



Executive Summary

This section is a summary of the components of this Plan

ES.1 A Brief History

The legislative requirement to prepare an Urban Water Management Plan (UWMP) every five years provides Central Basin Municipal Water District (Central Basin) with an opportunity to affirm and support its primary purpose – to ensure the long-term water supply reliability of its region. Although the District’s overall mission has not changed in over five decades, techniques for meeting its objective are continuously evolving.

The history of Central Basin is representative of how water resource management has evolved in southern California over the past half a century. Ensuring that residents and businesses in southern California have an adequate and reliable supply of water, requires the cooperation of local water purveyors as well as regional wholesalers.

When native groundwater supplies in the growing southeastern part of Los Angeles County became critically over-drafted in the 1940s, groundwater producers formed a regional agency, Central Basin, in 1953 that would join the Metropolitan Water District of Southern California (MWD). MWD had been created in 1928 by 11 cities (13 in 1933 and now 26 member agencies), for the purpose of constructing a 240 mile aqueduct from the Colorado River. The era of “imported water” and mega-projects that began at the turn of the last century with construction of the Los Angeles Aqueduct from the Owens Valley by the City of Los Angeles, and continued with the extension of the California Aqueduct into southern California in the 1970s, was well underway. Central Basin joined this era to provide a new source of water for groundwater replenishment and to meet the needs of many cities and agencies with little or no access to groundwater.

Imported water was the fuel that drove the economic engine of southern California for decades. Through the 1960s, 70s, and 80s, imported water provided by Central Basin offered the reliability enjoyed by groundwater producers and non-producers alike. During this time, not only did population within Central Basin’s service area grow by 236 percent from about 593,000 in 1950 to over 1.4 million people by 1990, but the area also became an industrial center in the region.

ES.2 A Different Approach to Water Management

The paradigm of ensuring reliability while continuing to provide unlimited supplies of imported water began to change with the drought of 1989-1992. Even before the near-reality of mandatory water rationing in the spring of 1992, plans had begun to enhance conservation practices and to consider the development of locally-produced sources of



water that, over the long-term, would significantly reduce southern California's reliance on supply systems subject to hydrology and environmental pressures.

Central Basin was at the forefront of this change in approach to water management. By 1990, funding mechanisms were in place and designs were being drawn-up for a regional recycled water distribution system that would directly offset potable imported water for non-potable uses such as irrigation and industrial applications. Central Basin would also become renowned for its highly successful conservation and education programs that, combined with recycled water, have helped conserve over 38.3 billion gallons of potable water over the past decade.

By 1996, local programs were accounted for within MWD's Southern California Integrated Resources Plan (IRP) which established a rolling 20-year roadmap for diversified supply investments in recycled water, brackish groundwater treatment, surface and groundwater storage, water transfers and exchanges, conservation practices, and accessibility to imported water. A recent update of the IRP also includes ocean water desalination as an additional resource for ensuring the long-term reliability of regional water supplies.

Central Basin's aggressive pursuit of the resource development targets within the IRP is changing the face of water supply from in the region from mostly groundwater to a more diverse set of supply options.

ES.3 Water Demand

Total water use, or demand, within Central Basin's service area includes retail demand and groundwater replenishment. Retail demand is defined as all municipal (residential, firefighting, parks, etc.) and industrial uses, and represents the population's total direct water consumption. Replenishment includes deliveries to the Rio Hondo and San Gabriel River Spreading Grounds in the Montebello Forebay. Table ES-1 summarizes the current and projected retail and replenishment demands.



**Table ES-1
Central Basin’s Current and Projected Water Demands
(In Acre-Feet)**

District Water Demands	2005 ¹	2010	2015	2020	2025	2030
Retail Municipal & Industrial Use						
Groundwater ²	186,549	202,000	202,000	202,000	202,000	202,000
Imported Water	61,033	59,091	64,691	70,462	76,409	82,535
Recycled Water ³	5,217	12,900	14,150	15,400	16,650	17,900
Total Retail Demand	252,799	273,991	280,841	287,862	295,059	302,435
Replenishment Use						
Imported Water	27,758	27,600	27,600	27,600	27,600	27,600
Recycled Water	50,000	50,000	50,000	50,000	50,000	50,000
Total Replenishment Demand	77,758	77,600	77,600	77,600	77,600	77,600
Total Demand	330,557	351,591	358,441	365,462	372,659	380,035

[1] The 2005 demands are based on the 2004-05 year, which is also considered one of the "wettest" years on record.

