



*City of Hemet
Water Department*

**Urban Water
Management Plan**

2005

Prepared by the City of Hemet Water Department as required by
the Urban Water Management Planning Act
(CALIFORNIA WATER CODE DIVISION 6 PART 2.6)

Table of Contents

Executive Summary	5
 SECTION 1	
Agency Coordination	6
 SECTION 2	
Contents of Urban Water Management Plan.....	7
Appropriate level of planning for size of agency	7
Service Area Information with 20 year projections	7
Water Sources	9
Water Sources – Groundwater	10
Reliability of Supply	14
Transfer and Exchange Opportunities	16
Water Use by Customer-type - Past, Current and Future	16
Demand Management Measures	17
A. Water survey programs for single-family residential and multifamily residential customers.....	17
B. Residential plumbing retrofit	18
C. System water audits, leak detection, and repair	19
D. Metering with commodity rates for all new connections and retrofit of existing connections.....	20
E. Large landscape conservation programs and incentives	20
F. High-efficiency washing machine rebate programs	21
G. Public information programs	21
H. School education programs	22
I. Conservation programs for commercial, industrial, and institutional accounts	23
J. Wholesale agency programs	23
K. Conservation pricing	23
L. Water conservation coordinator.....	25
M. Water waste prohibition.....	25
N. Residential ultra-low-flush toilet replacement program.....	26
 Evaluation of DMMs not implemented	 27
Planned Water Supply Projects and Programs.....	27
Development of Desalinated Water	28
Current or Projected Supply Includes Wholesale Water.....	28

SECTION 3

Water Shortage Contingency Plan29
 Stages of Action.....29
 Estimate of Minimum Supply for Next Three Years.....29
 Catastrophic Supply Interruption Plan.....30
 Prohibitions, Penalties and Consumption Reduction Methods30
 Analysis of Revenue Impacts of Reduced Sales During Shortages32
 Draft Ordinance and Use Monitoring Procedure.....32

SECTION 4

Recycled Water Plan33
 Coordination.....33
 Wastewater Quantity, Quality and Current Uses33

SECTION 5

Water Quality Impacts on Reliability34

SECTION 6

Water Service Reliability36
 Projected Normal Water Year Supply and Demand.....36
 Projected Single-Dry-Year Supply and Demand Comparison36
 Projected Multiple-Dry-Year Supply and Demand Comparison.....37

SECTION 7

Adoption and Implementation of UWMP40

APPENDIX 1

Public Outreach and Participation

APPENDIX 2

UWMP Adoption Resolution

APPENDIX 3

Hemet/San Jacinto Water Management Area Cooperative Agreements

APPENDIX 4

City of Hemet Water Conservation Ordinance

Executive Summary

California Water Code Section 10610 et seq., known as the Urban Water Management Planning Act, mandates that every supplier providing water for municipal purposes to more than 3,000 customers or supplying more than 3,000 acre feet of water annually, prepare an Urban Water Management Plan (UWMP) to describe and evaluate sources of water supply, efficient uses of water, demand management measures, implementation strategy and schedule, and other relevant information and programs. Water suppliers must update their UWMP every five years, solicit and respond to public comments on the updated plan, hold a public hearing to adopt the plan, and, finally, submit the plan to the California Department of Water Resources.

In response to these regulations, the City of Hemet has prepared this 2005 UWMP.

The City of Hemet Water Department relies on local groundwater as the water supply source for customers in its 5.25 square mile service area. Groundwater is currently pumped from the San Jacinto Groundwater basin by 11 City-owned wells. The City estimates the area in which the water system is located will be nearing 100-percent built out in about ten (10) years. The major growth in the water service area is expected to be the result of commercial development, as most of the remaining undeveloped land in the service area is zoned for commercial uses. Commercial water customers are expected to increase by an estimated 25-percent by 2015.

The City plans to continue using local groundwater as a supply source through 2030 and does not anticipate the need to purchase wholesale or imported water to supplement the groundwater supply. The City is confident about the reliability of future groundwater supplies for the following reasons:

1. On going participation with other local water agencies in solutions to overcome the current groundwater overdraft situation through the Hemet/San Jacinto Groundwater Management Plan, which includes a program to recharge the groundwater basin. (See Pages 12-13)
2. Groundwater quality in the San Jacinto Groundwater Basin is high and is expected to remain high. Drinking water in the Hemet distribution system has never exceeded any of the maximum contaminant levels or any other water quality standards set by the U.S. Environmental Protection Agency or the California Department of Health Services. (See Pages 34-35)
3. Demand Management Measures to promote conservation and efficient use of water have been implemented or are planned for future implementation. (Pages 17-26)
4. To further improve system reliability, the City plans to add a new two million gallon reservoir to the water system to increase storage capacity and allow for flexibility should an existing reservoir need to be taken offline for cleaning or maintenance. In addition, another well is planned for development to assure that daily production capacity can meet the maximum daily demand and to provide for more system-wide reserve capacity. (Page 27)

Section 1 - Agency Coordination

Coordination with appropriate agencies

Water Code Section 10620

The City of Hemet coordinated preparation of this Urban Water Management plan as indicated in the table below.

Coordination with Appropriate Agencies (Table 1)

Check at least one box per row	Participated in UWMP development	Commented on the draft	Attended public meetings	Contacted for assistance	Received copy of draft	Sent notice of intention to adopt	Not Involved / No Information
Eastern Municipal Water District		✓			✓	✓	
Lake Hemet Municipal Water District					✓	✓	
City of San Jacinto					✓	✓	
County of Riverside					✓	✓	

Public Outreach & Participation

The agencies listed above were notified by letter that the draft City of Hemet 2005 UWMP was available for review on the City’s website [www.cityofhemet.org] on December 7, 2005 and January 26, 2006. Copies of all letters sent are attached in Appendix 1. The only written comment received was from Eastern Municipal Water District. This document is also provided in Appendix 1. A Notice of Public Hearing was published on January 31 and February 7, 2006. Proof of Publication is included in Appendix 1. There were no comments on the UWMP at the public meeting, which was held on February 14, 2006. As a result, the Hemet City Council adopted the 2005 UWMP with Resolution No. 3988, a copy of which is provided in Appendix 2.

Water Resource Maximization / Import Minimization Plan

The groundwater sources used by the City of Hemet are shared in common with other urban and agricultural interests in the area. Since 2001, City representatives have been participating with other water agencies and agricultural producers to develop a groundwater management plan for the San Jacinto groundwater basin. The completed Hemet/San Jacinto Groundwater Management Plan will be a Stipulated Judgment and should be approved and implemented in 2006. Anticipated benefits of the plan include assurance of a reliable and adequate source of present and future water supply, elimination of basin overdraft, ability to responsibly expand production and services to meet expected urban growth, and implementation of an ongoing monitoring program to protect our valuable water resources.

Section 2 - Contents of UWMP

Appropriate level of planning / Changes or Amendments

Water Code Section 10621 & 10630

The level of detail provided in this plan reflects the size and complexity of the City of Hemet Water Department and contains all elements required by the Urban Water Management Planning Act. If changes or additions to this plan are necessary, the City of Hemet will follow the procedure set forth in Water Code sections 10640 through 10645.

Service Area Information with 20 year projections

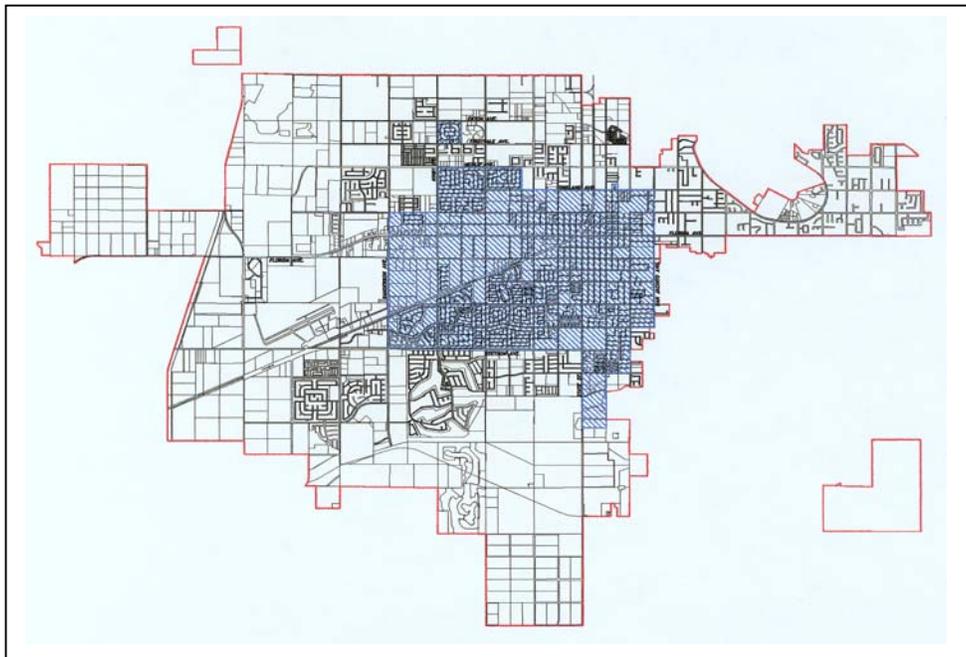
Water Code section 10631

Service Area

In 1954, the City of Hemet purchased the Lake Hemet Water Company water system, which consisted of two deep wells, one 1.5 million gallon (MG) reservoir and miscellaneous distribution systems in need of a maintenance and replacement program. At that time, the boundaries of the City of Hemet and the area served by the City's Water Department were approximately the same, 3,360 acres (5.25 square miles). Since that time, the city limits have expanded, mostly to the south and west and now encompass 16,620 acres (26 square miles), while the City's water service area has remained the same.

