

# **STATE OF THE HEMET/SAN JACINTO BASINS**

## **WHITE PAPER**

Submitted to the Eastern Municipal Water District  
Board of Directors, December 13, 2000

### **INTRODUCTION**

The following staff report recommends that Eastern Municipal Water District (EMWD) renew efforts to work with other agencies and private groundwater producers to establish a cooperative groundwater management plan to address the annual overdrafts taking place in the Hemet/San Jacinto basins and to minimize the need for costly water imports in the future.

Annual overdrafts in the basins are regularly exceeding 10,000 acre feet. If basin overdrafts continue, water levels will drop and groundwater production will be severely curtailed or cease altogether. This would force EMWD to increase its reliance on costly imported water, prompting significantly higher water rates for its residential and business customers, while threatening the very existence of the region's 64 million dollar agricultural industry.

A cooperative groundwater management plan involving EMWD and other area groundwater producers is the only viable way to proactively manage the basins and prevent groundwater supply issues from escalating into legal conflicts affecting all area groundwater producers. Such conflicts usually result in a protracted, expensive basin adjudication.

This report outlines the historical background leading up to the current groundwater overdraft situation; the District's considerable groundwater management efforts to date; and the current state of the Hemet/San Jacinto basins. The report concludes with a recommendation that EMWD work with other stakeholders to establish a cooperative groundwater management plan, a recommendation made particularly urgent by state and local reports projecting the region's population to double during the next 15 to 20 years.

### **BACKGROUND**

Water shortages and drought are a recurring fact of life in southern California, an arid land that is green primarily because of imported water. The drought of 1987-1992 demonstrated just how vulnerable California is to water shortages. The Hemet/San Jacinto Valley area (see attached figure) is no exception. In California's past, extended periods of drought were not unusual, some lasting 30 to 70 years. The most recent drought only lasted six years, but

in some areas brought about mandatory conservation reductions of 20% for domestic use and 50% for agricultural uses beginning in April of 1991.

Precipitation and the resulting San Jacinto River flows are the source of natural recharge for the Hemet/San Jacinto groundwater basins. In this semi-arid climate, groundwater is a precious resource that decreases with lack of precipitation. As a result, it needs to be responsibly managed and protected.

Water levels in the Hemet and San Jacinto basins steadily declined during a 40-year span from the early 1940's to the end of the 1970's. The 1987-1992 drought quickly followed with similar impact (see attached figure). Area-wide management of groundwater is the only responsible way to ensure that groundwater is fairly and beneficially utilized in the present and also available for the future.

There was early recognition of the need for water resources management in the San Jacinto basin. Irwin E. Farrar, chairman of the San Jacinto River Protective Committee in the early 1940's, gave a telling speech during a June 1950 gathering to consider the formation of a local area water district:

*“Since Orange County is largely agricultural, the cities have had the foresight to protect the trade territory surrounding them and forestall the danger of a constantly lowering water table, ... Perhaps we should consider such a policy in this basin and study our uses of water seriously by doing everything possible to protect our local supplies by wisely using water from the imported source.”*

The basin Farrar was referring to was the San Jacinto River basin and the water district that resulted was Eastern Municipal Water District.

EMWD was formed to provide supplemental water to the area and to fairly and equitably distribute San Jacinto Tunnel seepage water. When EMWD started serving imported water in 1951, this supplemental water was relatively inexpensive and presumed to be abundant. Groundwater management did not seem to be a pressing need for the area. The imported water temporarily satisfied local water needs. Through 1991, EMWD imported 182,700 acre feet of Colorado River Water to the Hemet/San Jacinto area.

The 1954 court-ordered Fruitvale Judgement and Decree limits and establishes the volume of groundwater that can be extracted via the wells originally owned by the Fruitvale Mutual Water Company (FMWC). It also establishes certain conditions and constraints on groundwater production. That was an early attempt at groundwater management. In 1972, EMWD acquired the FMWC and all its assets, including wells, water rights, and distribution system. According to the 1954 Judgement, EMWD is generally constrained from producing more than 4,500 acre feet per year from its FMWC wells in the Canyon subbasin and from using more than 12,000 acre feet per year of Fruitvale production outside the basin. Since 1972, EMWD's Canyon production averaged less than 3,300 acre feet per year; and use outside the basin averaged

less than 7,100 acre feet per year. Other groundwater producers in the area are not constrained by the 1954 Judgement and they continue to expand their use of groundwater resources to this day.

