Price $2.50

SPECIAL PUBLICATION

OUR WATER OUR FUTURE

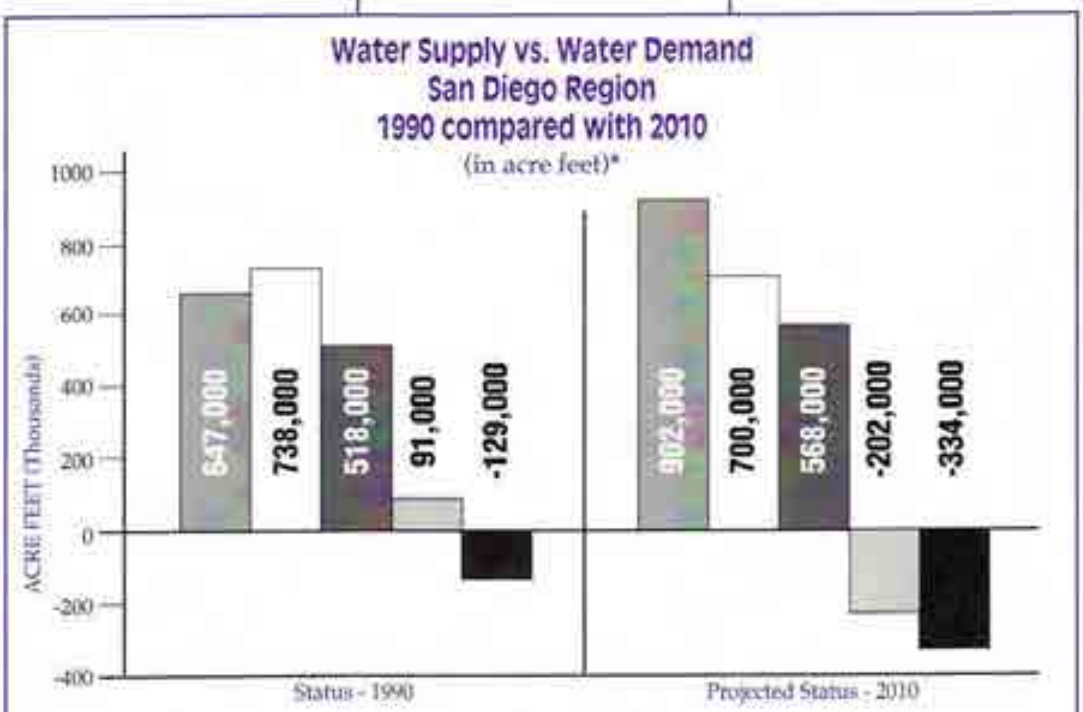
SAN DIEGO CHAPTER, CALIFORNIA LANDSCAPE CONTRACTORS ASSOCIATION

THE STATUS AND FUTURE OF THE SAN DIEGO REGION'S WATER SUPPLY

WATER is the landscaping industry's most precious commodity. It is San Diego's most precious commodity, too. The members of the San Diego Chapter of the California Landscape Contractors Association, like all San Diegans, must be as informed as possible about water. Where does it come from now? Where will it come from in the future? How does the San Diego region use the water it has? What kinds of conservation measures are being proposed for each use? In this special publication, CLCA has attempted to answer the most basic questions about water in an understandable manner. With the facts, CLCA members can do a better job educating clients, employees, water use decision makers and the media.

As you can see from the graph on this page, the water shortages in times of drought will become the water shortages in normal years by the year 2010 if water conservation, reclamation and other new sources of supply are not brought on line. What will San Diego do?

Turn the page to find out the options.



Demand

Demand is the projected demand for water **without allowing for reduction due to conservation programs.**

Normal Supply

Water supplies available when precipitation is normal and supplies have not been drawn down from droughts in previous years.

Dependable Supply

This is the water that will be available on average during a repeat of the previous worst six year drought period of 1928-1934. This also assumes water is shared equitably in Southern California and that the water agencies' efforts to improve supplies aren't successful. It is hoped there will be other sources of water available in the future, but at present, all are dependent upon funding approval, future planning, the resolution of environmental concerns and other factors. However, even dependable supplies can diminish with future contamination, legal decisions, and regulatory actions.

Normal Year Excess or Shortage

This is the difference between supply and demand during normal years in both 1990 and 2010.

Dry Year Excess or Shortage

This is the difference between supply and demand for dry years (dependable supply) in both 1990 and 2010.

