

SAN DIEGO COUNTY WATER AUTHORITY
Organized June 9, 1944

FORTY-SEVENTH ANNUAL REPORT

of Authority Operations
for Fiscal Year Ending June 30, 1993

Lester A. Snow
General Manager

SAN DIEGO, CALIFORNIA
1993



Celebrating the first spill from the Lower Otay reservoir, January 21, 1916. Located about 20 miles southeast of San Diego on the Otay River, the original dirt and rock fill dam was replaced with Savage Dam built by the City of San Diego in 1917-19.
 (San Diego Historical Society, Photograph Collection)

CONTENTS

Chapter	Page
General Manager's Letter	ix
List of Member Agencies	x
Board of Directors	xii
Standing Committee Members	xiv
Photographs of Directors	xvi
Representatives to MWD.....	xxii
Photographs of Management.....	xxiii
Report of Activities	xxv
1. WATER AUTHORITY COMPOSITION	1
General	1
Geography	1
Population	2
2. WATER SUPPLIES, DELIVERIES AND USE	7
End of Drought	7
Water Deliveries	7
Municipal and Industrial Water Use by Member Agencies	8
Agricultural Water Use by Member Agencies	10
Groundwater Use	10
Surface Water Storage	11
Storage Agreements	11
Imported Water Spilled From Reservoirs.....	12
Supply Sources	12
MWD Facilities	14
Authority Facilities	14
Water Quality	16
Water Treatment.....	16
Precipitation.....	16
3. ENGINEERING DEPARTMENT	19
Capital Improvement Program	19
Scripps Ranch Pipeline	19
Mission Trails Pipeline and Flow Regulatory Structure	21
La Mesa / Lemon Grove Pipeline and Cowles Mountain Tunnel	22
Lower Otay Pipeline	22
San Marcos Pipeline	24
Rancho Penasquitos Pipeline.....	24

SAN DIEGO COUNTY WATER AUTHORITY

Pipeline 626
 Pipeline 2A and Pump Station26
 Escondido Raw Water Pump Station and Modifications
 to the First San Diego Aqueduct Project26
 Ramona Bypass and Pressure Reducing Facility27
 Aqueduct Control System Project27
 Aqueduct Protection Program28
 National City / South Bay 4 Flow Control Facility28
 Oceanside 5 Flow Control Facility28
 Treated Water Supply Study29
 Escondido Operations Center Landscape Renovation29
 Escondido Operations Center Warehouse Expansion and
 Modification29
 Preliminary Design of Permanent Protection of the San Luis Rey
 River Aqueduct Crossings30
 Padre Dam and Otay Treated Water Supply Study31
 North County Distribution Pipeline31
 San Dieguito Water District / Santa Fe Irrigation District Flow
 Control Facilities 3, 4, 5, and 631
 Other Projects32

4. RIGHT OF WAY DEPARTMENT

Aquisition Activities34
 San Marcos Pipeline (Pipeline 5 Extension, Phase I)34
 Rancho Penasquitos Pipeline (Pipeline 5 Extension, Phase II) ...34
 Scripps Ranch Pipeline (Pipeline 4B, Phase I)34
 Mission Trails Pipeline (Pipeline 4B, Phase II)35
 La Mesa / Lemon Grove Pipeline
 (Pipeline 4 Extension, Phase I)35
 Lower Otay Pipeline (Pipeline 4 Extension, Phase II)35
 Pipeline 2A35
 North County Distribution Pipeline36
 Pipeline 636
 Emergency Storage Project36
 Management Activities36
 Right of Way Patrolling36
 Encroachments36
 Right of Way Information Management System (RIMS) and
 Document Storage System (DSS)37

SAN DIEGO COUNTY WATER AUTHORITY

5. OPERATIONS AND MAINTENANCE DEPARTMENT

General39
 Administration39
 Operations40
 Major Events42
 Maintenance44
 Technical Services44
 Shop45

6. WATER RESOURCES PLANNING DEPARTMENT

Planning Section48
 Current Water Demand and Supplies48
 Future Supplies48
 Water Resources Plan49
 Agriculture Study50
 Seawater Desalination50
 Environmental50
 Office Remodel51
 Conservation Section51
 Emergency Storage Project53

7. WATER RECLAMATION DEPARTMENT

Water Reclamation Projects57
 Policy Development59
 Other Accomplishments60

8. FINANCE DEPARTMENT

Finance Operations62
 Investment Operations62
 Accounting Operations64
 Debt Service Coverage65
 Water Rates66
 Tax Rates/Assessed Valuation66
 Capacity Charges68
 Water Standby Availability Charge68
 Budget Operations68
 Information Systems69
 Purchasing and Warehouse Operations70
 Deferred Compensation70

9.	PUBLIC AFFAIRS	
	Governmental Relations	71
	Community Relations	72
	Media Activity	73
	School Education Program	74
	Publications	76
	Joint Public Information Council	77
	Del Mar Fair Xeriscape Garden Contest	78
	Speakers Bureau	78
10.	HUMAN RESOURCES	
	Employment	79
	Employee Relations	80
	Employees of the Quarter and Employee of the Year	81
	Safety	82
11.	GENERAL COUNSEL	
	Accomplishments - Fiscal 1992-93	83
	Gnatcatcher	84
	Litigation	85
	Right of Way Acquisition	87
12.	METROPOLITAN WATER DISTRICT MEMBERSHIP	
	Authority Representatives on MWD Board	88
	Assessed Property Value	90
	Water Sales	90
	Tax Rate	91
13.	COLORADO RIVER BOARD MEMBERSHIP	92
14.	APPENDICES	
	Appendix A, Tables 1-16	97
	Appendix B, Major Board Actions	117
	Appendix C, Financial Statements	147

CONTENTS

No.		Page
LIST OF FIGURES		
1.	Authority Population 1992-93	2
2.	Authority Organization Chart	4
3.	Source of Water: Authority, Local, and Total 1983-93	8
4.	Authority Water Use 1945-93	9
5.	Rainfall Record	17
6.	Summary of Alternative Systems Used in Coarse Screening	55
7.	Reclaimed Water Production	60
8.	Assessed Valuation 1992-93	66
9.	Authority Summary of Water Rates 1958-93	67
10.	Water Revenue, Tax Revenue, Tax Rate 1983-93	69
11.	Metropolitan Water District Organization Chart	89
12.	Authority-Metropolitan Service Area, Water Sales, and MWD Water Rates 1980-93	90
MAPS		
1.	Authority Service Area	5
2.	Capital Improvement Program	18
3.	Regional Base Map With Emergency Water Supply Shortfalls	56
4.	Metropolitan Water District Service Area	93
LIST OF TABLES (Located in Appendix A)		
Table		No.
1.	Statistical Summary - Authority 1992-93	98
2.	Population Growth - Authority and County Through 1993	99
3.	Area - Authority Member Agencies 1992-93	100
4.	Water Use and Authority Storage 1992-93	102
5.	Assessed Valuation and Tax Collections 1992-93	103
6.	Water Use - Authority Member Agencies 1983-1993	104
7.	Water Sales by Authority 1947-93	105
8.	Sales of Imported Water 1992-93	106
9.	Assessed Valuation and Tax Rates - Authority 1945-93	108
10.	Revenue Dedicated to Finance Capital Improvement Program 1992-93	110
11.	Chemical Characteristics and Analysis of Colorado River Water 1992-93	111
12.	Chemical Characteristics and Analysis of Blended Water at Lake Skinner 1992-93	112
13.	Assessed Valuation and Tax Rates of Metropolitan Water District 1929-93	113
14.	MWD Annexation Charges and Balances on Authority Area	114
15.	Water Sales by Metropolitan Water District 1941-93	115
16.	Water Deliveries and Local Supplies - Metropolitan Water District Constituent Areas 1992-93	116



University Heights Water Storage Tank, circa 1920
(San Diego Historical Society, Photographic Collection)

June 30, 1993

**Board of Directors
San Diego County Water Authority**

It is my pleasure to present this forty-seventh Annual Report of the San Diego County Water Authority's activities during the fiscal year ending June 30, 1993.

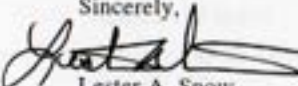
Torrential winter rains and record-setting snowfall in the Sierras ended six years of drought, providing much-needed relief, not only to the people of San Diego County, but throughout the state. Reservoirs that had been on the verge of depletion were filled to capacity from Lower Otay to Oroville, and for the first time in 10 years local supplies exceeded 10 percent of total water use for Authority member agencies.

Even with the above-average rainfall, the Authority continued local supply development programs to improve long-term supply reliability. Local supply projects included reclamation, groundwater, and seawater desalination. Water conservation programs were also vigorously pursued. These efforts at demand management and local supply production are designed to ensure that by the year 2010 shortages of water during future droughts will be no more than 12 percent of normal demand, which is a goal of the Authority's Strategic Plan.

To transport future water supplies, the Authority moved forward with its Capital Improvement Program. During the year, 24 projects were under way to increase aqueduct capacity, and improve efficiency and reliability. Site selection for the Emergency Storage Project resulted in a list of 32 possible projects for an emergency storage reservoir or reservoir system. Emergency storage is intended to protect the county against the potential catastrophic loss of imported supplies should an earthquake sever the aqueducts.

The Authority enters the new year with sufficient near-term water supplies. However, this welcome relief from the drought should not obscure the fact that the Authority, and indeed all of California, faces many obstacles in securing a long-term reliable supply. As long as urban, agricultural, and environmental allocations of limited water resources continue to be disputed statewide, long-term reliability cannot be assumed for anyone. If anything, the history and lessons of the drought have shown that much work remains to be done to ensure reliability.

Sincerely,



Lester A. Snow
General Manager

MEMBER AGENCIES

CITIES
• Del Mar • Escondido • National City
• Oceanside • Poway • San Diego

COUNTY
• San Diego
(as official)

IRRIGATION DISTRICTS
• San Luis • South Bay
• Water

PUBLIC UTILITY DISTRICT
• Sullman

WATER DISTRICTS
• Falls • Gray
• San Diego
• Vista

FEDERAL AGENCY
• Recreation History Resources

MUNICIPAL WATER DISTRICTS
• Carlsbad • Romona
• Chula Vista • Mission del Norte
• Escondido • Palmyra
• Poway • San Marcos
• Vista

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**MEMBER AGENCIES AND
REPRESENTATIVES ON BOARD OF DIRECTORS
As of June 30, 1993**

CITIES	DATE OF ENTRY
Del Mar	Nov. 23, 1962
Charles Newton	
Escondido	Oct. 9, 1950
David A. Drake	
National City	June 9, 1944
Frank W. Chenelle	
Oceanside	June 9, 1944
James F. Turner	
Poway	April 21, 1954
Linda Brannon	
San Diego	June 9, 1944
Rosalie Shanks Bregante, Christine Frahm, Marilyn Hardebeck, Francesca Krauel, Joseph Parker, Michael E. Parrish, Bob Russell, Frederick H. Thompson, Harold Throckmorton, Maria Velasquez	
 WATER DISTRICTS	
Helix	June 9, 1944
H. Warren Buckner, Harry Griffen	
Otay	Oct. 26, 1956
Mark W. Watton	
San Dieguito	Dec. 13, 1948
James Bond	
 IRRIGATION DISTRICTS	
Santa Fe	Dec. 13, 1948
John M. Leach	
South Bay	Nov. 3, 1952
Cary F. Wright	
(Includes the city of Chula Vista, an independent member agency, from June 9, 1944 to Nov. 3, 1952).	
 MUNICIPAL WATER DISTRICTS	
Bueno Colorado	June 11, 1954
William D. Taylor	
Carlsbad	June 16, 1954
Ann Kulchin	

Olivenhain	July 25, 1960
Ann Peay	
Padre Dam	June 7, 1956
Gerald L. Johnson	
(Includes Lakeside I.D., an independent member agency, from June 9, 1944 to Nov. 3, 1952.)	
Rainbow	April 10, 1954
William Hughes	
Ramona	Aug. 27, 1957
Robert Krysak	
Rincon del Diablo	June 14, 1954
Sherwood D. Anderson	
Valley Center	May 9, 1955
Gary A. Broomell	
Yuima	Dec. 16, 1963
Susan M. Collins	

PUBLIC UTILITY DISTRICT

Fallbrook	June 9, 1944
Gordon W. Tinker	
(Includes DeLuz Heights MWD, an independent member agency, from June 28, 1967 to June 30, 1990.)	

FEDERAL AGENCY

Pendleton Military Reservation	Dec. 16, 1977
Lawrence E. Carlson	

COUNTY WATER DISTRICT

Vallecitos	Feb. 25, 1980
Dale Mason	

COUNTY OF SAN DIEGO (Ex Officio)

Feb. 13, 1986
Pam Slater

BOARD OF DIRECTORS

The San Diego County Water Authority is comprised of 23 member agencies and the County of San Diego as an ex officio member. Each member agency is represented by at least one director. A member agency is entitled to one additional representative for each full five percent of total assessed valuation contained within its boundaries, as determined by the Assessors' Office of the County of San Diego. These representatives are appointed by the chief executive officer of the respective agencies with approval of the agencies' governing bodies. During the year, only two agencies were represented by more than one representative; the city of San Diego had 10 representatives and the Helix Water District had two.

Officers of the Board of Directors begin service in January of odd-numbered years. In January 1993, John M. Leach was elected Chair; Mark W. Watton, Vice Chair; and Joseph Parker, Secretary.

The Authority has six directors who also serve on the Metropolitan Water District's board. For fiscal year 1992-93 these directors were Christine Frahm, Harry Griffen, Francesca Krauel, John M. Leach, Dale Mason, and Joseph Parker. The Authority is also represented on the Colorado River Board, by Director John Starkey. This state agency's purpose is to protect California interests in the water and power resources of the Colorado River system.

To facilitate matters, most business coming before the Authority Board is first considered by one of its committees. Each committee then reports to the full Board, which makes the necessary decisions. There are eight standing committees:

Administrative & Legal	Public Affairs
Engineering & Operations	Special Budget Committee
Fiscal Policy	Water Policy
Long Range Planning	Water Reclamation

Temporary or ad hoc committees and special appointments that existed this year were:

- Audit Subcommittee
- Contracts, Purchasing & DBE/EEO Goals Subcommittee
- 50th Anniversary Subcommittee
- Desalination Subcommittee
- Storage Subcommittee
- IICP Appeals Board
- Right of Way Protection Subcommittee
- Colorado River Board
- San Diego Area Wastewater Management District
- JPIA Insurance Committee
- San Dieguito Groundwater Basin Planning Task Force

BOARD OF DIRECTORS

During fiscal year 1992-1993, the following Directors were presented with service emblems:

Director	Length of Service
Michael Parrish	3 years
Cary W. Wright	3 years
Anne Omsted	5 years
Lawrence Carlson	5 years
Bob Stevens	5 years
James Turner	5 years
Joseph Parker	10 years

During the year, the following Directors were seated or reelected:

Date	Director	Agency	Term Expires
08/13/92	Gerald L. Johnson	Padre Dam MWD	07/07/98
08/13/92	James F. Turner	City of Oceanside	07/15/98
09/10/92	David Drake	City of Escondido	10/18/98
09/18/92	John M. Leach	Santa Fe ID	12/13/96
09/10/92	George Bailey	County of San Diego	02/14/94
11/12/92	H. Warren Buckner	Helix WD	08/18/95
11/12/92	Christine Frahm	City of San Diego	07/15/98
11/12/92	Joseph Parker	City of San Diego	03/07/98
01/14/93	Ann Kulchin	Carlsbad MWD	06/17/96
02/11/93	Ann L. Peay	Olivenhain MWD	08/04/96
02/11/93	Robert E. Krysak	Ramona MWD	09/08/94
02/11/93	Pam Slater	County of San Diego	02/14/94
03/11/93	William Hughes	Rainbow MWD	02/14/97
03/11/93	James Bond	San Dieguito WD	12/21/96
04/08/93	Francesca Krauel	City of San Diego	01/30/97
05/13/93	Charles Newton	City of Del Mar	03/12/99

ROSTER OF STANDING COMMITTEES

as of June 30, 1993

Administrative and Legal

Bob Russell, Chair
 Gerald L. Johnson, Vice Chair
 Rosalie Shanks Bregante
 Gary A. Broomell
 Robert Krysak
 Ann Kulchin
 Dale Mason
 Charles Newton
 Pam Slater
 William D. Taylor

Engineering and Operations

Gordon W. Tinker, Chair
 H. Warren Buckner, Vice Chair
 Frank Chenelle
 Marilyn Hardebeck
 Gerald L. Johnson
 Francesca Krauel
 Ann Kulchin
 William D. Taylor
 Frederick H. Thompson

Fiscal Policy

Linda Brannon, Chair
 Mark W. Watton, Vice Chair
 Sherwood D. Anderson
 Susan Collins
 Christine Frahm
 Harry Griffen
 Robert Krysak
 Michael D. Parrish
 Ann Peay
 Bob Russell

Long Range Planning

Harold Throckmorton, Chair
 Susan Collins, Vice Chair
 James Bond
 Lawrence E. Carlson
 David Drake
 William Hughes
 Francesca Krauel

Charles Newton
 Gordon W. Tinker
 Maria Velasquez

Public Affairs

Michael D. Parrish, Chair
 Maria Velasquez, Vice Chair
 James Bond
 Linda Brannon
 H. Warren Buckner
 Marilyn Hardebeck
 Dale Mason
 James F. Turner
 Cary F. Wright

Water Policy

Christine Frahm, Chair
 David Drake, Vice Chair
 Gary A. Broomell
 Harry Griffen
 Dale Mason
 Joseph Parker
 Ann Peay
 Harold Throckmorton
 Mark W. Watton
 Cary F. Wright

Water Reclamation

Sherwood D. Anderson, Chair
 Fred H. Thompson, Vice Chair
 Rosalie Shanks Bregante
 Lawrence E. Carlson
 Frank Chenelle
 William Hughes
 Joseph Parker
 Pam Slater
 James F. Turner

Special Budget Committee

Linda Brannon, Chair
 Mark W. Watton, Vice Chair
 Gary A. Broomell
 Christine Frahm
 Harry Griffen

ROSTER OF STANDING COMMITTEES

as of June 30, 1993

(continued)

**Temporary or Ad Hoc Committees
& Special Appointments**

Audit Subcommittee

Susan Collins, Chair
 Joseph Parker
 Cary F. Wright

**Contracts, Purchasing & DBE/
EEO Goals Subcommittee**

James F. Turner, Chair
 Joseph Parker, Vice Chair
 Sherwood D. Anderson
 James Bond
 David Drake
 Bob Russell
 Maria Velasquez

50th Anniversary Subcommittee

Mark W. Watton, Chair
 Rosalie Bregante, Vice Chair
 Susan Collins
 Gerald L. Johnson
 William Hughes
 Bob Russell
 Frederick H. Thompson
 Cary F. Wright

Desalination Subcommittee

David Drake, Chair
 Joseph Parker
 James F. Turner
 Cary F. Wright

Storage Subcommittee

Gerald L. Johnson, Chair
 Cary F. Wright, Vice Chair
 Rosalie Shanks Bregante
 David Drake
 Francesca Krauel

Dale Mason
 Gordon W. Tinker
 Mark W. Watton

IICP Appeals Board

H. Warren Buckner, Chair
 Linda Brannon
 Gary A. Broomell
 Christine Frahm
 Joseph Parker
 James F. Turner, * Chair
 Susan Collins*
 Marilyn Hardebeck*
 Dale Mason*
 Frederick H. Thompson*

**Right of Way Protection
Subcommittee**

Joseph Parker, Chair
 Gordon W. Tinker
 Christine Frahm
 Rosalie Shanks Bregante*

Colorado River Board

John Starkey

**San Diego Area Wastewater
Management District**

Frank Chenelle

JPIA Insurance Committee

Frederick H. Thompson

**San Dieguito Groundwater Basin
Planning Task Force**

Rosalie Shanks Bregante

*=Alternate

OFFICERS OF BOARD OF DIRECTORS
1992 - 93



Chairman
JOHN M. LEACH
City of San Diego
5-86 to 9-92
Santa Fe I.D.
9-92 to present



Vice Chairman
MARK W. WATTON
Ouy Water District
2-85 to present



Secretary
JOSEPH PARKER
City of San Diego
5-86 to present

BOARD OF DIRECTORS
1992 - 93



S. D. ANDERSON
Kinross del Diablo
Municipal Water District
8-78 to present



JAMES BOND
San Dieguito
Water District
3-93 to present



LINDA BRANNON
City of Poway
1-92 to present



ROSALIE SILANKS BREGANTE
City of San Diego
12-91 to present



GARY BROOMELL
Valley Center
Municipal Water District
2-92 to present



IL WARREN BUCKNER
Helix Water District
11-92 to present

BOARD OF DIRECTORS
1992 - 93



LAWRENCE E. CARLSON
Pendleton Military
Reservation
12-86 to present



FRANK W. CHENELE
City of National City
3-90 to present



SUSAN M. COLLINS
Yuima
Municipal Water District
2-91 to present



DAVID A. DRAKE
City of Escondido
9-89 to present



NAT L. EGGERT
Helix Water District
10-77 to 11-92



CHRISTINE FRAIM
City of San Diego
3-88 to present



HAROLD K. FRIEDLAND
Santa Fe
Irrigation District
3-90 to 9-92



SUSAN GOLDING
County of San Diego
2-86 to 9-92

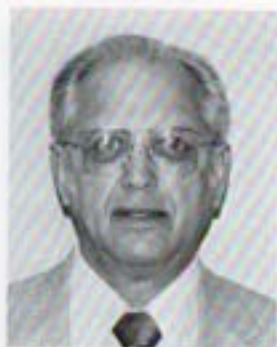


HARRY GRIFFEN
Helix Water District
7-86 to present

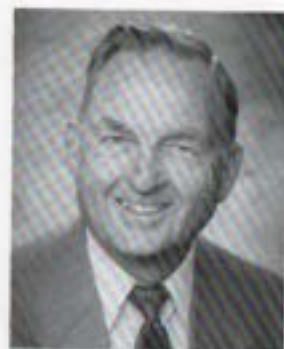
SAN DIEGO COUNTY WATER AUTHORITY



MARILYNN HARDEBECK
City of San Diego
11-91 to present



WILLIAM HOLLINGSWORTH
Olivenshain Municipal
Water District
5-86 to present



WILLIAM HUGHES
Rainbow
Municipal Water District
3-93 to present



GERALD L. JOHNSON
Padre Dam
Municipal Water District
2-91 to present



FRANCESCA M. KRAUEL
City of San Diego
4-93 to present



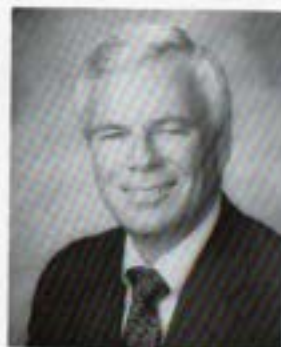
ROBERT KRYSAK
Ramona Water District
2-93 to present



ANN KULCHIN
Carlsbad
Municipal Water District
1-93 to present



JOHN M. LEACH
City of San Diego
5-86 to 9-92
Santa Fe I.D.
9-92 to present



MICHAEL D. MADIGAN
City of San Diego
5-79 to 12-92

BOARD OF DIRECTORS
1992 - 93



DALE MASON
Vallecitos
Water District
3-80 to present



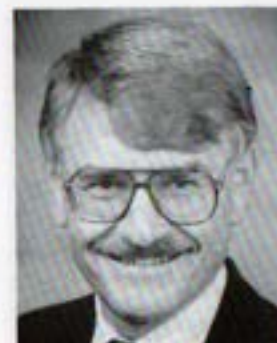
CHARLES NEWTON
City of Del Mar
5-93 to present



ANNE OMSTED
San Diego
Water District
2-87 to 3-93



JOSEPH PARKER
City of San Diego
5-86 to present



MICHAEL E. PARRISH
City of San Diego
4-89 to present



ANN PEAY
Olivenshain Municipal
Water District
2-93 to present



ROBERT E. RUSSELL
City of San Diego
5-92 to present



PAM SLATER
County of San Diego
2-93 to present



BOB STEVENS
City of Del Mar
2-87 to 5-93

SAN DIEGO COUNTY WATER AUTHORITY



HERBERT H. STICKNEY
Rainbow
 Municipal Water District
 3-85 to 3-93



WILLIAM D. TAYLOR
Barro Colorado
 Municipal Water District
 4-88 to present



FREDERICK H. THOMPSON
City of San Diego
 11-90 to present



KENNETH A. THOMPSON
Ramona Water District
 9-90 to 2-93



HAROLD THROCKMORTON
City of San Diego
 8-91 to present



GORDON W. TINKER
Fallbrook Public
Utility District
 4-83 to present

BOARD OF DIRECTORS
 1992 - 93



JAMES F. TURNER
City of Oceanside
 8-86 to present



MARIA VELASQUEZ
City of San Diego
 6-92 to present



MARK W. WATTON
Gay Water District
 2-85 to present



CARY F. WRIGHT
South Bay
Irrigation District
 11-88 to present

Not pictured: GEORGE F. BAILEY, County of San Diego, 9-92 to 2-93

SAN DIEGO COUNTY WATER AUTHORITY

DIRECTORS REPRESENTING SDCWA ON METROPOLITAN
WATER DISTRICT BOARD OF DIRECTORS 1992 - 93



CHRISTINE FRAIM
5-92 to present



HARRY GRIFFIN
1-61 to present



FRANCESCA M. KRAUEL
5-93 to present



JOHN M. LEACH
11-92 to present



MICHAEL D. MADIGAN
7-82 to 11-92



DALE MASON
12-86 to present



JOSEPH PARKER
3-93 to present



HERBERT H. STICKNEY
10-89 to 3-93

WATER AUTHORITY MANAGEMENT
ON JUNE 30, 1993



LESTER A. SNOW
General Manager



VINCENT F. BIONDO, Jr.
General Counsel



ERGUN BAKALL
Chief Engineer



SHIRLEY A. JACKSON
Assistant General Manager
Administration



CHARLES N. RHODES
Assistant General Manager
Water Resources



ROBERT R. CAMPBELL
Chief Financial Officer



JANET R. MALTMAN
Executive Secretary



*Sweetwater Dam break January 30, 1916. Reconstruction in 1917 included the addition of six siphon spillways on the north side to facilitate spilling.
(San Diego Historical Society, Photograph Collection)*

REPORT OF ACTIVITIES

Record amounts of late winter rainfall ended six consecutive years of drought in the state, and with it much of the uncertainty about near-term water supplies. For the first time in three years imported supplies from the Metropolitan Water District were available throughout the year with no mandatory conservation measures.

Reservoirs filled throughout the state and local reservoirs spilled water continuously from late January through May. By the end of the year, total local storage was at 94 percent of the county's 571,671 acre-foot capacity. This is the greatest end-of-the-year storage amount since fiscal year 1983-84.

Because of the heavy rainfall and increased availability of local supplies, demand for Authority water was lower than in previous years. Total deliveries to member agencies were 430,535 acre-feet, about 3 percent less than the previous year, and 36 percent less than 1989-90, the year which set the record for Authority deliveries. The Authority supplied 82 percent of the total water used in 1992-93, compared with 95 percent in 1989-90. Total agricultural water use fell to 89,051 acre-feet, the lowest in 20 years. The Authority supplied 92 percent of the total agricultural water demand.

While near-term supplies are assured, obstacles to reliable long-term supplies remain. Uncertainty exists over proposed environmental policies and potential water quality regulations that could affect both the State Water Project and Colorado River Aqueduct. Authority staff monitored these developments, and attempted to influence decision-making where possible.

Authority efforts to increase reliability included the continuation of its Capital Improvement Program (CIP), which is building the infrastructure necessary to transport and store future imported supplies, and local supply development. The current CIP includes projects to construct pipelines, pump stations, flow control facilities, and emergency storage. It also includes projects for mitigating environmental effects of construction. Mitigation measures consist of purchasing lands for wildlife habitat, timing construction to minimize impacts to wildlife, and revegetation of disturbed areas.

Local supply development projects focused on reclamation, groundwater, and seawater desalination. Total reclaimed water production was 9,713 acre-feet, an increase of 24 percent from the previous year. Long-term reclamation goals were reduced this year after projected reclaimed water production from the Clean Water Program were scaled back. This program was expected to be the major producer of reclaimed water for the county. Authority desalination studies focused on a proposed project that would combine a seawater desalination facility with the repowering of an existing electrical power generating plant located in South Bay. The Authority studied various technical issues to determine the economic feasibility of the project.

Conservation programs increased significantly in relative importance to Authority goals for reliability. An estimated 9,000 acre-feet of savings resulted from programs that increased the number of low-flow showerheads and ultra-low-flush toilets in use throughout the county. This is a marked increase from the previous year, when savings from similar programs were estimated at 650 acre-feet. More conservation programs are being designed for next year, including one that will encourage the use of water-efficient washing machines.

The Public Information Department was re-organized during the year and renamed the Public Affairs Department to reflect its growing agenda. The reorganized department will emphasize community and government relations, and enhance communications with member agencies, business groups, and the media. Most of the department's activities were concentrated during the year with the CIP, the Emergency Water Storage Project, water rate increases, and conservation and reclamation programs.

The Operations and Maintenance Department remodeled the aqueduct control room and the shop building, expanded the warehouse, and installed a water efficient landscape. The Technical Services Section began modernizing flow control facilities in preparation for upgrading the Aqueduct Control System equipment.

The Authority added 15 positions during the year, bringing its total staff to 147 employees. One new position was an Equal Opportunity Officer, who will oversee an Emerging Business Enterprise/Disabled Veterans Business Enterprise program. The function of this program will be to ensure that all vendors, contractors, and consultants have a fair and equal opportunity to do work for the Authority.

WATER AUTHORITY COMPOSITION

General

The San Diego County Water Authority is a wholesaler of imported water to 23 member agencies, which include six cities, four water districts, nine municipal water districts, two irrigation districts, a public utility, and a federal agency. The Authority was created by an act of the state Legislature in 1943, and purchases water from the Metropolitan Water District to sell to its member agencies.

The Authority's member agencies are diverse and have varying water needs. Some agencies are almost exclusively urban, and serve treated water for domestic and industrial purposes. Others are almost entirely agricultural, with limited need for treated water. Agencies also vary in their dependence upon the Authority for supplies. Eleven agencies are 100 percent dependent upon imported water during the year, while the others produce local water to supplement imported supplies. Overall, the Authority supplied 82 percent of the total water used by its member agencies in 1992-93.

By most measures, the city of San Diego is the Authority's largest member agency. The city is an urban agency and has far more population, geographical area, and assessed valuation than any other member agency. It received 38 percent of the Authority's water deliveries during the year. The city of San Diego also owns and operates 73 percent of the county's total water storage capacity.

Five of the Authority's member agencies serve water primarily for agricultural purposes. These agencies - Fallbrook PUD, Rainbow MWD, Ramona MWD, Valley Center MWD, and Yuima MWD - are all located in the northeastern portion of the county. Historically, agricultural water deliveries represent about 18 percent of the total. This percentage remained fairly constant before, during, and after the drought years between 1987 and 1993.

Geography

The Authority's boundaries extend from the border with Mexico on the south to Orange and Riverside counties in the north, and from the Pacific Ocean to the foothills that terminate the coastal plain on the east. With a total of 908,959 acres (1,420.3 square miles), the Authority service area encompasses the western third of the land area of San Diego County.

In terms of land area, the largest member agency is the city of San Diego, with 210,626 acres. The smallest agency is the city of Del Mar, with 1,159

acres. Table 3 shows the area for each member agency and its proportional share of the Authority total.

Population

Total population in the Authority's service area reached 2,572,002 people in 1992-93 (see graph). This is an increase of 51,239 people during the year, for an annual growth of two percent. Populations for individual member agencies are given in Tables 2 and 3.

Projections from the San Diego Association of Governments (SANDAG) indicate that the county population will reach about 3.63 million in the year 2015. This would result in growth of 51 percent between the years 1990 through 2015. The Authority serves 97 percent of the people who live in the county.

The city of San Diego has the largest population of any member agency, with 1,177,400 people. The agency with the least population is the Yuima MWD, with 1,850 people. Population density increased during the year from 2.77 people per acre to 2.83 people per acre, or 1,811 people per square mile. National City had the highest density (9.33/acre), while Yuima MWD had the lowest (0.14/acre).

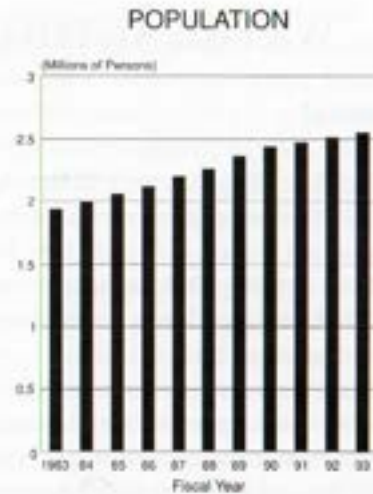
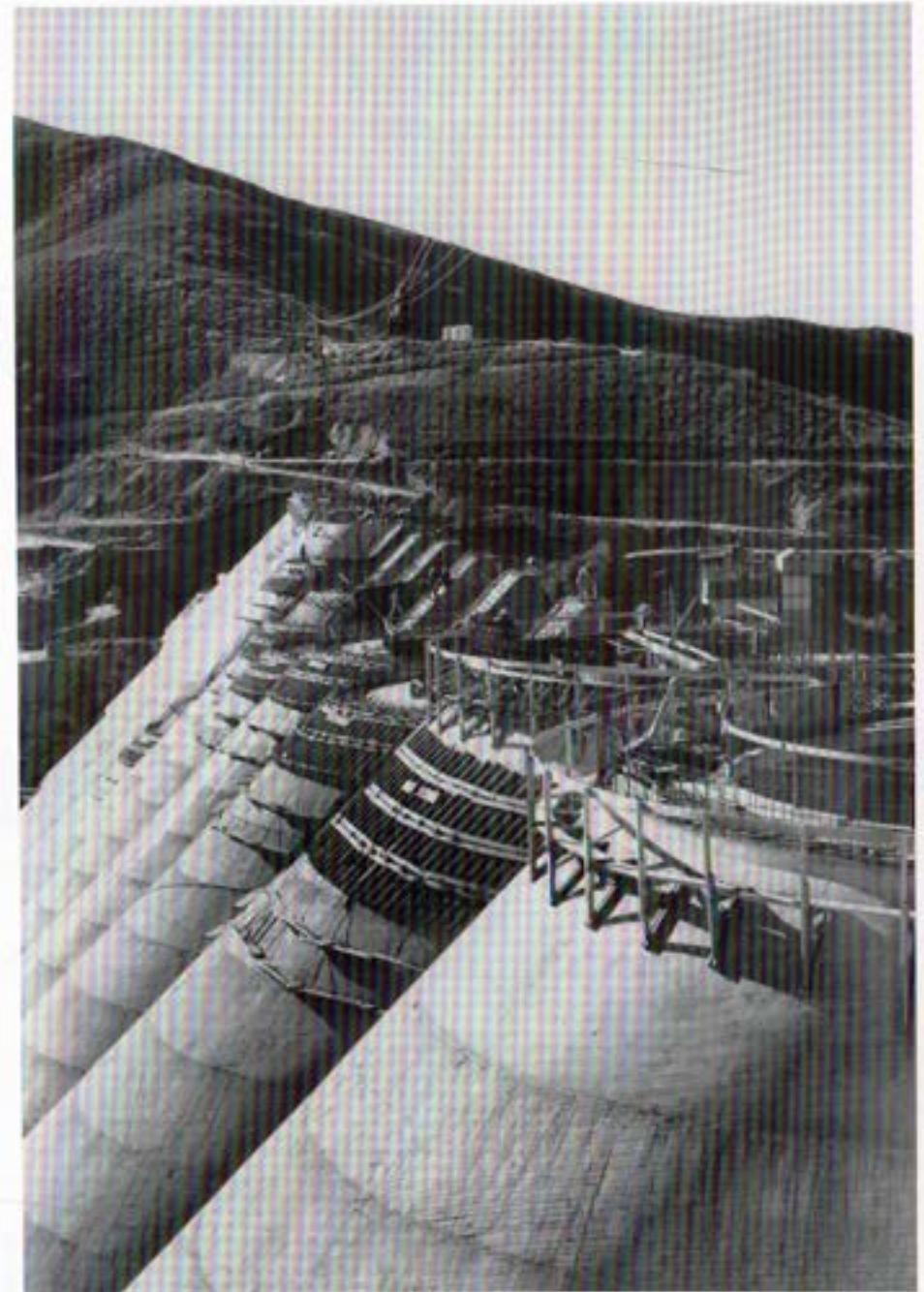


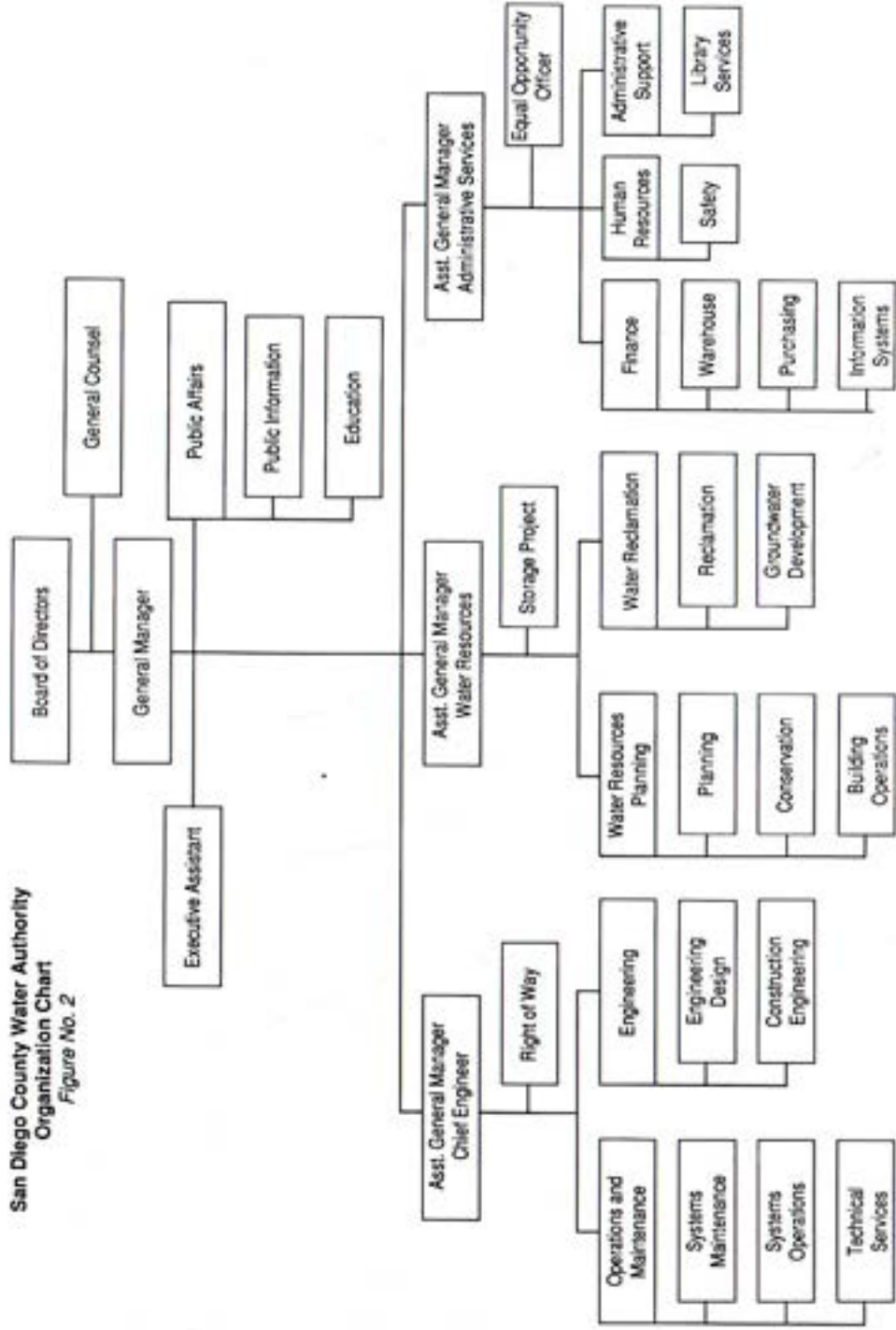
Figure No. 1



*Construction of the Sutherland Dam, 1954.
(San Diego Historical Society Photograph Collection)*

SAN DIEGO COUNTY WATER AUTHORITY

San Diego County Water Authority
Organization Chart
Figure No. 2



WATER SUPPLIES, DELIVERIES, AND USE

End of Drought

Record amounts of precipitation in January and February 1993 brought six years of drought to an end throughout California.

Federal, state, and local supplies all quickly recovered from the drought as reservoirs filled to capacity. Local reservoirs spilled an estimated 250,000 acre-feet of water, including 16,333 acre-feet that was owned by the Authority. The governor of the state officially declared the drought over on February 24, 1993.

Water supply impacts from the winter storms were immediate and dramatic. The state Department of Water Resources (DWR) increased State Water Project deliveries from 10 percent of contractor-requested deliveries in January to 85 percent in March. The state's two major reservoirs, Oroville and San Luis, gained more than 2.5 million acre-feet during that time, going from 57 percent of average storage to more than 115 percent. By June 1, Lake Oroville had reached its storage capacity of 3.53 million acre-feet. This surge in supply prompted the Metropolitan Water District (MWD) to announce that mandatory conservation for its member agencies would not be required through December 1993.