Following EMWD's acquisition of the Fruitvale Mutual Water Company, the District entered into agreements with the cities of San Jacinto (1971) and Hemet (1972) and the Lake Hemet Municipal Water District (1972). In each case, it was agreed that they *"... shall continue to jointly participate in a local water resource management program, including both surface and underground waters and rights thereto, to insure the maximum equitable and legal protection, use and enjoyment of such local water resources by those entitled thereto."* Such a program was never established due to the availability of imported water from Metropolitan Water District.

In March 1991, a meeting of local groundwater producers, both public and private, was held and, from that meeting, the Hemet/San Jacinto Groundwater Association was created. The Articles of Association and Mission Statement were approved on September 9, 1991. In part, it was declared that, *"The Mission of the Association is to maintain a secure reliable and reasonably priced supply of high quality water for groundwater producers in the basin"* and, *"The Association will implement its Mission by developing and applying sound groundwater basin management concepts"*. For many, when the drought ended in 1992, interest in groundwater management and the Association's activities began to dwindle.

In 1991, the Surface Water Treatment Rule, resulting from the Federal Safe Drinking Water Act, eliminated the use of unfiltered Colorado River water in the local area. Consequently, this source of imported water was lost and more reliance was placed on local groundwater supplies to meet the Hemet/San Jacinto area's needs.

In May 1994, following receipt of the Soboba Band of Mission Indians water rights settlement claim, requests were submitted to the U.S. Department of the Interior by EMWD, the Hemet/San Jacinto Groundwater Association, and the Soboba Band, to appoint an Indian Water Rights Settlement Team to participate in settlement negotiations. The activities of the Groundwater Association declined as settlement negotiations took precedence. However, the Indians and the federal government recognized groundwater management as necessary and the Indian water rights negotiations have further emphasized the critical need for a groundwater management plan in the San Jacinto basin.

## **EMWD GROUNDWATER MANAGEMENT EFFORTS**

Since the acquisition of Fruitvale Mutual Water Company in 1972, EMWD has diverted to ponds and recharged nearly 38,000 acre feet of surface water into the San Jacinto basins. Unfortunately, river water can only be recharged when the river has significant flows. And, those flows are dependent upon rain and snowfall in the San Jacinto Mountains.

Through the years, however, EMWD has continued to investigate the groundwater basins and to plan for the future. The development of a Seasonal Storage Project in the San Jacinto basin is part of that effort.

### **The Benefits of Seasonal Storage and Conjunctive Use**

There is a significant amount of available groundwater storage in the Hemet/San Jacinto basins. It is equivalent to the volume of the Diamond Valley Lake reservoir and could be used to lower water costs and increase reliability for area water users. Utilization of such storage through Seasonal Storage Programs can minimize demand on the water supply system during peak periods. In the winter, low-cost, excess State Project Water (SPW) is available from Metropolitan Water District. This supply can be stored in local groundwater basins to be pumped for use during summer months when demand is high, thereby increasing supply reliability by utilizing available groundwater storage. In 1990, EMWD investigated a groundwater storage program in the San Jacinto Upper Pressure subbasin. A Seasonal Storage program may be extended into a Conjunctive Use program which involves the storing of water in wet years for use during periods of drought.

The feasibility of seasonally storing imported water in the groundwater basin was successfully evaluated, and recharge of SPW has continued when possible. Between 1991 and 1997, over 4,800 acre feet of SPW was recharged at the San Jacinto site. Additionally, some 13,200 acre feet of reclaimed water was recharged at the District's storage ponds between 1991 and 1999. Recovery of the recharged water was initiated in April 1996 and over 15,200 acre feet was recovered through October 2000. Continuous implementation of the Seasonal Storage Program is dependent upon the U.S. Army Corps of Engineers issuance of a 404 Permit which is subject to U.S. Fish and Wildlife requirements to mitigate impacts on San Bernardino Kangaroo Rat habitat in the riverbed. However, that issue has been resolved and recharge is expected to resume in the spring of 2001. Seasonal Storage and Conjunctive Use Programs provide cost-effective methods for increasing supply and utilizing groundwater storage.