*Acre Foot

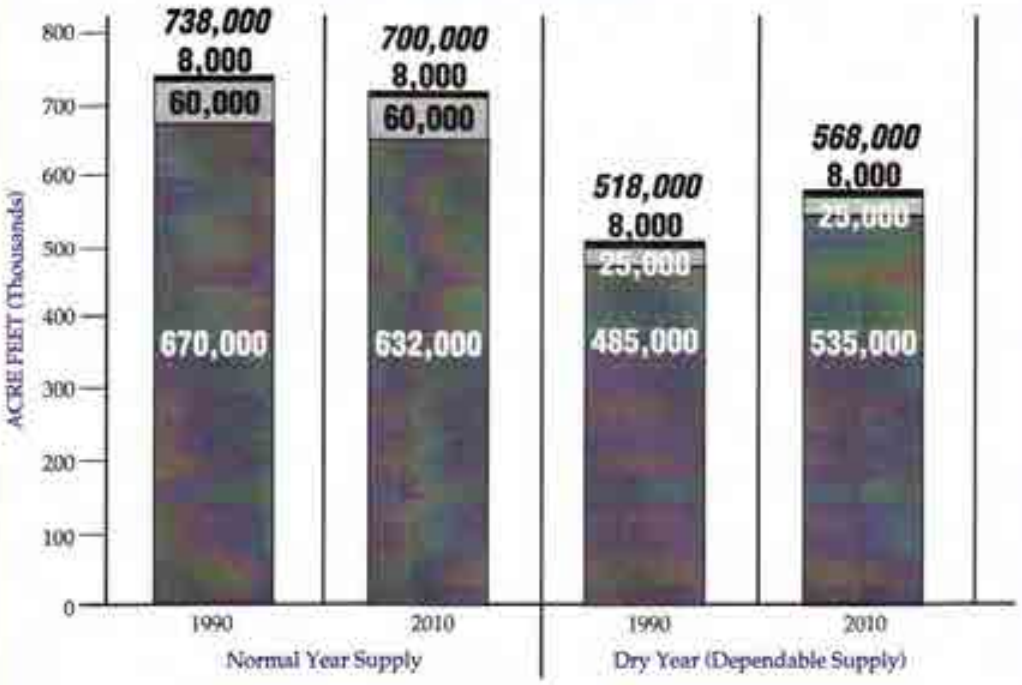
An acre foot is 325,851 gallons, the amount used by two average families in one year. It would approximately cover a football field to a depth of one foot.

CONFIRMED SUPPLIES OF WATER TO THE SAN DIEGO REGION

Why does the graph on this page show San Diego's confirmed sources of water decreasing? Won't local precipitation stay constant? Yes, the authorities assume so. Won't there at least be the minimal reclamation available now? In all likelihood there will be this amount and perhaps more. The confirmed supplies are shrinking because the amount of confirmed supplies available from the Metropolitan Water District will be reduced due to increased demand for Colorado River supplies from Nevada and Arizona.

What is the San Diego County Water Authority (SDCWA)?

SDCWA is the largest single member agency of the MWD. SDCWA has 23 member agencies, supplying water to most of San Diego County. It is governed by a 34 member Board of Directors. The Authority was established as a public agency in 1944 to import water for wholesaling to its member agencies, ensuring that county residents will have a safe, reliable source of water. The SDCWA encompasses 907,006 acres and supplies water to 2.5 million San Diego County residents.



Reclamation

At present, only 8,000 acre feet of reclaimed water is added to the San Diego region's water supply annually.

Local Rainfall

San Diego can depend upon 25,000 acre feet of water from local precipitation based on the worst six year period in the region's recorded history (1928 to 1934). Normal year precipitation yields an average of 60,000 acre feet.

MWD Supplies to CWA

In 1990 MWD delivered 670,000 acre feet of water to the San Diego County Water Authority. MWD supplies normally account for 90 percent of the water used in San Diego County. Additional supplies (75,000 acre feet) were available, but the capacity of the pipelines to bring this additional water to San Diego does not exist.

Pipeline projects scheduled to be completed in 1994 and 1996 will eliminate bottlenecks. Unfortunately, by the time these bottlenecks are eliminated, San Diego will be eligible for less water because Colorado River supplies to MWD are scheduled to be reduced.

MWD obtains its water from the State Water Project and the Colorado River. Although supply from the State Water Project is expected to remain essentially constant, by the year 2010, demand for water from the Colorado River from users in Arizona and Nevada will decrease the amount available to California to 616,000 acre feet.

In addition, the numbers for dependable supply from the State Water Project were not met during the recent drought. Because of the state's Drought Emergency Water Bank, additional water was found to supplement most of the supplies that were expected to be available during even the worst drought conditions but were not during the recent drought. As a result, these estimates may be optimistic.

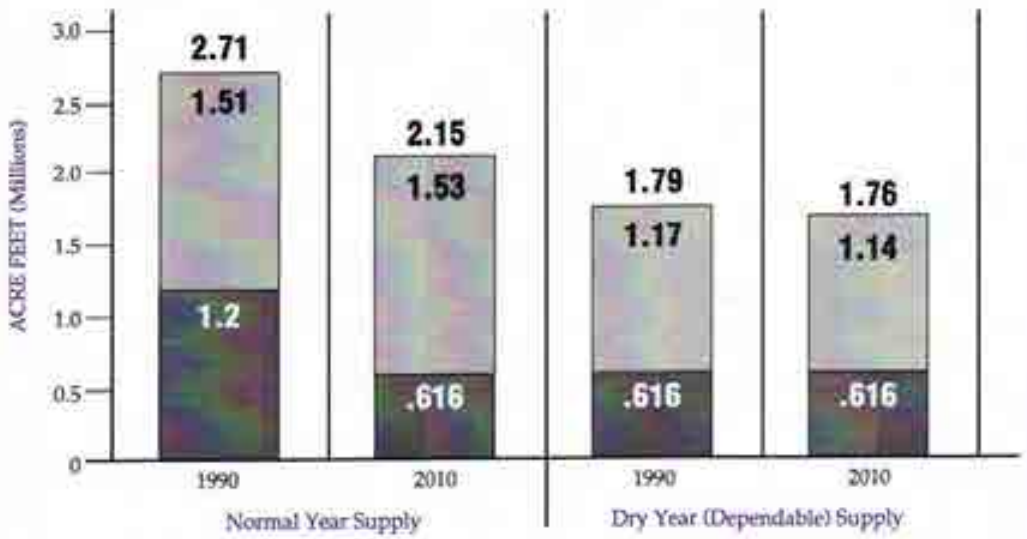
UNDERSTANDING THE METROPOLITAN WATER DISTRICT

