

Glossary

Term	Definition
µg/l	Micrograms per liter
Acre-feet	A unit of volume commonly used in reference to large-scale water resources, such as reservoirs, aqueducts, canals, and river flows. It is defined as the volume of water necessary to cover 1 acre of surface area to a depth of 1 foot. It is equal to exactly 43,560 cubic feet, or nearly 325,851 U.S. gallons, or approximately 1233.48 cubic meters.
ADT	Average Daily Trips
ADWF	Average Dry Weather Flow - The average amount of water flowing through a system (often a wastewater treatment system) during dry weather.
AMEL	Average Monthly Effluent Limitation
amsl	Above mean sea level
AMT	Advanced Membrane Treatment
BG	Billions of gallons
BPS	Booster pump station - A pump station located in the Geysers Pipeline, in a location where some pressure already exists, and designed to raise (boost) the pressure in the pipe.
BPU	Santa Rosa Board of Public Utilities – A group of seven members, appointed by the Santa Rosa City Council, that has general policy authority and direction over the management and operation of the City's water and sewer utilities. The Board also directs other utility operations managed by the City and utilities owned or operated by the City.
BRRO	Brine Recovery Reverse Osmosis – A secondary RO system designed to reduce the volume of wastewater obtained from RO treatment and concentrate the dissolved solids removed from the feed stream.

CACP	Clean Air and Climate Protection
Cal-OSHA	California Occupational Safety and Health Administration
CEQA	California Environmental Quality Act – A California law that sets forth a process for public agencies to make informed decisions on discretionary project approvals. The process aids decision-makers to determine whether any environmental impacts are associated with a proposed project. It requires environmental impacts associated with a proposed project to be eliminated or reduced and that air quality mitigation measures have been implemented.
CFR	Code of Federal Regulations
cfs	Cubic feet per second
CTR	California Toxics Rule – Regulatory criteria established by the California State Water Resources Control Board for pollutants that may have a toxic effect on aquatic organisms in the receiving water.
Delta Pond	Named for its shape after the Greek symbol, this is a storage pond that is part of the Subregional Water Reclamation System.
DHS	Department of Health Services
dia.	Diameter
Direct discharge	A means of discharge in which recycled water is introduced into a water body either by direct flow or through a very short indirect path, such as a thin layer of riverbed material.
DO	Dissolved Oxygen - The amount of free (not chemically combined) oxygen dissolved in water, wastewater, or other liquid, usually expressed in milligrams per liter, parts per million, or percent of saturation. Adequate concentrations of dissolved oxygen are necessary for the life of fish and other aquatic organisms and the prevention of offensive odors.
Driest year	The single year of record with the lowest total level of precipitation, and thus the lowest volume of treated effluent, in the Subregional Water Reclamation System area.

EIR	Environmental Impact Report - A report required by the California Environmental Quality Act to describe the environmental impact of a proposed project.
EIR Certification	EIR adoption by a governing agency accepting the document as being complete and adequate according to the California Environmental Quality Act.
ET	Evapotranspiration - Loss of water from the soil both by evaporation and by transpiration from plants.
Exclusionary criteria	Criteria used in the site selection process that eliminated a specific location from further consideration. Used during the first step in the IRWP Discharge Relocation Project site selection process.
FEMA	Federal Emergency Management Agency
Floodplain	A low, flat area on either side of a river that can accommodate large amounts of water during a flood, lessening flood damage further downstream.
fps	Feet per second
General Plan	Required by State law, a General Plan is commonly referred to as a “blueprint” for where, how much, and the type of growth planned for the future.
Geysers pipeline turnout	A location in the Geysers pipeline where a lateral pipe connects to the main pipe to convey a portion of the total flow to a location different than the Geysers steamfield.
Geysers Recharge Project	A cooperative effort among the City of Santa Rosa, the State Lands Commission, and Calpine Corporation, to help meet the wastewater disposal demands of the communities served by the Santa Rosa Subregional Water Reclamation System. The Geysers Recharge Project provides storage and conveyance of treated wastewater for injection in the Geysers geothermal steamfield and subsequent use in electricity generation.
GIS	Geographical Information System
gpm	Gallons per minute
GRCS	Geysers Recharge Conveyance System - The network of pipes conveying reclaimed water to the Geysers geothermal steamfield for subsequent power generation.