Today, the City of Hemet continues to provide water service to residential and commercial customers in the 5.25 square mile service area, which extends generally from Menlo Avenue on the north to Stetson Avenue on the south and from Sanderson Avenue on the west to San Jacinto Street on the east.

City of Hemet Water Distribution System Boundary (Figure 1)



Two other water districts, Eastern Municipal Water District (EMWD) and Lake Hemet Municipal Water District (LHMWD), serve the remaining 21 square miles of incorporated City area. The present City of Hemet system consists of eleven (11) wells, four (4) storage reservoirs with a maximum capacity of 5.1 MG, and 120 miles of water mains varying in size from four (4) inches to 24 inches in diameter.

Land use zoning within the 5.25 square mile city water service area is comprised of residential uses (70-percent) with the remaining 30-percent of the area designed for commercial and institutional uses. The city service area is currently 85-percent built out. The City estimates the area in which the water system is located will be nearing 100-percent built out in about ten (10) years.

Most of the city water system customers are residential consumers (91-percent), with the remaining 9-percent of customers consisting of commercial and institutional/governmental users.

Because the vast majority of residential areas within the 5.25-square mile water service area are built out, the number of residential water customers is not expected to increase by more 10-percent over the next ten years (2005-2015). The major growth in the water service area is expected to be the result of commercial development, as most of the remaining undeveloped land in the service area is zoned for commercial uses. Commercial water customers are expected to increase by an estimated 25-percent by 2015.

Population

The City of Hemet was incorporated in 1910 with a total population of 992. U.S. Census Bureau count in 2000 was 58,812. Between 2000 and 2005, the population of the city has increased by 13-percent to 66,455 in 2005. Residential communities and commercial development are quickly replacing agricultural land. Over the next twenty years, the city's population is expected to more than double to a projected 145,079.

While the population of the City of Hemet is expected to increase significantly in next two decades, the population of the City's water system service area is not projected to increase proportionally. The City's 5.25-square mile service area is bordered on all sides by two other water districts, Lake Hemet Municipal Water District and Eastern Municipal Water District, so no expansion of the system is anticipated.

Population - Current and Projected (Table 2)

	2005	2010	2015	2020	2025	2030/opt
City Population *	66,455	89,050	103,298	117,759	131,890	145,079
Service Area Population ♦	20,224	21,234	22,300	22,300	22,300	22,300

* City Population obtained from California Department of Finance; increase percentages based on population forecasts from Southern California Association of Governments

♦ Service Area Population: calculated using State of California Department of Finance City/County Population and Hosing Estimates, 1/1/2005 [2.323 persons per household x number of residential meters]

Climate

Hemet has a semi-arid climate, typical of Southern California inland valleys, with hot, dry summers and cooler winters. Rainfall, which averages 12.57 inches annually, occurs mostly in what is referred to as the “rainy season,” which generally occurs between November and April. Table 3 below summarizes average temperatures and precipitation in Hemet.

Climate (Table 3)

	Jan	Feb	Mar	Apr	May	June
Standard Monthly Average ETo	2.81	2.76	3.78	5.31	6.10	6.97
Average Rainfall (inches)	2.68	2.10	1.89	0.84	0.54	0.15
Average Max. Temperature (Fahrenheit)	66.7	68.5	70.4	74.3	82.7	93.4
Average Min. Temperature (Fahrenheit)	35.0	36.4	39.1	42.3	48.0	52.4

Climate (continued)

	July	Aug	Sept	Oct	Nov	Dec	Annual
Standard Monthly Average ETo	7.08	6.83	5.67	4.15	3.31	2.56	57.33
Average Rainfall (inches)	0.05	0.42	0.54	0.54	1.01	1.81	12.57
Average Max. Temperature (Fahrenheit)	100.3	98.5	92.1	83.4	71.5	66.9	81.0
Average Min. Temperature (Fahrenheit)	57.0	57.5	55.0	46.9	37.3	33.9	45.2

Eto obtained from (<http://www.wrcc.dri.edu/CLIMATEDATA.html>)

Rainfall and temperature data obtained from (<http://www.cimis.water.ca.gov/cimis/welcome.jsp>)

The most significant climate characteristic affecting water management in the City of Hemet is the occurrence of a “dry” and a “wet” season each year, which results in water use that is quite consistent from year to year, even in dry years. While demand in the winter season during a wet year may decrease, peak demand in the hot and dry summer months, even in years with a wet winter, varies only slightly from year to year. As a result there is virtually no difference in water use in a normal year versus a dry year.

The main demographic factor affecting water management in the City of Hemet is growth in the commercial areas within the water service area. With the majority of remaining undeveloped land in the 5.25 square mile service area zoned for commercial uses, the city anticipates the majority of new customers over the next ten years will be commercial businesses. Future residential growth in the service area is limited due to the fact that most residential areas are nearing build-out.

Water Sources

Water Code section 10631

Existing and Planned Water Supply Sources

The City of Hemet Water Department relies on local groundwater as the water supply source for customers in its 5.25 square mile service area. Groundwater is currently pumped from the

San Jacinto Groundwater basin by 11 City-owned wells. The City plans to continue the use local groundwater as a supply source through 2030 and does not anticipate the need to purchase wholesale or imported water to supplement the groundwater supply.

The City also has a supplemental connection to the Eastern Municipal Water District system, which will be utilized only for water exchanges in emergency situations.

Current and Planned Water Supplies – AF/Y (Table 4)

Water Supply Sources	2005	2010	2015	2020	2025	2030
Wholesale water provider:	0	0	0	0	0	0
Supplier produced groundwater	5,767	6,061	6,370	6,370	6,370	6,370
Supplier surface diversions	0	0	0	0	0	0
Transfers in or out	0	0	0	0	0	0
Exchanges in or out	0	0	0	0	0	0
Recycled Water (current and projected use)	0	0	10	15	20	25
Desalination	0	0	0	0	0	0

Water Sources - Groundwater

Water Code section 10631

Groundwater Basin Information

The City of Hemet extracts groundwater from the San Jacinto Groundwater Basin (No. 8-5) located in the Santa Ana sub-region of the South Coast Hydrologic Region of Southern California, which drains to the Pacific Ocean. (Described in *California's Groundwater – Bulletin 118 Update 2004*). The San Jacinto Basin has an area of 188,000 acres. The estimated groundwater storage capacity of the San Jacinto Basin is 3,070,000 acre-feet. Natural recharge to the basin is primarily from percolation of flow in the San Jacinto River and its tributary streams; less recharge is from infiltration of rainfall on the valley floor. Natural recharge is augmented by spreading water obtained from the State Water Project (SWP) as well as reclaimed water in Conjunction Use Ponds operated by Eastern Municipal Water District in the upper reaches of the San Jacinto River.

Groundwater levels in the San Jacinto Watershed Basin have undergone major changes over the last century and this basin is currently in overdraft. In the early 1900s, the groundwater levels were much higher than present levels but groundwater extraction has resulted in significantly lower groundwater levels in most of the sub basins. Groundwater levels have dropped more than 200 feet at some locations. (*Regional Groundwater Model for the San Jacinto Watershed, TechLink Environmental, Inc., 2002.*)

There are eight (8) groundwater management zones or sub basins delineated within the San Jacinto Basin based on major impermeable boundaries, constrictions in impermeable bedrock, groundwater divides, and internal flow systems. The City of Hemet pumps groundwater from two (2) of these sub basins, the Hemet South Sub basin and the San Jacinto Upper Pressure Sub

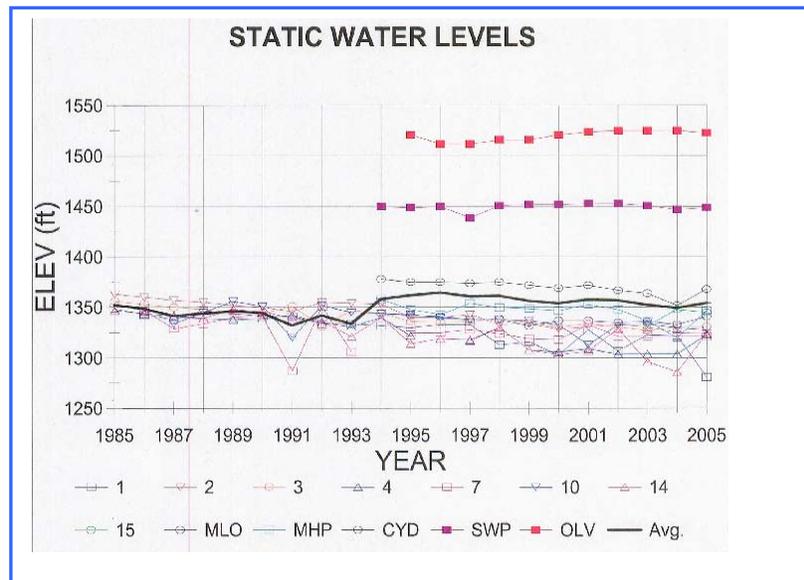
basin. The majority of groundwater extracted by the City is pumped from the Hemet South Sub basin. The City currently has two (2) wells that pump water from the San Jacinto Upper Pressure Sub basin.

