



A joint effort of the
Orange County Water District and Orange County Sanitation District

The GWR System is a joint project between



💧 **OCWD** – To provide local water retailers with a reliable, adequate, high quality water supply at the lowest reasonable cost in an environmentally responsible manner



💧 **OCSD** – We protect public health and the environment by providing effective wastewater collection, treatment, and recycling



Why did we partner? Planning in the 1990's

- 💧 **OCSD:**
Defer the need for
a new ocean outfall



Why did we partner? Planning in the 1990's

- 💧 **OCWD:**
Need more water:
 - larger intrusion barrier
 - 5-year drought 1987–92
 - population steadily increasing
 - imported water supply challenges
 - improve groundwater quality



OCSD focuses on wastewater as a resource

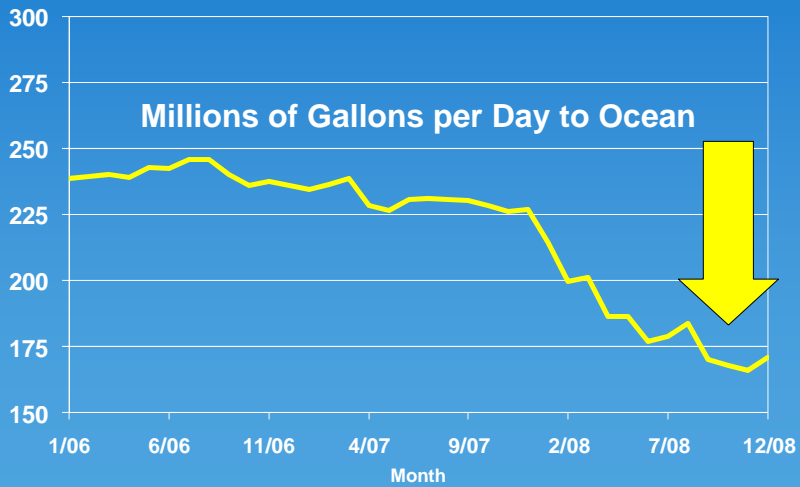


Enhanced source control



Treatment plant designed for maximum reclamation

Ramping up water reclamation less water to ocean outfall

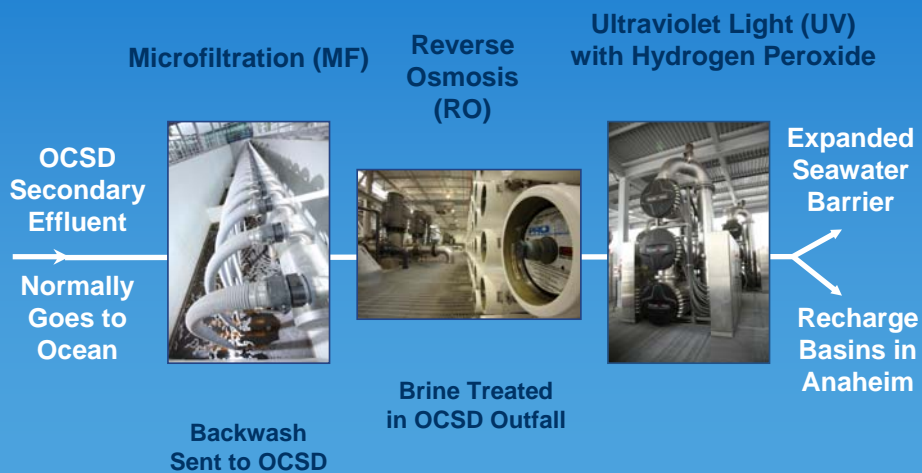


What is the Groundwater Replenishment (GWR) System?

- New sewer water purification system
- Expansion and improvement of world-famous Water Factory 21
- Advanced purification technology
 - Microfiltration (MF)
 - Reverse Osmosis (RO)
 - Ultraviolet light (UV) with hydrogen peroxide
- Results in near-distilled-quality water



GWR System Advanced Water Purification Process



Where Does GWR System Water Go?

Water goes to the OCWD groundwater basin

- Half of water goes to the seawater intrusion barrier
- Half of water goes to recharge basins in Anaheim



Project Funding and Timing

- **Capital Cost: approximately \$481 million**
 - Split equally between OCWD and OCSD
- **Produces 72,000 acre-feet of water (enough for 500,000 plus people each year)**
 - Expandable to 130,000 acre-feet per year
- **Costs comparable to imported water**
 - Project received \$92 million in state and federal grants, and \$86 million operation and maintenance subsidy from Metropolitan Water District
 - Without outside funding cost of water would be approximately \$800 AF
- **Operational since January 2008**



Benefits of GWR System



- Protects basin from seawater intrusion
- Provides water to replenish the basin supplies
- Eliminates need for additional OCSD ocean outfall
- Saves money (costs about the same as importing water)
- Uses about half the energy needed to import water from northern California
- Improves groundwater quality
- Reuses valuable resource and sends less waste water to ocean
- Model for the rest of the world
 - Australia, Singapore, etc.

Strong Community Support

Proactive face-to-face outreach with more than 1,200 presentations, 700 tours and many news stories that resulted in:

Strong support and no active opposition:

- 100% support from cities in OCWD service area
- 100% support from OC State and Federal elected officials
- 100% support from Chambers of Commerce & OCBC
- Many business including Edison and Semper Energy
- All major environmental groups
- Various health experts, medical doctors, hospitals, pharmacists and scientists
- Several key minority leaders
- Educational, religious, police and fire leaders
- More than 200 community groups like Kiwanis, Rotary, etc.
- OC Tax, AARP, OC Farm Bureau and others



Default

- Defaulting party shall have a 30-day cure period extended up to 180 days if necessary
- OCWD default
 - OCSD may terminate agreement and acquire AWP for \$1 and operate the facility. OCWD would reimburse OCSD for O&M costs for remaining term
- OCSD default
 - OCSD would pay OCWD the cost of imported water equivalent to the plant production for the remaining term

Investing in Local Advanced Water Recycling Projects = Great Returns for California

