



Water Recycling 2004 Report





"A few years ago, we started a recycled water program. It takes recycled water and distributes it to parks, school and commercial sites, and landscaped medians in a small community within the city of Elk Grove. Our vision is to increase the use of recycled water in the Sacramento region to help conserve potable water supply and manage future wastewater effluent discharge to the Sacramento River. SRCSD will work with other agencies and the community to achieve this goal."

**Robert Shanks, District Engineer
Sacramento Regional County Sanitation District**

BACKGROUND

EVERY DAY AT SACRAMENTO REGIONAL County Sanitation District's (SRCSD) Wastewater Treatment Plant in Elk Grove, an average of 165 million gallons of wastewater is treated before being discharged to the Sacramento River.

However, since 2003, a portion of this wastewater has been retained for other uses. A maximum of 3 million-gallons-per-day (MGD) is pumped to the water recycling plant where it is filtered, disinfected and used for landscape irrigation. This water is "recycled" — a process proven successful for long-term conservation efforts throughout the country.

Sacramento is stepping up with the rest of California — a world leader in water recycling. Our state pioneered many early applications of recycled water starting with the city of Pomona in 1929. Since then, major water recycling efforts have taken place across the state in urban hubs such as the San Francisco Bay Area, Los Angeles, Irvine and San Diego. Today there are over 250 water recycling plants in the state, with many more in development. All of these water recycling efforts are in keeping with the state-legislated goal that one-million acre-feet per year of water be recycled by 2010.

In a state as progressive and ever changing as California, it's important to look ahead to future possibilities and to create solutions to meet challenges. That is what SRCSD's Water Recycling Program is all about. As the Sacramento region continues to grow, SRCSD must keep pace and provide the services necessary to serve its customers. Water recycling will help do that.

WATER RECYCLING PROGRAM TIMELINE



LATE 80s
Drought, land-use conditions, potential for more discharge requirements lead SRCSD to begin investigating water recycling



1990s
Purple pipe installation in Laguna West development; permitting, design, start of construction of water recycling plant; public outreach efforts initiated



2000s
Construction completed and recycled water delivered to Laguna West, Lakeside and Stonelakes communities in Elk Grove



2005
SRCSD and SCWA prepare to expand the recycled water program (Phase 2) SRCSD starts developing water recycling master plan to identify other water recycling opportunities

WHY WATER RECYCLING?

IN AN AREA WITH GREAT ECONOMIC GROWTH

like Sacramento, water recycling offers an opportunity to make the most efficient use of our water. Should wastewater discharge standards become stricter in the future, the increased use of recycled water will help the region comply with discharge regulations. Increased use of recycled water also reduces the region's dependence on groundwater and surface water supplies for non-drinking water uses and helps counteract the historic decline of groundwater levels in the Sacramento Valley.

Water recycling also provides a “drought proof” supply for non-potable water consumers such as park districts, school fields and growers of non-food crops. Additionally, water recycling can provide environmental benefits by creating wetlands and riparian habitat for endangered species such as the Swainson's hawk.

In short, increasing the Sacramento region's use of recycled water will reduce:

- Groundwater decline
- Demand on surface water supply
- Wastewater discharge into the Sacramento-San Joaquin Delta

“As the department tasked with protection of public health and the environment in Sacramento County, we view recycled water as a safe, alternative water supply source and support its responsible use.”

Cecilia Jensen, Chief,
Water Protection Division
County of Sacramento
Environmental Management Department

HEALTH STANDARDS

In 1969, the Department of Health Services with the state's nine Regional Water Quality Control Boards set quality and usage standards for recycled water. The set of laws, known as the California Code of Regulations Title 22, are updated frequently and regulate recycled water practices such as:

- Maintaining separate purple pipe to ensure recycled water pipes do not accidentally cross connect with drinking water pipes
- Permitting requirements for cross connection testing
- Ensuring regular safety compliance inspections of recycled water reuse systems

Locally, the County of Sacramento Environmental Management Department provides oversight to the water recycling program to ensure health and safety compliance with Title 22 regulations.

SRCS-5



LAYING THE PURPLE PIPE

SRCSD'S INVESTMENT IN WATER RECYCLING

began with construction of a water recycling plant built at the Sacramento Regional Waste-water Treatment Plant site in Elk Grove. The water recycling plant began operation in April 2003 and currently delivers a daily peak production of 3 million-gallons-per-day (MGD), with an annual production of 180 million gallons (552 acre-feet) in 2004. The plant can be expanded to produce 10 MGD of recycled water under SRCSD's current permit. All the recycled water produced by SRCSD is highly treated to meet or exceed permit requirements for unrestricted use on landscaping.