Water Deliveries

Authority water deliveries to its member agencies ended the year at 430,535 acre-feet, slightly less than the 444,751 acre-feet that was delivered in 1991-92. Deliveries were still well below those of 1989-90, the year in which the Authority recorded deliveries of 674,993 acre-feet.

The availability of local supplies was primarily responsible for the relatively low annual deliveries, although conservation efforts also had a significant effect. From March through June 1993, local water constituted about a third of total use, as member agencies drew down storage from full reservoirs. The greatest monthly delivery was 51,236 acre-feet, in October 1992. The smallest delivery of 12,711 acre-feet was made in February 1993, at the height of the winter storm activity.

MWD delivered 430,920 acre-feet to the Authority during the fiscal year. Untreated water accounted for 208,134 acre-feet, and the balance of 222,786 acre-feet of water was treated at the Robert A. Skinner Filtration Plant in Riverside County. The total delivery was 5,255 acre-feet more than the previous fiscal year, which represents an increase of 1.2 percent.

Average flow rates in the Authority aqueduct system ranged from a low of 219 cubic feet per second (cfs), which occurred in February 1993, to a high of 833 cfs during October 1992. The average for the entire year was 594 cfs.

Water deliveries to member agencies and others during the fiscal year are shown in Table 8. Annual water sales to individual agencies for the nine-year period 1984-85 through 1992-93 and total water sales from 1947-1984 are shown in Table 7.

Municipal and Industrial Water Use by Member Agencies

Water use is determined by summing all the sources of supply that are employed by an agency to satisfy demand. In San Diego County, this includes water imported from MWD and local water produced from impounding reservoirs and groundwater basins. Water use also includes the minor miscellaneous losses that occur in delivering supplies, such as pipeline leaks and breaks, and metering error.

Total water use for 1992-93 was 548,674 acre-feet, which is 9 percent more than was used the previous year. However, total use is 15 percent less than the 646,645 acre-feet used in 1989-90, before severe drought measures were instituted to reduce demand. Heavy rainfall and conservation efforts from previous drought years were responsible for the continued reduction in demand. The combined water use of Authority member agencies is shown in Figure 4. The unshaded area indicates the proportion obtained from local sources compared with that supplied by the Authority.

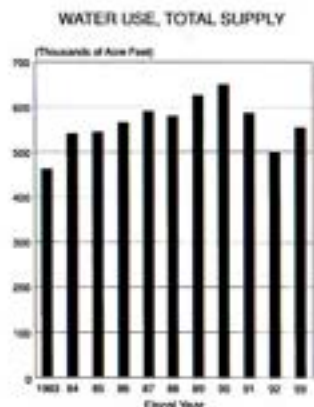
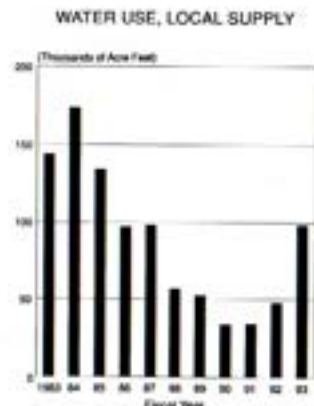
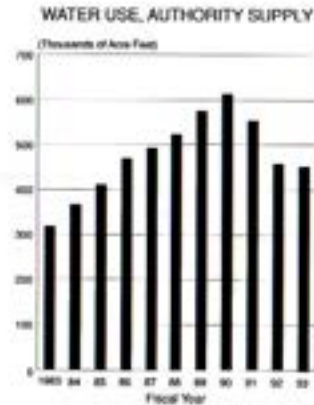


Figure No. 3

**SAN DIEGO COUNTY WATER AUTHORITY
WATER USE**

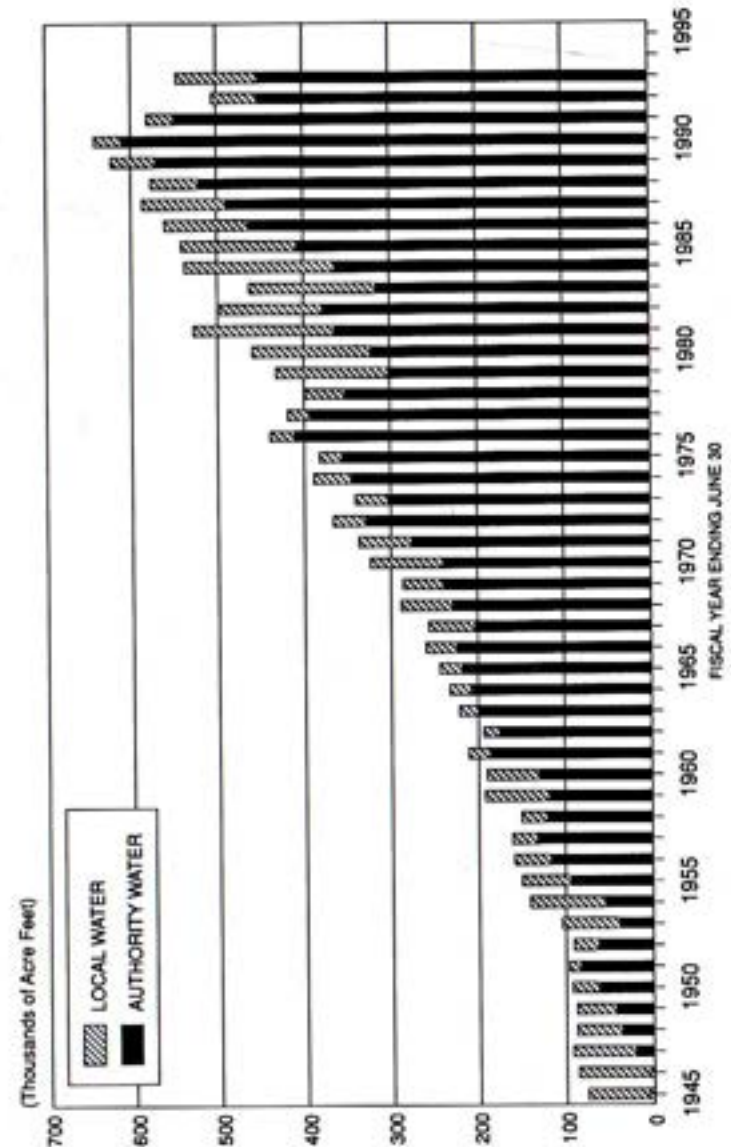


Figure No. 4

Eleven of the Authority's 23 member agencies are completely dependent upon imported water. The remaining 12 agencies ranged from 98.0 percent dependent on Authority-supplied water (Fallbrook PUD) to 33.9 percent dependent (Yuima Municipal Water District). Table 4 gives the percentage of Authority-supplied water to each of the member agencies.

In the Authority's 908,959-acre service area, only about 58 percent is served with water. The lowest per capita water use occurs in the urbanized portions of this area, as well as the highest use per unit area. The reverse is true for rural areas. Total average daily per capita consumption of municipal and industrial water for fiscal year 1992-93 was 161 gallons per capita per day (gpcd). This is slightly lower than the previous year, when use was 168 gpcd, and a 16-percent decrease from 1989-90, when the per capita use was 192 gpcd.

Agricultural Water Use by Member Agencies

A total of 89,051 acre-feet of agricultural water was used by Authority member agencies during the year. This is the lowest agricultural total in 20 years (74,723 acre-feet was used in 1972-73). Agricultural water represented 16 percent of the Authority's total water use during the year, and the Authority supplied 92.2 percent of the total agricultural water used, compared to 82 percent of total water used.

Agricultural water demand has decreased steadily in the Authority service area since 1989-90. This has largely been the result of the drought, but during the past year abundant local rainfall also resulted in decreased demand. A complete summary of agricultural water use is contained in Table 4.

Groundwater Use

Three Authority member agencies have the ability to produce groundwater in significant quantities. These agencies and the quantities of groundwater produced during the year are shown on the table below:

Member Agency	Groundwater Produced (af)
Bueno Colorado	3,999
Sweetwater Authority	1,232
Yuima MWD	2,778

Surface Water Storage

Local reservoirs filled with remarkable speed after winter storms dumped record-setting levels of rainfall in the county. Total local storage increased by more than 280,000 acre-feet during January and February 1993. For the first time since 1983-84, total storage in the county approached the combined reservoir capacity of 571,000 acre-feet.

Beginning with Lake Hodges in late January, all of the county's major impounding reservoirs eventually spilled water, including Lower Otay, San Vicente, El Capitan, Sweetwater, Loveland, Wohlford, and Henshaw. By the end of the fiscal year, an estimated 250,000 acre-feet of water had spilled from these reservoirs. Total storage reached almost 565,000 acre-feet in late March (99 percent of capacity), and remained greater than 550,000 acre-feet through the end of the fiscal year. A year ago at this time (at the end of June 1992), storage was 315,800 acre-feet.

Most of the region's local surface supply is produced by five member agencies: the city of San Diego, Helix Water District, Bueno Colorado Municipal Water District, city of Escondido, and the Sweetwater Authority.

The city of San Diego owns and operates most of the surface water storage facilities within the Authority's service area. San Diego's system produced 39,552 acre-feet during the fiscal year. Of this amount, 7,502 acre-feet was delivered to the California-American Water Company for delivery to Coronado and Imperial Beach. The city of Escondido produced 15,706 acre-feet of local surface supplies; Sweetwater Authority 14,442 acre-feet; Helix MWD 8,847 acre-feet; and Bueno Colorado 5,902 acre-feet.

Storage Agreements

The Authority does not own or operate any storage facilities. However, it does have an agreement with the city of San Diego to store up to 40,000 acre-feet in San Vicente Reservoir. The agreement with San Diego also permits storage of up to 20,000 acre-feet in other city-owned reservoirs, subject to approval of the city manager. Lower Otay Reservoir contains the Authority's remaining storage from this agreement.

The storage agreement with San Diego provides a payment of \$2.20 per acre-foot to the city for the maximum amount of water stored at any given time during the year. The Authority also credits San Diego \$4.00 per acre-foot for any Authority-owned water that is sold to the city, pumped from storage, and placed into the city's system. Storage charges may be adjusted annually to reflect the cost of operating the reservoirs and associated facilities.

The Authority also has storage agreements with two other member agencies, the Ramona Municipal Water District and the Sweetwater Authority. These agreements meet operational goals for providing capacity in Authority aqueducts during periods of peak demand.

Under its agreement, Ramona can purchase water for storage in Lake Ramona on an installment basis. The Authority can then request Ramona to draw upon this stored water during times of peak demand.

Sweetwater's agreement allows it to purchase treated water for storage during the winter months. This water is then available for use in the summer, during peak demands. Under this agreement, payment for water purchased and placed into storage is deferred until the water is removed from storage. Payment for all water is at the untreated rate, and payment on all water remaining in storage on September 30 is due, with interest, in October.

Imported Water Spilled From Reservoirs

Under the terms of its storage agreement with the city of San Diego, the Authority loses water first in the event of a spill. San Vicente and Lower Otay reservoirs both spilled from January through March, and the Authority lost a total of 16,333 acre-feet of water. The Authority's entire storage account of 10,060 acre-feet spilled from Lower Otay, while 6,273 acre-feet spilled from the Authority's San Vicente storage account. An interruptible storage pool account for 13 member agencies also suffered from the spill at San Vicente, losing a total of 4,732 acre-feet. Spill losses are detailed in Table 8. Table 4 shows member agency pooled storage in San Vicente at the end of the year.

Supply Sources

The Authority receives all of its imported water supplies from MWD. In turn, MWD obtains its supplies from the Colorado River Aqueduct (CRA) and State Water Project (SWP). Historically, the Authority has received about 70 percent of its supplies from the Colorado River and 30 percent from the SWP. However, for the last two years the Authority has received 100 percent of its supplies from the Colorado River.

Imported water met about 82 percent of the demand from residents and businesses within the Authority's service area. Surface runoff into local impounding reservoirs and local groundwater supplied the remaining 18 percent. Table 4 shows the amounts of imported and local water used by the Authority's member agencies during the year.



Lake Hodges spills in February 1993.

In 1992-93, the Authority took 16.3 percent of MWD's total supply. Technically the Authority has a preferential right to only 12.38 percent of MWD's total supply, this has never been used as a basis for allocating supplies.

MWD Facilities

Colorado River supplies are transported from Lake Havasu on the Arizona/California border through the CRA to Lake Mathews in Riverside County. MWD is responsible for the operation and maintenance of this aqueduct until it reaches a point just north of the San Luis Rey River in San Diego County. The Casa Loma Canal can also direct Colorado River supplies to the Authority, via the San Diego Canal, which terminates at Lake Skinner.

Lake Skinner is the major storage facility for the San Diego Canal, and has a storage capacity of 44,000 acre-feet. The Robert A. Skinner Filtration Plant, located at the reservoir, has a treatment capacity of 520 million gallons per day (mgd). These facilities are located in Riverside County, south of Winchester.

SWP supplies are delivered to MWD at Lake Perris, which is the terminus of the 444-mile California Aqueduct. From there, SWP water normally flows through the Lakeview Pipeline to the San Diego Canal, where it is blended with Colorado River water, and then flows into Lake Skinner.

The Second Aqueduct is composed of Pipelines 3, 4 and 5. Water from Lake Skinner flows directly into Pipelines 3 and 5. Pipeline 4 is supplied with water that has been processed through the filtration plant at Lake Skinner.

Authority Facilities

The Authority takes the delivery of water from MWD in five north-south pipelines that form the two San Diego Aqueducts. The delivery points are located about six miles south of the Riverside-San Diego County line. From there, water is distributed through more than 230 miles of pipeline to the Authority's 23 member agencies through 111 service connections.

The San Diego Aqueduct system is managed from the Fred A. Heilbron Operations Center in Escondido. Delivery requests are received from member agencies, and aqueduct flows and deliveries are monitored and controlled through a computer and telemetering system. Operations and maintenance field staff communicate with MWD's East Valley Operations Section at Lake Skinner by two-way radio.

The First Aqueduct is composed of Pipelines 1 and 2 and started delivering treated water in May 1992. These pipelines, beginning at the end of the San Jacinto Pipeline, share common tunnels and inverted siphons and are operated as a single unit. From the Lake Skinner facilities south until

Escondido, the First Aqueduct contains treated water. South of Escondido, it is refilled with untreated water from the Crossover Pipeline, which is linked to the Second Aqueduct.

The First Aqueduct ends at San Vicente Reservoir, which is owned and operated by the city of San Diego. A smaller diameter pipeline, called the La Mesa-Sweetwater Extension, continues south from San Vicente Reservoir until it reaches Sweetwater Reservoir. This line is utilized to provide raw water to Helix, and south of Helix is used to provide treated water (via the Helix Treatment Plant) to Otay and Padre Dam. The Fallbrook-Oceanside Branch Line is also a smaller diameter pipeline which originates at Rainbow and extends west providing treated water service to Fallbrook and Oceanside.

The three pipelines of the Second Aqueduct (Pipelines 3, 4, and 5), although in common right of way for most of their length, do not share any facilities south of Lake Skinner and are operated independently. Pipeline 3 extends from Lake Skinner in Riverside County south to Lower Otay Reservoir. It delivers untreated water from Skinner south to a diversion structure at San Marcos, where it is refilled with treated water from Pipeline 4 until it terminates at Lower Otay.

Pipeline 4 conveys treated water from Skinner to the diversion structure, and then is refilled with untreated water from Pipeline 3 until it terminates at the city of San Diego's Alvarado Treatment Plant at Lake Murray. Pipeline 5 is filled with untreated water at Skinner, and terminates at the San Marcos diversion structure.

To increase operational capability, several pipelines were constructed running east-west. The Tri-Agencies Pipeline is a branch line that extends west from San Marcos, and delivers treated water to service areas of the Bueno Colorado Municipal Water District, Carlsbad Municipal Water District, and the city of Oceanside. The Ramona Pipeline delivers water from the Second Aqueduct to the Olivenhain Municipal Water District, city of San Diego, and Ramona Municipal Water District.

The design capacities of Authority pipelines at the point of delivery from the Metropolitan Water District are shown below. Variations in design capacity from previous years is due to pipeline flow testing and modifications at Lake Skinner.

Pipelines 1 and 2 combined	180 cubic feet/second
Pipeline 3	280 cubic feet/second
Pipeline 4	450 cubic feet/second
Pipeline 5	450 cubic feet/second

(One cubic foot is equivalent to 7.48 gallons. One cubic foot per second flowing for 24 hours will produce nearly two acre-feet.)

Water Quality

Chemical constituents of Colorado River water are shown in Table 11. The analyses are based on samples taken from the West Portal of San Jacinto Tunnel. Total hardness ranged from a high of 322 milligrams per liter (mg/l) in January and June to a low of 242 mg/l in March. Water temperatures varied from a high of 81°F (27°C) in August to a low of 50°F (10°C) reported in January.

The chemical constituents of treated water at Lake Skinner are shown in Table 12. Total hardness ranged from a high of 318 mg/l in June to a low of 206 mg/l in February. Water temperatures ranged from a high of 81°F (27°C) recorded in August to a low of 52°F (11°C) in January.

The Water Authority measures and reports aqueduct water turbidity to meet the daily monitoring requirements of the California Safe Drinking Water Act. Additional water quality sampling and measurement is done by Authority member agencies.

Water Treatment

Member agencies of the Authority that own and operate treatment plants within the County are: The cities of San Diego and Escondido, (Escondido has a joint ownership with the Vista Irrigation District), San Dieguito Water District-Santa Fe Irrigation District (joint ownership), Helix Water District, and Sweetwater Authority (operating for South Bay Irrigation District and National City). The Authority purchases treated water from Helix to supply the Otay Water District, and Padre Dam Municipal Water District. The cost of all treated water delivered by the Authority to its member agencies is the same regardless of the treatment source.

Precipitation

The precipitation that ended the drought brought record levels of rain and snow throughout the state. In San Diego County, rainfall is measured at three stations: Lindbergh Field, located in downtown San Diego at an elevation just slightly greater than sea level; Lake Cuyamaca, at an elevation of about 4,600 feet; and Lake Henshaw, in the northeastern corner of the county, at an elevation of about 2,600 feet. Rainfall at these stations for 1992-93 was as shown below:

Location	Rainfall	Percent of Normal
Lindbergh Field	18.31 inches	198
Lake Cuyamaca	62.80 inches	168
Lake Henshaw	57.74 inches	215

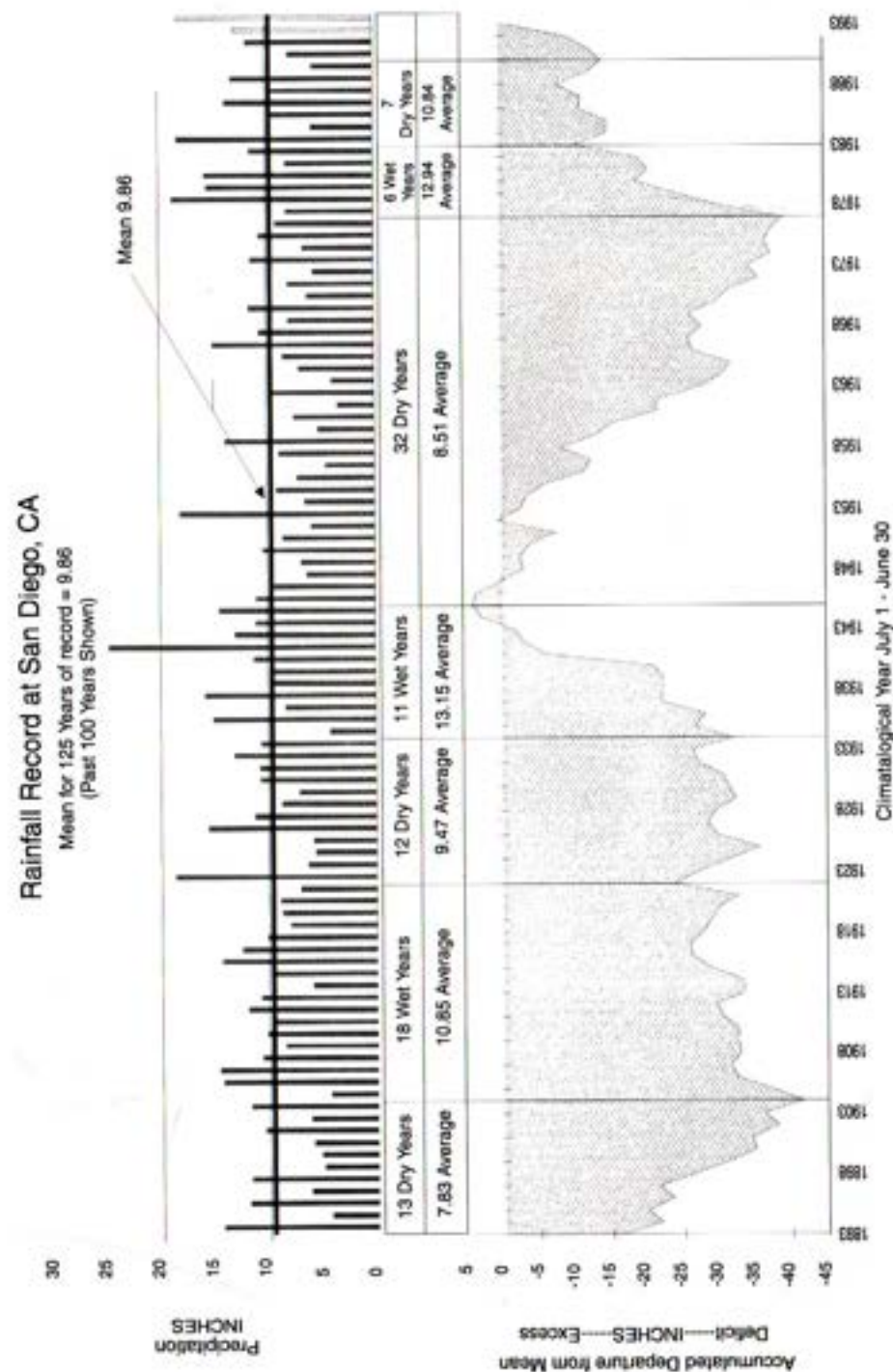
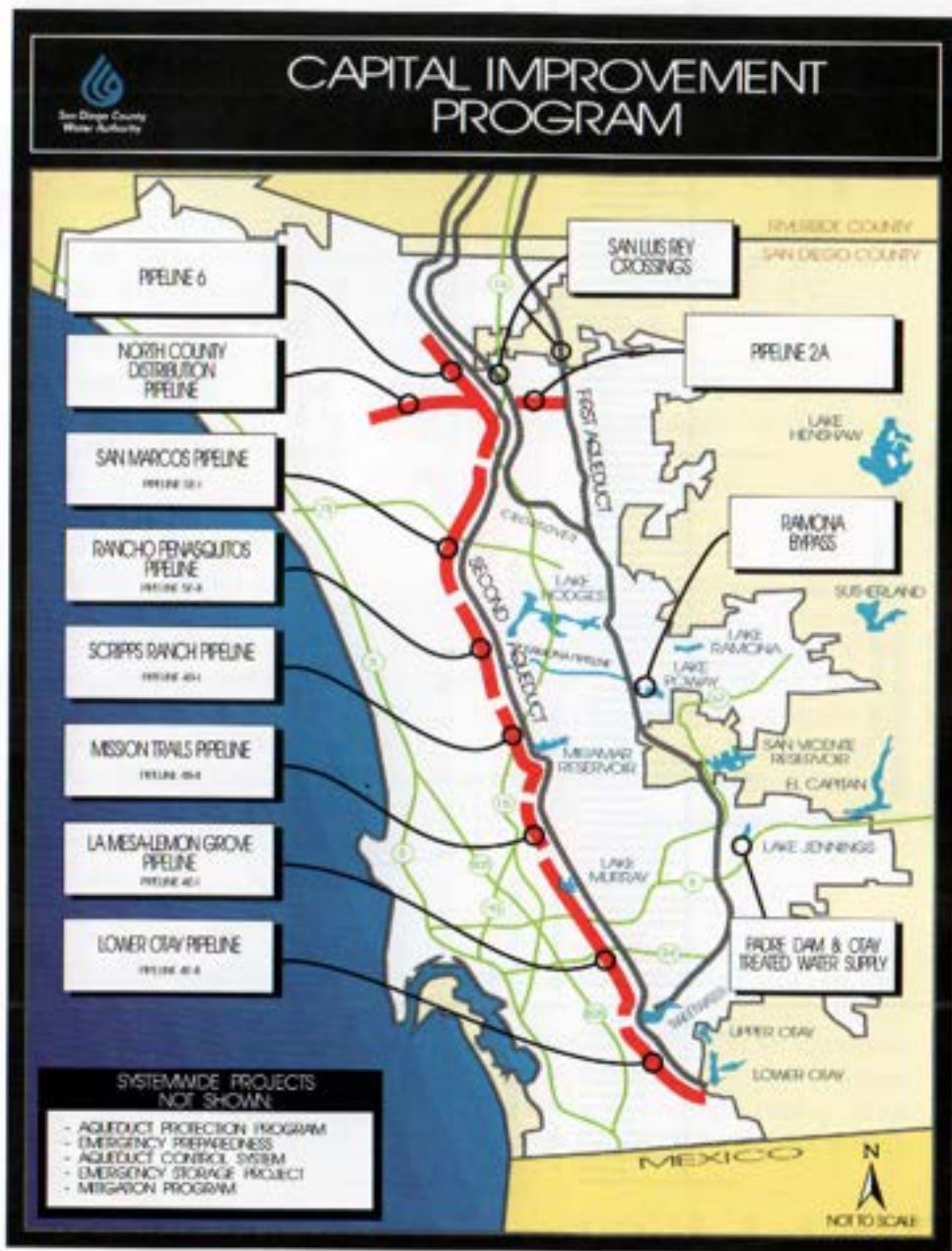


Figure No. 5



Map No. 2

ENGINEERING DEPARTMENT

The Engineering Department is responsible for the planning, design, and construction of facilities required to improve aqueduct system reliability and flexibility, and to meet existing water demands of the Authority's member agencies. These responsibilities were met throughout the year by continuing the Capital Improvement Program (CIP), conducting engineering and feasibility studies on proposed projects, evaluating the condition of existing aqueduct pipelines, and acquiring and managing Authority rights of way. The department supported the Operations and Maintenance and Water Resources departments, and assisted in evaluating project studies conducted for the Emergency Storage Program. The engineering staff operates from both the San Diego office and the Escondido Operations Center.

Capital Improvement Program

The CIP was developed in conjunction with the Authority's Water Distribution Plan to improve the reliability, flexibility and capacity of the existing aqueduct system. The current CIP includes 24 projects consisting of new pipelines, pump stations, flow control facilities, flow regulatory structures, as well as projects for mitigating environmental impacts, protecting pipelines at the San Luis Rey River crossing, evaluating emergency storage options and implementing a new aqueduct control system.

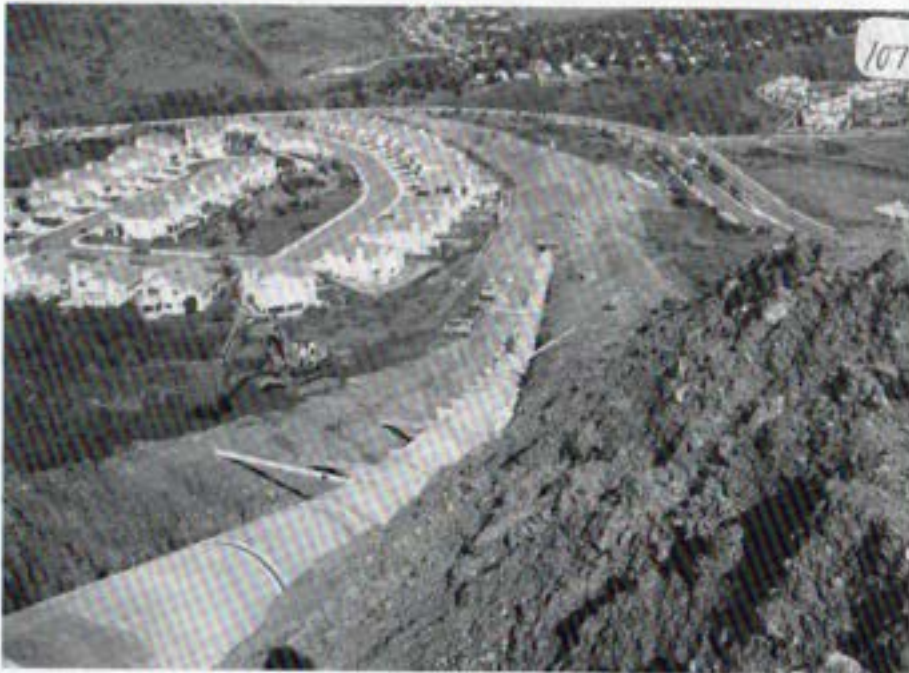
Approximately 40 miles of pipeline were under various stages of construction throughout San Diego County this year. At the end of the year, progress continued on 9 construction projects valued at \$239 million. Four new projects were awarded during the year with a total value of \$28,525,650. Construction contracts completed by the end of the fiscal year included the Escondido Pump Station, Escondido Operations Center Warehouse Expansion, Escondido Operation Center Landscape Renovation, and the Cowles Mountain Tunnel.

Scripps Ranch Pipeline (Pipeline 4B, Phase I)

The Scripps Ranch Pipeline project consists of 8.5 miles of 96-inch and 108-inch diameter pipeline extending through the communities of Scripps Ranch and Mira Mesa to the Mission Trails Regional Park east of Tierrasanta. The pipeline also traverses Naval Air Station Miramar. This pipeline project includes Pipeline 4B, Phase I and portions of Pipeline 4B, Phase II and

Pipeline 5 Extension, Phase II. Portions of these Phase II projects were added to the Scripps Ranch Pipeline to address both engineering and environmental impacts.

A construction contract for the Scripps Ranch Pipeline was awarded to a joint venture of Kasler Corporation and L. H. Woods and Sons, Inc. in October 1991 for \$51,988,000. Through June 1993, approximately 95 percent of the work had been completed, including change order work equaling 1.5 percent of the original contract amount. Pipeline connections, testing and restoration work remain to be completed.



Scripps Ranch Pipeline construction along the north side of Miramar Hill

Mission Trails Pipeline and Flow Regulatory Structure (Pipeline 4B, Phase II)

This project is located in Mission Trails Regional Park in the city of San Diego. The project extends the 96-inch diameter pipeline 2.3 miles from the south end of Pipeline 4B, Phase I to the north end of the La Mesa/Lemon Grove Pipeline at the Mission Gorge Road/Jackson Drive intersection. The pipeline will provide treated water to central and southern San Diego County and allow Pipeline 3 to be converted for the delivery of raw water to the Sweetwater and Lower Otay Reservoirs. An underground 18-million gallon reinforced concrete flow regulatory structure (FRS) will be constructed to pressurize the new pipeline system south to the Lower Otay Reservoir. This new pipeline system will increase the available pressure at low flow, improve reliability, and enhance operational flexibility of treated water deliveries.

In July 1991, the Pipeline 4B, Phase II and FRS Environmental Impact Report (EIR) was certified by the Board. Additional environmental analyses to address impacts to the California gnatcatcher were conducted at the request of the U.S. Fish and Wildlife Service (USFWS) and the Navy. After these studies were completed, coordination continued with the USFWS regarding impacts to the California gnatcatcher, several of which were observed on the project site.

The northerly 0.7-mile portion of the pipeline was designed and constructed with the Scripps Ranch Pipeline to minimize environmental and social impacts. The design of the remaining 1.6 miles of pipeline and the FRS was completed by Montgomery Watson Engineers. A 780-foot long tunnel was added to the pipeline project to avoid impacts to environmentally sensitive riparian habitat within the San Diego River, the historic Mission Flume, and existing Pipeline 4.

The FRS site is located within a larger Navy-owned parcel currently in escrow with the city of San Diego. The larger parcel will eventually be incorporated into the Mission Trails Regional Park. In October 1992, Federal legislation was passed which prevented the transfer of military property with known hazardous materials without receiving a special exemption. With unexploded ordnance known to exist within the project area, the transfer of title from the Navy was delayed indefinitely. While negotiations continued with the Navy, the Board approved a contingency plan to redesign the FRS to an alternate site on property not owned by the Navy. Montgomery Watson began redesigning the FRS for the alternate site, in case the original site did not become available. Separate construction projects were being developed for the pipeline work and for the FRS.

La Mesa/Lemon Grove Pipeline and Cowles Mountain Tunnel (Pipeline 4 Extension, Phase I)

This project consists of a 12-mile, 96-inch and 108-inch diameter welded steel pipeline and the relocation of three flow control facilities. The project also includes a 6,800-foot tunnel through Cowles Mountain in Mission Trails Regional Park. The pipeline extends through the cities of San Diego, La Mesa and Lemon Grove, and San Diego County from the south end of the Mission Trails Pipeline at the Mission Gorge Road/Jackson Drive intersection to the north end of the Lower Otay Pipeline at Sweetwater Reservoir. The pipeline will increase the capacity and, in conjunction with existing pipelines, allow the delivery of both treated and raw water south of Lake Murray to south-central San Diego County.

In October 1991, a construction contract for the Cowles Mountain Tunnel was awarded to Traylor Brothers of Pleasanton, California, for \$10,899,000. This project was completed and accepted in May 1993. A claim regarding differing site conditions while tunneling through the mountain is scheduled to be heard by the Disputes Review Board in the fall of 1993. The Cowles Mountain Tunnel project was awarded the Utility Project of the Year by the American Public Works Association San Diego-Imperial Counties Chapter.

In January 1992, a construction contract involving 5 miles of pipeline within the cities of San Diego and La Mesa was awarded to PCL Civil Constructors of Tempe, Arizona, for \$40,498,600. This contract is scheduled to be completed in April 1994. The remaining 5 miles of pipeline within the City of Lemon Grove and San Diego County was awarded in September 1991 to J.F. Shea Company of Walnut, California, for \$43,141,000. This contract is scheduled to be completed in March 1994. In October 1992, a construction contract for 1.6 miles of 36-inch pipeline was awarded to Vadnais Corporation of San Diego, California, to extend service to the Helix Water District. Construction management services for all contracts are being provided by Morrison-Knudsen Corporation.

Montgomery Watson continued work on the design of the Helix 3 FCF, the Otay 5 FCF, and the San Diego 13 FCF. These three FCFs are needed to replace existing agency connections when treated water service is transferred to the new pipeline.

Lower Otay Pipeline (Pipeline 4 Extension, Phase II)

This 8-mile, 72-inch and 96-inch diameter pipeline is the southern-most segment of the new large-diameter pipeline delivering treated water to the Authority's member agencies. The project extends through the City of Chula Vista and unincorporated areas of the county from the southern end of the La Mesa/Lemon Grove Pipeline at Sweetwater Reservoir to Lower Otay



Tunneling operations for the La Mesa-Lemon Grove Pipeline. This 96-inch diameter tunnel is located under Jackson Drive.

Reservoir. With this pipeline, delivery of both treated and raw water will be possible for the first time south of Lake Murray to south-central and south San Diego County. The new pipeline hydraulic characteristics required the replacement of four flow control facilities: Otay 3, Otay 4, Otay 9, and San Diego 7. The design of the pipeline was completed by ASL Consultants. Design work is continuing on the flow control facilities.

In July 1992, a construction contract for the pipeline was awarded to Kiewit Pacific Company of Vancouver, Washington, for \$24,400,000. The project is scheduled to be completed in January 1994. Construction management services are being provided by Parsons Brinckerhoff Construction Services, Inc.

San Marcos Pipeline (Pipeline 5 Extension, Phase I)

This project is an extension of Pipeline 5 from the Diversion Structure in Twin Oaks Valley, extending through the City of San Marcos to Paint Mountain in the community of Elfin Forest. The project involves construction of an 11-mile, 108-inch diameter welded steel pipeline. Initially, the pipeline will carry treated water, thereby adding flexibility to the Authority's water supply system.

Kiewit Pacific Company continued construction under its \$75,776,000 contract. Authority staff and various specialty consultants are providing construction management services. In March 1993, pipeline installation and testing was completed and the pipeline was placed into operation. Miscellaneous work, including painting, final restoration, and seeding remain to be completed.

Rancho Penasquitos Pipeline (Pipeline 5 Extension, Phase II)

This 9.7-mile, 108-inch diameter pipeline will provide additional raw water capacity from north-central to south San Diego County. The pipeline extends from the south end of the San Marcos Pipeline at Paint Mountain to the north end of the Scripps Ranch Pipeline near Mercy Road in the City of San Diego.

In September 1992, a construction contract was awarded to Advanco Constructors, Inc. for \$900,000 for the construction of a 400-foot segment of the Rancho Penasquitos Pipeline where the planned extension of State Route 56 is to cross the pipeline. Construction of this segment was completed and Notice of Completion filed in June 1993, at a total contract price of \$905,000. With this segment of the freeway recently completed, this project has eliminated the need for a new tunnel constructed with the remainder of the Rancho Penasquitos Pipeline.



Installation of the 108-inch diameter San Marcos Pipeline through environmentally sensitive area.



Partially backfilled section of 108-inch diameter pipeline across the future extension of State Route 56. The work was part of the Rancho Penasquitos Pipeline project.

The project EIR for the remainder of the project, prepared by P&D Technologies, is expected to be certified by the Board in July 1993. Black and Veatch continues with the final design of the project.

Pipeline No. 6

Pipeline No. 6 is a new raw water conveyance facility extending from Lake Skinner in Riverside County to the Authority's existing Diversion Structure located north of San Marcos. An EIR for the project was jointly prepared with the Metropolitan Water District of Southern California. The EIR was certified by the Authority Board in June 1993, and a preferred alignment was selected. The Authority's portion of Pipeline No. 6 includes 11.7 miles of 108-inch diameter pipeline.

Pipeline 2A and Pump Station

Final design continued on the Pipeline 2A and Pump Station project after the Board selected a preferred alignment and the Final Environmental Impact Report was certified in June 1991. Engineering-Science provided the engineering services and P&D Technologies provided environmental consulting services. This project will connect the First San Diego Aqueduct to the Second San Diego Aqueduct, providing a means to augment the treated water supply of the First Aqueduct, and to transfer water between the two aqueducts to meet demands.

Activities conducted during the year included pipeline design, preliminary pump station design, right of way activities, and additional environmental surveys.

Escondido Raw Water Pump Station and Modifications to the First San Diego Aqueduct Project

The project was designed by Black & Veatch and construction of the Escondido Raw Water Pump Station was completed in September 1992 by Papac Corporation, the general contractor. The pump station supplies untreated water from the crossover pipeline to the city of Escondido. Contract administration and inspection services were performed by staff.

The Authority was named as a defendant in a lawsuit filed in January 1993 by the general contractor against one of his subcontractors for the non-payment of materials.

Ramona Bypass and Pressure Reducing Facility

The Authority and Ramona Municipal Water District (RMWD) executed an agreement for water storage in Lake Ramona. In the event of an emergency, the agreement provides for RMWD to supply water to the First San Diego Aqueduct through a pressure regulating structure.

The Ramona Bypass and Pressure Reducing Facility will provide a means to transfer raw water between Lake Ramona and the First San Diego Aqueduct to meet emergency demands. The construction of the facility will increase the reliability and operational flexibility of the First San Diego Aqueduct by providing an additional emergency source of water. The project is being designed by the Authority's staff and is currently in the final design stage.

Aqueduct Control System Project

This project replaces the existing, outdated control system, which is used to centrally manage and remotely operate the flow control facilities (FCF). The new control system will significantly improve operation and control features, including alarm and response time for control and interrogation of these facilities. It also provides capacity for the addition of future facilities.

The Aqueduct Control System project consists of a number of primary and secondary tasks to be accomplished in separate stages. The primary tasks focus on replacing computer hardware and software at the Escondido Operations Center and at all FCFs. The secondary tasks involve implementing an independent communications network, which will utilize two radio systems and one fiber optic system to replace the majority of existing leased telephone lines used to communicate to the FCFs.

Project design was completed by EMA Services, Inc. Following a pre-qualification bidding process, a \$1,699,000 contract was awarded to Systems Integrated in April 1993 to install the new central computer and RTUs. EMA was awarded a contract to provide engineering services during the project implementation. Installation of all major hardware will be followed by a six-month test period.

Final installation of the radio communication network is scheduled prior to acceptance of the work to be completed by Systems Integrated. The fiber optic communication system design and installation will be under separate contracts.

Aqueduct Protection Program

This program was initiated to protect and ensure the structural integrity of the Authority's existing prestressed concrete cylinder and steel pipelines. The program is being conducted in three phases.

- Phase 1: Corrosion survey of 82.5 miles of prestressed concrete cylinder pipelines and 42 miles of steel pipelines. Phase 1 was completed in November 1992.
- Phase 2: Condition assessment, repair prioritization, remediation design, and preparation of a long term corrosion protection program. PSG Corrosion Engineering is working on this phase.
- Phase 3: Implement preventive maintenance repairs.

Two planned pipeline shutdowns occurred during the year so the Authority could conduct Phase 1 internal/external pipeline inspections, as well as perform preventive maintenance. Shutdowns were limited to an average of 10 days to avoid severe impact to the Authority's member agencies.

Internal and external pipeline inspections will continue to be performed by the Authority. Results of the inspections will be input into the database, providing baseline information of the condition of the Authority's pipelines. This will provide the ability to monitor the pipelines for deterioration and allow timely pipeline maintenance or replacement.

National City/South Bay 4 Flow Control Facility

This flow control facility will provide treated water at a rate of 62 cubic feet per second (cfs) from the Lower Otay Pipeline to the Sweetwater Authority. The facility will be located near Sweetwater Reservoir. Design is being coordinated with the Sweetwater Authority and is being performed by ASL Consultants.

