

This update is being provided to the media by the Clean Water Coalition. It can be used as a reference for writing and reviewing stories related to wastewater treatment in the Las Vegas Valley and other associated issues. For additional information, tours, interviews and documentation, please refer to the Media Contacts insert in this Media Kit.

Wastewater from our homes, schools, churches and businesses across the Las Vegas Valley is collected by a network of thousands of miles of pipelines and sent to one of three wastewater treatment facilities. These facilities have the responsibility to treat our valley's wastewater to meet strict permit requirements before it enters the Las Vegas Wash and is returned to the environment.

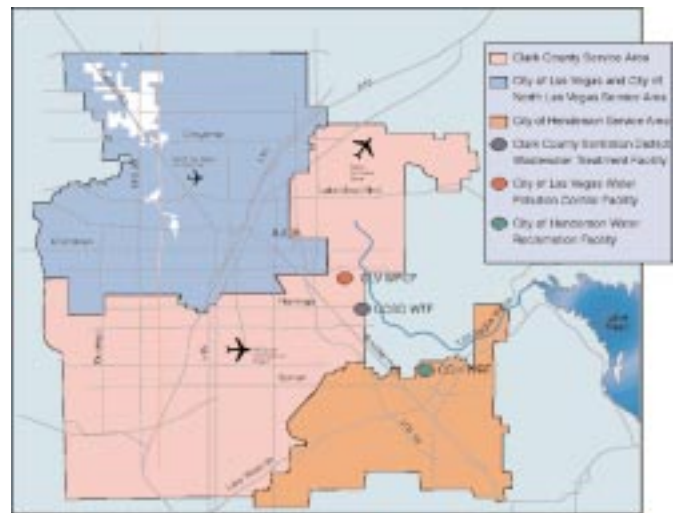
In 1999, the agencies that operate the wastewater treatment facilities—sometimes referred to as the dischargers—joined together to create the Clean Water Coalition (CWC). The goal of the CWC is to study and address the future of wastewater treatment and discharge in our valley. For the past several years, the members of the CWC have worked together on many critical issues related to their role in our water cycle.

This update will give you a brief overview of some of the challenges and progress of the CWC in working to protect our environment and our clean water needs.

What is the Clean Water Coalition?

The members of the Clean Water Coalition are the three agencies responsible for wastewater treatment in our valley. Each of these facilities uses some of the most advanced wastewater treatment processes available, and each delivers some of the highest quality effluent (or finished product) in the wastewater industry.

- ▶ **Clark County Sanitation District**—The Clark County Sanitation District (CCSD) operates the valley's largest wastewater facility and currently treats 83 million gallons per day (MGD) of wastewater.
- ▶ **The City of Las Vegas**—The City of Las Vegas (CLV) operates a water pollution control facility that treats wastewater from the City of Las Vegas and the City of North Las Vegas (which has its own collection system). Currently, the City of Las Vegas treats over 60 million gallons per day of wastewater.
- ▶ **The City of Henderson**—The City of Henderson (CoH) Water Reclamation Facility currently treats 18 million gallons of wastewater every day from the City of Henderson.



Wastewater Service Areas in the Las Vegas Valley



Why did we start discharging into the wash in the first place?

The Las Vegas Wash is the natural drainage area for our valley. Even before the first civilizations entered the Las Vegas Valley, water from the surrounding mountains, canyons and desert flowed downhill into the Las Vegas Wash and joined the Colorado River. When settlers entered the valley and needed to dispose of wastewater, this critical waterway continued its role as an avenue for discharge. Over time, the amount of water discharged into the Las Vegas Wash has increased, forming a channel that conducts our valley's runoff, stormwater and highly treated wastewater back into the water cycle.

What benefits to we get from discharging into the Wash today?