The Metropolitan Water District was created by a vote of the people in 1928, following passage of a bill by the California legislature to provide supplemental water for cities and communities on the south coastal plain. The mission of MWD is to provide its service area with adequate and reliable supplies of high quality water to meet present and future needs in an environmentally and economically responsible way. MWD delivers more than two billion gallons of water per day to twenty seven member public agencies which, in turn, serve approximately 300 cities and unincorporated communities. MWD is governed by a 51 member Board of Directors who represent the member agencies.

With the exception of local precipitation and any water made available through reclamation projects, San Diego buys all of its water from the Metropolitan Water District (MWD). This accounts for approximately ninety percent of all San Diego water at present.

MWD is a wholesaler that provides water to much of the Southern California region. MWD obtains its water from two primary sources: the Colorado River and the State Water Project which diverts water from the Sacramento - San Joaquin River delta and sends it south via the California Aqueduct. The San Diego region's share of this water can be best understood through two scenarios. The first is that MWD's mission is to provide its service area (much of Southern California, including most of San Diego County) with adequate and reliable supplies of high quality water to meet present and future needs in an environmentally and economically responsible way. If there is plenty of water available to the MWD from the State Water Project and the Colorado River, San Diego will get what it needs. That has historically been MWD's policy. The second scenario is based on the premise that if there is a drought, or if demand exceeds supply for some other reason, then San Diego will suffer shortages roughly in proportion to the overall shortage of MWD's supply. San Diego's share of the water is based on the San Diego region's historic purchases as a percentage of MWD's total deliveries.

It should be recognized that although MWD receives approximately sixty percent (60%) of its water from the State Water Project and forty percent (40%) from the Colorado River, a higher proportion of the water distributed to San Diego comes from the Colorado River because of the proximity of San Diego to the Colorado River water distribution system. This is why San Diego's water is higher in salinity than Los Angeles area water which is primarily comprised of water from northern California.



State Water Project

The State Water Project supplies MWD with a dependable (dry year) supply of 1.2 million acre feet of water annually based upon the worst six year period in the state's recorded history (1928-1934). Normal year supply is a little over 1.5 million acre feet.

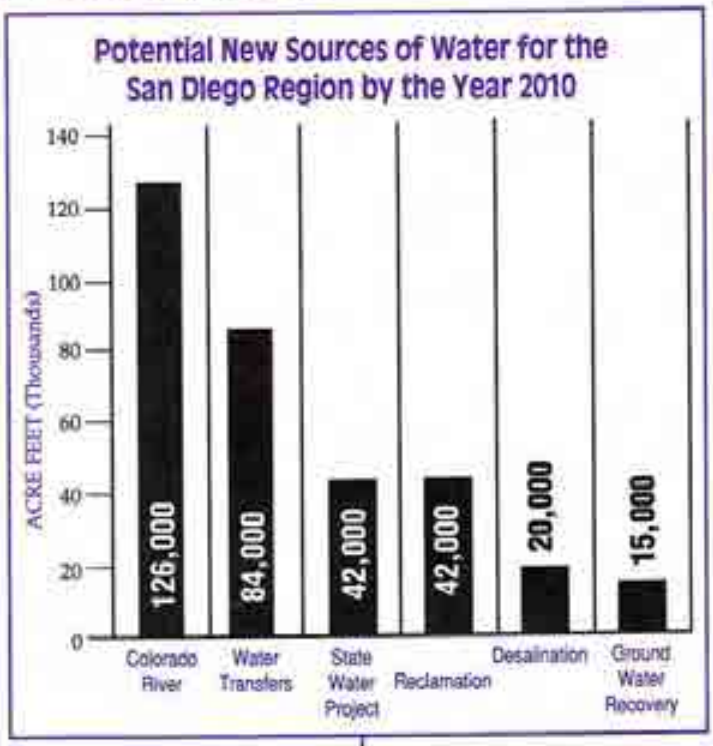
Colorado River

The Colorado River supplies MWD with a dependable (dry year) supply of 616,000 acre feet of water annually. Normal year supplies are currently 1.2 million acre feet, but will drop to 616,000 acre feet as higher priority users in California, Arizona and Nevada utilize their full allotment of Colorado River water.

POTENTIAL NEW SOURCES OF SUPPLY

Water agencies throughout San Diego, Southern California and the state are looking for ways to close the ever-widening gap between water supply and increased demand that faces the state and San Diego. Other areas in Southern California have alternate supplies in addition to the Colorado River and the State Water Project - sources such as groundwater or another aqueduct system. For example, the Los Angeles Aqueduct feeds L.A.'s urban area with water from the Owens Valley. San Diego has no alternate supplies.

