quality in Lake Mead. Water-quality changes at Lake Mead's intakes and Hoover Dam are being studied using a three-dimensional model. The model will not only consider water-quality changes when lake levels decline, it

also will examine the differences when water levels rise rapidly.

The SNWA is working with local and federal agencies to deter the growing quagga mussel population, which threatens water quality in various bodies of water throughout the nation—from the Great Lakes to the Mississippi River to Lake Mead. Quagga mussels were discovered in Lake Mead in 2007 and were likely transported attached to a watercraft. A couple of mussels can quickly multiply into thousands, attaching to solid surfaces and potentially causing millions of dollars in damage to water pipes and intakes.

Currently, the SNWA injects a low-dose chemical solution into the water at the mouth of Lake Mead's two intakes to keep quaggas from colonizing its pipes. Both the chemical and the quaggas are removed from the water during treatment. Divers also inspect and clean intake screens every six months using a pressure blast process, and scrape the screens to remove mussels and keep water flowing freely.

The water quality of Lake Mead also is effected by the quality of its source—the Colorado River. The SNWA is an active member of the Lower Colorado River Water Quality Partnership—a collaboration of the SNWA, the Metropolitan Water District of Southern California and the Central Arizona Water



Quagga mussels attach to a boat propeller.

Conservation District—that meets quarterly to evaluate and address Colorado River water quality issues.



Learn more about where your water comes from, how it's treated and what it takes to get it delivered to your home.



The partnership in 2013 addressed uranium mining near an estuary of the Colorado River. The group recommended that the U.S. Department of Energy exclude an area located near the Dolores River, a main stem of the Colorado River, from future uranium mining activities due to potential environmental and public health impacts. The DOE operates a uranium-leasing program in western Colorado.

Colorado River salinity is another focus of the partnership, which advocates the BOR's replacement of a deep-injection well to the Paradox Valley Salinity Control project. The project is designed to prevent the Dolores River from delivering more than 200,000 tons of natural salt—acquired annually as it crosses the Paradox Valley—to the Colorado River. A Paradox unit intercepts the brine groundwater before it enters the river and disposes of it through the deep-injection well.

It takes a collaboration of efforts to achieve a high standard of water quality. Research and development, monitoring, sampling and testing all work together to help Southern Nevada's water quality surpass federal drinking-water standards. Current technology allows testing for elements that were non-detectable 10 years ago. As a result, SNWA scientists are now testing for toxins and compounds—including chloroform and other compounds formed during the disinfection process.

The SNWA also tests for nitrate levels in drinking water, as high concentrations can lead to health problems for infants.

Sampling and testing are integral to achieving a high standard of water quality. The SNWA processed approximately 51,000 samples and performed more than 305,000 analyses on Southern Nevada's drinking water in 2013. SNWA scientists collect samples from intakes, treatment facilities and from treated water throughout the valley. The results from these samples are published in an annual water quality report for the SNWA's two water treatment facilities that comprise the Southern Nevada Water System, as mandated by the Safe Drinking Water Act.

Testing and analysis occurs through all stages of the water-treatment process, which begins when water is drawn from intakes below Lake Mead's surface. The water is transported to two water treatment facilities where it undergoes ozonation—the primary disinfectant in a multi-stage filtration process.

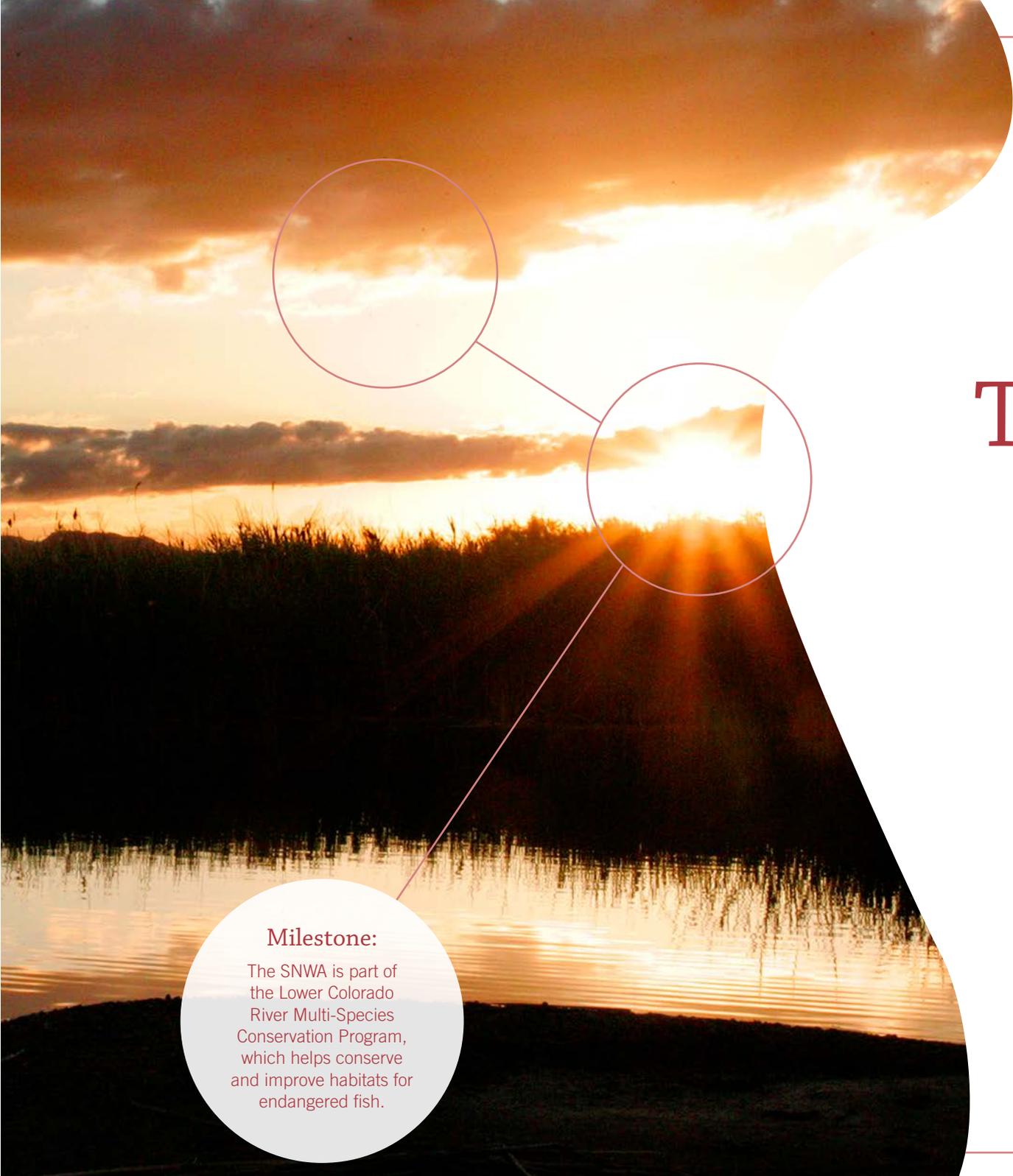
After ozonation, water at the Alfred Merritt Smith Treatment Facility is treated with chlorine gas as a secondary disinfectant. Water at the River Mountains Water Treatment Facility is treated with sodium hypochlorite as a secondary disinfectant. While ozonation is an effective, safe disinfectant, it does not remain in water for extended periods of

time. Chlorine is added to protect the water while it continues through the distribution system. Zinc orthophosphate is added to mitigate pipe corrosion as the water travels from treatment facility to tap.

The Water Research Foundation recognized The SNWA's high standards of water quality in 2013. The foundation awarded the Water Authority the Outstanding Subscriber Award for Applied Research, recognizing the SNWA's critical role in research projects that benefit the broader drinking-water community.

The SNWA's Alfred Merritt Smith Water Treatment Facility also received the Partnership for Safe Water 15 Year Directors Award of Recognition as one of the highest-performing water treatment facilities in the country.





