

# ORANGE COUNTY WATER DISTRICT ANNEXATIONS

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## SUMMARY

Seventy-five percent of the water consumed by over two million people in Orange County comes from a large underground water basin underneath most of north Orange County. The production of water from this basin is managed by the Orange County Water District (OCWD). The primary responsibility of the OCWD is to facilitate the percolation of water from the Santa Ana River watershed in order to recharge the underground basin. The cities and water districts that pump water from the basin are presently drawing more water from the basin than is locally available for recharge. Therefore, the OCWD must buy untreated water from the Metropolitan Water District (MWD) to supplement the recharge of the basin.

The OCWD has been asked to annex an additional service area adjacent to the City of Irvine, and some members of the OCWD are concerned that annexation will have a negative impact on the availability of water in Orange County.

The Orange County Grand Jury believes that the OCWD must prove its ability to serve water to the population within the existing the OCWD boundaries before the OCWD embarks on additional annexations.

## INTRODUCTION AND PURPOSE

As the population of Orange County grows, competition for water resources increases. The OCWD provides water for two million people in the County. The OCWD is being urged to annex additional service areas and a number of elected and appointed officials are concerned about the impact of annexation on the availability of water, and its cost and quality.

The Orange County Grand Jury undertook a study of OCWD to examine the fairness issues related to providing water for present and future populations. The study examined the methods necessary to establish equity for the providers and consumers of water in Orange County.

## METHOD OF STUDY

The Grand Jury interviewed officials of the OCWD and various elected and appointed officials of Orange County cities and water districts. Information was obtained from publications listed in the attached Appendix. A substantial amount of information in this study came from the OCWD 2020 Master Plan.

## BACKGROUND

The Orange County Water District was formed in 1933 by a special act of the California Legislature for the purpose of protecting the quality and quantity of water in the Orange County groundwater basin. The present OCWD boundary includes most of North Orange County from the north Orange County line to Irvine and Newport Beach. The present the OCWD boundaries are generally consistent with the limits of the underground water-bearing strata. In 1933, the OCWD boundary included 163,000 acres. The OCWD presently includes 229,000 acres as the result of annexations since 1933.

The Orange County underground water basin is one of the few water resources that have not been adjudicated (divided up by judicial decree). Instead, the groundwater basin is managed by the cooperative consent of more than twenty-four cities, water districts, and other producers that pump water from the basin.

The groundwater basin is replenished by the percolation of water from the Santa Ana River. The OCWD operates over 1,500 acres of riverbed and spreading basins used for groundwater recharge. The OCWD operates Water Factory 21 which blends highly treated waste water and well water that is injected into a series of wells along the coastline to protect coastal groundwater from seawater intrusion. The OCWD also purchases water from the MWD to recharge the groundwater basin. The OCWD charges each water producer a “replenishment assessment” for MWD water purchased to recharge the basin. The current replenishment assessment is \$94 per acre-foot. An acre-foot of water contains 326,000 gallons and will supply two families for one year.

The producers of water from the basin can pump only as much water as can be recharged to the basin. If the basin is over-pumped, the water level goes down and some of the shallower wells stop producing. Additionally, seawater intrusion increases. To protect against over-pumping, the OCWD has adopted the policy that water producers may pump 75% of their water from the basin and must buy the other 25% from the MWD.

The cost of producing water from the basin is \$150 per acre-foot. The cost of water from MWD is \$456 per acre-foot.

The MWD water comes from the Colorado River and has a significantly higher salt content than water in the underground basin. As more MWD water is used to recharge the basin, the salinity of the groundwater increases.

During 1996–97, water demand for all water producers within the OCWD was 455,000-acre feet. Of this amount, 330,000 acre-feet were pumped from the basin and 125,000 acre-feet were purchased by the producers from MWD. The OCWD 2020 master plan estimates the dependable yield of the basin at 275,000 acre feet per year. Therefore, the basin is being over-pumped by 55,000 acre feet per year at the present time.