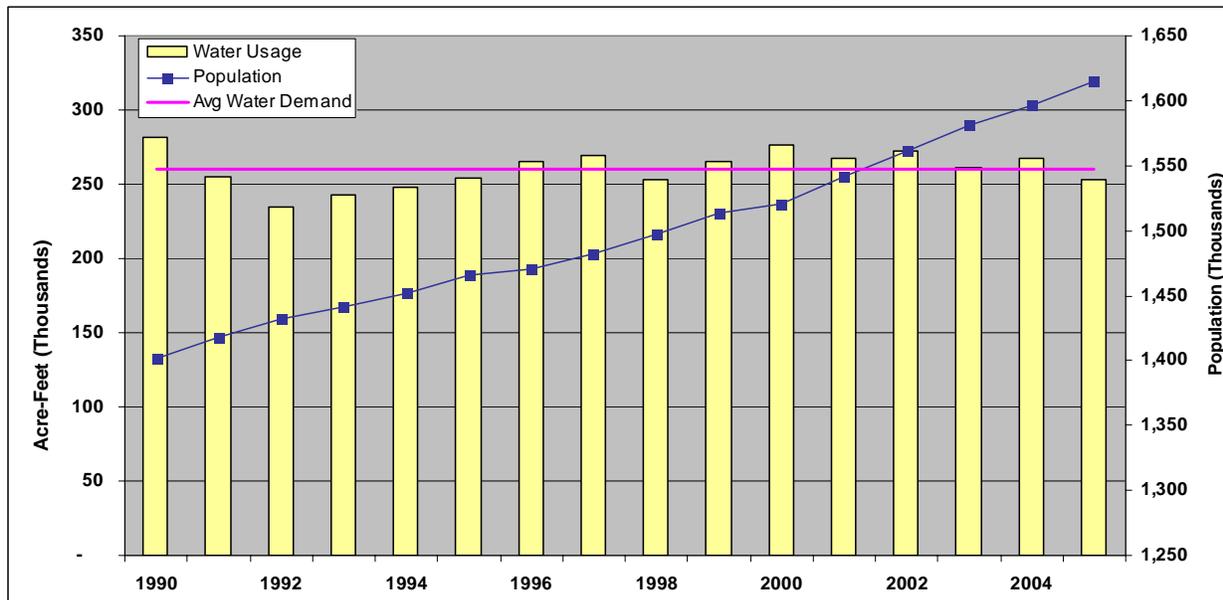
[2] Includes groundwater production from the Central and Main San Gabriel Basins (est. 42,000 AF).

[3] Includes recycled water sales from Central Basin’s service area and Cerritos Water Systems.

ES.4 Impacts of Conservation and Education: Reduced Demand

Although not a traditional “wet” water supply like imported water or recycled water, water use efficiency, including conservation and education, is considered part of Central Basin’s water supply portfolio because it results in less retail need, or demand, for wet supplies than would otherwise be the case. Perhaps the most telling picture of the impact of conservation and education on retail demand is conveyed by Figure ES-1.