Returning our treated effluent back to the environment via the Las Vegas Wash allows for additional water to be drawn from the Colorado River, provides habitat for a variety of wildlife and recreational opportunities for our citizens. The discharge of highly treated wastewater into the Las Vegas Wash plays a critical role in the overall water picture of Southern Nevada. We rely heavily upon the water from the Colorado River to supply our communities with water. For generations, however, Nevada has been strictly limited, under the Colorado River Compact, in the amount of water we can draw from the river. Under this same law of the river, we are able to take additional quantities of water for every gallon that we treat at the treatment facilities and return to the water cycle through the Las Vegas Wash to Lake Mead. This process is known as return flow credits, and helps us to supplement our potable (drinking) water demands for our dry desert environment.

In addition, the water in the Las Vegas Wash supports a wide variety of plant and wildlife, and will soon aid in the creation of the Clark County Wetlands Park, which will provide recreational and educational opportunities for local residents and visitors from around the world.

Who provides guidelines and monitors the Clean Water Coalition to make sure our water quality is maintained?

Wastewater treatment and discharge activities are monitored by the Nevada Division of Environmental Protection (NDEP) and the U.S. Environmental Protection Agency (EPA) through permits, inspections and data review to ensure that all regulations and guidelines are being met or exceeded. If there is ever a violation of the permit standards or a variance for any reason, the CWC entity involved is required to report the incident to these regulatory agencies.

What is a “208 Plan” and Clark County’s role as “master” agency?

Under the Federal Clean Water Act, metropolitan areas are required to develop and implement a program for protecting the water quality in their area, commonly referred to as a 208 plan. The Clark County 208 Plan—now known as the Las Vegas Valley Water Quality Management Plan—has been developed and amended over many years to project water usage in our valley and give guidelines for such things as water and wastewater treatment, water resource management, reclaimed water usage and discharge permits. The development process for a 208 plan involves extensive public outreach, and includes a public comment period. The plan is then reviewed and approved by both the NDEP and EPA.



The Clark County Board of County Commissioners is responsible to oversee the writing, revision and implementation of our 208 Plan. Enforcement of 208 Plan guidelines and issuing of associated permits is conducted by the NDEP.

What is a discharge (or NPDES) permit, and why is it needed?

A National Pollutant Discharge Elimination System (NPDES) Permit is required by Federal law for our local treatment facilities to release treated wastewater to the Las Vegas Wash. Each CWC treatment plant has its own NPDES Permit. The Permits for the CWC members contain some common general conditions and conditions specific to each facility. Each Permit includes all the discharge limits, monitoring requirements, and other restrictions determined by NDEP and EPA to ensure the plant effluent is continuously safe to release into waters of the United States.

NPDES permits are written to ensure that the waters that receive the treated effluent are always clean enough to be used for their intended purpose. These purposes can include irrigation, public contact and recreation, drinking water supply and natural fish habitat. These purposes are legally called “beneficial uses” and water quality standards are set by the Nevada State Environmental Commission with notices and public hearings, and approved by the EPA. The NPDES permits, and conditions within them that protect water quality, are also open to public comment.

Why did the CWC entities ask for increased flows in their new permits?

In order to effectively plan for and meet our legal obligation to treat the wastewater flows that are projected in the 208 Plan, we must have permits that provide for additional treatment capacities. When the new permits are approved, the CWC facilities will not be using all of the additional capacity in those permits for quite some time. They will, however, need it over the next 5-10 years. Effectively planning and constructing for the future requires permits with additional capacities. Before using ratepayer funds to expand treatment facilities, CWC entities must be certain they will be permitted to use the facilities following construction. It also allows the CWC entities to make more significant additions and changes to plant capacities and processes, which saves customers tens of millions of dollars over adding small amounts of capacity, a little at a time.

