

SAN DIEGO
COUNTY WATER AUTHORITY



FORTY-SIXTH
ANNUAL REPORT
1992

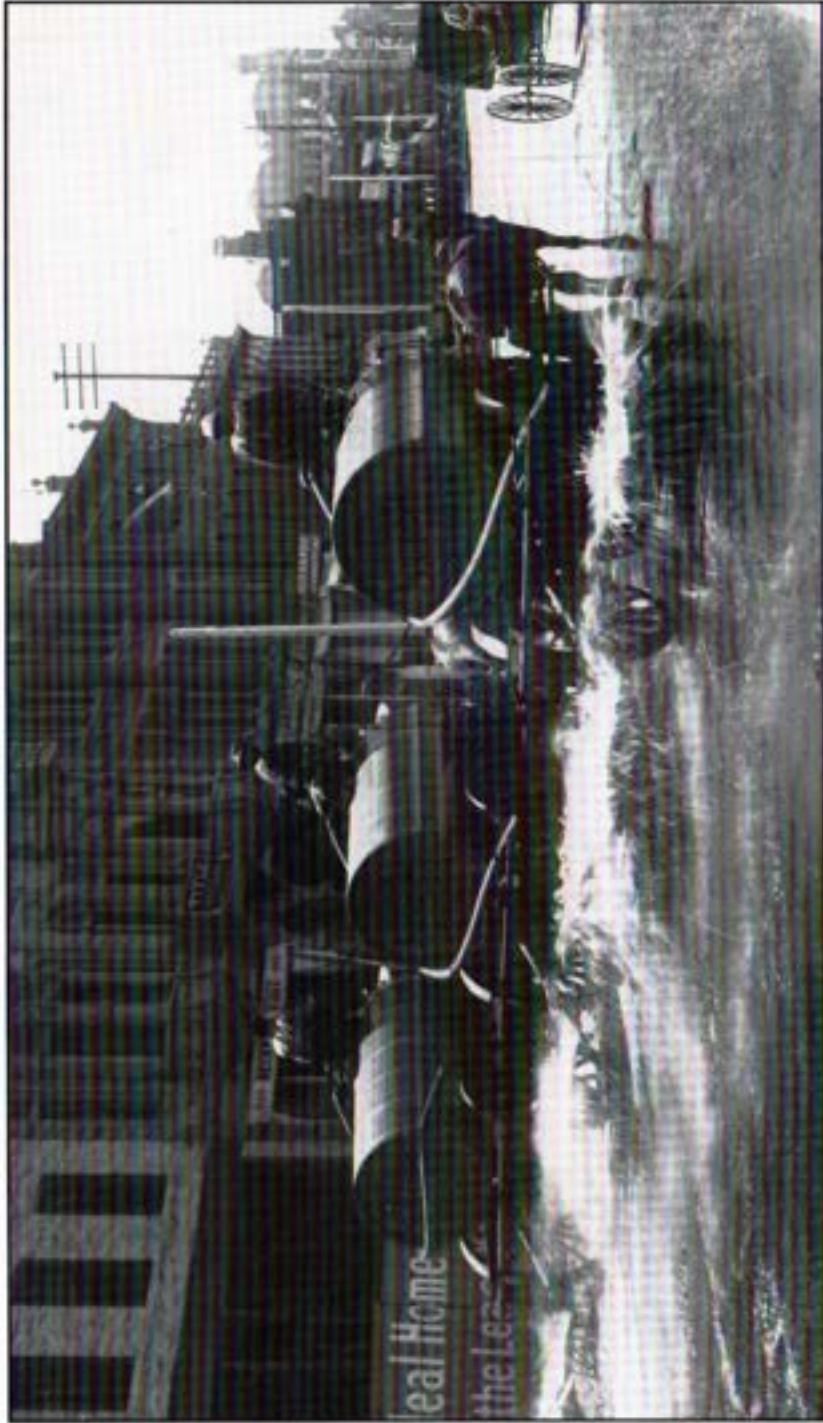
SAN DIEGO COUNTY WATER AUTHORITY
Organized June 9, 1944

**FORTY-SIXTH
ANNUAL REPORT**

of Authority Operations
for Fiscal Year Ending June 30, 1992

Lester A. Snow
General Manager

SAN DIEGO, CALIFORNIA
1992



At the turn of the century, water carts were used to clean streets and reduce dust. Because of the current drought, such use of water to clean roads, driveways and sidewalks was discouraged or prohibited. (San Diego Historical Society, Photograph Collection, c. 1903)

CONTENTS

| Chapter | CONTENTS | Page |
|---------|---|-------|
| | General Manager's Letter | vii |
| | List of Member Agencies | viii |
| | Board of Directors | ix |
| | Standing Committee Members | xi |
| | Photographs of Directors | xiii |
| | Representatives to MWD | xviii |
| | Photographs of Management | xix |
| | Report of Activities | xxi |
| | | |
| 1. | WATER AUTHORITY COMPOSITION | |
| | General and Area | 1 |
| | Population | 1 |
| | Assessed Valuation | 2 |
| 2. | WATER SUPPLIES, DELIVERIES AND USE | |
| | Supply Sources | 7 |
| | Water Deliveries | 7 |
| | Water Use by Member Agencies | 8 |
| | Agricultural Water Use | 11 |
| | Water Rates | 11 |
| | MWD Facilities | 11 |
| | Authority Facilities | 15 |
| | Water Quality | 17 |
| | Water Treatment | 17 |
| | Future Supplies | 18 |
| | Estimated Population and Demand | 18 |
| 3. | OPERATIONS AND MAINTENANCE | |
| | General | 21 |
| | Administration | 21 |
| | Operations | 22 |
| | Maintenance | 24 |
| | Technical Service | 26 |
| | Shop | 28 |
| 4. | ENGINEERING DEPARTMENT | |
| | General | 29 |
| | Capital Improvement Program | 29 |
| | Scripps Ranch Pipeline | 29 |
| | Mission Trails Pipeline and Flow Regulatory Structure | 30 |
| | La Mesa/Lemon Grove Pipeline and Cowles Mountain Tunnel | 30 |
| | Lower Otay Pipeline | 32 |
| | San Marcos Pipeline | 32 |

SAN DIEGO COUNTY WATER AUTHORITY

| | |
|---|----|
| Rancho Penasquitos Pipeline..... | 34 |
| Pipeline 6 | 34 |
| Pipeline 2A and Pump Station..... | 34 |
| Escondido Raw Water Pump Station and Modifications to the First San Diego Aqueduct Project | 35 |
| Sweetwater Bypass and Flow/Pressure Control Facility | 35 |
| Aqueduct Control System Project | 36 |
| Aqueduct Protection Program | 36 |
| National City / South Bay 4 Flow Control Facility | 37 |
| Oceanside 5 Flow Control Facility | 37 |
| Treated Water Supply Study | 37 |
| Escondido Operations Center Landscape Renovation | 37 |
| Escondido Operations Center Warehouse Expansion and Modification | 37 |
| Preliminary Design of Permanent Protection of the San Luis Rey River Aqueduct Crossings | 38 |
| Right of Way Activities | 38 |
| Acquisition | 38 |
| Management of Rights of Way | 39 |
| Other Projects | 39 |
| | |
| 6. WATER RECLAMATION DEPARTMENT | |
| Policy Development | 43 |
| Other Accomplishments | 43 |
| | |
| 7. WATER RESOURCES PLANNING DEPARTMENT | |
| Water Resources Planning Section | 45 |
| Conservation Section | 47 |
| Optimal Storage Study | 49 |
| | |
| 8. PUBLIC INFORMATION | |
| Water Education | 50 |
| Media Activity | 50 |
| School Education Program | 52 |
| Publications | 53 |
| Joint Public Information Council | 54 |
| Public-Private Partnerships | 54 |
| Del Mar Fair Xeriscape Garden Contest | 54 |
| Speakers Bureau | 54 |
| | |
| 9. HUMAN RESOURCES | |
| Employment | 55 |
| Employee Relations | 56 |
| Risk Management | 56 |
| | |
| 10. TREASURER'S REPORT..... | 59 |

SAN DIEGO COUNTY WATER AUTHORITY

| | |
|--|-----|
| 11. OFFICE OF THE GENERAL COUNSEL | |
| General | 61 |
| Routine Matters | 61 |
| Capital Improvement Plan | 61 |
| Litigation | 62 |
| Legislative Highlights | 63 |
| San Luis Rey River Crossings | 63 |
| MWD Matters | 64 |
| | |
| 12. METROPOLITAN WATER DISTRICT MEMBERSHIP | |
| Water Sales & Tax Rates | 68 |
| | |
| 13. COLORADO RIVER BOARD MEMBERSHIP | 71 |
| | |
| 14. APPENDICES | |
| Appendix A, Tables | 74 |
| Appendix B, Major Board Actions | 93 |
| Appendix C, Financial Statements | 111 |

SAN DIEGO COUNTY WATER AUTHORITY

CONTENTS

| | | |
|------------------------|--|------|
| No. | | Page |
| LIST OF FIGURES | | |
| 1. | Authority Population and Assessed Valuation 1991-92 | 2 |
| 2. | Authority Organization Chart | 4 |
| 3. | Source of Water: Local, Authority, and Total 1982-92 | 10 |
| 4. | Rainfall Record | 12 |
| 5. | Authority Summary of Water Rates 1958-93 | 13 |
| 6. | Authority Water Use 1945-92 | 14 |
| 7. | Water Revenue, Tax Revenue, Tax Rate 1982-92 | 19 |
| 8. | Average Reclaimed Water Use 1991-92 | 44 |
| 9. | Metropolitan Water District Organization Chart | 66 |
| 10. | Authority-Metropolitan Service Area, Water Sales, and MWD Water Rates 1980-92 | 67 |

MAPS

| | | |
|----|--|----|
| 1. | Authority Service Area | 5 |
| 2. | Capital Improvement Program | 41 |
| 3. | Metropolitan Water District Service Area | 69 |

LIST OF TABLES
(Located in Appendix A)

| | | |
|-----------|--|----|
| Table No. | | |
| 1. | Statistical Summary - Authority 1991-92 | 74 |
| 2. | Population Growth - Authority and County Through 1992 | 75 |
| 3. | Area - Authority Member Agencies 1991-92 | 76 |
| 4. | Water Use and Authority Storage 1991-92 | 78 |
| 5. | Assessed Valuation and Tax Collections 1991-92 | 79 |
| 6. | Water Use - Authority Member Agencies 1982-92 | 80 |
| 7. | Water Sales by Authority 1947-92 | 81 |
| 8. | Sales of Imported Water 1991-92 | 82 |
| 9. | Assessed Valuation and Tax Rates - Authority 1945-92 | 84 |
| 10. | Revenue Dedicated to Finance Capital Improvement Program 1991-92 | 86 |
| 11. | Chemical Characteristics and Analysis of Colorado River Water 1991-92 | 87 |
| 12. | Chemical Characteristics and Analysis of Blended Water at Lake Skinner 1991-92 | 88 |
| 13. | Assessed Valuation and Tax Rates of Metropolitan Water District 1929-92 | 89 |
| 14. | MWD Annexation Charges and Balances on Authority Areas | 90 |
| 15. | Water Sales by Metropolitan Water District 1941-92 | 91 |
| 16. | Water Deliveries and Local Supplies - Metropolitan Water District Constituent Areas 1991-92 | 92 |



June 30, 1992

Board of Directors
San Diego County Water Authority

It is my pleasure to present this forty-sixth Annual Report of the San Diego County Water Authority's activities during the fiscal year ending June 30, 1992.

Water shortages and issues of supply reliability dominated Authority business as the drought continued for its sixth straight year. State Water Project shortages forced the Metropolitan Water District to reduce Authority deliveries to 69 percent of 1989-90 levels for most of the year. The Authority, using local supplies and purchases from a state water bank, required its member agencies to conserve 20 percent, a goal that was met by all member agencies.

To cope with the immediate shortages, the Authority relied upon its Water Resources Planning and Public Information departments to assist local residents and businesses in achieving necessary water savings. The effort was successful, and conservation goals were met with a minimum of personal or economic disruption. Water reclamation and long-term conservation programs were financed and promoted to relieve demand on imported supplies.

To minimize the severity of future shortages, the Authority engaged in programs and policies intended to secure imported supplies, boost local supplies, and use water more efficiently. Recognizing that imported water will always provide most of its total supply, the Authority worked on statewide issues that would allow necessary water transfers, construct needed facilities, and develop policies to satisfy the needs of all water users. The Authority sought to improve reliability for its agricultural water users by supporting efforts to remove the Metropolitan Water District's classification of agricultural water as "surplus."

Design and construction continued on the Capital Improvement Program, which will add capacity to the aqueduct system and improve its reliability and operational flexibility. More than \$227 million was spent on pipeline projects from San Marcos to the Sweetwater Reservoir. Other major activities under way include an emergency storage project, and the feasibility study of a seawater desalination plant.

The Authority's increased efforts during the year were rewarded with progress in all the major areas of water supply and demand management. Plans for the future are being made to ensure that supplies are reliable and that water is used wisely.

Sincerely,

Lester A. Snow
General Manager

| | | | |
|---|--|---|---|
| CITIES • Del Mar • Escondido • National City • Oceanside • Poway • San Diego | IRRIGATION DISTRICTS • Santa Fe • South Bay | COUNTY WATER DISTRICT • Salton | MUNICIPAL WATER DISTRICTS • Buena Vista • Escondido • Fairview • Escondido • San Juan Heights • Mission Viejo • Chula Vista • San Marcos • Vista • San Marcos |
| COUNTY • San Diego (by affiliation) | WATER DISTRICTS • Hale • Otay • San Diego | PUBLIC UTILITY DISTRICT • Fullerton | FEDERAL AGENCY • Aviation Military Reservation |

SAN DIEGO COUNTY WATER AUTHORITY

MEMBER AGENCIES AND
REPRESENTATIVES ON BOARD OF DIRECTORS As of June 30, 1992

| CITIES | DATE OF ENTRY |
|---|----------------|
| Del Mar | Nov. 23, 1962 |
| Bob Stevens | |
| 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 Handbeck, Michael D. Madigan, Joseph Parker, Michael E. Parrish, Bob Russell, Frederick H. Thompson, Harold Throckmorton, Maria Velasquez | |
| WATER DISTRICTS | |
| Helix | June 9, 1944 |
| Nat L. Eggert, Harry Griffen | |
| Otay | Oct. 26, 1956 |
| Mark W. Watton | |
| San Dieguito | Dec. 13, 1948 |
| Anne Orsted | |
| IRRIGATION DISTRICTS | |
| Santa Fe | Dec. 13, 1948 |
| Harold K. Friedland | |
| 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 |
| Eric Larson | |
| Olivenhain | July 25, 1960 |
| William Hollingsworth | |
| 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 |
| Herbert H. Stickney | |
| Ramona | Aug. 27, 1957 |
| Kenneth A. Thompson | |
| Rincon del Diablo | June 14, 1954 |
| Sherwood D. Anderson | |
| Valley Center | May 9, 1955 |
| Lewis C. Snavely | |
| 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) | |
| Susan Golding | Feb. 13, 1986 |

BOARD OF DIRECTORS

BOARD OF DIRECTORS

General

The San Diego County Water Authority has 23 member agencies, plus the County of San Diego, which is 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 the total assessed valuation contained within its boundaries, as determined by the Assessors's 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 had more than one representative: the City of San Diego had 10, and the Helix Water District had two.

Officers of the Board of Directors begin service in July of even-numbered years. In June 1990, Michael D. Madigan was elected chairman, Herbert H. Stickney was named vice chairman, and John M. Leach became secretary.

Most business coming before the Authority's Board is first considered by a committee. Each committee then reports to the full Board, which makes the necessary decisions. There are seven standing committees:

- Administrative & Legal
- Engineering & Operations
- Fiscal Policy
- Long Range Planning
- Public Information
- Water Policy
- Water Reclamation

Temporary committees during the year were:

- Audit
- Budget
- Contract & Purchasing
- Encroachment
- Financial Advisor
- Incremental Interruption & Conservation Plan
- Interruptible Policy Review
- Investor Relations
- Legal Ad Hoc
- Legal Search
- Public Information Strategic Plan
- Seawater Desalination
- Special Counsel
- Water Resource Development Charge

SAN DIEGO COUNTY WATER AUTHORITY

During fiscal year 1991-1992, the following Directors were presented with service emblems:

| Director | Length of Service |
|-----------------------|-------------------|
| Christine Frahm | 3 years |
| William D. Taylor | 3 years |
| Philip Pryde | 5 years |
| John M. Leach | 5 years |
| William Hollingsworth | 5 years |
| Joseph Parker | 5 years |
| Susan Golding | 5 years |
| John Starkey | 15 years |

The following Directors were seated or reseated during the year:

| Term Date | Director | Agency | Term Expires |
|-----------|-------------------------|-------------------|--------------|
| 08/08/91 | Harold Throckmorton | San Diego (City) | 03/05/97 |
| 08/08/91 | Michael D. Madigan | San Diego (City) | 12/31/96 |
| 11/14/91 | Marilynn Hardebeck | San Diego (City) | 03/05/97 |
| 12/12/91 | Rosalie Shanks Bregante | San Diego (City) | 05/05/97 |
| 02/13/92 | Susan Collins | Yuima MWD | 01/13/98 |
| 02/13/92 | Gary Broomell | Valley Center MWD | 01/13/96 |
| 03/12/92 | Dale Mason | Vallecitos MWD | 03/13/98 |
| 05/14/92 | Robert E. Russell | San Diego (City) | 01/28/98 |
| 06/11/92 | Maria Velasquez | San Diego (City) | 03/07/98 |

SAN DIEGO COUNTY WATER AUTHORITY

**ROSTER OF STANDING COMMITTEES
as of June 30, 1992**

Administrative and Legal

Michael E. Parrish, Chairman
David A. Drake, Vice Chairman
Sherwood D. Anderson
Susan M. Collins
Bob Stevens
Herbert H. Stickney
Frederick H. Thompson
Gordon W. Tinker
Maria Velasquez
Cary F. Wright

Engineering and Operations

Harold K. Friedland, Chairman
Kenneth A. Thompson, Vice Chairman
Linda Brannon
Frank W. Chenelle
Susan M. Collins
Christine M. Frahm
Harry Griffen
Joseph Parker
Bob Russell
Gordon W. Tinker
James F. Turner

Fiscal Policy

Christine M. Frahm, Chairman
Harry Griffen, Vice Chairman
Frank W. Chenelle
Nat L. Eggert
Susan Golding
Marilynn Hardebeck
Eric Larson
Dale Mason
Bob Russell
James F. Turner

Long Range Planning

Sherwood D. Anderson, Chairman
Anne Omsted, Vice Chairman
Rosalie Shanks Bregante
Lawrence E. Carlson
William Hollingsworth

Long Range Planning (Continued)

Herbert H. Stickney
William D. Taylor
Harold Throckmorton
Maria Velasquez
Mark W. Watton

Public Information

Eric Larson, Chairman
William D. Taylor, Vice Chairman
Gary Broomell
David A. Drake
Gerald L. Johnson
Anne Omsted
Michael E. Parrish
Bob Stevens
Frederick H. Thompson
Maria Velasquez

Water Policy

Mark W. Watton, Chairman
Cary F. Wright, Vice Chairman
Nat L. Eggert
Susan Golding
Harry Griffen
Marilynn Hardebeck
Dale Mason
Michael E. Parrish
Herbert H. Stickney
Harold Throckmorton

Water Reclamation

Joseph Parker, Chairman
Linda Brannon
Rosalie Shanks Bregante
Gary Broomell
Lawrence E. Carlson
Harold K. Friedland
Harry Griffen
William Hollingsworth
Gerald L. Johnson
Dale Mason
Kenneth A. Thompson

SAN DIEGO COUNTY WATER AUTHORITY

ROSTER OF STANDING COMMITTEES

as of June 30, 1992

(Continued)

Temporary (ad hoc) Committees

Audit Subcommittee

Harry Griffen, Chairman
Christine M. Frahm
Frank W. Chenelle
James F. Turner

Seawater Desalination

Anne Omsted, Chairman
Michael E. Parrish
Lawrence E. Carlson

Interruptible Policy Review

Dale Mason, Chairman
Herbert H. Stickney

Legal Search Committee

Michael E. Parrish, Chairman
Linda Brannon
Christine M. Frahm
Dale Mason
Gordon W. Tinker

IICP Subcommittee

Linda Brannon, Chairman
Anne Omsted
Joseph Parker
Kenneth A. Thompson
James F. Turner

Contract & Purchasing

David A. Drake, Chairman
Joseph Parker
James F. Turner

Ad Hoc Investor Relations

Herbert H. Stickney
Mark W. Watton

Storage Committee

Gerald L. Johnson
David A. Drake
William Hollingsworth
Gordon W. Tinker
Mark W. Watton

**Public Information Strategic
Plan Ad Hoc Committee**

Eric Larson, Chairman
David A. Drake
Bob Stevens

Budget Ad Hoc Committee

Christine M. Frahm, Chairman
Eric Larson
Mark W. Watton

**Water Resource Development
Charge Subcommittee**

Christine M. Frahm, Chairman
Linda Brannon
David A. Drake
Gerald L. Johnson

OFFICERS OF BOARD OF DIRECTORS

1991-92



Chairman
MICHAEL D. MADIGAN
City of San Diego
5-79 to present



Vice Chairman
HERBERT H. STICKNEY
Rainbow
Municipal Water District
3-85 to present



Secretary
JOHN M. LEACH
City of San Diego
5-86 to present

BOARD OF DIRECTORS

1991-92



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



LINDA BRANNON
City of Poway
1-91 to present



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



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



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

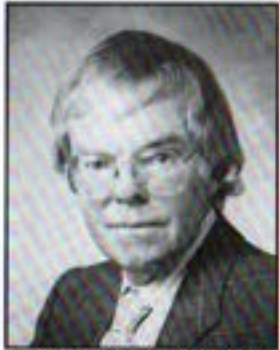


FRANK W. CHENELLE
City of National City
3-90 to present

SAN DIEGO COUNTY WATER AUTHORITY



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



DR. CHARLES F. COOPER
City of San Diego
4-73 to 9-91



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



NAT L. EGGERT
Helix Water District
10-77 to present



CHRISTINE FRAHM
City of San Diego
3-88 to present



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



SUSAN GOLDING
County of San Diego
2-86 to present

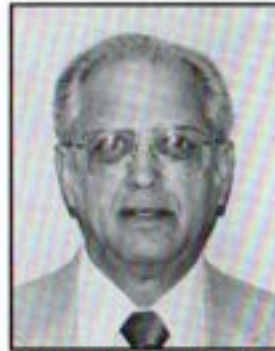


HARRY GRIFFEN
Helix Water District
7-56 to present



MARILYNN HARDEBECK
City of San Diego
11-91 to present

BOARD OF DIRECTORS
1991-92



WILLIAM HOLLINGSWORTH
Olivinha Municipal
Water District
5-86 to present



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



FRANCESCA M. KRAUEL
City of San Diego
7-78 to 5-92



ERIC LARSON
Carlsbad
Municipal Water District
1-90 to present



JOHN M. LEACH
City of San Diego
5-86 to present



MICHAEL D. MADIGAN
San Diego
5-79 to present



DALE MASON
Vallecitos
Water District
3-80 present



ANNE OMSTED
San Dieguito
Water District
2-87 to present



JOSEPH PARKER
City of San Diego
5-86 to present

SAN DIEGO COUNTY WATER AUTHORITY



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



PHILIP R. PRYDE
City of San Diego
9-85 to 1-92



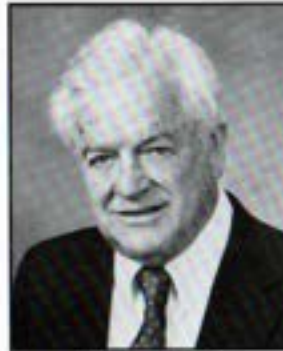
ROBERT E. RUSSELL
City of San Diego
5-90 to present



LEWIS C. SNAVELY
Valley Center
Municipal Water District
11-89 to 2-92



JOHN P. STARKEY
City of San Diego
10-75 to 4-92



BOB STEVENS
City of Del Mar
2-87 to present



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



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



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

BOARD OF DIRECTORS
1991-92



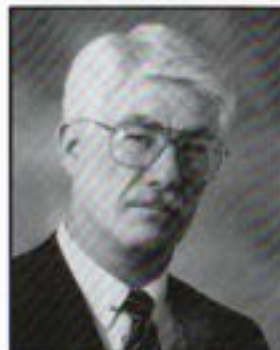
KENNETH THOMPSON
Ramona Water District
9-90 to present



HAROLD THROCKMORTON
City of San Diego
8-91 to present



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



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



MARIA VELASQUEZ
City of San Diego
6-92 to present



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



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

DIRECTORS REPRESENTING SDCWA ON METROPOLITAN
 WATER DISTRICT BOARD OF DIRECTORS
 1991-92



HARRY GRIFFEN
 1-63 to present



FRANCESCA M. KRAUEL
 10-83 to present



MICHAEL D. MADIGAN
 7-82 to present



DALE MASON
 12-86 to present



JOHN P. STARKEY
 1-81 to present



HERBERT H. STICKNEY
 10-89 to present



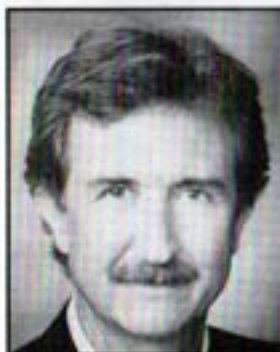
WATER AUTHORITY MANAGEMENT
 ON JUNE 30, 1992



LESTER A. SNOW
General Manager



VINCENT F. BIONDO
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 MALTMAN
Executive Secretary



*This line drawing shows Sweetwater Dam and Reservoir, one of the south county's major impounding reservoirs.
(San Diego Historical Society, Photograph Collection)*

REPORT OF ACTIVITIES

With water supplies restricted during the sixth consecutive year of statewide drought, Authority activities centered on meeting immediate conservation goals and planning both near- and long-term future supplies. Short-term conservation was required to comply with water delivery allocations instituted by the Metropolitan Water District. Under MWD's drought program, the Incremental Interruption and Conservation Plan (IICP), deliveries to the Authority were allocated at 69 percent of 1989-90 delivery levels (adjusted for growth) for the first nine months of the year.

To cope with these shortages, the Authority worked hard both at finding ways to save water and locating short-term supplies. The Authority purchased about 20,000 acre-feet of water from a state water bank and used water stored in local reservoirs to reduce the required conservation level of its member agencies to 80 percent of 1989-90 levels. Unlike MWD, the Authority reduced agricultural supplies at the same percentage as municipal and domestic supplies. The Authority also worked to have agriculture classified as a "beneficial use" of water by MWD, so that future shortfalls would fall equally on all categories of water user.

An Authority public information campaign, using the theme "Remember to cut back," emphasized the necessity of meeting conservation goals. Interest from local media was very high throughout the year, and the Authority was a primary news source for information on the drought and water supplies. Authority conservation and public information programs targeted all categories of water user, from individual households to large businesses and agricultural irrigators.

Member agencies were successful at reducing demand during the year, and the Authority succeeded in meeting all conservation goals. Total use for the year was 503,208 acre-feet, which was 82,411 acre-feet less than the previous year, or a reduction of 14 percent. The Authority supplied 455,954 acre-feet during the year, constituting 91 percent of total demand. Compared with 1989-90, total water use during 1991-92 was reduced by 22 percent.

Work progressed throughout the year on the Capital Improvement Program, which was begun in 1988 to increase the capacity of the Authority's aqueducts and improve system flexibility and reliability. More than 20 separate projects were in various stages of planning, design, or construction during the year. These projects included more than 32 miles of pipeline that were under construction during the year, extending from San Marcos in the north to Sweetwater Reservoir in the south.

Another ongoing project, the Optimal Storage Study, worked to identify the Authority's emergency and seasonal water storage needs. Five potential reservoir sites, ranging in size up to about 140,000 acre-feet, were selected for further study. All of the sites are located in northeastern San Diego County. The reservoir planned by this study would be the first owned and operated by the Authority.

Planning for future supplies looked both to imported and local water. To secure future imported supplies, the Authority supported state and federal legislation and policies that would create water markets and promote transfers, such as this year's state water bank. The Authority also supported new facilities planned by the state and MWD that would

improve supply reliability, and worked to resolve a number of statewide water quality and distribution issues.

Local supply planning primarily involved reclamation, groundwater and desalination. The Authority financially assisted 12 reclamation projects, with a reuse potential of more than 2,200 acre-feet annually, and for the first time approved groundwater development studies for financial assistance. A total of about 7,800 acre-feet of reclaimed water was produced in the Authority's service area during the year.

The Authority also participated in two seawater desalination studies: a public/private venture that would be located in Baja California, Mexico, and another in Chula Vista that would combine desalination with an electric power plant. The Baja study was concluded during the year, while the Chula Vista proposal is in progress.

To meet its increased workload during the year, the Authority hired 24 new employees, bringing the total Authority staff to 132 people.

WATER AUTHORITY COMPOSITION

General

The San Diego County Water Authority has 23 member agencies. The agencies include six cities, four water districts, two irrigation districts, nine municipal water districts, one public utility district, and one federal agency. The County of San Diego is an ex officio member of the board. The Authority was created by the County Water Authority Act in 1943 to import Colorado River supplies to the region.

The original incorporators of the Authority were the cities of Chula Vista, Coronado, National City, Oceanside, and San Diego; the Fallbrook Public Utility District, the Lakeside Irrigation District, the La Mesa, Lemon Grove and Spring Valley Irrigation District, and the Ramona Irrigation District.

Before the Authority was incorporated, local water supplies were sufficient to meet regional demands. Legislation to create the Authority was requested by local agencies after the region had grown to the point where supplemental water supplies were required. The Authority now provides 90 percent of the supplies used in its service area.

Area

The Authority's service area remained constant during the fiscal year at 908,945 acres, or 1,420.3 square miles. Table 3 shows the areas of Authority member agencies, and the percentage of area each agency serves. The city of San Diego has the largest service area with 210,626 acres; the smallest area is the city of Del Mar, consisting of 1,159 acres.

Each calendar year the Authority is required by state law to file a Statement of Change of Boundary. The statement was filed with Metropolitan Water District, the San Diego County Assessor, and the State Board of Equalization on December 31, 1991. The Statement of Change of Boundary is used by the County Assessor to determine the total assessed valuation within each member agency and the Authority as a whole for tax purposes.