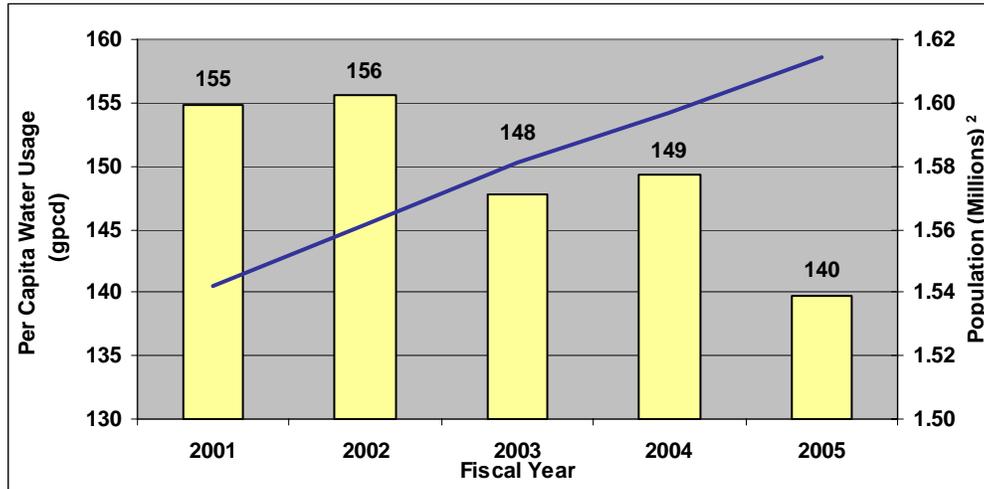
**Figure ES-1
Historical Retail Demand Compared to Population**



Source: CBMWD Water use database and MWD Demographic Data, 2005.

Retail water use within Central Basin’s service area is largely the same today as it was ten years ago despite the addition of over 145,000 people. The average retail demand for the past 15 years is approximately 260,500 AFY. Clearly, residents are now using less water on an individual, or “per capita,” basis, as shown in Figure ES-2.

Figure ES-2
Per Capita Water Usage, 2001 - 2005



Source: CBMWD Water use database
[1] Information based on MWD Demographic Data, 2005.

It is apparent that the trend of lower per capita water usage over time, with assistance from MWD and its member agencies, has been successful in continuing a water conservation ethic begun 15 years ago during the last major drought.

ES.5 Water Supply

Central Basin currently relies on approximately 90,600 AFY of imported water from the State Water Project (SWP) and the Colorado River through MWD to meet the District’s retail and replenishment demands. While groundwater supplies remain a significant source of water (68%) for customer agencies in the Central Basin service area, imported water supplements this resource (22%) and assists to mitigate the over-pumping of the groundwater basin. Recycled water is added to the supply mix, serving up to 2% of the area’s demands, while conservation rounds out the equation at 8%.

Table ES-2 shows current (2005) and projected (2030) supplies within Central Basin’s service area, with imported and recycled water being provided by Central Basin.



**Table ES-2
Current and Projected Water Supplies
(In Acre-Feet)**

District Water Demands	2005¹	2030
Groundwater	186,549	202,000
Imported Water	61,033	82,535
Recycled Water	5,217	17,900
Total	252,799	302,435
Conservation	21,100	58,400
Total	273,899	360,835

[1] The 2005 demands are based on the 2004-05 year, which is also considered one of the "wettest" years on record.

Central Basin and other Member Agencies support MWD in statewide water policy that protects the region’s entitlements to SWP and Colorado River supplies in a balanced manner. The SWP is projected to deliver average annual quantities of 1.5 million acre feet (MAF), achieved through maximizing deliveries to storage programs during wet years, implementing water quality and supply reliability improvements, remove operational conflicts with the Central Valley Project (CVP), and better coordinate planning and operations between the SWP and CVP. The Quantification Settlement Agreement (QSA) establishes baseline water use for each Colorado River agency and facilitates the transfer of water from agricultural to urban uses. The QSA is part of the larger “California Plan,” which establishes a suite of programs to limit California’s reliance on the Colorado River.

The Central Groundwater Basin (Basin) is managed by the Water Replenishment District of Southern California pursuant to an adjudication that regulates the operable yield of the Basin. The adjudication limits the allowable extraction of water from the Basin to roughly 217,000 AF annually, and WRD is responsible for replenishment and monitoring of water quality. Nearly 80% of the pumping rights are held by Central Basin retail agencies. Several water retailers also retain groundwater rights within the Main San Gabriel Basin, and extract approximately 42,000 AFY, which is used in the Central Basin service area. Groundwater production over the next 25 years will be fairly consistent due to the adjudication of both basins.