The Irvine Ranch Water District (IRWD) has requested OCWD to annex approximately 27,000 acres of generally undeveloped land located north and south of Irvine. (See Exhibit) Officials of some of the water producers have expressed the concern that this annexation would adversely impact the cost, and quality of water.

The OCWD water producers have forecast the water demand of present and future populations within the present the OCWD boundaries through the year 2020. If the basin pumping rate is maintained at 75% of total demand, the dependable yield must be increased from the present 275,000 acre feet per year (afy) to 460,000 afy by the year 2020 to supply water to consumers within the current the OCWD boundaries. If the IRWD annexation is enacted, the demand on the basin will be 500,000 afy by the year 2020.

OCWD engineers believe that the dependable yield of the basin may be increased by several methods:

1. As population increases in San Bernardino and Riverside counties, treated waste water flows into the Santa Ana River watershed will increase proportionately. This flow may be a significant positive factor in the recharge of the water basin.
2. The OCWD and the Orange County Sanitation District have begun planning a joint project to recycle up to 110,000 afy of highly treated wastewater to be used to recharge the groundwater basin. The first phase of this project would produce 60,000 afy and will begin in the year 2003. The last phase would begin in 2020. The capital cost of phase I is expected to be \$290 million. While reclaimed wastewater will be more expensive than treated water from the MWD, it has two advantages:  
1) wastewater is a dependable source of water, and 2) total dissolved solids (salt) in recycled wastewater are substantially lower than water from MWD.
3. The OCWD engineers have prepared a \$212 million capital improvement program (\$241 million with annexations) designed to increase groundwater production. The major components of this plan include:
  - Improving the mechanics of cleaning sediment from existing spreading basin to increase percolation into the basin.
  - Construction of new injection wells to improve the existing seawater intrusion barrier.
  - Development of additional inland well fields to deliver water to the coastal areas.
  - Other physical improvements to improve the efficiency of the recharge of the water basin.

The issue of availability of water in Orange County is further complicated by the role of the MWD in its capacity of delivering treated and untreated water to the OCWD and to the water producers. The MWD sells 145,000 afy of treated water to producers and 55,000 of untreated water to the OCWD for groundwater recharge.

The dependability of the water supply from MWD is questionable. The MWD is presently drawing more water from the Colorado River than has been allocated to the

MWD by the U.S. Department of Interior. This additional water is “surplus water” allocated to other states but presently not required. As population of other states increases, this “surplus water” will slowly disappear. MWD has asked the Secretary of the Interior to reduce the amount of water allocated to agricultural use and increase water allocated to municipal and industrial use. The Secretary has refused this request. If MWD is forced to live within its allocation, there could be a serious water shortage in Orange County.

Officials of various cities and water districts that are members of OCWD have expressed concern that additional annexations will negatively affect the availability of water, increase the cost of water, and increase the salinity of the groundwater. The OCWD 2020 Master Plan confirms these concerns.

In 1986 the OCWD Board of Directors adopted a resolution establishing a policy on future annexations. That policy states:

*It shall be the policy of the Orange County Water District to accommodate the long-term producers within the Orange County Water District groundwater management programs and provide uniformity of cost and of access to groundwater throughout the District by consenting to requests for annexation of areas within the Orange County portion of the Santa Ana River watershed, provided that the annexing territory is within the boundaries of the Metropolitan Water District of Southern California.*

This policy reflects the opinion that landowners outside the current District boundaries may have the right to take water from the underground basin.

In 1977 the OCWD applied to the Local Agency Formation Commission for the establishment of a “Sphere of Influence.” This sphere of influence would define the geographic area that the District could annex in the future.

The Local Agency Formation Commissioners adopted the following resolution:

*Be it further resolved that the Commission adopts a Sphere of Influence for the Orange County Water District to encompass the Lower Santa Ana River Watershed (Orange County portion), modified to include those portions of the adopted Spheres of Influence of the cities of Fullerton and Newport Beach and portions of the El Toro Water District Sphere of Influence that lie outside said Watershed, and to exclude those portions of the adopted Spheres of Influence of the City of Brea and the Moulton Niguel Water District and the existing boundaries of the Santa Ana Mountains County Water District, as shown on the accompanying map attached hereto and by the reference made a part thereof. (See Exhibit)*

During the Local Agency Formation Commission proceeding, the OCWD did not present any evidence or testimony that the District had the capacity to provide water from the basin to serve the population that would develop within the sphere of influence.