There are several opportunities for additional water to come to San Diego. Included among these are additional State Water Project water made available through system improvements, Colorado River water made available through arrangements with irrigation districts in the Imperial , Palo Verde and CoachellaValleys, local reclamation, recovery of degraded groundwater, water transfers (including that made available from the Central Valley through federal legislation), local sea water desalination and the use of gray water which would reduce demand for other supplies. A number of these projected sources have hurdles to overcome before they will become part of the dependable supply. Those hurdles include politics, environmental issues, and, of course, cost.



COLORADO RIVER

Since operation of the Central Arizona Project began in 1985, MWD has been able to utilize unused and surplus Colorado River water to augment its dependable supply. With increasing diversions by Arizona and Nevada, the Bureau of Reclamation may not permit MWD to divert Colorado River water up to the capacity of its aqueduct in the future. MWD projects a dependable supply of Colorado River Water in 1995 of 616,000 acre feet for use by all of Southern California. Already a 20,000 acre two-year pilot land fallowing program with the Palo Verde Irrigation District project is underway. A water conservation project is being implemented with the Imperial Irrigation District and other programs are expected to come on-line in coming years. MWD's goal is to increase the dependable supply of Colorado River Water by 450,000 acre feet by the year 2010. This will be achieved by agreements for funding agricultural water conservation projects, paying to line earthen canals with concrete and paying farmers to leave land fallow. The remaining aqueduct capacity would be available for diverting surplus water, water banked in reservoirs, or water unused for irrigation by California higher priority users or Arizona or Nevada. San Diego's share of this water is based on the San Diego region's historic purchases as a percentage (28%) of MWD's total deliveries. This amount is estimated at 126,000 acre feet annually.

GRAYWATER

Graywater is defined as untreated drain water from clothes washers, showers, bathtubs and bathroom sinks. Legislation approved in July, 1992, permits the use of graywater for all new and existing single family homes. California Plumbing Code regulations are being developed by the Department of Water Resources which draw on the experience of the six California counties and other cities that have permitted graywater use during the past three years. San Diego County is one of the counties where graywater use has been permitted. Graywater can only be used on landscapes.

SEA WATER DESALINATION

Desalination has been used for decades in coastal areas of the world where there is no fresh water supply. The technology exists but it is costly. Not only does ocean water have to be purified, but once it has been made potable, there are significant energy costs to pumping it upstream from the coastal areas where it would be produced. Desalination will likely be used to a limited degree in San Diego coastal areas with limited supply alternatives. San Diego's South Bay is such an area and has been proposed as a desalination site for just this reason.

As much as three percent of the area's current water needs may be met if a desalination plant in the South Bay becomes a reality, bringing over 20,000 acre feet into the SDCWA's distribution system.

POTENTIAL NEW SOURCES OF SUPPLY

THE STATE WATER PROJECT

In April 1992, Governor Pete Wilson announced a comprehensive policy calling for a number of actions which could ultimately bring water water to the San Diego Region. If all of these actions were to be completed, an additional 450,000 acre feet of water would become available to MWD. Between 100,000 and 150,000 acre feet would be a direct result of these improvements in State Water Project facilities. With the facilities in place, another 300,000 acre feet might be found through water transfers (see section to follow). These changes would result in an additional 126,000 acre feet in dependable supply for San Diego. Approximately 42,000 acre feet would come from facilities changes and another 84,000 acre feet would come from water transfers.

1. *Fisheries Protection*

Measures to protect fisheries will have to be improved so the pumps don't have to be shut down as frequently as in the past. Concerns for several delta fish species, including winter run salmon and the delta smelt, make this action even more critical. If any of the species found in the delta needs to be placed on the threatened or endangered species list, all bets could be off for additional supply to the south until compatible solutions can be found.

2. *South Delta Facilities*

Levees in the southern Sacramento delta must be reinforced and widened so the levees can withstand erosion during winter rains and accommodate increased flows to the pumps that export water to the south.

3. *Los Banos Grandes Reservoir*

Once the delta improvements have been made and fisheries protection concerns have been addressed, the Harvey O. Banks Delta Pumping Plant will be able to pump excess precipitation and runoff from the delta. This usually occurs during the winter months. This activity will require additional storage. Los Banos Grandes Reservoir is a proposed 1.73 million acre foot facility in Northern California capable of storing this excess water for use later in the year by water agencies. If fisheries protection and other environmental roadblocks can be hurdled, construction would not be completed until after the year 2000.

4. *Kern Water Bank*

The Kern Water Bank is a combination of groundwater storage programs in Kern County. Similar to Los Banos Grandes Reservoir, excess water from the Delta would be stored for later use by water agencies.

5. *Domenigoni Reservoir*

Domenigoni Reservoir is an MWD off-stream storage reservoir which will be located in Riverside County. The reservoir, now under design and estimated to be completed by the year 1999, will enable MWD to store additional water when it is available and to better manage its supplies from both the SWP and the Colorado River.

6. *Local Water Storage*

The San Diego region lacks sufficient storage to meet its emergency needs in the event of a failure of the aqueduct system which brings water to the area. New local water storage must be found to remedy this. The Authority is examining surface storage sites, along with the development of conjunctive groundwater storage and improvement of existing facilities to meet the area's emergency storage needs.

7. *Additional Transfer Facilities*

Outside of the twenty year scope limited by this document, plans are in the works to again address the question of how to bring Northern California water south through the State Water Project which bypasses the delta. The Governor's policy statement called for a comprehensive solution to be developed which would bring an unknown amount of additional water to MWD and to San Diego.