Recycled water is a cornerstone of Central Basin’s efforts to augment local supplies and reduce dependence on imported water. Recycled water currently provides about 2% of the supply in the service area and is projected to increase to 5% of supply by 2030. Including the City of Cerritos, who has its own recycled water system that supplies 2,400 AFY within its and the City of Lakewood’s service areas. Central Basin’s recycled water program is discussed in detail in Section 8.

Regionally, alternative water supplies are being explored, studied, and in some cases, implemented, to enhance the area’s water supply reliability. Alternative water supply projects include conjunctive use groundwater storage, water transfers and exchanges,



and ocean and groundwater desalination. Central Basin supports the ongoing efforts of these programs.

ES.6 Water Quality

Water quality regulations are an important factor in Central Basin's water management activities. Imported water quality is the responsibility of MWD to comply with State and Federal drinking water regulations. Purveyors that Central Basin sells imported water to are responsible for ensuring compliance in their individual distribution systems and at the customer tap. MWD maintains a rigorous water quality monitoring program, and is also proactive in protecting its water quality interests in the SWP and the Colorado River through active participation. Imported water meets or exceeds all drinking water standards set by the California Department of Health Services.

Water quality of the Basin is continually monitored by both Central Basin and WRD. Challenges to water quality include potential contamination from adjacent basins, the Basin's susceptibility to seawater intrusion, and the migration of shallow contamination into deeper aquifers. WRD has several active programs to monitor, evaluate, and mitigate water quality issues.

Central Basin is an active participant in high groundwater quality through assistance to its retail agencies in its service area in meeting drinking water standards through its *Cooperative Basin-Wide Title 22 Groundwater Quality Monitoring Program*. Central Basin offers this program to water agencies for wellhead and reservoir sample collection, water quality testing and reporting services.

Another potential water quality concern for the Basin is the presence of perchlorate, trichloroethylene, and perchloroethylene in the San Gabriel Valley aquifer. In accordance with the plan to "clean up" the contaminated groundwater before it migrates to the Central Groundwater Basin, Central Basin has completed and is successfully operating extraction and treatment facilities that not only protect the local Basin but also recover potable water for distribution to retail agencies in the vicinity.

Recycled water meets Title 22 standards through tertiary treatment. Central Basin relies on the Los Angeles County Sanitation Districts to meet all applicable State and Federal water quality regulations for recycled water it purchases and distributes through its two systems.

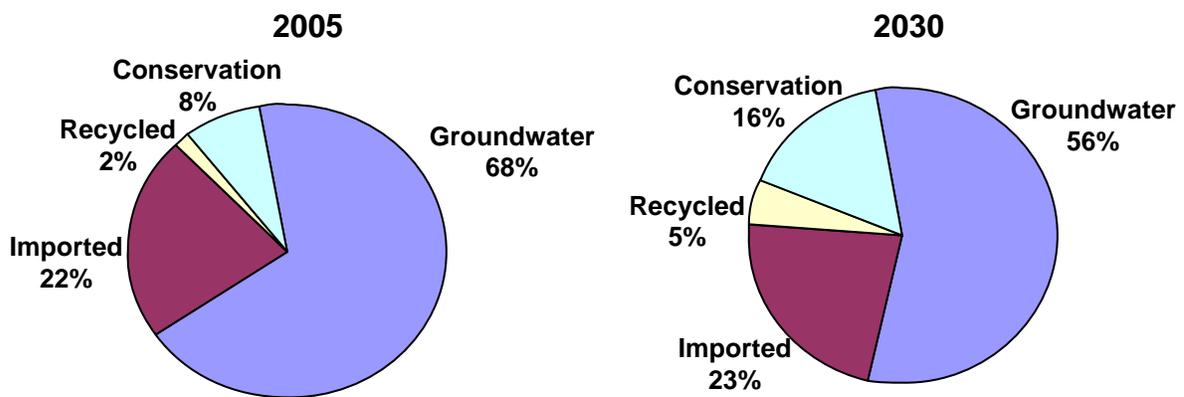
ES.7 Planning for Increased Diversification

Given the critical importance of water to the region's growth, economic health and quality of life, the desirable quantity and mix of supply must be planned well in advance of the actual need. Implementing water projects and changing behavior and attitudes regarding water usage are lengthy and complex endeavors. While the UWMP Act requires a 20-year planning horizon for water reliability, Central Basin has used a 25-

year planning horizon to ensure a minimum 20-year planning period each year until the next 5-year update of the District’s UWMP.