Oceanside 5 Flow Control Facility

This flow control facility will provide 65 cfs of raw water from the Second San Diego Aqueduct to the city of Oceanside's Robert Weese Water Filtration Plant. In December 1991, the Authority awarded a contract for manufacturing a flow control sleeve valve to Bailey, Division of CMB Industries, for \$119,750. The valve was assembled, tested, and delivered in

late 1992. In August 1992, a construction contract was awarded to F.T. Ziebarth Company for \$439,300. The facility is scheduled to be operational by December 1993.

Treated Water Supply Study

This study, which is being done to meet one of the goals of the Authority's Strategic Plan, will determine the amount of regional supplemental water treatment capacity needed beyond what is anticipated to be provided by Metropolitan and the Authority's member agencies through the year 2015. The engineering firm of Camp Dresser and McKee was retained for this study.

Escondido Operations Center Landscape Renovation

In August 1992, a \$46,050 contract was awarded to Ciro's Landscaping for landscape renovations at the Escondido Operations Center. The project was designed by Nowell-Thompson ASLA & Associates. The renovations include a building sign, sidewalk, flagpole and exterior lighting. Landscaping improvements include an irrigation system, finish grading, and xeriscape planting. In May 1993, this project was completed and accepted at a total contract price of \$46,943.

Escondido Operations Center Warehouse Expansion and Modification

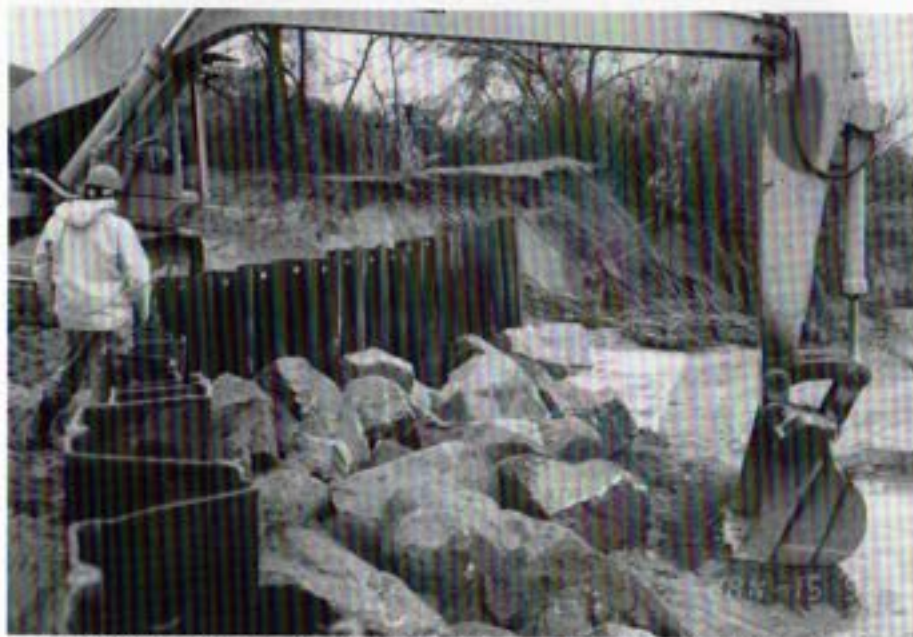
In August 1992, a construction contract was awarded to G. F. Bledsoe Construction in the amount of \$224,995 for the expansion and modification of the Authority's Operations Center Warehouse. The design of this expansion and modification was completed by Westberg and White, Inc. This two-story expansion includes a small office for warehouse personnel, shower and locker rooms for maintenance employees, secure parts inventory storage area, small equipment storage, archives room, meter repair, storage room, and an emergency response supply storage room. The modifications of the original portion of the warehouse includes a vehicle parts storage room, carpentry shop, welding and fabrication shop, valve service shop, expanded vehicle storage area, and fire sprinkler system. This project was completed in May 1993 and accepted at a total contract price of \$225,568.

Preliminary Design of Permanent Protection of the San Luis Rey River Aqueduct Crossings

An earlier study prepared for the Authority concluded that the San Luis Rey River Aqueduct crossings are threatened by sand mining operations on the river and that permanent measures should be taken to ensure protection of the pipelines. Based on these findings, the firm of Parsons, Brinckerhoff, Gore, and Storrie was selected to perform preliminary design services for permanent protection of the Aqueduct crossings.

In January 1993, heavy rains caused significant erosion around the south end of a temporary grade control structure which was constructed in March 1991 to protect the Second Aqueduct pipelines. The runoff from January's storms eroded several feet of cover over the three pipelines. Immediate action was taken to extend the structure an additional 150 feet to the south. Due to this action, the integrity of the pipelines was never threatened.

Coordination with the County and other agencies with utilities crossing the San Luis Rey River continued throughout the year. Work is proceeding on a River Management and Floodplain Study as an expansion to the Preliminary Design scope. Current and future sand mining operations on the river are also being closely monitored for potential adverse impacts to the Aqueduct crossings.



Excavator placing rip-rap materials against steel sheet piles during emergency repairs at the Second Aqueduct crossing of the San Luis Rey river.

Padre Dam and Otay Treated Water Supply Study

In October 1992, the Authority contracted with John Powell and Associates to conduct the Padre Dam and Otay Treated Water Supply Study. The study will evaluate alternatives to serving Padre Dam Municipal Water District and Otay Water District with treated water that the Authority currently delivers from the Helix Water District. Helix has been supplying treated water to the Authority for delivery to the Padre Dam and Otay Water Districts since 1976. Expansion of the Helix's R.M. Levy Water Treatment Plant from 80 million gallons per day to 100 million gallons per day is being evaluated as an alternative.

North County Distribution Pipeline

This 72-inch diameter, 182 cfs capacity pipeline will provide treated water to the city of Oceanside, Rainbow Municipal Water District, Vallecitos Water District, and Vista Irrigation District. The project was added to the CIP in January 1993 because this joint-use pipeline can be constructed and operated at a total lower cost than if each agency constructed and operated separate facilities. The project was approved based upon the Joint Facility Construction Strategic Policy contained within the Strategic Plan.

The pipeline extends 4 miles from the Second San Diego Aqueduct near the City of Oceanside's Robert Weese Water Filtration Plant westerly to the East Vista Way/Osborne Street intersection north of the City of Vista. Pipeline flow and pressure will be controlled by a one-million gallon Regulatory Structure located adjacent to the Second Aqueduct. The Regulatory Structure will also allow the pipeline to convey treated water from both Pipeline 4 and the Weese Filtration Plant.

The environmental Mitigated Negative Declaration prepared by P&D Technologies was certified in June 1993. ASL Consulting Engineers is completing preliminary engineering studies for the pipeline, Regulatory Structure, and three flow control facilities.

San Dieguito Water District / Santa Fe Irrigation District Flow Control Facilities 3, 4, 5 and 6.

This flow control facility will provide 42 cfs of treated water and 84 cfs of raw water from the Second San Diego Aqueduct to the R. E. Badger Treatment Plant to improve the operational flexibility of the plant and increase flow capacity into the Districts' distribution systems. The design of this facility is being completed by Black & Veatch.

Other Projects

Some of the other important engineering activities for the fiscal year were:

- Engineering provided support to the Operations and Maintenance Department for upgrading a number of the flow control facilities, including work on improving access, ventilation, problems with infiltration of groundwater, and corrosion.
- Engineering also supported the work of the Emergency Storage Project Team by providing assistance for studies involving preliminary engineering, system reoperation/optimization, pipeline repair estimate reviews, groundwater study, technical memorandum review, cost estimate reviews, system screening model review, environmental review, and rights of way.



Soft ground tunnel under San Miguel Avenue. Looking through the tunnel at the entrance portal.



*Second Aqueduct pipeline on hill over Broadway and Brookside housing tract, circa 1960
(San Diego Historical Society, Photographic Collection)*

RIGHT OF WAY DEPARTMENT

In 1993, the Right of Way Supervisor began reporting directly to the Chief Engineer and Right of Way was budgeted separately under the Engineering Department. This change was approved by the Board with the adoption of the 1993/94 Operating Budget in June of 1993. The Right of Way Department is responsible for the acquisition of all land and land rights to support the Capital Improvement Program and the day-to-day operations of the Authority. The lands acquired are then effectively managed, with access and integrity of the Aqueduct System the highest priorities. A third right of way inspector and an engineering technician were added to assure implementation of these responsibilities. The Department will also be responsible for annexations and detachments, planning the development of a Document Storage System (DSS) and a Geographical Information System known as the Right of Way Management Information System (RIMS).

ACQUISITION ACTIVITIES

San Marcos Pipeline (Pipeline 5 Extension, Phase I)

All rights of way, except for one parcel, were completed by negotiation or settlement agreement. The one exception went to trial and an adverse judgement against the Authority was reached by the court. Because of improper assumptions and instructions to the jury, the decision was appealed and the judgement reversed. The case is to be re-tried with a favorable decision anticipated.

Rancho Penasquitos Pipeline (Pipeline 5 Extension, Phase II)

Participation in the preliminary design and the processing of the Draft Environmental Impact Report resulted in numerous discussions with property owners adjoining the right of way. Discussions centered on the Authority's encroachment policies and whether existing encroachments may be replaced following construction of the Pipeline. Preliminary discussions were held with the property owner adjoining the Diversion Structure regarding acquisition of the parcel for facility expansion.

Scripps Ranch Pipeline (Pipeline 4B, Phase I)

All rights of way required for this project were completed. No parcels went to trial.

Mission Trails Pipeline and Flow Regulatory (Pipeline 4B, Phase II)

This project, which required the acquisition of only three parcels, was by far the most challenging project of the year. Two parcels, one required for the Flow Regulatory Structure and a second for the construction of the pipeline, are on property owned by the Navy and in escrow to the city of San Diego. After months of negotiations with both agencies, including having the site cleared of ordnance by the Corps of Engineers and reaching agreement on compensation, legal documents, and size of the sites, Congress passed legislation delaying the sale of the property. As part of the Defense Department's Appropriation Act, language was added that restricted the transfer of military property, having known hazardous materials, without an exemption being granted by the Secretary of Defense. By the end of the year, after exhaustive efforts by Authority staff and legislative advocates, commitments from the staffs of the Navy and the city were given to complete the transfer.

La Mesa/Lemon Grove Pipeline (Pipeline 4 Extension, Phase I)

All rights of way required for this project, except one, were completed. No parcels went to trial. The one exception is the lessee and operator of the Mission Trails Golf Course. By the end of the year an agreement had been reached on compensation and wording of the settlement agreement was being finalized. Two other sensitive parcels were the Cowles Mountain Tunnel and the Mission Trails/Lake Murray ownerships of the city of San Diego. Both parcels were acquired following resolution of compensation issues.

Lower Otay Pipeline (Pipeline 4 Extension, Phase II)

By the end of the year, acquisition or commitments to settle on 46 of 48 parcels, including 8 total takes, had been achieved. Negotiations with the two remaining property owners were unsuccessful and these cases will be tried. Trial was originally for June of 1993, but has been delayed.

Pipeline 2A

This project requires the acquisition of 65 parcels. Appraisals have been received and are under review.

North County Distribution Pipeline

This new project was added in January of 1993 and will require the acquisition of approximately 24 parcels. Preparation of acquisition documents continued through the end of the year.

Pipeline 6

Property acquisition on this project will commence following the start of design work. A number of property owner contacts have been required as a result of the preparation and certification of the EIR and adoption of the preferred alignment corridor. Property owners along this project may also be impacted by the North County Distribution Pipeline and Pipeline 2A, and Right of Way has been keeping these owners as current as possible on the progress of all projects.

Emergency Storage Project

Right of entry permission was obtained from property owners to allow consultants to go on site for environmental and geotechnical studies. Right of Way further participated in coarse and fine screening meetings for the drain and fill corridors and systems. Literally hundreds of owners have been contacted by Right of Way through public meetings, letters and phone conversations regarding various issues pertaining to future acquisitions.

MANAGEMENT ACTIVITIES

Right of Way Patrolling

The Department's goal of preventing further serious encroachments while minimizing "nuisance" encroachments is being achieved. A third Right of Way inspector was added to meet the goal of patrolling every accessible mile of right of way once a week and to cover the additional rights of way being added through the CIP.

Encroachments

Staff continued to enforce the provisions of Article 25 of the Administrative Code in the processing of encroachment permits, improvement plans, grading plans and subdivision maps. As a result of the amount of right of way being acquired from major developers, there was considerable effort to plan future allowable encroachments well in advance

of subdivision development. Although strict in the application of the code, staff endeavored to work with the Engineering Department in finding innovative solutions for complex encroachments. Of all the encroachments received which were denied by staff, only two were appealed to the Board of Directors. Due to the amount of encroachment work, an engineering technician was added to the Department.

Right of Way Information Management System (RIMS) and Document Storage System (DSS)

Advances were made in planning for the ultimate conversion of hard copy records to an electronic storage system. Staff continued researching Geographical Information Systems through interviews, literature, seminars and meetings with representatives of SANDAG and the County of San Diego regarding their systems.



*Laying water pipe, downtown San Diego, Circa 1915
(San Diego Historical Society, Photographic Collection)*

OPERATIONS AND MAINTENANCE DEPARTMENT

GENERAL

The Operations and Maintenance (O&M) Department controls and maintains the Authority's aqueducts and related facilities from the Operations Center in Escondido. The Authority has more than 230 miles of large-diameter pipeline, with more than 1,000 appurtenant structures, that occupy about 1,400 acres of right of way in San Diego County.

Routine maintenance activities involve not only the water delivery systems, but also the extensive rights of way. Major work accomplished during the year included a program to modernize water meters, a safety upgrade for older structures, various construction projects, environmental compliance, health and safety training, historical site investigation, and a disaster reimbursement project.

The O&M Department is divided into four sections: Administration, Operations, System Maintenance and Technical Services. The Operations Center site has three separate buildings, providing space for administrative offices, a motor vehicle maintenance and repair shop, and a warehouse. The administrative building houses the computerized control system for the aqueducts, and also contains offices for operations, maintenance, technical services, and engineering personnel.

The shop building has facilities for repairing and servicing all Authority vehicles and heavy equipment. This building contains a small machine shop, a meter shop, and an equipment maintenance office. The warehouse stores materials, supplies, tools, small equipment, and vehicles. It also contains a valve service repair shop and carpentry shop. The warehouse completed an expansion and seismic retrofit during the year.

Communications systems link department staff with member agencies and regional emergency response agencies. These systems include the Authority's agency radio system, an interagency radio system, the Metropolitan Water District's member agency radio system (MARS) networks, and a regional disaster response system that connects all water districts with local, state, and federal governments.

ADMINISTRATION

The Administration section implemented several major programs during the past year, including development of the O&M Department Strategic Operating Plan, emergency preparedness training with the Engineering Department, coordination with the Public Affairs Department for after-hours

communication, O&M hazard communication program, confined space permit program, full departmental safety training and the mercury sealing project for 50 flow control facilities.

This section also worked closely with member agencies by holding quarterly "operating heads" meetings, coordinating flood assistance with the Fallbrook PUD, and participating in the new Regional Water Utilities Safety Managers Association. Staff assisted with the County's Earthquake Preparedness Program and the ASCE Technical Committee for the Lifeline Earthquake Engineering Preparedness Project.

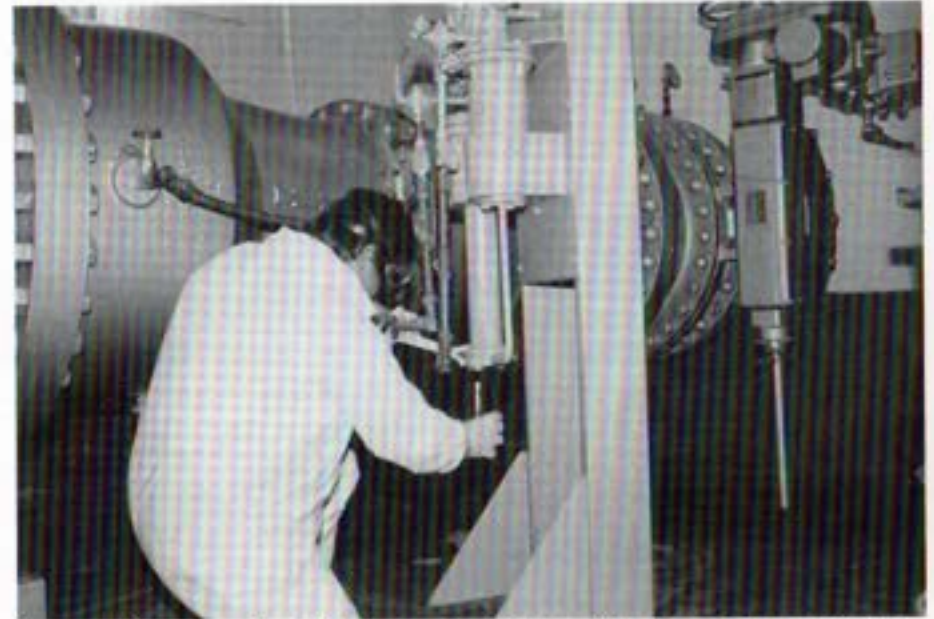
OPERATIONS

The Authority's water delivery system has five major pipelines, ranging in size from 48 to 96 inches, that serve both raw and treated water to member agencies. The present capacity of the system is 825 million gallons per day (mgd). The Operations section controls the flows in these pipelines in response to flow requests from member agencies. The Operations Center Control Room is staffed daily, including weekends and holidays, from 7:00 a.m. to 4:30 p.m. Outside those hours, phone calls are transferred to the home of a system operator who can respond to emergencies.

The Operations section is further divided into control room operations and field operations. Control room operators regulate water flows to member agencies through a computerized control system that employs telemetry. The computer warns operators of any flow problems, using alarm displays, a synthesized voice, or a telephone call to the night-time operator. The night-time operator can also monitor and instruct the computer control system from home using a portable computer. All Operations personnel are certified for water distribution by the American Water Works Association (AWWA) and for water treatment by the State of California Health Department.

Field operations personnel do routine maintenance, repairs, and calibration on a variety of meters, pump stations, pressure control stations, and valves located throughout the county. They also operate two hydroelectric power plants. Typical duties include reading meters, changing charts, and calculating water flows. Each active meter is checked at least three times per year for calibration. Meter accuracy is also checked upon request by a member agency or when there is some reason for questioning accuracy.

The Metropolitan Water District (MWD) controls flows into Authority aqueducts at the Robert A. Skinner Filtration Plant Operations Center. Authority Operations personnel can request flow changes twice a day, at 8:30 a.m. and 2:30 p.m., or upon request during an emergency. The Authority then shifts flows from one member agency service connection to another, with agency approval, to keep the pipeline flows in balance.



Systems Operator Jack Mahan, trained in handling hazardous substances, removes mercury from a meter in preparation for its replacement.



Senior Systems operator Ed Hartzler makes adjustments to instrumentation at the Escondido Pump Station.

Because the Authority has no operational storage, flow changes must be carefully coordinated to balance the system and maintain proper flows to terminal service connections. The computer and an aqueduct flow status board indicate the amount of water available to meet the member agency needs. The computer and status board display each pipeline's current flow, requested flows, meter sizes, maximum allowable capacity flows, critical pipeline flows, and meter and valve information.

The Authority stores water in several reservoirs owned by member agencies, principally in San Vicente Reservoir, owned by the city of San Diego. Except in minor amounts, these water storage facilities cannot return stored water to the aqueduct for use elsewhere. The Bueno Colorado Water District, the Helix Water District, and the city of San Diego have service connections through which flows of treated water can be put into the aqueduct when needed.

Major Events

The following major events occurred during the year, requiring non-routine responses by the Operations section:

- Flows on Pipeline 1 and on Pipeline 3 were shut off several times during January of 1993 because heavy rains had reduced member agency flow demands. Pipeline 1 was exposed by erosion in the Oat Hill North Portal area twice during this time. A temporary connection was made for the Rainbow MWD at the San Luis Rey River in the event Rainbow lost one of its distribution pipelines across the river.

- The city of San Diego removed a 51-inch pipeline from service to accomplish a pipeline lining project. From January 9 to February 20, 1993, Authority supplied city demands through the SD #11 flow control facility.

- Pipeline 1 north of Escondido was shut down from January 31 to February 8, and again from February 21 to March 3, 1993. The raw water pipelines were shut down from March 29 until April 7, 1993 for internal inspection. Northern Pipeline 1 tunnels were inspected on February 4.

- The Authority experienced a meter failure on SD #5A which caused SD #12 to receive an additional 50 cfs on March 6, 1993.

- A system failure resulted in the loss of the aqueduct computer control system for a short time on April 2, and again on April 16.

- A 48-hour shutdown on the OCS #2 connection allowed the tie-in of the OCS #5 flow control facility to the influent system of the Oceanside Treatment Plant.

- San Vicente was reported close to spill and the PD #5 connection was readied for possible activation in case of damage caused by the spill.



Equipment operator crew installing a 30" galvanized culvert on right of way access road.



Right of way maintenance mowing & spraying of line structures on Pipeline 1.

- Operations staff worked with VID (Buena Colorado MWD) on rejection problems at the VID #9 service connection.

MAINTENANCE

The Maintenance Section has four subsections: Construction, Equipment Operations, Mechanical Services and Rights of Way Maintenance. Maintenance activities are divided into two categories: preventive and corrective. Preventive maintenance is performed on a regular basis to keep equipment or structures operating effectively.

Examples of routine maintenance are the carpentry, painting, plumbing and masonry work required for buildings and grounds; the maintenance of about 200 miles of dirt and asphalt roads; erosion control; construction of new control and metering facilities; and hazard inspections for potential damage to pipelines and easements. Inspection and preventive maintenance are required for more than 1,000 structures and more than 100 flow control facilities, each of which has at least two valves that are serviced on a regular basis.

Corrective maintenance is done to repair or restore equipment or structures to standard operating conditions. These actions may result from problems discovered during preventive maintenance or as a result of failure during operation. Actions are either scheduled and carried out as part of the normal work plan or they are unscheduled and done immediately as emergency maintenance.

The Maintenance Section has a variety of heavy equipment with which to accomplish its work, including a motor grader, track excavator, skip loader, wheel loader, 15-ton crane truck, two backhoes, two forklifts, two dump trucks, two truck tractors, and two lowboy trailers. Vehicles and other trucks are equipped with mobile radios and cellular phones for quick and efficient responses.

Major work during the year included excavation for the Aqueduct Protection Program, which inspected pipelines and installed corrosion protection systems; installation of safety ladders and positive air in flow control facilities; construction of a hazardous waste containment system in the Escondido yard to hold various hazardous wastes found along the easements; and inspection on various sections of Pipelines 1, 2, and 4.

TECHNICAL SERVICES

The Technical Services Section is responsible for maintaining the Authority's electronic, electrical, and communications systems and equipment. Routine work includes maintaining the computerized aqueduct

control system, calibrating flow metering instruments, maintaining low- and medium-voltage power equipment, upgrading and maintaining associated office building systems; and routine daily inspections and repairs.

The Technical Services staff also participates with Capital Improvement Program (CIP) projects, supporting the engineering group for project design, and serving as liaison for contractor compliance during the installation phase. Technical Services also performs various installations and upgrades on these projects that are outside of contract scopes of work.

Major activities during the fiscal year included upgrading the instrumentation, electrical, and communications systems at 20 flow control facilities. Six other station upgrades were started and are scheduled for completion by January, 1994. This is a CIP project to modernize the flow metering equipment and prepare the station for the upgrade of the Aqueduct Control System equipment. The project also coincides with a program to provide CWA flow control facilities with an electrical service upgrade.

A total of 25 facilities were targeted for replacement of electric valve actuators on existing valves and 10 other facilities for new valve and actuator combinations. This is a CIP project to replace 30- to 40-year old equipment that has reached the end of its useful life.

Technical Services also installed a new electrical service to power the existing and expanded portion of the Warehouse. Preparatory work was also completed for future data and telephone installation along with maintenance service areas.

SHOP

The Shop acquires, maintains, and repairs all of the Authority's motor vehicles. It also installs all two-way radios and safety equipment and designs and fabricates various equipment and vehicle modifications to meet the specialized needs of the Authority. Some maintenance is administered through service contracts.

The Authority has 18 passenger vehicles, 40 light-duty utility vehicles, 10 medium- and heavy-duty trucks, 17 trailers, 8 earth moving tractors, 4 cranes and numerous forklifts, welders, compressors, pumps, generators, electrical and pneumatic tools.

To maintain the fleet in a safe and reliable manner, a number of vehicles were replaced, including 3 light-duty trucks, a 21-year-old dump truck and a 24-year-old front end loader. A passenger vehicle and two medium-duty trucks were acquired. A computerized system was installed to help manage 50,000 gallons of fuel dispensed each year. Parts of the Shop building were remodeled and the Hire the Youth Program was used to repaint much of the building.



Chet Kalinowska, System Technician, performing final hookups on a new programmable logic controller at Rincon #1 flow control facility.



New electrical services such as this are installed at various flow control facilities as part of the upgrade program to modernize the systems within the station.



*Lake Hodges spills in 1937.
(San Diego Historical Society, Photography Collection)*

WATER RESOURCES PLANNING DEPARTMENT

The Planning Department has a diverse range of functions and responsibilities. Its work includes forecasting future water demands, determining water supply options, ensuring that Authority projects meet environmental regulations, and designing and implementing water conservation programs. The Department also maintains statistical data on water deliveries, use, and storage, and provides physical maintenance for the San Diego office. Organizationally, the Planning Department is arranged into two sections, a planning section and a conservation section.

PLANNING SECTION

Current Water Demand and Supplies

Aided by record-setting winter rainfall, the near-term water supply outlook brightened dramatically. Local storage reached 98 percent of capacity by March, enabling member agencies that own storage to replace imported supplies with local water. During the last four months of the year local supplies constituted about a third of total use. Abundant local supplies are expected to suppress demand for Authority water over the next two years.

The Authority lost 16,333 acre-feet of stored imported water when Lower Otay and San Vicente reservoirs spilled during the winter storms. The water was stored under an agreement with the city of San Diego, which owns and operates the reservoirs, that stipulated the Authority's water would spill first. The Authority lost its entire storage account of 10,060 acre-feet in Lower Otay, and 6,273 acre-feet in San Vicente. Thirteen member agencies also lost a total of 4,732 acre-feet in San Vicente from a shared interruptible pool storage account.

Agricultural demand fell to 89,051 acre-feet, which was 16 percent of the Authority total. In a typical year, the Authority delivers about 18 percent of its water for agricultural purposes.

Future Supplies

In contrast to the excellent near-term supply picture, the long-term outlook remains cloudy. Supplies from the State Water Project (SWP) could be adversely affected by proposed water quality standards for the Sacramento/San Joaquin Delta. The state failed to adopt interim standards for the delta this year, increasing the likelihood that standards would be set by the federal Environmental Protection Agency (EPA). Depending upon the standards that are eventually set, exports and yield from the SWP could be reduced.

Other delta environmental considerations could also reduce exports to the SWP. Plans to recover two endangered species, the winter-run chinook salmon and the delta smelt, may restrict the times and amounts of water that can be pumped from the delta.

Endangered species of fish also play a role in supplies from the Colorado River Aqueduct. The potential listing of several species of fish could result in the establishment of critical habitat areas that would affect dam and reservoir operations along the river. This could ultimately limit exports to river users, including the MWD and Authority.

Water Resources Plan

A final draft of the Water Resources Plan was completed in March 1993. This document details Authority objectives for meeting water demands through the year 2010. One of the primary goals of the plan is for the Authority to supply no less than 88 percent of normal demand during a drought year by 2010. New local supplies, including seawater desalination, groundwater, and reclamation play a large role in this goal.

The Water Resources Plan analyzed five supply options, each of which contained a different mix of water resources. The recommended option forecasts 50,000 acre-feet of additional reclaimed water, 15,000 acre-feet of groundwater, and 20,000 acre-feet of desalinated seawater by the year 2010. If these supplies are developed, the total normal year local supply would increase from 60,000 acre-feet per year to 145,000 acre-feet.

The amounts of water that are actually developed will depend upon how economical each resource is, on a project-by-project basis. The Authority will not develop a local resource unless it has a net cost comparable to supplies from Metropolitan.

Long-term demand is forecast on a per-capita basis using a computer model first developed by the U.S. Army Corps of Engineers and then modified by MWD. Called MWD-MAIN (Municipal and Industrial Needs), the model uses population projections that are developed by the San Diego Association of Governments (SANDAG).

The current MWD-MAIN demand forecast is based upon a SANDAG population projection known as Series 7. This projection estimates a population of 3.13 million people for San Diego County by the year 2010. Next year SANDAG expects to issue its Series 8 forecast, which incorporates 1990 U.S. census data. This forecast is expected to be slightly higher than the Series 7.

Agriculture Study

To better understand the existing and future demand for agricultural water, the Authority retained a consultant to provide a profile of county agriculture. This profile had several main objectives: it created a "snapshot" of current crops and cultivation practices, determined the current and future economic viability of various crops and products, and estimated future agricultural water demands.

By the end of the year, the agricultural profile had not been completed. However, data produced for the report showed that demand for agricultural water is expected to fall from a high of about 120,000 acre-feet that was used in 1989-90 to about 85,000 acre-feet in 2015. This reduction is expected largely as a result of the decrease in planted acreage of permanent crops, such as avocados and citrus.

Seawater Desalination

The Authority has been investigating various seawater desalination projects for several years. The most promising proposal is a joint project with the San Diego Gas & Electric utility. This project would combine a reverse osmosis desalination facility with the repowering of an electrical power generation plant located on a coastal site near Chula Vista. It would produce an estimated 10,000 acre-feet annually by the year 2000, and increase production to 20,000 acre-feet by 2010.

Planning staff met regularly throughout the year with representatives from SDG&E and various government agencies to discuss planning and technical issues involved with the project. These issues ranged from selecting appropriate desalination technology, finding a means of brine disposal, and selecting distribution sites. Detailed discussions will continue next year as the Authority seeks to determine whether the project will be economically justifiable to construct.

Environmental

The federal Endangered Species Act played an increasing role in Authority business this year, affecting both the reliability of imported water supplies and the ability of the Authority to construct projects to convey the supplies. One of the most direct local impacts came from listing the gnatcatcher as a threatened species. The gnatcatcher is a small songbird that inhabits local coastal sage scrub.

Because some major Authority projects are located in coastal sage scrub, mitigation measures were planned, including the acquisition of lands that would be preserved as habitat for the gnatcatcher. A mitigation program was approved by the Board that included the ability to acquire these lands.

Mitigation is now part of the Capital Improvement Program, and will be also be used to offset harmful impacts that Authority construction projects have on other San Diego County plant and animal habitats. Construction on Authority projects has been allowed to continue while work continues on the mitigation program.

The Planning Section also monitors impacts from threatened and endangered species listings that affect the State Water Project and Colorado River Aqueduct. Staff participated in the Six Agency Committee to study issues affecting the Colorado River Basin, Bay/Delta proceedings, and other organized efforts to solve water supply problems.

Routine environmental duties include providing documentation and permits for Authority construction projects, and monitoring associated mitigation projects. One additional staff position was created and filled to assist with these duties.

Office Remodel

The first and second floors of the San Diego office building were remodeled to increase office efficiency and accommodate additional staff. The project reconfigured about 6,400 square feet of space, expanding room for the Finance and Planning departments, creating an office for the Equal Opportunity Officer, and relocating the General Counsel's office from the second to the first floor. Work was also done to meet requirements of the Americans With Disabilities Act (ADA).

CONSERVATION SECTION

The Authority continued to operate a number of effective long-term water conservation programs, while implementing selected new measures during the year. A total water savings of nearly 9,000 acre-feet was realized during the fiscal year because of these efforts.

Conservation staff strived to ensure that the role of urban water conservation remained consistent in the Bay/Delta Process. The Authority continued to exceed implementation standards for the Best Management Practices (BMPs) for water conservation that have grown out of that process. Staff also played an active role on the California Urban Water Conservation Council, which is charged with monitoring state-wide progress in implementing the BMPs.

The Authority took the lead on legislation to clarify state water conservation reporting requirements. It sponsored AB 892, carried by State Assemblyman Frazee, which eliminated redundant and confusing reporting requirements.

The Ultra Low Flush Toilet Rebate Program was the most prominent of the BMPs in operation during the year. Nearly 16,700 toilets were replaced during the year by participants receiving a rebate of up to \$75 per toilet. Funding was provided by MWD, the Authority, and participating member agencies. Volt Information, Energy and Water Technologies continued to operate the program in close cooperation with Authority staff and the member agencies. More than 1,800 ULFTs were installed in a variety of high-use public facilities. The Authority's member agencies played a key role in identifying sites for this program.

The Authority and its member agencies cooperated with San Diego Gas and Electric in the installation of more than 22,000 water-conserving showerheads for residential users.

An Authority-sponsored Distribution System Water Audit Program was conducted for four of the member agencies. The audit enables the agencies to identify and quantify system losses.

Landscape water conservation was addressed through a variety of programs. The Authority contracted with Mission Resource Conservation District (RCD) to provide daily weather information for use in setting landscape irrigation schedules. The information is gathered by the California Irrigation Management Information System (CIMIS), then provided to San Diegans through an Authority-sponsored toll-free phone number. Mission RCD provided landscape water management audits for customers in the northern half of the county.

Authority funding was also used by Schmidt Design Group as it provided similar audits in the southern half of the county. The Authority assisted in sponsoring a series of irrigation training sessions conducted in Spanish and English. Because so many of those involved in irrigation maintenance use Spanish as their primary language, this effort was especially beneficial. The training was funded in cooperation with the State Department of Water Resources, Cal Poly San Louis Obispo, the Authority and its member agencies.

Finally, the Authority and its member agencies continued to support efforts to maintain the high level of irrigation efficiency achieved by county agricultural users. Through the Agricultural Audit Program, Mobile Lab Team and the CIMIS phone number, users were provided valuable crop irrigation information.

EMERGENCY STORAGE PROJECT

The Emergency Storage Project (ESP) was initiated based upon the findings of the Optimal Storage Study, which was completed last fiscal year. The ESP's goal is to provide enough emergency storage capacity in the county so a prolonged interruption of imported water supplies would not cause lasting economic and environmental damage. The project could also supply water during other emergencies, such as a severe and prolonged drought.

Two planning scenarios are being used to determine emergency storage requirements. One scenario involves a six-month interruption of water deliveries to MWD caused by a great earthquake on the San Andreas or San Jacinto faults. This scenario assumes the Authority could still draw on MWD's emergency storage, including the planned Domenigoni Reservoir. The second scenario involves a two-month interruption of deliveries from MWD, resulting from a major earthquake on the Elsinore Fault.

Work completed last year by Montgomery Watson Engineers showed 143,000 acre-feet of additional emergency storage was required for the Authority's service area. However, revisions to SANDAG population projections and increased conservation and local supply forecasts caused the Authority to revise the year 2030 emergency storage shortfall to 90,100 acre feet.

Figure-6 shows 32 projects that could meet the storage requirements. These projects include potential new or expanded surface reservoir(s) at five county locations, to be operated either as "stand alone" new reservoirs or in combination with the re-operation of existing reservoirs. Re-operation involves constructing new or improved connections between existing reservoirs and the aqueduct system.

The potential new or expanded surface storage sites include Pamo Valley, Guejito Valley, Moosa Canyon, Lake Wohlford, and the San Vicente Reservoir. The potential re-operation reservoirs include Lake Hodges, Lake Sutherland, San Vicente Reservoir, El Capitan Reservoir, Morena Reservoir, and the Lower Otay Reservoir.

The Authority awarded consulting contracts to GEI Consultants, Inc. for engineering evaluations, to Ogden Environmental and Energy Services Inc. for environmental assessments, and to Katz & Associates for public outreach. The Authority also entered into a memorandum of agreement with the U. S. Army Corps of Engineers for the preparation of a joint environmental document under the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA).

Formal scoping under CEQA and NEPA was started in December 1992 and completed in April 1993. This was supplemented by an extensive public

outreach effort by the Authority. As a result of its scoping and public outreach efforts, the Authority decided to reconsider emergency storage in groundwater basins and to add the combination site of a new reservoir at Mt. Israel with the re-operation of Lake Hodges.

Map-3 shows the emergency storage shortfall volume by region in the Authority's service area, and also shows potential new storage facility locations.

During the next year (1993-94), the 32 storage systems will be compared in terms of cost, environmental impact, social impact, implementability, and operational effectiveness. A first screening and ranking will reduce the list to 12 primary alternatives. A second screening will reduce the list to five alternatives. These alternatives will be compared in a draft Environmental Impact Report / Environmental Impact Statement (EIR/EIS). This draft will be distributed for public review in the first part of the following fiscal year (1994-95). The final alternative is expected to be selected in the middle of that year.

Figure No. 6
SUMMARY OF ALTERNATIVE SYSTEMS USED IN COARSE SCREENING
EMERGENCY STORAGE PROJECT

The system categories used in coarse screening are listed in the left-hand column. Components to be used in each system are indicated in subsequent columns. These combine various portions of re-operated reservoirs and ground water basins with new or expanded reservoirs.

SYSTEM CATEGORY	I.D. No.	NEW OR EXPANDED RESERVOIRS		RE OPERATED RESERVOIRS				GROUND WATER BASINS												
		NAME	VOLUME	SAN VICENTE	SAN VICENTE EL CAPITAN	LAKE HODGES	SAN VICENTE EL CAPITAN SWEETWATER LOVELAND LAKE HODGES LOWER OTAY	PALA PALMA SAN PASOUAL SANTEE/ EL MONTE	PALA PALMA SAN PASOUAL SANTEE/ EL MONTE WARNER	NET ESP STORAGE VOLUME REQUIRED (ACRE-FEET)										
STAND ALONE NEW OR EXPANDED RESERVOIR	1	MOOGSA NORTH	90,100																	
	2	GLUEJITO	90,100																	
	3	WOHLFORD (EXPANDED)	90,100																	
	4	PAMO	90,100																	
NEW OR EXPANDED RESERVOIR PLUS GROUND WATER	5	SAN VICENTE (EXPANDED)	90,100																	
	6	MOOGSA SOUTH	74,100																	
	7	MOOGSA SOUTH	53,100																	
	8	GLUEJITO	74,100																	
	9	SAN VICENTE (EXPANDED)	74,100																	
	10	MOOGSA SOUTH	68,000																	
NEW OR EXPANDED RESERVOIR PLUS LIMITED RE-OPERATION	11	MOOGSA SOUTH	90,100																	
	12	MOOGSA SOUTH	90,100																	
	13	GLUEJITO	90,100																	
	14	GLUEJITO	90,100																	
	15	WOHLFORD (EXPANDED)	68,000																	
	16	MT. ISRAEL	18,000																	
NEW OR EXPANDED RESERVOIR PLUS GROUND WATER	17	SAN VICENTE (EXPANDED)	68,000																	
	18	MOOGSA SOUTH	52,000																	
	19	GLUEJITO	34,100																	
	20	MOOGSA SOUTH	34,100																	
	21	GLUEJITO	52,000																	
	22	MT. ISRAEL	18,000																	
TWO NEW OR EXPANDED RESERVOIRS	23	MT. ISRAEL	18,000																	
	24	SAN VICENTE (EXPANDED)	52,000																	
	25	SAN VICENTE & MT. ISRAEL	75,100																	
	26	SAN VICENTE & MT. ISRAEL	54,100																	
RE-OPERATION AND GROUND WATER LARGE RE-OPERATION	27	SAN VICENTE & MOOGSA SOUTH	90,100																	
	28	GLUEJITO & MOOGSA SOUTH	90,100																	
	29	NONE																		
	30	NONE																		
RE-OPERATION AND GROUND WATER LARGE RE-OPERATION	31	NONE																		
	32	NONE																		
	33	NONE																		
	34	NONE																		

GENERAL NOTES:
 1. NET TWO-MONTH ESP STORAGE REQUIREMENT = 90,000 AF
 ALL VOLUMES ARE NET ESP REQUIREMENTS AND THEREFORE DO NOT INCLUDE EVAPORATION, SEDIMENTATION, DEAD STORAGE OR FREEBOARD ALLOWANCES
 2. SYSTEM IDENTIFICATION NUMBER 17 IS NOT INCLUDED IN COARSE SCREENING
 3. THE 23,100 AF INCLUDES 3,500 AF OF EXTRA STORAGE VOLUME AVAILABLE IN EL CAPITAN THAT CAN BE WITHDRAWN USING EXISTING FACILITIES
 4. SYSTEM DOES NOT INCLUDE LOVELAND



Map No. 3

WATER RECLAMATION DEPARTMENT

The use of reclaimed water continues to expand in San Diego County, saving fresh water that is imported to the region. Total reuse of water amounted to 9,713 acre-feet in fiscal year 1993, which was 24 percent above the previous year. Reclamation projects under construction represent another 35,000 acre-feet of reclaimed water production capacity. The Authority provided funding and technical support for all these projects.

