







A joint effort of the

**Orange County Water District and Orange County Sanitation District** 

#### What Is The GWRS?

- New 70-million-gallons per day advanced water purification facility
- Takes sewer water that otherwise would be wasted to the ocean, purifies it to near distilled quality and then recharges it into the groundwater basin
- Provides a new 72,000 acre-feet per year source of water, which is enough water for over 500,000 people
- Operational since January 2008



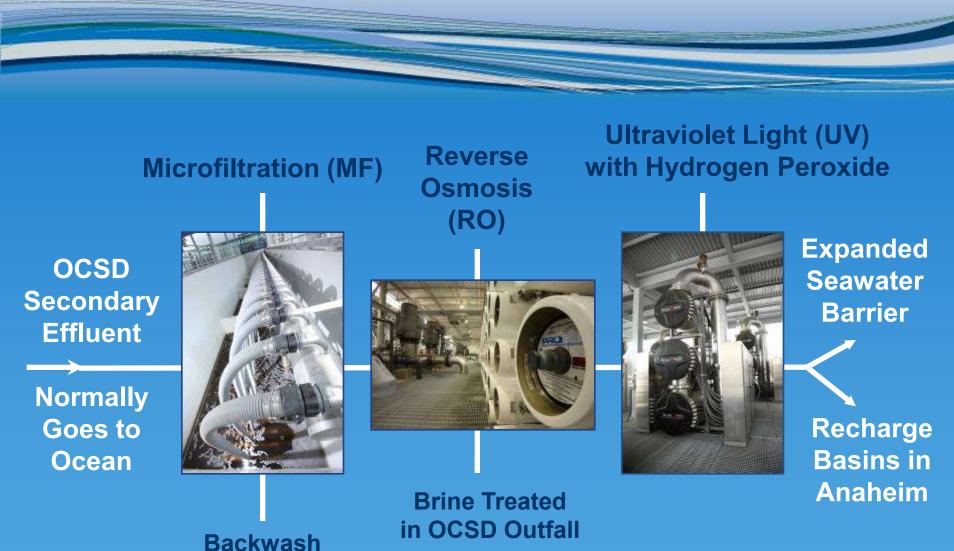
## Why Do We Need The GWRS?



San Luis Reservoir before and now. Gov. Schwarzenegger declares emergency

- Extended drought
- Imported water shortages
  - Colorado River Iosses
  - State Water Project losses
    - Environmental restrictions
    - Potential levee failures
- Local Projects lessen
  dependency on outside
  sources

# GWRS Advanced Water Purification Process



Sent to OCSD

#### **How Does The GWRS Work?**

100% of water is treated through microfiltration, reverse osmosis and ultraviolet light with hydrogen peroxide

- Microfiltration: Tiny, straw-like plastic membranes filter out bacteria, particles and protozoa
- Reverse Osmosis: Water is forced through the molecular structure of the RO membranes where dissolved chemicals, pharmaceuticals and viruses are removed
- Ultraviolet Light with Hydrogen Peroxide: As a safety barrier, water is exposed to UV with H202 that disinfects and destroys potential harmful trace organics



## **GWRS Proven Reliability**

- California Department of Public Health developed permit requirements
- Test for over 200 compounds with all results well below permit levels or at non-detection (ND) levels
  - 28 Volatile Organic Compounds All ND
  - 39 Non-Volatile Synthetic Organic Compounds All ND
  - 8 Disinfection By-Products All ND
  - 10 Unregulated Chemicals All but one ND, all below permit levels
  - 51 Priority Pollutants All ND
  - 16 Endocrine Disrupting Chemicals and Pharmaceuticals All ND

#### **Benefits Of GWRS**





- Creates a new water supply
- Reuses a wasted resource
- Expands the seawater barrier
- Increases water supply reliability
- Offsets imported water cutbacks
- Costs comparable to imported water
- Saves half the energy over imported water or desalinated seawater
- Improves quality of water in the basin

# **Strong Community Support**

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

#### No active opposition and support from:

- 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
- Several 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





# **GWRS Aerial View**

