

## 7. Future Water Supply Projects and Programs

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### 7.1. Water Management Tools

Resource optimization such as desalination to reduce the need for imported water is led by the regional agencies in collaboration with local agencies.

With the eventual replacement of older wells with new more efficient wells, increasing the capacity of existing booster stations, and continued efforts in reducing water waste, YLWD can meet projected demands with existing facilities and distribution system.

### 7.2. Transfer or Exchange Opportunities

Locally, YLWD has ten interconnections with its neighboring agencies. These interconnections allow the sharing of supplies during short term emergency situations or during planned shutdowns of the major import systems.

YLWD relies on the efforts of Metropolitan as well as MWDOC to pursue transfer or exchange opportunities.

### 7.3. Planned Water Supply Projects and Programs

Possible future sources of water supply include additional groundwater production and recycled water. YLWD has already started to develop some facilities that will provide additional groundwater. The following subsections describe additional actions YLWD has taken towards investigating additional sources of supply, as well as regional issues that may impact future supplies of groundwater.

During the past 20 years, YLWD has investigated several new groundwater well options to increase the supply of groundwater available for YLWD's system. YLWD is currently in the design process of adding a new well (Well 20) that will have a pumping capacity of 3,000 gpm. It will provide 2,900 AFY of groundwater supply and is scheduled to be completed by the end of 2011. YLWD is also investigating additional potential well sites (West Wellfield Project) that would provide approximately 5,000 AFY of groundwater supply east of Tustin Avenue. On site well optimization for existing wells in the system will provide up to 1,000 AFY of supply that is scheduled to be completed by end of 2011.

## Recycled Water Study

YLWD is completing a Study that will investigate construction of a new water recycling facility. The Recycled Water Facilities Planning Study will determine feasibility of a future 5 MGD Wastewater Treatment Plant within YLWD’s service area. More info on this study can be found in Section 6.

**Table 7-1: Specific Planned Water Supply Projects and Programs**

Project Name	Projected Start Date	Projected Completion Date	Normal-Year Supply to Agency (AF)	Single-Dry Year Yield (AF)	Multiple-Dry-Year 1 Yield (AF)	Multiple-Dry-Year 2 Yield (AF)	Multiple-Dry-Year 3 Yield (AF)
Well 20	2011	2011	2,900	2,900	2,900	2,900	2,900
West Wellfield Project	2011	2015	5,000	5,000	5,000	5,000	5,000
Well Optimization	2010	2011	1,000	1,000	1,000	1,000	1,000

## 7.4. Desalination Opportunities

Until recently, seawater desalination had been considered too uneconomical to be included in the water supply mix. However, recent advances in membrane technology and plant siting strategies have helped reduce desalination costs, warranting consideration among alternative resource options.

MWDOC is studying the feasibility of ocean desalination on behalf of its member agencies, but implementation of large-scale seawater desalination plants faces considerable challenges. These challenges include high capital and operation costs for power and membrane replacement, availability of funding measures and grants, addressing environmental issues and addressing the requirements of permitting organizations such as the Coastal Commission. These issues require additional research and investigation. MWDOC is reviewing and assessing treatment technologies, pretreatment alternatives, and brine disposal issues. Identifying and evaluating resource issues such as permitting and the regulatory approvals (including CEQA) associated with the delivery of desalinated seawater to regional and local distribution systems also present considerable challenges.

MWDOC is also assisting its member agencies in joint development of legislative strategies to seek funding in the form of grants and/or loans, and to inform decision-makers of the role of seawater desalination in the region’s future water supplies. Strategies and outcomes of other agency programs (such as Tampa Bay, Florida) are

being observed to gain insights into seawater desalination implementation and cost issues.

YLWD has not, on its own, attempted to investigate seawater desalination due to economic and physical impediments.

In Orange County, there are three proposed ocean desalination projects that could serve MWDOC and its member agencies with additional water supply. These are the Huntington Beach Seawater Desalination Project, the South Orange Coastal Desalination Project, and the Camp Pendleton Seawater Desalination Project.

**Table 7-2: Opportunities for Desalinated Water**

Sources of Water	Check if Yes
Ocean Water	X
Brackish Ocean Water	X
Brackish Groundwater	

**7.4.1. Groundwater**

There are currently no brackish groundwater opportunities within YLWD’s service area.

**7.4.2. Ocean Water**

*Huntington Beach Seawater Desalination Project* – Poseidon Resources LLC (Poseidon), a private company, has proposed development of the Huntington Beach Seawater Desalination Project to be located adjacent to the AES Generation Power Plant in the City of Huntington Beach along Pacific Coast Highway and Newland Street. The proposed project would produce up to 50 MGD (56,000 AFY) of drinking water and would distribute water to coastal and south Orange County to provide approximately 8% of Orange County’s water supply needs. The project supplies would be distributed to participating agencies through a combination of (1) direct deliveries through facilities including the East Orange County Feeder #2 (EOCF #2), the City of Huntington Beach’s distribution system, and the West Orange County Water Board Feeder #2 (WOCWBF #2), and (2) water supply exchanges with agencies with no direct connection to facilities associated with the Project.

Poseidon had received non-binding Letters of Intent (LOI) from the Municipal Water District of Orange County and 17 retail water agencies to purchase a total of approximately 72 MGD (80,640 AFY) of Project supplies.

The Project has received specific approvals from the Huntington Beach City Council, including the Coastal Development Permit, Tentative Parcel Map, Subsequent Environmental Impact Report and Conditional Use Permit, which collectively provided for the long-term operation of the desalination facility.

In addition to final agreements with the participating agencies, the Project still needs approvals from the State Lands Commission and the California Coastal Commission before Poseidon can commence construction of the desalination facility in Huntington Beach. If project receives all required permits by 2011, it could be producing drinking water for Orange County by as soon as 2013.

***South Orange Coastal Desalination Project*** – MWDOC is proposing a desalination project jointly with Laguna Beach County Water District, Moulton Niguel Water District, City of San Clemente, City of San Juan Capistrano, South Coast Water District, and Metropolitan. The project would be located adjacent to the San Juan Creek in Dana Point just east of the transition road from PCH to the I-5. The project would provide 15 MGD (16,000 AFY) of drinking water, up to 30% of the potable water supply of the local participating agencies.

Phase 1 consists of drilling 4 test borings and installing monitoring wells. Phase 2 consists of drilling, constructing and pumping a test slant well. Phase 3 consists of constructing a Pilot Test Facility to collect and assess water quality. Phases 1 and 2 have been completed and Phase 3 commenced in June 2010 and will last 18 months.

If pumping results are favorable after testing, a full-scale project description and Environmental Impact Report (EIR) will be developed. If EIR is adopted and necessary permits are approved, project could be operational by 2016.

***Camp Pendleton Seawater Desalination Project***– San Diego County Water Authority (SDCWA) is proposing a desalination project jointly with Metropolitan to be located at Camp Pendleton Marine Corps Base adjacent to the Santa Margarita River. The initial project would be a 50 or 100 MGD plant with expansions in 50 MGD increments up to a max of 150 MGD making this the largest proposed desalination plant in the US.

The project is currently in the feasibility study stage and is conducting geological surveys to study the effect on ocean life and examining routes to bring desalinated water to SDCWA's delivery system. MWDOC and south Orange County agencies are maintaining a potential interest in the project, but at this time is only doing some limited fact finding and monitoring of the project.