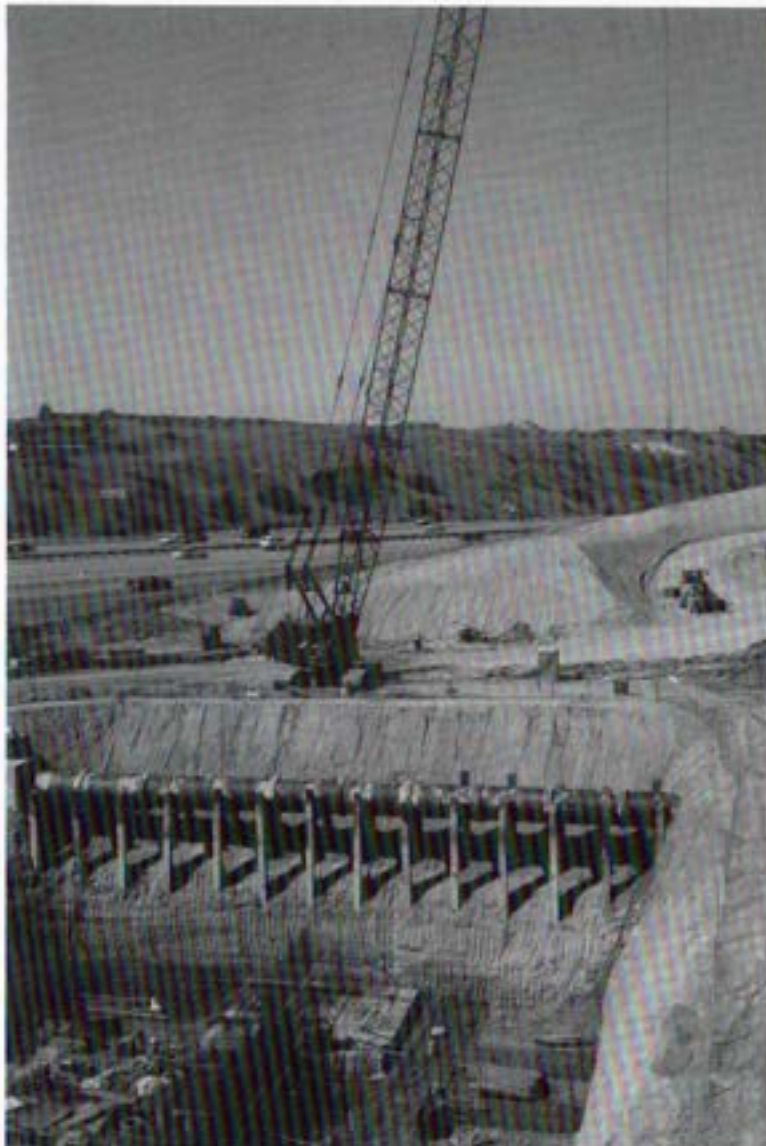
The Board of Directors acted upon a number of recommendations of the Water Authority Reclamation Advisory Committee (WARAC) to further the water recycling effort. WARAC, which advises the Authority on water reclamation matters and groundwater planning and development, is comprised of members representing water and wastewater entities, state and local regulatory agencies, and potential reclaimed water users.

Water Reclamation Projects

Financial assistance programs play a critical role in the development of reclaimed water and groundwater supplies. These programs are available for all phases of water reclamation and groundwater recovery projects. Financial assistance programs administered by the Authority, the Metropolitan Water District of Southern California (MWD), and the State Water Resources Control Board provided \$4,418,041 to San Diego County agencies in fiscal year 1993.

Seven water reclamation projects and five groundwater development projects, with a combined reuse potential of more than 18,000 acre-feet per year, were approved to receive funding for planning from the Authority's Financial Assistance Program. The Financial Assistance Program provided a total of \$274,586 for reclaimed water and groundwater planning and development studies in fiscal year 1993.

The Authority entered into long-term, operational funding agreements with Ramona Municipal Water District, Carlsbad Municipal Water District, Rancho Santa Fe Community Services District, and Santa Fe Irrigation District for the Reclaimed Water Development Fund (RWDF). The Authority and the MWD entered into joint participation agreements with two agencies, Carlsbad Municipal Water District and the Rancho Santa Fe Community Services District, for participation in MWD's Local Projects Program. The RWDF and LPP provide \$100 per acre-foot and \$154 per acre-foot, respectively, for approved water reclamation projects. These programs provided local agencies more than \$340,000 to offset operating expenditures for fiscal year 1993.



Construction began on the City of San Diego's North City Water Reclamation Plant, which will produce up to 30 million gallons per day of reclaimed water.

The Authority and the MWD also entered into a joint participation agreement with the city of Oceanside to support Oceanside's brackish desalter project. This was the first agreement between the Authority, MWD, and a local agency for recovery and clean-up of contaminated groundwater that was supported by MWD's Groundwater Recovery Program. Through this program, the city of Oceanside will receive \$250 per acre-foot to help offset the cost of operating its brackish groundwater desalination facility.

San Diego County agencies obtained approval for \$3.8 million in loans for reclamation projects from the State Water Resources Control Board's State Revolving Fund and Water Reclamation Loan Program.

The Authority, with the city of Escondido and the University of California Cooperative Extension Service, participated in a project to determine the feasibility of using reclaimed water to irrigate avocado trees.

Reclaimed water use within the Authority's service area for fiscal year 1993 is summarized in Figure-7. These deliveries have been listed by production facility, member agency and corresponding reclaimed water use. Uses are categorized as municipal and industrial (M&I), agricultural, and groundwater replenishment.

Policy Development

To help achieve the Authority's water reclamation goals, the Board of Directors continued to establish regional policies and procedures, including guidelines for supporting legislation that promotes water reclamation. The Authority was active in several legislative efforts to foster reclaimed water use, sponsoring Senate Bill 7, which authorized broader use of reclaimed water, and supporting Senate Bill 365, Senate Bill 497, the transfer of monies to the State Revolving Fund, and Assembly Bill 704, statewide uniform health regulations governing the use of reclaimed water.

Staff participated in state and regional organizations, such as the WaterReuse Association of California and the Western Coalition of Arid States, that promote the use of reclaimed water. Staff also was involved in developing proposed amendments to the Clean Water Act in support of expanded water reuse, and participated in the U.S. Bureau of Reclamation's *Southern California Comprehensive Water Reclamation and Reuse Study* and the U.S. Army Corps of Engineers' *San Diego County Water Supply Study*. These federal studies focused on the regional development of reclaimed water and will explore the potential for federal involvement in implementation.

Other Accomplishments

The Authority participated in many other programs to promote water reclamation in fiscal year 1993. As a result of AB 3030 and the proposed SB 1461, the Authority directly participated in a groundwater management planning effort for the San Dieguito Basin. Staff, with the assistance of local agencies, implemented a reclaimed water users training program, and is currently developing a reclaimed water users manual.

RECLAIMED WATER PRODUCTION

**In SDCWA Service Area
Fiscal Year 1992-1993
(Acre-Feet)**

Location	Facility	Treatment		Total
		M&I	Ag Replnsh	
Encina WW Authority	Encina WWTP	69		69
City of Escondido	Hale Ave		4	4
Fairbanks Rnch CSD	Fairbanks Ranch		186	186
City of Oceans/Fallbrk	Fallbrook Plant #1	208	10	218
City of Oceanside	San Luis Rey	35		35
Otay WD	Jamacha Basin TP	668		668
Padre Dam MWD	Santee Lakes	598		598
Pendleton	Pendleton	330	4,671	5,001
Ramona MWD	Santa Maria	19	549	734
Ramona MWD	San Vicente		442	636
City of San Diego	Aquaculture Plant	8		8
City of San Diego	Wild Animal Park WRP	17		17
Santa Fe WD	Rancho Santa Fe WPCF		230	230
Vallecitos WD	Meadowlark	578		578
Valley Center MWD	Lower Moosa Canyon		259	259
Valley Center MWD	Skyline TP		28	28
City of Vista	Shadowridge	245		245
Whisp. Palms CSD	Whispering Palms WRF	19	180	199
TOTAL:		2,775	1,023	5,915
				9,713

Figure No. 7



Department of Water exhibit, Industrial Fair, circa 1915
(San Diego Historical Society, Photographic Collection)

FINANCE DEPARTMENT

The Finance Department is responsible for the finance, treasury, accounting, budgeting, information systems, purchasing, and warehousing operations of the Authority.

Finance Operations

In January 1993, the Authority took advantage of a favorable decrease in interest rates and sold \$135,650,000 Water Revenue Refunding Certificates of Participation, Series 1993A with an overall interest cost of 5.76 percent to advance refund \$140,000,000 million of outstanding Certificates of Participation, Series 1989A which had an overall interest cost of 7.3 percent. The refunding reduced the Authority's net aggregate debt service payments by \$10,200,000 through the year 2009 and resulted in a reduction of a scheduled water rate increase from \$20 per acre foot to \$15 per acre foot.

In November 1992, staff prepared an update to the Authority's Long Range Finance Plan to identify the most cost-effective means of financing the Authority's Capital Improvement Program. The update addressed how the future construction program will impact total costs and future water rates. The plan identified several short and long-term financing techniques to reduce the Authority's future cost of capital.

Investment Operations

The Director of Finance also acts as the Authority's Treasurer and is responsible for all funds not immediately required to conduct business. Board Policy requires the Authority's Treasurer to submit annually a statement of investment policy to the Board. The statement describes the Treasurer's investment authority, practices, and limitations as established by the Government Code and Board policy.

During the year, the Treasurer was authorized to invest in bank certificates of deposit, treasury securities, guaranteed investment contracts, domestic bankers acceptances, repurchase agreements, and money market funds. In June 1993, the Board revised its investment policies to allow the Treasurer to invest in the State Local Agency Investment Fund, prime commercial paper, international bankers acceptances, and certain federal agency securities. The additional investment types provide for greater portfolio diversity, increased flexibility and lower transaction costs, and opportunity for increased yield.

Interest earnings for the year totalled \$15,390,460. At year end, the return on investments ranged from 2.88 percent to 5.33 percent with average weighted days to maturity of 213 days.

Staff implemented an automated wire transfer payment process for debt service and construction contract payments which expedites the approval and payment process. Staff also implemented an automated bank balancing process which greatly enhances bank balance reconciliations and investment management capabilities.

As of June 30, 1993 and 1992, the Treasurer's cash accountability was as follows:

	June 30	
	1993	1992
Collateralized demand deposits	\$ 7,113,040	\$ 502,092
Certificates of deposit	0	6,252,000
U.S. Government securities	114,918,693	72,843,106
Guaranteed investment contract deposits	103,365,208	307,011,827
Local Agency Investment Fund	15,000,000	15,000,000
Bankers Acceptances	8,050,121	5,927,474
Money Market	0	2,528,233
Agency Securities	4,349,322	0
Repurchase Agreements	6,680,000	0
Reverse Repurchase Agreements	(2,985,000)	0
Prime Commercial Paper	3,988,956	0
	<u>\$ 260,480,340</u>	<u>\$ 410,064,732</u>

As of June 30, 1993 and 1992, restricted reserve fund cash balances were as follows:

	June 30	
	1993	1992
Construction	\$ 99,582,650	\$ 238,264,777
Rate Stabilization	61,153,000	61,153,000
Pay-As-You-Go	38,692,717	31,870,183
Debt Service Reserve	25,784,980	39,644,000
Interest Arbitrage Rebate	2,536,263	3,375,797
	<u>\$ 227,749,610</u>	<u>\$ 374,307,757</u>

As of June 30, 1993 and 1992, unrestricted cash balances were as follows:

	June 30	
	1993	1992
Operating	<u>\$ 35,715,730</u>	<u>\$ 35,756,975</u>

Accounting Operations

Ernst & Young, the Authority's independent auditors, completed its review of the Authority's financial statements for the year ended June 30, 1993. This review is included along with the Auditor's opinion in Appendix C. The auditors found no material weaknesses in internal controls and issued an unqualified audit opinion.

Staff began work on a new water billing system which will automate the transfers of water usage information from the Planning Department into the water billing process. Substantial enhancements and improvements were made to the job cost management system which provides on-line tracking of the Capital Improvement Program budget with costs.

The following is a comparative summary of operational highlights for fiscal year ended June 30, 1993:

SUMMARY (Dollars in Thousands)

	1993	1992
Water sales	\$ 150,586	\$ 125,282
Cost of sales	126,642	102,569
Operating expenses	11,910	11,726
Depreciation	4,896	4,151
Write down of Pamo Reservoir Project to estimated net realizable value	<u>2,000</u>	<u>0</u>
Operating income	5,138	6,836
Nonoperating income (expense)	25,169	26,044
Extraordinary loss on bond defeasance	<u>(10,978)</u>	<u>0</u>
Net income	<u>\$ 19,329</u>	<u>\$ 32,880</u>

Fiscal year 1992-93 water sales income and hydroelectric sales income increased \$25 million when compared with June 30, 1992. This increase is directly attributed to MWD water rate increases effective July 1, 1992. Actual water sales were 430,772 acre-feet, about 15,000 acre-feet less than the prior year. The reduced water sales were caused by the continuation of drought conditions in the first half of the year and record rainfall during the winter months.

Cost of sales increased by approximately \$24 million even though water purchases from MWD were 15,000 acre-feet less than fiscal year ended June 30, 1992. This increase was caused by MWD water rate increases of 21 percent for raw water and 23 percent for treated water.

Operating expenses increased by approximately \$200,000 over fiscal year 1991-92. The Authority has for many years included in Construction in Progress \$4,155,000 of costs related to the design or planning of the Pamo Reservoir Project. During fiscal year 1993, the Authority downgraded Pamo Valley from a primary alternative site to a secondary alternative site in the Emergency Storage Study and Plan. Since Pamo is no longer a probable reservoir site, the Authority has provided a \$2 million reserve for the estimated costs that may not be recovered in the selection of a final site and increased operating expenses for that amount.

Non-operating income and expenses include property taxes, water standby availability charges, capacity charges, interest income from investments and interest expense on the long-term debt, among other items. Total non-operating income increased by approximately \$900,000. This increase was primarily attributed to reduced interest expense of \$1.4 million due to the advance refunding of the Certificates of Participation, Series 1989A.

Because of significant declines in interest rates, the Authority advance refunded the Certificates of Participation Series 1989A and issued Water Revenue Refunding Certificates of Participation Series 1993A. To defease the 1989A Certificates and remove the liability from the Balance Sheet required depositing the proceeds of the 1993A Certificates plus an additional \$19,915,000 into a irrevocable trust with an escrow agent to provide for all future debt service payments on the 1989A Certificates. This transaction resulted in an accounting loss of \$10,978,000 but the Authority has reduced its debt service payments by approximately \$10 million through the year 2009 and obtained an economic gain.

Debt Service Coverage

The outstanding bond covenants require the Authority to maintain a minimum level of operational earnings. Net water revenues, as defined by the agreements, must equal or exceed 120 percent of all debt servicing costs (principal and interest). The Authority's actual debt service coverage for June 30, 1993 was 169 percent and the last four years' coverage are as follows:

<u>June 30</u>	<u>Debt Service Coverage</u>
1990	139 Percent
1991	251 Percent
1992	212 Percent
1993	169 Percent

Water Rates

Water rates were increased by MWD at the beginning of the year. The MWD untreated rate for non-interruptible water rose \$47, going from \$222 to \$269 per acre-foot on July 1, 1992. The MWD treatment charge increased \$14 to \$53 per acre-foot, resulting in an MWD rate for treated, non-interruptible water of \$322 per acre foot. These increases were passed on to Authority member agencies.

The Authority's surcharge for untreated water remain unchanged at \$55 per acre foot and the treatment surcharge remained unchanged at \$7. Authority rates for untreated and treated non-interruptible water were \$324 and \$384 per acre foot, respectively. Some member agencies with treatment plants have contracts with the Authority to provide treated water to agencies without treatment facilities and with limited or no access to treated water pipelines. A historical summary of water rates is provided in Figure-8.

Tax Rates/Assessed Valuation

The tax rate set by the Authority's Board of Directors is based upon the assessed valuation of taxable property within the Authority, and the Authority's debt requirements. Assessed valuation is also the basis for the number of directors and the number of votes each member agency receives. Property valuations are determined by the San Diego County Assessor, who also collects these taxes for the Authority.

The Authority's secured tax rate for 1992-93 was 0.00332 cents per \$100 dollars of assessed valuation, which is a minor increase over the 1991-92 secured tax rate of 0.00320 cents per \$100 dollars of assessed valuation. Total tax revenues collections, including secured, unsecured, and in-lieu taxes, for 1992-93 were \$8,261,798, a reduction of \$560,421 from 1991-92 tax revenues of \$8,822,219. Over \$330,000 of the reduction was caused by the state legislature shift of local property tax revenues from local government to schools.

The total assessed valuation of taxable property within the Authority for 1992-93, according to the County Auditor's certification, was

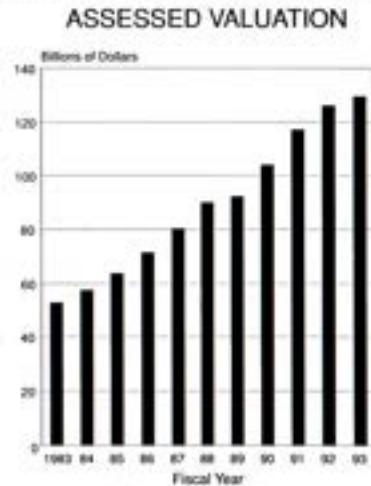


Figure No. 8

SUMMARY OF WATER RATES
(Dollars per Acre Foot)

		METROPOLITAN WATER DISTRICT				COUNTY WATER AUTHORITY				
		RATE		CWA RATE		NON-INTERRUPTIBLE AND AGRICULTURAL		TOTAL RATE (RATE CHARGED TO MEMBER AGENCIES)		
FROM	TO	NON-INTERRUPTIBLE	INTERRUPTIBLE	UNTREATED	TREATED	UNTREATED	TREATED	UNTREATED	TREATED	AGRICULTURAL REBATE
7/61/98	12/31/80	\$15.00	---	---	---	\$2.00	---	\$17.00	---	\$3.00
1/01/81	12/31/81	\$17.00	---	---	---	\$2.00	---	\$19.00	---	\$4.25
1/01/82	12/31/82	\$19.00	---	---	---	\$2.00	---	\$21.00	---	\$5.50
1/01/83	12/31/83	\$21.00	---	---	---	\$2.00	---	\$23.00	---	\$6.75
1/01/84	6/30/84	\$24.00	---	---	---	\$2.00	---	\$26.00	---	\$8.00
7/01/84	8/31/84	\$25.00	---	---	---	\$1.25	---	\$26.25	---	\$8.75
9/01/84	8/31/84	\$25.00	---	---	---	\$1.25	---	\$26.25	---	\$8.75
7/01/85	6/30/85	\$28.00	---	---	---	\$1.25	---	\$29.25	---	\$12.00
7/01/86	6/30/86	\$31.00	---	---	---	\$1.25	---	\$32.25	---	\$14.00
7/01/87	6/30/87	\$34.00	---	---	---	\$1.25	---	\$35.25	---	\$16.00
7/01/88	6/30/88	\$37.00	---	---	---	\$1.25	---	\$38.25	---	\$18.00
7/01/89	6/30/89	\$40.00	---	---	---	\$1.25	---	\$41.25	---	\$20.00
7/01/90	6/30/90	\$44.00	---	---	---	\$1.25	---	\$45.25	---	\$23.00
7/01/91	6/30/91	\$48.00	---	---	---	\$1.25	---	\$49.25	---	\$26.00
7/01/92	6/30/92	\$52.00	---	---	---	\$1.25	---	\$53.25	---	\$28.50
8/13/73	6/30/75	\$58.00	---	---	---	\$2.00	---	\$60.00	---	\$30.00
7/01/76	6/30/76	\$58.00	---	---	---	\$2.00	---	\$60.00	---	\$30.00
7/01/77	6/30/78	\$67.00	---	---	---	\$2.50	---	\$69.50	---	\$31.00
7/01/78	12/31/78	\$74.00	---	---	---	\$3.00	---	\$77.00	---	\$31.00
1/01/79	6/30/79	\$79.00	---	---	---	\$3.00	---	\$82.00	---	\$31.00
7/01/79	6/30/80	\$79.00	---	---	---	\$3.00	---	\$82.00	---	\$31.00
7/01/80	6/30/81	\$90.00	---	---	---	\$9.00	---	\$99.00	---	\$31.00
7/01/81	6/30/82	\$96.00	---	---	---	\$9.00	---	\$105.00	---	\$31.00
7/01/82	6/30/83	\$114.00	---	---	---	\$10.00	---	\$124.00	---	\$31.00
7/01/83	12/31/83	\$128.00	---	---	---	\$10.00	---	\$138.00	---	\$31.00
1/01/84	6/30/84	\$128.00	---	---	---	\$10.00	---	\$138.00	---	\$31.00
7/01/84	6/30/85	\$128.00	---	---	---	\$10.00	---	\$138.00	---	\$31.00
7/01/85	6/30/86	\$128.00	---	---	---	\$10.00	---	\$138.00	---	\$31.00
7/01/86	12/31/87	\$128.00	---	---	---	\$10.00	---	\$138.00	---	\$31.00
1/01/88	6/30/88	\$128.00	---	---	---	\$10.00	---	\$138.00	---	\$31.00
7/01/88	12/31/88	\$128.00	---	---	---	\$10.00	---	\$138.00	---	\$31.00
1/01/89	6/30/89	\$128.00	---	---	---	\$10.00	---	\$138.00	---	\$31.00
7/01/89	6/30/90	\$128.00	---	---	---	\$10.00	---	\$138.00	---	\$31.00
7/01/90	6/30/91	\$128.00	---	---	---	\$10.00	---	\$138.00	---	\$31.00
7/01/91	6/30/92	\$249.00	---	---	---	\$55.00	---	\$304.00	---	\$31.00
7/01/92	6/30/93	\$249.00	---	---	---	\$55.00	---	\$304.00	---	\$31.00
7/01/93	6/30/94	\$316.00	---	---	---	\$70.00	---	\$386.00	---	\$31.00

Note: From October 1 until April 30 a seasonal water rate was in effect, beginning in the year 1989. The MWD seasonal rate was \$115 for untreated water and \$-35 for treated water in 1989-90 and 1990-91, \$103.154 for 1991-92, and \$168.9203 for 1992-93.

Note: Beginning April 1, 1991 the interruptible (and agricultural) rate was suspended by MWD.

Figure No. 9

\$131,424,738,924, which is an increase of \$5,389,003,280 (or 4.3 percent) from the 1991-92 certified valuation of \$126,035,735,644.

The average assessed valuation of property within the Authority service area increased from \$139,230 per acre in 1991-92 to \$145,178 per acre in 1992-93. The assessed valuations for each member agency, the Authority, and San Diego County as shown in Table 5.

Capacity Charges

The Authority imposes capacity charges that are collected on new water meter hookups. These charges are designed to collect revenue from new development to pay the capital costs associated with the increased demand that new development places upon the distribution system. Capacity charge revenues are restricted to pay for the Capital Improvement Program and are deposited in the Pay-As-You-Go Fund. The current capacity charge is \$1,094 per connection under one inch. A factor based upon meter size is applied to this charge to determine the cost of each larger meter. Total revenue from capacity charges for the fiscal year ended June 30, 1993 was \$4,917,362 (see Table 10 for Collections by Member Agency).

Water Standby Availability Charge

The Authority levies and collects an annual water standby availability charge, which is \$10 per acre or parcel, whichever is greater. The charge is added to the Secured Tax Roll collected via the San Diego County's property tax collection process and remitted by the County to the Authority. The collections are restricted to pay for the Capital Improvement Program and are deposited into the Pay-As-You-Go Fund. Total collections for fiscal year 1993 were \$10,236,890 (see Table 10 for Collections by Member Agency).

Budget Operations

The Authority's budget is organized in a program-budget format, which provides clear statements of accomplishments, objectives, and the cost and staffing resources needed for operations, maintenance, and capital improvements. The program-budget format provides an interrelated document to evaluate performance against strategic plan goals and objectives.

Primary objectives included effectively managing existing resources, including the development of programs to manage water supplies during periods of drought; secure additional dependable water supplies to meet the increasing water needs of San Diego County; identify water storage and distribution facilities required to serve existing and increasing water

demands; maintain or upgrade existing facilities to provide full system delivery capability and reliability; and automate work activities to enhance operational efficiency.

The Board approved an operating budget for fiscal 1992-93 of \$14.3 million, a decrease of 3.1 percent from the prior year's operating budget.

Information Systems

The Information Systems section provides computers and other automated systems to assist a variety of Authority needs. Information Systems supports such daily activities as word processing, spreadsheet and database manipulation, electronic mail, and other means of capturing, developing, storing, and delivering information.

Staff implemented an information systems plan that provided computers for office staff, standards for systems hardware and software, interconnection between computers via local area networks (LAN), and connectivity between sites via wide area networks (WAN). Local area networks were installed and integrated via remote bridges into a single agency-wide WAN.

Policies and procedures were developed for system procurement, training, repair and enhancement. An ETHERNET link from the WAN to the Finance System was installed.

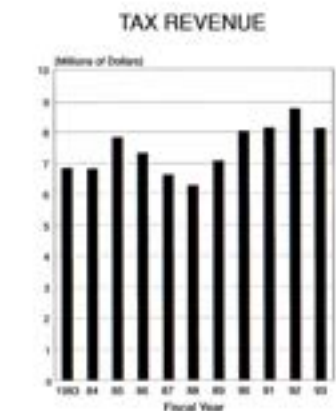
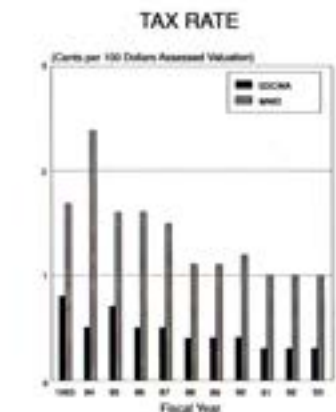
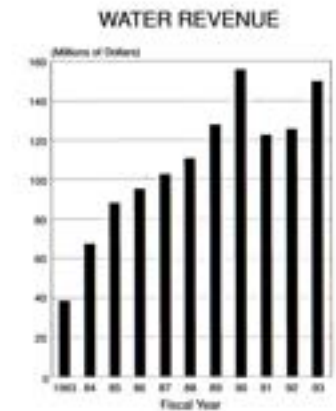


Figure No. 10

A steering committee was formed to give feedback on system needs and applications. Office systems were automated to handle daily office tasks such as sending and receiving electronic mail, scheduling meetings, and maintaining daily calendars. The Authority currently has installed 119 networked desktop computers.

Purchasing and Warehouse Operations

The Finance Department assumed responsibility for warehouse operations during the year and implemented a new automated inventory control and reporting system. Inventory descriptions, part numbers, and minimum reorder points were input into the system which provides for better inventory tracking and control. Inventory is valued at \$175,000.

The department is in the process of implementing a centralized purchasing program and has assumed the responsibility for procuring most supplies, custodial services, and paper goods. The department handles most routine competitive bids. Staff developed insurance standards for vendors, consultants, and contractors. Due to increased construction and operating activity, purchase orders issued increased over last fiscal year, with a total increase over the past two fiscal years of approximately 38 percent.

Deferred Compensation

The department administers a deferred compensation plan for Authority employees according to Section 457 of the Internal Revenue Code. This plan enables employees to defer portions of their compensation until retirement, disability, or death. At June 30, 1993, assets of the plan totalled \$2,654,335.

PUBLIC AFFAIRS

The Public Information Department was reorganized during FY 1992-93 and renamed the Public Affairs Department. The new name describes the expanded role the department is playing, performing community and governmental relations in addition to serving as a conduit for information about the Authority. A new position, director of public affairs, was created to oversee the department.

During the fiscal year, the department emphasized development of a Public Affairs Plan that identified the publics served by the Water Authority, the messages that the department will deliver and the communication strategies it will use. In keeping with the plan, the department focused on establishing and/or enhancing the Authority's relationships with the member agencies, governmental officials, the business community and the media. The general message communicated by staff was that the Authority is acting to maintain San Diego County's safe and reliable water supply.

The department disseminated information about the Authority's overall activities, as well as specifics about the Capital Improvement Program, the Emergency Water Storage Project and programs in the areas of water conservation and water reclamation. Department staff also participated in briefings of policymakers, community and business leaders and the media about the reasons behind water rate increases.

In addition, the department continued ongoing programs such as the school education program; publication and distribution of *WaterTalk* and *Connections*; writing news releases, newspaper opinion pieces and letters to the editor; arranging for interviews of directors and staff by broadcast and print media; and preparing and distributing brochures and fact sheets on specific topics.

Governmental Relations

The department devoted significant time and effort to establishing a liaison program as the centerpiece of the Public Affairs Plan. Five staff members were assigned as liaisons for portions of the service area. As liaison, a staff member establishes and maintains a working relationship with each member agency in his or her service area. The staff member works with the member agencies to communicate the Authority's message in the most effective way. Relationships also are established with other governmental agencies and key community organizations in the service area. Implementation of the liaison program began late in FY 1992-93.

Staff worked to inform area elected officials about the Authority and its activities. Before the November 1992 elections, staff joined with its counterparts from the Metropolitan Water District to brief candidates for open Congressional seats in the county about water-related issues. After the election, staff sent congratulatory letters to newly elected city, water district, state and federal officials. The letters to new officeholders included a request to brief them about the Authority; several briefings took place as a result of the requests. The department also attended meetings of area city councils as appropriate, monitored issues of interest to the Authority and gave numerous briefings and presentations to elected officials and their staff members.

Since both the Authority and Metropolitan were proposing rate increases for FY 1993-94, one of the critical issues for elected officials was the cost of water. The department updated "Water Rates and Water Reliability," a booklet that staff and directors use to brief elected officials and other community leaders about the Authority's activities and the necessity of rate increases. Staff worked with Metropolitan to hold three special briefing sessions for local decision-makers about capital improvements and financing. Staff sent letters signed by Chair Madigan to all mayors, council members and city managers in the service area to inform them about the proposed Authority rate increase and offer them individual briefings on the topic.

In addition, staff worked with the Authority's legislative advocate to develop a procedure for the analysis and tracking of state legislation. Staff also wrote testimony supporting a resolution to add support of water transfer legislation to the League of California Cities' 1993 legislative agenda and wrote a letter to President Bush from Chair Madigan requesting the President sign HR 429, which included the Central Valley Project Improvement Act.

Community Relations

The department undertook various activities to inform the general public, various organizations and the business community about the Authority and water-related issues.

In an effort to increase communication with local business people, staff invited representatives of several significant local business organizations to become members of a Business Roundtable. Roundtable members met twice with the General Manager to discuss concerns. They also received information throughout the year about issues such as proposed rate increases. In addition, staff regularly represented the Authority at meetings of the Greater San Diego Chamber of Commerce's Water Committee and wrote several articles on Authority activities for the Chamber's *Business Action*

publication. Staff also coordinated a meeting between the California Landscape Contractors Association and member agency general managers regarding notification of planned and unplanned pipeline shutdowns.

Two issues of particular importance in the area of community relations were the Capital Improvement Program and the Emergency Water Storage Project. Staff developed and distributed a brochure about the CIP. Staff also began monitoring the public information/community relations components of pipeline contracts to ensure information about the Authority is delivered in a consistent manner. In this regard, staff worked with consultants on ground-breaking and dedication ceremonies for projects and reviewed printed material about projects before it was distributed. Staff also attended numerous community meetings relating to the CIP.

Staff also represented the Authority at many community meetings held in connection with the Emergency Water Storage Project. Staff worked with the project team and consultants to conduct workshops for project speakers and prepare informational material such as brochures, news releases and a video. In addition, staff wrote and designed the first two issues of a project newsletter that was distributed to interested citizens and wrote an article about the project for community organization newsletters.

Staff wrote and distributed timely fact sheets on critical issues such as water rates, the Authority's Water Standby Availability Charge, the regional water situation following six years of drought, water shortages after the drought and the Central Valley Project Improvement Act.

The department also fostered community knowledge of water-related issues through involvement with the Water Education Foundation's first tour of Southern California water facilities. The Authority provided funds for the tour and staff assisted by arranging site visits in San Diego County and furnishing speakers.

Media Activity

Issues such as the regional water supply situation, water rates, capital improvements and emergency storage sparked much media interest in the Authority. Reporters turned to the Public Affairs Department for information on these and other topics. In response, the department issued news releases, wrote opinion pieces and letters to newspapers, conducted briefings for editorial boards, arranged many interviews with directors and staff and answered countless phone calls.

The winter rains and the end of the drought attracted much attention from the media during the winter. The department provided information about water supply and conservation figures through interviews and fact sheets.

Water rates also sparked interest. In response, the department compiled a rates press kit that included a fact sheet, a question-and-answer brochure and material about the Authority's activities.

The department provided media relations support for all of the Authority's departments and programs. Many news releases were written and interviews given on such topics as pipeline projects, emergency storage developments, conservation and reclamation programs and contract awards.

Major articles were prepared for the *The San Diego Union-Tribune*, *The San Diego Business Journal*, the Colorado River Association newsletter and the Southern California Water Committee newsletter. Numerous letters to the editor were prepared for publication in the county's newspapers. Directors and staff appeared on television news programs and radio talk shows to discuss the Authority's activities and water-related topics.

In conjunction with the San Diego Press Club, the department conducted a tour of area water facilities for local reporters.

School Education Program

The school education program used classroom presentations, in-service training sessions, theater presentations and a teaching garden to bring its message to the county's students and teachers. In addition, the program developed publications, wrote curricula, and participated in educational committees.

The program actively developed curricula and publications. Staff revised and made a second printing of its 82-page unit for fifth-and sixth-grade students, "Where in the World Is the Water." The unit, which includes both science and social studies activities, compares California's water resources to those of six countries. Staff also began developing a major secondary school curriculum guide addressing such issues as preservation of San Diego County's environment, landfills, pollution and waste reduction. The guide is being produced in cooperation with the County Department of Public Works and I Love a Clean San Diego County. In addition, staff produced a brochure listing programs and services available from the Authority; the publication was distributed to 10,000 public school teachers in the region.

Two education specialists continued to offer free classroom presentations to students throughout San Diego County. More than 5,100 students at the fourth grade, middle school and high school levels heard the presentations during the 1992-93 school year. The education specialists discussed the origin of San Diego's water, the water cycle, water distribution and treatment, and the need for conservation. Their overall message was that students can make a positive impact through wise water use.



A local student analyzes the water supply of various areas in the United States through the National Geographic Society's "Kids Network." The Public Affairs Department worked with National Geographic to select 10 county schools for inclusion in the program.



Authority Water Resource Assistant, Vickie Driver, displays a chart for participants in the Water Education Foundation's Southern California water tour. Public Affairs Department staff assisted by arranging site visits in San Diego County and providing speakers for the tour.

Staff also conducted "in-service" training sessions for 1,200 teachers interested in presenting water information to their students. In-service programs this year also were presented in the areas of high school biology, physical sciences and economics. Some 108 teachers participated in-service presentations that were held monthly at the Xeriscape Teaching Garden, constructed by the Authority at Del Mar Hills Elementary School. The garden has become part of the school's extensive gardening program for students, educators and the public.

The program continued to use theatrical presentations to educate students about the importance of wise water use. The department contracted with the Ensemble Arts Theatre group, which combined drama and audience participation in its presentations before more than 54,000 students at 92 schools in the county.

Staff participated in two education advisory committees organized by the Metropolitan Water District and the Energy Education Committee. Staff also participated in numerous fairs and conferences, including the Energy Education Conference, the "All About Kids" fair, two Earth Day programs, the fall and spring San Diego Home/Garden shows and the Greater San Diego Chamber of Commerce Expo '93.

Twenty area teachers received Authority mini-grants for science kits, various teaching materials, plants for a Xeriscape garden and field trips to water treatment facilities. The program is administered by the Energy Education Committee. Staff also worked with the National Geographic Society to select 10 local schools for the Society's "Kids Network" program. Students in the "Kids Network" study their local water supply and then share the information with other schools throughout the nation via a telecommunications link.

Publications

The department's two publications were released on regular schedules during FY 1992-93. Several other publications were produced as well.

WaterTalk kept community leaders and other interested citizens informed about the Authority's activities and general water issues. *WaterTalk* is published on a quarterly basis; a special fifth issue was published with a focus on the statewide water situation. Each of the four regularly scheduled issues featured a theme. The themes were the Authority's plans for developing local water resources, water transfers, how water reaches San Diego County and the water situation in the San Joaquin Valley.

Connections, the monthly employee newsletter, continued to keep personnel up to date about Authority plans and policies, major water-related developments and interesting activities of their fellow employees. A new

regular feature titled Water Lines was added to provide answers to commonly asked water-related questions.

In addition, the department developed and distributed several brochures for the public. "Water for Life," a 12-page brochure, presents a broad picture of the Authority and water issues facing San Diego County. Staff also updated and redesigned a brochure about the Capital Improvement Program and wrote copy for a brochure about the Emergency Water Storage Project. The Authority's fact sheet was updated and expanded to four pages, including a map that illustrates how water reaches San Diego County. A brochure describing the Operation Center's Xeriscape garden was developed. In addition, staff designed a brochure for an Engineering Department forum on prestressed concrete cylinder pipe.

Joint Public Information Council

The Joint Public Information Council (JPIC), which comprises public information personnel from the Authority and its member agencies, instituted a new, bi-monthly meeting schedule during FY 1992-93. At the meetings, JPIC members were briefed about Authority activities and water-related issues. They also discussed and shared information about many topics, including water availability, rates, conservation efforts, the Capital Improvement Program and Emergency Water Storage Project, joint advertising efforts and plans for the Authority's upcoming 50th anniversary. Also through JPIC, the department provided member agencies with literature, videos and other material for distribution to the general public.

One activity at meetings involved JPIC's review of programs proposed by the department before implementation. JPIC members made many valuable suggestions that were incorporated into programs.

The department acted in several areas to support member agencies. Staff developed and distributed a slide show that can be tailored to include slides and information about a particular member agency. Two brochures for children were developed in both English and Spanish for distribution at community events. Staff arranged for presentations on Authority activities to member agency directors and staff members. Two training seminars were held for member agency staff who want to become more proficient in classroom presentations about water issues.

The department's cooperative advertising program was expanded into a Cooperative Communication Program, which provides matching funds to member agencies that propose innovative communication campaigns. A subcommittee comprising representatives from the Authority and several member agencies reviews applications and recommends fund awards. The program's first grants were to be distributed in fall 1993.

The department continued publication of an informal newsletter to foster communication between JPIC members and announce upcoming meetings.

Del Mar Fair Xeriscape Garden Contest

The department sponsored a Xeriscape category in the Del Mar Fair's annual garden contest for the third consecutive year. Five of the 12 gardens entered in the contest were selected for prizes of \$1,000 apiece. In addition, staff erected a display showing the "Seven Steps of Xeriscape" at the fair and produced a special brochure on drought-tolerant landscaping for distribution to fair attendees.



Public Affairs staff created a display showing the "Seven Steps of Xeriscape" for the 1992 Del Mar Fair and produced a brochure on drought - tolerant landscaping for distribution to Fair attendees.

Speakers Bureau

The department coordinated a speakers bureau, through which Authority representatives made presentations to a variety of service, community and special interest groups throughout San Diego County. Presentation topics included the region's overall water supply situation, conservation techniques, the Emergency Water Storage Project and the Capital Improvement Program.

HUMAN RESOURCES

The Human Resources Department provides a variety of personnel-related support services that helps the Authority to achieve its organizational goals. During the fiscal year, the Department's staff included a director, two human resources analysts, and a human resources assistant. This staff provided support services for the Authority's eight departments and 150 budgeted positions.

Employment

At the beginning of the year, the Authority had 132 employees. By the end of the year, this number increased to 147, for a gain of 15 employees. During this period, the Department's recruitment program assisted in hiring 19 new employees and promoting 13 employees. One employee retired and five employees terminated their services.

The following list indicates the positions filled during the year, by division:

Administrative Services Division

- | | |
|---------------------------|--------------------------------|
| Clerical Assistant | Information Systems Specialist |
| Equal Opportunity Officer | Warehouse Worker |

Water Resources Division

- | | |
|--------------------------|---------------------------|
| Water Resource Assistant | Water Resource Supervisor |
| Water Resource Associate | |

Engineering, Operations, and Maintenance Division

- | | |
|------------------------|----------------------------------|
| Engineering Aide | Mechanic |
| Engineering Technician | Principal Engineering Technician |
| Junior Engineer | Secretarial Specialist |
| Maintenance Worker | Senior Civil Engineer |
| Maintenance Specialist | (2) Sr. Engineering Technicians |

Public Affairs

- | |
|----------------------------|
| Director of Public Affairs |
|----------------------------|

Staff completed and administered the Authority's Equal Employment Opportunity/Affirmative Action Program to ensure equal opportunity in employment for all qualified persons regardless of race, color, religion, sex, national origin, ancestry, marital status, sexual orientation, age, medical

condition, veteran status, or citizenship, within the limits imposed by law or the Authority's policy.

Staff also successfully administered both the summer youth employment and student intern programs. Youths hired under the Authority's Summer Youth Employment guidelines work the summer months between June 15 and September 15. Student interns work throughout the school year. The departments of Human Resources, Engineering, Operations and Maintenance, Finance, and Planning are active participants. One student intern graduated from college and was hired as a Junior Engineer.

Employee Relations

The Human Resources Department provides staff support for labor negotiations and ensures proper administration of labor contracts. Staff successfully coordinated the transition into the second year of the negotiated three-year agreement that will end June 30, 1994.

The Department also has the responsibility to maintain the Authority's classification and compensation structure, based upon the principle of "equal pay for equal work." During the year staff conducted several studies that resulted in a reclassification of positions. Staff also conducted studies that resulted in the creation of six new classifications and six title changes effective fiscal year 1993-94. The new classifications and titles are:

NEW CLASSIFICATIONS

Sr. Public Affairs Specialist
Emerging Bus. Enterprise Mgr.
Director of Right of Way
Emerging Bus. Enterprise Asst.
Purchasing Assistant
Accounting Assistant

TITLE CHANGES

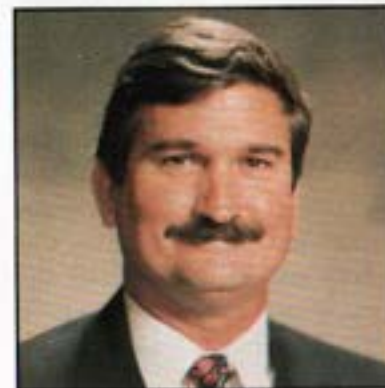
Chief Engr/Asst. Gen. Mgr.
Public Affairs Specialist
Public Affairs Assistant
Director of Engineering
Director of Operations & Maint.
Operations & Maint. Manager

The Authority encourages employees to receive additional or continuing education. Costs for tuition and books are reimbursed by the Authority after employees successfully complete work-related courses of study taken on off-duty hours, at an accredited institution of learning. The Human Resources Department processed reimbursements of tuition and books for 11 employees during the fiscal year.