San Jacinto Upper Pressure Sub basin – This zone is bounded by the San Jacinto fault to the northeast, the Casa Loma and Bautista Creek fault zones to the southeast, and the flow system boundary with the San Jacinto Lower Pressure Sub basin to the northwest. A branch of the San Jacinto fault zone extends southeast along the channel of Bautista Creek until it intersects the Park Hill fault. In the early 1900s, the barrier effect of the fault resulted in rising groundwater within the San Jacinto River upstream of the fault. This area is known as the Cienega and is an area of significant municipal groundwater production. The Casa Loma and Bautista Creek fault zones are known barriers to groundwater flow. However, groundwater leaks across the fault zones as underflow to the Hemet South and Lakeview/Hemet North Sub basins. The total area of the basin is approximately 60 square miles. This basin is replenished by the percolation of annual rainfall and from the San Jacinto River and other ephemeral streams.

Many municipal extraction wells are located in the southern half of the San Jacinto Upper Pressure sub basin. Groundwater extraction from the southern Upper Pressure Sub basin has been gradually increasing, and that has resulted in a gradual decline of groundwater levels. (*Regional Groundwater Model for the San Jacinto Watershed, TechLink Environmental, Inc., 2002.*) Measurement of wells in this sub basin by EMWD indicates a decrease in groundwater storage in this basin based on a comparison of water levels in fall of 2003 to water levels in fall of 2004.

Hemet South Sub basin – The general boundaries include the Casa Loma and Bautista Creek fault zones to the east; the groundwater divide near Esplanade Avenue to the north; the ground water divide in Winchester area to the west; and various crystalline bedrock outcrops to the south. The Casa Loma and Bautista Creek fault zones are known barriers to groundwater. However, groundwater leaks across the fault zones as underflow from the San Jacinto Upper Pressure Management Zone. The total area of the basin is approximately 85 square miles. Recharging of the Hemet Basin occurs primarily from percolation of yearly rainfall and run off from the surrounding mountains.

City of Hemet records indicate that despite water extraction from municipal wells, static water levels in the Hemet South Sub basin have remained constant for the past 20 years (1985-2005), as shown in the chart at the right.



Groundwater Management Plan

Development of a groundwater management plan for the San Jacinto Groundwater Basin is currently nearing completion. In June 2001, the Department of Water Resources (DWR) and local agencies developed and executed a Memorandum of Understanding (MOU) to formulate a groundwater management plan for the Hemet/San Jacinto area (See copy in Appendix 3). A groundwater policy committee was formed with elected officials from the cities of Hemet and San Jacinto, Lake Hemet Municipal Water District, Eastern Municipal Water District, and representatives of private groundwater producers. DWR acts as an impartial mediator to the policy committee. Since it was formed, the policy committee has discussed and resolved several controversial issues, including San Jacinto Tunnel seepage water, the Fruitvale Judgment, export of groundwater from the basins, and how to maximize the use of reclaimed water. A technical committee was also formed to provide guidance and has participated in public outreach meant to share information and to encourage cooperation.

In September 2003, an agreement was made between the cities of Hemet and San Jacinto, EMWD, and LHMWD to develop a groundwater monitoring program (See copy in Appendix 3). Under this agreement monitoring began in 2004, and the first report was published in June 2005. EMWD, LHMWD and the cities of Hemet and San Jacinto are all participating in the funding and implementation of the monitoring program. Once the groundwater management plan is in place, future annual reports will be submitted to the Watermaster.

The cities of Hemet and San Jacinto, EMWD and LHMWD also agreed on the Interim Principles of Groundwater Management in 2003 and then the Principles of Groundwater Management in February 2004 (See copy in Appendix 3). These principles establish the framework for a Water Management Plan for the Hemet/San Jacinto area.

There were two (2) additional MOUs in 2004. The first addressed the deteriorating situation in the sub-basins by providing interim stabilization through recharge and was executed in April 2004. The second, executed in June 2004, describes the funding mechanism for developing the groundwater management plan. (See copies in Appendix 3)

Successful implementation of the Hemet/San Jacinto Groundwater Management Plan will help insure that:

- ✓ The Hemet/San Jacinto area will have a reliable and adequate source of future water supply.
- ✓ The settlement claims by the Soboba Band of Luiseno Indians is facilitated and accommodated.
- ✓ Existing water production and water services will be expanded to meet future urban growth.
- ✓ Water quality in the management plan will be protected and/or enhanced.
- ✓ Cost-effective water supplies and treatment by the Public Agencies is supported,
- ✓ Groundwater overdraft is eliminated and basin yield enhanced.

- ✓ A monitoring program is implemented to promote and provide for best management and engineering principles to protect water resources.

The final Groundwater Management Plan itself will be a Stipulated Judgment that should be approved by the courts in 2006 and implemented as soon as possible there after. This plan will limit the amount of water being extracted from the basin to a sustainable yield and implement continued recharge of the basin using imported water. The plan will allow the City of Hemet to extract groundwater to meet current and future needs, and will provide a funding mechanism for artificially recharging of the basin.

Groundwater Production

The City of Hemet supplies municipal customers with water obtained from two separate zones in the San Jacinto Groundwater Basin. In 2004, 5,684 AF of groundwater was pumped from the San Jacinto Groundwater Basin, which accounted for 99.5-percent of the city’s municipal supply.

The City also has an exchange connection with Eastern Municipal Water District from which the remaining .5-percent of water (26 AF) was purchased in January 2004. The City of Hemet stopped receiving water from EMWD in February 2004 and does not plan to utilize water from EMWD in the future except in emergency situations.

Groundwater Production – 2000 to 2004--AF (Table 5)

YEAR	WELL 1	WELL 2	WELL 3	WELL 4	WELL 5	WELL 6	WELL 7	WELL 8	WELL 9	WELL 10	WELL 11	WELL 12	WELL 13	WELL 14	WELL 15	TOTAL
2000	646	525	308	451		482			499	665		349	338	785		5,048
2001	703	492	197	888		211			404	568		467	225	582		4,737
2002	599	477	311	694		252	395		527	548		280	295	578		4,956
2003	688	593	142	556		280	720		432	318		207	462	398	215	5,011
2004	278	824	0	688		98	711		365	186		396	96	636	1406	5,684
TOTALS	2,914	2,911	958	3,277	0	1,323	1,826	0	2,227	2,285	0	1,699	1,416	2,979	1,621	25,436

- NOTES:** Shaded columns (Wells 6,9,12,13) pump groundwater from the San Jacinto Upper Pressure Zone
 Non-shaded columns (Wells 1,2,3,4,7,10,14,15) pump groundwater from the Hemet South Zone
 Well No. 5 – abandoned in 1998
 Well No. 6 – lease expired in April 2004
 Well No. 7 – lease cancelled in 1997; rehabilitated in 2001/02
 Well No. 8 – lease cancelled in 1998
 Well No. 9 – lease expired in April 2004
 Well No. 11- abandoned in 1993 / Well No. 14 was drilled as a replacement

Amount of Groundwater pumped – AF/Y (Table 6)

Basin Name (s)	2000	2001	2002	2003	2004
Hemet South	3,380	3,430	3,602	3,630	4,729
San Jacinto Upper Pressure	1,668	1,307	1,354	1,381	955
% of Total Water Supply	92.7%	89.7%	88.6%	91.6%	99.5%

Amount of Groundwater projected to be pumped – AF/Y (Table 7)

Basin Name(s)	2010	2015	2020	2025	2030/opt
Hemet South	4,561	4,795	4,795	4,795	4,795
San Jacinto Upper Pressure	1,500	1,575	1,575	1,575	1,575
% of Total Water Supply	100%	100%	100%	100%	100%

Reliability of Supply

Water Code section 10631

Although water levels in the San Jacinto Upper Pressure sub-basin have been gradually declining over the years, water levels in the Hemet South sub-basin now appear to be holding steady and may even be rising slightly. During 51 years of operation, there has never been a shortage of water due to any seasonal or climatic factors. The City’s water system has never experienced a supply deficiency. The City of Hemet has always been able to provide all necessary water supplies to its customers.

Despite this fact, the City of Hemet recognizes that the reliability of continued groundwater supplies is dependent upon a combination of basin recharge through both natural and artificial means and implementation of Hemet/San Jacinto Groundwater Management Plan to maintain the safe-yield of each sub-basin (production ≤ recharge). Implementation of this plan will assure that groundwater will be available to City of Hemet customers at a consistent level over the next 30 years.

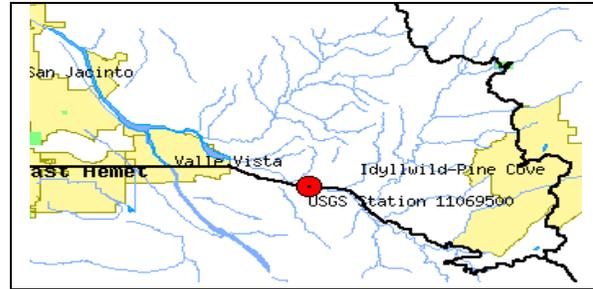
Basin Recharge – Natural Means

The San Jacinto Groundwater Basin is naturally recharged from local precipitation and runoff from the mountains flowing in the San Jacinto River and other local ephemeral streams and creeks. To better understand how seasonal runoff may affect the local groundwater basin, historical records of annual mean stream flow rates at USGS Gauging Station No. 11069500 located on the San Jacinto River at Cranston Ranger Station were reviewed. This gauge provided data from 1921 to 2003, except for the years 1927 and 1991-1996, and was used to determine the following:

Normal Water Year – a year in the historical sequence that most closely represents median runoff levels and patterns.