### **Groundwater Basin Investigations**

During the past decade, numerous studies, geohydrological and geotechnical investigations, and other efforts have been initiated, undertaken, and funded by EMWD to better understand the subsurface structure of the basins; the dynamics of groundwater and contaminant movement; the source of groundwater; groundwater recharge; and surface water flows.

Data collection, compilation, and analysis are an integral part of groundwater management. EMWD maintains a database of available data, updated when new data becomes available. Groundwater quality and water level monitoring are important to characterize basin hydrology, evaluate groundwater flow conditions, and monitor groundwater degradation. Groundwater extraction monitoring is important to develop an understanding of how conditions in local basins are changing and how groundwater pumping, water quality, and water levels are related. This information is necessary to maximize the use of groundwater and to provide the necessary information to decision makers for evaluation of management alternatives. In addition to the technical efforts described above, EMWD continues its water resources management efforts and planning for the future.

## **CURRENT BASIN CONDITIONS**

The time for implementing a groundwater management plan for the Hemet and San Jacinto basins is now. Groundwater conditions clearly demonstrate the need for a management plan.

### **A History of Overdrafts**

The Hemet and San Jacinto Upper Pressure subbasins, including the Intake Zone, have been overdrafted for years. This means the amount of groundwater pumped exceeds natural recharge from rainfall and the San Jacinto River. The result is lower and lower water levels in the basins, as demonstrated by the frequent declines in water levels as in the 1944-1978 and the 1987-1992 drought periods. Water levels have dropped significantly as shown in the attached figure.

The operational yield of the Canyon and San Jacinto basins is estimated to be 40,000 acre feet per year. During a recent five-year period, agricultural production averaged 24,800 acre feet per year; and municipal production by EMWD, Lake Hemet Municipal Water District, and the cities of Hemet and San Jacinto has averaged 22,600 acre feet per year. Clearly, production totals exceeded the operational yield by 7,400 acre feet per year over the five-year period. Operational yield of the Hemet basin is estimated at 10,000 acre feet per year. During the same five-year period, agricultural groundwater production averaged 7,000 acre feet per year and municipal production averaged 6,200 acre feet per year. Once again, production totals exceeded operational yield by 3,200 acre feet per year. The combined overdraft is in excess of 10,000 acre feet per year. Good resource management dictates that the overdraft must be reduced, if not eliminated.

### **The Effects of the Soboba Claim and Future Population Growth**

Demands on the Hemet/San Jacinto basins will increase by some 16,300 acre feet per year if the Soboba Band of Mission Indians exercise the use of groundwater in the area as presented in their 1995 claim. This represents an increase of nearly 15,000 acre feet per year over their average use of 1,500 acre feet per year. The overdraft conditions in the Hemet/San Jacinto basins have also become more serious as the region's population has continued to grow. In addition to Tribal water demands, conservative growth projections indicate that the Hemet/San Jacinto area will need an additional 12,300 acre feet per year to accommodate growing domestic and industrial needs over the next 20 years.

Reducing or eliminating the overdraft, providing additional water for the Soboba Tribe, and meeting the needs of the future can only be achieved by

importing additional supplies. This means water will cost more than it has in the past. The cost of producing groundwater only involves the construction of the well, power, and operation and maintenance. The groundwater itself carries no cost. Imported supplies will have to be purchased and will cost significantly more than groundwater produced locally.

#### **Uncertainties Involving Imported Water**

There are concerns regarding the availability and reliability of the imported water supply as well. They are the result of a number of factors, such as expanding demands on supplies due to population growth; variations in climate producing long- or short-term droughts; and environmental needs at the point of origin taking precedence, thereby lessening the supply available for southern California. Increasing costs continue to be a major concern.

Imported water is especially expensive if purchased on an as-needed basis. Fortunately, with prudent water resources management, there are ways to minimize the cost of imported water. For example, water can be purchased at more attractive rates during the winter at times of low demand and used to recharge the basin. Stored water can then be extracted at times of high demand during the summer months. In wet years, water is less expensive than in times of drought. Once again, with proper management, water can be purchased and stored for later use in times of need.