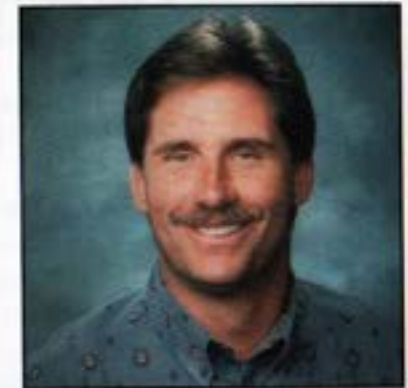
To boost employee morale and performance, the Authority has an incentive program that provides awards for Employee of the Quarter and Year, suggestions, attendance, and service. The recipients of these awards were honored at the annual Incentive Awards Banquet, hosted by the Authority



HECTOR INIGUEZ
Employee of the 1st Quarter



CHET KALINOWSKA
Employee of the 3rd Quarter



STEVE MOORE
Employee of the 4th Quarter



MEL SPELL
*Employee of the 2nd Quarter
and
Employee of the Year*

and attended by employees, spouses, and guests. This year 19 suggestions were submitted by employees, of which four were judged to merit cash awards.

Safety

The Human Resources Department is responsible for ensuring the Authority's employees and property assets are protected, and takes actions to prevent, control, reduce, or eliminate risks through the administration of safety and loss prevention programs, worker's compensation, employee benefits, and employee assistance.

Staff evaluated the quality of the Authority's current health insurance programs. The results of the evaluation showed that the quality of care and benefits of both Kaiser and Prucare medical programs are satisfactory. Therefore, staff successfully negotiated contracts with both companies for calendar year 1994.

The department also satisfactorily processed several worker compensation claims and long-term disability claims, which included extensive counselling with employees and spouses.

Staff administered the Authority's injury and illness prevention program, which provides for a safe and healthy work environment and complies with all local, state, and federal safety and health laws and standards. Staff also assisted inspectors from various regulatory agencies and conducted a number of safety inspections of Authority facilities and equipment, making safety recommendations where necessary.

Safety training programs were conducted throughout the year, such as defensive driver training, earthquake preparedness, hazardous material handling, construction safety, confined space safety, CPR, and hearing protection.

Staff also developed and maintained a safety resource center that contains a variety of safety reference materials, video tapes, and training aids for use by all employees and member agencies.

GENERAL COUNSEL

This is the first complete fiscal year in which the Authority's needs for legal services were substantially met by an in-house law office. The two primary goals set for this office have been achieved: effectively managing rights of way acquisition litigation and providing legal assistance to the Board and staff. All of the Board's goals and objectives were accomplished in a legally appropriate and cost-effective way. Major activities for the year include the following:

Accomplishments - Fiscal 1992-93:

- Completed Brown Act compliance review. Implemented new agenda format, consent calendar, closed session forms and procedures for public participation.
- Established working relationship with new Right of Way Department and revised acquisition procedures. Reduced average cost of condemnation cases from \$180 to \$120 per hour. Implemented Board's delegation of authority for approval of appraisals to General Counsel and General Manager.
- Revised Authority's contract documents, including a new standard form consultant contract. Revised the construction contract and standard conditions.
- Completed a risk management review, drafted new forms for bonds and insurance and assisted management in promulgating standards for evaluating insurance coverages. Implemented Board's delegation of claims handling with \$5,000 settlement authority to the General Counsel and General Manager. Prepared staff to successfully defend small claims cases against the Authority.
- Reviewed all outstanding Authority litigation and instituted a new monthly status report to the Board. San Luis Rey Indian water rights litigation taken in-house.
- Helped implement AB 3030 (Costa) by drafting a planning agreement for the San Dieguito Basin Groundwater Management Task Force, a group including the Olivenhain Municipal Water District, San Elijo Joint Powers Authority, City of Escondido, the City of San Diego, the County

of San Diego and the San Diego County Water Authority, all of which are interested in the region's first cooperative effort to develop a plan for an entire groundwater basin.

- Helped prepare new selection procedures for professional consultants.
- Prepared a new board member briefing book and held orientation meetings with 13 new board members. Toured local district facilities with Directors from the Yuima, Santa Fe, Helix, San Dieguito and South Bay Districts.
- Participated in outside organizations. Appointed to and actively participated in the ACWA Legal Affairs Committee. Accepted as a regular member of the San Diego-Imperial County City Attorneys Association. Chaired a seminar on ethics for a League Continuing Legal Education Program. Attended California Water Resources Association annual meeting and provided legal help with by-law revisions. Hosted lunch for member agency attorneys and reached consensus on noticing requirements for standby charges. Continued support for MWD Delegation and General Manager's MWD Task Force. Assisted the Authority's water transfer policies by helping secure a resolution of support from the League of California Cities.
- Provided legal support to new Authority programs including: Team Gnatcatcher, Desalination, Emergency Storage, Emerging Business Enterprise, ADA compliance, the San Diego Area Wastewater Management District, the legislation monitoring activities of the Public Information Department, certificates of participation refunding, negotiated minority co-bond council arrangement for commercial paper program, revised investment policy and EIRs for Pipeline 6 and Pipeline P5EII.
- Drafted new Local Conflict of Interest Code.
- Relocated office to first floor and completed acquisition of a computerized library.

Gnatcatcher

The most significant legal problem faced during the year was the listing of a small bird, the California gnatcatcher, as threatened under the Endangered Species Act (ESA). This listing could adversely affect Authority

construction projects that lie in gnatcatcher habitat. Legal staff participated in the a group called "Team Gnatcatcher", which strived to minimize negative impacts from the listing.

The General Counsel's office will continue to monitor the development of final gnatcatcher regulations, as well as interim strategies for protecting the bird and allowing vital Authority projects to go forward. A substantial amount of time will be required for the foreseeable future in dealing with the ESA and the other environmental problems affecting Authority water supplies.

Litigation

Excellent results were achieved in the Authority's eminent domain litigation. There were 13 cases outstanding on July 1, 1992, from the Pipeline 4B Phase 1 and Pipeline 5 projects. Only one case is still unresolved, the Authority's appeal in **San Diego County Water Authority v. Mireiter**. The rest have all been settled.

The **Mireiter** appeal, which involved the effect on value of environmentally sensitive vernal pools, was argued during the year. The Fourth District Court of Appeal reversed the trial court judgment, granted the Authority a new trial and awarded costs. The court treated the issue presented as one of "first impression." The court held that facts about vernal pools, which would reduce the property's value, discovered after the appraisal but before trial, must be considered by the jury in determining just compensation. The jury instructions, which did not require consideration of the effect of the newly discovered vernal pools on the property's value, were erroneous, and the resulting verdict of \$720,000 was reversed.

The court also accepted the Authority's argument that the property owner's appraiser impermissibly used a "zone of value" technique to justify his opinion, instead of looking at the market value of the property as a whole, in light of all of the factors existing as of the date of trial which affect its value. The unanimous opinion was filed June 25, 1993, and has been certified for publication. It should be final on July 25, 1993.

The value issue in **Mireiter** remains unresolved, and another trial will probably be required. However, the win on appeal means the trial judge's ruling that the Authority's offer was unreasonable and must pay \$208,192 for attorneys fees and costs is reversed, and that money should be saved.

Progress was also made on 12 cases involving 28 parcels for the Pipeline 4 Extension, Phase II, Lower Otay Pipeline. Project scheduling required filing litigation on all these parcels. Nevertheless, the Right of Way Department continued to work cooperatively with the property owners and were successful in negotiating a mutually agreeable price with all of the

owners. Completion of documentation for the settlements is anticipated early in the next fiscal year.

Responsibility for the Escondido Chatham Brothers hazardous waste site proceeding was moved in-house. Progress was made on the cleanup efforts to prevent contamination from entering the water table upstream from Lake Hodges. The Operations and Maintenance Department found old records that support a significant reduction in the Authority's already minimal share of this problem. An appeal of our allocation was filed, and results are expected next year.

Legal staff continued to support the Right of Way Department in the protection of the Authority's rights of way. Almost without exception, as new encroachment problems were discovered, the Department was able to work with the landowners involved to resolve these encroachment issues. The one outstanding case on the old encroachments, **San Diego County Water Authority v. Kerr**, remains on appeal. All of the briefs and arguments were accomplished this year, and a decision is awaited.

The Authority continues its support of the City of Escondido in the Water Quality Association litigation. This case involves restrictions on the use of certain types of water conditioners, which local government must be able to regulate to protect wastewater quality for the production of reclaimed water. This case was also taken in-house this year. A series of motions were brought by the Association, all of which were successfully resisted, including the recovery of costs and attorneys fees in one instance where the Association's motions were deemed to be frivolous. Trial is scheduled for the first half of the next fiscal year.

Four new cases were filed against the Authority involving the stop notice contract matters arising out of the Papac contract for the Escondido Pump Station. Except for the one filed by Papac, all of the others were successfully resolved, and the retention was released. The Authority's remaining exposure in this matter has been assumed by Black & Veatch, the design engineer on the project.

Three personal injury actions were filed alleging injuries in connection with the Pipeline 5 project near Highway 76. The contractor has assumed responsibility for their defense and agreed to indemnify the Authority.

There were two construction-related claims against the Authority. In the first, a different site conditions claim on the Cowles Mountain Tunnel project, the contractor is seeking approximately \$2 million in compensation because the rock was allegedly more dense and less fractured than anticipated. A comprehensive report by Morrison Knudsen, the SDCWA's construction manager on the project, was reviewed. Support will be provided

to Engineering in submitting the Authority's position to the disputes review board, which will be convened in accordance with the construction contract to provide an independent evaluation of the merits of the claim.

The second claim came after a construction accident occurred on the La-Mesa/Lemon Grove Pipeline project. A trench failed at the construction site, killing one person and injuring another. Within three days of the accident, the deceased's family requested a claims form, which was promptly provided. All appropriate steps to protect the Authority's interests were taken, and the Authority should be fully insured through the contractor, construction manager, subcontractors and the ACWA JPIA.

Right of Way Acquisition

The Pipeline 2A project in North County will require the acquisition of 68 parcels. Pursuant to the Board's delegation of authority, appraisals on 50 of these parcels were reviewed and approved during the year. Some issues are yet to be resolved, including grove evaluation, effects on farming operation and the proper treatment of overlapping road easements and outstanding dedication obligations on the values. A relocation assistance plan for the one residence potentially affected by the project was approved by the Board at the March 11, 1993 meeting.

Preliminary work was also done on the North County Distribution Pipeline, which was added as an Authority project by the Board during the year. This 24-parcel project will serve the city of Oceanside and the Vista, Vallecitos and Fallbrook districts. The acquisition problems include crossing an environmentally sensitive golf course and an active nursery operation. Most likely there will also be a need to acquire some construction access easements.

Fee takings of two parcels for a flow control facility may also require the acquisition of one single-family residence. Completion of the appraisal process and the acquisition of rights of immediate possession to all of the parcels for the Pipeline 2A Extension and the North County Distribution Pipeline will be a major part of the General Counsel's office work in the next year.

million or major fraction thereof of assessed valuation within the agency's boundaries.

Assessed Property Value

Total assessed value of taxable property within the boundaries of the Metropolitan Water District was \$864,768,971,806, as of the end of June 1993. Assessed value is determined by assessors from the counties served for use in levying 1992-93 taxes. These valuations were increased \$44,225,352,084, or 5.4 percent, above the previous year's valuation of \$820,543,169,722. An estimated 12.2 percent of this increase, or \$5,408,585,437, occurred within the Authority's boundaries.

The assessed valuation of MWD established for 1992-93 is \$864,768,971,806, which includes \$131,960,501,075 for the Authority's valuation. The assessed valuation of the Authority is 15.3 percent of the MWD total.

Water Sales

The MWD delivered 1,911,129 acre-feet of water during fiscal year 1992-93. The Authority received 431,160 acre-feet, or 22.6 percent of MWD's total deliveries. During the fiscal year, all of the Authority's supplies came from the CRA. Typically, the Authority receives a blend of supplies, about 70 percent from the CRA and the remaining 30 percent from the SWP.

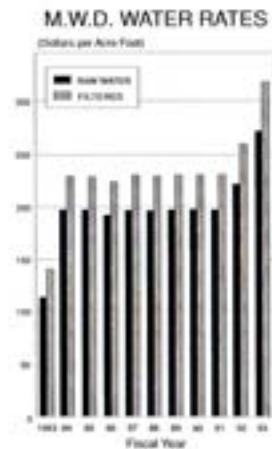
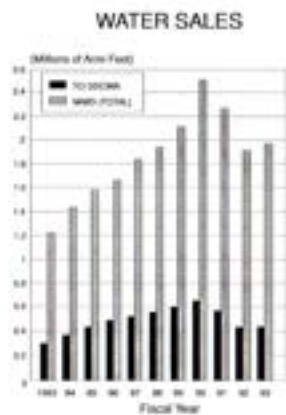
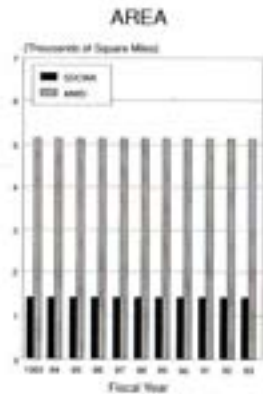


Figure No. 12

MWD has five operating filtration plants. The Lake Skinner Filtration Plant, with a capacity of 520 mgd, serves treated water to the Authority. Other plants operated by MWD (none of which can serve the Authority) are the F.E. Weymouth Memorial Filtration Plant in La Verne, Robert B. Diemer Filtration Plant near Yorba Linda, Joseph Jensen Filtration Plant at Granada Hills, and the Henry J. Mills Filtration plant near Riverside. The Jensen Plant can receive water only from the West Branch of the California Aqueduct.

Tax Rate

MWD set its tax rate at 0.0089 percent of assessed valuation for the 1992-93 fiscal year. This rate has decreased since the Authority annexed to MWD in 1946, when the tax rate was 50 cents per \$100 assessed valuation. Tax rates for each year since 1930 are shown in Table 13.

The total MWD tax levy during the 1992-93 fiscal year, including regular and special taxes, was \$84,776,000. Of this amount, 14.65 percent of net, or \$12,422,516, was levied against property within the Authority. The estimated MWD tax level for the 1993-94 fiscal year is projected at \$86,376,000. The Authority's share of that amount is estimated to be \$12,100,000.

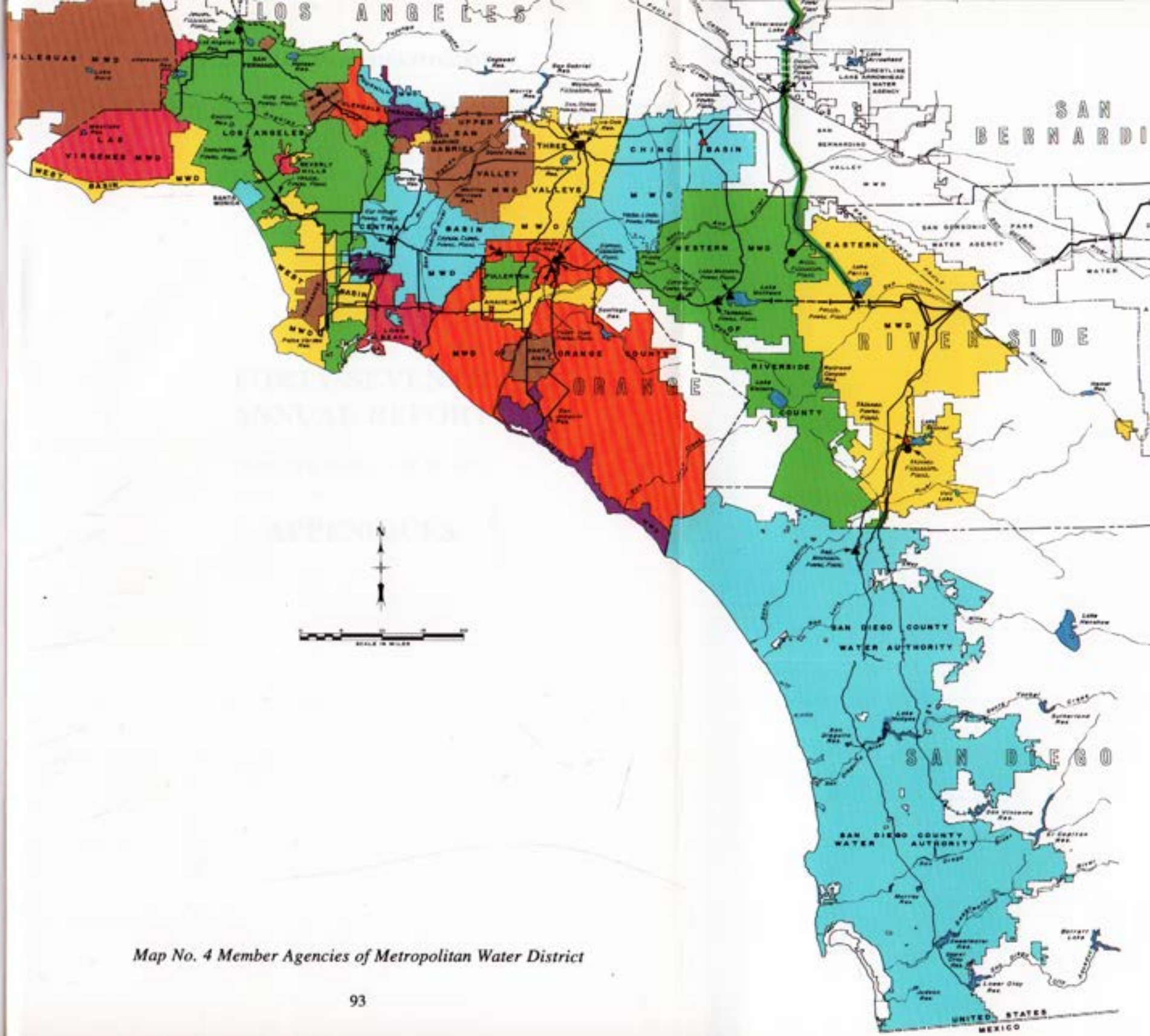
COLORADO RIVER BOARD MEMBERSHIP

The Colorado River Board is a public agency that represents California's interests in the water and power resources of the Colorado River. Six southern California water agencies are represented on the board: the Authority, Metropolitan Water District, City of Los Angeles Department of Water and Power, and the Imperial Irrigation District. The Authority's representative on the Colorado River Board during 1992-93 was Anne Omsted.

Board activities during the year focused on California's projected need for Colorado River water, and ways for the state to ensure future supply reliability. Programs were designed to both increase supplies from the Colorado Basin and manage demands within California. Examples of these programs include a variety of water conservation methods, such as lining the Coachella and All-American canals, water pricing, urban water reclamation, agricultural drainage and seepage recovery, groundwater recovery, agricultural land fallowing, and water banking.

These management efforts are being pursued to keep the Colorado River Aqueduct full, and to meet the water requirements of other California Colorado River water users. An essential goal of the Board is to ensure that California can keep future demand for Colorado supplies within the state's basic apportionment, which is currently 4.4 million acre-feet, plus the use of excess or surplus flow.





Map No. 4 Member Agencies of Metropolitan Water District

**FORTY-SEVENTH
ANNUAL REPORT**

Fiscal Year Ending June 30, 1993

APPENDICES

APPENDICES

APPENDIX A

Tables

1.	Statistical Summary	98
2.	Population Growth-County & Authority Area	99
3.	Area - Authority Member Agencies	100
4.	Water Use and Authority Storage 1992-93	102
5.	Assessed Valuation, Tax & Water Availability Collections 1992-93	103
6.	Water Use - Fiscal Years 1982-83 to 1992-93	104
7.	Water Sales - Fiscal Years 1947 to 1993	105
8.	Sales of Imported Water - Fiscal Year 1992-93	106
9.	Assessed Valuations and Tax Rates 1945-46 to 1992-93	108
10.	Revenue Dedicated to Finance Capital Improvement Program Fiscal Year 1992-93	110
11.	San Jacinto Tunnel West Portal Chemical Characteristics of Natural Colorado River Water Year Ending June 30, 1993	111
12.	Chemical Characteristics of Blended Treated Water Year Ending June 30, 1993	112
13.	Assessed Valuation and Tax Rates of the Metropolitan Water District of Southern California	113
14.	Metropolitan Water District Annexation Charges and Balances on Authority Areas	114
15.	Water Sales by Metropolitan Water District Fiscal Years 1941-42 to 1992-93	115
16.	Water Deliveries and Local Supplies Metropolitan Water District Constituent Areas.....	116

APPENDIX B

Major Board Actions	117
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APPENDIX C

Financial Statements	141
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TABLE 1
STATISTICAL SUMMARY

	1991-92	1992-93	Percent Change
GROWTH OF SERVICE AREA			
Number of Agencies	23	23	0.0
Total Area-Acres	908,945	908,959	0.0
Population	2,520,763	2,572,002	+2.0
Assessed Valuation	\$126,551,912,638	\$131,960,501,075	+4.3
OPERATION			
Water Imported by Authority-af	445,619	433,134	-2.8
Water Used by Member Agencies-af	503,208	551,835	+9.7
Local Water Used-af	47,254	99,187	+109.9
Authority Water Used-af	455,954	452,648	-0.7
Miles of Pipeline	230	231	+0.4
Miles of Patrol Roads Maintained	212	200	-5.7
Number of Service Connections	111	111	0.0
FINANCIAL			
Water and Other Sales	\$125,282,000	\$150,586,000	+20.2
Operating Expenses:			
Cost of Sales	\$102,569,000	\$126,642,000	+23.5
Depreciation and Amortization	\$4,151,000	\$4,896,000	+17.9
Operations and Maintenance	\$3,424,000	\$3,821,000	+11.6
Planning and Reclamation	\$3,398,000	\$2,423,000	-28.7
General and Administrative	\$4,904,000	\$5,666,000	+15.5
Write down of Pamo Reservoir Project to estimated net realizable value	\$0	\$2,000,000	N/A
Total Operating Expenses	\$118,446,000	\$145,448,000	+22.8
Operating Income	\$6,836,000	\$5,138,000	-24.8
Other Revenues, Expenses, and Losses:			
Property Taxes and In-lieu Charges	\$8,822,000	\$8,262,000	-6.3
Water Availability Charges	\$15,180,000	\$15,823,000	+4.2
Interest Expense	(\$15,753,000)	(\$14,306,000)	-9.2
Interest Income	\$17,795,000	\$15,390,000	-13.5
Total Other Revenues	\$26,044,000	\$25,169,000	-3.4
Income before extraordinary loss	32,880,000	30,307,000	-7.8
Extraordinary loss on bond defeasement		(\$10,978,000)	N/A
Net Income	\$32,880,000	\$19,329,000	-41.2
Undesignated Retained Earnings at Beginning of Year	\$148,527,000	\$174,407,000	+17.4
Transfer to Designated Retained Earnings	(\$7,000,000)	\$0	-100.0
Undesignated Retained Earnings at End of Year	\$174,407,000	\$193,736,000	+11.1

TABLE 2
POPULATION GROWTH-COUNTY AND AUTHORITY AREA
1910-1993
(Includes Resident Military Personnel)

Year (as of April 1)	COUNTY		AUTHORITY		Percent of County Population in Authority
	Total Population	Average Annual Growth	Total Population	Average Annual Growth	
1910	61,665	5,058			
1920	112,248	9,741			
1930	209,659	7,969			
1940	289,348				
1946	502,804	26,746 (3)	440,659	2,807	88%
1950	556,808	42,478 (2)	451,896	50,083	81%
1955	769,200	52,762 (2)	702,300	50,820	91%
1960	1,033,010	32,198 (2)	956,400	38,720	93%
1965	1,194,000	23,360 (5)	1,150,000	21,000	96%
1970	1,310,800	49,848 (5)	1,255,000	54,504	96%
1975	1,560,038	49,632 (5)	1,527,520	54,027	98%
1980	1,808,200	91,800 (5)	1,797,655	66,635	99%
1981	1,900,000	44,000 (5)	1,864,290	25,075	98%
1982	1,944,000	42,035 (5)	1,889,365	45,222	97%
1983	1,986,035	54,853 (5)	1,934,587	71,652	97%
1984	2,040,888	42,471 (5)	2,006,239	40,761	98%
1985	2,083,359	82,810 (5)	2,047,000	58,500	98%
1986	2,166,169	74,490 (5)	2,105,500	75,500	97%
1987	2,240,659	87,025 (5)	2,181,000	72,216	97%
1988	2,327,684	90,492 (5)	2,253,216	92,992	97%
1989	2,418,176	102,323 (5)	2,346,208	89,695	97%
1990	2,520,499	28,234 (5)	2,435,903	49,789	97%
1991	2,548,733	53,511 (5)	2,485,692	35,071	98%
1992	2,602,244	46,353 (5)	2,520,763	51,239	97%
1993	2,648,597		2,572,002		97%

- (1) County population from U.S. Census Bureau Reports.
- (2) Authority population based on U.S. Census Bureau Reports.
- (3) Based on Special U.S. Census Bureau, exclusive of emergency military personnel due to World War II.
- (4) Estimated by the San Diego Chamber of Commerce.
- (5) Estimated by Authority member agencies.
- (6) Population by Special Census.
- (7) Population estimates by Department of Planning and Land Use, San Diego County.
- (8) Population estimates by State Department of Finance as of January 1.
- * Corrected estimate by Integrated Planning Office, San Diego County.

TABLE 3

AREA - AUTHORITY MEMBER AGENCIES

Area Within Authority

		As of 6/30/92 (acres)	Changes During Year (acres)	As of 6/30/93 (acres)	Percent of Total Authority Area 6/30/93
Bueno Colorado M.W.D.	(1)	19,768	4	19,772	2.18
Carlsbad M.W.D.		20,369	5	20,374	2.24
Del Mar, City Of		1,159	0	1,159	0.13
Escondido, City Of	(2)	21,559	10	21,569	2.37
Fallbrook P.U.D.	(3)	27,988	0	27,988	3.08
Helix Water District	(4)	31,292	0	31,292	3.44
National City		5,576	1	5,577	0.61
Oceanside, City Of		26,575	0	26,575	2.92
Olivenhain M.W.D.	(5)	30,804	0	30,804	3.39
Otay M.W.D.	(6)	63,062	0	63,062	6.94
Padre Dam M.W.D.	(7)	54,539	0	54,539	6.00
Pendleton Military Res.		134,625	0	134,625	14.81
Poway, City Of		23,214	0	23,214	2.55
Rainbow M.W.D.		47,237	0	47,237	5.20
Ramona M.W.D.		46,524	0	46,524	5.12
Rincon Del Diablo M.W.D.	(8)	10,333	-10	10,323	1.14
San Diego, City Of		210,626	0	210,626	23.17
San Dieguito W.D.		5,652	-5	5,647	0.62
Santa Fe I.D.		10,179	0	10,179	1.12
South Bay I.D.		15,567	-1	15,566	1.71
Vallecitos W.D.	(9)	28,500	-4	28,496	3.14
Valley Center M.W.D.	(10)	61,007	15	61,022	6.71
Yuima M.W.D.		12,792	0	12,792	1.41
TOTAL AUTHORITY		908,945	15	908,959	100.00
SAN DIEGO COUNTY		2,725,100	0	2,725,100	

(1) Does not include 37 acres overlapping in City of Escondido.

(2) Includes 1,177 acres overlapping in Valley Center M.W.D., 405 acres overlapping in Vallecitos W.D., 37 acres overlapping in Bueno Colorado M.W.D. and 16,369 acres overlapping in Rincon Del Diablo M.W.D.

(3) De Luz included in Fallbrook's figures.

(4) Includes 13 acres overlapping in Padre Dam M.W.D.

(5) Does not include 30 acres overlapping in City of San Diego.

(6) Adjusted for incorrect 1991 data.

(7) Does not include 13 acres overlapping in Helix W.D.

(8) Does not include 16,369 acres overlapping in City of Escondido.

(9) Does not include 405 acres overlapping in City of Escondido.

(10) Does not include 1,177 acres overlapping in City of Escondido.

(11) Population in agencies other than cities was furnished by agencies.

(12) Estimated by agencies.

TABLE 3 (continued)

POPULATION - AUTHORITY MEMBER AGENCIES AND COUNTY

(Includes Resident Military Personnel)

Population - U.S. Census					Density of Population 1993	
1980 (11)	1990 (12)	Decade Increase 1980-90 Percent	1993 Estimate (12)	Annual Increase 1992-93 percent	Per Acre	Per Sq. Mile
51,000	76,729	50	88,500	11.37	4.48	2,865
31,500	54,400	73	57,706	0.00	2.83	1,813
5,040	5,215	3	4,860	0.00	4.19	2,684
64,100	105,515	65	115,960	2.28	5.38	3,441
18,925	23,966	27	26,436	0.48	0.94	605
203,500	226,928	12	230,902	0.46	7.38	4,723
47,200	51,488	9	52,032	0.47	9.33	5,971
77,800	128,500	65	141,910	3.58	5.34	3,418
23,000	43,480	89	45,534	0.04	1.48	946
51,600	95,000	84	98,429	0.79	1.56	999
89,000	112,000	26	121,656	0.35	2.23	1,428
33,150	50,000	—	50,000	0.00	0.37	238
33,620	44,368	32	46,286	1.98	1.99	1,276
7,800	13,442	72	14,693	0.21	0.31	199
16,000	32,000	100	33,500	0.00	0.72	461
13,800	25,000	81	26,300	0.00	2.55	1,631
849,600	1,118,282	32	1,177,400	2.42	5.59	3,578
30,900	34,657	12	35,150	0.14	6.22	3,984
14,700	19,335	32	19,766	0.28	1.94	1,243
99,200	106,243	7	108,415	0.47	6.96	4,458
24,200	47,235	—	54,983	4.10	1.93	1,235
10,200	16,900	66	19,734	2.95	0.32	207
1,820	1,820	0	1,850	0.00	0.14	93
1,797,655	2,432,503	35	2,572,002	2.03	2.83	1,811
1,808,200	2,509,914	39	2,648,597	1.78	0.97	622

TABLE 4

**WATER USE AND AUTHORITY STORAGE
FISCAL YEAR 1992-93**

(Compilation of data furnished by member agencies)

	Source of Water (3)				Total Water Use Ac. Ft.	Gross Area (2) Acres
	Local Supply		Authority Supply			
	Amount		Amount			
	Ac. Ft.	Percent	Ac. Ft.	Percent		
Bueno Colorado M.W.D.	9,901.1	52.8	8,851.0	47.2	18,752.1	19,772
Carlsbad M.W.D.	0.0	0.0	14,909.0	100.0	14,909.0	20,374
Del Mar, City Of	0.0	0.0	1,394.2	100.0	1,394.2	1,159
Escondido, City Of	15,706.2	63.5	9,009.9	36.5	24,716.1	21,569
Fallbrook P.U.D.	274.5	2.0	13,327.3	98.0	13,601.8	27,988
Helix W.D.	8,847.1	23.9	28,178.8	76.1	37,025.9	31,292
National City, City Of	4,738.4	79.1	1,252.4	20.9	5,990.8	5,577
Oceanside, City Of	0.0	0.0	25,965.3	100.0	25,965.3	26,575
Olivenhain M.W.D.	0.0	0.0	12,493.9	100.0	12,493.9	30,804
Otay W.D.	0.0	0.0	20,892.6	100.0	20,892.6	63,062
Padre Dam M.W.D.	0.0	0.0	18,441.0	100.0	18,441.0	54,539
Pendleton Military Res. (5)	—	—	119.3	—	119.3	134,625
Poway, City Of	643.6	5.6	10,754.9	94.4	11,398.5	23,214
Rainbow M.W.D.	0.0	0.0	25,593.9	100.0	25,593.9	47,237
Ramona M.W.D.	0.0	0.0	11,138.1	100.0	11,138.1	46,524
Rincon Del Diablo M.W.D.	0.0	0.0	6,457.9	100.0	6,457.9	10,323
San Diego, City Of (1)	39,552.1	18.8	170,691.5	81.2	210,243.6	210,626
San Dieguito W.D.	2,195.1	32.4	4,573.9	67.6	6,769.0	5,647
Santa Fe I.D.	3,614.5	33.1	7,308.7	66.9	10,923.2	10,179
South Bay I.D.	10,935.9	68.9	4,935.0	31.1	15,870.9	15,566
Vallecitos W.D.	0.0	0.0	12,258.5	100.0	12,258.5	28,496
Valley Center M.W.D.	0.0	0.0	39,514.3	100.0	39,514.3	61,022
Yuima M.W.D.	2,778.6	66.1	1,424.9	33.9	4,203.5	12,792
Total and Average	99,187.1	18.1	449,486.3	81.9	548,673.4	908,959

- (1) Includes production by City of San Diego for areas outside City (not in Authority).
 (2) Does not include overlapping areas as shown in Table 1.
 (3) Figures include losses from transmission and distribution system but not from reservoirs.
 (4) Per capita use excludes agricultural water use.
 (5) Does not include 6,615.7af of local water use.
 N.A. - Not Applicable

Estimated Area Served By Water System Acres	Gross Area Served By Water System Percent	Water Use Per Acre Served Ac.Ft./Acre/Yr.	Stored Water Withdrawn During Fiscal Year			Total Quantity In Storage 6/30/93 Ac. Ft.
			By Delivery Ac. Ft.	By Evaporation Ac. Ft.	By Spill Ac. Ft.	
			for Agencies Pooled Storage in San Vicente Reservoir			
			Ac. Ft.	Ac. Ft.	Ac. Ft.	
16,490	83.4	1.14	0.0	0.0	0.0	0.0
19,625	96.3	0.76	0.0	70.3	500.0	844.5
1,082	93.4	1.29	0.0	0.0	0.0	0.0
18,722	86.8	1.32	0.0	0.0	0.0	0.0
14,224	50.8	0.96	0.0	70.3	500.0	844.5
30,258	96.7	1.22	0.0	0.0	0.0	0.0
5,103	91.5	1.17	0.0	0.0	0.0	0.0
26,514	99.8	0.98	0.0	140.8	999.3	1,688.1
15,680	50.9	0.80	0.0	23.4	166.7	281.5
41,826	66.3	0.50	0.0	70.3	500.0	844.5
21,805	40.0	0.85	0.0	93.9	666.6	1,125.9
N.A.	—	—	—	0.0	—	—
12,832	55.3	0.89	0.0	0.0	0.0	0.0
17,631	37.3	1.45	0.0	23.4	166.7	281.6
46,524	100.0	0.24	0.0	93.9	666.6	1,125.9
8,622	83.5	0.75	0.0	28.1	199.7	337.4
137,902	65.5	1.52	0.0	0.0	0.0	0.0
5,492	97.3	1.23	0.0	0.0	0.0	0.0
10,179	100.0	1.07	0.0	0.0	0.0	0.0
12,690	81.5	1.25	0.0	0.0	0.0	0.0
14,145	49.6	0.87	0.0	23.4	166.7	281.6
41,649	68.3	0.95	0.0	23.4	166.7	281.6
4,140	32.4	1.02	0.0	5.0	33.3	56.6
523,136	57.6	1.05	0.0	666.2	4,732.3	7,993.7

Estimated Area Served By Water System Acres	Gross Area Servod By Water System Percent	Water Use Per Acre Served Ac.Ft./Acre/Yr.	Estimated Population	Water Use (4) Per Capita Ac.Ft./Cap./Yr.	Water Used For Agricultural Purposes					Percent of Agricultural Water to Total Use	Total Quantity In Storage 6/30/92 Ac. Ft.	Placed Into Storage During Fiscal Year Ac. Ft.	Member Agencies Pooled Storage In San Vicente Reservoir			Total Quantity In Storage 6/30/93 Ac. Ft.
					From Local Supply		From Authority		Total Ac. Ft.				Stored Water Withdrawn During Fiscal Year			
					Amount Ac. Ft.	Percent	Amount Ac. Ft.	Percent					By Delivery Ac. Ft.	By Evaporation Ac. Ft.	By Spill Ac. Ft.	
16,490	83.4	1.14	88,500	0.19	812.0	49.1	841.5	50.9	1,653.5	8.8	0.0	0.0	0.0	0.0	0.0	0.0
19,625	96.3	0.76	57,706	0.23	0.0	0.0	1,375.2	100.0	1,375.2	9.2	1,414.8	0.0	0.0	70.3	500.0	844.5
1,082	93.4	1.29	4,860	0.29	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18,722	86.8	1.32	115,960	0.17	2,467.9	49.5	2,520.8	50.5	4,988.7	20.2	0.0	0.0	0.0	0.0	0.0	0.0
14,224	50.8	0.96	26,436	0.23	134.0	1.8	7,477.5	98.2	7,611.5	56.0	1,414.8	0.0	0.0	70.3	500.0	844.5
30,258	96.7	1.22	230,902	0.16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5,103	91.5	1.17	52,032	0.12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
26,514	99.8	0.98	141,910	0.17	0.0	0.0	2,460.4	100.0	2,460.4	9.5	2,828.2	0.0	0.0	140.8	999.3	1,688.1
15,680	50.9	0.80	45,534	0.24	0.0	0.0	1,644.5	100.0	1,644.5	13.2	471.6	0.0	0.0	23.4	166.7	281.5
41,826	66.3	0.50	98,429	0.21	0.0	0.0	247.6	100.0	247.6	1.2	1,414.8	0.0	0.0	70.3	500.0	844.5
21,805	40.0	0.85	121,656	0.14	0.0	0.0	1,442.7	100.0	1,442.7	7.8	1,886.4	0.0	0.0	93.9	666.6	1,125.9
N.A.	—	—	50,000	—	—	—	—	—	—	—	—	—	—	0.0	—	—
12,832	55.3	0.89	46,286	0.23	48.8	6.1	757.3	93.9	806.1	7.1	0.0	0.0	0.0	0.0	0.0	0.0
17,631	37.3	1.45	14,693	0.35	0.0	0.0	20,459.2	100.0	20,459.2	79.9	471.7	0.0	0.0	23.4	166.7	281.6
46,524	100.0	0.24	33,500	0.22	0.0	0.0	3,922.3	100.0	3,922.3	35.2	1,886.4	0.0	0.0	93.9	666.6	1,125.9
8,622	83.5	0.75	26,300	0.21	0.0	0.0	861.7	100.0	861.7	13.3	565.2	0.0	0.0	28.1	199.7	337.4
137,902	65.5	1.52	1,177,400	0.18	0.0	0.0	922.0	100.0	922.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0
5,492	97.3	1.23	35,150	0.16	428.1	36.4	746.6	63.6	1,174.7	17.4	0.0	0.0	0.0	0.0	0.0	0.0
10,179	100.0	1.07	19,766	0.50	370.1	34.2	710.6	65.8	1,080.7	9.9	0.0	0.0	0.0	0.0	0.0	0.0
12,890	81.5	1.25	108,415	0.15	15.6	58.2	11.2	41.8	26.8	0.2	0.0	0.0	0.0	0.0	0.0	0.0
14,145	49.6	0.87	54,983	0.18	0.0	0.0	2,594.3	100.0	2,594.3	21.2	471.7	0.0	0.0	23.4	166.7	281.6
41,649	68.3	0.95	19,734	0.40	0.0	0.0	31,703.4	100.0	31,703.4	80.2	471.7	0.0	0.0	23.4	166.7	281.6
4,140	32.4	1.02	1,850	0.07	2,687.3	65.9	1,388.7	34.1	4,076.0	97.0	94.9	0.0	0.0	5.0	33.3	56.6
523,136	57.6	1.05	2,572,002	0.18	6,963.8	7.8	82,087.5	92.2	89,051.3	16.2	13,392.2	0.0	0.0	666.2	4,732.3	7,993.7

TABLE 5

**ASSESSED VALUATION, TAX AND WATER AVAILABILITY COLLECTIONS
FISCAL YEAR 1992-93**

MEMBER AGENCIES	Assessed Valuation-Secured and Unsecured				Area 6/30/93 Acres	1992-93 Valuation Per Acre	Tax Assessments To date	Tax Uncollected 6/30/93	Tax Collected	Interest & Penalties
	1991-92 Total	1992-93 Total	1991-93 % change	1993-94 Total						
Bueno Colorado M.W.D.	\$5,619,814,709	\$5,862,987,387	4.3%	\$5,953,287,732	19,772	\$296,530	\$5,873,215	\$44,859	\$5,828,356	\$59,707
Carlsbad M.W.D.	5,053,129,184	5,177,717,875	2.5%	5,144,189,981	20,374	254,134	5,795,242	41,130	5,754,112	53,859
Coronado, City of (2)	0	0	0.0%	0	0	0	(9,802)	0	(9,802)	0
Del Mar, City Of	675,565,785	732,509,475	8.4%	781,668,486	1,159	632,019	692,350	6,898	685,452	9,691
Escondido, City Of	2,954,346,161	3,013,920,576	2.0%	2,995,045,740	21,569	139,734	4,054,209	20,019	4,034,189	32,085
Fallbrook	1,266,529,552	1,330,705,962	5.1%	1,365,788,785	27,988	47,546	1,806,852	12,909	1,793,943	21,968
Helix W.D.	8,445,086,042	8,898,350,902	5.4%	8,992,689,002	31,292	284,365	16,288,151	61,087	16,227,063	96,318
National City, City Of	1,030,740,627	1,053,702,827	2.2%	1,318,518,707	5,577	188,937	2,369,199	6,633	2,362,566	12,133
Oceanside, City Of	4,975,978,282	5,259,633,916	5.7%	5,325,309,131	26,574	197,924	5,687,778	46,553	5,641,225	52,427
Olivenhain M.W.D.	4,154,325,941	4,367,033,605	5.1%	4,445,763,801	30,803	141,773	3,288,474	34,352	3,254,122	39,158
Otay W.D.	5,503,790,933	5,898,730,794	7.2%	6,196,663,805	63,062	93,539	4,929,457	55,695	4,873,762	60,919
Padre Dam M.W.D.	4,059,710,436	4,266,624,904	5.1%	4,388,417,453	54,539	78,231	5,284,336	30,084	5,254,253	65,760
Pendleton Military Res.	134,626,606	132,355,014	-1.7%	136,916,430	134,625	983	2,252,329	27	2,252,302	61
Poway, City Of	2,721,568,939	2,904,506,260	6.7%	3,026,118,551	23,214	125,119	2,627,762	16,436	2,611,326	31,300
Rainbow M.W.D.	1,405,910,662	1,472,747,336	4.8%	1,494,183,862	47,237	31,178	1,876,939	15,657	1,861,282	38,107
Ramona M.W.D.	1,305,695,354	1,375,095,672	5.3%	1,433,112,131	46,524	29,557	1,732,650	11,408	1,721,241	33,797
Rincon del Diablo M.W.D.	2,848,470,159	2,970,548,406	4.3%	3,035,051,965	10,323	287,760	3,040,171	22,809	3,017,363	31,036
San Diego, City Of	60,710,711,722	62,840,649,828	3.5%	63,544,933,587	210,625	298,353	30,499,340	285,616	30,213,724	200,296
San Dieguito W.D.	2,133,562,628	2,236,119,048	4.8%	2,280,386,395	5,647	395,984	2,962,098	17,819	2,944,278	22,000
Santa Fe I.D.	3,052,857,017	3,219,954,859	5.5%	3,295,936,521	10,179	316,333	3,902,313	25,377	3,876,936	29,062
South Bay I.D.	4,108,276,402	4,286,711,677	4.3%	4,179,555,555	15,566	275,389	8,160,696	30,209	8,130,486	40,994
Vallecitos M.W.D.	2,808,469,002	2,969,763,966	5.7%	3,039,717,041	28,496	104,217	2,827,451	22,133	2,805,317	28,590
Valley Center M.W.D.	1,427,017,628	1,523,815,777	6.8%	1,575,688,346	61,022	24,972	1,911,337	14,242	1,897,095	44,438
Yuima M.W.D.	155,731,867	166,315,009	6.8%	171,646,756	12,792	13,001	328,072	1,291	326,781	4,634
Total Authority	\$126,551,915,638	\$131,960,501,075	4.3%	\$134,120,589,763	908,959	\$145,178	\$118,180,617	\$823,243	\$117,357,374	\$1,008,340
San Diego County (1)	\$141,656,303,577	\$147,388,447,414	4.0%	\$146,021,435,927						

(1) Excluding 1,450,000 acres of non-taxable land in San Diego County.