Teaming with nature:

Sustaining our environment

Our desert ecosystem depends on water sources to survive and flourish.

Nowhere is this better illustrated than in the story of a little fish—a species that demonstrates the resilience of desert wildlife and how sustainable environmental practices can help all creatures thrive.

Milestone:

The SNWA is part of the Lower Colorado River Multi-Species Conservation Program, which helps conserve and improve habitats for endangered fish.

The tiny, endangered Moapa dace is thriving in the headwaters of the Muddy River in the Warm Springs Natural Area thanks to ongoing partner agency recovery efforts. A survey conducted in late 2013 detected more than 1,700 Moapa dace, a 46 percent increase from 2012. The U.S. Fish and Wildlife Service (USFWS) collaborates with the SNWA and the Nevada Department of Wildlife to conduct Moapa dace population surveys twice yearly.

A USFWS recovery plan for the Moapa dace, protected by the Endangered Species Preservation Act in 1967, set a goal to delist the fish when the adult population reaches 6,000 in five spring systems for five consecutive years. Additional goals include restoring 75 percent of historic habitat and gaining effective control of non-native, invasive fish.

To meet the goals set by the USFWS, biologists restored several stream segments on the property to a velocity and temperature that provide an ideal breeding and feeding ground for the dace. They also removed non-native blue tilapia, which prey upon the dace, and installed fish barriers in the Muddy River to prevent other non-native aquatic species from entering the Moapa dace habitat.

In 2007, the SNWA acquired the 1,220-acre Warm Springs Natural Area, located about 60 miles northeast of Las Vegas, using Southern Nevada

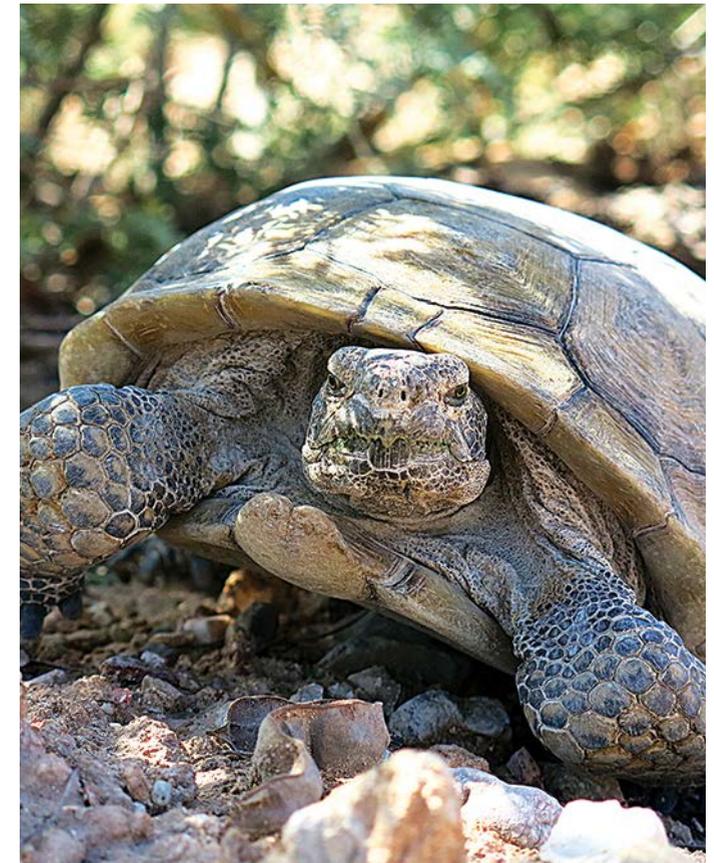
Public Land Management Act (SNPLMA) funding. The property's 2011 Stewardship Plan contains a framework for managing the Warm Springs Natural Area. The plan will preserve the integrity of the property's natural resources while managing SNWA's Muddy River and Coyote Spring Valley water resources.

The SNWA continues to restore the areas, which will soon be open to the public. The Warm Springs Natural Area will include a .75-mile loop trail, thanks to SNPLMA funding. Kiosks along the trail will educate the public about the diverse plant and animal life in the area, considered one of the most important areas of biodiversity in the Mojave Desert.

In addition to the Moapa dace, Nevada is home to 42 other animal and plant species listed as threatened or endangered and nine candidates under the federal Endangered Species Act of 1973.

The SNWA actively participates in programs that form the basis for compliance with applicable environmental laws and regulations.

The Steering Committee for the Lower Colorado River Multi-Species Conservation Program (LCR MSCP) provides environmental compliance for all water and power operations on the Lower Colorado River. The program's Steering Committee comprises



The desert tortoise is a threatened species.

56 entities from Nevada, Arizona, California, federal and state governments, water and power users, and other stakeholders. The SNWA has been instrumental in the Big Bend Conservation Area LCR MSCP project, which has preserved valuable backwater for endangered fish. By taking a proactive role in the health of the river and its natural inhabitants, Colorado River users are ensuring that both their uses and the river itself are sustainable.



A Southwestern willow flycatcher is discovered at the Las Vegas Wash.

The SNWA has been actively involved in a variety of programs to help restore and protect the natural habitats of special status species including:

- Big Spring Spinedace Recovery Implementation Team
- Clark County Desert Conservation Program
- Columbia Spotted Frog Conservation Team
- Desert Tortoise Recovery Implementation Team

- Greater Sage-Grouse Working Groups
- Least Chub Conservation Team
- Lower Colorado River Multi-Species Conservation Program
- Lower Virgin River Recovery Implementation Team
- Muddy River Recovery Implementation Program
- Nevada Cheatgrass Action Team
- Pahrangat Valley Recovery Implementation Team
- Pahrump Poolfish Recovery Implementation Team
- Relict Leopard Frog Conservation Team
- Virgin River Fishes Recovery Team
- Virgin River Habitat Conservation Program
- White River Valley Fishes Recovery Implementation Team
- Winter Raptor Survey Program

Endangered species are also found in the Las Vegas Wash. The Wash serves as a crucial cleansing point for urban runoff, shallow groundwater and storm water, making it essential to our desert ecosystem.

In addition to its role as a natural carrier and filter, the Wash also has become a thriving wildlife habitat—the SNWA has helped identify more than 1,000 species of plants and wildlife, including birds, mammals and insects along the Wash.

Last summer, biologists found an endangered Southwestern willow flycatcher at the Wash. The neotropical migrant arrives in the Southwest in May and June looking for potential nesting locations in dense riparian habitat. The record marks just the second known occurrence of a Southwestern willow flycatcher on a breeding territory at the Wash since surveying began 15 years ago.

Because the Wash is such a vital and sensitive environmental area, the SNWA assembled the Las Vegas Wash Coordination Committee (LVWCC) in 1998—at the recommendation of a citizens advisory committee. The LVWCC developed, and is implementing, a long-term management plan to stabilize and enhance the Wash and surrounding wetlands.

These efforts were recognized in 2013 by the American Public Works Association, which honored the LVWCC's Homestead and Lower Narrows weirs project with the National Environmental Project of the Year award; and by the Associated General Contractors, which honored the Duck Creek



This Las Vegas Wash channel runs between Pabco Road and Historic Lateral weirs.

Confluence and Upper Narrows weirs as the Nevada Project of the Year Award.

The weirs comprise some of the largest grade-control structures built in the nation—they slow flows and reduce erosion, substantially decreasing the amount of total suspended solids in the Wash. Engineers designed the weirs to contain and withstand floodwater forces reaching 23,000 cubic feet per

second. The weirs span nearly 480 feet and steer water through a 31-foot grade drop.

Sixteen out of 22 planned weirs are completed, but they are only part of the LVWCC's accomplishments at the Wash during the last 15 years. The committee has overseen the removal of approximately 600 acres of non-native tamarisk and organized more than 10,000 volunteers to remove more than

500,000 pounds of trash and revegetate nearly 400 acres with native plants. These restoration efforts contributed to significant water-quality improvements—greatly reducing total suspended solids—and helped remove the Las Vegas Wash from the Nevada Division of Environmental Protection's "impaired waters" list.