WATER TRANSFERS

The phrase "water transfers" is a generic term for the various means of moving water from one use, usually agricultural, to another use, usually urban. One example of this is water banking, a concept introduced during the drought years of 1991 and 1992. Using this concept, the government purchases water not being used by those with rights to water and banks it for later purchase by those experiencing a shortfall. Water banking showed positive results in 1991 and 1992, but has yet to be tested on a long term basis. Experts at the San Diego County Water Authority feel it will play an important role in alleviating future shortages.

Certain facets of law adopted long ago impeded the transfer of water between willing urban buyers and agricultural sellers. These laws give agricultural interests control of between eighty and eighty-five percent of California's developed water supply. Water marketing advocates want to see those laws eased or abolished so that water can move between voluntary buyers and sellers. Rural water advocates claim California agricultural areas would sustain adverse economic impacts if water transfers gained a foothold. Water experts say that if five percent of the state's water was transferred from agricultural use to urban use, the cities' water shortages would be solved. MWD and other urban water suppliers have set this transfer amount as a goal.

Federal law passed in 1992 requires 800,000 acre feet of water from the huge Central Valley Project to be used for environmental purposes such as restoring stream flows. In addition, the legislation allows, for the first time, some of the Central Valley Project water used by agriculture to be transferred to willing buyers in the cities under certain conditions. It is unclear how much water urban areas will receive because of this legislation.

A new coalition of northern and southern urban politicans is improving the prospect for State transfer legislation. Still, water transfers must come into widespread use before this can be considered a dependable source of water for San Diego.

POTENTIAL NEW SOURCES OF SUPPLY

WATER RECLAMATION

Reclamation is collecting and treating waste water to make it usable again. Reclaimed water must be clean enough to swim in but is not considered clean enough to drink. The San Diego County Water Authority expects production of 50,000 acre feet of reclaimed water by the year 2010. By producing non-potable reclaimed water for use on landscaping, potable (drinkable) water is freed for other uses, and total supplies are increased. The Water Authority's hopes for increased water reclamation are linked to the goals of the City of San Diego's Clean Water Program. The City once had a goal of reclaiming 140,000 acre feet annually and distributing 70,000 acre feet to users to displace potable water. However, in June 1992, the San Diego City Council instead approved a system capable of reclaiming 33,000 acre feet a year. Approximately half of that, 16,500 acre feet, will be available for use on landscapes and other non-potable uses. The excess water will be discharged to the sea. Proposed reclamation projects by other member agencies will provide the additional supplies included in the SDCWA's goal.

Sewage Timetable

The Clean Water Program was originally adopted by the City of San Diego to meet federally imposed time tables for improving the city's sewerage system while expanding its capacity. At the time the Clean Water Program was conceived, plans for reclaiming a portion of San Diego's waste water were incorporated into the program to provide a supplemental source of water to the City. A two phase water reclamation program resulted. A Phase One reclamation plant will be constructed in North City between 1992 and 2003. Two additional plants, one each in Mission Valley and Otay Valley will be constructed in Phase Two between 2003 and 2050.

Clean Water Program

The City plans to spend approximately $1.5 billion (in 1992 dollars) on the Clean Water Program. The distribution system will be separately financed by additional connection fees, rates, and by issues bonds. These bonds will be repayed by rates paid by reclaimed water users. Reclaimed water service to major users will begin in 1997. Major users are defined as those with an annual non-potable demand of twelve acre feet or greater. Landscape irrigation will be the greatest type of use for reclaimed water. Service will be extended to incidental users (less than twelve acre feet of demand) in proximity to the major pipelines and as demand, pricing structures and funding permit.

Distribution

The planning, financing and implementation of the reclaimed water distribution facilities is the responsibility of local water purveyors. The City of San Diego was to have completed a detailed market assessment and distribution master plan in the fall of 1992. Other districts, including the Otay Water District, the Padre Dam Municipal Water District, the Helix Water District and the City of Poway are also planning distribution systems. While reclaimed water may help to alleviate San Diego's water shortages, until plans and funding are firmly in place for additional treatment and distribution systems, this source cannot be considered a dependable supply in the region's planning process.