Single-Dry Water Year – generally considered to be the year with the lowest annual runoff for a watershed since the water-year beginning in 1903.

Multiple-Dry Water Years – generally considered the lowest average runoff for a consecutive multiple year period (three years or more) for a watershed since 1903.



Water Year Data --- Annual Watershed Runoff -- AF/Year (Table 8)

Normal Water Year	Single Dry Water Year	Multiple Dry Water Years			
		Year 1	Year 2	Year 3	Year 4
3,778	102	1,036	1,259	1,029	500
% of Normal	3%	27%	33%	27%	13%

Basis of Water Year Data (Table 9)

Water Year Type	Base Year(s)	Hist. Sequence
Normal Water Year	1946	1921 - 2003
Single-Dry Water Year	1961	Source: USGS Gauging Station No. 11069500
Multiple-Dry Water Years	1999-2002	

Basin Recharge – Artificial Means

The City of Hemet currently maintains 48 retention basins, which allow for some percolation of dry-weather run-off and storm water flows to recharge of the groundwater basin. The City of Hemet is also working cooperatively with EMWD, LHMWD and the City of San Jacinto to address the overdraft situation in the Hemet/San Jacinto area. In April of 2004, an MOU for an Interim Water Supply Plan was executed by all four agencies, resulting in the purchase of 5,998 AF of imported water from the State Water Project that was recharged into the groundwater basin.

In November 2004, a second recharge effort was initiated with the goal of recharging 8,000 AF. Under the Hemet/San Jacinto Groundwater Management Plan, any future conjunctive use projects will be done with the approval of the Watermaster.

Additional Recharge Plans

The City of Hemet will continue to explore opportunities to develop artificial recharge facilities through grant programs and/or in cooperation with other water agencies in the future.

Transfer and Exchange Opportunities

Water Code section 10631

The City currently has one water exchange service connection with EMWD, which provides an opportunity for water exchanges during emergency situations. Although there are currently no transfer/exchange agreements in place between the City and EMWD, both agencies have expressed willingness to help one another in any emergency situation. Efforts are underway to develop an exchange connection with LHMWD for water transfers during emergencies.

Water Use by Customer-type - Past, Current and Future

Water Code section 10631

Past, current and projected water use by sector in the City of Hemet water service area is shown in the table below. Projections of future demand assume build-out in the service area by 2015.

Past, Current and Projected Water Deliveries (Table 10)

YEAR		Water Use Sectors	Single family	Multi-family	Com-mercial	Indust-rial	Instit / gov	Land-scape	Agric	Total
2000	metered	# of accounts	Not Available							
		Deliveries AF/Y	2,058	1,186	1,134	0	0	362	0	4,740
2005	metered	# of accounts	8,070	636	560	0	208	101	0	9,574
		Deliveries AF/Y	2,446	1,247	542	0	667	322	0	5,225
2010	metered	# of accounts	8,473	668	630	0	213	113	0	10,097
		Deliveries AF/Y	2,569	1,310	610	0	684	362	0	5,534
2015	metered	# of accounts	8,897	702	708	0	219	127	0	10,652
		Deliveries AF/Y	2,697	1,375	686	0	701	408	0	5,867
2020	metered	# of accounts	8,897	702	708	0	219	127	0	10,653
		Deliveries AF/Y	2,697	1,375	686	0	701	408	0	5,867
2025	metered	# of accounts	8,897	702	708	0	219	127	0	10,653
		Deliveries AF/Y	2,697	1,375	686	0	701	408	0	5,867
2030/opt	metered	# of accounts	8,897	702	708	0	219	127	0	10,653
		Deliveries AF/Y	2,697	1,375	686	0	701	408	0	5,867

The City of Hemet Water Department does not sell water to other agencies. Nor does the City plan to sell water to other agencies in the future.

Additional water uses are identified and quantified in the table below. This includes unaccounted-for-water losses. Failing service lines, main lines breaks, water main drop/siphons, and hydrant knock-offs are considered the primary sources of these losses.

Additional Water Uses and Losses – AF/Year (Table 11)

Water Use	2000	2005	2010	2015	2020	2025	2030/opt
Saline barriers	0	0	0	0	0	0	0
Groundwater recharge	0	0	0	0	0	0	0
Conjunctive use	0	0	0	0	0	0	0
Raw water	0	0	0	0	0	0	0
Recycled	0	0	10	15	20	25	25
Other: Well Start-Up	0	12	15	15	15	15	15
Unaccounted-for system losses	379	530	502	473	468	463	463
Total	379	542	527	503	503	503	503

Total Water Use – AF/Year (Table 12)

Water Use	2000	2005	2010	2015	2020	2025	2030/opt
Sum of Tables 10 & 11	5,119	5,767	6,061	6,370	6,370	6,370	6,370

Demand Management Measures (DMMs)

Water Code section 10631

- (A) Water survey programs for single-family residential and multifamily residential customers

IMPLEMENTATION DESCRIPTION:

Since 1994, the City of Hemet has offered free water audits to all residential customers upon request. Water use audits take from 30-minutes up to two-hours and are conducted by the Water Quality / Conservation Specialist (who has received certification as a Conservation Practitioner from the American Water Works Association (AWWA). In 2004, a total of 205 audits were conducted.

Interior audits include measurement of flow rates of existing plumbing fixtures, testing for toilet leakage with dye tablets, installation of showerheads and faucet aerators (if necessary), and information about the City’s residential ultra-low-flush toilet replacement program.

External audits include showing the customer the location of the water meter and how to read it (if necessary), measurement of landscaped areas, testing of the sprinkler system for irrigation efficiency and distribution uniformity, instructions on how to set the irrigation controller (if

necessary); and recommendations concerning sprinkler system repairs or improvements and brochures on water efficient landscaping, design, and use of drought tolerant and native plants.

Customers are provided with written evaluation results and water savings recommendations. Water Department staff keep records on residential water audits completed in their daily work logs.

Multi-family surveys are similar to the audit program described above, but require coordination with owners/managers, tenants, and landscaping services.

METHODS TO EVALUATE EFFECTIVENESS:

The Water Quality / Conservation Specialist completes a Water Conservation Form for each dwelling unit audited, which includes information concerning problems and corrective measures taken. To check for implementation of this measure, meter readings are taken and compared with meter readings taken on the day of the initial audit.

CONSERVATION SAVINGS ESTIMATE:

A comparison of current customer water use with historic data (billing records) can be used to quantify conservation savings.

Actual Water Use Surveys (Table A)

	2004	2005 (projected)
# of single family surveys	185	200
# of multifamily surveys	20	25

(B) Residential plumbing retrofit

IMPLEMENTATION DESCRIPTION:

The City distributes low-flow showerheads and faucets, aerators, toilet tank bags and leak detection tablets, and low-flow hose nozzles during residential water audits and also has an ultra-low flush toilet replacement program. Residential water audits are conducted based on customer request. The City began distributing low flow devices in 1998. Information on the number of pre-1992 Single Family and Multiple Family accounts is not currently available.

METHODS TO EVALUATE EFFECTIVENESS:

The Water Quality / Conservation Specialist completes a Water Conservation Form for each dwelling unit audited, which includes information concerning problems and corrective measures taken, such as distribution and installation of showerheads, aerators, and toilet tank leak detection tablets. To check for implementation of this measure, meter readings are taken and compared with meter readings taken on the day of the initial audit. Information concerning distribution of low-flow devices is recorded on the Water Conservation Form.

CONSERVATION SAVINGS ESTIMATE:

A comparison of current customer water use with historic data (billing records) can be used to quantify conservation savings.

(C) System water audits, leak detection, and repair

IMPLEMENTATION DESCRIPTION:

Water Department personnel routinely identify areas of the system with known leak problems and monitor these areas on a regular basis. In addition, reports of leaks in the municipal water distribution system by customers and field crews trigger inspection and system repairs. In 2004, a Water Distribution System Rehabilitation Feasibility Study was completed for the city water system using Prop. 13 grant funds. As a part of this study, past water production and consumption were compared to determine the amount of unaccounted for water. The results are shown in the table below:

Water Production and Consumption – AF/Year (Table C1)

Year	Total Well Production	Purchased Water	Total Water Production	Total Water Consumed	Unaccounted for Water	Percent
2000	5,048	398	5,446	4,740	706	13.0%
2001	4,736	745	5,481	4,665	816	14.9%
2002	4,957	641	5,598	4,659	939	16.8%
2003	4,999	460	5,459	4,690	769	14.1%
2004	5,684	26	5,710	5,106	604	11.8%

Consumption records include water used by customers, for fire fighting, fire hydrant flushing and annual system flushing. Water use for well start up is approximately 10-12 AF each year, and is not included in chart above.