From the wetlands of Southern Nevada to ranch properties in east-central Nevada, the SNWA's sustainable environmental practices span the state. The SNWA acquired ranch properties and associated surface and groundwater rights in Spring Valley to more effectively manage water and environmental resources in the area.

As one of the largest ranch owners in the Western United States, the SNWA is committed to balancing responsible land stewardship with water-resource management. SNWA accomplishes this by employing best management practices, such as water- and energy-efficient technologies, GPS tracking and invasive weed-control treatments. The SNWA also coordinates with the BLM, the United States Forest Service, the University of Nevada, Reno and other entities and professionals to improve livestock operations. Researchers monitor ranch progress, perform ecological site assessments and conduct rangeland-condition analyses, among a variety of monitoring and reporting programs.

As part of the east-central Nevada water-rights process for Spring, Delamar, Dry Lake and Cave valleys, the SNWA signed stipulated agreements in 2006 and 2008 with Department of Interior (DOI) agencies, including Bureau of Indian Affairs, BLM, USFWS and National Park Service. Technical teams representing the agencies developed biological and hydrological monitoring plans pursuant to the obligations of the agreements. Plans include monitoring baseline conditions prior to and during groundwater withdrawals.

Two years of baseline biological monitoring have been completed in Spring Valley and documented in annual reports submitted to the DOI and the Nevada State Engineer. Thirteen surveys have been conducted across 28 monitoring sites. Recent efforts have focused on supplemental baseline data collection and evaluation of the monitoring program. The monitoring plans will be reviewed and revised as needed to reflect monitoring refinement, mitigation and management activities.

The BLM in 2013 granted rights-of-way to SNWA for the primary water and power conveyance facilities for the Clark, Lincoln and White Pine Counties Groundwater Development Project (GWD Project) in east-central Nevada. The environmental compliance process for the rights-of-way encompassed 8 years of research, analysis, review and public comment, and involved 16 cooperating agencies. The BLM



The SNWA acquired ranch properties in Spring Valley to more effectively manage the area's water and environmental resources.

also consulted with the USFWS, as required under the Endangered Species Act, to assess potential effects on federally listed species. The GWD Project will convey groundwater rights that were permitted to SNWA by the Nevada State Engineer in 2012 from Spring, Delamar, Dry Lake, and Cave valleys. SNWA will construct the GWD Project when needed to meet demands as drought conditions on the Colorado River warrant.

The SNWA also conducts other biological field studies in central Nevada and western Utah in

support of current and future environmental permitting processes. Biological efforts in 2013 include greater sage grouse surveys at mating sites and northern leopard frog breeding surveys.

The SNWA also assists other agencies' efforts for sensitive species in the region, including Pahrump poolfish, winter raptors, and Utah's Columbia spotted frog and least chub.



Collaborating to conserve:

Extending our resources

We live in one of our nation's most arid regions. Southern Nevada's average precipitation is only 4 inches annually, making water a scant, precious resource.

Our community understands these limitations and works together to extend our water resources. Southern Nevadans reduced water consumption by 33 percent while the population has grown 25 percent in the last decade. Southern Nevada accomplished this thanks to community efforts, the SNWA's aggressive conservation campaign and one of the nation's most extensive water reuse programs.

Milestone:

Since 1999, the SNWA's Water Smart Landscapes Rebate Program has encouraged residential and commercial property owners to replace turf with water-efficient landscaping.



The SNWA partnered with local home builders and established the Water Smart Home Program in 2005. The program helps create communities of water-efficient homes.



The SNWA engages the community in conservation practices through a combination of incentives, education, tiered rates and restrictions that reduce per-person water consumption. Residents and businesses are motivated to get off their grass through the SNWA's Water Smart Landscapes program. Last year, our community replaced 4.9 million square feet of turf, adding more than 250 million gallons of water savings annually. Collectively, Southern Nevadans have converted more than 167 million square feet of landscape and reduced our water use by more than 9 billion gallons since the program began in 1999.

Qualifying residents and businesses who convert lawns to water-efficient landscapes receive a rebate—up to a \$1.50 per square-foot—through the program. A grant from the U.S. Bureau of Reclamation—along with matching funds from the SNWA—helps fund a portion of the rebate incentives. More than 2,100 rebates were awarded in 2013.

Outdoor water conservation is not limited to turf conversion. SNWA incentive programs motivated more than 2,900 customers to use SNWA discount vouchers when they purchased pool covers, smart irrigation controllers and rain sensors in 2013. The SNWA also offers water-smart car wash incentives, which provide discounts to car washes that recycle water onsite or send it to a treatment facility.

Our outdoor conservation efforts don't just stop with water—the effects are far-reaching. By eliminating 167 million square feet of turf, residents saved more than 385,000-megawatt hours of energy required to produce and deliver landscape irrigation water—a savings of more than \$25 million. The electrical savings eliminates nearly 29,000 metric tons of carbon dioxide annually, equivalent to eliminating the exhaust of more than 5,500 cars in one year.

While outdoor water savings are a significant part of our conservation efforts, some innovative homebuilders have discovered a way to increase water savings both outside and inside the home. More than 10,000 Southern Nevada families are living in state-of-the-art, water-efficient homes, designed to reduce household water consumption. In 2013, three Southern Nevada homebuilders participated in the SNWA Water Smart Home program and constructed 560 new single-family homes that use about half the water compared to homes built from 1990 to 2003.

Water savings can be measured in many ways throughout our community—from residents to businesses, we're making every drop count. Southern Nevada resort properties and businesses saved more than 43 million gallons of water last year by participating in the SNWA's Water Efficient Technologies (WET) program. Twenty-three WET

projects—including cooling tower improvements, high-efficiency toilets, linen washing and high-performance shower heads—incorporated water-saving technologies or converted landscaping through the program, designed to encourage water-saving practices at commercial and multi-family facilities.

Just because water goes down the drain, that doesn't mean it's gone forever. Regional wastewater agencies capture virtually all indoor water, treat it using state-of-the-art systems to meet or surpass state and federal water-quality standards, and return it to the Colorado River for "credits." This process extends our community's Colorado River use by 200,000 acre-feet of water each year.

The SNWA actively helps residents interested in making their communities more water-efficient, so when the residents of Sherman Gardens—a historic West Las Vegas community—wanted to become a water-smart community, the SNWA helped residents achieve their goal. As part of the Safe Village Initiative, the Water Conservation Coalition and SNWA joined forces last year to convert 7.3 acres of Sherman Gardens' outdoor space to water-smart landscaping and recreation areas, including basketball courts, a playground and an outdoor movie theater. The conversion is expected to save about 1.6 million gallons per year.



WaterSmart Innovations is presented by the SNWA in partnership with the U.S. Environmental Protection Agency.

The Water Conservation Coalition is a public/private partnership that works closely with the SNWA to sponsor projects within our community that promote water efficiency and education. The coalition, formed in 1995, has grown to include about 150 businesses in our community.