"I think the greater Sacramento community will benefit for generations to come, if we can determine how to implement water recycling and do it sooner rather than later."
Supervisor Don Nottoli
Sacramento County
District 5

The current Water Recycling Program is a partnership between SRCSD and Sacramento County Water Agency (SCWA). SRCSD operates the plant and provides recycled water to SCWA for distribution. SCWA performs customer training, all recycled water related inspections and coordination with end users. In 2003, the Water Recycling Program served 22 customers and expanded to 34 customers in 2004. The project is of particular benefit to large volume irrigation water users, such as the Elk Grove Community Services District and the Elk Grove Unified School District, which use recycled water to irrigate parks, schoolyards, roadway medians and freeway interchanges in the Laguna and East Franklin developments.



SRCSD AND SCWA 2004 WATER RECYCLING FACTS

Number of Connections: 34

Peak Use: 3 MGD

**Average Annual Use: 180 million
gallons (552 acre-feet)**

Permitting: Always permit compliant

**Future Expansion: Permitted up
to 10 MGD**



EXPANDING SRCSD'S WATER RECYCLING PROGRAM

IN 2004, THE SRCSD BOARD OF DIRECTORS approved a goal of expanding the Water Recycling Program to 30–40 MGD in the Sacramento region by 2020. Ultimately, SRCSD would like to achieve an appropriate balance between discharge of highly treated wastewater to the Sacramento River and expansion of water recycling within the Sacramento region.

District staff, with assistance from an experienced team of water recycling consultants, is actively pursuing potential future water recycling projects to meet the large-scale water recycling goal through development of a “Water Recycling Master Plan” (WRMP). To achieve this, SRCSD is using the WRMP to explore water recycling opportunities by:

- Opening dialogue with stakeholders, such as cities, land use authorities and the water purveyors that serve them, to develop water recycling opportunities within SRCSD’s service area
- Investigating potential uses of recycled water for traditional landscape uses, such as irrigation of parks, golf courses, recreational fields and, potentially, industrial demands

“These proposed dedicated agricultural lands, if irrigated with recycled water instead of groundwater, could have a beneficial effect on groundwater levels in southern Sacramento County and assist in restoring to the Cosumnes River the annual flow profile necessary to maintain and restore its run of Chinook salmon. Additionally, the agricultural lands will create a permanent habitat for endangered species like the Swainson’s hawk and greater sandhill crane.”

**Mike Eaton, Director,
Cosumnes River Nature
Preserve, The Nature
Conservancy**

- Investigating potential use of recycled water for irrigation of non-food crops. This could include replacing or augmenting use of surface or groundwater for agricultural purposes such as irrigation of alfalfa and other crops
- Examining the possibility of installing purple pipes in new developments during construction when recycled water infrastructure (piping, pumping and storage tanks) is the least expensive
- Determining where the most logical place is to treat and supply communities with recycled water. Treatment could be at the existing SRCSD water recycling plant, a new facility (satellite facility) closer to the user, or possibly both

It is anticipated a draft WRMP will be completed in early 2006.

"I felt the outreach for the project was outstanding. It tapped into a variety of interest groups and organizations in the greater Elk Grove area and was very effective in getting the message out about the benefits of recycled water."

**Pat Perez
Community Advisory
Committee, SRCSD Water
Recycling Program**

PUBLIC INVOLVEMENT IS A KEY TO SUCCESS

Starting in 1998, SRCSD began a proactive public outreach program to help promote water recycling and the district's water recycling program. Focus groups were held to determine the knowledge and perceptions of key stakeholders about water recycling.

Focus groups and a community advisory committee (consisting of public officials, community and industry leaders, commercial, industrial and residential users of recycled water and county staff) were instrumental in developing public education materials, including brochures, community event exhibits, fact sheets and a school education program. Additional outreach was conducted through customer mailings, a billboard advertising campaign and 13 articles in the Sacramento Bee, Sacramento Business Journal and the Elk Grove Citizen. The grassroots approach led to a successful outcome to recycled water use in Elk Grove.



SRCSD won two Gold "Cappie" Awards from the Sacramento Public Relations Association for both its overall water recycling public relations program and for its water recycling booth (above).



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