Recycled Water: A Renewable Resource

After completing 24 hours of treatment, the recycled water is ready for reuse. Water is sent to many holding ponds, storing 1.5 billion gallons, or a 3 month supply. These ponds are rich with Sonoma County wildlife, including a wide variety of waterfowl.

Irrigation

Agriculture Reuse: For over 30 years, agriculture has had success using recycled water for irrigation. Currently, 6,000 acres are irrigated growing hay, pasture, vegetables, wine grapes, and turf.
Urban Reuse: Recycled water is used to irrigate parks, school yards, and landscape areas, including Sonoma State Univ., A Place to Play, and Finley Park.

Geysers Recharge Project

The Geyser's Recharge Project began operations in 2003 and pumps an average of 11 million gallons of recycled water a day to the Geysers steamfields, high in the Mayacamas Mountains. Here, the largest geothermal operation in the world injects the water into the earth, making enough electricity (or green power) for up to 85,000 households in the North Bay Area.

Discharge

From October to May, the water may be discharged into the Laguna de Santa Rosa, which flows to the Russian River. Discharge is permitted for up to 5% of the river's flow. The Geysers Recharge Project has significantly reduced the amount of discharge.

Laguna Wastewater Treatment Plant

The Laguna Wastewater Treatment Plant takes wastewater from homes, businesses and industry located within the Santa Rosa Subregional Water Reuse System, which serves the cities of Santa Rosa, Rohnert Park, Sebastopol and Cotati. Over 500 miles of underground pipes bring wastewater to the treatment plant where water goes through three stages of treatment prior to disinfection, storage, and reclamation. Since its inception in 1968, the facility has increased its volume of treated recycled water from 2 million gallons a day (mgd) to 21 mgd.

The recycled water that leaves the Laguna Wastewater Treatment Plant is a high-quality, tertiary-treated water that is safe for many reuse options.

The City of Santa Rosa is interested in your ideas and feedback about our facilities and services. We thank you for your interest in the Santa Rosa Subregional Water Reuse System and look forward to your comments. Tours of the facility are available.

Please call (707) 543-3350 for more information, or visit www.SRCity.org/TreatmentPlant.

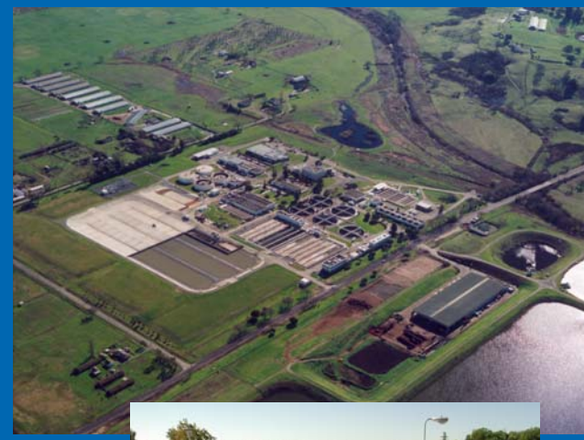
Responsible reuse of recycled water has improved water quality and biodiversity in the Laguna de Santa Rosa.

Conserve, Recycle, Reuse
SANTA ROSA SUBREGIONAL WATER REUSE SYSTEM

CITY OF SANTA ROSA

Santa Rosa Subregional Water Reuse System
4300 Llano Road
Santa Rosa, CA 95407
(707) 543-3350

Welcome to the Laguna Treatment Plant



Conserve, Recycle, Reuse
SANTA ROSA SUBREGIONAL WATER REUSE SYSTEM

Laguna Wastewater Treatment Plant: Recycled Water Treatment Steps

Primary Treatment

Sewage from homes, business, and industry arrives at the treatment plant by passing through large bar screens that remove wood, paper, and plastics from the water. Sand and gravel then settles out in the grit tank and is removed. Clarification tanks allow lighter materials to float to the surface and be skimmed off. Heavier material, called sludge, falls to the bottom and is pumped to anaerobic digesters. Bacteria in the digesters break solids down, creating methane gas. Methane powered generators serve as the source of energy for a sixth of the treatment process. Solids are digested for up to thirty days, reducing their volume by 50%. Following a dewatering process, biosolids are blended with greenwaste material to create compost, or they are applied directly to farmers' fields as fertilizer. A small quantity is sent to the landfill.

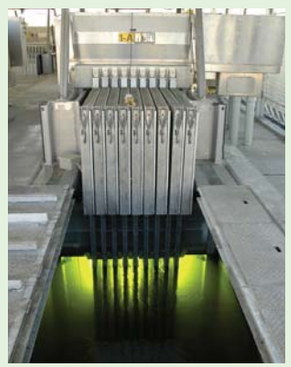
Secondary Treatment

After the majority of solids have been removed, water flows into aeration basins. The aeration basins are tanks injected with oxygen to stimulate the growth of microorganisms and their consumption of dissolved wastes. These microorganisms modify pollutants to reduce their impact on the environment.

As the water moves toward the next treatment phase, the microorganisms are removed in clarification tanks. As they settle to the bottom of the clarifiers, they are returned to the aeration basins to re-supply the self-sustaining population of microorganisms. Clean water continues on to further treatment.

Tertiary Treatment and Disinfection

The water flows through a four-foot bed of coal. This small, black, granular coal (like the type used in some fish aquariums) acts as a filter to trap fine suspended solids and some potential pathogens, or disease causing organisms.



Finally, ultraviolet light (UV) removes bacteria and viruses by destroying their DNA, the genetic material needed to reproduce. The reclaimed water then leaves the plant, and is clean enough for many approved reuse purposes.

Plant Safeguards

The microorganisms making up our biological treatment require protection from toxins. Our Environmental Compliance staff protects our system by monitoring, inspecting and issuing permits to ensure all dischargers meet federal, state and local regulations.

The state accredited environmental laboratory located at the treatment facility analyzes drinking water, sewage and industrial waste, monitoring regulatory and environmental compliance.

Redundancy of equipment allows us to conduct preventative maintenance. Diesel generators provide power if electricity is interrupted. Flow equalization basins accommodate fluctuation in flow. After primary treatment, water can be temporarily diverted to these basins when volumes are higher than average, and is later returned to the system to complete treatment when the flow has reduced.