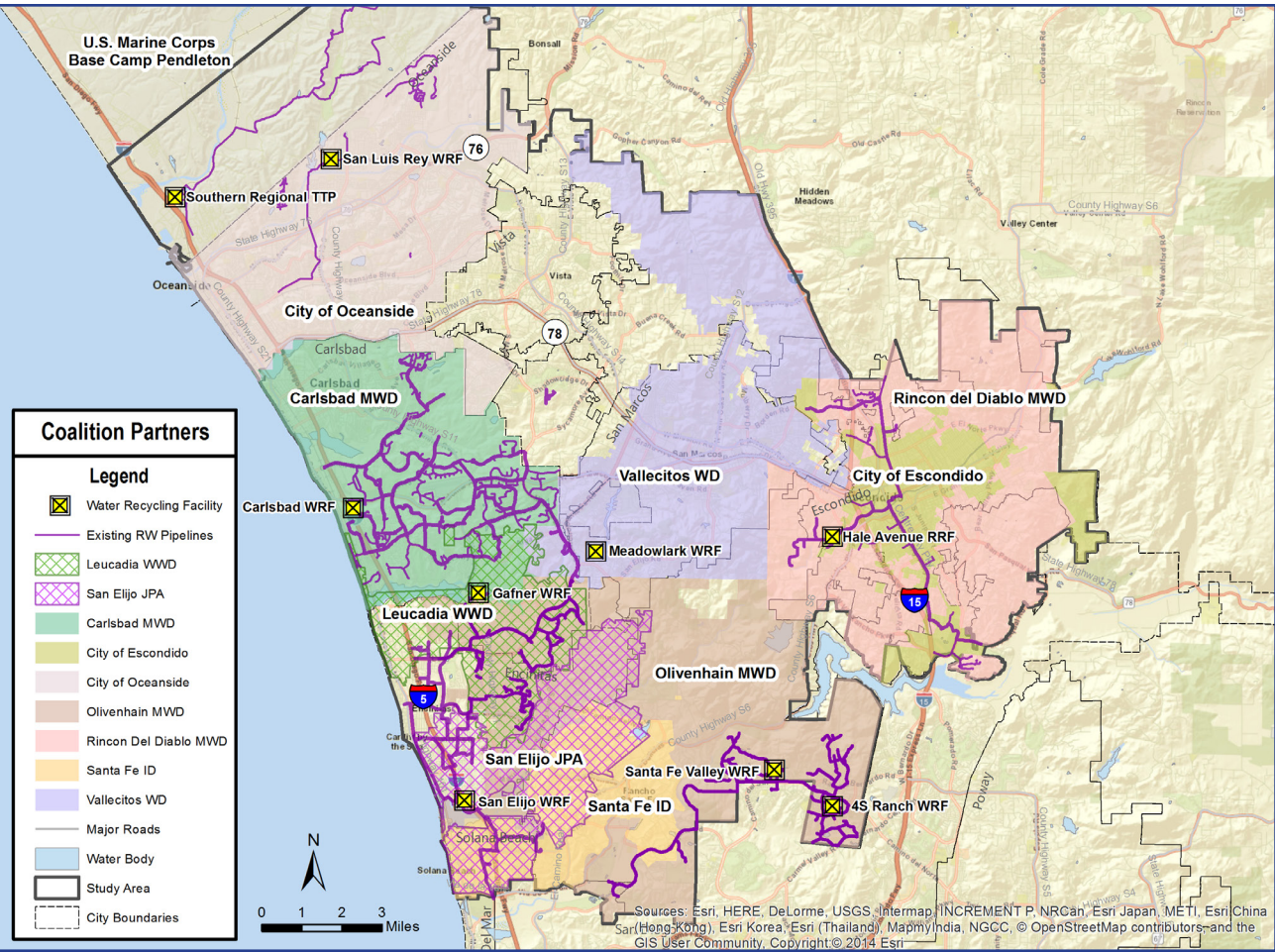


Local Recycled Water Benefits of the Coalition Recycled Water Program

- Increases total recycled water use to over 30,000 acre-feet (10 billion gallons) per year at a total cost of approximately \$291 million across all agencies by 2025 (short-term project).
- Produces more than 46,000 acre-feet (15 billion gallons) of recycled water each year by 2035 (long-term project).
- Creates more than 10,000 jobs, according to Council of Economic Advisers' estimates.¹
- Represents a significant reduction in dependence on water imported from the Sacramento-San Joaquin Bay-Delta and Colorado River, leaving more water in the environment at the source.
- Reduces demand on water from local sources, including local groundwater and surface water.
- Provides an energy offset by avoiding the energy demands associated with pumping water from northern California and the Colorado River, reducing climate change impacts associated with long-distance water transfers and ocean desalination.
- Increases water supply availability and reliability should imported water supplies be reduced due to climate change or temporarily disrupted due to seismic events.
- Reduces the amount of treated wastewater that would otherwise be discharged into the Pacific Ocean, instead allowing for a beneficial use.
- Supports goals of the National Environmental Policy Act, California's AB 32, state water use efficiency regulations, and the California Environmental Quality Act.
- Reduces the regional water supply's contribution to greenhouse gas emissions by reducing the amount of energy expended to deliver an acre-foot of water supply from 3,200 kilowatt hours per acre-foot for imported water to just 1,900 kilowatt hours per acre-foot for recycled water.
1. Job creation was calculated from the Council of Economic Advisers estimates that \$92,000 of government spending creates one job per year.