Population

The population served by the Authority's member agencies grew by 2.1 percent during 1991-92. The annual growth of 53,511 people reported by member agencies brought the total population within the service area to 2,520,763. This represented 97 percent of the county's total population of 2,602,244. Population statistics are contained in Tables 2 and 3.

Of the 23 member agencies, the city of San Diego has the largest population, at 1,149,598 people. This is about 46 percent of the total population. With 1,850 people, the Yuima Municipal Water District has the smallest population, and also the lowest density of 0.14 persons per acre. National City has the highest population density, with 9.29 persons per acre. The average population density of the Authority increased

SAN DIEGO COUNTY WATER AUTHORITY

during the fiscal year from 2.73 to 2.77 persons per acre, or 1,775 persons per square mile.

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 total assessed valuation of taxable property within the Authority for 1991-92, according to the County Auditor's certification, was \$126,035,735,644, which is an increase of \$8,907,633,400 (or 7.6 percent) from the 1990-91 certified valuation of \$117,128,102,257.

The average assessed valuation of property within the Authority service area increased from \$128,862 per acre in 1990-91 to \$139,230 per acre in 1991-92. The assessed valuations for each member agency, the Authority, and San Diego County are shown in Table 5.

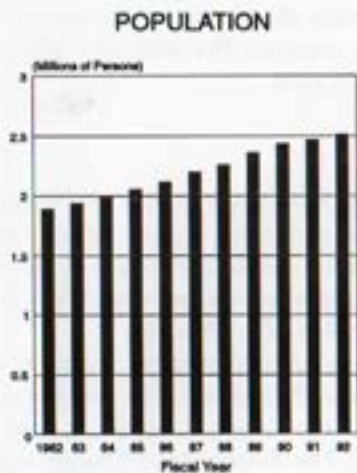
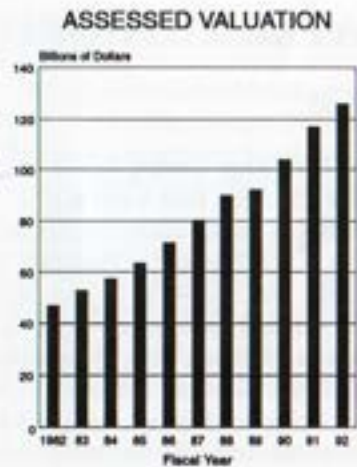
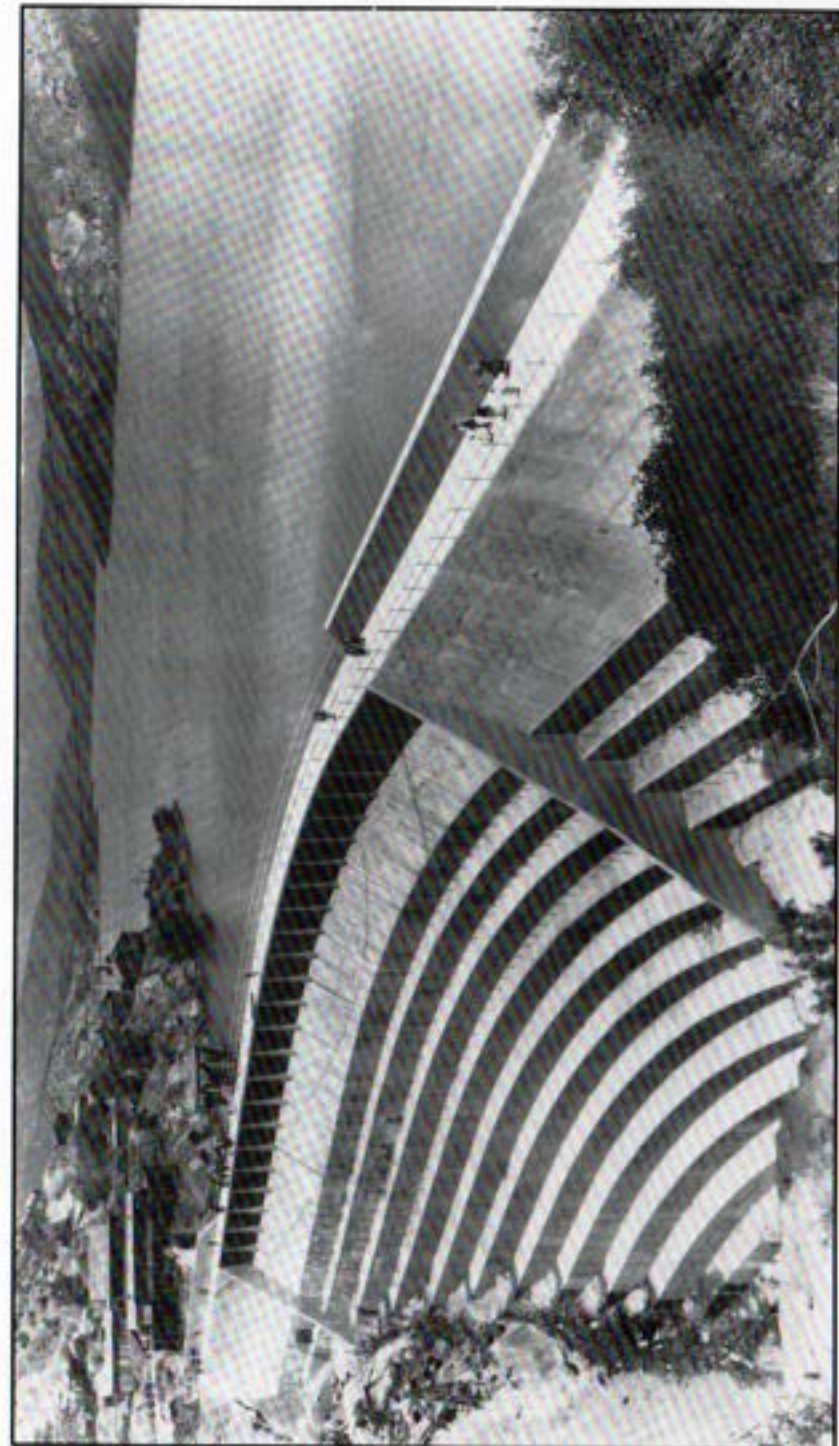


Figure No. 1

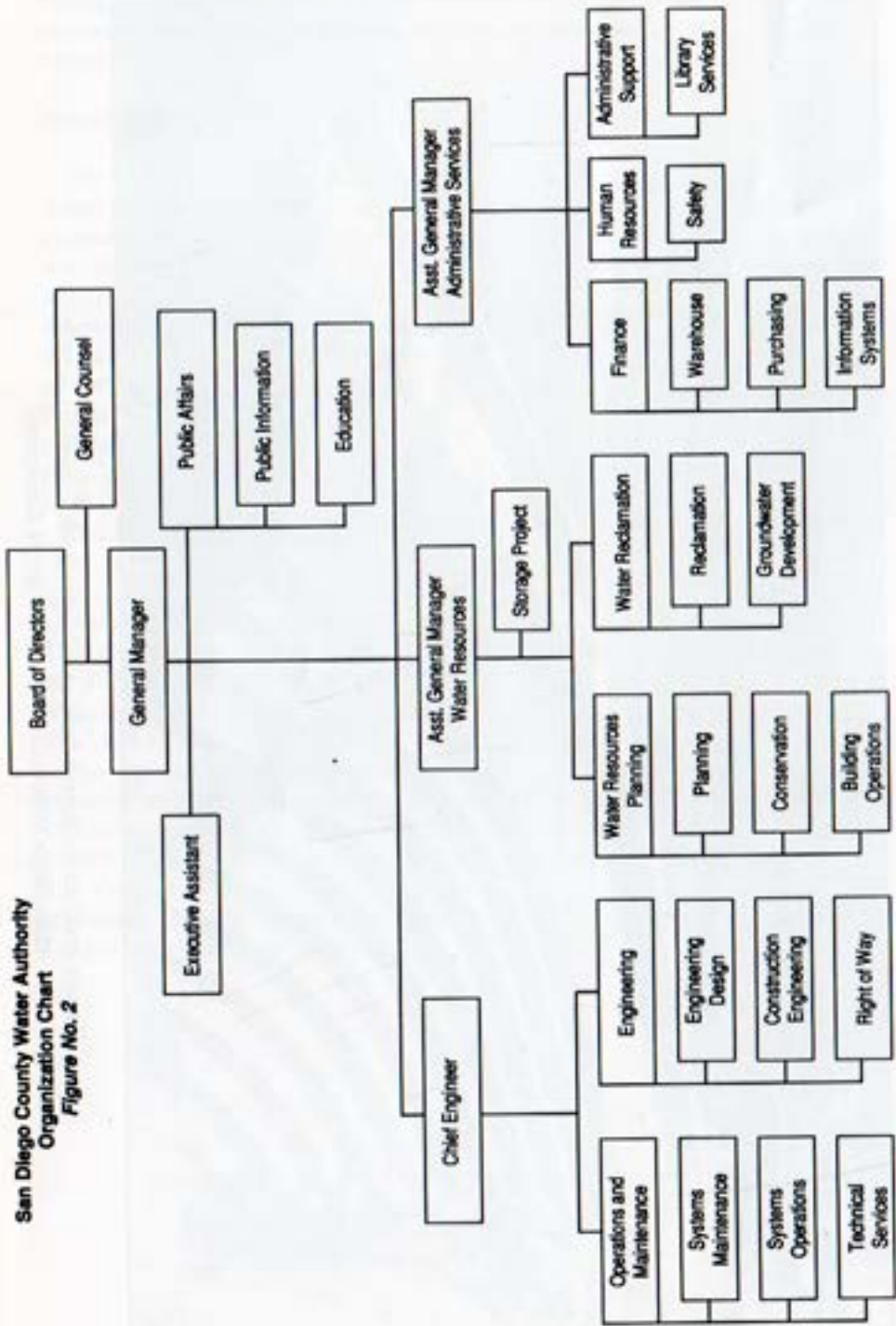
WATER AUTHORITY COMPOSITION



Visitors stroll across Barrett Dam, shortly after it was completed in 1922.
(San Diego Historical Society, Photograph Collection)

SAN DIEGO COUNTY WATER AUTHORITY

San Diego County Water Authority
Organization Chart
Figure No. 2



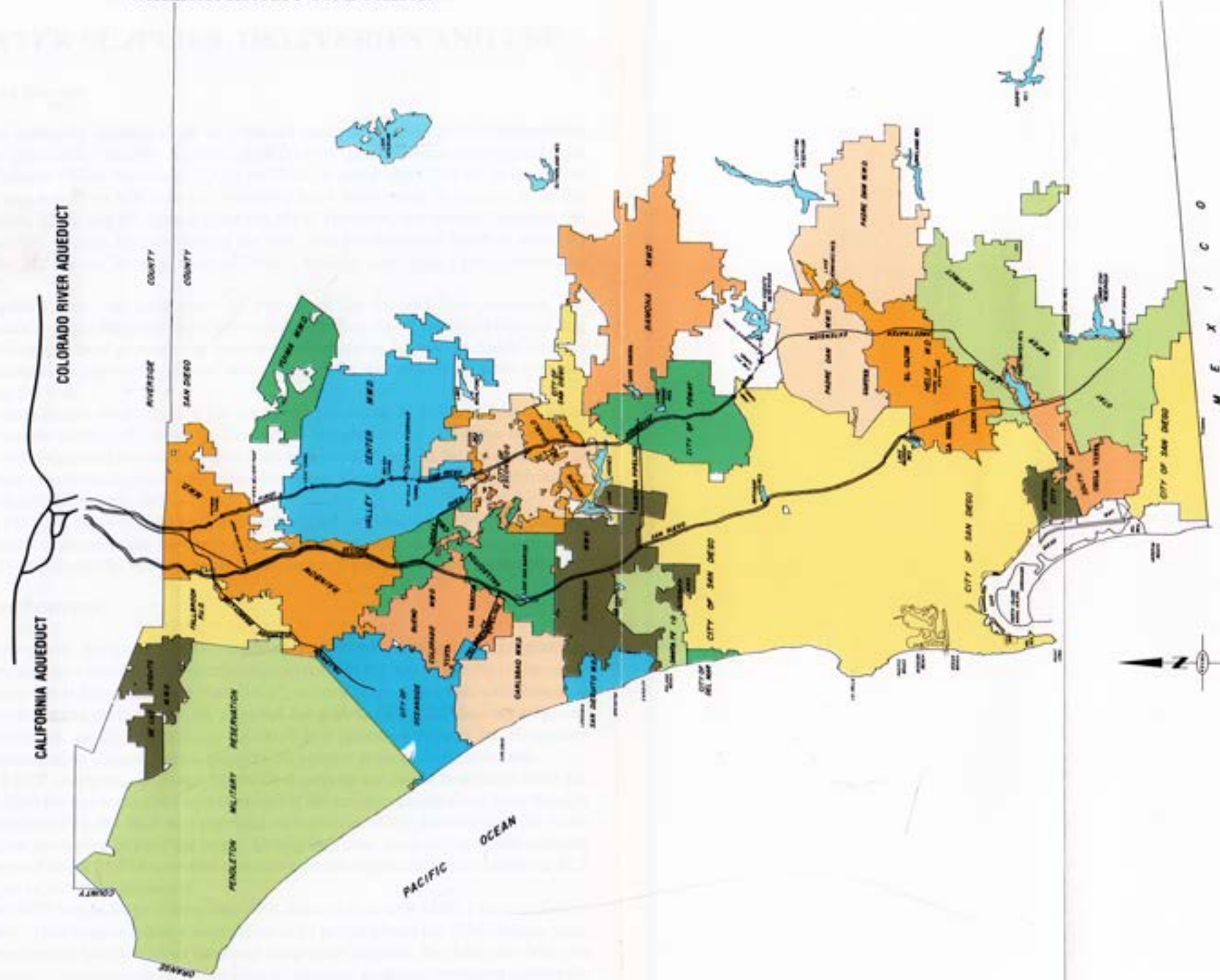
WATER



Map 1 Au

Note: Some agency boundaries are overlapping. Questions concerning current agency boundaries should be directed to the applicable agency.

WATER AUTHORITY COMPOSITION



Map 1 Authority Area Within San Diego County

Note: Some agency boundaries are overlapping. Questions concerning current agency boundaries should be directed to the applicable agency.

Map 1. Authority Area Within San Diego County

WATER SUPPLIES, DELIVERIES AND USE

Supply Sources

The Authority receives all of its imported water supplies from the Metropolitan Water District of Southern California (MWD). MWD in turn obtains its supplies from the Colorado River Aqueduct (CRA) and State Water Project (SWP). In the recent past, supplies from MWD to the Authority have been about 70 percent from the Colorado River and 30 percent from the SWP. However, the drought reduced the availability of state supplies during the year, and the Authority received about 93 percent of its water from the Colorado River, with the remaining 7 percent from the SWP.

Imported water supplied about 90 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 10 percent. Table 4 shows the amounts of imported and local water used by the Authority's member agencies during the year.

To supplement total supplies, the Authority purchased 20,100 acre-feet of water from a state water bank, called the California Drought Emergency Water Bank. The bank was organized to transfer water from agricultural users in the northern part of the state to urban and agricultural users elsewhere. This water was delivered from the period July-December 1991.

In 1991-92, the Authority took delivery of 23.6 percent of MWD's total supply. Although technically the Authority has a preferential right to only 12.23 percent of MWD's total supply, this has never been used as a basis for allocating supplies.

Water Deliveries

Throughout the year, MWD continued its drought management program of allocating water supplies to its member agencies. The program, called the Incremental Interruption and Conservation Plan (IICP), set monthly targets that were based on deliveries made during 1989-90, adjusted for growth. The IICP has six stages of conservation, ranging from Stage 1, which is a voluntary request for 10 percent conservation, to Stage 6, which requires 50-percent reductions in deliveries.

All IICP stages except Stage 1 provide a penalty surcharge (currently \$444 per acre-foot) for any water delivered in excess of the monthly target. From June through September 1991, the IICP also provided an incentive of \$99 per acre-foot for water that was conserved beyond the target. During this time Authority member agencies conserved about 21,770 acre-feet of water past the target and received almost \$2.2 million in incentive payments.

The IICP was in Stage 5 from July 1991 through February 1992, a period of eight months. This stage required conservation of 31 percent from the 1989-90 base year. By purchasing from the water bank and using local supplies, the Authority was able to request 20-percent conservation from its member agencies, measured against the same base year. Statewide supplies improved after heavy precipitation in February,

and both MWD and the Authority went to Stage 1 in March. By the end of the year, Authority member agencies had reduced total deliveries by more than 20 percent, and no member agency had to pay a penalty for exceeding an allocation.

MWD delivered 445,619 acre-feet to the Authority during the fiscal year. Untreated water accounted for 286,146 acre-feet, and the balance of 159,473 acre-feet of water was treated at the Robert A. Skinner Filtration Plant in Riverside County. The total delivery was 120,428 acre-feet less than the previous fiscal year, which represents a decrease of 21.3 percent.

Average flow rates in the Authority aqueduct system ranged from a low of 352 cubic feet per second (cfs), which occurred in February 1992, to a high of 940.5 cfs during June 1992. The average for the entire year was 614 cfs. Water deliveries to member agencies and others during the fiscal year are shown in Table 8. Member agencies purchased a total of 444,751.2 acre-feet. Annual water sales to individual agencies for the eight-year period 1984-85 through 1991-92 and total water sales from 1947-1984 are shown in Table 7.

Water Use by Member Agencies

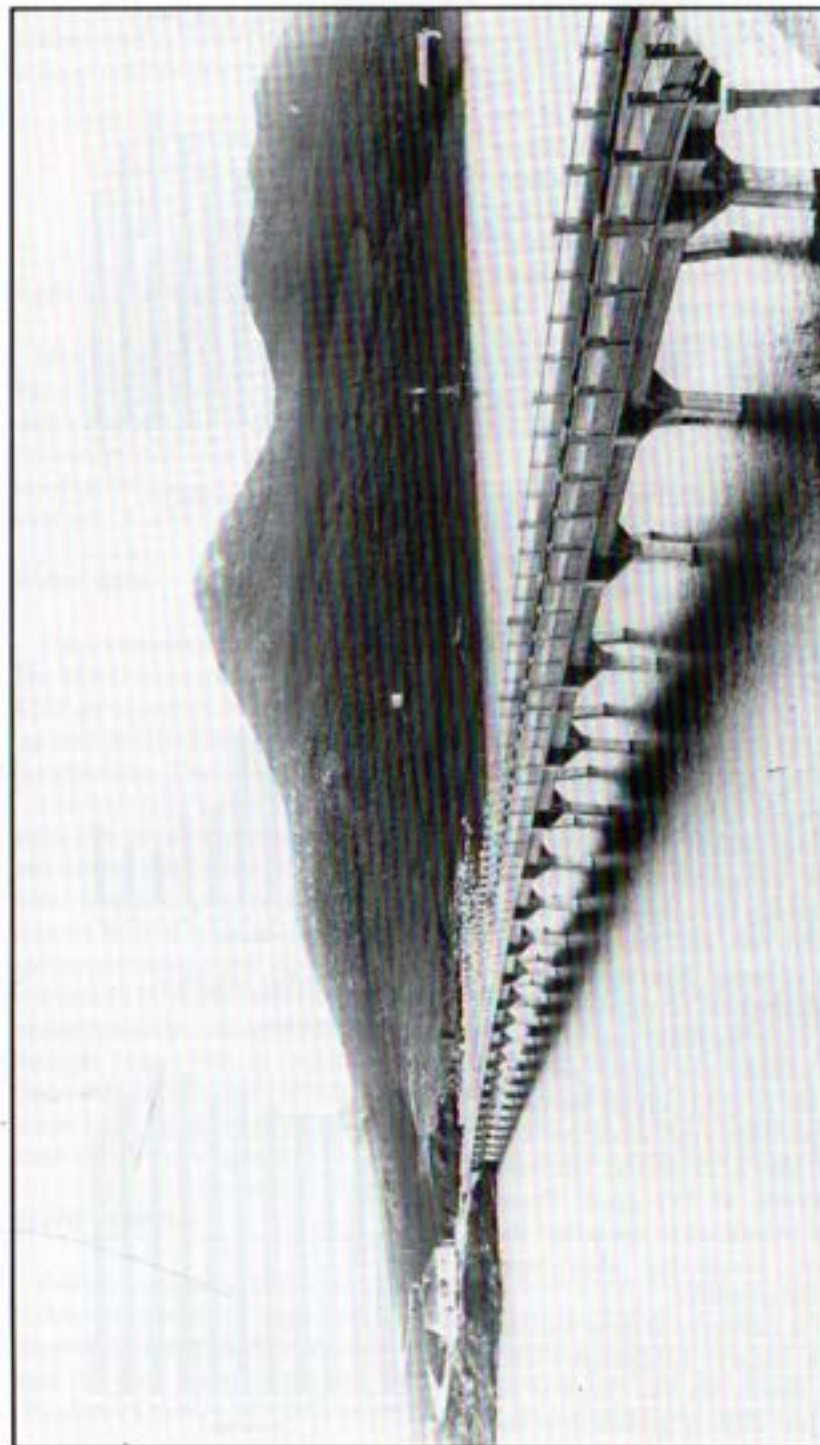
Water use describes the total amount of water that an agency provides from all its sources, both imported and local, to meet the needs of its consumers. This amount includes losses that result from obtaining and conveying water supplies to the consumer, such as pipeline leaks or breaks, and metering errors or discrepancies. Water used by member agencies is either imported through the Authority, or is produced from local impounding reservoirs or groundwater.

Total water use for 1991-92 was 503,208 acre-feet, which is 14.1 percent less than the previous year, or down by 82,411 acre-feet. Aggressive conservation programs, including the IICP, were primarily responsible for this 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.

The highest monthly use during 1991-92 occurred during June, when 56,150 acre-feet were used. The lowest monthly use occurred during March, when 24,885 acre-feet were used. The Authority supplied a high of 94.4 percent of the total amount of water used during the month of June, and 90.6 percent of the total used during the fiscal year.

Local and imported water stored in regional reservoirs decreased 5 percent during the year, going from 332,736 acre-feet on June 30, 1991, to 315,808 acre-feet on June 30, 1992. Most of the region's local supply is produced by five agencies: city of San Diego, Helix Water District, Bueno Colorado Municipal Water District, city of Escondido, and Sweetwater Authority.

The city of San Diego owns and operates most of the surface water storage facilities within the Authority service area, including most of the surface impounding reservoirs. San Diego's system produced 18,962 acre-feet during the fiscal year. Of this amount, 6,775 acre-feet was delivered to the California-American Water Company for delivery to Coronado and Imperial Beach.



*A view of the Bernardo Bridge over Lake Hodges, with Starvation Peak in the distance.
(San Diego Historical Society, Photograph Collection)*

SAN DIEGO COUNTY WATER AUTHORITY

The Helix Water District produced 4,662 acre-feet from Lake Cuyamaca and its wells in the El Monte Basin. The Vista Irrigation District (part of the Bueno Colorado Municipal Water District) produced 4,057 acre-feet from Lake Henshaw and the Warner Ranch wells. The city of Escondido produced 7,698 acre-feet from the Henshaw-Wohlford reservoir system. The Sweetwater Authority produced 4,993 acre-feet from the Loveland-Sweetwater reservoir system and wells that serve National City and the South Bay Irrigation District.

Eleven of the 23 member agencies are completely dependent on imported water. The remaining 12 agencies varied in the fiscal year from 99.4 percent dependent on Authority-supplied water (Vallecitos Water District) to 36.2 percent dependent (Yuima Municipal Water District). Table 4 gives the percentage of Authority-supplied water to each of the member agencies.

The Authority serves about 53 percent of the geographical area within its boundaries. Urbanized portions of the county generally have the highest water use per unit area and the lowest per capita use of water. Average daily per capita consumption of municipal and industrial water for fiscal year 1991-92 was 143 gallons per capita per day (gpcd). This is a 15-percent decrease from the previous year, when use was 168 gpcd, and a 25-percent decrease from 1989-90, at 192 gpcd. These substantial reductions in use reflect the results of successful short-term conservation measures.

Rainfall is measured at three stations within the county: Lindbergh Field, located in downtown San Diego at an elevation just slightly greater than sea

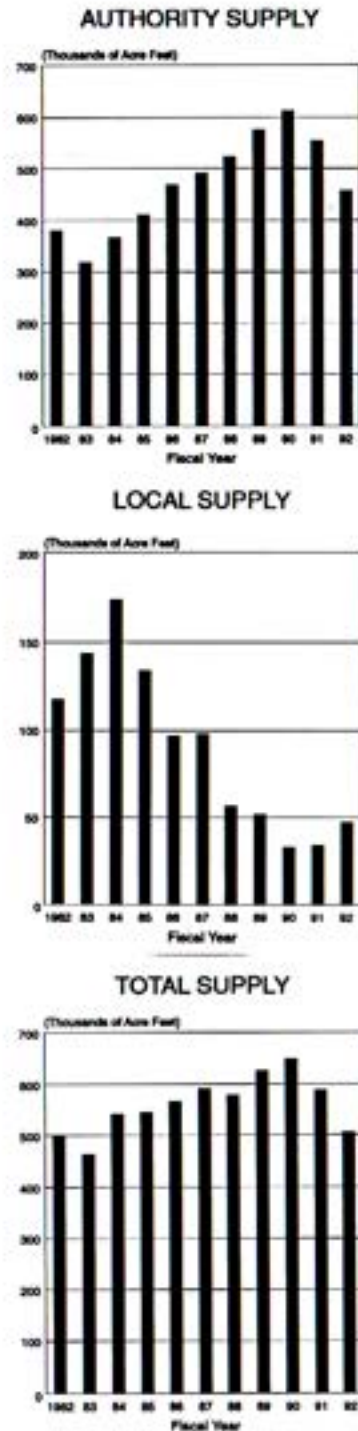


Figure No. 3

WATER SUPPLIES, DELIVERIES AND USE

level; Lake Cuyamaca, at an elevation of about 4,600 feet; and Lake Henshaw, in the northeastern corner of the service area, at an elevation of about 2,600 feet. Rainfall at these stations for 1991-92 was as shown below:

| Location | Rainfall | Percent of Normal |
|-----------------|--------------|-------------------|
| Lindbergh Field | 12.93 inches | 139% |
| Lake Cuyamaca | 35.64 inches | 95% |
| Lake Henshaw | 26.40 inches | 99% |

Agricultural Water Use

Member agencies of the Authority used a total of 92,571 acre-feet of agricultural water during 1991-92, which is 26,362 acre-feet, or 22 percent, less than the previous year's use of 118,933 acre-feet. Agricultural water represented 18.4 percent of the Authority's total water use, a decrease from 20.3 percent in 1990-91. The Authority supplied 94 percent of the water used by agriculture, compared to 91 percent of the total use. A complete summary of agricultural water use is contained in Table 4.

Water Rates

Water rates were increased by MWD and the Authority at the beginning of the year. The MWD untreated rate for non-interruptible water rose \$25, going from \$197 to \$222 per acre-foot on July 1, 1991. The MWD treatment charge increased \$6 to \$39 per acre-foot, resulting in an MWD rate for treated, non-interruptible water of \$261 per acre-foot. These increases were passed on to Authority member agencies.

The Authority's surcharge for untreated water increased \$15 to \$55 per acre-foot, while its treatment surcharge remained unchanged at \$7. Authority rates for untreated and treated non-interruptible water were \$277 and \$323 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.

Since 1975, when imported water was \$58 an acre-foot, MWD's rates increased annually to \$197 an acre-foot in fiscal year 1983-84. The rate remained constant through June 1986, as inflation leveled off and the cost of energy decreased. Decreased local rainfall in 1985-86 created higher demand for water and increased water sales, allowing MWD to decrease the water rate \$5 to \$192 per acre-foot. In 1986-87 the rate returned to \$197 per acre-foot, where it remained through 1990-91.