(2) Excluded from CWA.

IONS

Area 6/30/93 Acres	1992-93 Valuation Per Acre	Tax Assessments To date	Tax Uncollected 6/30/93	Tax Collected	Interest & Penalties	Receipts in Lieu Of Taxes	Misc. Tax	Total Collections To date	Amount Paid for Service Connections to 6/30/93	Total Amount Paid by Each Member Agency to 6/30/93
19,772	\$296,530	\$5,873,215	\$44,859	\$5,828,356	\$59,707	\$10,803	\$124	\$5,898,990	\$207,439	\$6,106,428
20,374	254,134	5,795,242	41,130	5,754,112	53,859	33,275	11	5,841,258	7,931	5,849,189
0	0	(9,802)	0	(9,802)	0	187	0	(9,616)	0	(9,616)
1,159	632,019	692,350	6,898	685,452	9,691	531	1	695,675	0	695,675
21,569	139,734	4,054,209	20,019	4,034,189	32,085	29	29	4,066,332	9,254	4,075,586
27,988	47,546	1,806,852	12,909	1,793,943	21,968	4,420	43	1,820,374	67,773	1,888,147
31,292	284,365	16,288,151	61,087	16,227,063	96,318	4,931	784	16,329,095	28,906	16,358,001
5,577	188,937	2,369,199	6,633	2,362,566	12,133	6,828	96	2,381,624	0	2,381,624
26,574	197,924	5,687,778	46,553	5,641,225	52,427	2,601	100	5,696,354	126,369	5,822,723
30,803	141,773	3,288,474	34,352	3,254,122	39,158	1,250	0	3,294,530	89,024	3,383,554
63,062	93,539	4,929,457	55,695	4,873,762	60,919	4,455	45	4,939,181	208,574	5,147,755
54,539	78,231	5,284,336	30,084	5,254,253	65,760	3,003	132	5,323,147	45,244	5,368,391
134,625	983	2,252,329	27	2,252,302	61	0	0	2,252,363	0	2,252,363
23,214	125,119	2,627,762	16,436	2,611,326	31,300	15	9	2,642,650	103,875	2,746,525
47,237	31,178	1,876,939	15,657	1,861,282	38,107	23,680	1	1,923,069	193,484	2,116,554
46,524	29,557	1,732,650	11,408	1,721,241	33,797	5,400	59	1,760,497	3,379	1,763,876
10,323	287,760	3,040,171	22,809	3,017,363	31,036	58,801	1	3,107,201	14,527	3,121,728
210,625	298,353	30,499,340	285,616	30,213,724	200,296	53,075,781	2,467	83,492,268	610,595	84,102,864
5,647	395,984	2,962,098	17,819	2,944,278	22,000	5,426	131	2,971,836	47,206	3,019,041
10,179	316,333	3,902,313	25,377	3,876,936	29,062	2,893	1,914	3,910,804	58,787	3,969,592
15,566	275,389	8,160,696	30,209	8,130,486	40,994	629,977	143	8,801,601	0	8,801,601
28,496	104,217	2,827,451	22,133	2,805,317	28,590	0	0	2,833,907	14,769	2,848,677
61,022	24,972	1,911,337	14,242	1,897,095	44,438	1,101	26	1,942,571	162,555	2,105,125
12,792	13,001	328,072	1,291	326,781	4,634	1,500	0	332,914	28,424	361,339
908,959	\$145,178	\$118,180,617	\$823,243	\$117,357,374	\$1,008,340	\$53,876,797	\$6,117	\$172,248,627	\$2,028,116	\$174,276,743

TABLE 6

WATER USE - FISCAL YEARS 1981-82 to 1992-93
(All Figures in Acre-Feet)

MEMBER AGENCIES	From Local and Authority Supplies										
	1982-83	1983-84	1984-85	1985-86	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93
Bueno Colorado M.W.D.	14,720	18,351	16,988	17,584	17,828	18,781	20,457	22,420	19,991	17,723	18,752
Carlsbad M.W.D.	11,879	12,895	12,880	13,696	14,644	15,146	16,475	17,844	16,533	13,758	14,909
Del Mar, City Of	1,055	1,235	1,097	1,107	1,456	1,481	1,474	1,450	1,439	1,244	1,394
Escondido, City Of	20,269	24,214	23,712	24,913	24,913	24,913	26,950	29,194	26,813	22,667	24,717
Fallbrook P.U.D. (1)	11,948	15,131	13,979	14,856	15,532	14,225	15,946	17,221	16,434	12,644	13,602
Helix W.D.	36,519	41,081	40,578	42,056	42,201	41,863	44,156	43,616	37,435	32,905	37,026
National City and South Bay I.D.	23,252	25,593	26,092	26,854	26,115	25,504	26,135	25,872	22,534	19,716	21,862
Oceanside, City Of	19,846	22,563	24,114	24,190	25,164	25,989	27,693	28,763	26,491	23,454	25,965
Olivewood M.W.D.	6,027	7,741	8,233	9,490	9,739	10,755	12,595	13,481	12,003	11,166	12,494
Otay W.D.	11,952	13,551	13,830	15,126	16,337	17,246	20,470	22,810	20,652	18,303	20,893
Padre Dam M.W.D.	14,102	16,992	17,027	17,966	18,319	18,121	20,167	21,068	18,242	15,974	18,441
Pendleton Military (2)	0	52	124	95	111	118	108	157	114	98	119
Poway, City Of	7,547	9,215	9,320	10,051	10,822	11,601	13,039	13,610	12,800	10,364	11,399
Rainbow M.W.D.	25,354	31,374	29,297	29,887	29,822	28,389	32,055	33,629	32,031	25,237	25,594
Ramona M.W.D.	8,679	10,871	9,609	10,307	10,219	9,573	10,955	12,916	11,665	9,519	11,138
Rincon Del Diablo M.W.D.	4,374	6,001	6,039	6,383	6,859	7,189	8,419	8,741	7,630	6,221	6,458
San Diego, City Of											
Inside City	182,873	203,642	216,289	221,873	228,796	229,334	239,332	236,491	210,032	186,694	202,741
Outside City (not in CWA)	3,723	6,149	4,492	5,611	5,247	5,264	5,381	6,030	7,146	6,775	7,502
San Dieguito W.D.	7,298	7,870	7,856	7,904	8,300	8,205	8,559	8,559	7,301	6,417	6,769
Santa Fe I.D.	7,728	10,617	11,195	11,074	11,266	11,436	12,324	12,452	11,349	9,475	10,923
Vallecitos W.D.	7,847	9,654	10,090	10,932	11,161	11,385	12,742	13,436	12,240	10,534	12,259
Valley Center M.W.D.	32,583	42,367	39,435	41,419	43,791	40,224	47,243	52,629	50,354	38,544	39,514
Yulma M.W.D.	2,782	3,335	3,392	3,523	3,710	3,553	3,827	4,256	4,260	3,778	4,204
Total	462,357	540,314	545,338	565,096	582,452	580,153	626,502	646,645	585,619	503,210	548,674

(1) De Luz included in Fallbrook's figures.
(2) Figures do not include 6,615.7af local water use.

TABLE 7

WATER SALES - FISCAL YEARS 1947 TO 1993
(All Figures Rounded to the Nearest Whole Acre-Foot) Old Total

MEMBER AGENCIES	1947-48	1966-67	1967-68	1968-69	1969-70	1989-90	1990-91	1991-92	1992-93	TOTAL
	Bueno Colorado M.W.D.	197,231	5,119	11,678	12,016	19,084	19,084	15,237	13,665	9,146
Carlsbad M.W.D.	243,732	14,671	15,157	16,386	17,919	17,919	16,450	13,753	14,208	366,675
Del Mar, City Of	18,059	1,456	1,481	1,474	1,450	1,450	1,439	1,244	1,366	26,604
Escondido, City Of	232,051	16,320	20,381	21,811	26,048	26,048	24,083	15,415	9,164	381,583
Fallbrook P.U.D. (1)	383,326	16,741	14,000	15,877	17,272	17,272	16,423	12,427	13,322	484,375
Helix W.D.	792,651	39,732	37,267	40,642	45,793	45,793	41,278	22,587	27,720	1,085,651
National City and South Bay I.D.	370,757	20,814	20,514	19,519	24,183	24,183	23,811	12,531	10,183	528,698
Oceanside, City Of	353,722	25,164	25,889	27,893	28,763	28,763	26,491	23,452	25,965	581,330
Olivewood M.W.D.	76,765	9,485	10,742	12,595	13,481	13,481	12,003	11,166	12,494	166,470
Otay W.D.	240,464	16,337	17,246	20,470	22,810	22,810	20,652	18,303	20,652	382,204
Padre Dam M.W.D.	237,643	18,319	18,121	20,167	21,068	21,068	18,270	15,899	16,451	385,904
Pendleton Military Reservation	6,217	111	118	108	157	157	114	98	119	7,137
Poway, City Of	149,933	9,821	11,548	12,817	13,631	13,631	12,646	10,568	10,766	242,485
Rainbow M.W.D.	517,850	28,211	28,343	32,181	32,460	32,460	30,417	24,172	25,699	753,553
Ramona M.W.D.	96,891	9,843	9,526	11,985	14,460	14,460	11,300	11,934	11,040	186,916
Rincon Del Diablo M.W.D.	161,716	8,856	7,188	8,419	8,740	8,740	7,635	6,221	6,345	219,504
San Diego, City Of	3,749,351	197,965	210,440	232,439	270,234	270,234	191,990	169,511	148,033	5,200,866
San Dieguito W.D.	107,665	3,907	4,381	5,779	7,466	7,466	6,944	6,344	7,329	181,520
Santa Fe I.D.	120,049	5,268	6,019	6,303	10,692	10,692	12,250	9,844	12,259	211,483
Vallecitos W.D.	118,990	11,145	11,380	12,743	13,462	13,462	10,664	10,480	12,559	211,483
Valley Center M.W.D.	508,972	41,055	39,937	47,105	52,535	52,535	50,354	38,282	39,514	881,265
Yulma M.W.D.	41,337	1,911	1,442	1,484	2,166	2,166	2,242	1,349	1,425	53,280
Total Sales To Agencies	8,705,906	503,678	527,775	582,015	674,993	674,993	553,715	444,751	430,335	12,800,325
Total Sales To Others	56,509	0	0	0	0	0	0	0	0	57,048
Total To Authority Storage	358,538	13,158	3,722	3,651	2,450	2,450	26,332	4,271	9,750	440,101
Total From Authority Storage	(308,214)	(116)	0	(163)	(1,124)	(1,124)	(16,000)	(3,403)	(7,368)	(336,368)
Total To Metropolitan Storage	1,203,629	230	28,899	31,244	0	0	0	0	0	1,813,002
Total From Metropolitan Storage	(116,009)	(319)	(7,555)	(19,927)	(28,838)	(28,838)	0	0	0	(173,447)
Total Flow In Authority System	8,817,162	519,411	552,841	597,117	647,481	647,481	566,047	445,619	420,134	13,066,926
Average Rate Of Flow (C.F.S.)										
To Agencies and Others	656.0	665.7	737.0	804.3	932.4	932.4	764.8	611.8	595.0	
CWA Purchased From Agencies	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
To Authority Storage	18.2	21.9	5.1	3.4	3.4	3.4	38.16	4.6	13.4	
From Authority Storage	0.0	(0.2)	(0.2)	(1.6)	(22.1)	(22.1)	(10.2)	0.0	(10.2)	
To Metropolitan Storage	0.3	0.0	38.8	43.2	0.0	0.0	0.0	0.0	0.0	
From Metropolitan Storage	(0.3)	0.0	(10.4)	(27.5)	(26.8)	(26.8)	0.0	0.0	0.0	
Flow In Authority System	674.2	717.4	761.5	824.8	894.4	894.4	781.8	613.2	597.4	

(1) De Luz included in Fallbrook's figures.

TABLE 8

SALES OF IMPORTED WATER - FISCAL YEAR 92-93

(All Figures in Acre-Feet except as noted)

MEMBER AGENCIES	6 MONTH TOTAL						1992
	JUL.	AUG.	SEPT.	OCT.	NOV.	DEC.	
Buena Colorado M.W.D.	835.1	1,117.4	866.1	651.6	1,075.6	1,102.9	5,648.7
Carlsbad M.W.D.	1,615.5	1,637.1	1,531.8	1,394.0	1,302.1	920.9	8,401.4
Del Mar, City Of	157.4	181.9	146.1	112.9	104.6	81.5	784.4
Escondido, City Of	1,626.3	1,365.6	1,081.0	1,429.0	1,828.3	1,264.5	8,594.7
Fallbrook P.U.D.	1,729.8	1,896.9	1,750.3	1,431.6	1,103.4	516.3	8,428.3
Holt W.D.	2,846.8	3,717.3	3,469.3	3,754.8	3,681.6	3,492.4	20,962.2
National City and South Bay I.D.	9.7	10.2	9.4	2,716.5	2,869.3	3,593.9	9,209.0
Oceanside, City Of	2,841.1	2,939.5	2,734.5	2,507.3	2,127.3	1,245.6	14,395.3
Oliventain M.W.D.	1,514.2	1,613.4	1,403.8	1,167.7	1,008.5	621.5	7,329.1
Otay W.D.	2,387.7	2,447.3	2,243.1	1,861.7	1,651.1	980.3	11,571.2
Padre Dam M.W.D.	2,154.1	2,175.1	2,026.7	1,718.2	1,365.1	969.3	10,408.5
Pendleton Military Reservation	7.7	9.9	9.2	9.2	6.0	2.4	44.4
Poway, City Of	1,115.2	1,399.7	1,148.1	1,719.5	1,013.3	605.0	7,000.8
Rainbow M.W.D.	3,629.4	3,737.6	3,344.0	2,926.9	2,293.6	900.3	16,831.8
Ramona M.W.D.	651.3	642.4	596.0	1,049.0	1,048.6	874.1	4,861.4
Rincon Del Diablo M.W.D.	779.1	796.0	709.4	554.3	504.3	279.5	3,622.6
San Diego, City Of	12,980.9	14,511.9	8,513.6	18,681.3	13,684.2	24,503.5	92,875.4
San Dieguito W.D.	562.5	564.4	474.0	448.5	380.9	341.8	2,772.1
Santa Fe I.D.	1,029.0	1,013.8	859.9	752.7	530.2	303.8	4,579.4
Vallecitos C.W.D.	1,434.7	1,489.3	1,422.3	1,194.4	1,029.0	616.5	7,186.2
Valley Center M.W.D.	5,922.2	6,130.2	5,936.6	4,648.7	3,432.6	979.0	27,049.3
Yuma M.W.D.	233.6	244.7	317.0	268.2	140.4	22.5	1,226.4
Total Sales To Agencies	46,063.3	49,641.6	40,592.2	50,998.0	42,180.0	44,307.5	273,782.6
Total Sales To Others	- 0.0	0.0	0.0	237.5	0.0	0.0	237.5
Purchased From Others	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Sales To Agencies and Others	46,063.3	49,641.6	40,592.2	51,235.5	42,180.0	44,307.5	274,020.1
Total To Authority Storage	2,248.3	1,404.5	2,566.8	0.0	0.0	0.0	6,219.6
Total From Authority Storage	0.0	0.0	0.0	0.0	0.0	(7,367.9)	(7,367.9)
Total Flow In Authority System	48,311.6	51,046.1	43,159.0	51,235.5	42,180.0	36,939.6	272,871.8
Total Evaporation Losses From Pool							
Storage In San Vicente	110.4	111.7	102.9	65.5	44.6	12.9	448.0
Total Spill Losses From SV Pool	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Evaporation Losses From Seasonal Storage							
Program In Otay, Ramona, San Vicente, and Sweetwater Reservoirs	316.9	356.9	333.1	242.8	202.6	67.7	1,520.0
Total Spill Losses From CWA In SV	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Spill Losses From CWA In Otay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RATE OF FLOW							
To Agencies and Others	749.1	807.3	682.2	833.3	708.9	720.6	750.8
To Authority Storage	36.6	22.8	43.1	0.0	0.0	0.0	17.0
From Authority Storage	0.0	0.0	0.0	0.0	0.0	(119.8)	(20.2)
In Authority System	785.7	830.2	725.3	833.3	708.9	600.8	747.7

TABLE 8

(CONTINUED)

MEMBER AGENCIES	6 MONTH TOTAL						1993	FISCAL YEAR TOTAL	FISCAL YEAR C.F.S.
	JAN.	FEB.	MAR.	APR.	MAY	JUN.			
Buena Colorado M.W.D.	494.0	392.6	689.3	534.5	924.8	462.2	3,497.4	9,146.1	12.63
Carlsbad M.W.D.	614.9	557.9	1,003.9	1,288.0	1,531.2	1,530.7	6,526.6	14,928.0	20.62
Del Mar, City Of	65.1	61.3	87.8	109.8	140.3	146.0	610.3	1,394.7	1.93
Escondido, City Of	3.4	0.0	65.0	300.6	106.6	113.5	589.1	9,183.8	12.69
Fallbrook P.U.D.	288.8	290.2	629.9	1,001.1	1,363.2	1,320.2	4,893.4	13,321.7	18.40
Holt W.D.	1,514.4	(145.4)	390.8	1,762.5	1,370.5	1,874.5	6,767.3	27,729.5	38.30
National City and South Bay I.D.	962.0	4.9	4.1	0.1	0.1	2.8	974.0	10,183.0	14.07
Oceanside, City Of	1,141.8	1,019.3	1,579.1	2,213.7	2,777.4	2,838.7	11,570.0	25,965.3	35.87
Oliventain M.W.D.	374.0	358.8	601.5	1,045.0	1,373.0	1,412.5	5,164.8	12,493.9	17.26
Otay W.D.	888.9	791.4	1,251.9	1,723.4	2,232.4	2,195.9	9,083.9	20,655.1	28.53
Padre Dam M.W.D.	745.7	667.9	1,138.4	1,478.0	2,023.9	1,988.7	8,042.6	18,451.1	25.49
Pendleton Military Reservation	14.0	14.7	17.3	15.0	8.4	5.5	74.9	119.3	0.16
Poway, City Of	67.1	0.1	397.7	915.7	1,110.6	1,274.4	3,785.6	10,766.4	14.87
Rainbow M.W.D.	184.8	355.4	1,183.3	1,867.4	2,778.0	2,498.2	8,867.1	25,698.9	35.50
Ramona M.W.D.	864.6	620.3	253.2	874.6	966.0	2,600.2	6,178.9	11,040.3	15.25
Rincon Del Diablo M.W.D.	244.2	106.8	337.3	558.9	764.9	709.8	2,721.9	6,344.5	8.76
San Diego, City Of	11,506.2	6,758.9	8,325.8	9,722.6	10,479.4	8,364.2	55,157.1	148,032.5	204.47
San Dieguito W.D.	115.6	128.5	384.1	424.8	394.1	354.7	1,801.8	4,573.9	6.32
Santa Fe I.D.	128.5	138.4	500.0	672.7	675.5	614.2	2,729.3	7,308.7	10.10
Vallecitos C.W.D.	459.1	456.9	664.7	971.2	1,270.4	1,250.1	5,072.4	12,258.6	16.93
Valley Center M.W.D.	516.5	132.2	1,056.5	2,710.5	4,080.8	3,968.5	12,465.0	39,514.3	54.58
Yuma M.W.D.	7.0	0.0	0.0	39.6	84.0	68.1	198.7	1,425.1	1.97
Total Sales To Agencies	21,200.6	12,711.1	20,561.6	30,229.7	36,455.5	35,593.6	156,752.1	430,534.7	594.69
Total Sales To Others	0.0	0.0	0.0	0.0	0.0	0.0	0.0	237.5	0.33
Purchased From Others	(123.8)	(139.3)	(280.8)	(46.3)	0.0	0.0	(590.2)	(590.2)	(0.82)
Total Sales To Agencies and Others	21,076.8	12,571.8	20,280.8	30,183.4	36,455.5	35,593.6	156,161.9	430,182.0	594.20
Total To Authority Storage	0.0	0.0	1,367.8	614.9	856.6	670.8	3,510.1	9,729.7	
Total From Authority Storage	0.0	0.0	0.0	0.0	0.0	0.0	0.0	(7,367.9)	
Total Flow In Authority System	21,076.8	12,571.8	21,648.6	30,798.3	37,312.1	36,264.4	159,672.0	432,543.8	
Total Evaporation Losses From Pool									
Storage In San Vicente	24.6	16.4	28.6	41.2	50.5	56.9	218.2	666.2	
Total Spill Losses From SV Pool	0.0	(3,543.6)	(1,188.7)	0.0	0.0	0.0	(4,732.3)	(4,732.3)	
Total Evaporation Losses From Seasonal Storage									
Program In Otay, Ramona, San Vicente, and Sweetwater Reservoirs	81.6	27.7	37.2	60.4	79.1	98.0	384.0	1,904.0	
Total Spill Losses From CWA In SV	0.0	(4,697.4)	(1,575.8)	0.0	0.0	0.0	(6,273.2)	(6,273.2)	
Total Spill Losses From CWA In Otay	(8,145.3)	(1,833.2)	(81.7)	0.0	0.0	0.0	(10,060.2)	(10,060.2)	
RATE OF FLOW									
To Agencies and Others	342.8	218.6	329.8	507.2	592.9	598.2	435.0	594.2	
To Authority Storage	0.0	0.0	22.2	10.3	13.9	11.3	9.8	13.4	
From Authority Storage	0.0	0.0	0.0	0.0	0.0	0.0	0.0	(10.2)	
In Authority System	342.8	218.6	352.1	517.6	606.8	609.4	444.8	597.5	

TABLE 9
ASSESSED VALUATIONS AND TAX RATES
Fiscal Years 1945-46 to 1992-93

Fiscal Year	Secured Property	Public Utilities	Unsecured Property	Total	Tax Rate per \$100	
					Secured	Unsecured
1945-46	\$212,082,975	\$28,253,700	\$29,960,130	\$270,296,805	0.04	—
1946-47	208,715,150 (1)	29,433,450	30,665,910	268,814,510	0.04	0.04
1947-48	233,578,990	32,740,680	40,977,850	307,298,520 (2)	0.14	0.04
1948-49	254,227,570	37,482,020	47,177,300	338,886,890	0.14	0.14
1949-50	290,351,875	42,429,140	45,743,200	378,524,215	0.10	0.10
1950-51	306,104,930	43,595,730	44,717,740	394,418,400	0.10	0.10
1951-52	344,620,030	48,452,940	50,904,035	443,977,005	0.10	0.10
1952-53	382,948,860	53,208,220	63,996,330	500,153,410	0.12	0.10
1953-54	490,709,350	63,092,050	69,147,150	622,948,550	0.10	0.12
1954-55	546,272,880	69,243,550	79,629,790	695,146,220	0.10	0.10
1955-56	627,062,960	87,485,390	79,936,450	794,484,800	0.09	0.10
1956-57	680,824,400	101,224,260	97,950,800	879,999,460	0.09	0.09
1957-58	761,088,330	111,151,890	128,785,440	1,001,025,660	0.09	0.09
1958-59	865,283,080	128,479,290	128,124,720	1,121,887,090	0.10	0.09
1959-60	979,491,050	145,317,290	134,846,730	1,259,655,070	0.11	0.10
1960-61	1,116,723,830	163,666,720	159,954,740	1,442,345,290	0.11	0.11
1961-62	1,220,810,650	191,276,650	155,149,890	1,567,237,190	0.11	0.11
1962-63	1,272,506,330	201,245,370	154,989,440	1,628,741,140	0.11	0.11
1963-64	1,340,197,170	209,793,780	159,714,930	1,709,705,880	0.11	0.11
1964-65	1,423,375,590	213,352,470	151,696,520	1,788,414,580	0.11	0.11
1965-66	1,511,967,750	212,605,040	155,417,220	1,879,990,010	0.11	0.11
1966-67	1,567,290,460	212,223,550	147,740,730	1,927,254,740	0.11	0.11
1967-68	1,735,209,870	209,136,160	178,641,120	2,122,987,150	0.10	0.11
1968-69	1,876,936,060	208,018,700	197,139,600	2,282,094,360	0.09	0.10
1969-70	2,063,618,582	210,839,100	237,951,409	2,512,409,091	0.09	0.09
1970-71	2,348,151,943	216,378,300	276,932,717	2,841,462,960	0.09	0.09
1971-72	2,755,734,087	231,191,301	306,608,099	3,293,533,487	0.10	0.09
1972-73	3,061,010,163	225,224,650	347,857,938	3,634,092,751	0.11	0.10
1973-74	3,481,734,238	239,346,070	393,300,174	4,114,380,482	0.11	0.11
1974-75	4,075,823,685	249,562,970	450,374,627	4,775,761,282	0.11	0.11
1975-76	4,629,303,071	283,156,410	503,493,823	5,415,953,304	0.11	0.11
1976-77	5,230,851,497	311,553,690	545,425,038	6,087,830,215	0.11	0.11
1977-78	6,121,864,014	376,899,840	607,393,849	7,106,157,703	0.11	0.11
1978-79	6,272,490,327	594,099,470	707,294,537	7,533,884,334	0.06	0.11
1979-80	7,624,459,863	660,454,810	837,758,367	9,122,673,040	0.04	0.06
1980-81	9,163,752,692	731,869,180	438,834,823	10,334,456,495	0.05	0.04
1981-82 (4)	41,759,646,912	3,457,486,860	1,692,548,096	46,909,681,868	0.01	0.0125
1982-83	46,670,563,147	4,136,558,170	1,971,803,569	52,778,924,886	0.00817	0.01
1983-84	50,057,533,413	5,275,693,400	2,190,834,774	57,524,061,587	0.004605	0.00817
1984-85	55,587,979,549	5,666,443,560	2,577,402,391	63,831,825,500	0.00709	0.004605
1985-86	62,444,546,244	6,086,772,100	2,856,824,972	71,388,143,316	0.00531	0.007090
1986-87	70,584,788,216	7,095,945,340	2,952,629,417	80,633,367,973	0.00461	0.005310
1987-88	78,866,134,523	7,466,894,810	3,660,711,360	89,993,730,693	0.004	0.00461
1988-89 (5)	87,712,729,304	91,081,209	4,189,167,191	91,992,977,704	0.00403	0.004
1989-90	98,726,472,817	98,688,505	4,861,091,518	103,686,252,840	0.00432	0.00403
1990-91	111,400,613,016	94,308,288	5,633,160,953	117,128,102,257	0.00395	0.00432
1991-92	120,622,046,693	144,065,193	5,269,623,758	126,035,735,644	0.00320	0.00395
1992-93	125,954,623,975	66,258,740	5,403,856,209	131,424,738,924	0.00332	0.00320

- (1) City of Coronado secured assessed valuations not included in this or subsequent tax levies by the Authority, having withdrawn from the Authority prior to 1946-47.
 (2) City of Coronado not included in this or subsequent total valuation.
 (3) Gross Tax Levy; includes State Grant for Business Inventory, Homeowners Exemption, and allocation of the 1% assessment from the County of San Diego.
 (4) Assessed valuation changed to full market value as determined by County Assessor.
 (5) Public utilities assessed valuation and procedures revised by State Board of Equalization.

TABLE 9 (Continued)
TAX LEVIES AND TAX COLLECTIONS BY FISCAL YEAR
(Includes in Lieu of Taxes)
Fiscal Years 1945-46 to 1992-93

Tax Levy (3)	Collection of Current Year's Taxes During Fiscal Year	Percentage of Levy Collected During Fiscal Year	Adjustments of Prior Year's Levies	Collection of Prior Year's Taxes During Fiscal Year	Total Tax Collections	Accumulated Delinquent Taxes	Ratio
							Accumulated Delinquent Taxes to Tax Levy
\$96,131	\$94,656	98.47	—	—	\$94,656	\$1,474	1.53
107,808	105,753	98.09	—	1,090	106,843	2,439	2.26
389,591	381,563	97.94	—	1,882	383,445	8,585	2.20
474,520	459,504	96.84	—	5,916	465,420	17,685	3.73
401,112	392,732	97.91	329	13,242	406,074	13,052	3.25
397,970	390,274	98.07	373	8,217	398,491	12,904	3.24
450,405	441,242	97.97	978	7,699	448,941	15,346	3.41
594,603	585,417	98.46	(1,140)	12,567	597,984	10,824	1.82
652,335	640,239	98.15	4,213	9,942	650,181	17,191	2.64
709,678	695,200	97.96	1,295	12,638	707,938	20,326	2.86
803,375	788,734	98.18	(2,099)	12,140	800,874	20,726	2.58
874,774	861,461	98.48	576	13,056	874,517	21,560	2.46
965,006	946,445	98.08	958	12,890	959,335	28,189	2.92
1,178,885	1,152,265	9.78	—	13,347	128,612	36,462	3.09
1,436,270	1,408,277	98.05	(5,274)	16,647	1,424,924	42,533	2.98
1,624,733	1,586,169	97.63	(8,720)	21,501	1,607,670	30,874	1.90
1,763,785	1,718,575	97.44	(2,276)	31,477	1,750,052	62,330	3.53
1,816,449	1,775,932	97.77	(3,688)	38,134	1,814,066	61,023	3.36
1,910,019	1,862,973	97.54	(268)	36,825	1,899,798	70,975	3.72
2,000,067	1,948,853	97.44	(5,588)	42,596	1,991,449	73,003	3.65
2,101,023	2,033,032	96.76	2,503	44,784	2,077,816	98,714	4.70
2,154,994	2,090,637	97.01	(7,164)	54,333	2,144,970	101,573	4.71
2,175,276	2,129,998	97.92	(301)	64,473	2,194,469	82,078	3.77
2,110,913	2,103,601	99.65	—	55,253	2,158,854	34,136	1.62
2,182,274	2,149,330	98.49	91,680	24,018	2,173,348	103,963	4.76
2,450,123	2,408,899	98.32	38,500	104,032	2,512,932	79,655	3.25
3,084,869	3,058,713	99.15	27,045	32,926	3,091,639	99,930	3.24
3,790,191	3,743,715	98.77	494	45,314	3,789,029	101,586	2.68
4,004,024	3,941,152	98.43	4,891	43,846	3,984,998	125,502	3.13
4,673,400	4,597,610	98.38	(4,753)	42,611	4,640,221	154,107	3.30
5,336,375	5,223,483	97.88	(17,845)	76,632	5,300,115	172,522	3.23
6,012,954	5,928,085	98.59	34,543	109,718	6,037,803	182,216	3.03
7,111,999	7,083,080	99.59	(6,021)	87,193	7,170,273	117,921	1.66
5,956,033	5,802,438	97.42	—	134,444	5,936,882	137,027	2.30
5,549,222	5,420,190	97.67	(105,757)	137,072	5,557,262	23,275	0.42
7,164,231	7,076,598	98.78	181,346	137,782	7,214,380	154,472	2.16
7,150,025	6,886,178	96.31	73,743	228,215	7,114,393	213,847	2.99
6,690,619	6,634,619	99.16	197,022	164,354	6,798,973	302,515	4.52
6,588,403	6,460,324	98.06	(47,042)	178,479	6,638,803	205,073	3.11
7,239,670	7,039,608	97.24	176,805	283,045	7,322,653	298,895	4.13
7,181,483	7,092,760	98.76	40,938	158,696	7,251,456	269,860	3.76
6,269,310	6,053,170	96.55	53,304	166,944	6,220,114	372,360	5.94
6,309,666	6,057,897	96.01	95,635	462,995	6,520,892	251,769	3.99
6,044,731	6,106,942	101.03	380,294	180,037	6,286,979	389,785	6.45
5,153,457	4,720,332	91.60	(149,025)	239,860	4,960,192	433,125	8.40
4,207,830	4,319,988	102.67	177,808	207,775	4,527,763	265,961	6.32
3,880,365	3,921,541	101.06	64,817	146,204	4,067,745	441,873	11.39
4,131,288	4,039,336	97.77	6,973	244,431	4,283,767	465,716	11.27

TABLE 10

**Revenue Dedicated to Finance
Capital Improvement Program
Fiscal Year 1992-93**

MEMBER AGENCIES	Water Availability	Total	Total	Capacity	Total
	Charges Collections FY 1992-93	Amount Paid By Each Member Agency to 6-30-93	Capacity Charges Collections FY 1992-93	Capacity Charges Collections to 6-30-93	Capacity Charges Collections to 6-30-93
Bueno Colorado M.W.D.	\$ 425,175	\$ 1,657,699	\$ 355,978	\$ 950,769	\$ 2,608,468
Carlsbad M.W.D.	265,923	1,154,359	115,360	668,940	1,823,299
Del Mar, City of	21,404	99,153	1,992	18,864	118,017
Escondido, City of	190,056	749,654	154,024	501,154	1,250,808
Fallbrook	254,266	1,007,925	25,976	209,776	1,217,701
Helix W.D.	621,436	2,460,939	170,276	504,877	2,965,816
National City, City of	81,604	322,892	0	0	322,892
Oceanside, City of	426,987	1,716,001	520,165	1,768,024	3,484,025
Olivenhain M.W.D.	338,270	1,364,836	38,549	180,756	1,545,592
Otay W.D.	588,942	2,828,711	576,688	1,662,913	4,491,624
Padre Dam M.W.D.	620,302	2,455,142	132,299	427,644	2,882,786
Pendleton Military Res.	2,610	10,722	0	0	10,722
Poway, City of	253,793	1,041,672	24,049	254,541	1,296,213
Rainbow M.W.D.	473,719	1,872,883	(3,083)	317,923	2,190,806
Ramona M.W.D.	436,363	1,723,807	59,159	168,785	1,892,592
Rincon del Diablo M.W.D.	280,050	1,093,810	9,308	101,930	1,195,740
San Diego, City of	3,439,833	13,236,815	2,333,335	5,954,552	19,191,367
San Dieguito W.D.	123,128	486,775	51,041	113,977	600,752
Santa Fe I.D.	132,365	592,343	32,511	67,597	659,940
South Bay I.D.	285,423	1,125,278	67,494	280,355	1,405,633
Vallecitos M.W.D.	295,922	1,191,734	214,421	1,087,337	2,279,071
Valley Center M.W.D.	601,386	2,511,781	36,824	350,828	2,862,609
Yuima M.W.D.	79,933	365,963	996	9,832	375,795
TOTAL	\$10,236,890	\$41,070,894	\$4,917,362	\$15,601,374	\$56,672,268

TABLE 11

**SAN JACINTO TUNNEL WEST PORTAL
CHEMICAL CHARACTERISTICS OF NATURAL
COLORADO RIVER WATER
Year Ending June 30, 1993**

Samples Taken at Entrance of San Diego Aqueduct by M.W.D.
Analysis by District Laboratory

Month	Total Hardness as mg/l CaCO3	Alkalinity as mg/l Total	Magnesium as mg/l	(PH)	Temperature When Sampled	
				Hydrogen Ion Concentration	Celsius	Fahrenheit
July	316	135	29.5	8.28	26	79
August	316	129	29.5	8.08	27	81
September	313	134	30.0	8.27	26	79
October	313	131	30.0	8.38	25	77
November	313	127	30.5	8.36	20	68
December	315	131	31.0	8.34	13	55
January	322	135	31.5	8.15	10	50
February	303	131	30.0	8.24	12	54
March	242	125	23.0	8.20	13	55
April	263	127	25.0	8.39	17	63
May	319	138	32.0	8.38	22	72
June	322	131	32.0	8.01	24	75

ANALYSIS-YEAR ENDING JUNE 30, 1993

(mg/l Except PH, Conductivity, and Temperature)

Constituents	Symbol	ANALYSIS		
		Average	Maximum	Minimum
Silica	(SiO2)	8.4	9.4	5.8
Calcium	(Ca)	73	78	59
Magnesium	(Mg)	29.5	32	23.0
Sodium	(Na)	96	107	61
Potassium	(K)	4.6	5	4.0
Carbonate	(CO3)	1	4	0
Bicarbonate	(HCO3)	158	165	153
Sulfate	(SO4)	257	282	177
Chloride	(Cl)	86	93	69
Nitrate	(NO3)	0.75	1.10	0.30
Fluoride	(F)	0.34	0.50	0.28
Boron	(B)	0.00	0.00	0.00
Total Dissolved Solids		635	683	477
Hardness as CaCO3-Total		305	322	242
Alkalinity-Total		131	138	125
Free Carbon Dioxide	(CO3)	1.5	2.6	1.1
Hydrogen Ion Concentration	(PH)	8.26	8.39	8.01
Electrical Conductivity umho/cm		1028	1094	834
Temperature (Celsius)		19	27	10
Bromide	(Br)	0.08	0.09	0.07

TABLE 12
CHEMICAL CHARACTERISTICS OF BLENDED TREATED WATER
Year Ending June 30, 1993
 Samples Taken at Entrance of San Diego Aqueduct by M.W.D.
 and Analysis by District Laboratory

Month	Total Hardness as mg/l CaCO3	Alkalinity as mg/l Total	Magnesium as mg/l	(PH)	Temperature When Sampled	
				Hydrogen Ion Concentration	Celsius	Fahrenheit
July	292	126	28.0	7.83	26	79
August	304	129	29.5	7.86	27	81
September	308	134	29.3	7.91	26	79
October	315	127	31.0	7.96	23	73
November	315	129	31.3	8.01	18	64
December	312	128	31.0	8.06	13	55
January	303	123	30.3	8.00	11	52
February	206	118	28.8	7.87	12	54
March	262	118	25.8	7.68	14	57
April	287	125	27.8	7.81	19	66
May	295	126	29.3	7.81	22	72
June	318	128	30.8	7.77	24	75

ANALYSIS-YEAR ENDING JUNE 30, 1993
 (mg/l Except PH, Conductivity, and Temperature)

Constituents	Symbol	ANALYSIS		
		Average	Maximum	Minimum
Silica	(SiO2)	8.9	10.8	4.9
Calcium	(Ca)	72	76	62
Magnesium	(Mg)	29.1	31.5	24.5
Sodium	(Na)	97	103	74
Potassium	(K)	5	5	4
Carbonate	(CO3)	0	0	0
Bicarbonate	(HCO3)	155	162	144
Sulfate	(SO4)	254	276	195
Chloride	(Cl)	91	97	79
Nitrate	(NO3)	0.45	0.95	0.2
Fluoride	(F)	0.26	0.40	0.21
Boron	(B)	0.17	0.20	0.14
Total Dissolved Solids		634	671	531
Hardness as CaCO3-Total		299	317	256
Alkalinity-Total		127	133	118
Free Carbon Dioxide	(CO3)	3.2	4.4	2.2
Hydrogen Ion Concentration	(PH)	7.92	8.07	7.74
Electrical Conductivity umho/cm		1037	1,090	934
Temperature (Celsius)		22	27	11
Bromide	(Br)	0.08	0.10	0.01
Total Trihalomethanes		44	60	25

TABLE 13
ASSESSED VALUATIONS AND TAX RATES OF THE
METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

Fiscal Year	Area (acres)	Assessed Valuation Total (1)	Tax Rate	
			Per \$100 Secured	Per \$100 Unsecured
1929-30	-	\$ 2,439,836,920	0.04	0.00
1930-31	-	2,431,684,250	.03	.04
1931-32	-	2,382,184,445	.03	.03
1932-33	-	1,936,051,180	.04	.03
1933-34	-	1,654,403,890	.04	.04
1934-35	-	1,587,147,565	.10	.04
1935-36	-	1,873,531,020	.20	.10
1936-37	-	1,789,160,685	.37	.20
1937-38	-	1,827,765,725	.40	.37
1938-39	-	1,896,966,255	.40	.40
1939-40	-	1,910,152,190	.42	.40
1940-41	389,588	1,841,248,450	.49	.42
1941-42	399,875	1,900,599,934	.48	.49
1942-43	400,814	2,001,924,735	.48	.48
1943-44	401,190	2,005,496,430	.48	.48
1944-45	401,536	2,109,192,795	.48	.48
1945-46	402,779	2,159,731,425	.50	.48
1946-47	501,425	2,413,186,570	.48	.50
1947-48	546,573	3,443,212,822 (2)	.35	.48
1948-49	578,368	3,883,081,225	.34	.35
1949-50	585,194	4,181,812,855	.34	.34
1950-51	721,850	4,281,519,725	.31	.34
1951-52	965,130	4,674,664,040	.30	.31
1952-53	1,120,448	5,372,498,515	.28	.30
1953-54	1,368,038	6,015,691,980	.25	.28
1954-55	1,793,651	6,548,392,114	.23	.25
1955-56	1,876,256	8,514,868,335	.21	.23
1956-57	1,932,205	9,674,000,560	.19	.21
1957-58	2,046,189	11,235,906,510	.18	.19
1958-59	2,128,333	12,070,838,070	.18	.18
1959-60	2,171,290	12,714,205,470	.17	.18
1960-61	2,544,960	13,737,971,925	.16	.17
1961-62	2,647,014	14,803,202,587	.15	.16
1962-63	2,797,946	15,699,681,030	.14	.15
1963-64	2,825,306	17,261,412,395	.14	.14
1964-65	2,882,144	17,757,246,740	.14	.14
1965-66	2,890,266	19,143,157,788	.14	.14
1966-67	2,901,421	20,979,150,165	.14	.14
1967-68	3,061,855	22,732,157,500	.14	.14
1968-69	3,067,896	24,016,568,274	.16	.14
1969-70	3,072,058	25,572,510,561	.17	.16
1970-71	3,075,616	27,605,084,302	.17	.17
1971-72	3,093,303	29,023,413,462	.17	.17
1972-73	3,126,803	31,001,520,641	.15	.17
1973-74	3,127,690	32,838,476,378	.14	.15
1974-75	3,129,664	35,941,961,285	.14	.14
1975-76	3,132,012	39,585,365,754	.13	.14
1976-77	3,132,800	45,695,542,697	.12	.13
1977-78	3,267,533	51,268,796,300	.12	.12
1978-79	3,268,337	53,573,470,118	.10	.12
1979-80	3,270,880	64,119,383,253	.09	.10
1980-81	3,272,679	69,390,300,019	.079	.09
1981-82	3,273,339	314,726,854,882 (3)	.0188% (3)	.0188% (3)
1982-83	3,277,011	353,335,259,307	.0166%	.0188%
1983-84	3,280,294	379,788,761,242	.0237%	.0166%
1984-85	3,280,954	419,859,047,899	.0156%	.0237%
1985-86	3,282,745	458,782,059,816	.0164%	.0156%
1986-87	3,286,400	505,419,663,679	.0148%	.0164%
1987-88	3,287,309	564,692,806,207	.0112%	.0148%
1988-89	3,288,247	596,900,358,958	.0110%	.0112%
1989-90	3,288,754	671,699,558,661	.0121%	.0110%
1990-91	3,291,520	750,962,873,308	.0097%	.0121%
1991-92	3,295,385	820,543,619,722	.0089%	.0097%
1992-93	3,297,760	864,768,971,806	.0089%	.0097%
1993-94		881,487,895,664	.0089%	.0089%

(1) Includes secured, unsecured, and public utility valuations.
 (2) First year in which Authority assessed valuation was included in District's assessed valuation.
 (3) Effective FY 1981-82 assessed valuation reported at 100% of full value, and tax rates levied in percentage of full assessed value.