GRRR	Groundwater Recharge Reuse Regulations
ICLEI	International Council on Local Environmental Initiatives
In-bank diffuser	In-bank diffusers are defined here as any method of discharge through which recycled water enters the ambient flow stream through perforated pipes constructed in a riverbank.
In-bed diffuser	In-bed diffusers are similar to in-bank diffusers, but discharge is accomplished through either well screens or perforated pipes and an in-bed diffuser is constructed in bottom sediments.
Indirect discharge	A means of discharge by which recycled water is introduced to the subsurface an appreciable distance from a water body. Discharge is achieved indirectly through mixing with naturally occurring groundwater flow entering a surface water body as subsurface flow.
Infiltration basins	Discharging directly to the saturated zone, infiltration basins are deep ponds that remain filled with water throughout the year. Water discharged into an infiltration basin escapes the basin through the side or bottom by infiltrating groundwater. A typical example of an infiltration basin is a gravel-mining pit.
Injection wells	Injection wells also add water to the saturated zone, but they do so through a screened well where recycled water is pumped down the well and mixes with the groundwater flow system.
In-river diffuser	As defined here, an in-river diffuser configuration consists of a pipe fitted with well-defined ports through which recycled water flows to discharge. A diffuser is a type of outfall. Diffusers can be configured in many ways to achieve the best possible mixing.
IRWP	Incremental Recycled Water Program – Adopted by the City of Santa Rosa, managing partner of the Subregional Water Reclamation System, to address additional wastewater flow rates resulting from updates to partnering cities’ general plans and increasingly stringent water quality regulations.
Laguna Plant	See <i>Santa Rosa Subregional Water Reclamation Facility</i>

Lateral pump station	A pump station located on a pipe lateral from the Geysers Pipeline, designed to increase the pressure in the pipe for conveyance to a specific discharge facility.
lf	Linear feet
mg-N/L	Milligrams of nitrogen per liter
Master Plan	Identifies one or a combination of disposal alternatives (a “Program”) that best meets IRWP’s objectives and provides the basis for selecting a preferred Program by addressing engineering, environmental, and economic issues.
MCL	Maximum Contaminant Level
MDEL	Maximum Daily Effluent Limitation
Median year	The statistical median volume of treated effluent flow, from a data set including all years of record.
Metals translators	A way to adjust CTR criteria for local conditions. The metals translator is a tool for environmental scientists and permit writers to use in calculating the amount of a metal that may be discharged from a facility to a surface water body based on how the metal is distributed (partitioned) between water and sediments in the receiving stream.
MF	Microfiltration - A process for filtering water by forcing it through a screen with very small pores (0.1 to 2 microns in diameter).
MG	Million Gallons
mg/l	Milligrams per liter
mgd	Million gallons per day – A common unit of measure for water flow rates.
Mixing zone	Area where an effluent discharge undergoes initial dilution and is extended to cover the secondary mixing in the ambient water body. A mixing zone is an allocated impact zone where water-quality criteria can be exceeded as long as acutely toxic conditions are prevented (EPA, 2000).

Mound/mounding	A mound of groundwater, or groundwater mounding, typically occurs in the immediate vicinity of indirect discharge sites. As groundwater moves relatively slowly, a localized increase in groundwater elevation, or a mound, occurs, typically limiting the amount of water that can be indirectly discharged.
MSC	Merritt Smith Consulting
NCRWQCB	North Coast Regional Water Quality Control Board
NOP	Notice of Preparation
NPDES	National Pollutant Discharge Elimination System – Part of the Clean Water Act requiring municipal and industrial wastewater treatment facilities to obtain permits that specify the types and amounts of pollutants that may be discharged into natural water bodies.
O&M	Operations & Maintenance
OFR	Open File Report
OTE	Oxygen Transfer Efficiency
Percolation ponds	Utilizing both the unsaturated, or vadose, zone and the saturated zone, percolation ponds are large, shallow ponds that are filled intermittently and from which water is allowed to drain, or percolate, to underlying groundwater.
Planning level cost estimate	Estimates of planning-level capital and operating costs were developed for each alternative/combination alternative using conceptual models of facilities and operations. Site-specific conditions and requirements were not included in the estimates at this time, and costs may vary between sites. Capital cost estimates include facilities construction, allowances for land acquisition, design engineering, construction management, legal and administrative services, and contingencies. Estimates of this type were used for screening alternatives, feasibility studies, and long-range capital planning. They were prepared using cost-capacity curves and factors, scale-up factors, and modeling techniques. Recent comparable local capital project information was reviewed where available. Typical accuracy ranges for these types of estimates are -20 to -50 percent on the low side and +50 to +100 percent on the high side.