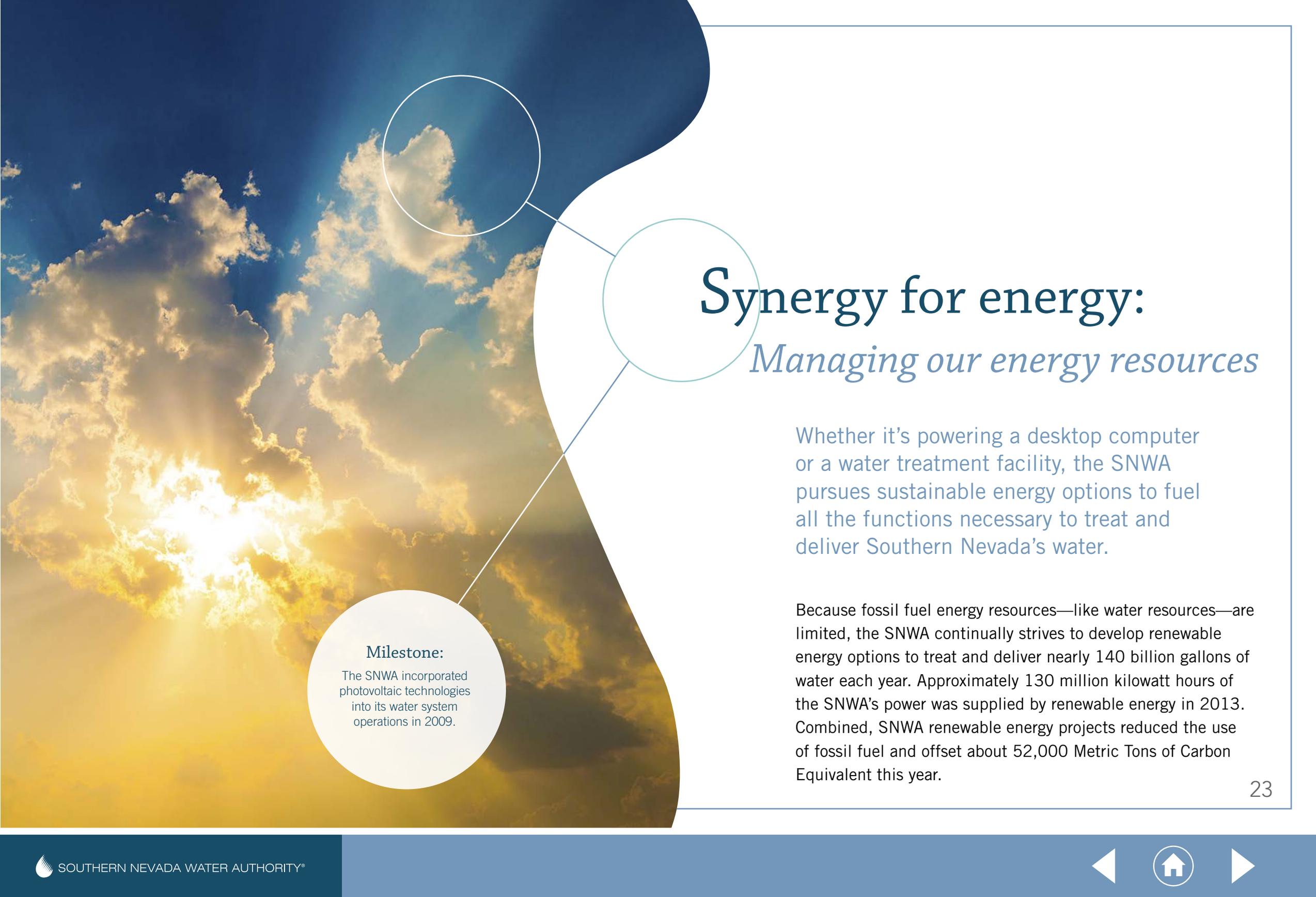
Through the years, the SNWA has helped Southern Nevada advance toward its conservation goals through pioneering programs that both encourage and require residents to reduce water use. As part of its global ethic to preserve one of Earth's most precious resources, the SNWA has met with other agencies representing Egypt, Indonesia, India,

Mexico, Brazil, South Africa, Israel, Pakistan, Australia, Sweden and Thailand to share successful water-management strategies.

When communities share water-efficiency successes, they foster a larger conservation movement. The SNWA partners with the U.S. Environmental Protection Agency's Water Sense Program, the Alliance for Water Efficiency and American Water Works Association to create a forum for the water industry to share successful conservation practices.

In 2013, the sixth annual WaterSmart Innovations Conference and Exhibition drew nearly 900 participants from 35 states and 11 nations. The conference featured more than 100 professional sessions and highlighted products and services from nearly 70 companies and organizations.

The SNWA fosters some partnerships based on the premise that ordinary people sometimes have extraordinary ideas. It forms the basis of the H₂O Utilities Partner Program, which cultivates water conservation and efficiency innovations. In 2013, the SNWA joined the Metropolitan Water District of Southern California, the San Francisco Public Utilities Commission and the East Bay Municipal Utility District to form the program, which allows utilities to connect with early-stage entrepreneurs whose innovations will help improve water distribution, quality, access and efficiency.



Synergy for energy:

Managing our energy resources

Whether it's powering a desktop computer or a water treatment facility, the SNWA pursues sustainable energy options to fuel all the functions necessary to treat and deliver Southern Nevada's water.

Because fossil fuel energy resources—like water resources—are limited, the SNWA continually strives to develop renewable energy options to treat and deliver nearly 140 billion gallons of water each year. Approximately 130 million kilowatt hours of the SNWA's power was supplied by renewable energy in 2013. Combined, SNWA renewable energy projects reduced the use of fossil fuel and offset about 52,000 Metric Tons of Carbon Equivalent this year.

Milestone:

The SNWA incorporated photovoltaic technologies into its water system operations in 2009.

This includes SNWA-owned renewable energy, the renewable equivalent for the power purchased from NV Energy and the projected amount of renewable energy included in what the SNWA purchases from the power grid.

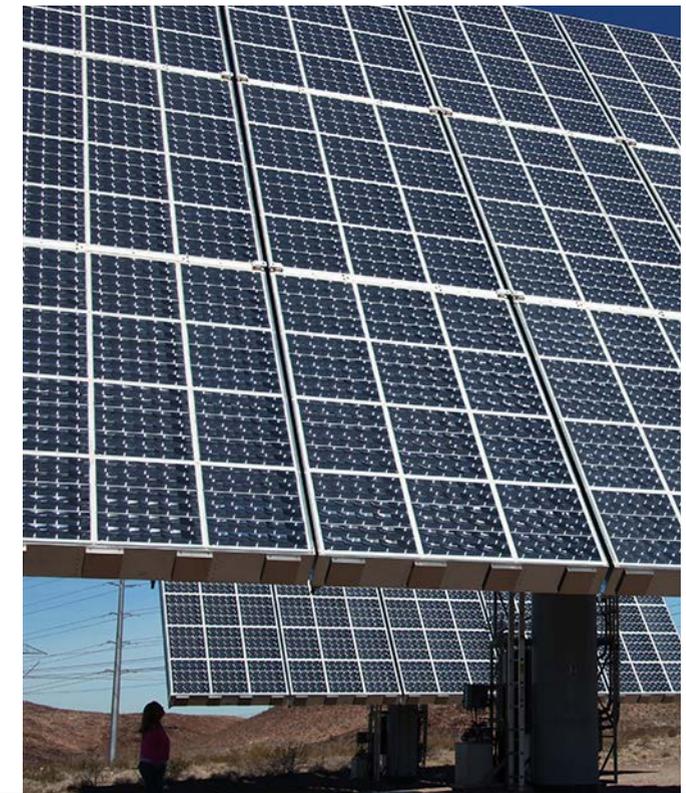
As in many other regions, several renewable energy sources can be harnessed in Southern Nevada, but few places are better suited than Southern Nevada to develop solar energy projects. The SNWA joined Sandia Labs and the University of Nevada, Las Vegas and established a solar photovoltaic regional test center—one of six in the nation—at the River Mountains Water Treatment Facility. Completed in 2013, the center is part of the U.S. Department of Energy’s Sunshot Initiative to help advance commercialization of new solar technologies. The River Mountains center outputs 180 MWh each year, enough to power about 13 homes.

The test center at the River Mountains Water Treatment Facility joins other solar energy installations at the same location. Fixed photovoltaic systems at the River Mountains and Alfred Merritt Smith water treatment facilities are installed as covered parking panels. The system generates approximately .25 MW combined, and is used to serve the loads at these facilities. A .24 MW concentrating photovoltaic system at the River Mountains Water Treatment Facility uses integrated dual-axis tracking to automatically track the

elevation and movement of the sun, capturing 30 percent more energy than fixed panels. Combined with the solar covered-parking structures, the arrays generate enough power to support more than 70 average-sized Las Vegas homes.