TABLE 14

METROPOLITAN WATER DISTRICT ANNEXATION CHARGES AND BALANCES ON AUTHORITY AREAS

Member Agencies	Date of Annexation	Remaining Balance at 6/30/93
Annexation Charges Outstanding		
Del Luz M.W.D.	6-28-67	\$ 3,441,253.82
No. 1 Annexation of 1969	10-15-69	691,626.30
Fallbrook P.U.D.		
Fallbrook Community Air Park	12-22-69	99,326.32 *
Olivenhain M.W.D.		
No. 1 Annexation of 1965	2-11-65	51,206.50
No. 4 Annexation of 1967	11-13-67	31,103.40
Padre Dam M.W.D.		
No. 4 Annexation of 1970	8-3-70	73,271.92
Rainbow M.W.D.		
No. 3 Annexation of 1967	12-6-67	3,838,820.12 *
No. 5 Annexation of 1973	11-22-73	7,768.00
Ramona M.W.D.		
No. 3 Annexation of 1963	9-20-63	345.53
No. 4 Annexation of 1967	11-12-67	324,274.94
No. 5 Annexation of 1972	5-17-72	392,139.59
Rincon del Diablo M.W.D.		
No. 4 Annexation of 1972	11-2-72	29,681.14 *
San Diego W.D.		
No. 2 Annexation of 1972	12-8-72	165,425.82 *
Valley Center M.W.D.		
No. 2 Annexation of 1967	11-26-67	21,843.50
No. 3 Annexation of 1967	11-30-67	366,449.83
Yuima M.W.D.		
No. 1 Annexation of 1967	12-16-63	24,954.33
No. 2 Annexation of 1969	11-21-67	21,855.61
Pendleton Military Res.-Nuclear Generating Plant	11-24-69	7,821.48
	12-16-77	1,617,257.45
Total		\$ 11,206,425.60
Annexation charges received from other annexed areas not listed above having no remaining balance		
		\$ 24,206,718.00

* Annual interest charge on outstanding balance is greater than tax levy based on maximum MWD tax rate of .1875% of assessed valuation (formerly .75/\$100 of A.V.).

TABLE 15

WATER SALES BY METROPOLITAN WATER DISTRICT
Fiscal Years 1941-42 to 1991-93

Year	To Member Municipalities								
	Natural Water		Treated Water		Total to Agencies	To Others	Total		
	Acre Feet	Percent	Acre Feet	Percent	Acre Feet	Acre Feet	Acre Feet		
1941-42	0	0	9,372.6	100	9,372.6	70.7	9,443.3		
1942-43	0	0	14,457.8	100	14,457.8	2,626.4	17,084.2		
1943-44	0	0	15,874.9	100	15,874.9	3,301.8	19,176.7		
1944-45	0	0	30,591.3	100	30,591.3	1,715.7	32,307.0		
1945-46	0	0	46,685.8	100	46,685.8	1,264.2	47,950.0		
1946-47	0	0	59,861.8	100	59,861.8	524.0	60,385.8		
1947-48	41,093.5	36	71,995.4	64	113,088.9	116.8	113,205.7		
1948-49	71,642.6	49	73,237.1	51	144,879.7	128.4	145,008.1		
1949-50	69,308.0	49	72,936.0	51	142,244.0	23,371.6	165,615.6		
1950-51	75,000.9	54	63,493.1	46	138,494.0	26,978.6	165,472.6		
1951-52	66,674.3	44	84,616.1	56	151,290.4	42,484.2	193,754.6		
1952-53	30,845.3	24	99,569.6	78	130,434.9	31,682.4	162,117.3		
1953-54	120,773.0	51	115,550.6	49	236,323.6	7,820.7	244,144.3		
1954-55	192,544.7	59	134,923.3	41	327,468.0	58,184.5	385,652.5		
1955-56	190,337.2	53	169,506.4	47	359,843.6	45,562.9	405,406.5		
1956-57	288,059.1	60	191,110.7	40	477,169.8	66,074.1	543,243.9		
1957-58	266,024.1	57	197,900.0	43	463,924.1	75,612.8	539,536.9		
1958-59	244,354.2	46	282,248.1	54	526,602.3	74,107.1	600,709.4		
1959-60	425,019.0	58	304,874.8	42	729,893.8	6,523.2	736,417.0		
1960-61	594,521.1	64	335,207.2	36	929,728.3	4,099.4	933,827.7		
1961-62	628,811.0	66	312,975.9	34	941,786.9	3,676.9	945,463.8		
1962-63	668,881.8	66	348,092.6	34	1,016,974.4	3,677.0	1,020,651.4		
1963-64	671,853.4	63	388,533.9	37	1,060,387.3	3,776.7	1,064,164.0		
1964-65	645,577.3	58	471,042.0	42	1,116,619.3	5,035.3	1,121,654.6		
1965-66	550,630.8	52	503,424.9	48	1,054,055.7	4,821.8	1,058,877.5		
1966-67	523,141.2	50	531,659.7	50	1,054,800.9	4,513.0	1,059,313.9		
1967-68	514,248.1	48	557,730.9	52	1,071,979.0	4,934.9	1,076,913.9		
1968-69	455,174.3	43	599,237.7	57	1,054,412.0	2,232.4	1,056,644.4		
1969-70	482,256.9	41	692,846.4	59	1,175,103.3	650.0	1,175,753.3		
1970-71	520,983.9	46	612,511.6	54	1,133,495.5	150.3	1,133,645.8		
1971-72	590,356.9	47	656,635.9	53	1,246,992.8	549.6	1,247,542.4		
1972-73	569,290.7	48	606,120.4	52	1,175,411.1	4.3	1,175,415.4		
1973-74*	655,058.0	52	593,180.0	48	1,248,238.0	955.0	1,249,193.0		
1974-75*	721,970.0	54	607,013.0	46	1,328,983.0	653.0	1,329,636.0		
1975-76*	735,100.0	53	653,154.0	47	1,388,254.0	994.0	1,389,248.0		
1976-77*	560,124.0	40	829,773.0	60	1,389,897.0	569.0	1,390,466.0		
1977-78*	508,036.0	40	757,270.0	60	1,265,306.0	22,019.0	1,287,325.0		
1978-79*	434,455.0	36	777,173.0	64	1,211,628.0	24,256.0	1,235,884.0		
1979-80	438,414.0	34	843,800.0	66	1,282,214.0	2,620.0	1,284,834.0		
1980-81	487,833.0	33	975,177.0	67	1,463,010.0	588.0	1,463,598.0		
1981-82	562,650.0	37	940,660.0	63	1,503,310.0	989.0	1,504,299.0		
1982-83	314,190.0	26	912,172.0	74	1,226,362.0	207.0	1,226,569.0		
1983-84	364,608.5	26	1,062,123.5	74	1,426,732.0	1,210.0	1,427,942.0		
1984-85	455,061.0	29	1,119,443.0	71	1,574,504.0	**	934.0	1,575,438.0	
1985-86	500,955.0	30	1,145,856.0	70	1,646,811.0	**	346.0	1,647,157.0	
1986-87	568,812.9	31	1,252,783.6	69	1,821,596.5	**	1,508.0	1,823,104.5	
1987-88	598,722.0	31	1,322,484.0	69	1,921,206.0	**	675.0	1,921,881.0	
1988-89	745,767.3	**	35	1,362,428.6	65	2,108,195.9	**	694.0	2,108,889.9
1989-90	1,035,681.0	**	41	1,464,980.0	59	2,500,661.0	**	783.0	2,501,444.0
1990-91	889,972.0	**	39	1,373,777.0	61	2,263,749.0	**	0.0	2,263,749.0
1991-92	805,111.9	**	34	1,083,795.5	66	1,888,907.4	**	0.0	1,888,907.4
1992-93	656,133.0	**	34	1,254,996.0	66	1,911,129.0	**	0.0	1,911,129.0

* Revised

** Includes deliveries of reclaimed water to Las Virgenes, Coastal MWD, Long Beach and MWD of Orange Co.

Table 16
WATER DELIVERIES AND LOCAL SUPPLIES
METROPOLITAN WATER DISTRICT CONSTITUENT AREAS
 Figures Furnished by Metropolitan Water District
 (Acre Feet)

(1) M.W.D. Member Agencies	(2) Fiscal Year 1991-92			(3) Fiscal Year 1992-93			(7) Total Water Use (5)+(6)	(8) Difference in Totals (7)-(4)	(9) Percent Difference of Totals (8)/(4)	(10) Difference of M.W.D. Supply (6)-(3)	(11) Percent Difference of M.W.D. Supply (10)/(3)
	(1) Local Water Supply	(2) M.W.D. Water Supply	(3) Total Water Use (2)+(3)	(4) Local Water Supply	(5) M.W.D. Water Supply	(6) Total Water Use (5)+(6)					
Anaheim	42,263	22,896	65,159	50,861	22,795	73,656	8,497	13.04%	(101)	-0.44%	
Beverly Hills	0	12,216	12,216	0	12,559	12,559	343	2.81%	343	2.81%	
Burbank	195	18,326	18,521	3,665	19,186	22,851	4,330	23.38%	860	4.69%	
Calleguas M.W.D.	27,335	83,222	110,557	25,428	89,329	114,757	4,200	3.80%	6,107	7.34%	
Central Basin M.W.D.	122,582	134,903	247,485	178,639	76,135	254,774	72,889	2.95%	(48,768)	-39.04%	
Chino Basin M.W.D.	79,067	107,708	186,775	138,161	46,637	184,798	(1,977)	-1.06%	(61,071)	-56.70%	
Coastal M.W.D.	5,364	36,621	41,985	8,517	38,338	46,855	4,870	11.60%	1,717	4.69%	
Compton	5,438	3,905	9,343	4,272	5,620	9,892	549	5.88%	1,715	43.92%	
Eastern M.W.D.	86,851	44,008	130,859	85,127	47,846	132,973	2,114	1.62%	3,838	8.72%	
Foothill M.W.D.	5,386	8,394	13,780	6,176	8,615	14,791	1,011	7.34%	221	2.63%	
Fullerton	22,418	7,101	29,519	19,621	11,132	30,753	1,234	4.18%	4,031	56.77%	
Glendale	2,069	23,135	25,204	1,719	26,283	28,002	2,798	11.10%	3,148	13.61%	
Las Virgenes	383	18,509	18,892	104	19,986	20,090	1,198	6.34%	1,477	7.88%	
Long Beach	29,863	35,606	65,469	23,374	46,096	69,470	4,201	6.44%	10,449	29.46%	
Los Angeles	267,898	287,464	555,362	297,136	289,018	586,154	31,092	5.60%	1,554	0.54%	
M.W.D. of Orange County	152,113	227,848	379,961	231,605	201,067	432,672	52,711	13.87%	(26,781)	-11.76%	
Pasadena	12,229	18,400	30,629	1,138	19,571	23,699	(930)	-3.04%	1,171	6.36%	
San Diego C.W.A.	63,396	425,665	489,061	115,056	433,617	548,673	59,622	12.19%	7,952	1.87%	
San Fernando	2,653	652	3,305	3,183	580	3,763	458	13.86%	(72)	-11.04%	
San Marino	5,099	733	5,832	5,264	1,017	6,281	449	7.70%	284	38.74%	
Santa Ana	25,426	18,748	44,174	28,705	15,621	44,326	1,152	2.61	(3,127)	-15.68%	
Santa Monica	7,485	5,174	12,659	8,733	5,299	14,032	1,373	10.85%	125	2.42%	
Three Valleys M.W.D.	48,228	60,895	109,123	53,501	59,081	112,582	3,459	3.17%	(1,914)	-2.99%	
Torrance	4,288	16,386	20,674	1,607	19,869	21,476	802	3.88%	3,483	21.26%	
Upper San Gabriel Valley M.W.D.	86,860	74,696	161,556	159,181	10,205	169,386	7,830	4.85%	(64,491)	-86.34%	
West Basin M.W.D.	7,204	146,282	153,486	20,422	140,300	160,722	7,236	4.71%	(5,962)	-4.09%	
Western M.W.D. of Riverside Co.	190,706	58,350	252,056	152,478	61,057	213,535	(38,521)	-15.28%	2,707	4.84%	
Totals	1,305,289	1,887,843	3,193,132	1,633,683	1,726,859	3,360,522	167,390	5.24%	(160,984)	-8.53%	

MAJOR BOARD ACTIONS

July 9, 1992

- Resolution:** Adopted amendment to the existing Resolution of Necessity, Resolution 92-36, for construction on the Roarke and Jensen parcels for the Pipeline 4 Extension, Phase II Project (Lower Otay Pipeline, Parcels 194-A-4 and 194-B-2).
- Resolution:** Adopted Negative Declaration for Water Standby Availability Charge.
- Motion:** Accepted Great American Insurance Company's offer to pay \$40,000 to settle the Authority's claims for defense and indemnity regarding the Chatham Brothers barrel yard.
- Motion:** Accepted offers/counter offers for parcels 198-B for \$2,188.00; 201-C for \$41,679.00; and 201-D for \$6,039.00 from Eastlake Development Company for Pipeline 4 Extension, Phase II (Lower Otay Pipeline).
- Resolution:** Requested the Paradise Mountain parcel be annexed into Valley Center.
- Motion:** Authorized the General Manager to retain Marron, Reid & Sheehy (Emilio E. Varanini, III) and Ernesto J. Perez as special counsel for the potential South Bay Desalination Project.
- Resolution:** Added Section 3.9 to the Administrative Code to delegate authority for processing all claims and settlement of claims up to \$5,000 to the General Manager and General Counsel.
- Motion:** Approved settlement of SDCWA v. Neidermeyer for \$675,000 plus interest for fee title to 3.57 acres.
- Motion:** Awarded Pipeline 4 Extension, Phase II Project (Lower Otay Pipeline) Specification 432 to Kiewit Pacific Company for \$24,437,000.
- Motion:** Awarded a Professional Services Agreement to Black & Veatch to provide preliminary engineering design services for the Pipeline 5 Extension, Phase II (Rancho Penasquitos Pipeline) for an amount not to exceed \$467,500.

SAN DIEGO COUNTY WATER AUTHORITY

- Motion: Awarded a Professional Services Agreement to Camp, Dresser & McKee for engineering services for treated water study for an amount not to exceed \$400,000.
- Ordinance: Fixed the Water Standby Availability Charge for Fiscal Year 1992-93.
- Motion: Authorized the General Manager to execute a contract with Ogden Environmental and Energy Services for preparation of an EIR/EIS and supporting studies and to secure necessary permits for the storage project for an amount not to exceed \$3,526,873.
- Motion: Awarded a Professional Services Agreement to John Carollo Engineers for technical support and interim project management services for the potential South Bay Desalination Project, for an amount not to exceed \$130,000.

August 13, 1992

- Resolution: Amended Resolution No. 92-31 for the Acquisition of all remaining right of way for Pipeline 4 Extension, Phase II (Lower Otay Park).
- Motion: Authorized the General Manager to enter into an agreement to provide Reclaimed Water Development Funds to the Ramona Municipal Water District.
- Motion: Approved a revision to the Financial Assistance Program funding cap.
- Motion: Approved Financial Assistance Program funding applications - July 1992 submittal period.
- Motion: Awarded a professional services agreement to GEI Consultants, Inc. to provide engineering services for the Storage Project for an amount not to exceed \$4,900,000.
- Motion: Accepted Parcel 197-B (City of Chula Vista) for the appraised amount of \$4,894 for P4EII (Lower Otay Pipeline) right of way.
- Motion: Awarded a contract to Hawthorne Machinery Company for \$88,344.23 for one front-end wheel loader.

MAJOR BOARD ACTIONS

- Motion: Awarded a professional services agreement to Parsons Brinckerhoff Construction Services for \$2,879,700 for P4EII project (Lower Otay Pipeline).
- Motion: Awarded a construction contract to Advanco Constructors for \$900,000 for P5EII project, Specification 438 (Rancho Penasquitos Pipeline) at State Route 56 Crossing.
- Motion: Adopted the Member Agency Mutual Aid Agreement.
- Motion: Adopted Amendment No. 1 to the professional services agreement with Engineering Science, Inc. for \$179,034 for preliminary and final design services for P2A.
- Motion: Adopted Amendment No. 1 to the professional services agreement with EMA Services Corporation for \$43,524 for additional engineering services for the Aqueduct Control System Project.
- Motion: Awarded a construction contract to F. T. Ziebarth Company for \$439,300 for the Oceanside 5 Flow Control Facility.
- Resolution: Amended Article 8, section 8.2, Duties of the Public Affairs Committee, of the Authority's Administrative Code.
- Motion: Authorized the General Counsel to retain Orrick, Herrington & Sutecliffe as Bond Counsel for proposed refunding of 1989 Certificates of Participation.
- Motion: Authorized the General Manager to sign an agreement for continued operation of the Ultra Low Flush Toilet Rebate Program.
- Motion: Adopted the Public Affairs Policy.
- Resolution: Established the amount due from the City of San Diego for the In Lieu Charge as a condition of providing water service for FY 1992-93.
- Resolution: Established the vote of representatives of member agencies as determined by assessed valuations for FY 1992-93.

SAN DIEGO COUNTY WATER AUTHORITY

- Resolution: Fixed the voter approved debt service tax rate levy for FY 1992-93.
- Resolution: Authorized the execution and delivery of documents and distribution of a Preliminary Official Statement in connection with water revenue refunding of 1989 Certificates of Participation.
- Motion: Authorized the General Manager to execute contracts for underwriting services with Morgan Stanley and Company, Merrill Lynch Capital Markets, Bear Stearns, Goldman Sachs and Company, Grigsby Branford Powell, Inc., Prudential Securities Inc., Smith Barney Harris Upham and Company, and Smith Mitchell Investment Group, Inc.
- Motion: Authorized the acquisition of right of way for P4EI (Cowles Mountain Tunnel) - SDCWA vs Gruner, for \$8,800.
- Resolution: Revised the Authority's Conflict of Interest Code. A public hearing was held at the Administrative and Legal Committee meeting.

September 10, 1992

- Resolution: Honored Harold K. Friedland upon his retirement from the Board.
- Resolution: Honored Susan Golding upon her retirement from the Board.
- Resolution: Revised Resolution 92-43 establishing the vote of representatives of member agencies as determined by assessed valuations for FY 1992-93.
- Motion: Authorized the General Manager to execute a contract with Schmidt Design Group Inc. for operation of the large Turf Water Program in South County, in an amount not to exceed \$90,000.
- Motion: Approved the annual report on implementation of the BMP's for submittal to the California Urban Water Conservation Council.

MAJOR BOARD ACTIONS

- Motion: Authorized the General Manager to request funds from MWD for a Distribution System Water Audits Program.
- Resolution: Adopted the water portion of the Regional Growth Management Strategy produced by the San Diego Association of Governments.
- Ordinance: Established rules, regulations and restrictions so that available water supplies were allocated among member agencies for the greatest public interest and benefit.
- Resolution: Declared that water used for agricultural purposes in San Diego County was a beneficial municipal and industrial water use.
- Motion: Accepted the Church of Jesus Christ of Latter Day Saints parcel 605 on the P4BI for the appraised amount of \$29,619 and authorized the General Manager to conclude acquisition of the easement.
- Motion: Accepted the American Legion Parcel on the P4EI La Mesa/ Lemon Grove Pipeline for the appraised amount of \$60,960 and authorized the General Manager to conclude acquisition of the easement.
- Motion: Authorized the General Manager to Execute a purchase order not to exceed \$225,000 to SDG&E for reimbursement of actual costs to relocate existing facilities along P4EII (Lower Otay Pipeline).
- Motion: Approved a Mitigation Program as a Capital Improvement Program Project and directed the General Manager to pursue a Mitigation Program which may include acquisition of mitigation lands.
- Motion: Authorized the General Manager to sign the San Diego Emergency Plan, Annex T, relating to emergency water contingencies.
- Motion: Authorized the General Manager to Execute a contract with NBS/Lowry Engineering and Planners to study the feasibility and reliability of using local groundwater basins for various storage needs, in an amount not-to-exceed \$400,000.

SAN DIEGO COUNTY WATER AUTHORITY

- Resolution: Certified completion of addendum to the Final Program Environmental Impact Report for the Water Distribution Plan for realignment of a segment of Pipeline 5 Extension, Phase I along Linda Vista Drive and Pacific Streets within the City of San Marcos and approved the pipeline realignment.
- Motion: Authorized staff to make arrangements for the 1993 Board Retreat to be held at Authority headquarters.
- Motion: Reduced the Board's per diem from \$105 per meeting to \$100 per meeting and discontinued the monthly Board dinners and the annual Christmas Party.

October 8, 1992

- Resolution: Appointed John M. Leach to the Board of Metropolitan Water District to fulfill the unexpired term of Michael D. Madigan. T.E. 12/31/94.
- Motion: Authorized settlement of SDCWA vs San Elijo Ranch - Case #N47875 for \$550,000 plus interest.
- Motion: Authorized settlement of SDCWA vs UC Regents - Case #627101 for \$245,000 inclusive of interest.
- Motion: Appointed John M. Leach to the position of Secretary of the Board.
- Motion: Authorized the General Manager to sign a Joint Participation Agreement between Metropolitan Water District, San Diego County Water Authority, and the Carlsbad Municipal Water District for development and utilization of reclaimed water.
- Motion: Authorized the General Manager to sign a Joint Participation Agreement for development of local reclaimed water supplies between San Diego County Water Authority and the Carlsbad Municipal Water District.
- Motion: Authorized the General Manager to sign a Joint Participation Agreement for recovery and utilization of contaminated groundwater between Metropolitan Water District, San Diego County Water Authority and the City of Oceanside.

MAJOR BOARD ACTIONS

- Resolution: Amended section 2.13(a) of the Authority's Administrative Code, Directors Rate of Compensation.
- Motion: Approved the Board calendar of events.
- Motion: Awarded a contract to Miramar Ford for two medium duty trucks for \$63,278.29.
- Motion: Awarded a construction contract for Pipeline 4E, Phase I (La Mesa/Lemon Grove Pipeline), Specification 440, Helix Pipeline, to Vadnais Corporation for \$2,749,350.
- Resolution: Approved San Dieguito/Santa Fe 3 and 4 Flow Control Facilities and approved an amendment to the Pipeline 5E, Phase II (Rancho Penasquitos Pipeline) Professional Services Agreement with Black and Veatch Engineers.
- Motion: Awarded a Professional Services Agreement to John Powell & Associates to provide a feasibility study for improvements to the Padre Dam & Otay Systems in lieu of treated water supply from Helix Water District for an amount not-to-exceed \$57,500.
- Motion: Approved an encroachment permit for the YMCA of San Diego for the Penasquitos Towne Center Park and YMCA Child Care Facility per the recommendation in the Board memo.
- Resolution: Tentatively approved the Zill Annexation to the Fallbrook Public Utility District, determined the informal terms and conditions of the SDCWA and requested informal terms and conditions from Metropolitan Water District.
- Motion: Authorized the General Manager to sign an agreement for pass-through of MWD funds to member agencies for operation of the Ultra Low Flush Toilet Rebate Programs.
- Motion: Authorized the General Manager to enter into an agreement with SANDAG for the implementation of the water section of the Regional Growth Management Strategy, and approved the self-certification checklist.

SAN DIEGO COUNTY WATER AUTHORITY

- Motion: Adopted the following Mexico Coordination Policy: "It is a policy of the SDCWA to maintain open communication and coordination with the City of Tijuana and the State of Baja California, Mexico to ensure an adequate understanding of mutual border problems and the potential need for emergency assistance. Existing organizations are to be utilized as needed for technical assistance to the city of Tijuana. The SDCWA will implement two coordination meetings per year with Mexican officials to ensure regular updates and facilitate an information exchange."
- Motion: Received and filed the audited financial statements for the fiscal year ended June 30, 1992.
- Motion: Approved method of billing for specific Board functions and approved of form for out-of-state travel for Directors.
- Motion: Authorized Chairman Madigan to contact Governor Wilson for support of HR429 and further authorized Chairman Madigan to use his discretion in writing a letter to President Bush expressing the Authority's support of HR 429.

November 12, 1992

- Resolution: Acquired two sites for flow control facilities for P4EII, (Lower Otay Pipeline) Parcel No.'s 200-D (Baldwin Vista) and 205-C (County of San Diego).
- Resolution: Honored Nat L. Eggert upon his retirement from the Board of Directors.
- Motion: Settled SDCWA v Navarra, Case No. 53966 (P4BI) for \$90,063 inclusive of interest.
- Motion: Settled SDCWA v. Contra Costa County Employees Retirement Association, Case No. N53369 (P4BI) for \$272,767 plus interest earned on the deposited probable compensation to Contra Costa County Employees Retirement Association and the sum of \$15,000 to Scripps Marshalls, of which half was to be paid by the Water Authority and the other half was to be a deduction or the responsibility of the Contra Costa County Employees Retirement Association.

MAJOR BOARD ACTIONS

- Motion: Settled SDCWA v San Elijo Ranch, Case No. N47876 & San Marcos Lake-Oceanview Partnership, Case No. N47875 for an amount not to exceed \$650,000, which was \$550,000 plus interest according to law and an additional \$20,000.
- Motion: Authorized the General Manager to enter into an agreement with the Water Education Foundation for \$5,000 for a tour of Southern California.
- Resolution: Amended section 3.8(B) of the Administrative Code to update the duties of the Assistant General Manager, Administration.
- Resolution:: Amended Article 14, section 14.5(c) Competitive Bids and section 14.16(d) Negotiated Contracts, of the Administrative Code.
- Resolution: Amended sections 1.4 and 1.5 to establish time limits for judicial review.
- Motion: Authorized the General Manager to sign agreements for operation of the Public Institutions Retrofit Program at a net cost to the Authority not to exceed \$50,000.
- Motion: Accepted the counter offer of \$45,574 from the Sweetwater Unified School District for Pipeline 4E, Phase II, (Lower Otay Pipeline) right of way.
- Motion: Awarded purchase of one heavy duty truck cab & chassis - 60,000 GVW to Pacific Freightliner for \$67,899.
- Motion: Granted an easement to Padre Dam Municipal Water District to provide for a pipeline connection at the Padre Dam No. 6 Flow Control Facility.
- Motion: Authorized staff to proceed with Phase 2 of the Aqueduct Protection Program, conditions assessment and rehabilitation design services on existing aqueduct prestressed concrete cylinder pipe (PCCP) and steel pipe.
- Motion: Authorized the General Manager to enter into a contract not to exceed \$139,768 with Robinson Pacific Builders, Inc. to remodel the San Diego office building.

December 10, 1992

- Resolution: Appointed Linda Brannon the regular member and Frank Chenelle the alternate member to the governing board of the San Diego Area Wastewater Management District and to participate in the governance advisory group.
- Motion: Authorized settlement of SDCWA v. Zolla, Case No. 644327 (Pipeline 4, Phase I) Parcel 630 for the sum of \$210,000 plus interest.
- Motion: Authorized the General Manager to sign a Joint Participation Agreement between Metropolitan Water District, San Diego County Water Authority, and Rancho Santa Fe Community Services District for development and utilization of reclaimed water.
- Motion: Authorized the General Manager to sign a Joint Participation Agreement for development of local reclaimed water supplies between San Diego County Water Authority, Rancho Santa Fe Community Services District, and the Santa Fe Irrigation District.
- Resolution: Amended Section 2.1(b) of the Administrative Code to revise the procedures for the Nominating Committee.
- Motion: Accepted Change Orders for Pipeline 5 Extension, Phase I (San Marcos Pipeline) in the amount of \$862,908 and Pipeline 4 B, Phase I (Scripps Ranch Pipeline) in the amount of \$556,214.90.
- Motion: Approved Flow Regulatory Structure site relocation and Change Order to Professional Services Agreement with James M. Montgomery Consulting Engineers to perform redesign services for the not-to-exceed fee of \$244,000.
- Motion: Authorized the General Manager to respond to City of Escondido that the Authority understood their concerns and was deferring action on their request until the public hearings on the Emergency Storage Draft EIR/EIS.

- Resolution: Established the formal terms and conditions for the Paradise Mountain Annexation in Valley Center (formerly Friedman, et al).
- Motion: Authorized the General Manager to sign agreements for operation of the Distribution System Water Audit Program.
- Motion: Denied staff recommendation for exception to FAP reimbursement policy and directed staff not to include the proposed language in Section 5 of the FAP agreement with the County of San Diego or all future FAP agreements with the County of San Diego relative to water reclamation projects being studied in the Valley Center Sewer Moratorium area.

January 14, 1993

- Resolution: Honored Eric Larson upon his retirement from the Board of Directors.
- Motion: Changed the November 11, 1993 Board meeting to November 10, 1993 due to a conflict with Veterans' Day.
- Motion: Settled SDCWA v. Buie-Bonita Meadows, L.P. Case No. 653043 (Parcels 196-B and 197-C) (Pipeline 4EII) for \$295,525 in fee with access.
- Resolution: Reappointed Christine Frahm to represent the Authority at Metropolitan Water District.
- Resolution: Reappointed Harry Griffen to represent the Authority at Metropolitan Water District.
- Motion: Accepted changes and adopted the Authority's Strategic Plan.
- Motion: Designated the Long Range Planning Committee to hold a public hearing on the Draft Water Resource Plan Negative Declaration.

SAN DIEGO COUNTY WATER AUTHORITY

- Motion: Authorized the General Manager to execute a Professional Services Agreement with Brian F. Mooney Associates to perform Pipeline 4B, Phase II Flow Regulatory Structure relocation environmental services for a not-to-exceed amount of \$27,500 and designated the Long Range Planning Committee to hold a public hearing.
- Motion: Adopted the South Bay Desalination Project Objectives and directed the General Manager to initiate preliminary discussions with SDG&E, the California Energy Commission, the City of Chula Vista, MWD and other agencies regarding these objectives.
- Motion: Accepted \$89,274 from San Miguel Partners for Pipeline 4 Extension, Phase II (Parcel 195-B), Lower Otay Pipeline right of way.
- Motion: Accepted \$10,058 from the Eastlake One Company for Pipeline 4 Extension, Phase II (Parcel 198-C), Lower Otay Pipeline right of way.
- Motion: Accepted \$16,200 from General Telephone Company for Pipeline 4 Extension, Phase II (Parcel 189-C), Lower Otay Pipeline right of way.
- Motion: Accepted \$6,248 from the City of San Diego for Pipeline 4 Extension, Phase II (Parcel 205-B-1), Lower Otay Pipeline right of way.
- Motion: Accepted Quitclaim Deed from SDG&E and Grant of Easement to SDG&E by Authority to provide for relocation of electric lines to accommodate construction of Pipeline 4 Extension, Phase II, Lower Otay Pipeline.
- Motion: Established a Capital Project called North County Distribution Pipeline (NCDP) with a preliminary budget of \$24 million and authorized the General Manager to execute agreements with P&D Technologies to provide environmental review services and ASL Consulting Engineers to provide engineering services for the NCDP for an amount not-to-exceed \$29,325 and \$909,500, respectively.

MAJOR BOARD ACTIONS

- Motion: Accepted the Public Affairs Plan as prepared.
- Motion: Authorized the General Manager to pursue legislation pertaining to State Urban Water Conservation reporting requirements.
- Motion: Accepted Board Principles on State Water Resources Control Board Decision 1620 (Bay Delta Interim Standards).
- Resolution: Elected to receive allocation of taxes pursuant to provisions for the Community Redevelopment Law for the College Community Redevelopment Project.
- Resolution: Elected to receive allocation of taxes pursuant to provisions for the Community Redevelopment Law for the Paguay Redevelopment Project.
- Motion: Authorized the expenditure of \$250,000 to protect the Second Aqueduct crossing of the San Luis Rey River and approved the General Manager's award of a construction contract to Vadnais Corporation for an amount not-to-exceed \$200,000 to perform the protection work.

February 11, 1993

- Resolution: Honored William Hollingsworth upon his retirement from the Board of Directors.
- Resolution: Honored Kenneth A. Thompson upon his retirement from the Board of Directors.
- Resolution: Honored George F. Bailey upon his retirement from the Board of Directors.
- Resolution: Concurred the nomination of Spencer Lehmann to the Executive Committee of the Association of California Water Agencies/Joint Powers Insurance Authority.
- Resolution: Consented and approved the appointment of Joseph Parker as a representative of the San Diego County Water Authority on the Board of Directors of MWD.

SAN DIEGO COUNTY WATER AUTHORITY

- Resolution: Supported the MWD 1993 Standby Charge.
- Motion: Supported Director Mason's appointment to the State Water Resources Control Board (SWRCB).
- Motion: Authorized the General Manager to enter into Joint Participation Agreements with the following agencies: Fairbanks Ranch CSD - \$20,300; Padre Dam MWD - \$48,000; Tia Juana Valley CWD - \$4,800; Valley Center MWD - \$17,400; and San Dieguito GW Program - \$48,000 for a total of \$138,500.
- Motion: Accepted Parcel 601 (P4BI, Scripps Ranch Pipeline) for the appraised amount of \$42,218 for a non-standard easement permitting street improvements and authorized the General Manager to conclude acquisition of the property from Pardee Construction Company.
- Motion: Accepted Parcel 600 (P4BI, Scripps Ranch Pipeline) for the appraised amount of \$31,536 and authorized the General Manager to conclude acquisition of the property from the Fieldstone Corporation.
- Motion: Accepted Parcel 200-D (P4EII, Lower Otay Pipeline) for the appraised amount of \$7,410 for a fee simple acquisition.
- Motion: Ratified the Executive Committee's action authorizing \$500,000 for emergency protection measures for the Second San Diego Aqueduct San Luis Rey River Crossing.
- Motion: Approved the reduction of retention to 5% (\$4.0 million) of the total contract amount with Kiewit Pacific Company for the San Marcos Pipeline.
- Motion: Approved the use of the Indemnification Provision and directed staff to continue negotiations with the Navy and the City of San Diego for the preferred site for the Flow Regulatory Structure within former Camp Elliott lands; while continuing to pursue the acquisition of the alternate site.
- Motion: Instructed staff to seek amendments to protect all kinds of district contractual obligations made in reliance on tax revenues.

MAJOR BOARD ACTIONS

- Motion: Made no changes in the Board policy regarding mutual aid agreements with Mexico and instructed staff to report back to the Board in March re the current status of implementation of the Board policy and provide a detailed report of the facts and issues involved in the matter.
- Motion: Authorized the General Manager to request funds from Metropolitan Water District for a community based Ultra Low Flow Toilet replacement program.
- Resolution: Amended Section 15.3.2 of the Administrative Code to establish a reclaimed water rate per Metropolitan Water District's Local Projects Program.
- Resolution: Amended Section 15.3.2 of the Administrative Code to establish a groundwater rate per Metropolitan Water District's Groundwater Recovery Program.
- Motion: Established March 3, 1993 at 4:00 p.m. for a public hearing regarding water rates for fiscal year 1993-94.

March 11, 1993

- Resolution: Honored Herbert H. Stickney upon his retirement from the Board of Directors.
- Resolution: Honored Anne Omsted upon her retirement from the Board of Directors.
- Resolution: Nominated the Authority's representative, Fred Thompson, to the Executive Committee of the Association of California Water Agencies Joint Powers Insurance Authority.
- Motion: Authorized the General Manager and General Counsel to complete the settlement with the County of San Diego for \$289,869 for right of way on parcels 118-B, 188-C, 191-B, 191-C, 191-D, 191-E, 205-B and 205-C; and further authorized the quitclaim to the County of San Diego to the existing easements to the park and the acceptance by the Authority of non-standard forms of easements from the County for the existing right of way and for parcels 191-B, 191-C, 191-D, 191-E to accommodate the County's park and obligate the Authority to restore park improvements.

SAN DIEGO COUNTY WATER AUTHORITY

- Motion: Granted an easement to San Diego Gas & Electric to accommodate for the relocation of electric lines for the construction of Pipeline 4 Extension, Phase II (Lower Otay Pipeline).
- Motion: Revised the Authority's Transportation Management Plan to provide incentives for employee carpools.
- Motion: Approved the Authority's Equal Employment Opportunity/Affirmative Action Goals for fiscal year 1993-94.
- Resolution: Amended Section 15.2 and Section 15.3 of the Administrative Code modifying water rates effective July 1, 1993 and finding such action exempt from the California Environmental Quality Act.
- Motion: Authorized the General Manager to negotiate a Memorandum of Understanding with CALTRANS for a Joint Wetland Mitigation Project.
- Motion: Authorized the General Manager to Enter into a Memorandum of Agreement with the U.S. Army Corps of Engineers re the joint preparation of an Environmental Impact Statement/Environmental Impact Report for the Emergency Storage Reservoir Project.
- Resolution: Consented to the Bueno Colorado Municipal Water District/Vista Irrigation District reorganization.
- Motion: Approved policy guidelines for water reclamation legislation, as amended.
- Motion: Sought sponsorship of SB7, adding Section 13556 re reclaimed water to the Water Code, Kelley.
- Motion: Authorized the General Manager and Chief Engineer to act as the Authority's agent for the purpose of state and federal disaster assistance applications.
- Motion: Approved the Statement of Legislative Principles for State Water Transfer Legislation.