North San Diego Water Reuse Coalition Partners:

Carlsbad Municipal Water District	City of Oceanside
Rincon del Diablo Municipal Water District	Santa Fe Irrigation District
City of Escondido	Leucadia Wastewater District
San Elijo Joint Powers Authority	Vallecitos Water District
	Olivenhain Municipal Water District



Recycled Water and Its Role in Sustainable Water Use



Sustainability and Our Water System

Sustainability calls for meeting the needs of the present without compromising the ability of future generations to meet their own needs. Ensuring **long-term sustainability** in our water system is **vital to continued quality of life** in our region. Our water management needs to balance social, environmental, and economic benefits as well as water supply costs. Recycled water can play an important role in our region's sustainability.

California's water reliability is more uncertain than ever. Competing demands, regulations, environmental needs, judicial and legislative decisions, and the onset of climate change have highlighted the importance of resiliency and sustainability of our water supply system. The increased frequency of extreme weather such as multi-year droughts, severe flooding, and wildfires strain water supplies, compromise key water infrastructure, and reduce water quality across the state. As California's population continues to grow, water suppliers are faced with the dilemma of providing for an increasing number of people under an increasingly uncertain picture of water supply availability.

Think Globally, Supply Water Locally!
Recycled water is vital to the sustainability of our water system here in San Diego County. Increasing the relevance and contribution of local water supplies will reduce the region's impact outside local watersheds while mitigating non-local impacts on the region. The North San Diego Water Reuse Coalition (Coalition), a partnership among nine water and wastewater agencies in northern San Diego County, is working towards a more resilient water supply system by developing recycled water through its recycled water program. Recycled water is a locally produced supply. The additional water supply created through recycled water projects will help to alleviate water supply competition due to the expected increase in frequency of droughts in the region. Recycled water will help to **diversify Coalition partners' water supply portfolios**, reduce demands for imported (less reliable) water, and provide a drought-resilient local water supply.

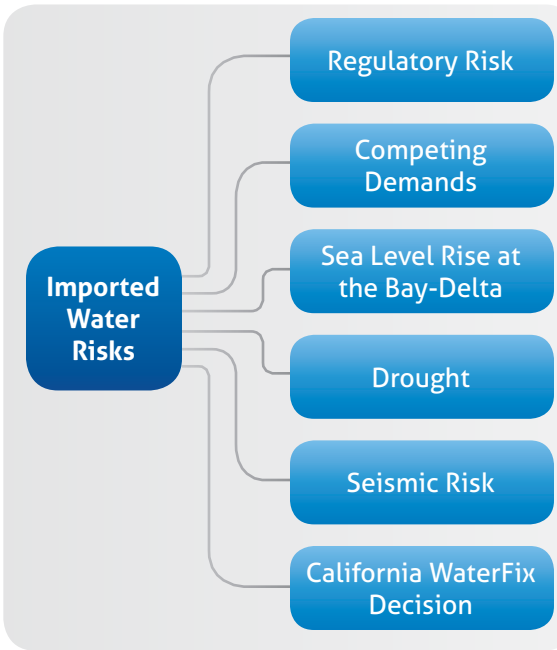
Benefits of Recycled Water



The Sandalwood community in the City of Encinitas is a recycled water customer.

September 2018

Recycled Water Is A Reliable Supply



San Diego County is a semi-arid region that over three million people call home. Defense, tourism, manufacturing, agriculture, and biotechnology industries lead a \$220 billion regional economy that is dependent upon a reliable supply of water. About 80% of the region’s water is imported and subject to drought and other potential water supply interruptions. Dependence on imported supply means risking shortages of different magnitudes and duration and leaving water suppliers less in control of their resources. Imported supplies from the Sacramento-San Joaquin Bay-Delta have been restricted since 2006 due to drought and environmental regulations, while the delivery of Colorado River water via the Colorado River Aqueduct may be subject to future limitations. Recycled water is a local, drought-resilient supply that mitigates potential shortages. **Ensuring sufficient water supplies can help maintain quality of life**, particularly during drought, when mandatory conservation practices can interfere with standards of living. In addition, a robust water supply system can stabilize industries that are heavily reliant on water, such as agriculture, by maintaining steady levels of water service and supplies.