The SNWA’s efforts to harness solar energy are not just limited to Southern Nevada. The Water Authority installed a small solar photovoltaic facility at its Wahoo Ranch in Spring Valley. The facility, a common solar energy package available at retail stores, was built by ranch employees in 2013. Electrical contractors completed the electrical work. This small, self-built solar energy facility generates 20 MWh each year, more than enough energy to power the entire ranch.

While solar energy comprises a large part of the SNWA’s renewable energy portfolio, the SNWA also uses hydropower to help power operations. The Hoover, Parker and Davis dam system meets approximately 12 percent of SNWA’s energy needs. The rest of the SNWA’s hydropower is generated through projects at three rate-of-flow control stations in Las Vegas and Henderson. Hydroelectric generators at the Horizon Ridge, Sloan and Linden energy recovery projects include small turbines and induction generators. Current SNWA hydroelectric energy recovery projects have a combined capacity of approximately 2.12 MW.



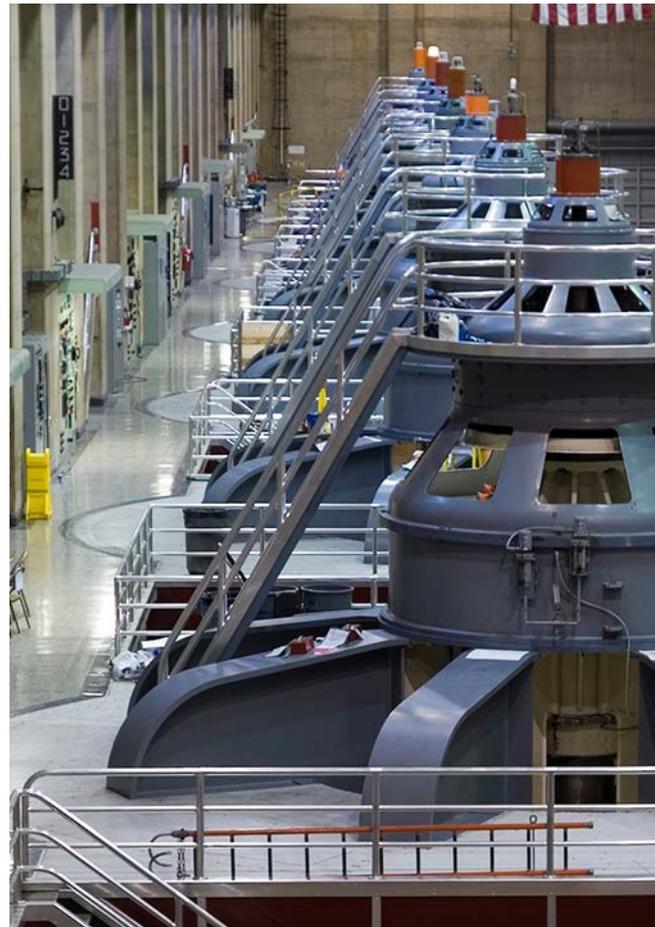
Photovoltaic panels capture solar energy at River Mountains Water Treatment Facility.

The SNWA pursues environmentally responsible renewable energy options to expand its energy portfolio and has voluntarily set renewable energy goals consistent with the State of Nevada’s Renewable Portfolio Standard (RPS). Nevada’s RPS represents the amount of electricity that a provider must generate, acquire or save from renewable energy systems or energy efficiency measures. Currently, the Nevada RPS requires that renewable resources constitute 25 percent of an electric

provider's total energy portfolio by the year 2025. Renewable energy currently comprises 13 percent of the total SNWA energy portfolio.

Managing energy resources takes collaborative efforts. The SNWA has forged partnerships to both realize cost-efficient power purchases for its member agencies and to further pursue alternative energy resources. The Energy Supply Program—a partnership between the SNWA and the Colorado River Commission of Nevada (CRC)—is growing. The program added the City of North Las Vegas as a customer in 2013, and now supplies energy to the Las Vegas Valley Water District, the cities of Las Vegas and Henderson and the Clark County Water Reclamation District.

The Energy Supply Program allows for lower rates through shared costs—the larger the program, the lower the rates. The SNWA helps the program grow by establishing partnerships such as with Silver State Energy Association (SSEA). The organization comprises public agencies that work jointly to plan, develop, own and operate energy resources to meet their own needs and those of their customers. Members include Boulder City, the CRC, Lincoln County Power District No. 1, Overton Power District No. 5 and the SNWA. In 2011, the SSEA became a full-service energy provider for its members. The association also provides products and services needed to supplement the hydropower resources



Generators at Hoover Dam produce power for millions of people in the southwest.

members obtain through contracts with the CRC or directly with the federal government.

In 2013, the CRC transitioned its role as energy supplier for the SNWA's water treatment needs to the SSEA.

The SSEA's Eastern Nevada Transmission Project will help decrease energy costs for its members. The high-voltage transmission system currently under development will bring power to Southern Nevada and connect participating SSEA members' electrical systems to each other and to the Mead Substation in Southern Nevada.

Energy resources also are provided through the SNWA's stake in the Silverhawk Power Station, which increases the availability of electric power to Southern Nevada. In 2012, the SNWA negotiated with NV Energy to extend the Silverhawk Power Exchange Agreement. The SNWA owns 25 percent of the 570-megawatt facility, which began operating in 2004. The plant's dry-cooled technology supports the SNWA's conservation efforts by using 90 percent less water than a typical water-cooled plant and incorporates strict emission limits and the best available control technology for air quality.

Throughout the planning horizon, the SNWA will continue to forge relationships with other industries to construct new transmission facilities and renewable energy projects that address both sustainable water and energy needs for our community and region.



Unity with our community:

Engaging the public

Southern Nevada's water resources would not be sustainable without a strong partnership between the SNWA and the community.

The Water Authority encourages community involvement in issues affecting our resources, to prepare the next generation for future resource challenges. We work to inspire Southern Nevadans to do more with less.

Milestone:

More than 10,000 volunteers have helped remove more than 500,000 pounds of trash and revegetate nearly 200 acres with native plants at the Las Vegas Wash.

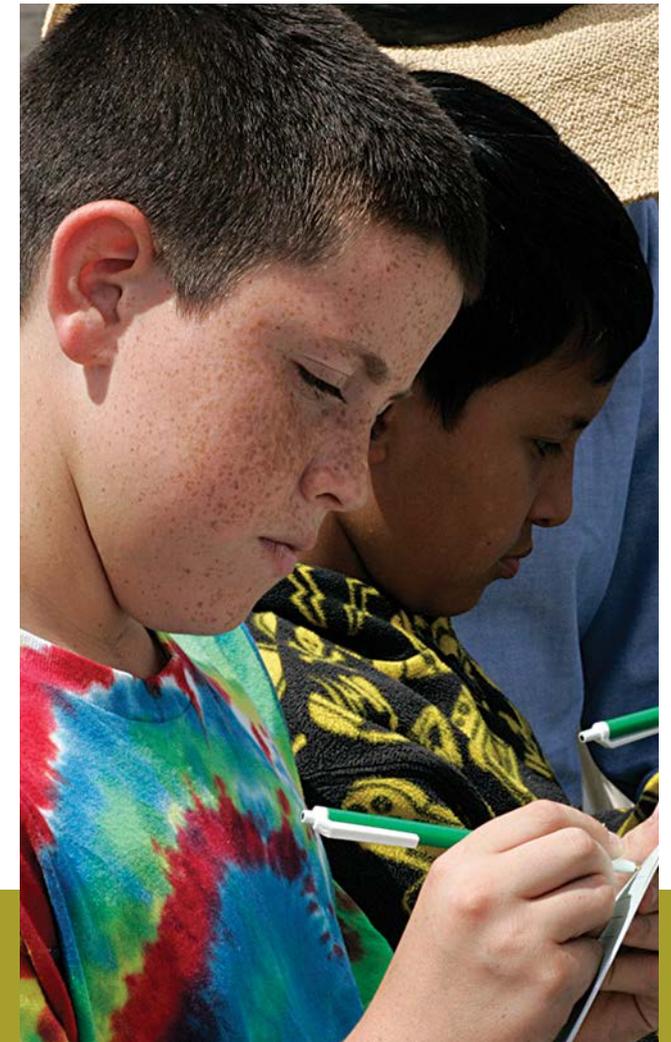
The SNWA has historically sought public input when establishing its water-resource policies. Our community played a vital role guiding SNWA policy in 2013 through the Integrated Resource Planning Advisory Committee (IRPAC). The 21-member citizens committee—representing businesses, chambers of commerce, residents, education, environmental and financial sectors—was formed to provide input on funding-related issues and other water initiatives. After more than one year of work, the committee presented its recommendations to the SNWA Board of Directors. The IRPAC recommended increasing water rates, beginning in 2014. The Board approved the recommendations to meet bond obligations for the community's existing water treatment and distribution system.