The City’s distribution system consists of pipelines ranging in size from 2- to 24-inches. The majority of the City’s 633,600-feet (120-miles) of water line is still the original pipe that was installed when housing developments were constructed in the 1950’s and 60’s. System service/repair records indicate the majority of water system problems between 2000-2004 were due to leaking or breaking water service lines, as shown in the table below.

Water System Problems (Table C2)

Problems	2000	2001	2002	2003	2004
% of unaccounted for water	13%	14.9%	16.8%	14.1%	11.8%
Service connection breaks/leaks	389	438	416	388	305
Main breaks/leaks	1	2	1	3	9

The City of Hemet is currently in the process of arranging for a leak detection survey and water audit of problem areas in the distribution system to verify and document these areas and the causes of leakage for the Water Distribution System Rehabilitation Feasibility Study.

METHODS TO EVALUATE EFFECTIVENESS:

The water department staff compares annual production records and billing records to determine the amount of unaccounted for water losses.

CONSERVATION SAVINGS ESTIMATE:

Completion of the planned leak detection survey and water audit will provide information for use in future water and cost savings estimates.

- (D) Metering with commodity rates for all new connections and retrofit of existing connections

IMPLEMENTATION DESCRIPTION:

The City of Hemet meters all water sales to its customers, and has done so since 1955. The City’s water rates include a fixed base water rate plus an additional charge for water use. The use charge is based on a two-tiered system that rewards conservation with lower rates. A Low Use Rate is applicable for residential customers who use > 1,000 cubic feet of water in a bimonthly billing period. All other customers are billed a base rate determined by the size of the water meter and a consumption charged based on the cubic feet of water used. The City also conducts a meter calibration and replacement program.

Total Number of Accounts (2004):	<u>9,261</u>
Number of Accounts w/o Commodity Rates:	<u>0</u>

METHODS TO EVALUATE EFFECTIVENESS:

The City periodically reviews customer water use, comparing current water use per capita with historic data to document trends in water use and conservation.

CONSERVATION SAVINGS ESTIMATES:

The City believes that metering in conjunction with the tiered rate system provides an incentive for customers to monitor and reduce water use and cost.

- (E) Large landscape conservation programs and incentives

IMPLEMENTATION DESCRIPTION:

All developers requesting building permits for commercial, industrial, institutional / governmental, and multi-family projects are required to submit a landscape plan as part of their overall land use application. City water department personnel review all landscape plans. Use of drought tolerant plants, shrubs and trees and the efficiency of any proposed irrigation system is noted, and recommendations are made concerning water conservation improvements, if necessary.

In 2004, there were 100 dedicated irrigation meter accounts in the city system.

Landscape irrigation audits have been conducted for most of the city’s large landscape customers. The amount of water necessary for each site is calculated based on the size of the landscape and the climate. Recommendations are made concerning appropriate irrigation

system repairs or improvements needed. As a result of this program, water use by customers with dedicated irrigation meter accounts decreased by 13-percent from 2000 to 2004. (362 AF used in 2000 compared with 320 AF used in 2004). Water Department staff tracks landscape irrigation audits completed in daily work logs.

METHODS TO EVALUATE EFFECTIVENESS:

The city plans to continue auditing large landscape customers, as requested or as necessary. Comparison of water use by large landscape customers will be done from year to year to document trends.

CONSERVATION SAVINGS ESTIMATES:

Landscape planning that incorporates water conservation recommendations will result in reduced water used for landscape irrigation in new developments. In addition, landscapes that are upgraded based on audit recommendations usually experience some degree of reduction in water demand. As noted above, water use by customers with dedicated irrigation meter accounts decreased by 13-percent over the four-year period 2000 to 2004.

- (F) High-efficiency washing machine rebate programs

IMPLEMENTATION DESCRIPTION:

Implementation of a rebate program for high-efficiency washing machines is currently being considered to encourage customers to continue and expand their efforts to conserve water. As this plan was being prepared, rebates on these washers were not available through local energy service providers. An implementation date for this program has not been determined.

- (G) Public information programs

IMPLEMENTATION DESCRIPTION:

The City promotes water conservation by making pamphlets with water saving tips available at City Hall and by responding to citizen questions and requests.

In addition, the City of Hemet participates in a water conservation work group comprised of representatives from local water agencies including Eastern Municipal Water District, Lake Hemet Municipal Water District, and the City of San Jacinto. All agencies benefit from the joint efforts of this group to promote water savings in the local community including: paid advertising, public service announcements, media advisories, utility bill inserts, notification and promotion of special events, and availability of speakers on water conservation topics.

The City is also very fortunate to be able to take advantage of the fact that EMWD has an active public water conservation education program in the local community. (Many City residents are EMWD customers.) The City benefits from the efforts of EMWD, which include distribution of public information through brochures, community speakers, paid advertising, and their website which provides information on water conservation, recycling, and other resource issues.

METHODS TO EVALUATE EFFECTIVENESS:

Periodic reviews of customer water use, comparing current water use per capita with historic data can be used to evaluate the effectiveness of public education efforts.

CONSERVATION SAVINGS ESTIMATES:

The City believes that public education plays an important role in encouraging water conservation practices in all sectors of the community. Methods for estimating water savings from public education programs will be investigated as the City continues to expand and develop water conservation efforts and programs.

Public Information Programs (Table G)

Table G1 - Actual	2004	2005 (proj)
a. paid advertising	✓	✓
b. Public Service Announcements	✓	✓
c. Bill Inserts / Newsletters / Brochures	✓	✓
d. Bill showing water usage in comparison to previous year's usage		
e. Demonstration Gardens		
f. Special Events, Media Events	✓	✓
g. Speaker's Bureau	✓	✓
h. Program to coordinate with other government agencies, industry and public interest groups and media	✓	✓

(H) School education programs

IMPLEMENTATION DESCRIPTION:

Water conservation information is currently provided to students in the local schools by EMWD, which provides water to many City of Hemet residents. EMWD has programs for students in kindergarten through the twelfth grade. Programs include water conservation assembly presentations, distribution of free water education materials, administration of a "water-wise" poster contest, and classroom presentations.

METHODS TO EVALUATE EFFECTIVENESS:

EMWD staff reported that over 100,000 students in their service area, of which Hemet is a part, were reached in 2004. (EMWD 2005 Urban Water Management Plan)

CONSERVATION SAVINGS ESTIMATES:

Providing information concerning the importance of conserving water to students is one way to influence behavior changes and encourage residents to curtail water-wasting activities. Methods for estimating water savings from school education programs will be considered as the City continues to expand and develop water conservation efforts and programs.

- (I) Conservation programs for commercial, industrial, and institutional accounts

IMPLEMENTATION DESCRIPTION:

The City provides water use audits to commercial and institutional customers upon request. The City has no industrial customers. Water audits are also conducted if random inspections reveal potential water waste. In 2004, a total of 11 water use audits were conducted at commercial and institutional facilities in the Water Department service area.

Commercial-Industrial-Institutional Accounts - 2004 (Table I)

Commercial	Industrial	Institutional
546	0	207

METHODS TO EVALUATE EFFECTIVENESS:

Meter readings taken on the day of the initial audit can be compared with later meter readings to check for implementation of this measure.

CONSERVATION SAVINGS:

Providing information to commercial and institutional customers on ways to conserve water is an important part of curbing water-wasting activities. Methods for estimating water savings from the DMM will be explored as the City continues to expand and develop water conservation efforts and programs.

- (J) Wholesale agency programs

The City of Hemet Water Department is not a wholesale agency.

- (K) Conservation pricing

IMPLEMENTATION DESCRIPTION:

The City of Hemet water rates are based on a two-tiered system that rewards conservation with lower rates. The rates include a fixed base water rate plus an additional charge for water use. The low use rate is applicable for customers who use less than 500 cubic feet (CF) of water per month (or 1,000 CF over the bimonthly billing cycle).

METHODS TO EVALUATE EFFECTIVENESS:

Conducting periodic reviews of customer water use, comparing current water use per capita with historic data can be done to evaluate effectiveness of conservation pricing.

CONSERVATION SAVINGS:

This DMM is designed to decrease customer water costs and water use through price incentives as described above.

Table K1

RESIDENTIAL LOW WATER USAGE RATES – Effective July 1, 2005		
<i>Residential water accounts with a 5/8-inch or 3/4-inch meter which registers less than 1,000 cubic feet in a bimonthly billing period are eligible for the following flat water charges:</i>		
QUALIFYING CONSUMPTION	MONTHLY RATE	BIMONTHLY RATE
0 – 1,000 CF bimonthly Billed at a lower of flat rate or actual usage	\$21.00	\$42.00

Table K2

RESIDENTIAL NORMAL WATER USAGE RATES – Effective July 1, 2005				
<i>All other Residential accounts are billed a Base Rate determined by the size of the water meter and a Consumption Charge based on the cubic feet of water used.</i>				
BASE METER RATES			CONSUMPTION RATES	
METER SIZE	MONTHLY RATE	BIMONTHLY RATE	BIMONTHLY CONSUMPTION	RATE PER 100 CF
5/8-inch	15.88	31.76	0-600 CF	1.73
3/4-inch	17.13	34.26	601-1200 CF	1.87
1-inch	20.50	41.00	1201-Over CF	2.16

Table K3

COMMERCIAL & INSTITUTIONAL NORMAL WATER USAGE RATES – Effective July 1, 2005				
<i>All commercial and industrial accounts are billed a Base Rate determined by the size of the water meter and a Consumption Charge based on the cubic feet of water used.</i>				
BASE METER RATES			CONSUMPTION RATES	
METER SIZE	MONTHLY RATE	BIMONTHLY RATE	BIMONTHLY CONSUMPTION	RATE PER 100 CF
5/8-inch	15.88	31.76	0-600 CF	1.73
3/4-inch	17.13	34.26	601-1200 CF	1.87
1-inch	20.50	41.00	1201-Over CF	2.16

Table K4

RESIDENTIAL SEWER RATES – Effective July 1, 2005		
SERVICE DESCRIPTION	MONTHLY RATE	BIMONTHLY RATE
EMWD Sewer Treatment * (per dwelling unit)	14.84	29.68
City Sewer & Storm Drain Maintenance (per dwelling unit)	6.99	13.98

* The City of Hemet owns and operates a wastewater collection system, but does not operate wastewater treatment facilities. The City contracts with EMWD for treatment of wastewater.