POTW	Publicly-Owned Treatment Works
Preferential criteria	Criteria used in the second step of the IRWP Discharge Compliance Project site selection process as a means of ranking the acceptability of a specific location for situating discharge facilities.
Pressurized leach system	Pressurized leach systems discharge recycled water into the unsaturated zone via subsurface distribution systems, just below the surface and above the saturated zone.
Priority pollutants	Any substance listed on EPA's list of 126 pollutants or group of pollutants that are or may be toxic; these include both organic compounds and metals.
psi	Pounds per square inch
PS	Pump Station - A location in a pipe network where water that already has some pressure is pumped to increase the pressure in the pipe system.
Riverbank outfall	For the purposes of this report, an outfall is defined as some structure or facility located on the banks of, and/or in, a river, through which recycled water is discharged directly into the River.
RO	Reverse Osmosis - A process of desalination where pressure is applied continuously to the feed-water, forcing water molecules through a semipermeable membrane. Water that passes through the membrane leaves the unit as cleaner water; most of the dissolved impurities remain behind.
RWQCB	Regional Water Quality Control Board
Santa Rosa Subregional Water Reclamation System (SWRS)	The system collecting, treating, storing, and conveying recycled water from the Cities of Santa Rosa, Rohnert Park, Sebastopol, and Cotati to end users for their irrigation needs or to discharge into natural waters.
Santa Rosa Subregional Water Reclamation Facility	Laguna Plant - A tertiary-level treatment facility that has an average daily dry weather flow of 17.5 million gallons per day. It 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.
SCWA	Sonoma County Water Agency

SIP	State Implementation Plan
T&O	Temperature and oxygen or temperature and oxygenation
TDS	Total Dissolved Solids - A water quality parameter defining the concentration of dissolved organic and inorganic chemicals in water. After suspended solids are filtered from water and water is evaporated, dissolved solids are the remaining residue.
TKN	Total Kjeldahl Nitrogen
TM	Technical Memorandum
TMDL	Total Maximum Daily Load - The maximum amount of a particular pollutant that can be discharged into a water body from all sources (point and non-point) without violating water-quality standards. It was established under the Clean Water Act and requires states to distribute this allowable pollution load, the total maximum daily load of pollution, among dischargers.
UF	Ultrafiltration - A process for filtering water by forcing it through a screen with very small pores. Ultrafiltration falls between reverse osmosis and microfiltration in terms of the size of particles removed, with ultrafiltration removing particles in the 0.002 to 0.1 micron range.
USGS	United States Geological Survey
VFD	Variable-frequency Drive
WBM	Water Balance Model - A simulation model that keeps track of the balance of water moving into and out of the Subregional System. It uses hydrologic data to determine the volume of water available for discharge and for the other uses for which Subregional System recycled water is employed.
WDR	Waste Discharge Requirements
WER	Water Effects Ratio - An appropriate measure of the toxicity of a material obtained in a site water divided by the same measure of the toxicity of the same material obtained simultaneously in a laboratory dilution water. A correction factor used to adjust a state or regional water-quality standard to account for differences in the toxicity of a specific pollutant between laboratory water and site water.

WERF	Water Environment Research Foundation
Wettest year	The single year of record with the highest total level of precipitation, and thus the highest volume of treated effluent, in the Subregional Water Reclamation System area.
WQBEL	Water Quality-Based Effluent Limitations