Other permit capacity considerations include:

- ▶ **Seasonal flows**—During the summer months, when reclaimed water use is highest throughout the valley, the amount of water released into the Las Vegas Wash decreases significantly. In fact, the City of Henderson Water Reclamation Facility stops all discharge during the peak of the summer. During the winter months, however, water reuse is significantly lower, and additional water must, at present, be released into the Las Vegas Wash, and the permits must provide for that additional capacity.
- ▶ **Backup capacities**—Periodically, reclaimed water systems need maintenance or repairs that require that larger flows be released into the Wash for a short period of time.
- ▶ **Growth**—In wastewater treatment there is a simple formula that drives everything: More People = More Wastewater. As our valley’s population increases, there is more wastewater traveling through the collection systems to the CWC facilities every day, and every gallon must be treated to meet



stringent permit requirements. In fact, many of those requirements are fixed limits that must be met regardless of the quantity of wastewater being treated. In other words, whether the CWC plants are treating 100 gallons or 100 million gallons, the amounts of certain nutrients discharged into the Wash cannot increase. This requires that, as flows increase, we must treat every gallon to a higher level.

NPDES Permits have a finite life. The NPDES Permits held by the CWC entities are due for renewal. The renewal process allows the permittees—the CWC entities—to increase permitted capacities and also allows the NDEP to include new conditions for improved processes and technologies, and conditions to ensure the water quality of the receiving waters is maintained or improved. **The existing permits remain in effect, even if the expiration date has passed, until the permit is revised or replaced by a new permit.**

How will new permits affect the Las Vegas Wash?

The primary purpose of the NPDES permits is to ensure the “beneficial uses” of the Wash and Lake Mead are maintained. Those uses remain constant, and the new NPDES permits will contain requirements to protect those uses.

The new permits will also take into consideration the changing role of the Las Vegas Wash. There are many promising efforts being planned and carried out in the Las Vegas Wash related to treated wastewater and the permits. Treated wastewater flows are critical to the success of the new Wetlands Park. Several erosion control structures are currently being built in the Wash to create that park and slow erosion. The CWC has worked closely with all agencies involved with these efforts to ensure that treatment plant activities will positively affect these environmentally friendly projects.

The CWC is diligently looking for additional ways to protect the Las Vegas Wash and the environment. This effort, known as the Alternate Discharge Study, has sought and obtained the input from nearly 30 public and private stakeholders and regulatory agencies. Preliminary plans and designs for alternate discharge locations—that will largely bypass the Las Vegas Wash—are well underway, and will be ready for implementation on schedule.

Why have we had an algae bloom in Lake Mead this spring?

The CWC is working with a variety of local, state and federal agencies to identify the causes and possible solutions to the algae bloom. In essence, algae are microscopic plants that feed on nutrients in the water, and algae blooms are a naturally occurring phenomenon in bodies of water throughout the world. However, this year’s green bloom is particularly widespread and long lasting. There are many contributing factors that favored the growth of the algae that is a part of the natural ecosystem of Lake Mead, including: unusual weather (including spring rains and higher winter temperatures); changes in wash flow patterns; lower lake levels; and various additional sources of nutrients including fertilizers from lawns and stormwater runoff. One factor that has not changed, and will remain constant as the limits are set in our permit, is the amount of nutrients (phosphorus) from treated wastewater that have been released into the wash and lake



What are the future plans to deal with more treated effluent?

Our plans for the future include additional reuse and the planning and construction of an alternate discharge system. The CWC, in cooperation with the Southern Nevada Water Authority (SNWA), NDEP and other agencies, and working closely with community citizens through the Las Vegas Wash Coordination Committee, is investigating alternative discharge points for the highly treated wastewater. Several potential options have been identified, including locations in Lake Mead and below Hoover Dam. A new discharge point would first require a pipeline to be built to collect the effluent from each of the three wastewater treatment plants. Environmental investigations, lake modeling, public participation and input and consideration of feasible alternatives must all be conducted according to federal law to determine the best location and environmental mitigation measures that will be needed to successfully construct the pipeline. These investigations are currently underway. In addition, the CWC is participating with SNWA and the other agencies to install erosion control structures and new vegetation to protect and increase wetlands and wildlife habitat along the Las Vegas Wash. Over \$5 million has already been spent on erosion control improvements since 1999.