Table K5

COMMERCIAL SEWER RATES – Effective July 1, 2005		
SERVICE DESCRIPTION	MONTHLY RATE	BIMONTHLY RATE
EMWD Sewer Treatment * (per sewer unit**)	14.84	29.68
City Sewer & Storm Drain Maintenance (per sewer unit)	6.99	13.98

* The City of Hemet owns and operates a wastewater collection system, but does not operate wastewater treatment facilities. The City contracts with EMWD for treatment of wastewater.

** Sewer units are calculated based on the total water consumption of the commercial facility.

(L) Water conservation coordinator

IMPLEMENTATION DESCRIPTION:

The City established the position of Water Quality / Conservation Specialist in 1992. This multi-function position is responsible for the City’s water conservation program as well as customer service, water quality testing and the backflow prevention program. The individual currently holding this position has received certification as a Conservation Practitioner from the AWWA. Water conservation activities include conducting water audits for residential, commercial, and institutional/governmental customers and making appropriate recommendations concerning improvements that will result in water savings. In addition, the Water Quality / Conservation Specialist represents the City as a member of the Water Conservation Workgroup (comprised of four local water agencies) and attends water conservation seminars and conferences as time allows. He is also an active member of a local non-profit group dedicated to promoting use of native plants in residential and commercial landscaping.

METHODS TO EVALUATE EFFECTIVENESS:

Periodic reviews of customer water use to compare current water use per capita with historic data as one method that can be utilized to evaluate the effectiveness of the Water Quality / Conservation Specialist position.

CONSERVATION SAVINGS:

The position of Water Quality/Conservation Specialist provides City water customers with the ability to obtain assistance in reducing water waste and high water bills. Methods for calculating expected annual water savings due to these efforts is being explored as the City continues to expand and develop water conservation efforts and programs.

(M) Water waste prohibition

IMPLEMENTATION DESCRIPTION:

The City of Hemet Water Conservation Ordinance No. 1442, adopted in 1992 [City of Hemet Municipal Code Section 82-127], has a provision for water waste prevention. A copy of the water waste prevention ordinance and information on regulations, restrictions and enforcement is included in this plan as Appendix 3.

METHODS TO EVALUATE EFFECTIVENESS:

Violations are recorded annually. Periodic comparisons of current customer water use per capita with historic data can be used to evaluate effectiveness of the water waste prevention ordinance.

CONSERVATION SAVINGS:

Methods for calculating expected annual water savings due to water waste prohibitions in the water conservation ordinance will be explored as the City continues to expand and develop water conservation efforts and programs.

(N) Residential ultra-low-flush toilet replacement program

IMPLEMENTATION DESCRIPTION:

In 1998, 1999, and 2000, the City of Hemet participated with EMWD in an ultra-low flush toilet (ULFT) replacement program. Over the course of these three years, 680 non-conserving toilets were replaced with ultra-low flush models in the City’s service area. In 2001, the City implemented its own ULFT replacement program. The table below summarizes the total number of ULF toilets distributed between 2001 and 2004:

Residential Ultra-Low-Flush Toilet Replacement Program (Table N)

Actual	2001	2002	2003	2004	2005 (proj)
# of ULF distributed	500	500	500	500	400
Actual expenditures - \$	\$38,640	\$68,640	\$37,562	\$37,395	\$30,000
Estimated water savings – AF/Y	27.10	27.10	27.10	27.10	21.68

METHODS TO EVALUATE EFFECTIVENESS:

A comparison of current customer water use per capita with historic data is one method that can be used to evaluate the effectiveness of the ULFT program.

CONSERVATION SAVINGS:

Using information provided by Niagara Conservation Corporation, the city estimates that replacement of a regular toilet (5-7 gallons per flush) with a 1.6-gallon per flush toilet saves a total of 17,666 gallons of water per year. Multiplying this figure by the number of toilets distributed results in the estimated water savings shown in the table above.

As more water service area customers receive and install ULT toilets, the ability of this DMM to further reduce demand will be diminished. While the city plans to continue a limited ULT distribution program, other conservation incentive programs are currently under consideration, including a high efficiency washer rebate program.

Evaluation of DMMs not implemented

Water Code section 10631

All 14 DMM described above have been implemented or are planned for implementation at a level appropriate to and feasible for the size and complexity of the City of Hemet water supply distribution system.

Planned Water Supply Projects and Programs

Water Code section 10631

The City of Hemet water system well capacity currently exceeds demand by 135%. At build-out (expected by 2010) well capacity is expected to continue to exceed demand by 122%, as shown in the table below.

Comparison of Well Capacity and Demand – AF/Y (Table 13)

Year	Total Well Capacity	Demand	% Capacity/Demand
2005 - Existing	7,770	5,767	135%
2010 – Build-Out	7,770	6,370	122%

To further improve system reliability, a new 2 million gallon reservoir for additional water storage is currently in design. This reservoir will bring the City’s total water storage capacity in line with State Waterworks standards and will also allow for flexibility should the need arise to take an existing reservoir offline for cleaning or maintenance.

The City is also in the process of adding another well to the system as noted in the table below. Addition of this new well will assure that daily production capacity can meet the maximum daily demand. This well will further improve system reliability in the event that higher capacity wells fail.

Future Water Supply Projects (Table 14)

Project Name	Normal-year AF to agency	Single-Dry AF/Year to agency	Multiple-Dry AF Years to agency		
			Year 1	Year 2	Year 3
Well No. 17	2,000	2,000	2,000	2,000	2,000

Drilling of additional wells not identified above is likely to take place to replace existing wells, as production capacity can be expected to decline as wells age. Rehabilitation of existing wells is also anticipated to ensure an adequate supply of water for water system customers.

Development of Desalinated Water

Water Code section 10631(i)

Future opportunities for development of desalinated water facilities may exist in the Hemet North sub-basin and along the western edge of the Hemet South sub-basin where brackish groundwater is found. It is not expected that this option will be considered before 2015. No information is currently available related to potential water supply yield or how desalinated water would be used.

Current or Projected Supply Includes Wholesale Water

Water Code section 10631

The City of Hemet does not plan to purchase wholesale water during the next 30 years. Although the city system has an exchange connection with EMWD, use of water from this connection will be utilized only in emergency situations.

Section 3 - Water Shortage Contingency Plan

Stages of Action

Water Code section 10632 (a)

The City of Hemet Municipal Code (Sec. 82-128) establishes four water rationing phases to be implemented in the case of an emergency water shortage or water supply shortage. Each phase is initially implemented with voluntary use restrictions. The level of water use reduction is monitored and any time conservation goals are not achieved, the appropriate phase is implemented as a mandatory use reduction.

Water Supply Shortage Stages and Conditions (Table 15)

Stage No.	Water Supply Conditions	% Shortage
I	Minor Shortage - When normal operating production drops by ten percent or aquifer water level drops an average of 25 feet.	10%
II	Moderate Shortage - When normal operating production drops by 25 percent during highest production time (May 15-October 15) or aquifer water level drops an average of 50 feet.	25%
III	Serious Shortage - When normal operating production drops by 35 percent during highest production time (May 15-October 15) or aquifer water level drops an average of 60 feet.	35%
IV	Critical Shortage - When normal operating production drops by 50 percent during highest production time (May 15-October 15) or aquifer water level drops an average of 70 feet.	50%

Estimate of Minimum Supply for Next Three Years

Water Code section 10632 (b)

The City of Hemet relies exclusively on groundwater for its service area supply. There does not appear to be a direct correlation between hydrology and available groundwater supply on a short-term basis. Past operating records show previous drought conditions have historically had minimal effect on the groundwater supply. As a result, dry years are not expected to impact the amount of water available during the next three years. Available supply is anticipated to be equal to the amount of water required to meet demand. Estimated minimum water supply over the next three years is shown in the table below.

Three-Year Estimated Minimum Water Supply - AF/Year (Table 16)

Source	2006	2007	2008
Groundwater	5,825	5,883	5,942

Catastrophic Supply Interruption Plan

Water Code section 10632 (c)

In 2004, the City of Hemet performed a vulnerability assessment to evaluate the susceptibility of the water distribution system to potential threats and to identify corrective actions to reduce or mitigate the risk of serious consequences. This information was used to update the City's Water System Emergency Response Plan. The following preparation actions have been taken to minimize the impacts of a supply interruption to the customers in the City of Hemet service area.