#### **Potential Litigation**

Concerns over groundwater supplies could escalate into the legal arena if area stakeholders do not implement a solution to the current overdraft problem. This could put a multi-million dollar financial drain on the local community for a number of years and ultimately result in the adjudication of the basin. This is clearly not in the interest of any of the agencies serving the Hemet/San Jacinto basin.

### **CONCLUSION**

Just as the decisions and actions of the past affect the present, today's decisions and actions will affect the future. It is our responsibility today to maximize our future water supply and minimize future water costs. This cannot be accomplished in a vacuum. If a cooperative groundwater management plan is not developed and implemented, the future is predictable. Ultimately, there will be numerous lawsuits filed, and there will be a basin adjudication. There will be a long period of litigation, perhaps fifteen to twenty years or more, with extremely high legal fees for all parties concerned. Local water resources will be reduced or become depleted. Water demands, as a result of growth, will increase regardless of what is done.

Even assuming the Metropolitan Water District could provide a major portion of the area's water supply under normal conditions, we are still faced with providing additional reliability during those times when the State and/or Colorado River systems are under drought conditions. Groundwater must be a major component of our reserve water supply. Without a groundwater management

plan, that supply will be gone.

EMWD has always been mindful of the conservation and prudent use of our groundwater resources, as exemplified by its recharge efforts and groundwater production.

From 1972 to the present, EMWD has recharged over 4,800 acre feet of State Project Water, more than 13,200 acre feet of reclaimed water, and nearly 38,000 acre feet of surface water into the underground aquifer. Production in the Canyon subbasin has averaged 1,200 acre feet per year less than the 4,500 acre feet allowed by the 1954 Fruitvale Judgement and Decree; and, use outside of the basin has averaged 2,900 acre feet per year less than the 12,000 acre feet allowed. Additionally, EMWD imported 182,700 acre feet of Colorado River Water into the area prior to being stopped by the enactment of the 1991 federal regulation.

The decisions we make must always take into account the question of where our water will come from. In the arid west, after a decade in which virtually every state was affected by severe drought, future water supply is a vital concern. This is emphasized by projected increasing demands for the future. It was noted in a report prepared by the Western States Water Council (*Water in the West Today: A States' Perspective*, Feb. 1997) that:

*"From a state perspective, the Department projects that there will be chronic water shortages in the future (even in average water years) unless agencies at all levels of government take actions to improve water supply reliability for their systems. For example, although projected implementation of water conservation measures will save about 1 million acre feet of water by year 2020, the state's increasing population will result in an increase in urban water needs of 4 million acre feet by 2020. Environmental water uses -- such as water supplies for wildlife refuges and fishery instream flow requirements -- are estimated to increase by 1 to 3 million acre feet by 2020, depending on the implementation of legislative, regulatory, and other programs."*

*"By year 2020, annual water shortages of 4 to 6 million acre feet could occur during average water years if additional facilities and water management programs are not provided."*

The groundwater situation is grave, and each and everyone of us should have a sense of urgency with regard to finding a reasonable and responsible solution. With an estimated overdraft in the Hemet and San Jacinto basins of over 10,000 acre feet per year, enough for 20,000 households per year, everyone must be concerned. The need for a groundwater management plan in the Hemet and San Jacinto basins is recognized by all, and has been recognized by many for a very long time. A well managed program will recognize and protect the rights of groundwater producers; prevent or reduce overdraft situations; address and prevent degrading groundwater quality and declining water levels; and provide for imported water availability and reliability at reasonable cost.

Water is a critical element in the future of the area, as it is in all of southern California. Without an assured future supply, the economic viability and survivability of the region is uncertain. EMWD's Mission is *"to provide safe and reliable water and wastewater services to our community in an economical, efficient and responsible manner, now and in the future."* This mission is best accomplished by implementation of a comprehensive groundwater management plan in the Hemet/San Jacinto area.

The task ahead cannot be underestimated. No decision involving water will be popular with everyone, but the one decision that must be made by everyone is to move forward together. The time to act is now. EMWD should take a leadership role in facilitating that action. Recent legislation and court decisions linking the approval of new development to the availability of water supply should serve as a sharp warning signal that business as usual is about to end. With the area's population increasing, the need to conserve, to plan for the future, and to manage local resources efficiently is no longer a goal. It is a reality. Benjamin Franklin said, *"We know the worth of water when the well runs dry"*. Without action, the wells will be dry and water will be very, very expensive.