Another issue related to annexation is the matter of equity between present and future water consumers. The OCWD currently has fixed assets (water rights, wells, pipes, pumps) valued at \$279 million. Some District members believe that future consumers will benefit from the fixed assets paid for by present consumers and that this benefit

constitutes a subsidy for future consumers. In addition, the OCWD must undertake a \$241 million capital improvement plan to increase groundwater production for future consumption.

The OCWD is considering adopting a “buy-in fee” to resolve the equity issue. Some OCWD members oppose a buy-in fee as being unprecedented. The OCWD will have to expend \$241 million to increase groundwater production. The capital cost to support the annexation of 27,000 acres is \$29 million or slightly more than \$1000 per acre.

The Metropolitan Water District charges \$3000 for each acre annexed into the MWD.

Formed by Orange County voters in 1951, the Municipal Water District of Orange County is a wholesale water agency charged with providing imported water to its 28 member agencies. Its primary responsibility is to ensure that the present and future water needs of member agencies are met. By advocating for development and protection of water supplies, the Municipal Water District of Orange County represents its agencies at regional, state and federal levels, while planning and coordinating the water needs for its service area and its nearly two million citizens.

The Municipal Water District of Orange County is coordinating a study of long term water supply on behalf of its member agencies and the County of Orange. The study is expected to require two years to complete.

## **FINDINGS**

Under *California Penal Code* Sections 933 and 933.05, responses are required to all findings. The 1998–99 Orange County Grand Jury has arrived at 3 major findings.

1. During the 1977 Local Agency Formation Commission hearing, the Orange County Water District did not prove its capacity to serve the population that would develop in the “sphere of influence” designated by Local Agency Formation Commission.

A response to Finding 1 is required of the **Orange County Water District** and the **Local Agency Formation Commission**.

2. The Orange County Water District is the conservator of the water supply for 2 million people and should be very cautious about additional annexations. District engineers believe that the \$241 million capital improvement plan will increase ground water production but that plan is not yet proven.

A response to Finding 2 is required of the **Orange County Water District**.

3. Since annexations will require additional capital improvements to increase groundwater production, a “buy-in fee” is justified.

A response to Finding 3 is required of the **Orange County Water District**.

## **RECOMMENDATIONS**

In accordance with *California Penal Code* Sections 933 and 933.05, each recommendation must be responded to by the government entity to which it is addressed. These responses are submitted to the Presiding Judge of the Superior Court. Based on the findings, the 1998–99 Orange County Grand Jury recommends that:

1. The Orange County Water District return to the Local Agency Formation Commission to re-define the District’s sphere of influence to that geographic area that the District can serve. (See Finding 1)

Response to Recommendation 1 is required from the **Orange County Water District** and the **Local Agency Formation Commission**.

2. The Orange County Water District establish a moratorium on annexations until the Municipal Water District of Orange County water study is complete. The Orange County Water District must prove that its capital improvement program will increase ground water production before further annexations are approved. The Orange County Water District must balance the obligation to serve with the ability to serve. (See Finding 2)

Response to Recommendation 2 is required from the **Orange County Water District**.

3. The Orange County Water District 2020 Master Plan estimates that the proposed annexations would increase the demand on the groundwater basin by approximately ten percent; therefore, a buy-in fee of \$1000 per acre would mitigate part of the additional debt required to increase groundwater production. (See Finding 3)

Response to Recommendation 3 is required from the **Orange County Water District**.

## **APPENDIX**

Orange County Water District 2020 Master Plan, November 1998.

Orange County Water District Annual Financial Report, year ended February 1998.

Metropolitan Water District of Southern California Annual Report, 1997.

Local Agency Formation Commission Records.