The IRPAC will begin evaluating in 2014 the SNWA's resource development and management, facilities, funding, planning, conservation and water quality. Once evaluations are complete, the committee will make additional formal recommendations to the SNWA Board. The citizens advisory committee is part of the SNWA integrated resource planning process, which ultimately will help shape SNWA goals and policy objectives, a planning horizon, timelines and rate modeling as well as help guide future water-resource plans for Southern Nevada.

Today's youth provide vital input to solving the water-resource challenges of tomorrow. SNWA programs created especially for students help the next generation in Southern Nevada learn about the value of water and the complex issues surrounding it. Our H₂O University youth education program—with goals linked to Clark County School District curriculum and Nevada State Standards—helps educate our future leaders about today's global water issues and the water issues that likely will be prominent in the future.

H₂O University participants learn the unique qualities of water, the role it has played in Southern Nevada's history and culture, and the importance of conservation. Teachers are trained through the program so they can help students learn how to protect our most precious, natural resource. Additionally, the program's official website H2Ouniversity.org offers online tools, resources, games and information for grades K-12. The site includes a section for parents and teachers as well as a library of resources, including videos, songs and multimedia demonstrations.

Elementary-school students also learn about water and our desert environment through the SNWA publication *Desert Discovery*. The newsletters, also available in Spanish, distribute to nearly 200,000 Clark County students and share age-appropriate information about conservation, plants, animals



Mabel Hoggard Math and Science Magnet School students conduct water quality sampling with hydrologists at the Las Vegas Wash.



peers about water challenges in Southern Nevada and present their accomplishments to the SNWA Board of Directors. This talented group, known as the Youth Advisory Council (YAC), in 2013 launched a project encouraging high-school students representing Colorado River Basin states to form a new regional youth council. The new council will discuss shared water resources and prepare the next generation's water managers.

As part of their project, the YAC made a presentation at the Colorado River Water Users Association conference and networked with water professionals to build relationships and reach high-school students in the Basin states. These relationships will lay the foundation for a basin-wide youth forum. YAC students also filmed a public service announcement to encourage other water utilities to establish youth councils.

The first and only one of its kind in the nation, the YAC program prompts students to think critically regarding local and regional water issues and topics. The students begin the year with a primer on local water issues—drought, water quality, conservation, resources and Southern Nevada's water history—before launching their annual project.

Students of all ages interested in preserving our water resources can attend SNWA-sponsored classes at the Springs Preserve. Community members

Youth Advisory Council Members present recommendations at a 2013 SNWA Board meeting.

and water resources found in Southern Nevada. The periodicals distribute free of charge to local public and private elementary schools. A teacher's edition provides additional resources, ideas and activities to complement the content.

Because learning is not confined to a classroom, the SNWA education program provides indoor and outdoor learning experiences. Field trip programs

allow students throughout the valley to learn about our environment and its precious water resources. The Springs Preserve hosted nearly 35,000 students—who experienced zoology, archaeology, horticulture and more—through its Field Trip Program in 2013, supported in part by the SNWA.

Community high-school students have come together for more than 14 years to educate their

attended a variety of free do-it-yourself classes taught by SNWA experts in 2013. Participants learn how to design a new native landscape or convert an existing yard. The classes provide information on water-efficient plant selection, optimal plant locations, installation and maintenance. The SNWA also offers free classes to help residents install drip-irrigation systems, which typically use less water than sprinklers.

Residents interested in learning more about water resources, news and conservation can find a wealth of water-saving tips, ideas and assistance through a variety of public media made available by the SNWA. The Conservation Helpline provides residents information and conservation advice and accepts reports of water waste. A comprehensive website, a variety of publications, email notifications, newsletters, social media sites and other free resources—including a public-access television show—offer practical water-efficiency and landscaping advice.

Sharing the successes of our community collaborations can reap wider benefits. The SNWA joined global food, water and energy leaders at the Sustainability Summit to trade ideas and devise strategies that could make sustainable practices and technologies more available and affordable worldwide.



The Springs Preserve offers free tours for all school groups. These hands-on, interactive tours are aligned with Nevada State Standards.

The Jewish National Fund hosted the summit, which focused on water management and partnerships, including the SNWA's collaboration with Israel's national water company, Mekorot. The conference addressed topics such as irrigation techniques that boost food production, affordable electric

cars that reduce oil dependence and methods that turn seawater into drinking water. Conscientious citizens, scientists, entrepreneurs and other global influencers attended the three-day event, which included a tour of the Springs Preserve.



The cost of water:

Our finances

During Southern Nevada's 20-year boom, the SNWA kept pace with the young, growing valley and added infrastructure to maintain water treatment and delivery to new homes and businesses.

As growth and the economy slowed, so did construction and the need for new water facilities. Today, the SNWA's water treatment and delivery system treats and delivers water to more than two million people through its infrastructure—the majority of which was built during the last 30 years.

Milestone:

In 1998, Southern Nevadans approved a .25 percent sales tax increase to help ensure water delivery throughout the growing Las Vegas Valley.

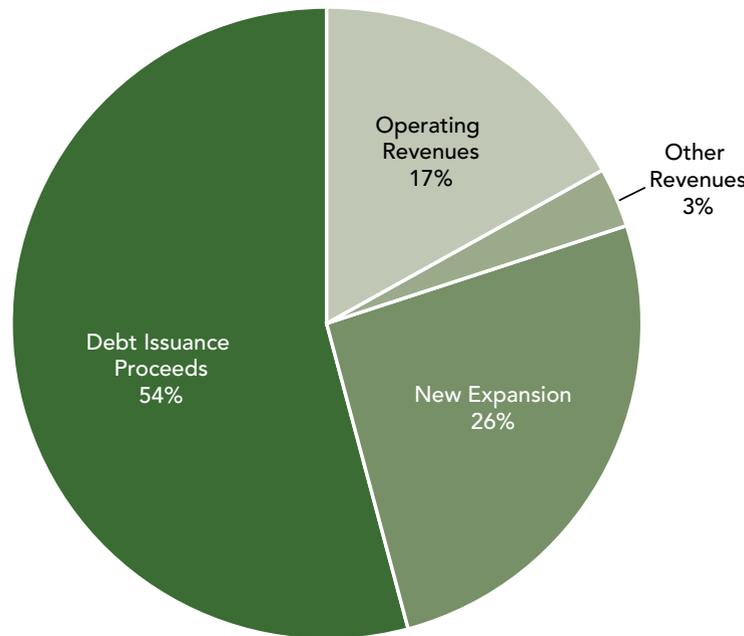
As Southern Nevada and its economy transitions through a turbulent economic time, the SNWA is transitioning as well. The Water Authority, with major treatment and delivery infrastructure in place, is transitioning its focus to long-term infrastructure management.

During Southern Nevada’s economic growth, costs associated with water treatment and distribution facilities were effectively subsidized by new connection fees paid by developers, as recommended by a citizens advisory committee. However, the SNWA’s connection charge revenue plummeted from \$188 million at the peak of new construction in 2006 to an historic low of \$3.2 million in 2010, gradually recovering to \$19 million in 2013.