Although implementation of supply targets is challenging, Central Basin’s approach is straightforward: continue to reduce the risk of future shortage by distributing the responsibility for supply among several, well-balanced options. Central Basin’s projected supply portfolio for 2030, as compared to the current mix, is shown in the following figure.

**Figure ES-3
Comparison of Water Supply Portfolio
2005 vs. 2030**



Central Basin’s diversification plan includes expansion of the District’s recycled water system, increased conservation efforts, and groundwater storage opportunities. The District’s dependence on traditional sources of water (groundwater and imported) will continue to decrease with the expansion of these alternative resources. Over the next 25 years, conservation is expected to have a significant dampening effect on retail water demand, lowering projected water use by roughly 58,400 AF in 2030.

Central Basin’s ambitious 2030 target for conservation will be directed by a Conservation Master Plan (completion in 2006) that will identify the programs, strategies, and actions that will guide policy development and commitment of resources in the future.

Likewise in 2006, Central Basin will complete the update of its Recycled Water Master Plan. This effort will provide the basis for completion of the recycled water distribution system and the fulfillment of its full potential to offset the use of imported water. The future Southeast Water Reliability Project will connect the existing Rio Hondo and Century systems across the northern portion of the service area. The project will increase flow and pressure in many areas not adequately served today, reach a large new customer base in several cities within the service area, and enable new partnerships with neighboring agencies that wish to extend Central Basin’s system into their service areas.



ES.8 Water Supply Reliability

During consecutive dry years, southern California has historically seen demands increase by as much as 20% while supplies have decreased. Prior to recent significant improvements in water reliability, most cities and agencies were forced to mandate conservation efforts and restrict water use in some cases in order to maintain an adequate supply. Enormous strides made by MWD, Central Basin, and the entire water supply community in southern California to increase locally-developed supplies and conservation, as well as imported water storage and transfers over the past decade have increased the overall supply reliability during extended dry periods.

MWD's 2005 Regional UWMP demonstrates reliability of supply in all hydrologic conditions through the year 2030. In fact, their plan shows a surplus of supply in nearly all conditions. MWD planning initiatives to ensure water supply reliability include the IRP, the Water Surplus and Drought Management Plan (WSDM Plan) and their local resource investments. These initiatives provide a framework for MWD and its member agencies to manage their water resources to meet growing demands.

Through its investments into supply diversification, support of the region's IRP and the collaborative efforts with MWD, Central Basin projections show that supplies will adequately meet service area demands in normal, single-dry, and multiple dry-year scenarios, as well as other water shortage emergencies.

ES.9 Water Conservation

Since the drought of the 1990's, Central Basin has been a leader implementing aggressive water conservation programs to help limit water demand in its service area. District programs have included a strong emphasis on education and the distribution of rebate incentives and plumbing retrofit hardware. The results of these programs, in conjunction with passive conservation measures such as modifications to the plumbing and building codes, have resulted in significant reductions in water use. By current estimates, demand management conservation saves over 6.9 billion gallons of imported water every year. This represents the average water use of almost 30,000 families in southern California.

Central Basin water conservation programs follow the recommended 14 Best Management Practices (BMPs) according to the California Urban Water Conservation Council. For fiscal year 2005/06, Central Basin will complete a Conservation Master Plan that will guide the District to meet or exceed the goals of the BMPs and MWD's Conservation Strategy Plan. The plan will assess the conservation potential and incorporate local stakeholder input into a group of actions and strategies for achieving long-term targets for conservation.

ES.10 Water Rates and Charges



In 2002, MWD adopted a new rate structure to support its strategic planning vision as a regional provider of services, incentivize the development of local supplies like recycled water and conservation, and encourage long-term planning for imported water demand. To achieve these objectives, MWD called for voluntary purchase orders from its member agencies, unbundled its water rates, established a tiered supply rate system, and added a capacity charge. In all, these new rate structure components have provided a better opportunity for MWD and its member agencies to manage their water supplies.