MWD Facilities

Colorado River supplies are transported from Lake Havasu on the Arizona/California border through the Colorado River Aqueduct to Lake Mathews in Riverside County. Before reaching Lake Mathews, a portion of the water is diverted near the west portal of the San Jacinto Tunnel to the First San Diego Aqueduct (Pipelines 1 and 2). MWD is responsible for the operation and maintenance of this

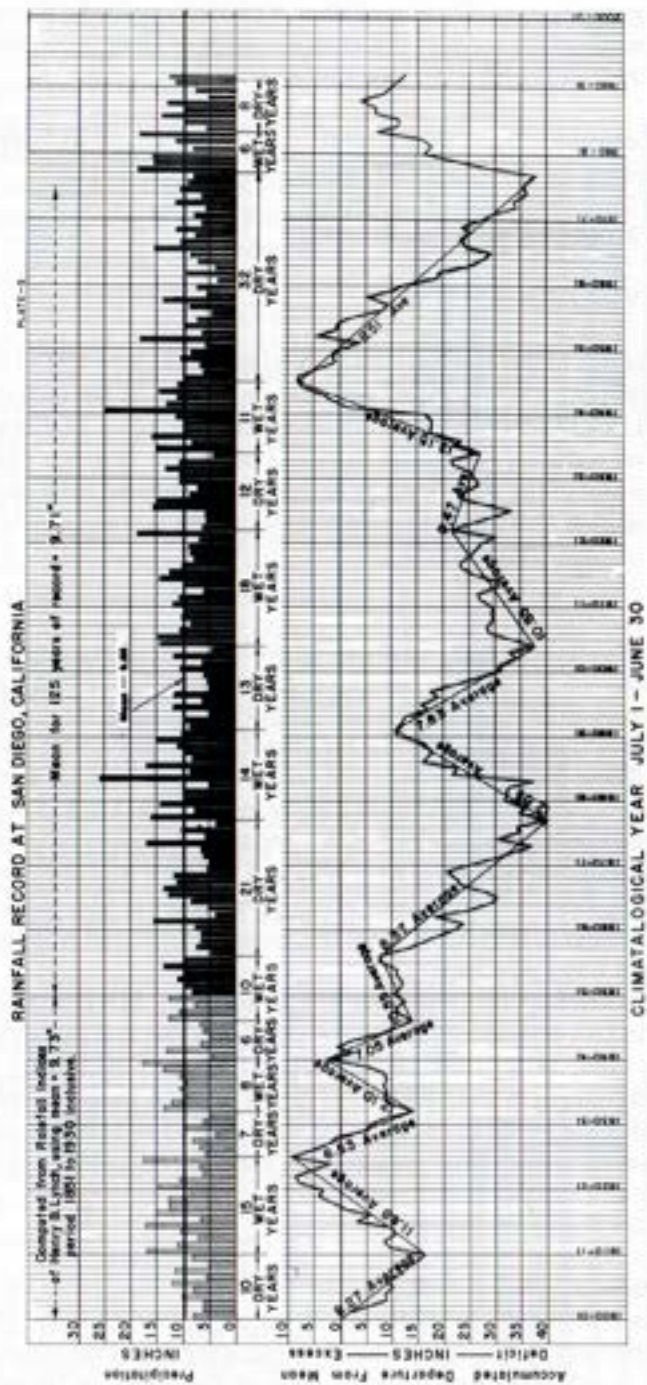


Figure No. 4 Rainfall Record at San Diego, California

SUMMARY OF WATER RATES
(Dollars per Acre Foot)

| | | METROPOLITAN WATER DISTRICT | | | | COUNTY WATER AUTHORITY | | | |
|---------|----------|-----------------------------|---------------|-----------|-------------------|--|--------------|--------------|---------|
| | | RATE | | | | TOTAL RATE CHARGED TO MEMBER AGENCIES) | | | |
| FROM | TO | NON-INTERRUPTIBLE | INTERRUPTIBLE | CWA RATE | NON-INTERRUPTIBLE | INTERRUPTIBLE | AGRICULTURAL | AGRICULTURAL | REBATE |
| | | UNTREATED | TREATED | UNTREATED | TREATED | UNTREATED | TREATED | UNTREATED | TREATED |
| 7/01/80 | 12/31/80 | \$15.00 | --- | --- | --- | \$17.00 | --- | --- | --- |
| 1/01/81 | 12/31/81 | \$17.00 | --- | --- | --- | \$19.00 | --- | --- | \$3.00 |
| 1/01/82 | 12/31/82 | \$19.00 | --- | --- | --- | \$21.00 | --- | --- | \$4.25 |
| 1/01/83 | 12/31/83 | \$21.00 | --- | --- | --- | \$23.00 | --- | --- | \$4.50 |
| 1/01/84 | 6/30/84 | \$24.00 | --- | --- | --- | \$26.00 | --- | --- | \$6.00 |
| 7/01/84 | 6/30/84 | \$25.00 | --- | --- | --- | \$27.00 | --- | --- | \$6.75 |
| 7/01/84 | 6/30/85 | \$25.00 | --- | --- | --- | \$26.25 | --- | --- | \$6.75 |
| 7/01/85 | 6/30/86 | \$28.00 | --- | --- | --- | \$29.25 | --- | --- | \$12.00 |
| 7/01/86 | 6/30/87 | \$31.00 | --- | --- | --- | \$32.25 | --- | --- | \$14.00 |
| 7/01/87 | 6/30/88 | \$34.00 | --- | --- | --- | \$35.25 | --- | --- | \$16.00 |
| 7/01/88 | 6/30/89 | \$37.00 | --- | --- | --- | \$38.25 | --- | --- | \$18.00 |
| 7/01/89 | 6/30/90 | \$44.00 | --- | --- | --- | \$45.25 | --- | --- | \$20.00 |
| 7/01/90 | 6/30/91 | \$48.00 | --- | --- | --- | \$49.25 | --- | --- | \$26.00 |
| 7/01/91 | 6/30/92 | \$52.00 | --- | --- | --- | \$53.25 | --- | --- | \$28.50 |
| 7/01/92 | 6/30/93 | \$56.00 | --- | --- | --- | \$57.25 | --- | --- | \$31.00 |
| 7/01/93 | 6/30/94 | \$58.00 | --- | --- | --- | \$59.25 | --- | --- | \$33.00 |
| 7/01/94 | 6/30/95 | \$62.00 | --- | --- | --- | \$64.00 | --- | --- | \$33.00 |
| 7/01/95 | 6/30/96 | \$64.00 | --- | --- | --- | \$66.00 | --- | --- | \$34.00 |
| 7/01/96 | 6/30/97 | \$68.00 | --- | --- | --- | \$70.00 | --- | --- | \$34.00 |
| 7/01/97 | 6/30/98 | \$74.00 | --- | --- | --- | \$76.00 | --- | --- | \$34.00 |
| 7/01/98 | 6/30/99 | \$80.00 | --- | --- | --- | \$82.00 | --- | --- | \$34.00 |
| 7/01/99 | 6/30/00 | \$86.00 | --- | --- | --- | \$88.00 | --- | --- | \$34.00 |
| 7/01/00 | 6/30/01 | \$92.00 | --- | --- | --- | \$94.00 | --- | --- | \$34.00 |
| 7/01/01 | 6/30/02 | \$98.00 | --- | --- | --- | \$100.00 | --- | --- | \$34.00 |
| 7/01/02 | 6/30/03 | \$104.00 | --- | --- | --- | \$106.00 | --- | --- | \$34.00 |
| 7/01/03 | 6/30/04 | \$110.00 | --- | --- | --- | \$112.00 | --- | --- | \$34.00 |
| 7/01/04 | 6/30/05 | \$116.00 | --- | --- | --- | \$118.00 | --- | --- | \$34.00 |
| 7/01/05 | 6/30/06 | \$122.00 | --- | --- | --- | \$124.00 | --- | --- | \$34.00 |
| 7/01/06 | 6/30/07 | \$128.00 | --- | --- | --- | \$130.00 | --- | --- | \$34.00 |
| 7/01/07 | 6/30/08 | \$134.00 | --- | --- | --- | \$136.00 | --- | --- | \$34.00 |
| 7/01/08 | 6/30/09 | \$140.00 | --- | --- | --- | \$142.00 | --- | --- | \$34.00 |
| 7/01/09 | 6/30/10 | \$146.00 | --- | --- | --- | \$148.00 | --- | --- | \$34.00 |
| 7/01/10 | 6/30/11 | \$152.00 | --- | --- | --- | \$154.00 | --- | --- | \$34.00 |
| 7/01/11 | 6/30/12 | \$158.00 | --- | --- | --- | \$160.00 | --- | --- | \$34.00 |
| 7/01/12 | 6/30/13 | \$164.00 | --- | --- | --- | \$166.00 | --- | --- | \$34.00 |
| 7/01/13 | 6/30/14 | \$170.00 | --- | --- | --- | \$172.00 | --- | --- | \$34.00 |
| 7/01/14 | 6/30/15 | \$176.00 | --- | --- | --- | \$178.00 | --- | --- | \$34.00 |
| 7/01/15 | 6/30/16 | \$182.00 | --- | --- | --- | \$184.00 | --- | --- | \$34.00 |
| 7/01/16 | 6/30/17 | \$188.00 | --- | --- | --- | \$190.00 | --- | --- | \$34.00 |
| 7/01/17 | 6/30/18 | \$194.00 | --- | --- | --- | \$196.00 | --- | --- | \$34.00 |
| 7/01/18 | 6/30/19 | \$200.00 | --- | --- | --- | \$202.00 | --- | --- | \$34.00 |
| 7/01/19 | 6/30/20 | \$206.00 | --- | --- | --- | \$208.00 | --- | --- | \$34.00 |
| 7/01/20 | 6/30/21 | \$212.00 | --- | --- | --- | \$214.00 | --- | --- | \$34.00 |
| 7/01/21 | 6/30/22 | \$218.00 | --- | --- | --- | \$220.00 | --- | --- | \$34.00 |
| 7/01/22 | 6/30/23 | \$224.00 | --- | --- | --- | \$226.00 | --- | --- | \$34.00 |
| 7/01/23 | 6/30/24 | \$230.00 | --- | --- | --- | \$232.00 | --- | --- | \$34.00 |
| 7/01/24 | 6/30/25 | \$236.00 | --- | --- | --- | \$238.00 | --- | --- | \$34.00 |
| 7/01/25 | 6/30/26 | \$242.00 | --- | --- | --- | \$244.00 | --- | --- | \$34.00 |
| 7/01/26 | 6/30/27 | \$248.00 | --- | --- | --- | \$250.00 | --- | --- | \$34.00 |
| 7/01/27 | 6/30/28 | \$254.00 | --- | --- | --- | \$256.00 | --- | --- | \$34.00 |
| 7/01/28 | 6/30/29 | \$260.00 | --- | --- | --- | \$262.00 | --- | --- | \$34.00 |
| 7/01/29 | 6/30/30 | \$266.00 | --- | --- | --- | \$268.00 | --- | --- | \$34.00 |
| 7/01/30 | 6/30/31 | \$272.00 | --- | --- | --- | \$274.00 | --- | --- | \$34.00 |
| 7/01/31 | 6/30/32 | \$278.00 | --- | --- | --- | \$280.00 | --- | --- | \$34.00 |
| 7/01/32 | 6/30/33 | \$284.00 | --- | --- | --- | \$286.00 | --- | --- | \$34.00 |
| 7/01/33 | 6/30/34 | \$290.00 | --- | --- | --- | \$292.00 | --- | --- | \$34.00 |
| 7/01/34 | 6/30/35 | \$296.00 | --- | --- | --- | \$298.00 | --- | --- | \$34.00 |
| 7/01/35 | 6/30/36 | \$302.00 | --- | --- | --- | \$304.00 | --- | --- | \$34.00 |
| 7/01/36 | 6/30/37 | \$308.00 | --- | --- | --- | \$310.00 | --- | --- | \$34.00 |
| 7/01/37 | 6/30/38 | \$314.00 | --- | --- | --- | \$316.00 | --- | --- | \$34.00 |
| 7/01/38 | 6/30/39 | \$320.00 | --- | --- | --- | \$322.00 | --- | --- | \$34.00 |
| 7/01/39 | 6/30/40 | \$326.00 | --- | --- | --- | \$328.00 | --- | --- | \$34.00 |
| 7/01/40 | 6/30/41 | \$332.00 | --- | --- | --- | \$334.00 | --- | --- | \$34.00 |
| 7/01/41 | 6/30/42 | \$338.00 | --- | --- | --- | \$340.00 | --- | --- | \$34.00 |
| 7/01/42 | 6/30/43 | \$344.00 | --- | --- | --- | \$346.00 | --- | --- | \$34.00 |
| 7/01/43 | 6/30/44 | \$350.00 | --- | --- | --- | \$352.00 | --- | --- | \$34.00 |
| 7/01/44 | 6/30/45 | \$356.00 | --- | --- | --- | \$358.00 | --- | --- | \$34.00 |
| 7/01/45 | 6/30/46 | \$362.00 | --- | --- | --- | \$364.00 | --- | --- | \$34.00 |
| 7/01/46 | 6/30/47 | \$368.00 | --- | --- | --- | \$370.00 | --- | --- | \$34.00 |
| 7/01/47 | 6/30/48 | \$374.00 | --- | --- | --- | \$376.00 | --- | --- | \$34.00 |
| 7/01/48 | 6/30/49 | \$380.00 | --- | --- | --- | \$382.00 | --- | --- | \$34.00 |
| 7/01/49 | 6/30/50 | \$386.00 | --- | --- | --- | \$388.00 | --- | --- | \$34.00 |
| 7/01/50 | 6/30/51 | \$392.00 | --- | --- | --- | \$394.00 | --- | --- | \$34.00 |
| 7/01/51 | 6/30/52 | \$398.00 | --- | --- | --- | \$400.00 | --- | --- | \$34.00 |
| 7/01/52 | 6/30/53 | \$404.00 | --- | --- | --- | \$406.00 | --- | --- | \$34.00 |
| 7/01/53 | 6/30/54 | \$410.00 | --- | --- | --- | \$412.00 | --- | --- | \$34.00 |
| 7/01/54 | 6/30/55 | \$416.00 | --- | --- | --- | \$418.00 | --- | --- | \$34.00 |
| 7/01/55 | 6/30/56 | \$422.00 | --- | --- | --- | \$424.00 | --- | --- | \$34.00 |
| 7/01/56 | 6/30/57 | \$428.00 | --- | --- | --- | \$430.00 | --- | --- | \$34.00 |
| 7/01/57 | 6/30/58 | \$434.00 | --- | --- | --- | \$436.00 | --- | --- | \$34.00 |
| 7/01/58 | 6/30/59 | \$440.00 | --- | --- | --- | \$442.00 | --- | --- | \$34.00 |
| 7/01/59 | 6/30/60 | \$446.00 | --- | --- | --- | \$448.00 | --- | --- | \$34.00 |
| 7/01/60 | 6/30/61 | \$452.00 | --- | --- | --- | \$454.00 | --- | --- | \$34.00 |
| 7/01/61 | 6/30/62 | \$458.00 | --- | --- | --- | \$460.00 | --- | --- | \$34.00 |
| 7/01/62 | 6/30/63 | \$464.00 | --- | --- | --- | \$466.00 | --- | --- | \$34.00 |
| 7/01/63 | 6/30/64 | \$470.00 | --- | --- | --- | \$472.00 | --- | --- | \$34.00 |
| 7/01/64 | 6/30/65 | \$476.00 | --- | --- | --- | \$478.00 | --- | --- | \$34.00 |
| 7/01/65 | 6/30/66 | \$482.00 | --- | --- | --- | \$484.00 | --- | --- | \$34.00 |
| 7/01/66 | 6/30/67 | \$488.00 | --- | --- | --- | \$490.00 | --- | --- | \$34.00 |
| 7/01/67 | 6/30/68 | \$494.00 | --- | --- | --- | \$496.00 | --- | --- | \$34.00 |
| 7/01/68 | 6/30/69 | \$500.00 | --- | --- | --- | \$502.00 | --- | --- | \$34.00 |
| 7/01/69 | 6/30/70 | \$506.00 | --- | --- | --- | \$508.00 | --- | --- | \$34.00 |
| 7/01/70 | 6/30/71 | \$512.00 | --- | --- | --- | \$514.00 | --- | --- | \$34.00 |
| 7/01/71 | 6/30/72 | \$518.00 | --- | --- | --- | \$520.00 | --- | --- | \$34.00 |
| 7/01/72 | 6/30/73 | \$524.00 | --- | --- | --- | \$526.00 | --- | --- | \$34.00 |
| 7/01/73 | 6/30/74 | \$530.00 | --- | --- | --- | \$532.00 | --- | --- | \$34.00 |
| 7/01/74 | 6/30/75 | \$536.00 | --- | --- | --- | \$538.00 | --- | --- | \$34.00 |
| 7/01/75 | 6/30/76 | \$542.00 | --- | --- | --- | \$544.00 | --- | --- | \$34.00 |
| 7/01/76 | 6/30/77 | \$548.00 | --- | --- | --- | \$550.00 | --- | --- | \$34.00 |
| 7/01/77 | 6/30/78 | \$554.00 | --- | --- | --- | \$556.00 | --- | --- | \$34.00 |
| 7/01/78 | 6/30/79 | \$560.00 | --- | --- | --- | \$562.00 | --- | --- | \$34.00 |
| 7/01/79 | 6/30/80 | \$566.00 | --- | --- | --- | \$568.00 | --- | --- | \$34.00 |
| 7/01/80 | 6/30/81 | \$572.00 | --- | --- | --- | \$574.00 | --- | --- | \$34.00 |
| 7/01/81 | 6/30/82 | \$578.00 | --- | --- | --- | \$580.00 | --- | --- | \$34.00 |
| 7/01/82 | 6/30/83 | \$584.00 | --- | --- | --- | \$586.00 | --- | --- | \$34.00 |
| 7/01/83 | 6/30/84 | \$590.00 | --- | --- | --- | \$592.00 | --- | --- | \$34.00 |
| 7/01/84 | 6/30/85 | \$596.00 | --- | --- | --- | \$598.00 | --- | --- | \$34.00 |
| 7/01/85 | 6/30/86 | \$602.00 | --- | --- | --- | \$604.00 | --- | --- | \$34.00 |
| 7/01/86 | 6/30/87 | \$608.00 | --- | --- | --- | \$610.00 | --- | --- | \$34.00 |
| 7/01/87 | 6/30/88 | \$614.00 | --- | --- | --- | \$616.00 | --- | --- | \$34.00 |
| 7/01/88 | 6/30/89 | \$620.00 | --- | --- | --- | \$622.00 | --- | --- | \$34.00 |
| 7/01/89 | 6/30/90 | \$626.00 | --- | --- | --- | \$628.00 | --- | --- | \$34.00 |
| 7/01/90 | 6/30/91 | \$632.00 | --- | --- | --- | \$634.00 | --- | --- | \$34.00 |
| 7/01/91 | 6/30/92 | \$638.00 | --- | --- | --- | \$640.00 | --- | --- | \$34.00 |
| 7/01/92 | 6/30/93 | \$644.00 | --- | --- | --- | \$646.00 | --- | --- | \$34.00 |
| 7/01/93 | 6/30/94 | \$650.00 | --- | --- | --- | \$652.00 | --- | --- | \$34.00 |
| 7/01/94 | 6/30/95 | \$656.00 | --- | --- | --- | \$658.00 | --- | --- | \$34.00 |
| 7/01/95 | 6/30/96 | \$662.00 | --- | --- | --- | \$664.00 | --- | --- | \$34.00 |
| 7/01/96 | 6/30/97 | \$668.00 | --- | --- | --- | \$670.00 | --- | --- | \$34.00 |
| 7/01/97 | 6/30/98 | \$674.00 | --- | | | | | | |

SAN DIEGO COUNTY WATER AUTHORITY
WATER USE

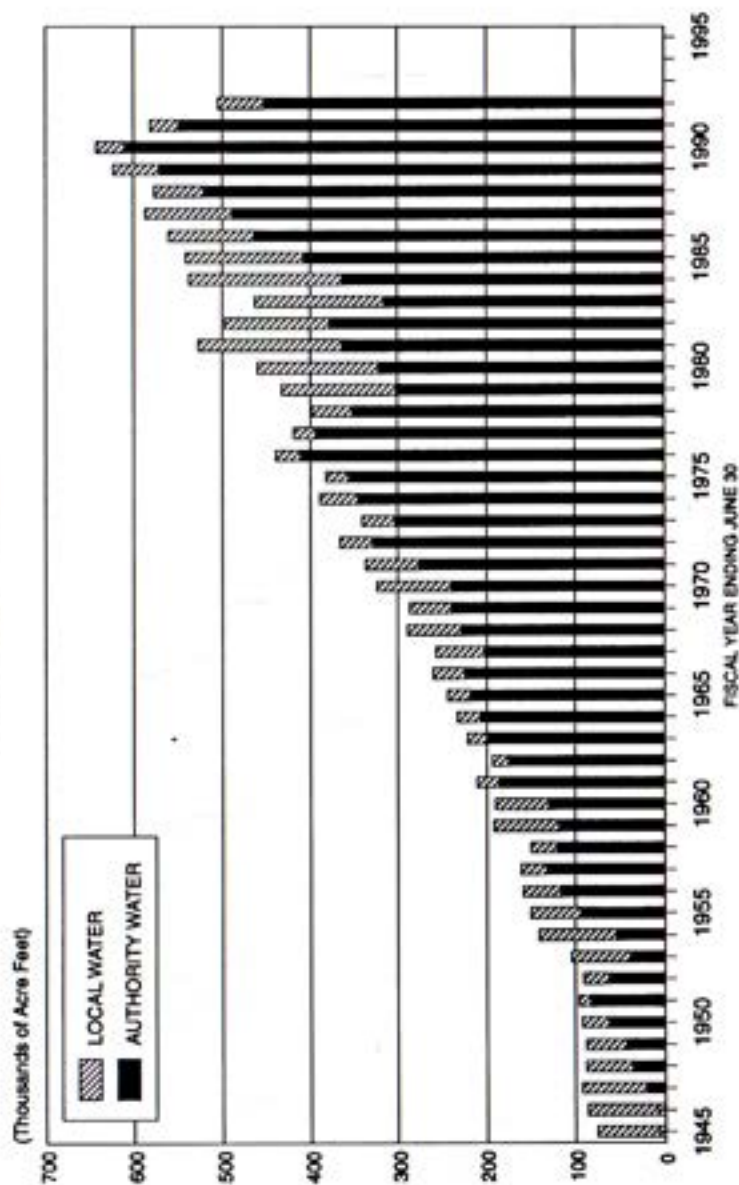


Figure No. 6 Water Use of Authority Member Agencies

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 340 million gallons per day (mgd). These facilities are located in Riverside County south of Winchester.

State Water Project 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.

New water quality regulations from the Safe Drinking Water Act this year required MWD to restrict deliveries of unfiltered water for use as a potable source. Before the regulations were instituted, MWD could provide untreated CRA water throughout the length of the First Aqueduct.

Because of the new regulations, MWD has provided a blend of treated CRA and SWP supplies in the First Aqueduct. Since April 1992 the First Aqueduct has changed operations to provide treated water from the section extending from Lake Skinner to Escondido, via the Auld Valley Pipeline. This change affected several member agencies in northern San Diego County.

The Second Aqueduct is composed of pipelines 3, 4 and 5. Water from Lake Skinner flows untreated 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 delivery of water from MWD in five pipelines that form 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. These pipelines, beginning at the terminus of the San Jacinto Pipeline, share common tunnels and inverted siphons and are operated as a single unit. From the Skinner Filtration Plant 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 small-diameter pipeline, called the La Mesa-Sweetwater Extension, continues south from San Vicente Reservoir until it reaches Sweetwater

Reservoir. The Fallbrook-Oceanside Branch Line originates at Rainbow and extends west to Oceanside's service area.

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

To increase operational flexibility, 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 and the city of Oceanside. The Ramona Pipeline delivers water from the Second Aqueduct to the Olivenhain Water District, city of San Diego, and the Ramona Municipal Water District.

The design capacities of Authority pipelines at the point of delivery from the Metropolitan Water District are:

| | |
|----------------------------|-----------------------|
| Pipelines 1 and 2 combined | 196 cubic feet/second |
| Pipeline 3 | 250 cubic feet/second |
| Pipeline 4 | 380 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.)

The Authority does not own or operate any storage facilities. However, it does have a contract with the city of San Diego to store up to 40,000 acre-feet in San Vicente Reservoir. Part of this water includes an interruptible storage pool for 13 member agencies that participate in MWD's interruptible storage program. As of June 1992 the interruptible pool contained about 13,400 acre-feet.

San Vicente storage statistics are shown in Table 4, including the amounts of storage placed in the reservoir for member agencies other than San Diego. The agreement provides that the first water which may be lost over the spillway is that stored by the Authority. No water was spilled during the fiscal year.

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 most of the Authority's remaining storage from this agreement, with about 10,000 acre-feet as of June 1992.

The storage contract 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 pays San Diego \$4.00 per acre-foot for any Authority-owned water pumped from storage into the city's system. Storage charges may be adjusted annually to reflect the cost of operating the reservoirs and associated facilities.

The Authority has storage agreements with two other member agencies, the Ramona Municipal Water District and the Sweetwater Authority. These agreements help to meet operational goals of 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 agreement permits the Authority to deliver a total of up to 7,500 acre-feet for storage during the year. The Authority can then request Ramona to draw upon this stored water during times of peak demand. At the end of the fiscal year a total of 5,900 acre-feet was placed in storage under this agreement.

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. At the end of June 1992, Sweetwater had about 790 acre-feet of water in storage under this program.

Water Quality

New regulations associated with the Safe Drinking Water Act required changes to the way the First Aqueduct is operated. The regulations restrict the ability to serve potable demands with unfiltered water. Before March 1992, the First Aqueduct (pipelines 1 and 2) was filled entirely with untreated Colorado River water. However, since then the aqueduct has been filled with treated water between Lake Skinner and Escondido. South of Escondido, the aqueduct is refilled with untreated water from the Second Aqueduct. Untreated water is delivered until the aqueduct terminates at San Vicente Reservoir.

Because of the change to treated water, the Authority shut down the Rainbow Chlorination Station that was used to chlorinate pipelines 1, 2 and 3. Pipeline 5 is chlorinated periodically to control algae. Pipeline 4 delivers water that has been chlorinated at the Skinner filtration plant.

The 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 318 milligrams per liter (mg/l) in February to a low of 304 mg/l in October. Water temperatures varied from a high of 81°F (27°C) in September to a low of 52°F (11°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 312 mg/l in July to a low of 270 mg/l in May. Water temperatures ranged from a high of 78°F (26°C) recorded in August to a low of 54°F (12°C) in January and February.

Water Treatment

Treated water provided to the Authority arrives from MWD's Robert A. Skinner Filtration Plant. This plant has a total capacity of 340 million gallons per day (mgd), and it provides treated water to 13 Authority member agencies that have no treatment plants.

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 and Poway to supply the Otay Water District, Padre Dam Municipal Water District, and Ramona 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.

The Skinner filtration plant provides treated, blended water to the Authority. This treated water is disinfected by the chloramination method, which introduces ammonia and chlorine into the water and reduces the formation of trihalomethanes (THMs).

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.

Future Supplies

Future demand projections for water in the Authority service area are based upon population estimates from the San Diego Association of Governments (SANDAG). Future demand can be estimated by multiplying per capita demands with the forecast populations. A sophisticated econometric computer forecasting model produced by MWD, called MWD-MAIN (for Municipal and Industrial Needs), has also been used to forecast Authority demand.

The most recent population forecast, known as Series 7, and the demand associated with this forecast, are shown in the following table. Demands from a Series 8 forecast, which is expected to be available in the summer of 1993, are expected to be higher. Demand projections assume use of conservation practices known as Best Management Practices (BMPs).

Estimated Population and Demand

| Year | Population | Estimated Demand (af) |
|------|------------|-----------------------|
| 1995 | 2,585,100 | 670,000 |
| 2000 | 2,784,200 | 714,000 |
| 2010 | 3,154,500 | 786,000 |

To meet these projected demands, the Authority has worked to increase the capacity and flexibility of its conveyance system and to develop local water supplies. The Authority's Capital Improvement Program includes the construction of a new pipeline, Pipeline 6, running from Lake Skinner to the San Marcos area, which would increase the Authority's total capacity. The CIP will also construct Pipeline 2A, to connect the First and Second Aqueducts in north county, and will extend pipelines 4 and 5 to the south.

Local supplies being pursued include reclamation, groundwater, and desalination. Authority goals for the year 2010 include 60,000 acre-feet of existing local supplies (impounding reservoirs and groundwater), 50,000 acre-feet of reclaimed supplies, 15,000 acre-feet of new groundwater, and 20,000 acre-feet of desalinated seawater.

This total of 145,000 acre-feet of local supplies would constitute 18 percent of the total supply needed to meet the 2010 demand. The necessary imported supply would then be 641,000 acre-feet, or 82 percent of the total in an average year. Imported supply needs in an above-normal demand year, or in a year with below-normal local supplies, would be higher.

The Authority currently provides on the average about 90 percent of the water required by its member agencies. Because of limited local supply opportunities, reliance upon imported supplies will continue. The high proportion of total supply coming from imported sources, combined with the experience of how supplies were allocated by MWD during drought years, has brought increased emphasis on providing supply reliability. To enhance reliability, the Authority supports legislation and policies that would permit water marketing and dry-year transfers between willing buyers and sellers within the state.

The MWD Board adopted a new mission statement in January 1992: "The mission of the Metropolitan Water District of Southern California is to provide its service area with adequate and reliable supplies of high quality water to meet present and future needs in an environmentally and economically sensitive way."

To meet the needs of its member agencies, MWD has contracts for slightly more than 2 million acre-feet annually from the State Water Project. The remainder of MWD's supplies comes from the Colorado River, where recent deliveries have averaged 1.2 million acre-feet, although only about half of that amount is a firm supply.

Figure 6 shows the increase in water requirements within the Authority since 1945.

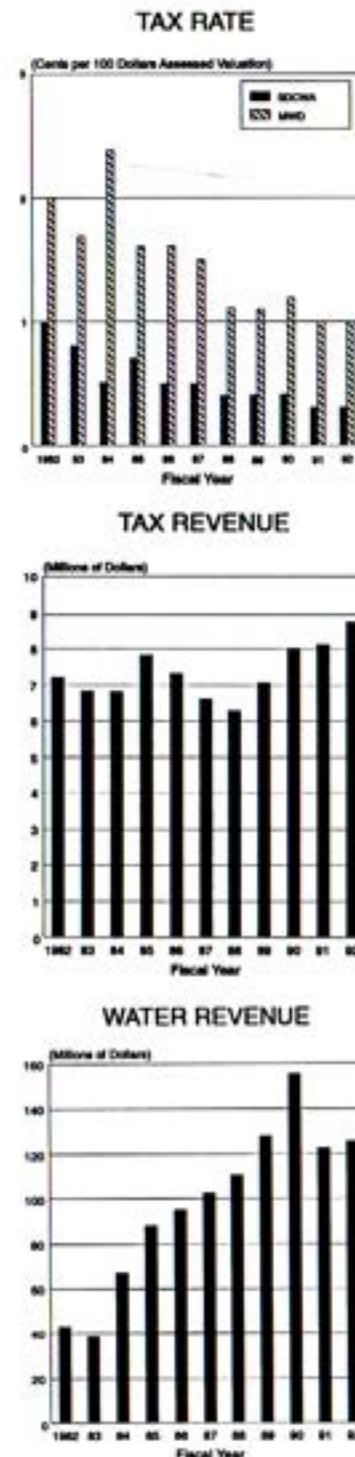


Figure No. 7



*A section of the Mission Aqueduct, which was one of the earliest water transmission facilities built to serve county residents.
(San Diego Historical Society, Photograph Collection)*

OPERATIONS AND MAINTENANCE

General

The Authority's aqueducts and related facilities and equipment are controlled and maintained from the Operations Center in Escondido. The Department's staff of 37 employees is divided into four sections: Administration, Operations, System Maintenance, and Technical Services.

The Operations and Maintenance Department is responsible for controlling and maintaining 230 miles of pipeline, more than 1,000 appurtenant structures, and 1,400 acres of right-of-way properties. Major work during the year included construction projects, large-scale maintenance activity, warehouse expansion, landscape renovation, environmental compliance work, and health and safety training.

The Operations Center occupies one city block with three major buildings: administrative, shop, and warehouse. The administrative building houses the aqueduct computerized control system and 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 is in the final phase of a major expansion and seismic retrofit remodeling project.