Clean Water Act

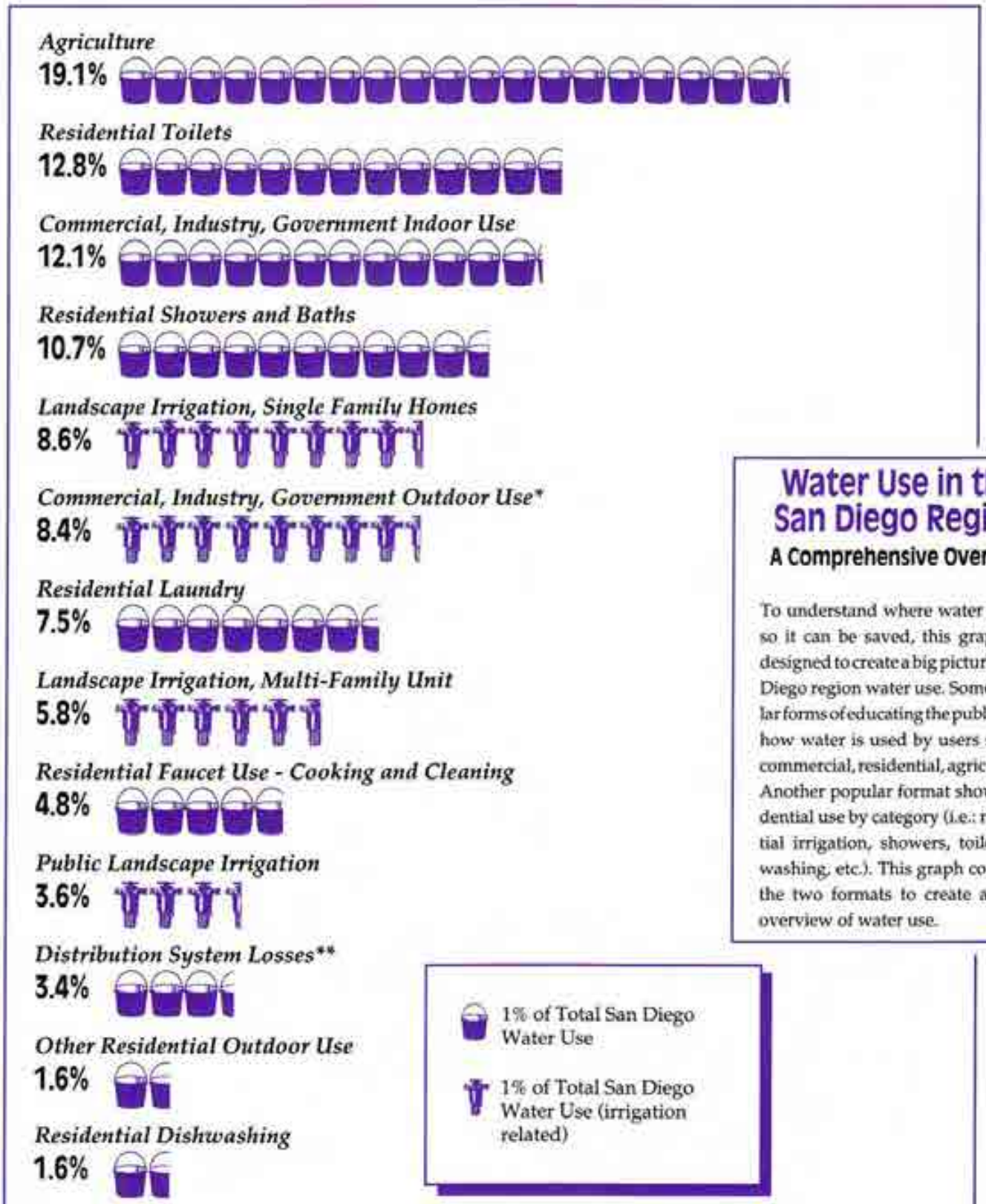
In addition, the City of San Diego is aggressively attempting to change the federal Clean Water Act in order to avoid upgrading its sewage treatment plans to the secondary level. If the City is successful, changes may occur in the incentives, timetables and mechanisms for funding water reclamation under the Clean Water Program.

Reclaiming Waste Water to Potable

Reclaiming waste water to potable standards is a sensitive subject. Yet, according to the city of San Diego's experts, potable reclaimed water that could meet San Diego County health standards can be produced for between $800 and $900 an acre foot plus the cost of moving that water to one or more of San Diego's potable water reservoirs. A three year study is currently in progress to analyze the health effects of using highly-treated reclaimed water for potable purposes. Objections to this ultimate reuse of reclaimed water are based on fears of utilizing water that has carried human waste, chemicals and other contaminants. It is interesting to note, thought, that the Colorado River water and the water from the Sacramento-San Joaquin Delta that currently supplies the majority of San Diego's water contains some treated waste water effluent from upstream cities such as Las Vegas and Sacramento. In particular, concerns exist that viruses cannot be easily removed from reclaimed water. If these pathogens and other contaminants can be removed, the existing water distribution system could be used. To reclaim water only for landscaping and other non-potable uses, an expensive and duplicative water transmission system has to be constructed. A Direct Potable Reuse Committee has been formed by the state's Department of Health Services and Department of Water Resources to investigate the associated risks of reclaiming waste water to potable quality.

GROUNDWATER RECOVERY

Recovery of groundwater that is not potable because of mineral content is encouraged under MWD's Groundwater Recovery Program. This program could recover as much as 15,000 acre feet per year in the San Diego region. Desalination of brackish groundwater is more cost effective than desalination of sea water because the salt content is only five percent of that found in the ocean. The City of Oceanside is pioneering a program in San Diego by desalting 2,000 acre feet per year from the Mission Groundwater Basin. MWD is providing financial assistance for this and all other groundwater recovery projects.



Water Use in the San Diego Region

A Comprehensive Overview

To understand where water is used so it can be saved, this graph was designed to create a big picture of San Diego region water use. Some popular forms of educating the public show how water is used by users such as commercial, residential, agricultural. Another popular format shows residential use by category (i.e.: residential irrigation, showers, toilets, car washing, etc.). This graph combines the two formats to create a broad overview of water use.