The SNWA responded to the national economic crisis by reducing operational costs by \$56 million and deferring more than \$395 million in new capital projects. Workforce expenditures have been reduced by \$26 million since 2009, including more than 200 staff reductions through 2013. The organization has offered innovative programs to reduce personnel costs, including early retirement and a voluntary furlough program.

Even though connection charges have declined nearly 90 percent from their peak, the SNWA must meet its bond obligations—effectively the mortgage for the community’s water treatment and distribution

SNWA Sources of funds
Fiscal year ended June 30, 2013



system—which are scheduled to increase nearly \$80 million by 2016. To meet these bond obligations, the SNWA has transitioned from collecting growth-based revenue to collecting other sources of revenue to stabilize its financial reserves. As part of this transition, in 2013 the SNWA Board approved recommendations from its citizens advisory committee to increase both the SNWA infrastructure charge and commodity charge to meet revenue requirements. Increasing both charges helps maintain conservation pricing signals while providing a stable revenue source.

The Water Authority has financial reserves of \$299 million, which allow it to maintain operations through

economic instability. The SNWA also sells bonds through the Las Vegas Valley Water District and the state and county bond banks to finance capital improvement projects.

The SNWA operates from three primary sub funds:

- Wholesale Delivery Operations, which is funded by wholesale delivery charges paid by retail purveyor members of the Water Authority;
- New Expansion Debt Service, which is funded primarily by connection charges, usage fees and sales taxes; and
- Capital Improvements Construction, which is funded almost entirely by tax-exempt municipal bonds the SNWA has sold.

The SNWA Groundwater Management Program and Las Vegas Wash sub funds operate with minimal activity. By state statute, the SNWA operates as a single proprietary fund. Costs of providing goods and services to customers are recovered through user charges.

The SNWA requires significant power resources to treat and deliver water to retail purveyors. Energy costs are minimized as the SNWA manages some of its own power supplies in a cooperative effort

with the Colorado River Commission and the SSEA. These efforts resulted in an estimated savings of approximately \$58 million during the last 8 years. Mitigating the financial effects of rising power rates will continue to be a primary focus for the SNWA.

The following financial information is based on the Fiscal Year ended June 30, 2013, and represents an overview of the SNWA individual operating programs, funds, revenues and expenditures.

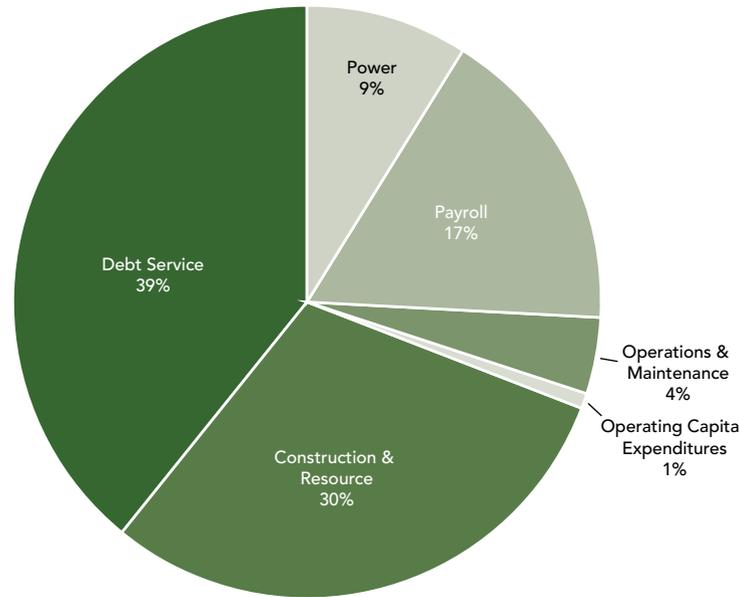
Wholesale Delivery Operations

The Wholesale Delivery Operations sub fund had a balance of \$49.8 million as of June 30, 2013. The Wholesale Delivery Charge is designed to cover the costs of administration and delivery of water through the Southern Nevada Water System. For the fiscal year ended June 30, 2013, the Wholesale Delivery Charge was \$303 per acre-foot of treated Colorado River water delivered to purveyor members of the SNWA. Purveyor members then sell the water to retail customers. The SNWA has no retail customers of its own. Nellis Air Force Base pays a modified Wholesale Delivery Charge, and Boulder City pays a Raw Water Wholesale Delivery Charge.

New Expansion Debt Service

The New Expansion Debt Service sub fund had a balance of \$299 million as of June 30, 2013. This balance is needed to provide a prudent debt service coverage ratio, and is consistent with projections

SNWA Uses of funds
Fiscal year ended June 30, 2013



of the Capital Improvements Funding Program, which determines how the costs of the SNWA Major Construction and Capital Plan (MCCP) will be funded.

The Major Construction and Capital Plan—a consolidation of the Capital Improvements Plan—which includes the Intake No. 3 project, was amended in February 2011. The plan identifies 24 active projects and approximately \$395 million in savings from 34 deferred projects.

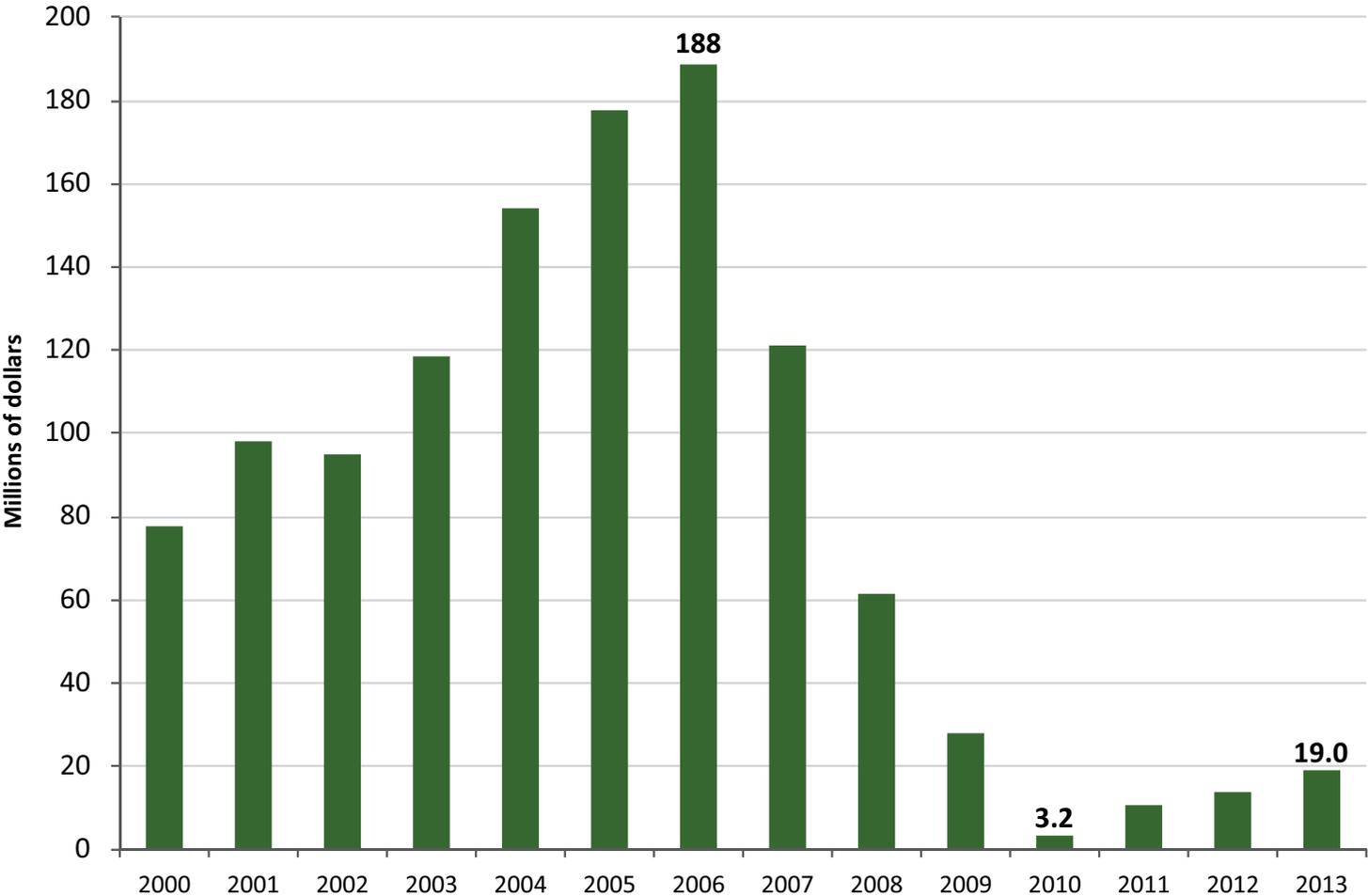
Most of the construction costs will be provided by funds from the sale of tax-exempt municipal bonds.