Routine and emergency communications are established with all department staff, member agencies and regional emergency response agencies via the Authority's agency radio system, the interagency radio system, and the Metropolitan District's Member Agency Radio System (MARS) networks. An Authority liaison position was established at the San Diego County Emergency Operations Center and effectively connects a regional disaster response and communications system with all water districts and the local, state, and federal governments.

The Department is continuing a multi-year program to modernize the water metering system and complete the safety construction upgrade of older structures. This program is parallel to the continued expansion of the operations and maintenance program as new sections of pipeline are completed and placed into operation.

Administration

Major programs implemented during the past year include the Hazardous Materials and Waste Management Program, Confined Space Review and Training Program, Phase I and II Environmental Site Investigations, Mercury Handling and Disposal Training, and a professional Security Risk Assessment Study.

The Administration section also implemented a regional Emergency Preparedness Program with member agencies and other lifeline utilities. This program included the adoption of the Member Agency Mutual Aid Agreement, the San Diego County Water Contingencies Annex, Utilities and Lifelines Earthquake Safety Seminar, and

the progressive earthquake exercise series. Several regional earthquakes required the partial activation of the CWA Emergency Response Plan.

Operations

The Operations section operates the Authority's water delivery system, which has five major pipelines, ranging in size from 48 to 96 inches. The present capacity of the system is 900 million gallons per day (mgd). This section is further divided into Control Room Operations and Field Operations.

Authority operators control water flows to member agencies by using telemetry and computer control systems. The aqueduct system supplies raw and treated water. 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 make daily checks and perform minor repairs and calibrations as required on all meters, pump stations, pressure control stations, the chlorination station, and valves located throughout the county. They are also responsible for operating two hydroelectric power plants. Typical duties include reading meters, changing charts, and calculating water flows.

The Operations Center Control Room is staffed daily, including weekends and holidays, from 7:00 a.m. to 4:30 p.m. During off-hours, Authority phone calls are transferred to the home of the system operator on duty. The duty operator can respond with a utility vehicle equipped with both Authority and interagency mobile radios.

Charts of the service connection meters are changed weekly. Flow charts and meter readings are compared for indications of inaccuracies. The calibration of each active meter is checked at least three times per year. Meter accuracy is also checked when requested by a member agency or if accuracy is questioned.

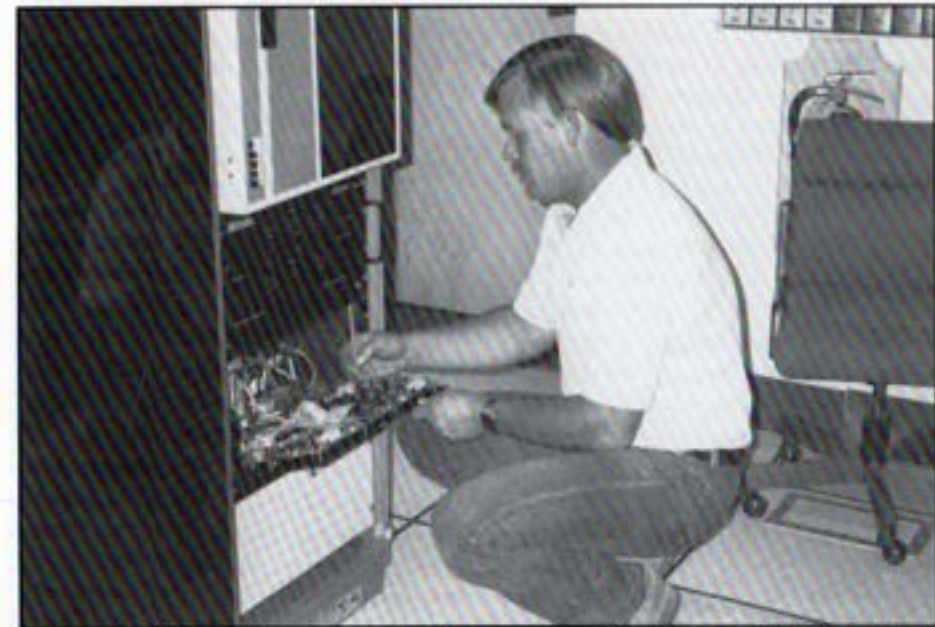
Flow into either treated and raw water pipelines is controlled, either locally or remotely, by the Metropolitan Water District (MWD) at the Robert A. Skinner Filtration Plant Operations Center. The plant operates continuously and can respond to requests for emergency flow changes. Normal aqueduct flow changes are made daily at 8:30 a.m. and 2:30 p.m. The Authority can shift flows from one service connection to another, with agency approval, to keep the pipeline flows in balance.

Water deliveries in the Authority aqueduct system are displayed and controlled on the Operation Center's automatic computerized control system. The computer warns the daytime operator of problems with alarm displays and a synthesized voice, and the night time operator by telephone. The night time operator can also monitor and instruct the computer control system from home using a portable computer. A security system prevents the misuse of this or similar equipment.

The aqueduct system has no available operational storage. All flow changes must be carefully coordinated to keep the system in balance and maintain the proper flow to the service connections at or near the end of the pipelines. The computer and a large aqueduct flow status board indicate the amount of water available to meet the member agencies' needs. Each pipeline's current flow, requested flows, meter sizes, maximum allowable capacity flows, critical pipeline flows, meter and valve information are displayed on the status board and computer terminals.



The Authority's computerized control room in Escondido. The control room is operated seven days a week to monitor and control flows to all member agencies.



Greg Tucker, senior system technician, performs checkout on the 960 MHz radio master station.

Authority water is stored, by contract, in several reservoirs owned by member agencies, principally in the city of San Diego's San Vicente Reservoir. 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.

Three pumps at the Authority's Miramar Pump Station are available to pump flows of up to 140 cubic feet per second (cfs) of treated water from the city of San Diego's Miramar Treatment Plant into one of the treated water pipelines for delivery to south county member agencies. Except for short periods of time, these flows are available only when excess untreated water can be delivered from the aqueduct to the treatment plant because of limited storage capacity at Lake Miramar.

Both power plants and the pump station were knocked off line due to power outages caused by lightning on July 31, 1991. Extra treated water was ordered from Lake Skinner to compensate for the loss of flow from the P-3 pump and all affected service connections were returned to their requested flows within a three hour period.

On July 9, 1991, a 51-inch pipeline owned by the city of San Diego broke in Carroll Canyon. Authority operators worked with the city by making extra flow changes to shift water to areas of need. The repair was not completed until late August 1991.

During the summer, the Authority experienced several failures of the F-1 radio repeater. These electronic failures resulted in a loss of the F-1 frequency for periods of up to 23 hours. During these outages, radio communications continued using the F-3 frequency.

A power failure caused by lightning knocked P-1 and C-22 pumps off line on September 5, 1991. This caused a loss of flow of 92 cfs to the south portion of the county. Thirty cfs of additional flow was requested from MWD, and the rest of the flow was made up by agencies that reduced flows to minimum demand.

The Rainbow Chlorine Station was shut down and secured on December 26, 1991. With introduction of treated water on the First Aqueduct in March 1992, and MWD's periodic chlorination of the third pipeline, it was no longer necessary to operate this facility.

Operations successfully completed a series of seven major shutdowns of the aqueduct system from January 3, 1992 to April 30, 1992. The shutdown schedule was the most extensive ever conducted by the Authority and included draining, assisting engineering with internal and external inspections, repairing, and refilling of more than 10 miles of pipeline. Also during this time, the Sweetwater Bypass and the Escondido Pump Station were placed into operation as part of the aqueduct system. These new facilities required several months of testing, training, and monitoring.

Maintenance

The Maintenance Department has three subsections: Structural Maintenance, Equipment Operation, and Mechanical Services. Maintenance activities are divided into two categories: preventive and corrective. Preventive maintenance incorporates maintenance and inspection activities that are performed on a regular and scheduled basis to keep equipment or structures operating effectively and to minimize unforeseen failures.



Al Garza, an equipment shop mechanic, troubleshoots an electrical problem in this valve service truck.



Maintenance personnel Steve Carpenter, Al Earnest and Bruce Rudolph build a headwall at the Olivenhain 3 Service Connection.

Maintenance activities include carpentry, painting, plumbing, and masonry work for buildings and grounds, maintaining 212 miles of dirt and asphalt roads, controlling erosion, constructing new control and metering facilities, and inspecting for hazards or potential damage to pipelines or easements. Inspection activities include the inspection of more than 900 structures and more than 100 flow control facilities. Each structure and flow control facility has two or more valves that are serviced on a regular basis.

Corrective maintenance incorporates actions that are taken to repair or restore equipment or structures to standard operating condition. 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.

Maintenance equipment includes one motor grader, one crawler tractor, one skip loader, one trackhoe, two backhoes, one 15-ton crane, two forklifts, dump trucks, truck tractors, equipment trailers, compressors, several generators, welding equipment, and portable pumps.

The Maintenance Department completed a major pipeline encasement project at a Highway 56 undercrossing. Crews worked several weeks of extended hours on this fast-track, large-scale construction project, which required coordination with Caltrans contractors. Other major, non-routine accomplishments included the replacement of a section of prestressed concrete cylinder pipe in Rancho Penasquitos, and responding when an explosive device was discovered during routine valve service operations.

Maintenance performed all the excavation for the Aqueduct Protection Program. This work required the procurement of a Case 125B Excavator and special training for the equipment operators.

The Weed and Trash Abatement Program for right of way properties was a major program during the fiscal year and included the permanent assignment of a field crew and the acquisition of a tractor and flail mower.

Technical Services

The Technical Services section ensures the proper working order of the Authority's electronic, electrical, and communications systems and equipment. The general scope of work consists of the maintenance and repair of Supervisory Control and Data Acquisition (SCADA) and telemetry equipment within the Aqueduct Control System; periodic calibration of flow metering instrumentation; maintenance of low- and medium-voltage power distribution and rotating equipment; upgrade and maintenance of associated office building systems; and routine daily inspections and repairs.

Technical Services actively participates in the Authority's Capital Improvement Program. Technical Services personnel serve in support capacities to the engineering group within the division's "team approach" concept for project design. Staff serve as liaisons for contractor compliance during the installation phase. They also perform installations and upgrades that are not part of a contract's scope of work.



A 30-inch pipeline from the Crossover Pipeline to the pump station is constructed as part of the Escondido raw water pump station and modifications to the First San Diego Aqueduct.

Shop

The shop handles procurement, maintenance, repair, and retirement of all of the Authority's vehicles and equipment. It is also responsible for the installation of all two-way radios and safety equipment, and handles the design and fabrication of various pieces of equipment and vehicle modifications to meet the specialized needs of the Authority. Some maintenance is administered through service contracts.

The Authority's fleet is made up of 16 passenger vehicles, 39 light-duty utility vehicles, 10 medium- and heavy-duty trucks, 16 trailers, 8 earth moving tractors, 3 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 5 light-duty trucks, a 12-year-old valve service truck, and a 3-axle truck tractor. A 40-year-old underground diesel fuel tank and a 24-year-old waste oil tank were removed to help the Authority comply with regulations issued by the Federal Environmental Protection Agency. A vapor recovery system was installed on the two remaining fuel tanks.



Mel Spell is the assistant superintendent of the Operations Section of the Authority. When he first started in Operations, CWA had the ability to control 13 of 52 flow control facilities. CWA now remotely controls over 100 flow control facilities.

ENGINEERING DEPARTMENT

General

The Engineering Department is responsible for the design and construction of new pipelines, flow control facilities, engineering studies, pipeline repairs, and the acquisition and management of the Authority's rights of way. The department also supports some of the work of the Operations and Maintenance and Water Resources Planning Departments. The staff operates from both the Authority's Escondido and San Diego offices.

Capital Improvement Program

The Authority made substantial progress on the Capital Improvement Program (CIP) during the fiscal year. The Engineering Department was responsible for planning, design, or construction work on 22 separate projects. When completed, these projects will add much needed capacity to the aqueduct system, and increase the reliability and flexibility to many portions of the county which now depend on a single pipeline.

About 32 miles of pipeline are currently under construction from the San Marcos area south to Sweetwater Reservoir. These projects include eight construction contracts totaling more than \$227 million for pipelines and other appurtenant facilities.

Scripps Ranch Pipeline (Pipeline 4B, Phase I)

The Scripps Ranch Pipeline project consists of 8.5 miles of 96- and 108-inch diameter pipeline extending from the Mira Mesa area in the city of San Diego to the Mission Trails Regional Park east of Tierrasanta. 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.

The pipeline route traverses through the communities of Mira Mesa and Scripps Ranch, and the Miramar Naval Air Station (NAS). The pipeline will be located in both existing and new rights of way. The Scripps Ranch Pipeline will become part of a new conveyance facility providing 450 cubic feet per second (cfs), or 290 million gallons per day, of treated water capacity to the Second San Diego Aqueduct south of the city of San Diego's Miramar Water Treatment Plant.

In October 1991, a construction contract for the Scripps Ranch Pipeline was awarded to a joint venture of Kasler Corporation and L. H. Woods and Sons, Inc. for \$51,988,000. Through June 1992, relocation work had been completed at the State Route 52 crossing. Construction is scheduled for completion by mid-1993.

Boyle Engineering is providing construction management services. Brian F. Mooney Associates is providing additional environmental studies required by the

United States Department of the Navy for a 3.2-mile crossing of the Miramar NAS. The Authority also retained UXB International, of Chantilly, Virginia, to provide ordnance location services in coordination with ordnance removal operations conducted by the U.S. Army Corps of Engineers in the Miramar NAS and Mission Trails Regional Park.

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 the Scripps Ranch Pipeline at Shepherd Canyon 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. This will allow Pipeline 3 to deliver raw water to Sweetwater and Lower Otay Reservoirs.

An underground 18-million-gallon reinforced concrete Flow Regulatory Structure (FRS) will be constructed to provide a more efficient, pressurized pipeline system to Lower Otay Reservoir. This will increase the available pressure at low flow, improve reliability, and enhance the operational flexibility of the treated water system. The project schedule was accelerated to coincide with completion of the La Mesa/Lemon Grove Pipeline and Lower Otay Pipeline projects.

In July 1991, the Authority certified an Environmental Impact Report prepared by Brian F. Mooney Associates. Additional California gnatcatcher field surveys at the FRS site were conducted and an Environmental Assessment was prepared, as required by the Navy and United States Fish and Wildlife Service, for the sale of the FRS property to the Authority. Staff also coordinated the clearing of naval ordnance along the project's right of way with the Navy and U.S. Army Corps of Engineers.

The FRS and 1.5 miles of the pipeline are being designed by James M. Montgomery Consulting Engineers. The remaining 0.7 mile of pipeline was designed by Boyle Engineering Corporation and is being constructed with the Scripps Ranch Pipeline to minimize environmental impacts to the California gnatcatcher and its coastal sage scrub habitat. A pipeline tunnel is being designed to avoid harming the historic Mission Flume and environmentally sensitive riparian habitat at the San Diego River. Construction is scheduled to be completed by early 1994.

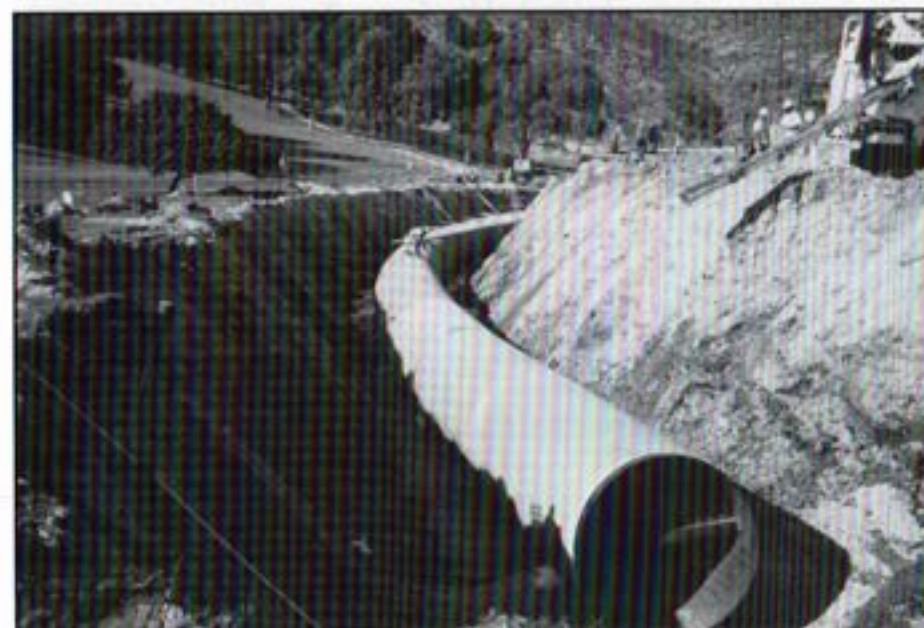
La Mesa/Lemon Grove Pipeline and Cowles Mountain Tunnel (Pipeline 4 Extension, Phase I)

This project consists of a 12-mile, 96- and 108-inch diameter welded steel pipeline and the relocation of three flow control facilities. It includes a 6,800-foot tunnel through Cowles Mountain in Mission Trails Regional Park and 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 design of this project continued throughout the year by James M. Montgomery Consulting Engineers. Design is also proceeding on the relocation of the Helix 3,



Pipelaying operation looking south along Massachusetts Avenue near Waite Drive.



Pipeline crossing Mission trails Golf Course with Cowles Mountain as a backdrop.

Otay 5, and San Diego 13 Flow Control Facilities (FCF) and pipelines to reconnect to these agencies' distribution systems. Design was completed for the Cowles Mountain Tunnel and La Mesa/Lemon Grove Pipeline.

In October 1991, a construction contract for the Cowles Mountain Tunnel was awarded to Traylor Brothers of Pleasanton, California, for \$10,899,000. The tunnel entry portal was excavated and a tunnel boring machine is scheduled to complete the 11-foot diameter, hard-rock tunnel by September 1992. Upon completion of the tunnel, a 96-inch diameter welded steel pipe will be installed in the tunnel. All construction of the Cowles Mountain Tunnel is scheduled for completion in mid-1993.

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. 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. Construction management services are being provided by Morrison-Knudsen Corporation. Construction is scheduled for completion in early 1994.

Lower Otay Pipeline (Pipeline 4 Extension, Phase II)

This 8-mile, 72- and 96-inch diameter pipeline is the southern-most segment of a new large-diameter pipeline delivering 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 Reservoir. The pipeline will increase the capacity and reliability of the Authority's aqueducts. 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.

In August 1991, the Authority certified an EIR prepared by Brian F. Mooney Associates. The design of the pipeline and flow control facilities was completed by ASL Consultants.

A construction contract for the pipeline is scheduled to be awarded in July 1992. Construction of the pipeline and FCFs is scheduled for completion in early 1994.

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. Eventually, the San Marcos Pipeline will deliver up to 620 cfs of raw water, but only after other capital improvement projects have been completed.



Construction foreman carefully guides a 40-foot section of 108-inch diameter pipeline into position. Directly above the pipelaying a fully supported Vallecitos Water District 30-inch waterline remains in use.



Excavation continues along the pipeline alignment. An excavator is shown digging trench in the foreground while a crane continues pipelaying activity in the background.

In September 1990, a construction contract was awarded to Kiewit Pacific Company of Vancouver, Washington, for \$75,776,000. Authority staff and various specialty consultants are providing construction management services.

Pipeline construction continued throughout the year. Construction milestones this year include completion of pipe installation through the environmentally sensitive San Marcos Creek, the 1,700-foot Las Posas Mountain Tunnel, and the tunnel crossings beneath Mission Road, Las Posas Road, and San Marcos Boulevard. The project is scheduled for completion by mid-1993.

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.

The Authority is designing a 400-foot segment of the Rancho Penasquitos Pipeline where the extension of State Route 56 crosses the pipeline adjacent to Salmon River Road in the city of San Diego. A construction contract is scheduled to be awarded in September 1992. Construction of this segment of pipeline will eliminate the need for a tunnel under the future freeway.

Professional services agreements were awarded to P&D Technologies to prepare an Environmental Impact Report, and Black & Veatch for preliminary engineering design services. Environmental review and preliminary design are expected to be completed by early 1993. The Rancho Penasquitos Pipeline is scheduled to be completed by mid-1996.

Pipeline 6

Pipeline 6 is being proposed as a new 33-mile raw water conveyance facility extending from Lake Skinner in Riverside County to the Authority's existing Diversion Structure located north of San Marcos. This pipeline project is a joint undertaking between the Authority and the Metropolitan Water District of Southern California (MWD). Pipeline 6 is needed to meet future increases in imported water demand and to provide additional reliability and flexibility as identified in the Authority's 1987 Water Distribution Plan.

The Authority and Metropolitan have retained Keller Environmental Associates to prepare the Environmental Impact Reports. As the lead agency, MWD will be certifying the environmental documents in early 1993. Construction of Pipeline 6 is scheduled to be completed by late-1997.

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 is providing the engineering services

and P&D Technologies is providing 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 transfer water between the two aqueducts to meet emergency demands.

Activities conducted during the year included final pipeline design, preliminary pump station design, right of way activities, and additional environmental surveys. The project is expected to be completed in late 1994.

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

Construction of the Escondido Raw Water Pump Station was substantially completed by June 1992 by Papac Corporation, the general contractor. Work proceeded during the prior year with the construction of the pump station, a new connection to the Crossover pipeline, and approximately 1,500 feet of 30-inch pipeline. The facility replaces the city of Escondido's Connection No. 2 on the First Aqueduct, which supplied raw water to Lake Dixon. The project was designed by the firm of Black & Veatch.

The Authority converted the First San Diego Aqueduct from raw Colorado River water to treated water in March 1992. The First Aqueduct will continue to carry untreated water from the Crossover Pipeline south of the Terminal Structure. In conjunction with the pump station construction, modifications were made to the pipelines at Hubbard Hill to separate the treated and untreated portions of the First Aqueduct. The Authority assisted its member agencies with a public information program to inform customers of agencies along the First Aqueduct of the delivery of chloraminated treated water.

Sweetwater Bypass and Flow/Pressure Control Facility

The Authority accepted the construction of the Sweetwater Bypass and Flow/Pressure Control Facility in September 1992. The project was constructed by Edmond J. Vadnais Corporation and Vadnais Corporation, A Joint Venture, and designed by the engineering firm of John Powell and Associates. The facility is designed to deliver a nominal flow of 60 cfs to the reservoir and will have an intermittent capacity during pressure relief of 140 cfs.

The Sweetwater Bypass facility is located at Sweetwater Reservoir and serves two primary purposes. First, it allows water from Pipeline 3 to be directly discharged into Sweetwater Reservoir, allowing the Authority to deliver large amounts of water to the Sweetwater Authority during the winter and spring. Treated water deliveries from Pipeline 3 to Sweetwater can then be decreased during the peak summer months so that other agencies can receive additional amounts of water. This will benefit several agencies in the south county since Pipeline 3 often operates at peak capacity. The Authority will have limited capability to deliver treated water until the completion of the Pipeline 4 Extension to Sweetwater Reservoir. The second purpose for the project is to provide pressure relief for Pipeline 3 to protect the pipeline from pressure surges.

Aqueduct Control System Project

This project replaces the existing control system, which is used to centrally operate and manage the remote 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 major and minor tasks to be accomplished in separate stages. The major project focuses on replacing computer hardware and software at the Escondido Operations Center and at all FCFs. The minor tasks involve implementing an independent communications network, which utilizes two radio systems and one fiber optic system to replace the majority of existing leased telephone lines used to communicate to FCFs.

Most of the design, which was done by EMA Services, Inc., has been completed for the new Aqueduct Control System. Final installation of the Mount Palomar and Mount Woodson radio systems (including remote radios) is scheduled for mid-1993. Fiber optic communication hardware design and installation will be under separate contracts. However, fiber optic cable will be installed in conjunction with the construction of all pipeline projects that are part of the Capital Improvement Program. Replacement of the new computer hardware and software in the field and at Escondido Operations Center will take approximately 18 months. The equipment is scheduled for operation in mid-1994.

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. The first phase involves a corrosion survey, internal/external pipeline inspections and database development. The second phase consists of condition assessment and rehabilitation design, and the final phase will implement preventive maintenance repairs.

Phase 1 work is proceeding with corrosion surveys of 82.5 miles of prestressed concrete cylinder pipelines and 42 miles of steel pipelines. This work is being done by PSG Corrosion Engineering in association with Boyle Engineering Corporation. The survey and data base development is scheduled for completion in November 1992.

Seven planned pipeline shutdowns occurred from July 1991 to July 1992 so the Authority could conduct Phase 1 internal/external pipeline inspections, as well as preventive maintenance. Shutdowns were limited to an average of 10 days to avoid severely impacting the Authority's member agencies. Therefore, inspections were concentrated in areas with the highest potential for corrosion, as identified from the corrosion survey and database.

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

During the program, an inspection of Pipeline 4 in the Rancho Penasquitos area in February 1992 revealed a horizontal crack in one section of 96-inch prestressed concrete cylinder pipe. Authority and outside contractor crews worked continuously for more than a week to replace the corroded section of pipe with a new steel pipe.

National City/South Bay 4 Flow Control Facility

This flow control facility will provide 62 cfs of treated water from the Lower Otay Pipeline. The facility will be located near Sweetwater Reservoir. Design is being coordinated with the Sweetwater Authority and is being performed by ASL Consultants. Construction is expected to be completed in 1994.

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. The design was completed by Boyle Engineering Corporation. In December 1991, the Authority awarded a contract for manufacturing a flow control sleeve valve to Bailey, Division of CMB Industries, for \$119,750. A construction contract is scheduled to be awarded in August 1992. Construction is scheduled to be completed by the end of 1993.

Treated Water Supply Study

A Request for Proposal was sent to a number of qualified engineering firms. Negotiations proceeded and the engineering firm of Camp Dresser and McKee was chosen, pending award of a contract by the Board. This study is being done to meet one of the goals of the Authority's Strategic Plan. It will determine the amount of regional supplemental water treatment capacity needed beyond what is anticipated to be provided by MWD and the Authority's member agencies through the year 2010. The study is scheduled to be completed in the spring of 1993.

Escondido Operations Center Landscape Renovation

Design of landscape renovations at the Authority's Escondido Operations Center is being completed 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. A construction contract is scheduled to be awarded in August 1992. Construction is scheduled to be completed by the end of 1992.

Escondido Operations Center Warehouse Expansion and Modification

Design of an expansion and modification of the Authority's Operations Center Warehouse is being completed by Westberg and White Inc. The 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. A construction contract is scheduled to be awarded in August 1992. Construction is scheduled to be completed by the end of 1992.

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

The First and Second Aqueducts cross the San Luis Rey River in areas where there is extensive sand mining. A study prepared by Nolte and Associates and Dr. Howard Chang concluded that the pipelines crossing the river are threatened by existing sand mining. In December 1991, the firm of Parsons, Brinckerhoff, Gore, and Storrie was selected to perform preliminary design services for permanently protecting the aqueduct crossings from the effects of erosion.

Coordination with the County and other agencies with utilities crossing the river continued throughout the year. These efforts resulted in the expansion of the scope of the Authority's preliminary design work into a river management and floodplain study. Funding contributions were secured from the County, Rainbow Municipal Water District and San Diego Gas and Electric to expand the scope of the work so that the cumulative impacts of existing and future mining can be identified.

Right of Way Activities

Acquisition

Management of the Authority's rights of way achieved increasing attention, and a separate right of way section was created within the Engineering Department. A right of way supervisor was hired to allow consolidation of rights of way management and acquisition activities. By combining management and acquisition, the Board's policies for managing rights of way are being efficiently and effectively implemented.

The section handled the acquisition of the rights of way for portions of the Scripps Ranch Pipeline, La Mesa/Lemon Grove Pipeline, and San Marcos Pipeline. All of the responsibility for the acquisition of the rights of way for Pipeline 2A and the Lower Otay Pipeline is being handled by the section. These responsibilities include the management and coordination of appraisers, special counsel, and all aspects of acquisition and relocation.

New acquisition procedures have been implemented to reduce the number of eminent domain cases. These procedures include the early involvement of the department and legal counsel in alignment considerations and during preliminary design. The increased staff of the department is allowing the Authority to communicate with property owners on a personal level to explain the need for the project, solicit their input and minimize litigation.

Management of Rights of Way

An increased emphasis has been placed on managing existing rights of way. The department successfully halted 90 unauthorized encroachments and processed 33 encroachment applications during 1992.

Inter-agency relationships were developed to assist in rights of way management. For example, on several different projects, where developers were circumventing or violating encroachment guidelines, the County of San Diego Building Inspection Department withheld final inspections until satisfactory arrangements were made with the Authority.

Other Projects

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

- Negotiations concluded with Padre Dam Municipal Water District to construct a bypass pipeline around the proposed Helix Water District Grossmont Pump Station. The pipeline is required to maintain treated water service to Padre Dam's Connection No. 6.
- The Authority continued discussions with Helix Water District regarding participation in the expansion of the R.A. Levy Water Treatment Plant from the current 67 million gallons per day to 100 million gallons per day. Helix has been supplying treated water to the Authority for delivery to the Padre Dam and Otay Water districts since 1976.
- Construction of the Olivenhain 4 Temporary Flow Control Facility was completed in December 1991 by Don Hubbard Contracting Company. This temporary facility currently provides 1.5 cfs, but can be expanded to 3 cfs, of raw water from the Second San Diego Aqueduct to the Olivenhain Municipal Water District.
- A study was conducted by AKM Consulting Engineers on the operation of the Terminal Structure located at the intersection of the First San Diego Aqueduct and Crossover pipeline in the city of Escondido. The purpose of the study was to develop solutions to maximize water conveyance and minimize damaging cavitation of the control valves.
- 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 Water Resources Department for the Emergency Storage Project by providing assistance for studies involving preliminary engineering, system reoperation/optimization, risk analysis, groundwater study, environmental review, and rights of way.



A nursery in the Fallbrook PUD's service area used more than 11 acre-feet of reclaimed water for horticultural production.

WATER RECLAMATION DEPARTMENT

The Water Reclamation Department continued to advance its goal of expanding the use of reclaimed water during fiscal year 1992. Recognizing the need for policy direction and funding to further the water recycling effort, the Board of Directors acted upon a number of recommendations from the Water Authority Reclamation Advisory Committee (WARAC). WARAC advises the Authority on water reclamation matters and is comprised of members representing water and wastewater entities, state and local regulatory agencies, and potential reclaimed water users.