Preparation Actions for a Catastrophe (Table 17)

Possible Catastrophe	Summary of Actions
Regional power outage	<ul style="list-style-type: none"> ✓ Emergency Response Plan in place ✓ Emergency portable generators available ✓ Plans in place to obtain water from alternate sources
Earthquake	<ul style="list-style-type: none"> ✓ Emergency Response Plan in place ✓ Availability of emergency portable generators ✓ Adequate supply of emergency repair parts ✓ Plans in place to obtain water from alternate sources
Water contamination	<ul style="list-style-type: none"> ✓ Emergency Response Plan in place ✓ Sampling and testing protocols outlined ✓ Public notification procedures established ✓ Plans in place to obtain water from alternate sources

Prohibitions, Penalties and Consumption Reduction Methods

Water Code section 10632 (d-f)

The City of Hemet shall implement the following mandatory prohibitions against specific water use practices during water shortages:

Mandatory Prohibitions (Table 18)

Examples of Prohibitions	Stage When Prohibition Becomes Mandatory
Restaurants shall serve water only upon request	Phase I
Additional water for new landscaping or facility expansion prohibited unless low water use landscape designs and efficient irrigation systems are used	Phase I
Commercial carwash businesses must recycle their water	Phase II
Car washing prohibited except with bucket or container. Hoses for rinsing must have positive shutoff nozzle	Phase II
Use of water prohibited for fire drills	Phase II

Mandatory Prohibitions (Table 18) - Continued

Examples of Prohibitions	Stage When Prohibition Becomes Mandatory
Landscape watering prohibited between 6:00 AM and 6:00 PM, except for regular maintenance checks and repairs, watering golf course green and tees, watering with drip irrigation system	Phase II
Use of water prohibited for filling new pools	Phase III
Operation of decorative fountains prohibited unless water is recycled.	Phase III
Use of water prohibited to clean, fill or maintain levels in decorative fountains, ponds or artificial lakes	Phase III
Installation of new turf prohibited	Phase IV

The City of Hemet will use the following consumption reduction methods to reduce water use in the most restrictive stages with up to a 50% reduction.

Consumption Reduction Methods (Table 19)

Consumption Reduction Method	Stage When Method Takes Effect	Projected Reduction (%)
Allocation of historic consumption less 10 percent to residential customers (but not less than 2,000 cubic feet bimonthly) / 2,000 cubic feet bimonthly for accounts with historic consumption records.	Phase I	10%
Allocation of historic consumption less 35 percent to residential customers (but not less than 2,000 cubic feet bimonthly) / 2,000 cubic feet bimonthly for accounts with historic consumption records.	Phase II	25%
Allocation of historic consumption less 25 percent to residential customers (but not less than 2,000 cubic feet bimonthly) / 2,000 cubic feet bimonthly for accounts with historic consumption records.	Phase III	35%
Allocation of historic consumption less 50 percent to residential customers (but not less than 2,000 cubic feet bimonthly) / 2,000 cubic feet bimonthly for accounts with historic consumption records.	Phase IV	50%

The City of Hemet issues a Notice of Water Waste Incident to customers who cause or permit water to run to waste or be used for nonessential applications.

Penalties and Charges (Table 20)

Incident	Penalty
First Incident	Customer receives verbal and written information about the Water Conservation Plan and given water conservation advice and information to eliminate the water waste
Second Incident	Customer receives written notice and inspection date is set to verify water waste incident has been remedied
Third Incident	Penalty equal to two times the customer's prior bimonthly water bill amount will be assessed.
Additional Incidents	Water service is disconnected or a flow restriction device is installed; normal service is restored upon correction of the condition or activity and payment of reconnection charge and any penalties

Analysis of Revenue Impacts of Reduce Sales During Shortages

Water Code section 10632 (g)

The City of Hemet has a tiered rate structure with a minimum monthly fixed charge according to meter size. This monthly fixed charge is designed to generate sufficient income, based on water system connections, to fund all fixed costs related to system operation. As a result, reduced sales during shortages should not impact basic operations.

Draft Ordinance and Use Monitoring Procedure

Water Code section 10632 (h & i)

In the event of a water shortage, the city would determine actual reductions in water use through more frequent monitoring of production and distribution records and/or more frequent reading of customer meters.

The current City of Hemet Water Conservation Ordinance is included as Appendix 4.

Section 4 - Recycled Water Plan

Coordination

Water Code section 10633

The Hemet/San Jacinto Groundwater Management Plan includes a recycled water plan for San Jacinto Groundwater Basin. The City of Hemet, the City of San Jacinto, Eastern Municipal Water District, and Lake Hemet Municipal Water District all participated in drafting this plan, which is described in detail in Section 2.

Wastewater Quantity, Quality and Current Uses

Water Code section 10633 (a-c)

The City of Hemet owns and operates a wastewater collection system. However, the City does not own or operate any wastewater treatment facilities. The City has an agreement with Eastern Municipal Water District for treatment of all wastewater generated within the City of Hemet. The wastewater from the City system flows directly into the EMWD system through a series of inter-connections between the two systems. These inter-connections are not metered, so there is no accurate method for determining the volume of wastewater collected or treated exclusively for the City of Hemet customers. An estimated volume is 4705 AF per year, based on the population in the City's service area.

The City's wastewater is treated at the EMWD San Jacinto Regional Water Reclamation Facility (RWRF). The San Jacinto RWRF produces secondary effluent that is used locally for the irrigation of fodder crops. However, EMWD plans to add Tertiary treatment capacity to the plant in 2006. All of the wastewater treated at the San Jacinto RWRF meets recycled water standards. EMWD is able to sell 90% - 100% of the recycled water produced by its treatment plants during the peak demand months (June-September). During the cooler, wetter parts of the year, surplus recycled water is stored in unlined surface impoundments, resulting in extensive groundwater recharge. If storage capacity is full, surplus recycled water is disposed through a regional outfall pipeline to Temescal Creek and the Santa Ana River. (EMWD UWMP 2005).

Information concerning the current and future uses of recycled water by EMWD can be obtained in the EMWD UWMP 2005.

Section 5 - Water Quality Impacts on Reliability

Quality of Water Supply Sources

The City of Hemet has always provided customers with high quality drinking water. Water in the City system has never violated any maximum contaminant levels or other water quality standards set by the U.S. Environmental Protection Agency or the California Department of Health Services.

In 2004, the City of Hemet monitored water drawn from eleven well sites, seven (7) located in the Hemet Groundwater Basin and four (4) located in the San Jacinto Groundwater Basin according to requirements of the U.S. Environmental Protection Agency and the California Department of Health Services. All drinking water health standards were met. The following table summarizes the results of monitoring for the period January 1 to December 31, 2004 as published in the City of Hemet 2004 Water Quality Report.

Water Quality – 2004 (Table 21)

PARAMETER	UNITS	STATE MCL	STATE PHGs & FEDERAL MCLGs	HIGH	AVERAGE	LOW
Hardness	mg/L	NS	NS	410	249	79
Calcium	mg/L	NS	NS	120	77	28
Magnesium	mg/L	NS	NS	25	13	2
Sodium	mg/L	NS	NS	280	113	58
Potassium	mg/L	NS	NS	8	6	4
Total Alkalinity	mg/L	NS	NS	160	105	56
Bicarbonate	mg/L	NS	NS	200	129	68
Aluminum	µg/L	1000	600	60	15.5	0
Arsenic	µg/L	50	NS	2.0	0.2	0
Sulfate	µg/L	500	NS	290	165	56
Nitrate	mg/L	45	45	66	23	0
Fluoride	mg/L	2	1	2.4	0.5	0.2
PH	Std Unit	NS	NS	23	9	7
Specific Conductance	µS	1,600	NS	1700	1060	440
Total Dissolved Solids	mg/L	1,000	NS	1166	680	270
Selenium	µg/L	50	50	25	6	0
RADIOACTIVITY						
Gross Alpha Activity	pCi/L	15	Zero	5	3	0.2
ORGANIC CHEMICALS						
Total Trihalomethanes	µg/L	80	NS	2.4	1.6	1.0

MCL	Maximum Contaminant Level	pCi/L	Pico curies per liter is a measure of the radioactivity of water
MCLG	Maximum Contaminant Level Goals	PHG	Public Health Goal
mg/L	Milligrams per liter	µg/L	Micrograms per liter
NS	No Standard	µS	Microsiemens
NTU	Nephelometric Turbidity Unit		

Results of monitoring and testing of City of Hemet wells in 2004 indicate that all contaminants detected (except nitrate) were within the parameters established by the U.S. Environmental

Protection Agency (USEPA), the California Environmental Protection Agency, and the California Department of Health Services. Three wells in the system routinely exceed the maximum contaminant level (MCL) for nitrate. The water from these wells is blended with water from low nitrate wells in order to meet Federal and State standards. As a result, the average nitrate level in the system is 23 mg/L, which is about half of the maximum contaminant level standard of 45 mg/L established by the USEPA and California Department of Health Services. All City of Hemet wells are chlorinated to insure that drinking water is safe for customers. All wells are monitored daily to maintain an average chlorine residual of .3 mg/L.