MAJOR BOARD ACTIONS

April 8, 1993

- Resolution: Honored Michael D. Madigan upon his retirement from the Board.
- Motion: Authorized the General Manager to enter into a San Dieguito Basin Groundwater Management Task Force Planning Agreement.
- Motion: Authorized the General Manager to enter into a cost share agreement for the Bureau of Reclamation's Comprehensive Southern California Water Reclamation and Reuse Study.
- Motion: Approved the Financial Assistance Program requirements.
- Motion: Authorized the General Manager to enter into agreements with MWD, the City of Escondido and the Sweetwater Authority to provide program funding, and with MAAC Project and the Center for Employment Training for operation of a community based Ultra Low Flow Toilet (ULFT) Replacement Program in an amount not-to-exceed \$296,632, including the Authority's share of \$74,158.
- Motion: Accepted Policy Guidelines for Water Conservation Legislation.
- Motion: Authorized the General Manager to amend the existing Professional Services Agreement with Katz and Associates to provide public affairs support to the Emergency Storage Project through December 1994 for an amount not-to-exceed \$290,000.
- Resolution: Approved the San Diego County Water Authority Relocation Plan for Pipeline 2A.
- Motion: Authorized reduction of the retention for J.F. Shea Company to 5% of the contract amount for Pipeline 4 Extension, Phase I (La Mesa/Lemon Grove Pipeline), Spec 423.
- Motion: Approved a change order to the Professional Biological Services Agreement with P&D Technologies for Pipeline 5 Extension, Phase I (San Marcos Pipeline) in the amount of \$15,000 increasing the total not-to-exceed fee to \$38,000.

SAN DIEGO COUNTY WATER AUTHORITY

- Motion: Awarded an agreement for the development and installation of the Aqueduct Control System, Specification 455, to Systems Integrated for \$1,699,000 and authorized the General Manager to execute the agreement.
- Motion: Approved an amendment to EMA's Professional Services Agreement to provide technical assistance in the development and installation of the Aqueduct Control System for the not-to-exceed amount of \$172,250 and authorized the General Manager to execute the amendment.
- Motion: Approved an amendment to the Professional Services Agreement with Black and Veatch for final design of Pipeline 5 Extension, Phase II and Diversion Structure (Rancho Penasquitos Pipeline) for an amount not-to-exceed \$1,903,405.
- Motion: Awarded a Professional Services Agreement to Ryals and Associates for right of way acquisition services for the North County Distribution Pipeline (NCDP) for an amount not-to-exceed \$90,000.
- Resolution: Fixed the time and place for a public hearing re the proposed Water Standby Availability Charge for Fiscal Year 1993-94.
- Motion: Accepted a \$259,059 (plus interest) settlement with the Baldwin Company for Pipeline 4E, Phase II (Lower Otay Pipeline) Right of Way, Parcels 200-B, 204-B, 204-C (access road) and 204-D (access road).
- Motion: Opposed AB 1262, (Quackenbush) and SB 695, (Leonard), identical bills placing stringent requirements on how charges, fees or assessments can be made or changed by agencies such as the Water Authority.

May 13, 1993

- Motion: Changed the acquisition in the SDCWA v. Western Salt, Case 644327, to an easement and stated the General Manager should have discretion to reduce the width.
- Resolution: Honored Bob Stevens upon his retirement from the Board.

MAJOR BOARD ACTIONS

- Resolution: Appointed Francesca Krauel to represent the Water Authority on the Metropolitan Water District Board.
- Resolution: Amended Article 24 of the Administrative Code re Equal Employment Opportunity/Affirmative Action.
- Motion: Approved the Administrative & Legal Committee Goals and Objectives for 1993 and 1994.
- Motion: Accepted the warehouse/maintenance remodel at the Escondido Operations Center, Specification 437, approved the recording of the Notice of Completion for the project and authorized the release of retained funds following the expiration of the Notice of Completion period.
- Motion: Accepted the landscape renovations at the Escondido Operations Center, Specification 444, approved the recording of the Notice of Completion for the project and authorized the release of retained funds following the expiration of the Notice of Completion period.
- Motion: Declared parts for the Wallace and Tiernan chlorine detector assembly unit as surplus.
- Motion: Accepted the ground and second floor office remodel at the San Diego office, approved the recording of the Notice of Completion and authorized the release of retained funds following the expiration of the Notice of Completion period.
- Motion: Approved the establishment of Pipelines 3 and 4 relocation and Vallecitos 5 Flow Control Facility relocation at Bradley Park in the City of San Marcos as Capital Projects and approved a change order in an amount not-to-exceed \$5,000 to Camp Dresser & McKee agreement for preliminary design services.
- Motion: Reduced retention to 5 percent of the contract amount with F.T. Ziebarth Company for the Oceanside 5 Flow Control Facility, Specification 430.
- Motion: Authorized acquisition of an 80' wide permanent easement for \$1.1 million to provide sufficient area for construction, future maintenance and emergency repairs for the North County Distribution Pipeline.

SAN DIEGO COUNTY WATER AUTHORITY

- Motion: Authorized the General Manager to contract for Centrex Services and equipment to upgrade the telecommunications system at a cost of \$78,000.
- Resolution: Fixed the time and place for a public hearing re the Water Authority's capacity charges for fiscal year 1993-94.
- Motion: Authorized the General Manager to enter into agreements with MWD and the City of San Diego to provide program funding, and with MAAC Project and Triple Crown for operation of the Community Based ULFT Replacement Program in an amount not-to-exceed \$540,000, including the Authority share of \$135,000.
- Motion: Approved Water Policy Committee goals and objectives.
- Motion: Approved the FY 1994 Ultra Low Flow Toilet Rebate Program Design.
- Motion: Approved Authority membership in the Western Urban Water Coalition with dues of \$10,000 per year.
- Motion: Opposed AB 837, Moore, re MWD rate structure.
- Motion: Decided to "watch" on AB 2210, Polanco, re MWD rate structure.
- Motion: Supported AB 2037, regulation of design of water impoundment structures.
- Motion: Authorized the General Manager to modify the contract with John Corrollo Engineers for an amount not-to-exceed \$68,464 to provide additional technical support and project management services for the potential South Bay Desalination Project.
- Motion: Authorized funds not-to-exceed \$58,350 for Marron, Reid and Sheehy (Emilio E. Varanini, III) to provide legal services for the discussions on the South Bay Desalination Project.
- Motion: Authorized the General Manager to begin detailed discussions with SDG&E regarding co-location of a Desalination Facility at South Bay.

MAJOR BOARD ACTIONS

- Motion: Instructed staff to notify Metropolitan Water District that the Water Authority supported the Pipeline 6 Central Alignment, sub-alternate C-2.

June 10, 1993

- Resolution: Found that there was no substantial evidence that the proposed capacity charges will have a significant effect on the environment and approved a Negative Declaration for such charges.
- Ordinance: Fixed capacity charges on ultimate users of water from the San Diego County Water Authority, effective August 10, 1993.
- Motion: Affirmed the penalty to Ramona Municipal Water District in the amount of \$2,910.82.
- Motion: Authorized the General Manager to accept recording of the Notice of Completion, and release the retainage for Pipeline 5 Extension, Phase II at State Route 56 Crossing, Specification 438.
- Motion: Accepted Change Order for Oceanside 5 Flow Control Facility, Specification 430, with F.T. Ziebarth Company for an amount not to exceed \$66,340.
- Motion: Accepted the counter offer of \$349,046.72, including interest as provided by law, from the City of San Diego for the Pipeline 4 Extension Phase I Right of Way through Cowles Mountain, Mission Trails Golf Course and Lake Murray, Parcels 621, 622, 623 and 624.
- Motion: Accepted the counter offer of \$16,108.60, including interest as provided by law, from the County of San Diego for the Pipeline 4 Extension, Phase I Right of Way through Cowles Mountain, Parcel 621.
- Motion: Authorized the General Manager to enter into a Joint Participation Agreement between Metropolitan Water District, the Water Authority, and the City of San Diego for development and utilization of reclaimed water.

SAN DIEGO COUNTY WATER AUTHORITY

- Motion: Authorized the General Manager to enter into an agreement providing Reclaimed Water Development Funds to the City of San Diego.
- Resolution: Adopted the Negative Declaration for the San Diego County Water Authority North County Water Distribution Pipeline, making findings regarding the environmental effects of the project, approved the project and mitigation monitoring plan, and authorized the filing of a Notice of Determination.
- Resolution: Adopted classification and salary plan, establishing a list of classified positions and a salary range for each position.
- Motion: Approved a paragraph to be included in the Director's Handbook to specify the Chair of the Board or the Chair of a Standing Committee may place items on the agenda.
- Resolution: Amended section 15.3 of the Administrative Code, Treated Water Rate, effective July 1, 1993.
- Motion: Approved the Disadvantaged Business Enterprise (DBE) and Disabled Veterans Business Enterprise (DVBE) Program Annual Goals and changed the program name to Emerging Business Enterprise (EBE).
- Motion: Accepted a counter offer of \$323,918, including interest as provided by law, from the American Golf Corporation for the Pipeline 4 Extension, Phase I Right of Way through Mission Trails Golf Course, Parcel 624 and a portion of Parcel 625.
- Motion: Authorized the General Manager to participate in funding a water education tour/seminar for state officials with the Presidents and Managers Council of San Diego Water Utilities for an amount not-to-exceed \$5,000.
- Motion: Authorized the General Manager to request funds from MWD for FY 1993-94 Ultra Low Flow Toilet (ULFT) Voucher Program.

MAJOR BOARD ACTIONS

- Motion: Approved the amendment to the Olivenhain contract as recommended, requested staff to work with the affected member agencies to develop the facts and to determine how to resolve the nine outstanding temporary service connection issues.
- Motion: Authorized the General Manager to fund the Six Agency Committee in an amount not-to-exceed \$15,000 for studies relating to the U.S. Fish and Wildlife Service proposal to designate critical habitat for four endangered species in the Colorado River Basin.
- Motion: Approved a \$30,000 contribution to the Joint Powers Water Conservation Garden Authority and requested staff bring back a further report of the proposed activities and structure of the Joint Powers Authority.
- Resolution: Approved the Annual Statement of Investment Policy.
- Resolution: Approved the final operating and capital budget for fiscal year 1993-1994 for the Authority and established controls on changes in appropriations for the various funds.

**SAN DIEGO COUNTY WATER AUTHORITY
FINANCIAL STATEMENTS**

*Years ended June 30, 1993 and 1992
with Report of Independent Auditors*

SAN DIEGO COUNTY WATER AUTHORITY

Financial Statements

Years ended June 30, 1993 and 1992

Contents

Report of Independent Auditors 1

Financial Statements

Balance Sheets 2

Statements of Revenues, Expenses
and Changes in Undesignated Retained Earnings 3

Statements of Cash Flows 4

Notes to Financial Statements 5

Report of Independent Auditors

The Board of Directors
San Diego County Water Authority

We have audited the accompanying balance sheets of the San Diego County Water Authority (the Authority) as of June 30, 1993 and 1992, and the related statements of revenues, expenses and changes in undesignated retained earnings, and cash flows for the years then ended. These financial statements are the responsibility of the Authority's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with generally accepted auditing standards. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the San Diego County Water Authority at June 30, 1993 and 1992, and the results of its operations and its cash flows for the years then ended in conformity with generally accepted accounting principles.

September 21, 1993

Ernst + Young

SAN DIEGO COUNTY WATER AUTHORITY

Balance Sheets

	June 30	
	1993	1992
Assets		
Current assets:		
Cash and cash equivalents (Note 3)	\$ 35,715,000	\$ 30,594,000
Short-term investments	—	5,173,000
Accounts and taxes receivable (Notes 1 and 4)	25,875,000	30,946,000
Inventories	4,832,000	8,005,000
Other current assets	175,000	107,000
Total current assets	<u>66,597,000</u>	<u>74,825,000</u>
Restricted cash, cash equivalents and investments (Notes 3 and 4):		
Cash and cash equivalents	36,918,000	—
Investments	190,832,000	374,308,000
	<u>227,750,000</u>	<u>374,308,000</u>
Property, plant and equipment, net (Notes 1, 2 and 7)	470,432,000	312,886,000
Deferred compensation deposit (Note 6)	2,654,000	2,285,000
Other assets (Note 4)	8,786,000	8,158,000
	<u>\$ 776,219,000</u>	<u>\$ 772,462,000</u>
Liabilities and equity		
Current liabilities:		
Accounts payable and accrued liabilities\$	55,788,000	\$ 64,983,000
Current maturities of long-term debt (Note 4)	8,676,000	8,120,000
Total current liabilities	<u>64,464,000</u>	<u>73,103,000</u>
Long-term debt (Note 4)	445,077,000	454,373,000
Deferred compensation (Note 6)	2,654,000	2,285,000
Commitments and contingencies (Notes 2 and 7)		
Equity:		
Contributions in aid of construction	9,135,000	7,141,000
Retained earnings (Note 4):		
Designated	61,153,000	61,153,000
Undesignated	193,736,000	174,407,000
Total equity	<u>264,024,000</u>	<u>242,701,000</u>
	<u>\$ 776,219,000</u>	<u>\$ 772,462,000</u>

See accompanying notes.

SAN DIEGO COUNTY WATER AUTHORITY

Statements of Revenues, Expenses And Changes
In Undesignated Retained Earnings

	Year ended June 30	
	1993	1992
Water sales	\$ 150,586,000	\$ 125,282,000
Operating expenses:		
Cost of sales	126,642,000	102,569,000
Depreciation and amortization	4,896,000	4,151,000
Operations and maintenance	3,821,000	3,424,000
Planning and reclamation	2,423,000	3,398,000
General and administrative	5,666,000	4,904,000
Write down of Pamo Reservoir Project to estimated net realizable value (Note 4)	2,000,000	—
Total operating expenses	<u>145,448,000</u>	<u>118,446,000</u>
Operating income	5,138,000	6,836,000
Other revenues (expenses):		
Property taxes and in-lieu charges	8,262,000	8,822,000
Water availability and capacity charges	15,823,000	15,180,000
Interest expense	(14,306,000)	(15,753,000)
Interest income	15,390,000	17,795,000
Total other revenues	<u>25,169,000</u>	<u>26,044,000</u>
Income before extraordinary loss	30,307,000	32,880,000
Extraordinary loss on bond defeasance (Note 4)	10,978,000	—
Net income	<u>19,329,000</u>	<u>32,880,000</u>
Undesignated retained earnings at beginning of year	174,407,000	148,527,000
Transfer to designated retained earnings (Note 4)	—	(7,000,000)
Undesignated retained earnings at end of year	<u>\$ 193,736,000</u>	<u>\$ 174,407,000</u>

See accompanying notes.

Statements of Cash Flows

	Year ended June 30	
	1993	1992
Operating activities		
Net income	\$19,329,000	\$ 32,880,000
Adjustments to reconcile net income to net cash provided by operating activities:		
Depreciation and amortization	4,896,000	4,151,000
Write down of Pamo Reservoir Project	2,000,000	—
(Increase) decrease in accounts and taxes receivable	5,071,000	(1,331,000)
Decrease in inventories	3,173,000	409,000
Increase in other current assets	(68,000)	(30,000)
Increase in other assets	(1,029,000)	(4,799,000)
Increase (decrease) in accounts payable and accrued liabilities	(9,195,000)	28,487,000
Net cash provided by operating activities	24,177,000	59,767,000
Financing activities		
Purchase of property, plant and equipment	(164,041,000)	(133,315,000)
Contributions in aid of construction	1,994,000	1,677,000
Proceeds from issuance of long-term debt	135,650,000	300,000,000
Principal repayment of debt	(144,390,000)	(3,439,000)
Net cash provided by (used for) capital and related financing activities	(170,787,000)	164,923,000
Investing activities		
Sale (purchase) of investment securities (net)	188,649,000	(210,325,000)
Increase in cash and cash equivalents	42,039,000	14,365,000
Cash and cash equivalents at beginning of year	30,594,000	16,229,000
Cash and cash equivalents at end of year	\$ 72,633,000	\$ 30,594,000
Supplemental cash flow information		
Cash paid during the year for interest	\$ 29,771,000	\$ 19,959,000

See accompanying notes.

Notes To Financial Statements
June 30, 1993

1. Organization and summary of significant accounting policies

Organization

The San Diego County Water Authority (the Authority) was organized on June 9, 1944 under the County Water Authority Act (the Act) for the primary purpose of providing a supplemental supply of imported water to its member agencies for domestic, municipal and agricultural uses. The Authority consists of 24 member agencies which are each represented by at least one person on the Authority's Board of Directors. The Authority is a member of The Metropolitan Water District of Southern California (MWD) and historically, the Authority has purchased from MWD all the water it requires to meet the demands of the member agencies.

The Metropolitan Water District Act provides a preferential right for the purchase of water by each of the MWD constituent agencies. This preferential right is calculated using a formula and based upon such formula, the Authority has a statutory preferential right to approximately 12% of MWD's total supply. MWD, however, has never applied such criteria to limit the Authority's purchases and has a written policy to meet all the supplemental needs of each of its member agencies, including the Authority. In November of 1990, the MWD Board implemented the Incremental Interruption and Conservation Plan to allocate limited water supplies during drought years. During the shortage of fiscal 1992, the Authority was allocated monthly amounts of water based on the quantities of water delivered during fiscal 1990, subject to adjustments for growth, water conservation activities and reductions in local supplies. However, during the shortage the Authority was able to meet the demands of its member agencies.

Basis of accounting

The Authority is accounted for as an enterprise fund (proprietary fund type). A fund is an accounting entity with a self-balancing set of accounts established to record the financial position and results of operations of a specific governmental activity. The activities of enterprise funds closely resemble those of ongoing businesses in which the purpose is to conserve and add to basic resources while meeting operating expenses from current revenues. Enterprise funds account for operations that provide services on a continuous basis and are substantially financed by revenues derived from user charges. As an enterprise fund, the Authority uses the accrual basis of accounting, revenues are recognized when earned and expenses are recognized as they are incurred.

1. Organization and summary of significant accounting policies (continued)**Property taxes and in-lieu charges**

The Authority is authorized under the Act to levy taxes on all taxable property within its boundaries for the purpose of carrying on its operations and paying its obligations, subject to certain limitations in the Act, the Revenue and Taxation Code and the California Constitution. The Authority levies taxes to meet its debt service requirements on its general obligation bonds and its obligation under the contract with the U. S. Government (Note 4).

Property taxes are levied annually by the Authority's Board of Directors as of July 1, using a lien date of March 1, and are payable by property owners in two equal installments which are due by December 10th and April 10th, respectively. The taxes levied are billed and collected by the County of San Diego and are remitted to the Authority throughout the year.

Member agencies of the Authority may elect to pay in-lieu charges instead of the tax levy. Included in the accompanying statements of revenues, expenses and changes in undesignated retained earnings for the years ended June 30, 1993 and 1992, are in-lieu charges of \$693,000 and \$703,000, respectively.

Inventories

Inventories consist primarily of water in storage and are stated at the lower of cost (first-in, first-out) or market (market value - \$7,077,000).

Property, plant and equipment

Depreciation is computed utilizing the straight-line method over the following estimated useful lives:

Water systems	10 to 75 years
Buildings	40 years
Other equipment	5 to 15 years
Automobiles	4 years

Contributions in aid of construction

Amounts received from member agencies and other entities for construction of service connections or other facilities are included in the accompanying balance sheets as contributions in aid of construction.

1. Organization and summary of significant accounting policies (continued)**Capitalized interest**

The Authority capitalizes interest on self-constructed assets based on a weighted average interest rate on obligations outstanding during the period of construction. Interest earned on interest-bearing investments acquired with proceeds of related tax-exempt borrowings is offset against the interest cost in determining the maximum interest capitalizable. Interest capitalized during the years ended June 30, 1993 and 1992 was \$14,435,000 and \$6,410,000, respectively.

Revenue policies

The principal portion of the Authority's revenues is provided by sales of water. Water is delivered to member agencies on demand and revenue is recognized at the time of delivery. The Authority also has two other separate revenue sources as part of its Capital Finance Plan to fund the Capital Improvement Program. A water availability standby charge was put into effect in fiscal 1990 and generated revenue of \$10,905,000 and \$10,515,000 for the years ended June 30, 1993 and 1992, respectively. Commencing October 1, 1990, the Authority also implemented a capacity charge on all new water meters purchased within the boundaries of the Authority, generating revenue of \$4,918,000 and \$4,665,000 in fiscal 1993 and 1992, respectively.

Included in restricted cash, cash equivalents and investments at June 30, 1993 and 1992, is approximately \$38,693,000 and \$31,870,000, respectively, related to the water availability standby and capacity charges.

Disclosures about Fair Value of Financial Instruments

Statement of Financial Accounting Standards No. 107, "Disclosures about Fair Value of Financial Instruments", requires disclosure of fair value information about certain financial instruments when it is practicable to estimate such value. The following methods and assumptions were used by the Authority in estimating its fair value disclosures for financial instruments:

Cash and cash equivalents: The carrying amounts approximate fair value because of the short maturity of these items.

Investments: The fair value for investments is based on quoted market prices. The carrying amounts approximate fair value.

1. Organization and summary of significant accounting policies (continued)

Debt instruments: The fair value of long-term debt is based on quoted market prices, quoted market prices of similar instruments and discounted cash flow analysis.

Budgets and budgetary accounting

Annual budgets adopted by the Board of Directors provide for operations, debt service and capital expenditures of the Authority. Budgetary controls are set by the Board of Directors. The Board of Directors adopts an operating budget at the beginning of the Authority's fiscal year. The legally adopted budget requires that expenditures not exceed appropriations in total for the Authority. The Board of Directors may make appropriation adjustments to the budget during the year as deemed necessary. The Authority adhered to the prescribed budget as discussed above for the years ended June 30, 1993 and 1992.

2. Property, plant and equipment

Property, plant and equipment is stated at cost and consists of the following:

	June 30	
	1993	1992
Water systems	\$171,033,000	\$172,774,000
Buildings	6,432,000	4,532,000
Automobiles and equipment	5,538,000	4,271,000
Construction in progress	330,993,000	170,511,000
	<u>513,996,000</u>	<u>352,088,000</u>
Less accumulated depreciation	43,564,000	39,202,000
	<u>\$470,432,000</u>	<u>\$312,886,000</u>

Included in construction in progress at June 30, 1993 and 1992 is \$4,155,000 related to the construction of the Pamo Reservoir Project. The Authority has suspended further work on this project and during fiscal 1993, down graded the status of the site from a primary alternative site to a secondary alternative site pending completion of a county-wide water storage study and plan. Since Pamo is no longer a probable reservoir site, management has provided a \$2,000,000 reserve for the estimated costs which may not be recovered in the selection of the final site.

3. Cash, cash equivalents and investments

Cash and cash equivalents consist of short-term highly liquid investments with maturities of 90 days or less at the date of purchase. All cash, cash equivalents and investments are recorded at cost which approximates market. The California Government code requires California banks and savings and loan associations to secure public fund deposits by pledging government securities or mortgages as collateral. The market value of pledged securities or mortgages must equal at least 110% or 150%, respectively, of public fund deposits. The Authority currently requires government securities as collateral on all its investments with such institutions.

The Authority may waive collateral requirements for deposits which are fully insured up to \$100,000 by the Federal Deposit Insurance Corporation (FDIC).

The surplus funds of the Authority may be invested in any of the following approved investments: treasury bills and/or notes; collateralized commercial bank certificates of deposit; collateralized savings and loan certificates of deposit; guaranteed investment contract deposits collateralized by direct U.S. government obligations; State of California Local Agency Investment Fund; domestic bankers acceptances; agency securities; commercial paper; repurchase agreements; reverse repurchase agreements; and government money market funds.

3. Cash, cash equivalents and investments (continued)

The Authority's investments are categorized to give an indication of the level of custodial credit risk assumed by the Authority at year-end. Category 1 includes cash deposits and investments that are insured, collateralized or registered or for which the securities are held by the Authority or its agent in the Authority's name. Category 2 includes uninsured and unregistered investments for which the securities are held by the broker's or dealer's trust department or agent in the Authority's name. Category 3 includes uninsured and unregistered investments for which the securities are held by the broker or dealer, or by its trust department or agent but not in the Authority's name.

	June 30, 1993			June 30, 1992	
	Category			Total	Total
	1	2	3	Cost	Cost
U.S. Treasury Securities	\$ 114,919,000	\$ —	\$ —	\$ 114,919,000	\$ 72,843,000
Agency Securities	4,349,000	—	—	4,349,000	—
Repurchase Agreements	6,680,000	—	—	6,680,000	—
Bankers' Acceptances	8,050,000	—	—	8,050,000	5,927,000
Prime Commercial Paper	3,989,000	—	—	3,989,000	—
Demand deposits, certificates of deposit, and other	100,000	—	7,013,000	7,113,000	6,758,000
	<u>\$ 138,087,000</u>	<u>\$ —</u>	<u>\$ 7,013,000</u>	145,100,000	85,528,000
Investments in State Treasurer's Investment Pool				15,000,000	15,000,000
Guaranteed Investment Contract Deposits				103,365,000	307,013,000
Money Market Funds				—	2,534,000
Total cash, cash equivalents and investments				<u>263,465,000</u>	<u>410,075,000</u>
Less:					
Restricted cash, cash equivalents and investments				<u>227,750,000</u>	<u>374,308,000</u>
Current unrestricted cash, cash equivalents and investments				<u>\$ 35,715,000</u>	<u>\$ 35,767,000</u>

4. Long-term debt

Long-term debt consists of the following:

	June 30	
	1993	1992
Water revenue certificates of participation and general obligation bonds, including an arbitrage rebate liability of \$2,535,000 in 1993 and \$3,376,000 in 1992	\$453,106,000	\$ 461,476,000
U. S. Government contract	647,000	1,017,000
Total long-term debt	<u>453,753,000</u>	<u>462,493,000</u>
Less amounts due within one year	<u>8,676,000</u>	<u>8,120,000</u>
	<u>\$ 445,077,000</u>	<u>\$ 454,373,000</u>

The fair value of debt instruments at June 30, 1993 was \$470,318,000.

Defeasement of 1989 Water Revenue Certificates of Participation

In February, 1993, the Authority issued \$135,650,000 of Water Revenue Refunding Certificates of Participation, Series 1993A (the 1993A Certificates) with interest rates ranging from 2.83% to 8.50% to advance refund \$140,000,000 of outstanding Certificates of Participation Series, 1989A (the 1989A Certificates) with interest rates ranging from 6.65% to 7.30%. The net proceeds of \$132,601,000 (after payment of \$3,049,000 in underwriting fees, insurance and other issuance costs) plus an additional \$19,915,000 of the 1989A Certificates reserve funds and other monies were used to purchase U.S. government securities. Those securities were deposited in an irrevocable trust with an escrow agent to provide for all future debt service payments on the 1989A Certificates. As a result, the 1989A Certificates are considered to be defeased and the liability for those bonds has been removed from the balance sheet.

Although the advance refunding resulted in the recognition of an accounting loss of \$10,978,000 for the year ended June 30, 1993, the Authority in effect reduced its aggregate debt service payments by \$28,557,000 through the year 2009 and obtained an economic gain (difference between the present values of the 1989A Certificates and the 1993A Certificates debt service payments) of \$3,951,000.

1993 Water Revenue Refunding Certificates of Participation

To provide funds for the refunding of the 1989A Certificates the Authority issued the 1993A Certificates in February, 1993 in the aggregate principal

4. Long-term debt (continued)

amount of \$135,650,000. The Series 1993A Current Interest Certificates with an aggregate principal amount of \$85,050,000, carry interest rates ranging from 3.50% to 5.50% payable semi-annually on May 1 and November 1. These certificates mature serially between May 1, 1994 and May 1, 2005 and are not subject to prepayment. The series 1993A Floating Auction Tax Exempts (the Floats) with an aggregate principal amount of \$25,300,000, carry an initial interest rate of 2.83% payable every 28 days. The 1993A Residual Interest Tax Exempt Securities (the Rites) with an aggregate principal amount of \$25,300,000 carry interest rates ranging from 8.25% to 8.50% payable every 28 days. The Floats are due April 22, 2009 and are subject to mandatory sinking fund payment prior to maturity at an amount equal to the principal amount plus accrued interest without premium. The Rites mature serially between April 26, 2006 and April 22, 2009 and are not subject to mandatory prepayment.

The Certificates require that a reserve be maintained in an amount equal to the lesser of \$13,565,000, 100% of the maximum annual installment payments or 125% of average annual installment payments. A surety bond has been obtained by the Authority and issued in satisfaction of this requirement.

1991 Water Revenue Certificates of Participation

To provide funds for the acquisition and construction of water system improvements, the Authority issued Series 1991A and 1991B Water Revenue Certificates of Participation in November, 1991 in the aggregate principal amount of \$300,000,000. The Series 1991A Certificates with an aggregate principal amount of \$163,300,000, carry interest rates ranging from 5.20% to 6.40% payable semi-annually on May 1 and November 1. These Certificates mature serially between May 1, 1995 and May 1, 2008 and may be redeemed at premiums decreasing from 2% in 2001 to 1% in 2003 (thereafter at par). The Series 1991B Certificates consist of Short-Term Auction Rate and Complementary Auction Rate Certificates in the aggregate principal amount of \$136,700,000 with interest at 6.30% payable on Thursday, December 12, 1991 and each successive fifth Thursday thereafter. These Certificates mature as follows: 2011 - \$56,700,000 and 2021 - \$80,000,000.

The Certificates require that a reserve be maintained in an amount equal to the lesser of \$25,644,000, 100% of the maximum annual payments, or 125% of the average annual payments. Included in restricted cash, cash equivalents and investments is \$25,644,000 at June 30, 1993 and 1992, which represents the required reserve, and \$105,033,000 and \$207,379,000, respectively, which represents unexpected proceeds of the certificates.

4. Long-term debt (continued)**1989 Water revenue certificates of participation**

To provide funds for the acquisition and construction of water system improvements and the advance refunding of previously issued debt, the Authority issued certificates of participation in May 1989 in the aggregate principal amount of \$140,000,000 with interest, at rates ranging from 6.65% to 7.30% payable semi-annually on May 1 and November 1.

The certificates mature serially between May 1, 1993 and May 1, 2009, and may be redeemed at premiums decreasing from 2% in 1997 to 1% in 1999 (thereafter at par).

Prior to the February, 1993 defeasement, the certificates required that a reserve be maintained in an amount equal to the lesser of \$14,000,000, 100% of the maximum annual payments or 125% of the average annual payments. Included in restricted cash, cash equivalents and investments at June 30, 1992 is \$14,000,000 which represented the required reserve.

1957 Waterworks general obligation bonds

To provide funds for the construction of a second aqueduct and related works, the Authority issued general obligation bonds in the aggregate principal amount of \$35,000,000 with interest rates ranging from 1% to 6% payable semi-annually on February 1 and August 1. The bonds mature serially through February 1, 1994. Included in certificates of participation and general obligation bonds at June 30, 1993 and 1992 is \$260,000 and \$2,425,000, respectively.

1966 Waterworks general obligation bonds

During 1968 the Authority issued general obligation bonds in the aggregate principal amount of \$30,000,000 with interest rates ranging from 4.50% to 5.50% payable semi-annually on April 1, and October 1, for the construction of a second pipeline to the second aqueduct. The bonds mature serially through October 1, 2003 and may be redeemed on or after October 1, 1980 at premiums decreasing from 3.50% in 1980 to 0.50% in 2002. Included in certificates of participation and general obligation bonds at June 30, 1993 and 1992 is \$14,660,000 and \$15,675,000, respectively.

U.S. Government contract

The U.S. Government constructed an aqueduct for which the title was conveyed to the Authority upon its completion. The Authority is reimbursing the U.S. Government for the cost of the aqueduct in quarterly principal installments of \$92,000, plus interest at 2.60% annually.

4. Long-term debt (continued)

The Authority has entered into an agreement with MWD whereby a portion of the U.S. Government contract will be paid by MWD. Included in accounts and taxes receivable and other assets are the current and long-term portions of this receivable of \$197,000 and \$148,000 respectively, at June 30, 1993 and \$197,000 and \$345,000 respectively, at June 30, 1992.

Certain outstanding debt agreements require the Authority to maintain a minimum level of operational earnings. Exclusive of the tax revenue and debt servicing costs associated with voter-approved general obligation bonds and other voter-approved debt, net water revenues, as defined by the agreements, must equal or exceed 120% of all other debt servicing costs (principal and interest). The Authority was in compliance with all of its covenants, including meeting its debt service ratio requirement.

In fiscal 1990, the Authority established a water rate stabilization fund for the purpose of identifying amounts available to mitigate future water rate increases. The Authority will transfer portions of its net water revenues (as defined) which exceed its debt service ratio requirement, into the rate stabilization fund and from time to time transfer amounts from its rate stabilization fund into net water revenues to meet its debt service ratio requirements. As of June 30, 1993 and 1992, the balance in this fund, which is included in restricted cash, cash equivalents and investments, totaled \$61,153,000 and is also reflected as designated retained earnings in the accompanying balance sheet.

For the years ended June 30, 1993 and 1992, the Authority's actual debt service ratio is calculated as follows:

	June 30	
	1993	1992
Net water revenues (as defined)	\$ 47,512,000	\$ 46,784,000
Transfer to rate stabilization fund	—	(7,000,000)
Net water revenues	<u>\$ 47,512,000</u>	<u>\$ 41,784,000</u>
Debt service requirements (principal and interest)	<u>\$ 28,105,000</u>	<u>\$ 19,699,000</u>
Debt service ratio (as defined)	<u>169%</u>	<u>212%</u>

Included in other assets are deferred financing costs of \$7,811,000 and \$6,847,000, net of accumulated amortization, at June 30, 1993 and 1992, respectively. The deferred financing costs are being amortized over the life of the related obligations.

4. Long-term debt (continued)

The aggregate principal and interest payments on long-term debt at June 30, 1993 are as follows:

	Principal Payment	Interest Payment	Total Debt Service
1994	\$ 8,676,000	\$ 25,910,000	\$ 34,586,000
1995	13,907,000	26,508,000	40,415,000
1996	14,285,000	25,023,000	39,308,000
1997	14,990,000	24,312,000	39,302,000
1998	15,755,000	24,370,000	40,125,000
Thereafter	386,140,000	228,781,000	614,921,000
	<u>\$ 453,753,000</u>	<u>\$ 354,904,000</u>	<u>\$ 808,657,000</u>

5. Retirement plan**Public Employees Retirement System plan description**

The Authority is a member of the California Public Employees' Retirement System (PERS), an agent multiple-employer pension system that acts as a common investment and administrative agent for participating public entities within the State. The Authority's total covered payroll for employees participating in PERS for the fiscal year ended June 30, 1993 and 1992 is \$6,871,000 and \$5,599,000, respectively. The Authority's total payroll is \$7,248,000 and \$6,115,000 for the years ended June 30, 1993 and 1992, respectively.

All permanent employees of the Authority are eligible to participate in PERS upon entry into employment. Retirement benefits vest after five years of service and PERS also provides death and disability benefits. Retirement benefits are based on the highest annual salary and years of credited service.

Employee and employer contributions

Both the Authority and the employees are required to contribute to PERS. The Authority pays its share and the entire portion of the employees' share. The employee rate of 7% is set by statute and therefore, generally remains unchanged from year to year. The Authority is required to contribute the remaining amounts necessary to fund the benefits for its members, using the actuarial basis recommended by PERS actuaries and actuarial consultants and adopted by the PERS Board of Administration.

5. Retirement plan (continued)

Funding status and progress

The amount shown below as the "pension benefit obligation" is a standardized disclosure measure of the present value of pension benefits, adjusted for the effects of projected salary increases and step-rate benefits, estimated to be payable in the future as a result of employee service to date. The measure is intended to help users assess the funding status of PERS on a going concern basis, assess the progress made in accumulating sufficient assets to pay benefits when due, and make comparisons among employers. The measure is the actuarial present value of credited projected benefits and is independent of the funding method used to determine contributions to PERS.

The pension benefit obligation was computed as part of an actuarial valuation performed as of June 30, 1992, but reflects all Plan amendments adopted through June 30, 1993. Significant actuarial assumptions used in the valuation include the following: (a) a rate of return on the investment of present and future assets of 8.75% a year, compounded annually; (b) projected salary increases attributable to inflation of 4.5% per year compounded annually; (c) additional projected salary increases of 2.5% per year, attributable to seniority/merit; and (d) no post retirement benefit increases.

The total unfunded pension benefit obligation applicable to the Authority's employees was \$837,000 at June 30, 1992 and is computed as follows:

Pension benefit obligation:	
Retirees and beneficiaries currently receiving benefits and terminated employees not yet receiving benefits	\$ 5,773,000
Current employees:	
Accumulated employee contributions, including allocated investment earnings	2,091,000
Employer-financed vested	2,239,000
Employer-financed nonvested	596,000
Total pension benefit obligation	10,699,000
Net assets available for benefits at cost (market value is \$11,124,000)	9,862,000
Unfunded pension obligation	\$ 837,000

There were no changes in benefit provisions in the current year.

5. Retirement plan (continued)

Actuarially determined contribution requirements and contributions made

PERS uses the entry-age normal actuarial cost method. As a projected benefit cost method, it takes into account those benefits that are expected to be earned in the future as well as those already accrued. The normal cost for an employee is the level amount which would fund the projected benefit if it were paid annually from the date of employment until retirement. PERS uses a modification of the entry-age method in which the Authority's total normal cost is expressed as a level percentage of payroll. PERS uses this same method to amortize any unfunded actuarial liabilities. The amortization period of the unfunded liability ends in the year 2000.

The significant actuarial assumptions used to compute the actuarially determined contribution requirement are the same as those used to compute the pension benefit obligation, as previously described.

The contributions to PERS for 1993 and 1992 of \$1,160,000 and \$965,000, respectively, were made in accordance with actuarially determined requirements computed through an actuarial valuation performed as of June 30, 1992 and 1991, respectively. The contributions consisted of \$953,000 and \$808,000 normal costs (13.87% and 14.43% of current covered payroll) and \$207,000 and \$157,000 amortization of the unfunded actuarial accrued liability (3.01% and 2.80% of current covered payroll), respectively.

Trend information

Trend information gives an indication of the progress made in accumulating assets to pay benefits when due. Systemwide, ten year trend information is not yet available.

	(1)	(2)	(3)	(4)	(5)	(6)
Fiscal Year ending June 30	Net assets available for benefits (at cost)	Pension Benefit Obligation	Percentage Funded (1)/(2)	Unfunded Pension Benefit Obligation (2) - (1)	Annual Covered Payroll	Unfunded Pension Benefit Obligation as a Percentage of Covered Payroll (4) / (5)
1987	\$ 4,812,000	\$ 5,996,000	80.3	\$ 1,184,000	\$2,067,000	57.3
1988	\$ 5,527,000	\$ 6,483,000	85.3	\$ 956,000	\$2,448,000	39.1
1989	\$ 6,565,000	\$ 7,499,000	87.5	\$ 934,000	\$2,647,000	35.3
1990	\$ 7,683,000	\$ 8,719,000	88.1	\$ 1,036,000	\$3,501,000	29.6
1991	\$ 8,628,000	\$ 9,781,000	88.2	\$ 1,153,000	\$4,342,000	26.6
1992	\$ 9,862,000	\$10,699,000	92.2	\$ 837,000	\$5,599,000	14.9

5. Retirement plan (continued)

Analysis of dollar amounts of net assets available for benefits, pension benefit obligation, and unfunded pension benefit obligation in isolation can be misleading. Expressing the net assets available for benefits as a percentage of the pension benefit obligation provides one indication of the funding status on a going-concern basis. Analysis of this percentage over time indicates whether the Fund is becoming financially stronger or weaker. Generally, the greater this percentage, the stronger the Fund. Trends in the unfunded pension benefit obligation and annual covered payroll are both affected by inflation. Expressing the unfunded pension benefit obligation as a percentage of annual covered payroll approximately adjusts for the effects of inflation and aids in the analysis of progress made in accumulating sufficient assets to pay benefits when due. Generally, the smaller this percentage, the stronger the Fund.

For fiscal 1993, 1992 and 1991, the Authority's contributions to the System, all made in accordance with actuarially determined requirements, were 16.9 percent, 17.2 percent and 16.3 percent, respectively, of annual covered payroll.

6. Deferred compensation plan

The Authority has adopted and administers a deferred compensation plan in accordance with Section 457 of the Internal Revenue Code. Generally, all eligible employees may defer receipt of a portion of their salary until future years. Once deferred, the compensation is not available to the employees until termination, retirement, death or unforeseeable emergency. The employees are not liable for income taxes on amounts deferred until the funds are withdrawn. At June 30, 1993 and 1992, assets of the plan totaled \$2,654,000 and \$2,285,000, respectively.

All compensation deferred under the plan, all assets purchased with the deferred amounts and all income attributable to these amounts or assets (until paid or made available to the employee or other beneficiary) are the sole property of the Authority, subject to the claims of the Authority's general creditors. Participants' rights to deferred amounts under the plan are equal to those of the general creditors of the Authority.

7. Commitments

The Authority is committed to a long-range effort to increase the present aqueduct capacity, obtain additional water from MWD, provide additional

storage within the county and maximize the use of existing storage reservoirs. The Authority estimates that the cost of the Capital Improvement Program (the Program) will be approximately \$988 million and will be expended over the next ten years. Included in the Program estimate is \$300 million for new storage facilities. Based upon the nature of the storage facilities actually selected and the sites thereof, however, the costs of such new storage facilities could substantially increase. It is expected that some major storage improvements will be completed by 2000. The Authority expects to fund approximately 60 percent of these requirements through the sale of bonds or other debt obligations. The remaining portion will be funded from operations.