The Financial Assistance Program (FAP) was expanded to include groundwater development studies. Under this program, the Board approved almost \$300,000 for both reclaimed and groundwater planning and development. Twelve reclamation projects, with a combined total reuse potential of more than 2,200 acre-feet per year, were part of this funding.

The Authority entered into agreements with Otay Water District and Fallbrook Public Utility District for the Reclaimed Water Development Fund. The Authority also entered into joint participation agreements with two agencies and the Metropolitan Water District of Southern California for participation in Metropolitan's Local Projects Program.

Reclaimed water use within the Authority service area for fiscal year 1992 is summarized in Figure 8. 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

The Board established regional policies and procedures to further the water reclamation goal, including the Regional Implementation Plan. This plan will assess the progress of reclaimed water master plans and evaluate the Authority's role in implementing water reclamation.

The Authority participated in several legislative efforts focused on promoting reclaimed water use, including AB 2732, storage of reclaimed water; AB 3012, master water reclamation permit; AB 3030, development of groundwater management programs; and SB 1225, formation of the San Diego Area Wastewater Management District.

Staff also participated in state and regional organizations that promote the use of reclaimed water, such as the Water Reuse Association of California, Western Coalition of Arid States, 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*.

Other Accomplishments

During the year, the Reclamation Department developed a model document of Rules and Regulations For Reclaimed Water Service, initiated efforts to coordinate groundwater development, and assisted reclamation agencies in securing state funding for capital improvements supporting water reclamation.

RECLAIMED WATER PRODUCTION

In SDCWA Service Area

Fiscal Year 1991-1992

(Acre-Feet)

| Location | Treatment Facility | M&I | Ag | Ground Water Replenishment | Total |
|----------------------|----------------------|--------------|------------|----------------------------|--------------|
| Escondido | Hale Ave | 15 | 1 | | 16 |
| Fairbanks Ranch CSD | Fairbanks Ranch | | | 160 | 160 |
| Oceanside/Fallbrook | Fallbrook Plant #1 | 193 | 16 | | 209 |
| Oceanside | San Luis Rey | 13 | | | 13 |
| Otay WD | Jamacha Basin TP | 537 | | | 537 |
| Padre Dam MWD | Santee Lakes | 405 | | | 405 |
| Pendleton | Pendleton | 378 | | 3,596 | 3,974 |
| Ramona MWD | Santa Maria | 14 | 526 | 78 | 618 |
| Ramona MWD | San Vicente | 1 | 358 | 146 | 504 |
| San Diego | Aquaculture Plant | 9 | | | 9 |
| San Diego | Wild Animal Park WRP | 11 | 9 | | 20 |
| Santa Fe WD | Rancho Santa Fe WPCF | | | 208 | 208 |
| Vallecitos WD | Meadowlark | 607 | | 48 | 655 |
| Valley Center MWD | Lower Moosa Canyon | | | 240 | 240 |
| Valley Center MWD | Skyline TP | | | 30 | 30 |
| Vista | Shadowridge | 76 | | | 76 |
| Whispering Palms CSD | Whispering Palms WRF | | 66 | 122 | 188 |
| Total: | | 2,259 | 976 | 4,628 | 7,862 |

Figure No. 8

WATER RESOURCES PLANNING DEPARTMENT

The Water Resources Planning Department has two sections, Water Resources Planning, and Conservation. The Planning Section's major responsibilities are to forecast water demands, study various supply options, process water sales to member agencies, conduct environmental analyses and permitting, and building maintenance for the San Diego office. The Conservation Section conducts studies and implements programs designed to achieve both short- and long-term water savings for a wide variety of water users. Both sections were challenged during the year as drought shortages created the need for significant conservation efforts and close supervision of available supplies.

Water Resources Planning Section

The Planning Section concentrated its efforts during the year on managing limited water supplies and investigating potential new sources of water. Supply shortages caused the Section's normal workload to increase significantly. A lot of the extra work came from the Metropolitan Water District's (MWD) drought program, the Incremental Interruption and Conservation Plan (IICP), which allocated drought-shortened supplies to MWD member agencies. IICP allocations were enforced with financial penalties for exceeding target deliveries of water. While this focused attention on achieving necessary levels of immediate conservation, long-term supply requirements were also intensively studied. Options like desalination, Authority-owned storage and water transfers were investigated as a means to increase future supply reliability.

The year began with MWD supplies to the Authority reduced by 31 percent. Purchases from a state water bank and the use of local water allowed the Authority to require 20 percent conservation from its member agencies. For the first three months of the year (July-September 1992), the IICP also provided financial incentives for saving more water than required.

The Planning Section issued monthly delivery allocations to all Authority member agencies, using growth-adjusted 1989-90 deliveries as a basis for reductions. Flows to each agency were monitored daily to ensure that allocations would not be exceeded. From July through September 1992, the Authority saved 22,709 acre-feet more than was required by the 31-percent target, and received more than \$2.2 million in incentive credits. This money was pro-rated to Authority member agencies that had earned incentive credits. (Authority member agencies saved 50,885 acre-feet of water beyond the 20-percent conservation target.)

Improved state supplies and heavy local precipitation in February 1992 permitted MWD and the Authority to reduce conservation requests to a 10 percent voluntary level the following month. Penalties were discontinued, and the Planning Section ceased issuing monthly allocations. The IICP remained at the 10-percent level for the rest of the year.



*Sweetwater Dam - Circa 1895
(San Diego Historical Society, Photograph Collection)*

A desalination study begun in 1990 was continued throughout the year. The study envisions the construction of a combined electric power/desalination facility built in conjunction with San Diego Gas & Electric (SDG&E). As proposed, the plant would combine repowering SDG&E's existing South Bay powerplant, located in Chula Vista, with a reverse osmosis desalination facility. The desalination plant would have a capacity of up to 30 million gallons per day (mgd). Combining desalination with SDG&E's power plant is expected to increase efficiency and reduce costs when compared to a stand-alone desalination plant.

The Authority supported SDG&E in legislation designed to expedite a review of the proposed plant by the state Public Utilities Commission. The Authority also supported AB 2112 (Desalination Act of 1992) and the California Safe Drinking Water and Drought Relief Bond Law of 1992.

A separate desalination study that would have located a larger plant in Baja Mexico was concluded during the year. This project was deemed not to be feasible to pursue, largely because of the high cost of distributing water from Mexico.

One of the Planning Section's major tasks is to ensure compliance with the California Environmental Quality Act (CEQA) and other environmental regulations. Environmental analysis is necessary not only for the construction of all major Authority projects, but to determine the impacts from non-Authority projects near Authority facilities. Potential impacts can result from such activities as landfill siting, sandmining, and other land development.

The Authority participated in several mitigation programs designed to offset negative environmental impacts from Authority projects. Under these programs, land dedicated for wildlife preservation is purchased to offset impacts to existing habitat. Examples of these programs include two separate multi-species conservation plans, one for the southern portion of the county run by the City of San Diego's Clean Water Program, and one for the northern county called the North County Wildlife Forum. The Planning Section also performed biological surveys for an emergency storage reservoir site.

Routine duties performed by the Planning Section include processing water sales to member agencies and compiling various statistical data associated with the sales. These include records of water deliveries, use, local storage, rainfall, and evaporation. Staff also estimates both short- and long-term demands of member agencies and tracks water supply conditions affecting the State Water Project and the Colorado River Aqueduct. The Department also assisted in writing and producing a number of documents, including the Authority's Strategic Plan, Drought Management Plan, Water Resources Plan, 1990-91 Annual Report, and the San Diego Association of Government's (SANDAG) Draft Regional Growth Management Strategy.

Conservation Section

The Water Resources Planning Department's Conservation Section operated a number of effective ongoing long-term water conservation programs, and implemented selected new measures. An estimated 650 acre-feet of water was saved because of these programs during the fiscal year. Staff also worked with the Public Information Department and member agencies in responding to the drought.

Conservation staff helped to define the role that urban water conservation will play in the State Water Resources Control Board's Bay/Delta Process. That effort culminated with a memorandum of understanding (MOU) regarding urban water conservation in California that was signed in December 1991 by 120 water agencies, public interest groups and other interested parties. The MOU includes a list of Best Management Practices (BMPs) for water conservation, along with an implementation schedule. The Authority and most major urban water agencies in the state agreed to implement 16 long-term BMPs. Consequently, all urban conservation measures implemented during the year were from that list of BMPs.

The Authority took the state-wide lead in implementing one of those BMPs through legislation. It sponsored a revised SB 1224, carried by State Senator Lucy Killea, which would require that all toilets sold or installed in California after January 1, 1994 use no more than 1.6 gallons per flush.

The Ultra-Low-Flush Toilet Rebate Program was the most prominent of the BMPs implemented by the Authority. Almost 27,000 toilets were replaced by the end of the year by participants receiving a rebate of up to \$100 per toilet. The Metropolitan Water District, the Authority and its participating member agencies funded the program. Volt Energy Systems continued to operate the program in close cooperation with Authority staff and member agencies.

Free showerheads were installed through a cooperative effort with SDG&E, the MWD, the Authority and its member agencies. That program resulted in more than 62,000 showerheads being installed in residences throughout San Diego County by the end of the year.

An expanded Public Facilities Program was initiated during the year. This program targeted heavily used toilets in San Diego City Hall and County Court House for replacement with ultra-low-flush models.

Landscape water conservation was addressed through a variety of programs, which were funded in cooperation with the State Department of Water Resources, MWD, the Authority and its member agencies. The Authority contracted with Mission Resource Conservation District (RCD) to provide daily weather information to 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 telephone number.

Mission RCD provided landscape water management audits for customers in the northern half of the county. Greater Mountain Empire RCD provided similar audits in the southern half of the county. The Authority also assisted in sponsoring a series of irrigation training sessions conducted in Spanish. Because so many of those involved in irrigation maintenance use Spanish as their primary language, this effort was especially beneficial.

Finally, the Authority and its member agencies continued to support efforts to maintain the high level of irrigation efficiency achieved by agricultural users in the county. Through the Agricultural Audit Program and the CIMIS irrigation information number, users were provided useful information as they continued to cope with the on-going drought.

Optimal Storage Study

A two-part study to determine future Authority water storage requirements was completed this year by J.M. Montgomery Consulting Engineers. The first part of the study analyzed the need for seasonal, carryover, and emergency storage throughout the county. This work produced a range of storage capacity needed, based upon two population projections produced by the San Diego Association of Governments (Series 7 and initial Series 8 population forecasts).

The second part of the study reviewed existing surface reservoirs and groundwater basins, and potential future storage sites, to determine the county's ability to meet emergency storage requirements. This work considered environmental concerns, costs, and capacity for each of the sites. The study found that groundwater basins are best suited for carryover and seasonal storage purposes. Surface storage, including the reoperation of existing reservoirs, was determined to provide the best option for providing emergency supplies.

Five surface storage sites were identified for potential reservoir development. The sites include two existing reservoirs, Lake Wohlford and San Vicente, and three sites for a new reservoir, at Moosa Canyon, Guejito Creek, and Pamo Valley. Based upon the findings of this study, the Authority Board concluded that environmental and engineering feasibility studies were warranted for an emergency surface storage project at one or more of the five sites. Studies now under way will determine whether emergency storage is best provided by constructing new surface storage, expanding the capacity of existing reservoirs, reoperating existing reservoirs, or some combination of these methods.

PUBLIC INFORMATION

As the drought stretched into a sixth year, the Public Information Department continued to educate the public about the Water Authority's program for maintaining San Diego County's safe and reliable water supply.

As it has since the drought began, the department disseminated much information about how county residents could conserve water and why they should do so. In addition, the department's focus widened to include details about the Authority's overall program to maintain the reliability of San Diego's water supply.

The department also maintained the Authority as an authoritative source of information for the media and public about water-related issues.

Water Education

The department's plan for educating the public about the Authority and general water issues centered on two areas: water conservation and the Authority's water management program.

One major advertising campaign on radio and one in newspapers reminded the public that while the drought's impact had lessened on San Diego, the county's traditional water sources remained vulnerable to interruption. "Remember to cut back" was the general theme of the ads. Another major newspaper advertisement thanked county residents for their conservation efforts and explained the Authority's water management program.

Another series of radio ads featured senior staff from the Authority discussing the Authority's program in his area of expertise. Areas covered in the ads included water reclamation, conservation, desalination, capital improvements and water rates. In addition, the department launched a series of four newspaper advertisements designed to educate people about the region's water situation, the Authority's water management efforts and the potential for rate increases.

The department also used bilingual publications to reach county residents who do not speak English. One general interest brochure titled "What a Difference a Drop Makes" was published in both Spanish and English. Two fact sheets — one about the capital improvement program and the other about conservation — were translated into Vietnamese. In addition, the department produced plastic tote bags adorned with the phrase "Please Conserve Water" in 11 languages.

The department disseminated water education information at several community meetings as well. The most notable of these was Earth Fair, where staff dispensed thousands of brochures, buttons and window stickers and answered questions from many people.

Media Activity

Issues such as drought, capital improvements, emergency storage and water rates sparked much media interest in the Authority. Reporters turned to the Public Information 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 and answered countless phone calls.

The drought continued to attract attention from the media. The department issued six "Drought Watch" fact sheets that recorded drought conditions affecting the State Water Project. Copy and graphics were used to illustrate such factors as reservoir storage, snowpack and runoff.

The department promoted other water issues as well. For example, when the California Urban Water Agencies released a major study on the "Cost of Urban Industrial Water Shortages," the department arranged a news conference to acquaint local reporters with the document. Staff produced a synopsis of the study that emphasized the local implications of industrial water shortages and the Authority's plan to alleviate such deficits.

In addition, the department supported the capital improvement program and the emergency water storage project with many news releases and interviews. Staff wrote and designed the first informational brochure about the storage project, wrote the copy for a second brochure, and was involved with production of a set of fact sheets and an informational video.

Major articles were prepared for the opinion sections of *The San Diego Union* and *San Diego Tribune*, *The Daily Transcript*, the Greater San Diego Chamber of Commerce's *Business Action* publication, the Colorado River Association newsletter and the Southern California Water Committee newsletter. Numerous letters to the editor were prepared for publication in many of the county's newspapers.



Planning manager Gordon Hess prepares to record a radio advertisement for the Authority.

School Education Program

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

Two education specialists continued to offer free classroom presentations to fourth-grade students throughout San Diego County. Some 10,787 students — almost all of them fourth-graders — heard the presentations during the 1991-92 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 children can make a positive impact through wise water use. To reinforce the message, students received Waterhog buttons, magnets, stickers and bags.

The specialists also conducted "in-service" training sessions for 828 teachers interested in presenting water information to their students. In a related activity, staff taught a day-long UCSD Extension course about water and provided in-service training on Authority school education programs to the 25 teachers in attendance.

The department continued its working relationship with a two-person theatrical troupe from the San Diego Repertory Theatre. The 30-minute play, "Who Wasted the H2O?", used dialogue, song and audience participation to educate students about water and the need to conserve. Some 75,304 elementary-school students and 2,877 teachers at 135 schools saw the presentations in the 1991-92 school year. A videotape of the presentation was made and distributed to area schools.

The department continued to use another videotape as well in classroom presentations. "Waterhog Haven," a six-minute, live-action film produced for the Authority, involves the effects of water-wasting on a small town. Copies of the video have been placed in most of the county's schools. The video has been recognized by



Ivan Golakoff brings water awareness to a classroom of fourth-grade students.

the American Water Works Association, which chose "Waterhog Haven" to offer to its 53,000 members worldwide. In addition, the U.S. Industrial Film & Video Festival gave "Waterhog Haven" an award of merit last year.

The department also was active in the area of curriculum development. Staff wrote and published an 82-page unit for fifth- and sixth-grade students, "Where in the World Is the Water." The unit compares California's water resources to those of six countries. In addition, staff wrote a lesson specific to San Diego for the Metropolitan Water District's "Geography of Water" unit and assisted the MWD in development of its new government unit for high schools. Staff also produced a workbook for elementary-school students to supplement the "Who Wasted the H2O?" presentations.

The department took part in several organizations. Staff organized and hosted a two-day conference and workshop in San Diego for 35 members of the DWR Education Advisory Committee. In addition, staff participated in the Energy Education Committee, which administers the Authority's mini-grant program. Twenty water-related grants were made to area educators in 1991-92. Staff also participated in numerous fairs and conferences, including the San Diego Science Educators Conference, the Energy Education Conference and the "All About Kids" fair.

A new project, the Xeriscape Teaching Garden, was constructed at Del Mar Hills Elementary School and now will become part of the school's extensive gardening program. An ongoing in-service program for a projected 100 area teachers will be held at the garden in the 1992-93 school year. The garden also will be open for public viewing.

Publications

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

WaterTalk kept community leaders and interested private citizens informed about the Authority's activities and general water issues. Usually, four issues are published each year, but a special fifth issue was published in FY 1992. The four regularly scheduled issues featured such themes as the Authority's plan for alleviating future supply shortages, the capital improvement program and the water reclamation program. The fifth issue was devoted entirely to San Diego County agriculture, highlighting its productivity and water-use efficiency. Some 2,000 additional copies were printed of the agriculture issue and given to the San Diego County Farm Bureau for distribution to its members and other interested parties.

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.

In addition, the department updated the Authority's fact sheet to reflect changes that had occurred in the past year.

The department also worked with several other departments on publications for the public. Staff joined with the Water Resources Department to produce a fact sheet for the public on the potential for seawater desalination in San Diego County. This fact sheet later was expanded into a briefing booklet on the proposed South Bay Desalination Project. Moreover, staff worked with the Engineering Department to publish a brochure explaining the Pipeline 2A and Pump Station project.

Joint Public Information Council

The Joint Public Information Council, comprising public information personnel from the Authority and its member agencies, met three times during FY 1992 to discuss activities. Topics of discussion included the drought, the emergency storage project and other Authority programs, and joint advertising efforts. Through JPIC, the department provided member agencies with literature and other material that then was distributed to the general public.

The department's cooperative advertising program continued in FY 1992. The department offered matching funds for newspaper advertisements co-sponsored by the Authority and interested member agencies. More than half of the agencies participated. The ads featured a water conservation theme.

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

Public-Private Partnerships

The department continued to seek out and foster partnership arrangements with private businesses to promote water education. One new partnership involving Channel 10 used a "Drought Buster" theme. The station arranged discounts at local retailers for customers of member agencies who met their conservation targets. Channel 10 also provided air time for conservation-minded public service announcements that promoted the "Drought Buster" program.

In addition, the department joined with Wells Fargo Bank staff to stage a Business Leaders Breakfast. About 120 business people heard Joe Wahed, chief economist for Wells Fargo, and Tim Quinn, conservation and water management administrator at the Metropolitan Water District, discuss the impact of unreliable water supplies on business.

The San Diego County Restaurant Association continued to distribute "water on request" table tents that were produced and printed by the Public Information Department. Similarly, the Hotel and Motel Association of San Diego County worked with the department to place drought information cards in every hotel room in the county.

Del Mar Fair Xeriscape Garden Contest

For the second year, the department sponsored a Xeriscape category in the Del Mar Fair's annual garden contest. Twelve gardeners entered for judging. Five entries from different categories won prizes of \$1,000 apiece. In addition, staff erected a display showing the "Seven Steps of Xeriscape" at the fair and produced a special Xeriscape brochure for distribution at the fair.

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 drought, the region's overall water supply situation, conservation efforts 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 personnel analysts, and a personnel 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 108 employees. By the end of the year this number increased to 132, for a gain of 24 positions. During this period, the Department's recruitment program assisted in hiring 30 new employees and promoting 11 employees. Two employees retired and four employees terminated their services during the year.

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

Administrative Services Division

| | |
|-------------------------------|-------------------------------|
| Accounting Specialist | Purchasing Agent |
| Education Resource Specialist | Secretarial Specialist |
| Information Systems Assistant | Senior Accountant |
| Personnel Assistant | Senior Secretarial Specialist |
| Public Information Specialist | (2) Warehouse Workers |

Water Resources Division

| | |
|-------------------------------|---------------------------|
| Senior Secretarial Specialist | Water Resource Specialist |
| (2) Water Resource Assistants | Water Resource Supervisor |

Engineering, Operations, and Maintenance Division

| | |
|-----------------------------|----------------------------|
| Administrative Analyst | Maintenance Worker |
| Assistant Superintendent | Right of Way Supervisor |
| Associate Civil Engineer | (3) Senior Civil Engineers |
| (2) Engineering Technicians | Senior Survey Technician |

General Counsel's Office

| | |
|--------------------------|-----------------|
| Administrative Secretary | General Counsel |
| Deputy General Counsel | |

Staff coordinated the development of 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, age, medical condition, veteran status, or citizenship, within the limits imposed by law or the Authority's policy.

Staff also successfully researched, developed, and implemented both summer youth employment and student intern programs. Youth hired under the Authority's

summer youth employment guidelines work 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.

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 first 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 six studies that resulted in a reclassification of positions. Staff also conducted several studies that resulted in the creation of nine new classifications, effective for fiscal year 1992-93. The new classifications are :

| | |
|----------------------------|----------------------------------|
| Executive Asst. to the GM | Principal Engineering Technician |
| Public Affairs Director | Senior Right-of-Way Agent |
| Public Information Manager | Right-of-Way Agent |
| Deputy General Counsel | Information Systems Specialist |
| Equal Opportunity Officer | |

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 year.

To boost employee morale and performance, the Authority has an incentive program that provides awards for Employee of the Quarter and Year, for suggestions, attendance, and service. The recipients of these awards were honored at an annual Incentive Awards Banquet, hosted by the Authority and attended by employees, spouses, and guests. This year 30 suggestions were submitted by employees, of which three were judged to merit cash awards.

Staff also coordinated implementation of a series of monthly departmental presentations to provide an orientation to all employees on the total operations of the Authority.

Risk Management

The Human Resources Department is responsible for ensuring that the Authority's employees and property assets are protected by using appropriate risk management. The Department 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 conducted an extensive survey to evaluate the quality of the Authority's current health insurance programs. The results of the survey showed that employees were generally satisfied with both Kaiser and Prucare medical services. Staff then successfully negotiated contracts with both companies for calendar year 1993.

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

Staff developed and implemented an 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.

A safety resource center contains a variety of safety reference materials, video tapes, and training aids. 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.



JIM WILKINSON
Employee of the 1st Quarter



CINDY DALBEY
Employee of the 2nd Quarter



SUZANNE BARTLETT
Employee of the 4th Quarter



SANDY RODRIGUES
*Employee of the 3rd Quarter
and
Employee of the Year*

TREASURER'S REPORT

For the fiscal year ended June 30, 1992, total Authority income was \$167,079,133. Total disbursements during the year were \$136,458,184. At the fiscal year end, the Treasurer was accountable for funds and investments totaling \$410,064,732.

The Director of Finance, Robert R. Campbell, also acts as the Authority's Treasurer and is responsible for all funds not immediately required for the conduct of business. Funds are invested in accordance with the Annual Statement of Investment Policy adopted by the Board of Directors in January 1992, in interest-bearing time deposits and savings accounts.

A monthly report is presented to the Board that shows monthly activity consistent with investment policy. The report outlines investments by amount, type, rate, institution, number of days invested and maturity date.

The Authority's Administrative Code requires the Treasurer to report a summary of financial transactions monthly and for each fiscal year end. For fiscal year 1991-92, the summary is as follows:

Summary (Dollars in Thousands)

| | 1992 | 1991 |
|-------------------------------|------------------|------------------|
| Water sales | \$ 125,282 | \$122,062 |
| Cost of sales | 102,569 | 96,713 |
| Operating expenses | 11,726 | 10,673 |
| Depreciation | 4,151 | 4,143 |
| Operating income | 6,836 | 10,533 |
| Nonoperating income (expense) | 26,044 | 29,310 |
| Net income | <u>\$ 32,880</u> | <u>\$ 39,843</u> |

As of June 30, 1992 and 1991, the Treasurer's cash accountability was as follows:

| | June 30 | |
|---|-----------------------|-----------------------|
| | 1992 | 1991 |
| Insured demand deposits | \$ 502,092 | \$ 265,284 |
| Certificates of deposit | 6,252,000 | 23,111,424 |
| U.S. Government securities | 72,843,106 | 59,453,708 |
| Guaranteed investment contract deposits | 307,011,827 | 102,554,956 |
| Local Agency Investment Fund | 15,000,000 | 0 |
| Bankers Acceptances | 5,927,474 | 0 |
| Money Market | 2,528,233 | 0 |
| | <u>\$ 410,064,732</u> | <u>\$ 185,385,172</u> |

SAN DIEGO COUNTY WATER AUTHORITY

As of June 30, 1992 and 1991, restricted reserve fund cash balances were as follows:

| | June 30 | |
|---------------------------|-----------------------|-----------------------|
| | 1992 | 1991 |
| Construction | \$ 238,264,777 | \$ 88,554,756 |
| Rate Stabilization | 61,153,000 | 54,153,000 |
| Pay-As-You-Go | 31,870,183 | 16,690,341 |
| Debt Service Reserve | 39,644,000 | 14,000,000 |
| Interest Arbitrage Rebate | 3,375,797 | 811,424 |
| | <u>\$ 374,307,757</u> | <u>\$ 174,209,521</u> |

As of June 30, 1992 and 1991, unrestricted cash balances were as follows:

| | June 30 | |
|-----------|---------------|---------------|
| | 1992 | 1991 |
| Operating | \$ 35,756,975 | \$ 11,175,651 |

Weighted Average Yield / Maturity

| | 90-Day T-Bill | CWA Return | Days |
|-----------------|------------------|---------------|------|
| July, 1991 | 5.76 | 6.27 | 134 |
| August, 1991 | 5.56 | 6.21 | 119 |
| September, 1991 | 5.41 | 5.98 | 133 |
| October, 1991 | 5.18 | 5.85 | 122 |
| November, 1991 | 4.73 | 5.74 | 112 |
| December, 1991 | 4.24 | 5.27 | 121 |
| January, 1992 | 3.94 | 4.94 | 111 |
| February, 1992 | 3.95 | 4.86 | 92 |
| March, 1992 | 4.15 | 4.80 | 73 |
| April, 1992 | 3.90 | 4.73 | 136 |
| May, 1992 | 3.75 | 4.56 | 133 |
| June, 1992 | 3.79 | 4.52 | 195 |

In March 1992 the Authority adopted Resolution No. 92-16 "Resolution of the Board of Directors of the San Diego County Water Authority Adopting Annual Statement of Investment Policy." This resolution gives the Treasurer added authority to invest in the Local Agency Investment Fund, Bankers Acceptances, Repurchase Agreements, Reverse Repurchase Agreements and Money Market Funds. These types of investment vehicles are in addition to previously authorized investments in bank and savings and loan certificates of deposit, Treasury securities and guaranteed investment contracts.

The steady reduction in portfolio return closely follows the downward trend in short-term interest rates. Monthly portfolio return is well in excess of the 90-day T-Bill yield, the portfolio performance target used by the Authority.

OFFICE OF THE GENERAL COUNSEL

OFFICE OF THE GENERAL COUNSEL

General

This was a transition year in the Authority's legal history, as the law firm of Jennings, Engstrand and Henrikson, which had represented the Authority since 1946, was replaced with in-house counsel. William H. Jennings was general counsel until 1971, when he was succeeded by Paul D. Engstrand, who served until December 1991. The Board honored Engstrand on his retirement by the dedication of the Engstrand Conference Room, immediately adjacent to the Board Room.

After Engstrand announced his retirement, the Board decided to establish an in-house general counsel office. The position of general counsel was filled by Vincent F. Biondo, Jr. at the December 1991 Board of Directors meeting. Biondo previously worked as general counsel for the Carlsbad Municipal Water District and had served since 1972 as Carlsbad's city attorney. His experience also includes being assistant city attorney for the city of Escondido, deputy city attorney for the city of San Diego, and a lieutenant in the Judge Advocate General's Corps of the United States Navy. He received a B.A. in 1964 from San Diego State College and a Doctor of Jurisprudence from Stanford University in 1967.

In February 1992 the Board approved the addition of a deputy general counsel, and a legal secretary was also hired to assist the general counsel's office. All the work necessary to establish a functional, efficient law office was accomplished, including forms, procedures, standard agreements and the acquisition of a computer-based library.

Routine Matters

Routine matters included advice about Brown Act changes, claims proceedings, disclosure statement requirements, changes in the Authority Administrative Code (including procedures for the acquisition of rights of way), documentation for levy of taxes, establishment of "in lieu" charges, capacity charges, standby charges, water rates, examination of credentials of Board members, staff-related activities, advice on new laws, including the Americans with Disabilities Act, assistance with new insurance standards, revisions to the construction contracts, consultant agreements and the Authority's General Conditions.

Capital Improvement Plan

Work continued on implementing the Authority's extensive Capital Improvement Plan, adopted in August, 1989. This required legal review of draft and final EIRs, contracts for engineering consultants to design pipelines and establish rights of way, appraisal reports, resolutions of necessity, bids and construction contracts. Major construction contracts were awarded for Pipeline 4 Extension, Phase I, Specification 423 (La Mesa/Lemon Grove Pipeline) to J.F. Shea Company, Inc. (\$43,141,000) in

August, 1991; for Pipeline 4B, Phase I, Specification 427 (Scripps Ranch Pipeline) to Kasler Corporation and L.H. Woods and Sons, Inc., a joint venture (\$51,988,000) in September, 1991; for Pipeline 4 Extension, Phase I, Specification 421 (Cowles Mountain Tunnel) to Traylor Brothers, Inc. (\$10,899,000) in September, 1991; and Pipeline 4 Extension, Phase I, Specification 422 (La Mesa/Lemon Grove Pipeline) to PCL Civil Constructors (\$40,498,600) in November, 1991; and for Pipeline 4 Extension, Phase II, Specification 432 (Lower Otay Pipeline) to Kiewit Pacific Co. (\$24,437,000) in June, 1992.

After these contracts were executed, work progressed and contract administration proceeded without serious disagreements.

Litigation

Substantial progress was made in successful completion of the eminent domain acquisitions for Pipeline 5 and Pipeline 4B Extension, Phase I. This included 39 settlements and one case litigated which is on appeal (San Diego County Water Authority v. Mireiter (Superior Court Case No. N47861), involving issues about the effect on value of environmentally sensitive habitat). Twenty-six more of these cases were outstanding in June.