Water Quality Projections

At the present time, the City of Hemet does not foresee any major changes in the next thirty years that would adversely affect the existing quality of the groundwater in either the Hemet South sub-basin or the San Jacinto Upper Pressure sub-basin. Water quality plays an important role in the City's water management strategies. The City has and will continue to take all measures necessary to ensure that the water provided to customers is safe to drink and meets all the regulations of the USEPA and the California Department of Health Services. Current strategies to ensure safe, quality drinking water include the blending of well water to reduce nitrate levels to below the maximum contaminant level and the chlorination of all wells. These and other strategies will continue to be used as needed in the future to assure that the City of Hemet has a reliable supply of high quality water available.

Section 6 - Water Service Reliability

Projected Normal Water Year Supply and Demand

The City of Hemet has the water supply needed to meet the demand of its customers through 2030. This statement is based on the past reliability of the groundwater supplies, and the efforts to maintain this reliability through implementation of the Hemet/San Jacinto Groundwater Management Plan.

Projected Normal Water Year Supply – AF/Y (Table 22)

	2010	2015	2020	2025	2030/opt
Supply	6,061	6,370	6,370	6,370	6,370
% of Normal Year*	100%	100%	100%	100%	100%

Projected Normal Water Year Demand – AF/Y (Table 23)

	2010	2015	2020	2025	2030/opt
Demand	6,061	6,370	6,370	6,370	6,370
% of year 2005	105%	110%	110%	110%	110%

Projected Normal Year Supply and Demand Comparison – AF/Y (Table 24)

	2010	2015	2020	2025	2030/opt
Supply totals	6,061	6,370	6,370	6,370	6,370
Demand totals	6,061	6,370	6,370	6,370	6,370
Difference (supply minus demand)	0	0	0	0	0
Difference as % of Supply	0%	0%	0%	0%	0%
Difference as % of Demand	0%	0%	0%	0%	0%

Projected Single-Dry-Year Supply and Demand Comparison

Past system operating records show previous drought conditions have historically had minimal, if any, effect on either groundwater supply or customer demand. During dry water years the city has always been able to provide its customers with 100% of the amount of water delivered during normal water years. As a result, the projected single-dry-year water supply is anticipated to be equal to the amount of water available to meet demand. A comparison of the projected single-dry year water supply to projected single-dry year water use over the next 20 years is shown in the table below.

Projected Single Dry Year Water Supply – AF/Y (Table 25)

	2010	2015	2020	2025	2030/opt
Supply	6,061	6,370	6,370	6,370	6,370
% of projected Normal Year	100%	100%	100%	100%	100%

Projected Single Dry Year Water Demand – AF/Y (Table 26)

	2010	2015	2020	2025	2030/opt
Demand	6,061	6,370	6,370	6,370	6,370
% of projected Normal Year	100%	100%	100%	100%	100%

Projected Single Dry Year Supply and Demand Comparison – AF/Y (Table 27)

	2010	2015	2020	2025	2030/opt
Supply totals	6,061	6,370	6,370	6,370	6,370
Demand totals	6,061	6,370	6,370	6,370	6,370
Difference (supply minus demand)	0	0	0	0	0
Difference as % of Supply	0%	0%	0%	0%	0%
Difference as % of Demand	0%	0%	0%	0%	0%

Projected Multiple-Dry-Year Supply and Demand Comparison

As discussed above, previous drought conditions have historically had minimal, if any, effect on either groundwater supply or customer demand. During dry water years the city has always been able to provide its customers with 100% of the amount of water delivered during normal water years. As a result, supply during a multiple dry year period is expected to be equal to the demand. A comparison of projected multiple dry year water supply to projected multiple dry year water demand over the next 20 years is shown in the table below.

Projected supply during multiple dry year period ending in 2010 – AF/Y (Table 28)

	2006	2007	2008	2009	2010
Supply	5,825	5,883	5,942	6,001	6,061
% of projected normal	100%	100%	100%	100%	100%

Projected demand multiple dry year period ending in 2010 – AF/Y (Table 29)

	2006	2007	2008	2009	2010
Demand	5,825	5,883	5,942	6,001	6,061
% of projected normal	100%	100%	100%	100%	100%

Projected Supply & Demand Comparison - multiple dry year period ending in 2010 –AF/Y (Table 30)

	2006	2007	2008	2009	2010
Supply totals	5,825	5,883	5,942	6,001	6,061
Demand totals	5,825	5,883	5,942	6,001	6,061
Difference (supply minus demand)	0	0	0	0	0
Difference as % of Supply	0%	0%	0%	0%	0%
Difference as % of Demand	0%	0%	0%	0%	0%

The following tables project a multiple dry year period occurring between 2011-2015 and compare projected supply and demand during those years:

Projected supply during multiple dry year period ending in 2015 – AF/Y (Table 31)

	2011	2012	2013	2014	2015
Supply	6,122	6,183	6,245	6,307	6,370
% of projected normal	100%	100%	100%	100%	100%

Projected demand multiple dry year period ending in 2015 – AF/Y (Table 32)

	2011	2012	2013	2014	2015
Demand	6,122	6,183	6,245	6,307	6,370
% of projected normal	100%	100%	100%	100%	100%

Projected Supply & Demand Comparison - multiple dry year period ending in 2015- AF/Y (Table 33)

	2011	2012	2013	2014	2015
Supply totals	6,122	6,183	6,245	6,307	6,370
Demand totals	6,122	6,183	6,245	6,307	6,370
Difference	0	0	0	0	0
Difference as % of Supply	0%	0%	0%	0%	0%
Difference as % of Demand	0%	0%	0%	0%	0%

Projected supply during multiple dry year period ending in 2020- AF/Y (Table 34)

	2016	2017	2018	2019	2020
Supply	6,370	6,370	6,370	6,370	6,370
% of projected normal	100%	100%	100%	100%	100%

Projected demand during multiple dry year period ending in 2020- AF/Y (Table 35)

	2016	2017	2018	2019	2020
Demand	6,370	6,370	6,370	6,370	6,370
% of projected normal	100%	100%	100%	100%	100%

Projected Supply & Demand Comparison - multiple dry year period ending in 2020- AF/Y (Table 36)

	2016	2017	2018	2019	2020
Supply totals	6,370	6,370	6,370	6,370	6,370
Demand totals	6,370	6,370	6,370	6,370	6,370
Difference	0	0	0	0	0
Difference as % of Supply	0%	0%	0%	0%	0%
Difference as % of Demand	0%	0%	0%	0%	0%

The following tables project a multiple-dry year period occurring between 2021-2025 and compare projected supply and demand during those years:

Projected supply during multiple dry year period ending in 2025- AF/Y (Table 37)

	2021	2022	2023	2024	2025
Supply	6,370	6,370	6,370	6,370	6,370
% of projected normal	100%	100%	100%	100%	100%

Projected demand during multiple dry year period ending in 2025- AF/Y (Table 38)

	2021	2022	2023	2024	2025
Demand	6,370	6,370	6,370	6,370	6,370
% of projected normal	100%	100%	100%	100%	100%

Projected Supply & Demand Comparison - multiple dry year period ending in 2025- AF/Y (Table 39)

	2021	2022	2023	2024	2025
Supply totals	6,370	6,370	6,370	6,370	6,370
Demand totals	6,370	6,370	6,370	6,370	6,370
Difference	0	0	0	0	0
Difference as % of Supply	0%	0%	0%	0%	0%
Difference as % of Demand	0%	0%	0%	0%	0%

The following tables project a multiple dry year period occurring between 2026-2030 and compare projected supply and demand during those years:

Projected supply during multiple dry year period ending in 2030- AF/Y (Table 40)

	2026	2027	2028	2029	2030
Supply	6,370	6,370	6,370	6,370	6,370
% of projected normal	100%	100%	100%	100%	100%

Projected demand during multiple dry year period ending in 2020- AF/Y (Table 41)

	2026	2027	2028	2029	2030
Demand	6,370	6,370	6,370	6,370	6,370
% of projected normal	100%	100%	100%	100%	100%

Projected Supply & Demand Comparison - multiple dry year period ending in 2020- AF/Y (Table 42)

	2026	2027	2028	2029	2030
Supply totals	6,370	6,370	6,370	6,370	6,370
Demand totals	6,370	6,370	6,370	6,370	6,370
Difference	0	0	0	0	0
Difference as % of Supply	0%	0%	0%	0%	0%
Difference as % of Demand	0%	0%	0%	0%	0%

Section 7 - Adoption and Implementation of UWMP

Adoption of 2005 UWMP

The Hemet City Council adopted the 2005 Urban Water Management Plan on February 14, 2005. A copy of the City of Hemet Resolution adopting the plan is included in Appendix 2.

Implementation of 2000 UWMP Demand Management Measures

The City of Hemet implemented all Water Demand Management Measures outlined in the 2000 UWMP as planned.

Implementation of 2000 UWMP Recycled Water Plan

The City of Hemet 2000 UWMP did not include a recycled water plan. Currently, recycled water is still not available within one mile of the City's water service area. Access to recycled water may be available within the City's service area within the next 10 years.

City of Hemet 2005 Urban Water Management Plan

Appendix 1

Public Outreach and Participation

City of Hemet 2005 Urban Water Management Plan

Appendix 2

UWMP Adoption Resolution

City of Hemet 2005 Urban Water Management Plan

Appendix 3

Hemet / San Jacinto
Water Management Area
Cooperative Agreements

City of Hemet 2005 Urban Water Management Plan

Appendix 4

City of Hemet
Water Conservation Ordinance