*Includes non-irrigation activities
**Defined as leakage, evaporation and seepage

THE NEED FOR WATER CONSERVATION

If all the potential new sources of supply are realized (see bar graph on page 4), then San Diego will have an additional dependable supply of 329,000 acre feet to offset the 202,000 acre foot shortfall currently projected during years of normal rainfall (see bar graph on page 1). As a result, there will be no shortage even without conservation through 2010 in years of normal precipitation. Even in a worst case dry year, San Diego would only suffer a 5,000 acre foot deficit if these projections are true. However, these additional quantities of water may not be entirely available during a severe drought. Severe drought conditions in 1991 allowed the State Project to deliver only 30 percent of requested deliveries, making alternate sources critical to a reliable water supply for San Diego County.

Supplies Aren't Guaranteed

None of those sources is guaranteed, however, and if they do not come on line, San Diego will face shortages of twenty two percent (22%) during times of normal supply and shortfalls of thirty seven percent (37%) during years of drought. To compare those figures with the recent six year drought, the shortfall was twenty percent (20%) -- and this was one of the worst droughts of the century. Without any additional water supplies, San Diego will be in worse shape during times of normal precipitation by the year 2010 than it was during the 1988-1992 drought.

Best Management Practices

To whatever degree potential new sources of supply do not make up the difference, water conservation will -- either by mandated cutbacks in emergencies or by implementation in advance of what the authorities call "Best Management Practices" (BMPs). BMPs include such activities as retrofitting homes and businesses with low flow plumbing fixtures and appliances. They are distinguished from measures taken during a drought which often require temporary life-style changes.

16.5% Conservation Effort

MWD is projecting a 16.5 percent conservation effort for Southern California in the year 2010 relative to practices in the base year of 1980. Implementation of BMP's by the San Diego County Water Authority are expected to result in 71,000 acre feet of permanent conservation from 1990 conservation levels.

Overall Conservation

To see how implementation of BMPs will affect the community, one must look at how water is used. With this in mind, water use was categorized as shown in the graph on page 7 and the analysis that follows it on page 9. Each of these sectors must be approached in a different way if conservation is to be achieved. Even landscape irrigation, which uses somewhere between 18 and 26% of San Diego's water, has four different components for which conservation programs must be designed separately.

CONSERVATION IN GENERAL

Water conservation is a cost-effective way to help meet San Diego's water needs. Long term conservation practices at present are designed so they don't require people to adopt life-style changes. A great deal of dependence is being placed on replacing mechanical devices such as shower heads and toilets that limit the flow of water no matter who uses them.

■ *Landscape Ordinances*

Both the City of San Diego and San Diego County and many of the other cities in San Diego County have adopted landscape ordinances that regulate, among other things, key elements of landscaping related to water use. As of January 1, 1993, state law required local jurisdictions to have a landscape ordinance in place or to declare why it was unnecessary. AB 325, passed in the fall of 1990, made that requirement and also directed that a model water efficient landscape ordinance for local jurisdictions be developed. In those cities and counties where no ordinance was adopted or no declaration was made, the model ordinance became the local ordinance by law. A key element in the model ordinance is the establishment of a water budget for landscapes. This budgeting process can reduce water use by as much as forty percent while giving landscape professionals the latitude to choose the plants to use without creating restrictive plant lists.

■ *Metropolitan Water District*

MWD, in conjunction with member agencies, like the San Diego County Water Authority, and local water purveyors are currently providing incentives encouraging installation of water efficient technology. They are funding large turf water audits, which, among other things, include recommendations for irrigation system improvements. In addition to this funding, they have and will continue to provide funding for studies to improve irrigation technologies and plant materials.

■ *Landscape Technology*

Still, those same authorities contend that even efficient water landscape technology can waste water if operated by someone who doesn't know how to utilize the system in a water conserving manner. As a result, when water supplies get extremely short, absolute cutoffs of certain types of irrigation are believed to be the best conservation tactic.

■ *Life-style Changes*

Changes in life-style (i.e., limiting use of toilets, short showers, etc.) are also reserved for crisis situations such as those that faced San Diego through the 1988-1992 drought.

CURRENT WATER USAGE AND PLANNED CONSERVATION

Following are the thirteen categories of water usage shown on the previous page, listed by the percentage of San Diego region water each consumes. Also provided is a description of government plans for water conservation.

19.1% *Agriculture*

Agriculture in general is considered to be nearly at maximum efficiency. To verify water is being applied at maximum efficiency, water audits are available through the San Diego County Water Authority (SDCWA). The major component of conservation in the future will come from loss of agriculture because urban growth and increasing costs will cause farmers to reduce planted areas. Agricultural water use is expected to decline from 128,000 acre feet (19.1% of total county use in 1991) to 120,000 acre feet (15% of total county use in 2010).

12.8% *Residential Toilets*

Educational programs have encouraged the purchase of ultra-low flush (1.6 gallons per flush) toilets. State law required new homes to have ultra-low flush toilets beginning in 1992. After January 1, 1994, state law will require that only ultra-low flush toilets be sold or installed in California. A rebate program in most areas provides $75 to individuals replacing a standard flush toilet (7 gallons per flush) with an ultra-low flush toilet.

12.1% *Commercial, Industry and Government Indoor Use*

Pricing structures to encourage savings through conservation will be put in place, but the primary focus has been the development of a program of commercial and industrial audits by the San Diego County Water Authority. SDCWA began meeting with major business groups in April, 1991 to explain conservation measures that are available.