The continuing increase of the pace and scale of the Authority's construction activities added to the condemnation load. In February 1992 the Board approved the retention of additional outside counsel to assist the Authority. Detisch, Christensen and Wood filed two new cases on the 4EII project and worked on two preliminary matters for the Pipeline 2A project. Asaro and Keagy is assisting Right of Way staff in the preliminary stages of the acquisition of approximately 60 parcels for the 2A project. Daley and Heft filed 12 suits against different owners and acquired immediate possession of 28 parcels required for the 4EII South Bay Pipeline project.

Environmental work on the five proposed emergency storage reservoir sites and the acquisition of the Pipeline 6 right of way, which together involve hundreds of parcels, will substantially increase the future activity in this area.

The California EPA included the Authority, along with almost 100 other major corporations and agencies, as potential responsible parties in the Escondido Chatham Brothers hazardous waste site. A consent decree with the state was signed, and the Authority worked with the state to achieve a prompt and environmentally responsible solution to the problem. Legal claims were pursued against companies that formally insured the Authority and a recovery of \$40,000 was achieved, which will recoup all of the Authority's attorneys' fees and provide a reserve for the current estimate of the Authority's future share of the cleanup.

The office supports the Engineering Department in the management and protection of the Authority's rights of way. The Glendinning case, involving disputes about the use of Authority property interests, was resolved. Another similar case, San Diego County Water Authority v. Kerr (Case No. 611965), is still on appeal. The Authority was also involved in a neighborhood dispute regarding access to a residential area adjacent to the aqueduct near Escondido. After working with the litigants, the case *Hensman v. Stoops* was dismissed.

The Authority continued to support the city of Escondido in the Water Quality Association case. This case involves restrictions on the use of certain types of water conditioners to protect wastewater quality. The Authority supports the ability of local governments to protect wastewater quality, which is important in the production of reclaimed water.

The Authority has become involved in a number of stop notice and contract matters arising out of the Papac contract for the Escondido Pump Station. Matters with the general contractor have been resolved, and the project has been completed and is in operation. However, the Authority continues to hold the retention, while working on the outstanding problems with the bonding company that has assumed responsibility for the project.

Litigation reports from all of the Authority's outside counsel are now received on a regular basis, and the Board receives a comprehensive monthly report on the current status of all of the Authority's litigation.

Legislative Highlights

The Authority continued to support transfer legislation intended to allow users to sell water conserved by land fallowing or other methods, even if the transferor is not the water right holder. Although the most sweeping of these bills, AB 2090 (Katz) did not reach the Governor, several other measures, including permanent reauthorization of the State Water Bank, may become law in 1993. The Authority also supported federal legislation (H.R. 429) to permit transfers of Central Valley Project contract rights outside the Project area.

The Authority sponsored SB 1224 (Killea), which was amended to prohibit the sale or installation, after January 1, 1994, of toilets that use more than 1.6 gallons per flush, on average. Similar water conservation standards would apply to urinals. In addition, the bill recognizes existing local programs, like that of the City of San Diego, requiring ultra-low flush toilet retrofit upon the resale of an existing home. This legislation follows the enactment of a law requiring all new houses built after 1992 to contain these water conservation devices, and appeared likely to become law.

AB 174 (Kelley) supported by the Authority, became law in 1992. The use of reclaimed water, previously required for landscaping and open space irrigation, was mandated for any non-potable use if reclaimed water is available and suitable for the use.

AB 573 (Kelley) was introduced to address the issue regarding service to agriculture as "surplus water." The bill would have amended the MWD Act to extend service to all beneficial uses. Its progress was complicated by legislative concerns about MWD and the District's mission. The bill did not advance.

San Luis Rey River Crossings

The First Aqueduct (pipelines 1 and 2) crosses under the San Luis Rey River about 3.5 miles east of Interstate 15 and just west of the Pala Indian Reservation. The Second Aqueduct (pipelines 3 and 4) crosses 0.5 mile west of Interstate 15 and just east of the community of Bonsall.

Flood conditions on the river, believed to have been exacerbated by sand mining operations above and below the Authority aqueduct crossings, required emergency repairs in March 1991. The Board secured a report, Assessment of Sand and Gravel Mining Impacts on San Luis Rey River Aqueduct Crossings, in August 1991, prepared by Nolte and Associates and Howard Chang.

General Counsel outlined the legal aspects in memoranda (September 5 and October 3, 1991). Additional professional analysis and staff work are being undertaken to determine the best solutions to protect these vital pipelines from damage from future floods.

MWD Matters

Support to the Authority's delegation to the Metropolitan Water District (MWD) became a priority for the office, and the General Counsel regularly attended its meetings. Legal work was done on MWD's new standby charge to provide a secure fixed source of revenue. The "surplus water" issue continued to cause concern and proposed amendments to MWD's Administrative Code were drafted to address it. The MWD Section 135 Preferential Rights problem remains as the Authority's most difficult unresolved legal problem.

METROPOLITAN WATER DISTRICT MEMBERSHIP

The Authority is a member agency of the Metropolitan Water District of Southern California (MWD), from which it purchases all of its water supplies. Because of the close relationship that exists between the two agencies, this section of the Annual Report provides a thumbnail sketch of MWD.

In 1927, state legislation was approved that enabled the formation of MWD. The original legislation provided membership to cities only, but was later amended to include water districts. The Authority became a member in 1946, and is one of 27 current MWD member agencies. The other agencies include the 13 cities that formed the original membership, one city that was added in 1971, and 12 municipal water districts. The member agencies are listed in Figure 9.

The Authority was formed under legislation very similar to that of MWD, and both agencies operate in a similar fashion. For both agencies, policy is established through a board of directors. Each director on the board is appointed by the chief executive officer of the agency represented, subject to approval from its legislative body.

MWD policy entitles each member agency to a minimum of one director. An additional representative may be appointed for each full three percent of the total MWD assessed valuation which lies within the member agency's boundaries. The Authority has six representatives on MWD's Board. These directors include Harry Griffen, John Starkey, Michael Madigan, Francesca Krauel, Dale Mason, and Herbert Stickney.

Harry Griffen has served on the MWD Board for 29 years and is Vice Chairman of the Executive Committee and a member of the Finance and Insurance Committee and the Water Problems Committee. Griffen is also a member of the following subcommittees: Special Budget Committee, Audit Subcommittee, and Subcommittee on Financial Policy.

John P. Starkey has been on the MWD Board for 12 years. He serves as Chairman of the Finance and Insurance Committee, member of the Land Committee and the Water Problems Committee, and member of the following subcommittees: the Special Nominating Committee, Special Committee on Department Head Compensation, Ad Hoc Committee on Energy and Desalination, Audit Subcommittee, Subcommittee on Financial Policy, and the Subcommittee to Review Annexations.

Michael D. Madigan has been on the MWD Board for 10 years. He is chairman of the Land Committee, member of the Engineering and Operations Committee, and an ex officio member of the Executive Committee. Madigan is also a member of the Special Committee for Communications Study, the Special Committee on Department Head Compensation, chairman of the Ad Hoc Committee on Energy and Desalination, the Bay Delta Political Advisory Ad Hoc Committee, and the Subcommittee on Mission Veijo.

Francesca M. Krauel has been on the MWD Board for eight years, and served as both chairman and vice chairman of the Legal and Claims Committee. She is an ex officio member of the Executive Committee, and a member of the Finance and

SAN DIEGO COUNTY WATER AUTHORITY

\$820,543,619,722, as of the end of June 1992. Assessed value is determined by assessors from the counties served for use in levying 1991-92 taxes. These valuations were increased \$69,550,746,400, or 9.3 percent, above the previous year's valuation of \$750,992,873,309. An estimated 7.8 percent of this increase, or \$5,408,588,400, 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

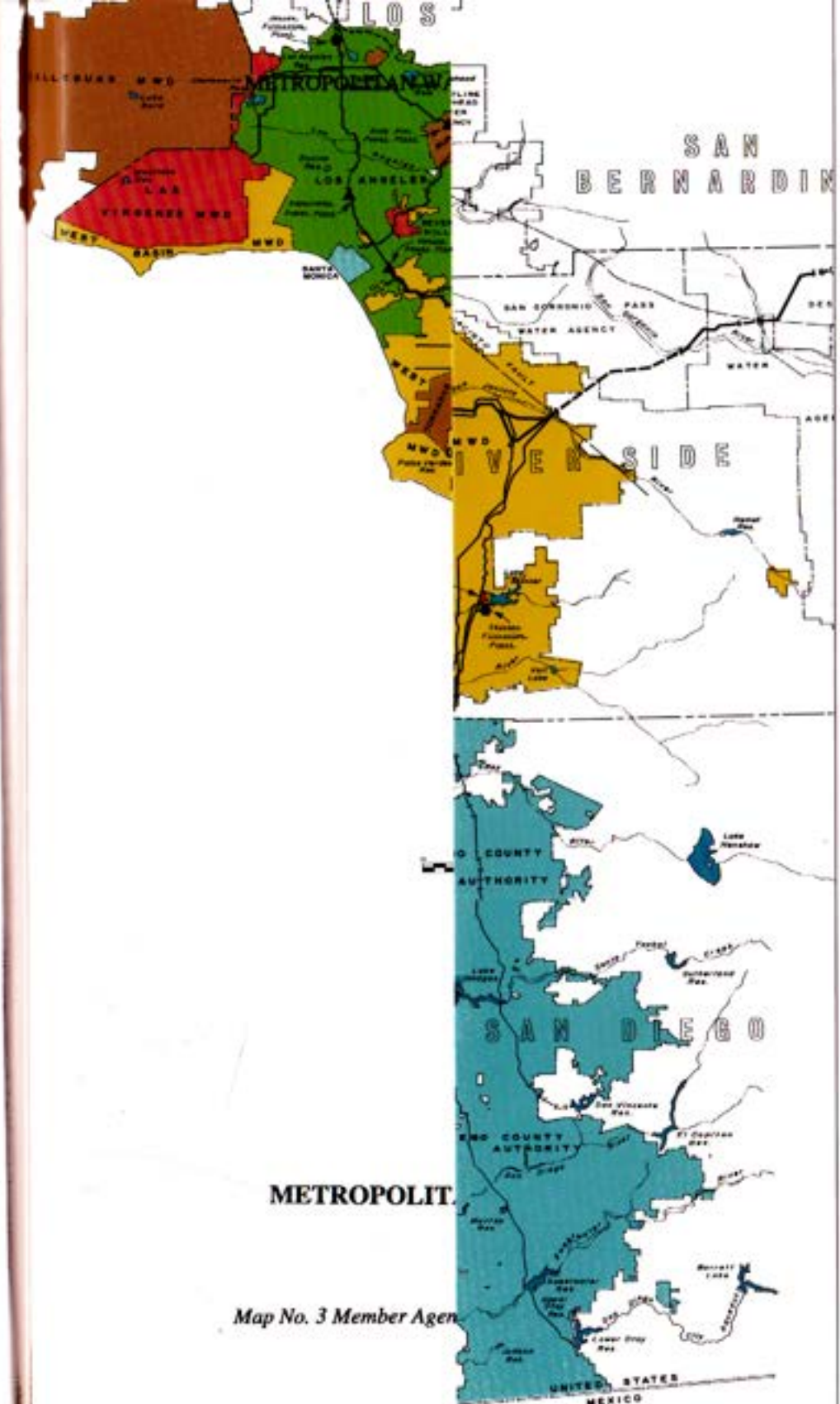
The MWD delivered 1,888,937 acre-feet of water during fiscal year 1991-92. The Authority received 424,547 acre-feet, or 22.5 percent of MWD's total deliveries.

MWD has five operating filtration plants. The Lake Skinner Filtration Plant, with a capacity of 340 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 1991-92 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 1991-92 fiscal year, including regular and special taxes, was \$84,655,901. Of this amount, 14.6 percent, or \$12,367,412, was levied against property within the Authority. The estimated MWD tax level for the 1992-93 fiscal year is \$89,916,210. The Authority's share of that amount is \$12,800,162.



COLORADO RIVER BOARD MEMBERSHIP

The Colorado River Board of California is a state agency that has a mission of protecting California rights and interests in the water and power resources of the Colorado River system.

The Authority is represented on the Board by John Starkey, with Herbert Stickney serving as an alternate. Originally, Board members were selected by the Governor from a list of people submitted by each of the six agencies having rights to Colorado River resources. The six agencies are the San Diego County Water Authority, Metropolitan Water District of Southern California, City of Los Angeles Department of Water and Power, Coachella Valley Water District, Palo Verde Irrigation District, and Imperial Irrigation District.

In 1977 the Board was re-organized and enlarged from six to 11 members. The five new members include the directors of the departments of Fish and Game and Water Resources, and three public Board members. Under the revised statutes, the Governor appoints both a member and an alternative member to the Board from a list of nominees designated by each of the six agencies.

In 1983 and 1984 legislation reduced the size of the Board to 10 members, eliminating one public member. The member and the alternate representing each of the six agencies are chosen by the Governor from two lists, each containing not less than three people, that are submitted by each of the agencies.

The Board receives a third of its financial support from the state, with the six agencies providing the balance of the required funding.

APPENDICES

APPENDIX A

Tables

| | |
|--|----|
| 1. Statistical Summary | 74 |
| 2. Population Growth-County & Authority Area | 75 |
| 3. Area - Authority Member Agencies | 76 |
| 4. Water Use and Authority Storage 1991-92 | 78 |
| 5. Assessed Valuation, Tax & Water Availability Collections 1991-92 | 79 |
| 6. Water Use - Fiscal Years 1981-82 to 1991-92 | 80 |
| 7. Water Sales - Fiscal Years 1947 to 1992 | 81 |
| 8. Sales of Imported Water - Fiscal Year 1991 - 92 | 82 |
| 9. Assessed Valuations and Tax Rates 1945-46 to 1991-92 | 84 |
| 10. Revenue Dedicated to Finance Capital Improvement Program Fiscal Year 1991-92 | 86 |
| 11. San Jacinto Tunnel West Portal Chemical Characteristics of Natural Colorado River Water Year Ending June 30, 1992 | 87 |
| 12. Chemical Characteristics of Blended Treated Water Year Ending June 30, 1992 | 88 |
| 13. Assessed Valuations and Tax Rates of the Metropolitan Water District of Southern California | 89 |
| 14. Metropolitan Water District Annexation Charges and Balances on Authority Areas | 90 |
| 15. Water Sales by Metropolitan Water District Fiscal Years 1941-42 to 1991-92 | 91 |
| 16. Water Deliveries and Local Supplies Metropolitan Water District Constituent Areas | 92 |

APPENDIX B

| | |
|---------------------------|----|
| Major Board Actions | 93 |
|---------------------------|----|

APPENDIX C

| | |
|----------------------------|-----|
| Financial Statements | 111 |
|----------------------------|-----|

SAN DIEGO COUNTY WATER AUTHORITY

APPENDIX A

TABLE 1

STATISTICAL SUMMARY

| | 1990-91 | 1991-92 | Percent Change |
|---|-------------------|-------------------|----------------|
| GROWTH OF SERVICE AREA | | | |
| Number of Agencies | 23 | 23 | 0.0 |
| Total Area-Acres | 908,945 | 908,945 | 0.0 |
| Population | 2,485,692 | 2,520,763 | +1.4 |
| Assessed Valuation | \$117,128,102,257 | \$126,551,912,638 | +8.0 |
| OPERATION | | | |
| Water Imported by Authority-af | 566,047 | 445,619 | -20.0 |
| Water Used by Member Agencies-af | 585,619 | 503,208 | -14.1 |
| Local Water Used-af | 33,179 | 47,254 | +42.4 |
| Authority Water Used-af | 552,441 | 455,954 | -17.5 |
| Miles of Pipeline | 229 | 230 | +0.4 |
| Miles of Patrol Roads Maintained | 112 | 212 | +89.3 |
| Number of Service Connections | 85 | 111 | +30.6 |
| FINANCIAL | | | |
| Water and Other Sales | \$122,062,000 | \$125,282,000 | +2.6 |
| Operating Expenses: | | | |
| Cost of Sales | \$96,713,000 | \$102,569,000 | +6.1 |
| Depreciation and Amortization | \$4,143,000 | \$4,151,000 | +0.2 |
| Operations and Maintenance | \$3,164,000 | \$3,424,000 | +8.2 |
| Planning and Reclamation | \$2,798,000 | \$3,398,000 | +21.4 |
| General and Administrative | \$4,711,000 | \$4,904,000 | +4.1 |
| Total Operating Expenses | \$111,529,000 | \$118,446,000 | +6.2 |
| Operating Income | \$10,533,000 | \$6,836,000 | -35.1 |
| Other Revenues and Expenses: | | | |
| Property Taxes and In-lieu Charges | \$8,200,000 | \$8,822,000 | +7.6 |
| Water Availability Charges | \$16,690,000 | \$15,180,000 | -9.0 |
| Interest Expense | (\$8,948,000) | (\$15,753,000) | +76.1 |
| Interest Income | \$13,368,000 | \$17,795,000 | +33.1 |
| Other Income | \$0 | \$0 | 0 |
| Total Other Revenues | \$29,310,000 | \$26,044,000 | -11.1 |
| Net Income | \$39,843,000 | \$32,880,000 | -17.5 |
| Undesignated Retained Earnings at | | | |
| Beginning of Year | \$131,837,000 | \$148,527,000 | +12.7 |
| Transfer to Designated Retained Earnings | (\$23,153,000) | (\$7,000,000) | -69.8 |
| Undesignated Retained Earnings at End of Year | \$148,527,000 | \$174,407,000 | +17.4 |

TABLES

TABLE 2

POPULATION GROWTH-COUNTY AND AUTHORITY AREA
1910-1992

(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.....(1) | 61,665 | 5,058 | | | |
| 1920.....(1) | 112,248 | 9,741 | | | |
| 1930.....(1) | 209,659 | 7,969 | | | |
| 1940.....(1) | 280,348 | | | | |
| 1946.....(3) | 502,804 | 26,746 (3) | 440,659 | 2,807 | 88% |
| 1950.....(1) | 556,808 | 42,478 (2) | 451,886 | 50,083 | 81% |
| 1955.....(4) | 769,200 | 52,762 (2) | 702,300 | 50,820 | 91% |
| 1960.....(1) | 1,033,010 | 32,198 (2) | 956,400 | 38,720 | 93% |
| 1965.....(4) | 1,194,000 | 23,360 (5) | 1,150,000 | 21,000 | 96% |
| 1970.....(1) | 1,310,800 | 49,848 (5) | 1,255,000 | 54,504 | 96% |
| 1975.....(6) | 1,560,038 | 49,632 (5) | 1,527,520 | 54,027 | 98% |
| 1980.....(1) | 1,808,200 | 91,800 (5) | 1,797,655 | 66,635 | 99% |
| 1981.....(7) | 1,900,000 | 44,000 (5) | 1,864,290 | 25,075 | 98% |
| 1982.....*(7) | 1,944,000 | 42,035 (5) | 1,889,365 | 45,222 | 97% |
| 1983.....(7) | 1,986,035 | 54,853 (5) | 1,934,587 | 71,652 | 97% |
| 1984.....(7) | 2,040,888 | 42,471 (5) | 2,006,239 | 40,761 | 98% |
| 1985.....(7) | 2,083,359 | 82,810 (5) | 2,047,000 | 58,500 | 98% |
| 1986.....(7) | 2,166,169 | 74,490 (5) | 2,105,500 | 75,500 | 97% |
| 1987.....(7) | 2,240,659 | 87,025 (5) | 2,181,000 | 72,216 | 97% |
| 1988.....(7) | 2,327,684 | 90,492 (5) | 2,253,216 | 92,992 | 97% |
| 1989.....(7) | 2,418,176 | 91,738 (5) | 2,346,208 | 89,695 | 97% |
| 1990.....(7) | 2,498,016 | 38,819 (5) | 2,435,903 | 49,789 | 97% |
| 1991.....(8) | 2,548,733 | 53,511 (5) | 2,485,692 | 35,071 | 98% |
| 1992.....(8) | 2,602,244 | | 2,520,763 | | 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, 1992.
- * Corrected estimate by Integrated Planning Office, San Diego County.

SAN DIEGO COUNTY WATER AUTHORITY

TABLE 3

AREA - AUTHORITY MEMBER AGENCIES

Area Within Authority

| | | Changes | | | Percent of Total Authority Area 6/30/92 |
|-------------------------------|------|-----------------------|---------------------|-----------------------|---|
| | | As of 6/30/91 (acres) | During Year (acres) | As of 6/30/92 (acres) | |
| Bueno Colorado M.W.D. | (1) | 19,768 | 0 | 19,768 | 2.17 |
| 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 | 0 | 21,559 | 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 | 0 | 5,576 | 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 | 0 | 10,333 | 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 | 0 | 15,567 | 1.71 |
| Vallecitos W.D. | (9) | 28,500 | 0 | 28,500 | 3.14 |
| Valley Center M.W.D. | (10) | 61,007 | 0 | 61,007 | 6.71 |
| Yuima M.W.D. | | 12,792 | 0 | 12,792 | 1.41 |
| TOTAL AUTHORITY | | 908,945 | 0 | 908,945 | 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) Estimate by agencies.

TABLES

TABLE 3 (continued)

POPULATION - AUTHORITY MEMBER AGENCIES AND COUNTY

(Includes Resident Military Personnel)

| Population - U.S. Census | | | | | Density of Population 1992 | |
|--------------------------|------------------|---------------------------------|--------------------|---------------------------------|----------------------------|--------------|
| 1980 (11) | 1990 (12) | Decade Increase 1980-90 Percent | 1992 Estimate (12) | Annual Increase 1991-92 percent | Per Acre | Per Sq. Mile |
| 51,000 | 76,729 | 50 | 79,462 | 0.93 | 4.02 | 2,573 |
| 31,500 | 54,400 | 73 | 57,706 | 2.00 | 2.83 | 1,813 |
| 5,040 | 5,215 | 3 | 4,860 | 0.00 | 4.19 | 2,684 |
| 64,100 | 105,515 | 65 | 113,370 | 4.79 | 5.26 | 3,366 |
| 18,700 | 23,966 | 27 | 26,310 | 5.73 | 0.94 | 602 |
| 203,500 | 226,928 | 12 | 229,848 | 0.41 | 7.35 | 4,701 |
| 47,200 | 51,488 | 9 | 51,790 | 0.46 | 9.29 | 5,945 |
| 77,800 | 128,500 | 65 | 137,000 | 5.38 | 5.16 | 3,299 |
| 23,000 | 43,480 | 89 | 45,517 | 2.33 | 1.48 | 946 |
| 51,600 | 95,000 | 84 | 97,661 | 2.80 | 1.55 | 991 |
| 89,000 | 112,000 | 26 | 121,230 | 1.56 | 2.22 | 1,423 |
| 33,150 | 50,000 | — | 50,000 | 0.00 | 0.37 | 238 |
| 33,620 | 44,368 | 32 | 45,389 | 2.06 | 1.96 | 1,251 |
| 7,800 | 13,442 | 72 | 14,662 | 2.79 | 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 | 1,629 |
| 849,600 | 1,118,282 | 32 | 1,149,598 | 1.04 | 5.46 | 3,493 |
| 30,900 | 34,657 | 12 | 35,100 | 0.26 | 6.22 | 3,978 |
| 14,700 | 19,335 | 32 | 19,710 | 0.43 | 1.94 | 1,239 |
| 99,200 | 106,243 | 7 | 107,913 | 0.47 | 6.93 | 4,437 |
| 24,200 | 47,235 | — | 52,818 | 5.88 | 1.85 | 1,186 |
| 10,200 | 16,900 | 66 | 19,169 | 8.98 | 0.31 | 201 |
| 1,820 | 1,820 | 0 | 1,850 | 1.65 | 0.14 | 93 |
| 1,797,655 | 2,435,503 | 35 | 2,520,763 | 1.64 | 2.77 | 1,775 |
| 1,808,200 | 2,509,914 | 39 | 2,602,244 | 2.10 | 0.95 | 611 |

SAN DIEGO COUNTY WATER AUTHORITY

TABLE 4

**WATER USE AND AUTHORITY STORAGE
FISCAL YEAR 1991-92**

(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 | Percent | Amount | Percent | | |
| | Ac. Ft. | Percent | Ac. Ft. | Percent | | |
| Bueno Colorado M.W.D. | 4,057.3 | 22.9 | 13,665.3 | 77.1 | 17,722.6 | 19,768 |
| Carlsbad M.W.D. | 0.0 | 0.0 | 13,758.4 | 100.0 | 13,758.4 | 20,374 |
| Del Mar, City Of | 0.0 | 0.0 | 1,243.7 | 100.0 | 1,243.7 | 1,159 |
| Escondido, City Of | 7,697.6 | 34.0 | 14,969.0 | 66.0 | 22,666.6 | 21,559 |
| Fallbrook P.U.D. | 211.3 | 1.7 | 12,432.3 | 98.3 | 12,643.6 | 27,988 |
| Helix W.D. | 4,661.6 | 14.2 | 28,243.8 | 85.8 | 32,905.4 | 31,292 |
| National City, City Of | 2,319.3 | 44.0 | 2,956.4 | 56.0 | 5,275.7 | 5,576 |
| Oceanside, City Of | 0.0 | 0.0 | 23,453.7 | 100.0 | 23,453.7 | 26,575 |
| Olivenhain M.W.D. | 0.0 | 0.0 | 11,165.7 | 100.0 | 11,165.7 | 30,804 |
| Otay W.D. | 0.0 | 0.0 | 18,303.3 | 100.0 | 18,303.3 | 63,062 |
| Padre Dam M.W.D. | 0.0 | 0.0 | 15,974.2 | 100.0 | 15,974.2 | 54,539 |
| Pendleton Military Res. | — | — | 97.9 | — | 97.9 | 134,625 |
| Poway, City Of | 0.0 | 0.0 | 10,364.0 | 100.0 | 10,364.0 | 23,214 |
| Rainbow M.W.D. | 0.0 | 0.0 | 25,236.9 | 100.0 | 25,236.9 | 47,237 |
| Ramona M.W.D. | 3.9 | 0.0 | 9,515.5 | 100.0 | 9,519.4 | 46,524 |
| Rincon Del Diablo M.W.D. | 0.0 | 0.0 | 6,220.7 | 100.0 | 6,220.7 | 10,333 |
| San Diego, City Of (1) | 18,961.6 | 9.8 | 174,507.6 | 90.2 | 193,469.2 | 210,626 |
| San Diegoito W.D. | 1,665.5 | 26.0 | 4,751.4 | 74.0 | 6,416.9 | 5,647 |
| Santa Fe I.D. | 2,530.4 | 26.7 | 6,944.3 | 73.3 | 9,474.7 | 10,179 |
| South Bay I.D. | 2,673.6 | 18.5 | 11,766.4 | 81.5 | 14,440.0 | 15,567 |
| Vallecitos W.D. | 60.6 | 0.6 | 10,472.9 | 99.4 | 10,533.5 | 28,500 |
| Valley Center M.W.D. | 0.0 | 0.0 | 38,543.9 | 100.0 | 38,543.9 | 61,007 |
| Yuima M.W.D. | 2,411.0 | 63.8 | 1,366.6 | 36.2 | 3,777.6 | 12,792 |
| Total and Average | 47,253.7 | 9.4 | 455,953.9 | 90.6 | 503,207.6 | 908,945 |