Why don't we reuse more reclaimed wastewater?

Reclaimed water use is an important part of the water treatment and water quality picture, and one that the CWC has actively pursued for many years. Presently, 10% (annually) of our treated effluent is reclaimed and used on golf courses, green areas, highway medians, in water features and as industrial coolant for electrical plants. During the hot summer months, reuse levels reach as high as 40%. CWC entities are continually looking for new and innovative ways to use reclaimed water to preserve and extend the drinking water supply. These methods include the construction of new satellite reclamation plants across the valley that provide reclaimed water to large irrigation customers in the areas where the reclaimed water is needed most.

All three of the CWC members have recently participated in an area-wide reuse study to help identify the areas where reuse is needed most, and help determine how to most effectively meet our valley's short-term and long-term reuse needs.

The City of Las Vegas has recently completed the Northwest Water Resource Center at Cheyenne and Durango, which will provide 10 million gallons per day (MGD) of reclaimed water to several local golf courses and help conserve our drinking water supply.

In the Spring of 2001, the Clark County Sanitation District broke ground on the Desert Breeze Water Resource Center, which is located on West Flamingo, between Buffalo and Durango. The first phase of this facility will be online by the summer of 2003, and will provide 5 MGD of reclaimed water to local customers.

The City of Henderson is currently in the pre-design phase of a satellite water reclamation facility, which will meet the reclaimed water demand in the south and west areas of Henderson.

As we plan for future reuse, we must consider the following factors and limitations:

- ▶ **Feasibility**—Water reclamation facilities must be built when and where they are needed, and where there is an ability to provide the infrastructure (power, sewer capacity, distribution lines) necessary to support these facilities.



- ▶ **Cost**—In order for reuse efforts to be effective, we must provide water that matches or costs less than potable (drinking) water, while still meeting the financial needs of building, operating and maintaining our treatment facilities and distribution systems.
- ▶ **Customers**—Reuse facilities are built in locations where they can serve the greatest number of customers at the lowest cost. We must also take into consideration that there must be flow capacity in our pipelines for this water to be discharged when there is no need for reclaimed water (during seasonal lows and maintenance cycles).
- ▶ **Public acceptance**—Reclaimed water use has only recently come to the attention of most citizens in our valley, and there is still much to be done to educate the public on its uses, benefits and the critical role it plays in our water cycle. In addition, planning and construction of a water reclamation facility requires significant public outreach and participation to ensure that the neighboring residents and businesses are educated on the characteristics of the new facility and given an opportunity to help make the facility something that fits well into their neighborhood.

How will new permits affect Lake Mead water quality and our drinking water supply?

The new NPDES permits will continue to ensure that Lake Mead can fulfill its role as a recreational area, wildlife habitat and municipal water supply. The water that is discharged into Lake Mead via the Las Vegas Wash makes up less than 2% of the water in Lake Mead. Every drop of this water meets or exceeds the requirements of the Environmental Protection Agency, which regulates both the treated effluent that flows into the Las Vegas Wash and our water resources, including Lake Mead. As mentioned before, the new permits will allow for additional quantities of water to be released into the Wash and Lake, but the quality of that water will always be required to meet or exceed very stringent water quality regulations.

The Clark County Sanitation District, City of Las Vegas and City of Henderson—The Clean Water Coalition—are committed to protect the environment with sound, responsible management of water resources for recreation, drinking water, irrigation and other municipal and industrial uses. This commitment can be found not just in words, but in the high quality of effluent they reuse or discharge, compliance with environmental rules and permits, careful expenditure of public monies on state of the art treatment facilities, responsible planning for current and future needs and the dedication and expertise of the professionals who design, build and operate these facilities for the protection of public health and the environment.