MWD's 2002 rate structure changes were passed through to Central Basin's customer agencies in a manner that preserved the water management benefits while minimizing financial impacts. With the purchase order and tiered supply rate elements, Central Basin has successfully implemented a conservation-based structure that encourages agencies to stay within their annual water budget, and uses revenue from agencies that exceed their water budget to fund service-area wide conservation studies and programs. Central Basin also assesses a capacity charge at the retail level designed to recover the cost of MWD's capacity charge. In addition to the pass-through elements of MWD's rate structure, Central Basin's rates include a volumetric administrative surcharge and a fixed water service charge.

Since 1992, Central Basin has encouraged the maximum use of recycled water through the economic incentive of its rates and charges. Central Basin recycled water commodity rates cover the operation, maintenance, labor and power costs associated with the delivery of recycled water. These rates are set up in a declining tiered structure and are maintained at a significant reduction to imported water so they may further encourage the use of recycled water.

ES.11 Recycled Water

Recycled water is one of the cornerstones of Central Basin's efforts to augment local supplies and reduce dependence on imported water. Since the initial planning and construction of Central Basin's recycled water system in the early 1990's, Central Basin has become a leader in producing and marketing recycled water. This new supply of water assists in meeting the demand for non-potable applications such as landscape irrigation, commercial and industrial processes, and seawater intrusion barriers. With over 200 site connections, Central Basin is projected to deliver 5,000 AF both inside and outside of the District's service area in fiscal year 2005-06.

In addition to Central Basin, other agencies distribute recycled water within the District's service area. These agencies include the City of Cerritos, City of Lakewood and WRD. WRD uses recycled water to help replenish the groundwater basin and halt seawater intrusion. Central Basin purchases recycled water from both the Los Coyotes and San Jose Creek Water Reclamation Plants (WRPs) for distribution within its service area. The WRPs together produce approximately 137 MGD of tertiary-treated effluent, nearly 40% of which Central Basin and agencies within the service area reused in 2000.



Central Basin’s recycling program includes the E. Thornton Ibbetson Century Recycled Water Project (Ibbetson Century Project) and the Esteban E. Torres Rio Hondo Recycled Water Project (Torres Project). Both projects deliver recycled water for landscape irrigation and industrial uses.

The Ibbetson Century Project began delivering recycled water in 1992, and now delivers tertiary-treated recycled water from the Los Coyotes WRP, serving 11 cities. In 1994, the recycled water system extension, the Torres Project, reached into the northern portion of Central Basin’s service area. The Torres Project delivers tertiary-treated recycled water from San Jose Creek WRP and serves eight cities.

Central Basin anticipates recycled water use sales to increase in the future as more customers switch from potable water to recycled water due to the reliability of the supply and the economic incentives associated with the conversion. Table ES-3 summarizes the current and projected demands for recycled water within Central Basin.

**Table ES-3
Projected Recycled Water Used within Central Basin MWD Service Area
(In Acre-Feet)**

	2005 ¹	2010	2015	2020	2025	2030
Central Basin MWD						
Century/Rio Hondo Projects	3,150	10,500	11,750	13,000	14,250	15,500
Total	3,150	10,500	11,750	13,000	14,250	15,500
Other Programs within Central Basin						
City of Cerritos	1,714	1,950	1,950	1,950	1,950	1,950
City of Lakewood	352	450	450	450	450	450
WRD (Replenishment Spreading)	50,000	50,000	50,000	50,000	50,000	50,000
Total	52,067	52,400	52,400	52,400	52,400	52,400
Central Basin’s Service Area Total	55,217	62,900	64,150	65,400	66,650	67,900

[1] The 2005 demands are based on the 2004-05 year, which is also considered one of the "wettest" years on record.

Central Basin’s Water Recycling Master Plan Update, slated for completion in 2006, will include future potential sites and users and help secure the alignment for the proposed Southeast Water Reliability Project (SWRP). This project will “loop” the overall system and connect the Rio Hondo and Century projects and benefit an additional six cities. When operational in 2009, the SWRP will ultimately serve an additional 5,500 AFY of recycled water.