- (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.
- 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./Ac./Yr. | E P | Member Agencies Pooled Storage In San Vicente Reservoir | | | Total Quantity In Storage 6/30/92 Ac. Ft. |
|---|---|--|--------|--|------------------------------|------------------------|---|
| | | | | Stored Water Withdrawn During Fiscal Year | | | |
| | | | | By Delivery Ac. Ft. | By Evaporation Ac. Ft. | By Spill Ac. Ft. | |
| | | | | Ac. Ft. | Ac. Ft. | Ac. Ft. | |
| 16,486 | 83.4 | 1.08 | | 0.0 | 0.0 | 0.0 | 0.0 |
| 19,625 | 96.3 | 0.70 | | 0.0 | 92.1 | 0.0 | 1,414.8 |
| 1,082 | 93.4 | 1.15 | | 0.0 | 0.0 | 0.0 | 0.0 |
| 18,722 | 86.8 | 1.21 | 1 | 0.0 | 0.0 | 0.0 | 0.0 |
| 13,987 | 50.0 | 0.90 | | 0.0 | 92.1 | 0.0 | 1,414.8 |
| 30,258 | 96.7 | 1.09 | 2 | 0.0 | 0.0 | 0.0 | 0.0 |
| 5,103 | 91.5 | 1.03 | | 0.0 | 0.0 | 0.0 | 0.0 |
| 26,514 | 99.8 | 0.88 | 1 | 0.0 | 185.5 | 0.0 | 2,828.2 |
| 15,646 | 50.8 | 0.71 | | 0.0 | 30.7 | 0.0 | 471.6 |
| 41,826 | 66.3 | 0.44 | | 0.0 | 92.1 | 0.0 | 1,414.8 |
| 21,805 | 40.0 | 0.73 | 1 | 0.0 | 122.7 | 0.0 | 1,886.4 |
| N.A. | — | — | | — | — | — | — |
| 12,832 | 55.3 | 0.81 | | 0.0 | 0.0 | 0.0 | 0.0 |
| 17,631 | 37.3 | 1.43 | | 0.0 | 30.6 | 0.0 | 471.7 |
| 46,524 | 100.0 | 0.20 | | 0.0 | 122.7 | 0.0 | 1,886.4 |
| 8,622 | 83.4 | 0.72 | | 0.0 | 37.5 | 0.0 | 565.2 |
| 137,902 | 65.5 | 1.40 | 1,1 | 0.0 | 0.0 | 0.0 | 0.0 |
| 5,482 | 97.1 | 1.17 | | 0.0 | 0.0 | 0.0 | 0.0 |
| 10,179 | 100.0 | 0.93 | | 0.0 | 0.0 | 0.0 | 0.0 |
| 12,690 | 81.5 | 1.14 | 1 | 0.0 | 0.0 | 0.0 | 0.0 |
| 14,043 | 49.3 | 0.75 | 5 | 0.0 | 30.6 | 0.0 | 471.7 |
| 41,395 | 67.9 | 0.93 | | 0.0 | 30.6 | 0.0 | 471.7 |
| 4,140 | 32.4 | 0.91 | | 0.0 | 5.6 | 0.0 | 94.9 |
| 522,494 | 57.5 | 0.96 | 2,5 | 0.0 | 872.8 | 0.0 | 13,392.2 |

| Estimated Area Served By Water System Acres | Gross Area Served By Water System Percent | Water Use Per Acre Served Ac.Fl./Ac./Yr. | Estimated Population | Water Use (4) Per Capita Ac.Fl./Cap./Yr. | Water Used For Agricultural Purposes | | | | | Percent of Agricultural Water to Total Use | Total Quantity In Storage 6/30/91 Ac. Fl. | Placed Into Storage During Fiscal Year Ac. Fl. | Member Agencies Pooled Storage In San Vicente Reservoir | | | Total Quantity In Storage 6/30/92 Ac. Fl. |
|---|---|--|----------------------|--|--------------------------------------|---------|----------------|---------|---------------|--|---|--|---|------------------------|------------------|---|
| | | | | | From Local Supply | | From Authority | | Total Ac. Fl. | | | | Stored Water Withdrawn During Fiscal Year | | | |
| | | | | | Amount Ac. Fl. | Percent | Amount Ac. Fl. | Percent | | | | | By Delivery Ac. Fl. | By Evaporation Ac. Fl. | By Spill Ac. Fl. | |
| | | | | | | | | | | | | | | | | |
| 16,486 | 83.4 | 1.08 | 79,462 | 0.20 | 508.4 | 28.7 | 1264.9 | 71.3 | 1,773.3 | 10.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 19,625 | 96.3 | 0.70 | 57,706 | 0.21 | 0.0 | 0.0 | 1,904.6 | 100.0 | 1904.6 | 13.8 | 1,506.9 | 0.0 | 0.0 | 92.1 | 0.0 | 1,414.8 |
| 1,082 | 93.4 | 1.15 | 4,860 | 0.26 | 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 | 1.21 | 113,370 | 0.15 | 2,414.0 | 40.2 | 3,595.8 | 59.8 | 6,009.8 | 26.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 13,987 | 50.0 | 0.90 | 26,310 | 0.20 | 42.5 | 0.6 | 7,468.7 | 99.4 | 7,511.2 | 59.4 | 1,506.9 | 0.0 | 0.0 | 92.1 | 0.0 | 1,414.8 |
| 30,258 | 96.7 | 1.09 | 229,848 | 0.14 | 19.3 | 11.7 | 145.1 | 88.3 | 164.4 | 0.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 5,103 | 91.5 | 1.03 | 51,790 | 0.10 | 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 | 0.88 | 137,000 | 0.15 | 0.0 | 0.0 | 2,960.0 | 100.0 | 2,960.0 | 12.6 | 3,013.7 | 0.0 | 0.0 | 185.5 | 0.0 | 2,828.2 |
| 15,646 | 50.8 | 0.71 | 45,517 | 0.22 | 0.0 | 0.0 | 1,306.6 | 100.0 | 1306.6 | 11.7 | 502.3 | 0.0 | 0.0 | 30.7 | 0.0 | 471.6 |
| 41,826 | 66.3 | 0.44 | 97,661 | 0.18 | 0.0 | 0.0 | 495.1 | 100.0 | 495.1 | 2.7 | 1,506.9 | 0.0 | 0.0 | 92.1 | 0.0 | 1,414.8 |
| 21,805 | 40.0 | 0.73 | 121,230 | 0.12 | 0.0 | 0.0 | 1,160.6 | 100.0 | 1,160.6 | 7.3 | 2,009.1 | 0.0 | 0.0 | 122.7 | 0.0 | 1,886.4 |
| N.A. | — | — | 50,000 | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 12,832 | 55.3 | 0.81 | 45,389 | 0.21 | 0.0 | 0.0 | 725.9 | 100.0 | 725.9 | 7.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 17,631 | 37.3 | 1.43 | 14,662 | 0.33 | 0.0 | 0.0 | 20,379.1 | 100.0 | 20,379.1 | 80.8 | 502.3 | 0.0 | 0.0 | 30.6 | 0.0 | 471.7 |
| 46,524 | 100.0 | 0.20 | 33,500 | 0.12 | 0.0 | 0.0 | 5,537.6 | 100.0 | 5,537.6 | 58.2 | 2,009.1 | 0.0 | 0.0 | 122.7 | 0.0 | 1,886.4 |
| 8,622 | 83.4 | 0.72 | 26,300 | 0.21 | 0.0 | 0.0 | 739.1 | 100.0 | 739.1 | 11.9 | 602.7 | 0.0 | 0.0 | 37.5 | 0.0 | 565.2 |
| 137,902 | 65.5 | 1.40 | 1,149,598 | 0.17 | 0.0 | 0.0 | 955.3 | 100.0 | 955.3 | 0.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 5,482 | 97.1 | 1.17 | 35,100 | 0.15 | 291.9 | 24.3 | 907.8 | 75.7 | 1,199.7 | 18.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 10,179 | 100.0 | 0.93 | 19,710 | 0.44 | 141.2 | 16.6 | 709.6 | 83.4 | 850.8 | 9.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 12,690 | 81.5 | 1.14 | 107,913 | 0.13 | 7.2 | 20.9 | 27.3 | 79.1 | 34.5 | 0.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 14,043 | 49.3 | 0.75 | 52,818 | 0.15 | 0.0 | 0.0 | 2,391.5 | 100.0 | 2,391.5 | 22.7 | 502.3 | 0.0 | 0.0 | 30.6 | 0.0 | 471.7 |
| 41,395 | 67.9 | 0.93 | 19,169 | 0.28 | 0.0 | 0.0 | 33,156.2 | 100.0 | 33,156.2 | 86.0 | 502.3 | 0.0 | 0.0 | 30.6 | 0.0 | 471.7 |
| 4,140 | 32.4 | 0.91 | 1,850 | 0.25 | 2,006.8 | 60.5 | 1,308.9 | 39.5 | 3,315.7 | 87.8 | 100.5 | 0.0 | 0.0 | 5.6 | 0.0 | 94.9 |
| 522,494 | 57.5 | 0.96 | 2,520,763 | 0.16 | 5,431.3 | 5.9 | 87,139.7 | 94.1 | 92,571.0 | 18.4 | 14,265.0 | 0.0 | 0.0 | 872.8 | 0.0 | 13,392.2 |

TABLE 5

**ASSESSED VALUATION, TAX AND WATER AVAILABILITY COLLECTIONS
FISCAL YEAR 1991-92**

| MEMBER AGENCIES | Assessed Valuation-Secured and Unsecured | | | | Area 6/30/92 Acres | 1991-92 Valuation Per Acre | Tax Assessments To date | Tax Uncollected 6/30/92 | Tax Collected To date | Interest & Penalties |
|--------------------------|--|--------------------------|------------------------|--------------------------|--------------------------|----------------------------------|-------------------------------|-------------------------------|-----------------------------|-------------------------|
| | 1990-91 Total | 1991-92 Total | 1990-92 % change | 1992-93 Total | | | | | | |
| Bueno Colorado M.W.D. | \$5,194,479,066 | \$5,619,814,709 | 8.2% | \$5,862,987,387 | 19,768 | 284,289 | \$5,503,692 | \$47,309 | \$5,456,383 | \$47,040 |
| Carlsbad M.W.D. | 4,652,720,181 | 5,053,129,184 | 8.6% | 5,177,717,875 | 20,374 | 248,022 | 5,487,914 | 38,792 | 5,449,122 | 44,067 |
| Coronado, City of (2) | 0 | 0 | 0.0% | 0 | 0 | 0 | (4,945) | 0 | (4,945) | 0 |
| Del Mar, City of | 638,006,193 | 675,565,785 | 5.9% | 732,509,475 | 1,159 | 582,887 | 828,628 | 5,502 | 823,126 | 8,636 |
| Escondido, City of | 2,799,055,420 | 2,954,346,161 | 5.5% | 3,013,920,576 | 21,559 | 137,038 | 3,901,340 | 21,431 | 3,879,909 | 26,701 |
| Fallbrook* | 1,153,934,239 | 1,266,529,552 | 9.8% | 1,330,705,962 | 27,988 | 45,253 | 1,741,860 | 11,693 | 1,730,166 | 16,680 |
| Helix W.D. | 7,947,335,004 | 8,445,086,042 | 6.3% | 8,898,350,902 | 31,292 | 269,879 | 15,737,504 | 55,594 | 15,681,910 | 82,867 |
| National City, City of | 967,927,749 | 1,030,740,627 | 6.5% | 1,053,702,827 | 5,576 | 184,866 | 2,326,873 | 7,373 | 2,319,500 | 10,171 |
| Oceanside, City of | 4,513,354,403 | 4,975,978,282 | 10.3% | 5,259,633,916 | 26,575 | 187,246 | 5,380,850 | 42,380 | 5,338,470 | 42,381 |
| Olivenhain M.W.D. | 3,730,179,953 | 4,154,325,941 | 11.4% | 4,367,033,605 | 30,804 | 134,865 | 3,045,519 | 30,326 | 3,015,193 | 29,841 |
| Otay W.D. | 4,804,072,582 | 5,503,790,933 | 14.6% | 5,898,730,794 | 63,062 | 87,276 | 4,560,815 | 42,894 | 4,517,921 | 46,983 |
| Padre Dam M.W.D. | 3,740,746,624 | 4,059,710,436 | 8.5% | 4,266,624,904 | 54,539 | 74,437 | 5,041,113 | 32,000 | 5,009,113 | 50,789 |
| Pendleton Military Res. | 128,761,952 | 134,623,606 | 4.6% | 132,355,014 | 134,625 | 1,000 | 2,280,597 | 35 | 2,280,562 | 27 |
| Poway, City of | 2,444,194,645 | 2,721,568,939 | 11.3% | 2,904,506,260 | 23,214 | 117,238 | 2,515,000 | 14,387 | 2,500,613 | 26,196 |
| Rainbow M.W.D. | 1,258,685,240 | 1,405,910,662 | 11.7% | 1,472,747,336 | 47,237 | 29,763 | 1,802,443 | 14,170 | 1,788,274 | 28,814 |
| Ramona M.W.D. | 1,195,491,565 | 1,305,695,354 | 9.2% | 1,375,095,672 | 46,524 | 28,065 | 1,656,583 | 10,706 | 1,645,877 | 23,687 |
| Rincon del Diablo M.W.D. | 2,619,962,830 | 2,848,470,159 | 8.7% | 2,970,548,406 | 10,333 | 275,660 | 2,876,754 | 22,047 | 2,854,707 | 24,193 |
| San Diego, City of | 56,760,734,240 | 60,710,711,722 | 7.0% | 62,840,649,828 | 210,626 | 288,240 | 27,553,253 | 276,856 | 27,276,397 | 129,217 |
| San Dieguito W.D. | 1,971,595,058 | 2,133,562,628 | 8.2% | 2,236,119,048 | 5,647 | 377,804 | 2,824,702 | 16,384 | 2,808,318 | 18,160 |
| Santa Fe I.D. | 2,756,285,734 | 3,052,857,017 | 10.8% | 3,219,954,859 | 10,179 | 299,928 | 3,662,114 | 24,041 | 3,638,073 | 23,874 |
| South Bay I.D. | 3,893,135,350 | 4,108,276,402 | 5.5% | 4,286,711,677 | 15,567 | 263,910 | 7,868,823 | 30,661 | 7,838,163 | 33,829 |
| Vallecitos M.W.D. | 2,510,901,487 | 2,808,469,002 | 11.9% | 2,969,763,966 | 28,500 | 98,543 | 2,684,457 | 17,765 | 2,666,692 | 20,275 |
| Valley Center M.W.D. | 1,303,460,614 | 1,427,017,628 | 9.5% | 1,523,815,777 | 61,007 | 23,391 | 1,814,220 | 12,820 | 1,801,399 | 32,961 |
| Yuima M.W.D. | 143,082,128 | 155,731,867 | 8.8% | 166,315,009 | 12,792 | 12,174 | 330,356 | 1,187 | 329,169 | 3,219 |
| Total Authority | \$117,128,102,257 | \$126,551,912,638 | 8.0% | \$131,960,501,075 | 908,945 | 139,230 | \$111,420,467 | \$776,353 | \$110,644,113 | \$770,606 |
| San Diego County (1) | 131,974,942,027 | 141,856,303,577 | 7.3% | 147,388,447,414 | | | | | | |

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

(2) Excluded from CWA.

TABLES

CTIONS

| Area 6/30/92 Acres | 1991-92 Valuation Per Acre | Tax Assessments To date | Tax Uncollected 6/30/92 | Tax Collected To date | Interest & Penalties | Receipts in Lieu Of Taxes | Misc. Tax | Total Collections To date | Amount Paid for Service Connections to 6/30/92 | Total Amount Paid by Each Member Agency to 6/30/92 |
|--------------------------|----------------------------------|-------------------------------|-------------------------------|-----------------------------|-------------------------|---------------------------------|--------------|---------------------------------|---|---|
| 19,768 | 284,289 | \$5,503,692 | \$47,309 | \$5,456,383 | \$47,040 | \$10,803 | \$124 | \$5,514,349 | \$207,439 | \$5,721,787 |
| 20,374 | 248,022 | 5,487,914 | 38,792 | 5,449,122 | 44,067 | 33,275 | 11 | 5,526,475 | 7,931 | 5,534,406 |
| 0 | 0 | (4,945) | 0 | (4,945) | 0 | 187 | 0 | (4,758) | 0 | (4,758) |
| 1,159 | 582,887 | 828,628 | 5,502 | 823,126 | 8,636 | 531 | 1 | 832,294 | 0 | 832,294 |
| 21,559 | 137,038 | 3,901,340 | 21,431 | 3,879,909 | 26,701 | 29 | 29 | 3,906,668 | 9,254 | 3,915,921 |
| 27,988 | 45,253 | 1,741,860 | 11,693 | 1,730,166 | 16,680 | 4,420 | 43 | 1,751,310 | 67,773 | 1,819,083 |
| 31,292 | 269,879 | 15,737,504 | 55,594 | 15,681,910 | 82,867 | 4,931 | 784 | 15,770,492 | 28,906 | 15,799,398 |
| 5,576 | 184,866 | 2,326,873 | 7,373 | 2,319,500 | 10,171 | 6,828 | 96 | 2,336,595 | 0 | 2,336,595 |
| 26,575 | 187,246 | 5,380,850 | 42,380 | 5,338,470 | 42,381 | 2,601 | 100 | 5,383,553 | 126,369 | 5,509,922 |
| 30,804 | 134,865 | 3,045,519 | 30,326 | 3,015,193 | 29,841 | 1,250 | 0 | 3,046,284 | 89,024 | 3,135,308 |
| 63,062 | 87,276 | 4,560,815 | 42,894 | 4,517,921 | 46,983 | 4,455 | 45 | 4,569,404 | 208,574 | 4,777,978 |
| 54,539 | 74,437 | 5,041,113 | 32,000 | 5,009,113 | 50,789 | 3,003 | 132 | 5,063,037 | 45,244 | 5,108,281 |
| 134,625 | 1,000 | 2,280,597 | 35 | 2,280,562 | 27 | 0 | 0 | 2,280,589 | 0 | 2,280,589 |
| 23,214 | 117,238 | 2,515,000 | 14,387 | 2,500,613 | 26,196 | 15 | 9 | 2,526,833 | 103,875 | 2,630,708 |
| 47,237 | 29,763 | 1,802,443 | 14,170 | 1,788,274 | 28,814 | 23,680 | 1 | 1,840,769 | 193,484 | 2,034,253 |
| 46,524 | 28,065 | 1,656,583 | 10,706 | 1,645,877 | 23,687 | 5,400 | 59 | 1,675,022 | 3,379 | 1,678,401 |
| 10,333 | 275,660 | 2,876,754 | 22,047 | 2,854,707 | 24,193 | 58,801 | 1 | 2,937,702 | 14,527 | 2,952,229 |
| 210,626 | 288,240 | 27,553,253 | 276,856 | 27,276,397 | 129,217 | 52,383,171 | 2,467 | 79,791,252 | 610,595 | 80,401,847 |
| 5,647 | 377,804 | 2,824,702 | 16,384 | 2,808,318 | 18,160 | 5,426 | 131 | 2,832,035 | 47,206 | 2,879,241 |
| 10,179 | 299,928 | 3,662,114 | 24,041 | 3,638,073 | 23,874 | 2,893 | 1,914 | 3,666,754 | 58,787 | 3,725,541 |
| 15,567 | 263,910 | 7,868,823 | 30,661 | 7,838,163 | 33,829 | 629,977 | 143 | 8,502,112 | 0 | 8,502,112 |
| 28,500 | 98,543 | 2,684,457 | 17,765 | 2,666,692 | 20,275 | 0 | 0 | 2,686,967 | 14,769 | 2,701,737 |
| 61,007 | 23,391 | 1,814,220 | 12,820 | 1,801,399 | 32,961 | 1,1011 | 26 | 1,845,398 | 162,555 | 1,997,953 |
| 12,792 | 12,174 | 330,356 | 1,187 | 329,169 | 3,219 | 1,500 | 0 | 333,888 | 28,424 | 362,313 |
| 908,945 | 139,230 | \$111,420,467 | \$776,353 | \$110,644,113 | \$770,606 | 153,184,187 | \$6,117 | \$164,605,023 | \$2,028,116 | \$166,633,139 |

TABLE 6

WATER USE - FISCAL YEARS 1981-82 TO 1991-92

(All Figures in Acre-Feet)

| MEMBER AGENCIES | From Local and Authority Supplies | | | | | | | | | | |
|----------------------------------|-----------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| | 1981-82 | 1982-83 | 1983-84 | 1984-85 | 1985-86 | 1986-87 | 1987-88 | 1988-89 | 1989-90 | 1990-91 | 1991-92 |
| Bueno Colorado M.W.D. | 15,446 | 14,720 | 18,351 | 16,988 | 17,584 | 17,928 | 18,781 | 20,457 | 22,420 | 19,991 | 17,723 |
| Carlsbad M.W.D. | 12,749 | 11,879 | 12,895 | 12,880 | 13,686 | 14,644 | 15,146 | 16,475 | 17,844 | 16,533 | 13,758 |
| Del Mar, City Of | 1,045 | 1,055 | 1,235 | 1,097 | 1,107 | 1,456 | 1,481 | 1,474 | 1,450 | 1,439 | 1,244 |
| Econoldo, City Of | 22,534 | 20,269 | 24,214 | 23,281 | 23,712 | 24,913 | 24,871 | 26,950 | 29,194 | 26,813 | 22,667 |
| Fairbrook P.U.D. (1) | 14,180 | 11,948 | 15,131 | 13,979 | 14,856 | 15,532 | 14,225 | 15,946 | 17,221 | 16,434 | 12,644 |
| Helix W.D. | 39,284 | 36,519 | 41,081 | 40,579 | 42,056 | 42,201 | 41,863 | 44,156 | 43,672 | 37,435 | 32,905 |
| National City and South Bay I.D. | 21,769 | 19,846 | 22,583 | 24,114 | 24,190 | 25,164 | 25,868 | 27,693 | 28,763 | 26,481 | 23,454 |
| Oceanside, City Of | 5,856 | 6,027 | 7,741 | 8,233 | 9,490 | 9,739 | 10,755 | 12,595 | 13,481 | 12,003 | 11,166 |
| Olivainain M.W.D. | 12,943 | 11,952 | 13,551 | 13,830 | 15,126 | 16,337 | 17,246 | 20,470 | 22,810 | 20,652 | 18,303 |
| Padre Dam M.W.D. | 14,908 | 14,102 | 16,992 | 17,027 | 17,866 | 18,319 | 18,121 | 20,167 | 21,068 | 18,242 | 15,974 |
| Pendleton Military (2) | 0 | 0 | 52 | 124 | 95 | 111 | 118 | 106 | 157 | 114 | 98 |
| Poway, City Of | 7,873 | 7,547 | 9,215 | 9,320 | 10,061 | 10,822 | 11,601 | 13,039 | 13,610 | 12,930 | 10,364 |
| Rainbow M.W.D. | 28,630 | 25,354 | 31,374 | 29,297 | 29,867 | 29,822 | 28,389 | 32,055 | 33,629 | 32,031 | 25,237 |
| Ranoma M.W.D. | 8,873 | 8,679 | 10,871 | 9,609 | 10,307 | 10,219 | 9,573 | 10,955 | 12,916 | 11,665 | 9,519 |
| Rincon Del Diablo M.W.D. | 5,256 | 4,374 | 6,001 | 6,039 | 6,383 | 6,859 | 7,189 | 8,419 | 8,741 | 7,630 | 6,221 |
| San Diego, City Of | 192,628 | 182,873 | 203,642 | 216,289 | 221,873 | 228,796 | 228,334 | 239,332 | 236,491 | 210,032 | 186,694 |
| Inside City | 5,657 | 3,723 | 6,149 | 4,492 | 5,611 | 5,247 | 5,264 | 5,381 | 6,030 | 7,146 | 6,775 |
| Outside City (not in CWA) | 7,668 | 7,298 | 7,670 | 7,956 | 7,904 | 8,300 | 8,205 | 8,559 | 8,559 | 7,301 | 6,417 |
| San Diego W.D. | 8,782 | 7,728 | 10,617 | 11,195 | 11,074 | 11,266 | 11,438 | 12,324 | 12,482 | 11,349 | 9,475 |
| Santa Fe I.D. | 8,233 | 7,847 | 9,654 | 10,090 | 10,932 | 11,161 | 11,365 | 12,742 | 13,436 | 12,240 | 10,534 |
| Vallecitos W.D. | 38,358 | 32,583 | 42,367 | 39,435 | 41,419 | 43,791 | 40,224 | 47,243 | 52,829 | 50,354 | 38,544 |
| Valley Center M.W.D. | 3,498 | 2,782 | 3,335 | 3,392 | 3,523 | 3,710 | 3,553 | 3,827 | 4,256 | 4,260 | 3,778 |
| Yuma M.W.D. | 499,387 | 482,357 | 540,314 | 545,338 | 585,696 | 582,452 | 580,153 | 626,502 | 646,645 | 585,619 | 503,210 |
| Total | | | | | | | | | | | |

(1) De Luz included in Fallbrook's figures.
(2) Figures reflect delivery from the Authority only.

TABLE 7

WATER SALES - FISCAL YEARS 1947 TO 1992

(All Figures Rounded to the Nearest Whole Acre-Foot) Old Total

| MEMBER AGENCIES | 1984-85 | 1985-86 | 1986-87 | 1987-88 | 1988-89 | 1989-90 | 1990-91 | 1991-92 | TOTAL |
|----------------------------------|---------|---------|---------|---------|----------|----------|----------|---------|------------|
| Bueno Colorado M.W.D. | 5,827 | 4,473 | 5,119 | 11,678 | 12,016 | 19,084 | 15,237 | 13,665 | 278,503 |
| Carlsbad M.W.D. | 12,829 | 13,077 | 14,671 | 15,187 | 15,328 | 17,919 | 16,450 | 13,753 | 361,747 |
| Del Mar, City Of | 1,097 | 1,107 | 1,456 | 1,481 | 1,474 | 1,450 | 1,439 | 1,244 | 28,210 |
| Econoldo, City Of | 14,082 | 14,284 | 16,300 | 20,381 | 21,811 | 26,048 | 24,083 | 15,415 | 372,399 |
| Fairbrook P.U.D. (1) | 36,507 | 37,972 | 36,732 | 37,287 | 40,642 | 41,278 | 41,278 | 22,587 | 471,054 |
| Helix W.D. | 4,863 | 20,817 | 16,364 | 20,514 | 19,519 | 34,180 | 23,811 | 12,531 | 151,516 |
| National City and South Bay I.D. | 24,114 | 25,164 | 25,868 | 26,854 | 27,693 | 28,763 | 26,481 | 20,452 | 536,364 |
| Oceanside, City Of | 8,233 | 9,485 | 9,736 | 10,742 | 12,596 | 13,481 | 11,166 | 11,166 | 195,978 |
| Olivainain M.W.D. | 13,830 | 15,126 | 16,337 | 17,246 | 20,470 | 22,810 | 20,652 | 18,303 | 371,549 |
| Padre Dam M.W.D. | 17,027 | 17,866 | 18,319 | 18,121 | 20,167 | 21,068 | 18,270 | 15,899 | 387,453 |
| Pendleton Military | 52 | 95 | 111 | 118 | 106 | 157 | 114 | 98 | 7,018 |
| Poway, City Of | 9,313 | 8,621 | 10,724 | 11,548 | 12,817 | 13,631 | 12,640 | 10,508 | 231,718 |
| Rainbow M.W.D. | 29,180 | 28,211 | 30,323 | 28,240 | 32,181 | 33,417 | 32,480 | 24,172 | 727,654 |
| Ranoma M.W.D. | 8,873 | 9,723 | 9,343 | 9,508 | 11,985 | 14,480 | 11,303 | 11,534 | 175,875 |
| Rincon Del Diablo M.W.D. | 6,039 | 6,383 | 6,859 | 7,188 | 8,419 | 8,741 | 7,635 | 6,221 | 213,180 |
| San Diego, City Of | 170,344 | 163,903 | 187,965 | 215,440 | 232,439 | 270,234 | 191,990 | 169,511 | 5,210,833 |
| San Diego W.D. | 3,291 | 3,227 | 3,937 | 4,381 | 5,779 | 7,496 | 6,430 | 4,752 | 143,637 |
| Santa Fe I.D. | 4,468 | 4,968 | 6,019 | 6,119 | 8,303 | 10,692 | 12,250 | 8,944 | 174,193 |
| Vallecitos W.D. | 10,135 | 10,941 | 11,145 | 11,340 | 12,743 | 13,462 | 10,064 | 10,480 | 199,206 |
| Valley Center M.W.D. | 38,933 | 41,055 | 43,911 | 38,937 | 47,106 | 52,535 | 50,354 | 38,282 | 821,751 |
| Yuma M.W.D. | 1,885 | 1,924 | 1,911 | 1,442 | 1,484 | 2,166 | 2,242 | 1,349 | 93,606 |
| Total Sales To Agencies | 436,201 | 474,955 | 503,878 | 537,776 | 582,015 | 674,990 | 553,715 | 444,753 | 12,487,792 |
| Total Sales To Others | 0 | 0 | 0 | 0 | 301 | 0 | 0 | 0 | 56,810 |
| Total To Authority Storage | 645 | 13,156 | 15,848 | 3,722 | 3,651 | 2,450 | 26,332 | 4,271 | 430,371 |
| Total From Authority Storage | 0 | 0 | (116) | 0 | (183) | (1,124) | (16,000) | (3,403) | (329,030) |
| Total To Metropolitan Storage | 0 | 200 | 28,899 | 28,899 | 31,244 | 0 | 0 | 0 | 181,302 |
| Total From Metropolitan Storage | 0 | (219) | 0 | (7,355) | (19,927) | (28,838) | 0 | 0 | (173,447) |
| Total Flow In Authority System | 436,846 | 488,124 | 519,411 | 552,841 | 597,121 | 647,481 | 506,047 | 445,819 | 12,633,806 |
| Average Rate Of Flow (C.F.S.) | 602.5 | 666.0 | 695.7 | 727.0 | 804.3 | 832.4 | 764.8 | 611.8 | |
| To Agencies and Others | 0.9 | 18.2 | 21.9 | 5.1 | 5.0 | 3.4 | 36.1 | 6.0 | |
| To Authority Storage | 0.0 | 0.0 | (0.2) | 0.0 | (0.2) | (1.6) | (22.1) | (4.8) | |
| From Authority Storage | 0.0 | 0.3 | 0.0 | 39.8 | 43.2 | 0.0 | 0.0 | 0.0 | |
| To Metropolitan Storage | 0.0 | (0.3) | 0.0 | (10.4) | (27.5) | (39.8) | 0.0 | 0.0 | |
| From Metropolitan Storage | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Flow In Authority System | 803.4 | 874.2 | 717.4 | 781.5 | 824.8 | 894.4 | 781.8 | 613.2 | |