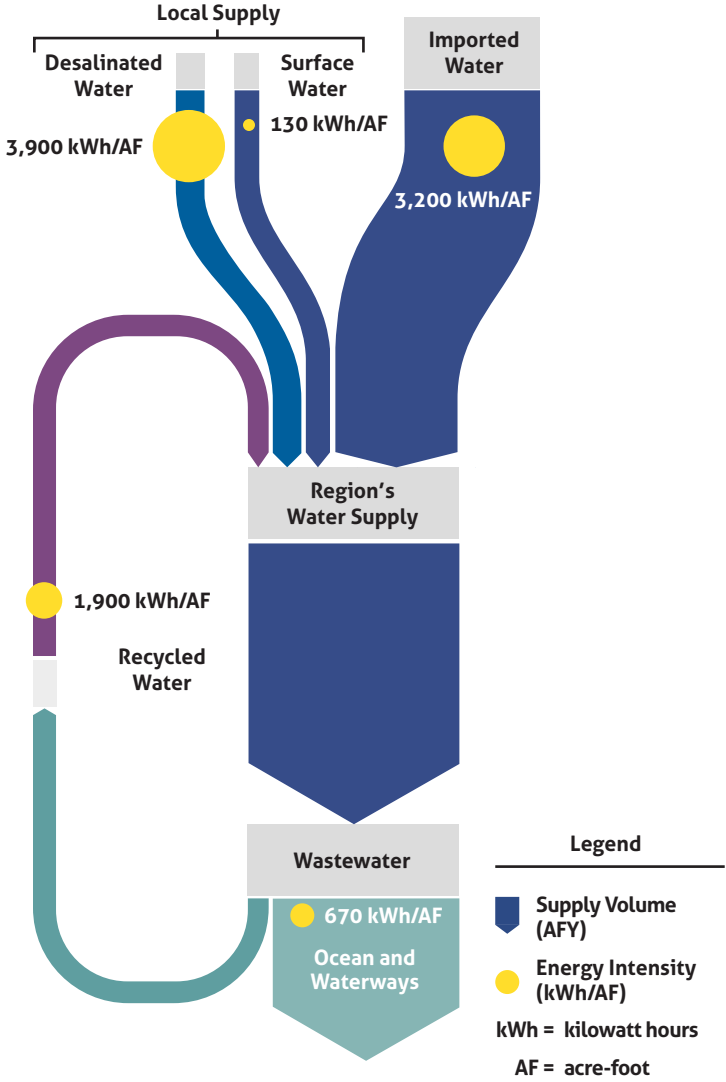
Recycled Water Is Environmentally Sound

Importing water supplies from outside the region requires massive amounts of energy that translate to significant greenhouse gas emissions. Greenhouse gas emissions contribute to exacerbating global climate change, which is already negatively impacting the region’s water supply reliability. Expanding the region’s local water supply will **reduce the carbon footprint associated with the region’s water system**, and advance California’s statewide emissions reductions goals.

Water quality protection remains integral in attaining more resilient and sustainable water supplies. Poor water quality in the region’s rivers and wetlands negatively impacts sensitive habitats and critical plant and animal species. This has the potential to negatively impact water resources that support regional economies and public health. **Producing recycled water reduces the amount of wastewater discharged to our region’s streams and the Pacific Ocean**. This will help maintain federal and state water quality standards, ensuring water users will have access to safe drinking water now and in the future.

Practicing conservation contributes to water sustainability and resilience. Efficient water use paired with water recycling is a demand-side management strategy that **can help reduce the amount of potable water required** to satisfy the region’s needs. In addition, state regulations require the implementation of water use efficiency practices, such as efficient sprinkler heads, when utilizing recycled water.

Water Supply Source Volumes and Energy Intensities



Benefits Of Recycled Water Use

Reduce-Reuse-Recycle Applies to Water

The Coalition’s recycled water program will make water available to address water supply shortages due to climate variability, natural disasters, and limited water supplies. **Local supplies protect us from a number of potential disruptions** of imported supply, due to drought, seismic events, sea level rise in the Bay-Delta, and competing demands. Using local supplies such as recycled water also keeps more water in the environment in watersheds of origin, which brings a multitude of ecosystem benefits. Recycled water offers Coalition partners a reliable, drought-resilient approach for augmenting local and imported supplies.

Recycled Water and Climate Change

✓ Using recycled water mitigates climate change impacts by reducing the amount of GHG emissions released.

✓ Recycled water sources are less sensitive to variabilities in precipitation (e.g. drought) and do not rely on the Bay-Delta, which is vulnerable to sea level rise impacts.

Matching Water Quality with Purpose

Not all uses of water require the same quality. Recycled water is suitable for non-potable uses such as parks, residential landscaping, unrestricted access golf courses, and cemeteries, among others. Providing water that is ‘fit-for-purpose,’ instead of treating all uses as equal, has opened the door for significant avoided costs in developing new natural sources. A fit-for-purpose approach allows for recycling water with appropriate levels of treatment with substantial sustainability benefits including reduced consumption from new sources, reduced energy required for supply, reduced carbon emissions, and reduced environmental impacts.

Reducing the Development of New or Expanded Imported Supply

San Diego County Water Authority, the region’s wholesale water supplier, imports water through the State Water Project and the Colorado River Aqueduct from Metropolitan Water District of Southern California, additional Colorado River supplies acquired via transfers from Imperial Irrigation District, and conservation savings from canal lining projects.

By increasing use of recycled water, Coalition partners will be able to reduce imported water purchases from San Diego County Water Authority and reduce diversions and withdrawals from natural water courses and aquifers.



Recycled water is used for landscape irrigation for a number of Olivenhain Municipal Water District’s recycled water customers.