The money to make debt service payments on those bonds will continue for years after the last connection to the new system is sold; the balance in this sub fund is projected to continue to grow for years, and then will begin to decline to a zero balance.

Traditionally, the major revenue source in the New Expansion Debt Service sub fund has been the regional connection charge. This charge on every new connection to the system is collected by SNWA purveyor members and remitted monthly. The second major revenue source in this sub fund is sales tax. This is the .25 percent that was added to the existing Clark County sales tax rate in April 1999. This revenue is collected by the state Department of Taxation and remitted to the SNWA two months after collection. The SNWA shares this revenue with wastewater agencies, rural water and wastewater systems and the Las Vegas Wash. Sales tax collections are scheduled to conclude in June 2025, or when \$2.3 billion has been collected, whichever occurs first. However, the 2011 Nevada Legislature voted to lift these limits pending approval of the Clark County Board of Commissioners. The sales tax generated approximately \$1 billion through June 30, 2013, of which the Water Authority retained \$615 million, with the balance allocated to the Las Vegas Wash, rural systems and wastewater purveyors.

One revenue source that is challenging to forecast is the SNWA's share of revenues from the Southern

SNWA Connection Charge Revenues 2000 to 2013



Nevada Public Land Management Act (SNPLMA), a federal law passed in 1997. The SNPLMA calls for the SNWA to receive an amount equal to 10 percent of the purchase price of certain public land sales in the Las Vegas Valley, with proceeds restricted to paying debt service of construction costs of the SNWA Major Construction and Capital Plan.

SNWA revenues from the SNPLMA are based solely on the availability and sale price of public lands in the valley. Since the act was finalized after the 1997 model forecast was prepared, that forecast contained no projection of revenue from this source. The \$288 million in SNPLMA revenue received to date makes it the third-largest New Expansion revenue source.

However, its prominence as a revenue source has decreased substantially and is expected to remain low in future years.

The primary outflow of this sub fund is debt service payments on bonds sold to fund the Capital Improvements Program. Also, according to the Major Construction and Capital Plan, the sub fund also pays some construction expenses directly (pay-as-you-go), which eliminates the cost of borrowing (interest).

A fourth revenue source is a combined rate-based commodity charge, reliability surcharge and infrastructure charge. Southern Nevada residents who are connected to a municipal water system pay the commodity charge monthly. The SNWA approved recommendations from the IRPAC to increase both the SNWA infrastructure charge and commodity charge beginning in 2014. Funds raised from the commodity charge are used to improve water quality and enhance the reliability of the water system. This accounts for about 10 percent of Major Construction and Capital Plan funding.

The reliability surcharge is based on the concept that customers have varying levels of critical need for water and should pay accordingly. The surcharge shifts some of the financial burden of costs associated with reliability from residential customers to all other customers. The rate, which is applied against the total water bill with a few line item exceptions, has

been set at 0.25 percent for residential customers and at 2.5 percent for all other customers. The reliability surcharge provides about 4 percent of Major Construction and Capital Plan funding.

The infrastructure charge, established in 2012 and scheduled to increase annually through 2017, will pay for several large water system projects, including a critical new intake designed to protect Southern Nevada during severe drought conditions. The SNWA infrastructure charge rates vary based on meter size.

Capital Improvements Construction

This sub fund receives bond proceeds and pays construction expenses with those proceeds. When bond funds are depleted, the cash balance in the New Expansion Debt Service sub fund is used until additional bonds can be sold. At that time the New Expansion Debt Service sub fund is reimbursed for its capital expenditures and the remaining bond funds stay in the Capital Improvements Construction sub fund to pay for future capital expenses.

As of June 30, 2013, \$224.5 million remained in the Capital Improvements Construction sub fund. This sub fund has earned an estimated \$55 million in tax-exempt arbitrage interest by complying with federal requirements for exemption. These interest earnings have reduced the overall costs associated with the Capital Improvements Construction sub fund.

Debt management strategies are expected to save an additional \$400 million over the life of the projects.

Groundwater Management Program

The Groundwater Management Program sub fund had a balance of \$2.2 million as of June 30, 2013. As authorized by state law, the SNWA assesses an annual fee of \$30 per acre-foot of permitted groundwater rights, or \$30 per domestic well. Since recharge volume has not been significant, the SNWA reduced the assessed fees to \$13 beginning July 1, 2009. Proceeds from this fee are used to manage the aquifer, fund permanent recharge of the aquifer and, when needed, fund well abandonment and conversion to municipal water systems. Much of the ending balance will be spent on well conversions in future fiscal years.

Las Vegas Wash

The Las Vegas Wash sub fund had a balance of \$3.5 million as of June 30, 2013. The SNWA invests in programs and research to find solutions to critical environmental and water-quality issues surrounding the Las Vegas Wash, the natural channel that returns runoff from the Las Vegas Valley to Lake Mead.

Operating costs are funded by assessments of member agencies. In addition, the Las Vegas Wash receives 4 percent of sales tax proceeds received by the SNWA. These proceeds have been used to

fund capital improvements in the Wash, such as the construction of weirs to stabilize and protect Wash banks. However, a funding formula is in place for stakeholders in the Las Vegas Wash to reimburse the SNWA for operations of the Wash committee. Grants also represent a significant revenue source for activity related to the Wash.

The table Sources and Uses of Funds Summary on the following page provides a ledger view of sources and uses of funds within the individual sub funds discussed in this financial overview for the Fiscal Year ending June 30, 2013.

Sources and Uses of Funds Summary

Fiscal Year Ended June 30, 2013

(In millions of dollars)

	Wholesale Delivery Operations	New Expansion Debt Service	Capital Improvements Construction	Groundwater Management Program	Las Vegas Wash	Total
Beginning Balance (July 1, 2012)	34.9	242.0	0.5	1.6	0.9	279.9
Sources of Funds						
Operating Revenues	117.5					117.5
Other Revenues	0.3	2.5	0.7	0.9	12.1	16.5
New Expansion Revenues		177.6			3.1	180.7
Intra Fund Loans		40.2	(38.6)		(1.6)	
Debt Issuance Proceeds			367.9			367.9
Interest Income			0.1			
Total Sources of Funds	117.8	220.3	330.0	0.9	13.6	682.6
Uses of Funds						
Power Costs	(36.4)					(36.4)
Payroll Costs	(37.0)	(13.3)	(14.5)	(0.1)	(0.9)	(65.8)
Operations and Maintenance	(15.5)			(0.2)	(0.7)	(16.4)
Operating Capital Expenditures	(1.4)	(0.2)				(1.6)
Const. & Resource Expenditures		(14.8)	(91.5)		(9.4)	(115.7)
Debt Service	(12.6)	(135.0)				(147.6)
Total Uses of Funds	(102.9)	(163.3)	(106.0)	(0.3)	(11.0)	(383.5)
Fiscal Year Net Change	14.9	57.0	224.0	0.6	2.6	299.1
Ending Balance (June 30, 2013)	49.8	299.0	224.5	2.2	3.5	579.0