10.7% *Residential Showers/Baths*

Conservation education is continuing in the media. Free low-flow showerheads are available in certain areas. Home builders have been required to install low flow showerheads since 1980.

8.6% *Landscape Irrigation - Single Family Homes*

Pricing structures are being developed to encourage savings through conservation. Conservation education continues to encourage minimal water use on landscaping. New developments are required to install dual piping systems for landscaping where reclaimed water is expected to become available. Water audits for high use consumers are planned. Xeriscape concepts are emphasized and classes are offered to home owners.

8.4% *Commercial, Industry and Government Outdoor Use*

Water reclamation is projected for large areas of landscape irrigation (12 acre feet per year). The State's Model Landscape Ordinance will set standards for design for those cities and counties that have not incorporated standards into government codes. Plumbing retrofit programs are being developed by the Water Authority for governmental and insititutional users.

7.5% *Residential Laundry*

Conservation education advises people to do full loads in their washing machines.

5.8% *Landscape Irrigation - Multi-Family Unit*

Water reclamation is expected for large areas of landscape irrigation (12 acre feet or more annually). In any city or county where the state's model water efficient landscape ordinance is adopted, landscape audits will be required.

4.8% *Residential Faucet Use -Cooking and Cleaning*

Conservation education explains how to conserve. State law has required aerators in homes and multi-family units constructed since 1980.

3.6% *Public Landscape Irrigation*

Local, regional, state and federal government agencies are conducting water audits of all public landscape irrigation to determine where water savings can occur.

3.4% *Distribution System Losses*

Continual monitoring and maintenance to correct avoidable leakage, evaporation and seepage losses. A formal leak detection program is planned.

1.6% *Other Residential Outdoor Use*

People washing cars at home and spa and swimming pool owners are asked to adopt conservative water use practices to avoid runoff and evaporation losses.

1.6% *Residential Dishwashing*

Conservation consists of advising people to do full loads in their dishwashers and to be prudent in using water when washing dishes by hand.

WHAT CAN CLCA MEMBERS DO?

Water is critical to the future of CLCA and to the life we have come to enjoy here in San Diego. The future of water is up to all of us - as CLCA members and as citizens. Here's what you can do to assure a green future for San Diego:

1. Know your water facts! This document was prepared to give you a head start in that regard.

2. Become certified in irrigation through the association's Certified Landscape Technician program so you know how to save the maximum amount of water for your clients.

3. Make sure your clients are using water-wise practices.

4. Get to know the members of your local water board. Give them a copy of this document as a way of showing what your association is doing to stay educated about water.

5. Get involved with CLCA's volunteer committees - especially the water committee.

6. Ask to be put on the San Diego County Water Authority's mailing list for newsletters and information. Call 297-3218.

THE CALIFORNIA LANDSCAPE CONTRACTORS ASSOCIATION

CLCA is the nation's oldest and largest organization of licensed landscape and irrigation contractors. Also included in its membership are landscape architects, landscape suppliers, educators, public employees and students.

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CLCA wishes to express a grateful thank you to the following individuals for their assistance and review in preparing this document.

City of San Diego Clean Water Program
Mr. Harold Bailey
Ms. Tami Rimes

City of San Diego Water Utilities Department
Ms. Marsi Steirer

Metropolitan Water District of Southern California
Ms. Grace Chan
Ms. Nancy Clemm
Ms. Julie Lie
Mr. Dirk Marks
Mr. Jan Matusak
Mr. Edward G. Mearis
Mr. Mike Moynahan
Mr. Mike Sellheim
Mr. Andrew Sienkiewich

San Diego County Water Authority
Mr. Byron Buck
Mr. Gordon Hess
Mr. Bill Jacoby

State of California Department of Water Resources
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OUR WATER, OUR FUTURE was produced by Neiltleton Communications. Graphic Design by Jerrie Beard and Associates.

SOURCES OF DATA: City of San Diego Clean Water Program and Water Utilities Department, Metropolitan Water District of Southern California, San Diego County Water Authority, State of California Department of Water Resources.

THE PRICE OF WATER

Estimated cost of new sources of supply as compared to current costs of MWD supplies (in $/Acre Feet).

Source of Supply	Estimated Cost to Develop or Purchase	Estimated Cost to Deliver to San Diego	Estimated Cost to Deliver to Consumer	Total Cost
Current MWD Supplies	$385	$70	$200	$655
Future MWD Supplies	$615-$700 [1]	$85	$200	$900-$985
Water Transfers	$100-$200	$700-$800 [2]	$200	$1000-$1200
Reclamation for Irrigation [3]	$300	0	$600-$900	$900-$1200
Reclamation to Potable [4]	Unknown	0	$200	Unknown
Seawater Desalination	$1000-$1600	0	$200-$400	$1200-$2000
Gray Water for Irrigation	NA	NA	Varies	Varies
Conservation [5]	0	0	$47-$447	$47-$447

1 Represents projected MWD water rates.
2 Includes MWD and SDCWA facility expansion costs.
3 Cost as subsidized by sewer users.
4 Currently not legal, see previous text on page 6.
5 Cost for education, toilet replacement incentives, consumer cost, etc.

Thanks to the San Diego County Water Authority
for underwriting the printing of this document.

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