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

SAN DIEGO COUNTY WATER AUTHORITY

TABLE 8

SALES OF IMPORTED WATER - FISCAL YEAR 91-92

(All Figures in Acre-Feet except as noted)

| MEMBER AGENCIES | JUL. | AUG. | SEPT. | OCT. | NOV. | DEC. | 6 MONTH TOTAL 1991 |
|---|----------|----------|----------|-----------|----------|----------|--------------------------|
| Bueno Colorado M.W.D. | 821.7 | 1,112.0 | 548.8 | 1,218.7 | 1,494.0 | 1,107.2 | 6,302.2 |
| Carlsbad M.W.D. | 1,504.5 | 1,526.4 | 1,456.8 | 1,377.8 | 1,189.2 | 976.7 | 8,011.2 |
| Del Mar, City Of | 141.7 | 146.5 | 108.7 | 104.8 | 85.3 | 79.4 | 666.2 |
| Escondido, City Of | 1,186.0 | 597.8 | 968.8 | 1,284.5 | 1,154.2 | 1,225.2 | 6,416.5 |
| Fallbrook P.U.D. | 1,308.4 | 1,374.5 | 1,409.3 | 1,412.9 | 1,188.4 | 757.7 | 7,461.2 |
| Helix W.D. | 981.1 | 553.4 | 1,152.2 | 3,064.1 | 2,937.5 | 3,465.0 | 12,153.3 |
| National City and South Bay I.D. | 318.9 | 4.0 | 0.0 | 4,882.8 | 1,360.8 | 1,001.8 | 7,568.1 |
| Oceanside, City Of | 2,388.8 | 2,309.2 | 2,245.9 | 2,215.8 | 1,948.1 | 1,553.8 | 12,691.4 |
| Oliverhain M.W.D. | 1,227.2 | 1,183.1 | 1,171.1 | 1,058.3 | 960.4 | 842.1 | 6,223.2 |
| Otay W.D. | 1,999.8 | 1,869.8 | 1,913.3 | 1,735.6 | 1,503.4 | 1,096.7 | 10,118.4 |
| Padre Dam M.W.D. | 1,624.6 | 1,654.1 | 1,556.6 | 1,491.2 | 1,287.0 | 933.8 | 8,547.3 |
| Pandleton Military Reservation | 8.9 | 7.1 | 9.9 | 9.8 | 7.8 | 5.8 | 49.3 |
| Poway, City Of | 1,404.8 | 1,054.9 | 1,110.2 | 1,033.4 | 881.6 | 662.1 | 6,147.0 |
| Rainbow M.W.D. | 2,733.7 | 2,879.4 | 2,783.4 | 2,501.3 | 1,994.4 | 1,871.3 | 14,543.5 |
| Ramona M.W.D. | 1,263.8 | 995.0 | 1,003.1 | 1,340.1 | 1,194.8 | 993.8 | 6,790.4 |
| Rincon Del Diablo M.W.D. | 711.1 | 668.0 | 689.4 | 831.7 | 564.3 | 380.7 | 3,645.2 |
| San Diego, City Of | 17,271.3 | 12,920.7 | 9,837.1 | 16,001.9 | 11,239.8 | 9,223.3 | 78,494.1 |
| San Dieguito W.D. | 372.6 | 505.8 | 485.3 | 408.4 | 650.8 | 108.3 | 2,511.0 |
| Santa Fe I.D. | 650.8 | 895.2 | 837.9 | 686.5 | 403.7 | 430.0 | 3,904.1 |
| Vallecitos C.W.D. | 1,045.6 | 1,121.6 | 1,074.7 | 1,116.4 | 950.1 | 643.9 | 5,952.3 |
| Valley Center M.W.D. | 4,479.1 | 4,623.0 | 4,710.8 | 4,888.8 | 3,789.4 | 1,900.6 | 24,419.5 |
| Yulma M.W.D. | 140.5 | 209.8 | 237.7 | 253.8 | 144.4 | 41.2 | 1,027.2 |
| Total Sales To Agencies | 43,614.9 | 38,221.1 | 35,270.8 | 48,718.4 | 36,909.0 | 28,930.4 | 231,662.8 |
| Total Sales To Others | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Sales To Agencies and Others | 43,614.9 | 38,221.1 | 35,270.8 | 48,718.4 | 36,909.0 | 28,930.4 | 231,662.8 |
| Total To Authority Storage | 0.0 | 0.0 | 4,270.9 | 0.0 | 0.0 | 0.0 | 4,270.9 |
| Total From Authority Storage | (70.0) | 0.0 | 0.0 | (3,333.3) | 0.0 | 0.0 | (3,403.3) |
| Total Flow In Authority System | 43,544.9 | 38,221.1 | 39,541.7 | 45,383.1 | 36,909.0 | 28,930.4 | 232,530.2 |
| Total Evaporation Losses From Storage In San Vicente | 110.5 | 112.6 | 92.9 | 83.7 | 50.5 | 26.2 | 476.4 |
| Total Evaporation From Seasonal Storage Program In Otay, Ramona, San Vicente, and Sweetwater Reservoirs | 144.2 | 144.4 | 125.1 | 188.8 | 96.7 | 49.2 | 748.4 |
| RATE OF FLOW | | | | | | | |
| To Agencies and Others | 709.3 | 621.6 | 592.7 | 792.3 | 620.3 | 470.5 | 634.8 |
| To Authority Storage | 0.0 | 0.0 | 71.8 | 0.0 | 0.0 | 0.0 | 11.7 |
| From Authority Storage | (1.1) | 0.0 | 0.0 | (54.2) | 0.0 | 0.0 | (9.3) |
| In Authority System | 708.2 | 621.6 | 664.5 | 738.1 | 620.3 | 470.5 | 637.1 |

TABLES

TABLE 8

(CONTINUED)

| JAN. | FEB. | MAR. | APR. | MAY | JUN. | 6 MONTH TOTAL 1992 | FISCAL YEAR TOTAL | FISCAL YEAR C.F.S. |
|----------|----------|----------|----------|----------|----------|--------------------------|-------------------------|--------------------------|
| 1,014.1 | 869.1 | 903.8 | 1,330.7 | 1,776.4 | 1,489.2 | 7,363.1 | 13,865.3 | 18.88 |
| 771.5 | 555.8 | 662.9 | 1,074.0 | 1,324.3 | 1,253.1 | 5,741.6 | 13,752.8 | 19.00 |
| 75.5 | 69.8 | 71.9 | 98.7 | 125.1 | 136.7 | 577.5 | 1,243.7 | 1.72 |
| 986.9 | 1,053.9 | 900.4 | 1,477.4 | 2,020.8 | 2,559.7 | 8,998.9 | 15,415.4 | 21.29 |
| 532.8 | 414.8 | 305.0 | 875.4 | 1,308.9 | 1,508.8 | 4,945.5 | 12,426.7 | 17.16 |
| 3,083.8 | 1,704.0 | 1,293.0 | 1,386.4 | 1,203.6 | 1,782.4 | 10,433.2 | 22,586.5 | 31.20 |
| 806.1 | 568.2 | 1,027.7 | 144.0 | 1,095.5 | 1,321.0 | 4,962.5 | 12,530.6 | 17.31 |
| 1,361.5 | 1,361.5 | 1,170.8 | 1,806.2 | 2,403.0 | 2,657.9 | 10,760.9 | 23,452.3 | 32.39 |
| 519.3 | 458.6 | 463.9 | 866.1 | 1,222.5 | 1,412.1 | 4,942.5 | 11,165.7 | 15.42 |
| 1,010.7 | 975.0 | 885.7 | 1,250.2 | 1,825.0 | 2,138.3 | 8,184.9 | 18,303.3 | 25.28 |
| 901.5 | 794.7 | 843.2 | 1,182.9 | 1,724.6 | 1,904.6 | 7,351.5 | 15,898.8 | 21.96 |
| 6.4 | 9.3 | 3.2 | 7.0 | 10.8 | 11.9 | 48.6 | 97.9 | 0.14 |
| 518.3 | 466.1 | 303.8 | 722.2 | 1,182.8 | 1,218.4 | 4,421.2 | 10,568.2 | 14.80 |
| 1,387.2 | 523.4 | 452.3 | 1,529.3 | 2,725.4 | 3,030.8 | 9,628.4 | 24,171.9 | 33.39 |
| 744.2 | 863.1 | 907.8 | 806.7 | 526.3 | 1,245.9 | 5,143.8 | 11,804.2 | 16.48 |
| 322.0 | 299.3 | 223.7 | 429.4 | 595.4 | 705.7 | 2,575.5 | 6,220.7 | 8.59 |
| 9,790.0 | 7,118.4 | 15,968.9 | 15,910.2 | 20,305.9 | 23,925.6 | 93,017.0 | 169,511.1 | 234.14 |
| 342.5 | 245.9 | 251.0 | 404.8 | 472.1 | 524.3 | 2,240.6 | 4,751.6 | 6.56 |
| 386.3 | 290.2 | 204.0 | 532.0 | 751.8 | 895.9 | 3,040.2 | 6,944.3 | 9.59 |
| 572.2 | 473.7 | 401.7 | 755.1 | 1,080.7 | 1,243.9 | 4,527.3 | 10,479.8 | 14.48 |
| 1,368.9 | 1,091.8 | 387.4 | 2,280.8 | 3,954.0 | 4,799.5 | 13,862.4 | 38,281.9 | 52.88 |
| 15.5 | 20.0 | 0.6 | 42.8 | 105.1 | 137.5 | 321.5 | 1,348.7 | 1.86 |
| 26,477.2 | 20,246.2 | 27,660.1 | 34,922.3 | 47,819.6 | 55,963.2 | 213,068.6 | 444,751.2 | 614.33 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00 |
| 26,477.2 | 20,246.2 | 27,660.1 | 34,922.3 | 47,819.6 | 55,963.2 | 213,068.6 | 444,751.2 | 614.33 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 4,270.9 | |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | (3,403.3) | |
| 26,477.2 | 20,246.2 | 27,660.1 | 34,922.3 | 47,819.6 | 55,963.2 | 213,068.6 | 445,618.8 | |
| 37.0 | 41.9 | 39.1 | 79.5 | 91.1 | 107.8 | 396.4 | 672.8 | |
| 54.5 | 62.9 | 57.1 | 104.4 | 130.3 | 154.3 | 563.5 | 1,311.9 | |
| 430.8 | 352.0 | 449.8 | 586.9 | 777.7 | 940.5 | 593.5 | 614.3 | |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 5.9 | |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | (4.7) | |
| 430.8 | 352.0 | 449.8 | 586.9 | 777.7 | 940.5 | 593.5 | 781.8 | |

SAN DIEGO COUNTY WATER AUTHORITY

TABLE 9

ASSESSED VALUATIONS AND TAX RATES
Fiscal Years 1945-46 to 1991-92

| 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 | 233,579,990 | 32,740,690 | 40,977,650 | 307,298,330 (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 | 308,104,930 | 43,595,730 | 44,717,740 | 396,418,400 | 0.10 | 0.10 |
| 1951-52 | 344,820,030 | 48,452,940 | 50,904,035 | 443,977,005 | 0.10 | 0.10 |
| 1952-53 | 382,948,890 | 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 | 548,272,880 | 69,243,550 | 79,629,790 | 696,146,220 | 0.10 | 0.10 |
| 1955-56 | 627,062,960 | 87,485,390 | 79,938,450 | 794,486,800 | 0.09 | 0.10 |
| 1956-57 | 680,824,400 | 101,224,280 | 97,950,800 | 879,999,480 | 0.09 | 0.09 |
| 1957-58 | 781,068,330 | 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 | 979,481,050 | 145,317,290 | 134,848,730 | 1,259,647,070 | 0.11 | 0.10 |
| 1960-61 | 1,116,723,830 | 165,868,720 | 159,954,740 | 1,442,547,290 | 0.11 | 0.11 |
| 1961-62 | 1,220,810,850 | 191,278,650 | 155,149,890 | 1,567,239,190 | 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 | 151,686,520 | 1,788,414,580 | 0.11 | 0.11 |
| 1965-66 | 1,511,967,750 | 212,805,040 | 155,417,220 | 1,879,990,010 | 0.11 | 0.11 |
| 1966-67 | 1,567,290,480 | 212,223,550 | 147,740,730 | 1,927,254,740 | 0.11 | 0.11 |
| 1967-68 | 1,735,208,870 | 209,138,180 | 178,641,120 | 2,122,987,150 | 0.10 | 0.11 |
| 1968-69 | 1,878,936,090 | 208,018,700 | 197,139,600 | 2,283,094,390 | 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 | 278,932,717 | 2,841,462,960 | 0.09 | 0.09 |
| 1971-72 | 2,755,734,067 | 231,191,301 | 306,808,099 | 3,293,533,467 | 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 | 390,300,174 | 4,111,380,482 | 0.11 | 0.11 |
| 1974-75 | 4,075,823,685 | 249,582,970 | 450,374,627 | 4,775,781,282 | 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 | 311,553,680 | 545,425,038 | 6,087,830,215 | 0.11 | 0.11 |
| 1977-78 | 6,121,864,014 | 378,899,840 | 607,383,849 | 7,108,157,703 | 0.11 | 0.11 |
| 1978-79 | 6,272,480,327 | 554,099,470 | 707,294,537 | 7,533,874,334 | 0.08 | 0.11 |
| 1979-80 | 7,624,458,863 | 660,454,810 | 837,758,367 | 9,122,672,040 | 0.04 | 0.06 |
| 1980-81 | 8,163,752,892 | 731,869,180 | 438,834,623 | 10,334,456,695 | 0.05 | 0.04 |
| 1981-82 (4) | 41,759,848,912 | 3,457,486,860 | 1,692,548,096 | 46,909,883,868 | 0.0125 | 0.0125 |
| 1982-83 | 48,670,563,147 | 4,136,558,170 | 1,971,803,589 | 52,778,924,896 | 0.00817 | 0.01 |
| 1983-84 | 50,057,533,413 | 5,275,893,400 | 2,190,834,774 | 57,524,061,587 | 0.004805 | 0.00817 |
| 1984-85 | 55,587,879,549 | 5,866,443,590 | 2,577,402,391 | 63,931,725,530 | 0.00709 | 0.004805 |
| 1985-86 | 62,444,546,244 | 6,086,772,100 | 2,858,824,972 | 71,389,143,316 | 0.00531 | 0.00709 |
| 1986-87 | 70,584,788,218 | 7,095,945,340 | 2,952,829,417 | 80,633,562,973 | 0.00481 | 0.00531 |
| 1987-88 | 78,866,134,523 | 7,466,884,810 | 3,660,711,360 | 89,993,730,693 | 0.004 | 0.00481 |
| 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 | 103,696,252,840 | 0.00432 | 0.00403 |
| 1990-91 | 111,400,613,018 | 94,328,288 | 5,633,180,953 | 117,128,102,259 | 0.00385 | 0.00432 |
| 1991-92 | 120,622,048,693 | 144,065,193 | 5,288,623,758 | 126,035,735,644 | 0.0032 | 0.00385 |

- (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.

TABLES

TABLE 9 (Continued)

TAX LEVIES AND TAX COLLECTIONS BY FISCAL YEAR
(Includes in Lieu of Taxes)
Fiscal Years 1945-46 to 1991-92

| 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 | 2.28 |
| 380,591 | 381,583 | 97.94 | — | 1,882 | 383,465 | 8,585 | 2.20 |
| 474,520 | 459,504 | 96.84 | — | 5,918 | 465,420 | 17,985 | 3.73 |
| 401,112 | 382,732 | 97.91 | 329 | 13,342 | 406,074 | 13,052 | 3.25 |
| 397,870 | 390,274 | 98.07 | 373 | 8,217 | 398,491 | 12,904 | 3.24 |
| 450,405 | 441,242 | 97.97 | 978 | 7,699 | 448,941 | 15,348 | 3.41 |
| 594,803 | 585,417 | 98.46 | (1,140) | 12,587 | 597,964 | 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 | 20,328 | 2.86 |
| 803,375 | 788,734 | 98.18 | (2,099) | 12,140 | 800,674 | 20,728 | 2.58 |
| 874,774 | 861,461 | 98.48 | 576 | 13,058 | 874,517 | 21,560 | 2.46 |
| 965,006 | 946,445 | 98.06 | 958 | 12,890 | 959,335 | 28,189 | 2.92 |
| 1,178,885 | 1,152,265 | 97.8 | — | 13,347 | 1,165,612 | 36,482 | 3.09 |
| 1,436,270 | 1,408,277 | 98.05 | (5,274) | 16,647 | 1,424,924 | 42,533 | 2.98 |
| 1,624,733 | 1,588,189 | 97.83 | (8,720) | 21,501 | 1,609,670 | 30,874 | 1.90 |
| 1,783,785 | 1,718,575 | 97.44 | (2,278) | 31,477 | 1,750,052 | 62,330 | 3.53 |
| 1,818,449 | 1,775,932 | 97.77 | (3,888) | 38,134 | 1,814,066 | 81,023 | 3.38 |
| 1,910,019 | 1,862,973 | 97.54 | (268) | 36,825 | 1,899,798 | 70,875 | 3.72 |
| 2,000,067 | 1,948,853 | 97.44 | (6,588) | 42,596 | 1,991,449 | 73,003 | 3.65 |
| 2,101,023 | 2,033,032 | 96.78 | 2,303 | 44,784 | 2,077,816 | 96,714 | 4.70 |
| 2,154,994 | 2,090,837 | 97.01 | (7,184) | 54,333 | 2,144,970 | 101,573 | 4.71 |
| 2,175,278 | 2,129,996 | 97.92 | (301) | 64,473 | 2,194,469 | 82,078 | 3.77 |
| 2,110,913 | 2,103,901 | 99.85 | — | 55,253 | 2,159,154 | 34,136 | 1.62 |
| 2,182,274 | 2,149,330 | 98.49 | 91,690 | 24,018 | 2,173,348 | 103,863 | 4.76 |
| 2,450,123 | 2,408,899 | 98.32 | 38,500 | 104,032 | 2,512,932 | 79,855 | 3.25 |
| 3,084,889 | 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 | 4,587,810 | 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 | 106,718 | 6,034,803 | 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 |
| 5,548,222 | 5,420,190 | 97.67 | (105,757) | 137,072 | 5,557,262 | 23,275 | 0.42 |
| 7,184,231 | 7,078,596 | 98.78 | 181,346 | 137,782 | 7,216,380 | 154,472 | 2.16 |
| 7,150,025 | 6,898,178 | 96.31 | 73,743 | 228,215 | 7,114,393 | 213,847 | 2.99 |
| 6,690,619 | 6,634,619 | 99.16 | 197,022 | 184,354 | 6,799,973 | 302,515 | 4.52 |
| 6,588,403 | 6,480,324 | 98.06 | (47,042) | 178,479 | 6,658,803 | 205,073 | 3.11 |
| 7,239,670 | 7,039,808 | 97.24 | 178,905 | 283,045 | 7,322,853 | 298,895 | 4.13 |
| 7,181,483 | 7,092,760 | 98.76 | 40,938 | 158,696 | 7,251,456 | 289,860 | 3.76 |
| 6,289,310 | 6,053,170 | 96.55 | 53,304 | 186,944 | 6,220,114 | 372,360 | 5.94 |
| 6,309,866 | 6,057,897 | 96.01 | 96,635 | 462,995 | 6,520,892 | 251,789 | 3.99 |
| 6,044,731 | 6,108,942 | 101.03 | 380,264 | 180,037 | 6,288,979 | 389,785 | 6.45 |
| 5,153,457 | 4,720,332 | 91.80 | (149,925) | 239,880 | 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 |

TABLE 10

Revenue Dedicated to Finance
Capital Improvement Program
Fiscal Year 1991-92

| MEMBER AGENCIES | Water Availability Charges Collections FY 1991-92 | Total Amount Paid By Each Member Agency to 6-30-92 | Total Capacity Charges Collections FY 1991-92 | Capacity Charges Collections to 6-30-92 | Total Dedicated Revenue to 6-30-92 |
|-------------------------------|--|--|---|--|---|
| Bueno Colorado M.W.D. | \$ 421,721 | \$ 1,232,524 | \$ 251,911 | \$ 594,791 | \$ 1,827,315 |
| Carlsbad M.W.D. | 266,532 | 888,436 | 133,332 | 553,580 | 1,442,016 |
| Del Mar, City of | 22,243 | 77,749 | 1,192 | 16,872 | 94,621 |
| Escondido, City of | 187,932 | 559,598 | 124,250 | 347,130 | 906,728 |
| Fallbrook P.U.D. | 256,153 | 753,659 | 56,120 | 183,800 | 937,459 |
| Helix W.D. | 617,417 | 1,839,503 | 221,161 | 334,601 | 2,174,104 |
| National City, City of | 81,565 | 241,288 | 0 | 0 | 241,288 |
| Oceanside, City of | 437,817 | 1,289,014 | 416,323 | 1,247,859 | 2,536,873 |
| Olivenhain M.W.D. | 340,217 | 1,028,566 | 57,407 | 142,207 | 1,170,773 |
| Otay W.D. | 754,851 | 2,239,769 | 465,745 | 1,086,225 | 3,325,994 |
| Padre Dam M.W.D. | 614,330 | 1,834,840 | 129,585 | 295,345 | 2,130,185 |
| Pendleton Military Res. | 2,618 | 8,112 | 0 | 0 | 8,112 |
| Poway, City of | 262,235 | 787,879 | 20,572 | 230,492 | 1,018,371 |
| Rainbow M.W.D. | 476,589 | 1,399,164 | 320,206 | 321,006 | 1,720,170 |
| Ramona M.W.D. | 428,058 | 1,287,444 | 46,426 | 109,626 | 1,397,070 |
| Rincon del Diablo M.W.D. | 271,235 | 813,760 | 55,822 | 92,622 | 906,382 |
| San Diego, City of | 3,392,640 | 9,796,982 | 1,685,877 | 3,621,217 | 13,418,199 |
| San Diego W.D. | 121,404 | 363,647 | 32,856 | 62,936 | 426,583 |
| Santa Fe I.D. | 133,377 | 459,978 | 22,126 | 35,086 | 495,064 |
| South Bay I.D. | 283,298 | 839,855 | 130,301 | 212,861 | 1,052,716 |
| Vallecitos M.W.D. | 290,470 | 895,812 | 450,516 | 872,916 | 1,768,728 |
| Valley Center M.W.D. | 594,899 | 1,910,395 | 42,324 | 314,004 | 2,224,399 |
| Yuima M.W.D. | 80,312 | 286,030 | 996 | 8,836 | 294,866 |
| TOTAL | \$10,337,913 | \$30,834,004 | \$4,665,048 | \$10,684,012 | \$41,518,016 |

TABLE 11

SAN JACINTO TUNNEL WEST PORTAL
CHEMICAL CHARACTERISTICS OF NATURAL
COLORADO RIVER WATER
Year Ending June 30, 1992

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

| Month | Total Hardness as mg/l CaCO ₃ | Alkalinity as mg/l Total | Magnesium as mg/l | (PH) Hydrogen Ion Concentration | | Temperature When Sampled | |
|-----------------|---|--------------------------------|----------------------|--|------------|-----------------------------|--|
| | | | | Celsius | Fahrenheit | | |
| July | 313 | 136 | 30.0 | 8.37 | 25 | 77 | |
| August | 308 | 148 | 30.0 | 8.35 | 25 | 77 | |
| September | 311 | 134 | 30.0 | 8.26 | 27 | 81 | |
| October | 304 | 134 | 29.0 | 8.28 | 26 | 79 | |
| November | 307 | 135 | 28.5 | 8.31 | 17 | 63 | |
| December | 313 | 136 | 30.0 | 8.31 | 12 | 54 | |
| January | 308 | 133 | 30.0 | 8.31 | 11 | 52 | |
| February | 318 | 135 | 30.5 | 8.29 | 12 | 54 | |
| March | 311 | 134 | 29.5 | 8.30 | 14 | 57 | |
| April | 310 | 133 | 28.5 | 8.33 | 19 | 66 | |
| May | 309 | 130 | 29.5 | 8.33 | 22 | 72 | |
| June | 315 | 136 | 30.5 | 8.38 | 24 | 75 | |

ANALYSIS-YEAR ENDING JUNE 30, 1992
(mg/l Except PH, Conductivity, and Temperature)

| Constituents | Symbol | ANALYSIS | | |
|--|---------------------|----------|---------|---------|
| | | Average | Maximum | Minimum |
| Silica | (SiO ₂) | 8.8 | 9.5 | 7.6 |
| Calcium | (Ca) | 76 | 77 | 74 |
| Magnesium | (Mg) | 29.5 | 30.5 | 28.5 |
| Sodium | (Na) | 97 | 100 | 93 |
| Potassium | (K) | 4.5 | 4.9 | 4.2 |
| Carbonate | (CO ₃) | 0 | 1 | 0 |
| Bicarbonate | (HCO ₃) | 165 | 178 | 159 |
| Sulfate | (SO ₄) | 260 | 271 | 252 |
| Chloride | (Cl) | 83 | 86 | 80 |
| Nitrate | (NO ₃) | 0.81 | 1.00 | 0.55 |
| Fluoride | (F) | 0.31 | 0.38 | 0.27 |
| Boron | (B) | 0.10 | 0.21 | 0.00 |
| Total Dissolved Solids | | 641 | 660 | 629 |
| Hardness as CaCO ₃ -Total | | 311 | 318 | 304 |
| Alkalinity-Total | | 135 | 148 | 130 |
| Free Carbon Dioxide | (CO ₂) | 1.3 | 1.5 | 1.2 |
| Hydrogen Ion Concentration | (PH) | 8.32 | 8.38 | 8.26 |
| Electrical Conductivity umho/cm | | 1033 | 1055 | 1018 |
| Temperature (Celsius) | | 20 | 27 | 11 |
| Bromide | (Br) | 0.07 | 0.08 | 0.05 |

SAN DIEGO COUNTY WATER AUTHORITY

TABLE 12

CHEMICAL CHARACTERISTICS OF BLENDED TREATED WATER

Year Ending June 30, 1992

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

| Month | Total Hardness as mg/l CaCO ₃ | Alkalinity as mg/l Total | Magnesium as mg/l | (PH) | Temperature When Sampled | |
|-----------|--|--------------------------|-------------------|----------------------------|--------------------------|------------|
| | | | | Hydrogen Ion Concentration | Celsius | Fahrenheit |
| July | 311 | 132 | 30.0 | 8.03 | 25 | 77 |
| August | 306 | 129 | 29.5 | 7.98 | 26 | 78 |
| September | 309 | 130 | 29.5 | 7.89 | 25 | 77 |
| October | 269 | 118 | 26.5 | 8.02 | 23 | 73 |
| November | 299 | 130 | 29.0 | 8.04 | 18 | 64 |
| December | 303 | 127 | 30.0 | 8.05 | 14 | 57 |
| January | 308 | 128 | 30.0 | 8.06 | 12 | 54 |
| February | 311 | 129 | 30.0 | 8.01 | 12 | 54 |
| March | 311 | 128 | 29.5 | 7.97 | 14 | 57 |
| April | 301 | 128 | 29.5 | 8.01 | 18 | 64 |
| May | 289 | 121 | 28.5 | 7.97 | 22 | 72 |
| June | 292 | 127 | 28.5 | 7.85 | 24 | 75 |

ANALYSIS-YEAR ENDING JUNE 30, 1992

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

| Constituents | Symbol | ANALYSIS | | |
|--------------------------------------|---------------------|----------|---------|---------|
| | | Average | Maximum | Minimum |
| Silica | (SiO ₂) | 9.0 | 10.8 | 7.7 |
| Calcium | (Ca) | 71 | 78 | 64 |
| Magnesium | (Mg) | 29 | 30.0 | 26.5 |
| Sodium | (Na) | 98 | 101 | 90 |
| Potassium | (K) | 4.4 | 4.8 | 4 |
| Carbonate | (CO ₃) | 0 | 0 | 0 |
| Bicarbonate | (HCO ₃) | 155 | 161 | 144 |
| Sulfate | (SO ₄) | 248 | 271 | 213 |
| Chloride | (Cl) | 89 | 92 | 86 |
| Nitrate | (NO ₃) | 0.6 | 0.75 | 0.15 |
| Fluoride | (F) | 0.23 | 0.31 | 0.17 |
| Boron | (B) | 0.18 | 0.20 | 0.12 |
| Total Dissolved Solids | | 623 | 658 | 576 |
| Hardness as CaCO ₃ -Total | | 296 | 311 | 269 |
| Alkalinity-Total | | 127 | 132 | 118 |
| Free Carbon Dioxide | (CO ₂) | 2.6 | 3.6 | 2.3 |
| Hydrogen Ion Concentration | (PH) | 7.97 | 8.06 | 7.85 |
| Electrical Conductivity umho/cm | | 1014 | 1,046 | 966 |
| Temperature (Celsius) | | 22 | 26 | 12 |

TABLES

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 | — | 1,938,051,180 | .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 | — | 1,780,180,685 | .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 | 1,900,599,034 | .48 | .49 |
| 1942-43 | 400,814 | 2,001,924,735 | .48 | .48 |
| 1943-44 | 401,190 | 2,005,486,430 | .48 | .48 |
| 1944-45 | 401,536 | 2,108,192,795 | .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) | .48 |
| 1948-49 | 578,368 | 3,883,081,225 | .34 | .35 |
| 1949-50 | 585,184 | 4,181,812,855 | .34 | .34 |
| 1950-51 | 721,850 | 4,281,519,725 | .31 | .34 |
| 1951-52 | 995,130 | 4,674,664,040 | .30 | .31 |
| 1952-53 | 1,120,448 | 5,372,498,515 | .28 | .30 |
| 1953-54 | 1,368,038 | 6,015,691,360 | .25 | .28 |
| 1954-55 | 1,793,651 | 6,548,392,114 | .23 | .25 |
| 1955-56 | 1,876,256 | 6,514,868,335 | .21 | .23 |
| 1956-57 | 1,932,205 | 6,674,000,560 | .19 | .21 |
| 1957-58 | 2,048,189 | 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 | 2,862,144 | 17,757,248,740 | .14 | .14 |
| 1965-66 | 2,890,286 | 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 | .18 | .14 |
| 1969-70 | 3,072,058 | 25,572,510,561 | .17 | .16 |
| 1970-71 | 3,075,616 | 27,605,064,302 | .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 | 3,127,880 | 32,808,476,378 | .14 | .15 |
| 1974-75 | 3,129,664 | 35,941,961,265 | .14 | .14 |
| 1975-76 | 3,132,612 | 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) | (3) |
| 1982-83 | 3,277,011 | 353,335,258,307 | .0188% | .0188% |
| 1983-84 | 3,280,294 | 379,788,761,242 | .0237% | .0166% |
| 1984-85 | 3,280,954 | 419,858,047,899 | .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 | 596,900,358,956 | .0110% | .0112% |
| 1989-90 | 3,288,754 | 671,699,558,661 | .0121% | .0110% |
| 1990-91 | 3,291,520 | 750,862,873,309 | .0097% | .0121% |
| 1991-92 | 3,295,385 | 820,543,619,722 | .0089% | .0097% |
| 1992-93 | | 864,768,971,806 | .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.

SAN DIEGO COUNTY WATER AUTHORITY

TABLE 14

METROPOLITAN WATER DISTRICT ANNEXATION CHARGES AND BALANCES ON AUTHORITY AREAS

| Member Agencies | Date of Annexation | Remaining Balance at 6/30/92 |
|--|--------------------|------------------------------|
| Annexation Charges Outstanding | | |
| Del Mar, City of | 11-23-62 | \$ 20,251.92 |
| Del Luz M.W.D | 6-28-67 | 3,425,950.80 |
| No. 1 Annexation of 1969 | 10-15-69 | 668,921.27 |
| Fallbrook P.U.D. | | |
| Fallbrook Community Air Park | 2-22-69 | 98,164.42 * |
| Olivenhain M.W.D | | |
| No. 1 Annexation of 1965 | 2-11-65 | 67,871.03 |
| No. 4 Annexation of 1967 | 11-13-67 | 36,639.71 |
| Padre Dam M.W.D | | |
| No. 4 Annexation of 1970 | 8-3-70 | 80,933.95 |
| Rainbow M.W.D | | |
| No. 3 Annexation of 1967 | 12-6-67 | 3,736,373.07 * |
| No. 5 Annexation of 1973 | 11-22-73 | 8,322.81 |
| Ramona M.W.D | | |
| No. 2 Annexation of 1961 | 9-22-61 | 0.00 |
| No. 3 Annexation of 1963 | 9-20-63 | 684.55 |
| No. 4 Annexation of 1967 | 11-12-67 | 370,694.93 |
| No. 5 Annexation of 1972 | 5-17-72 | 435,730.48 |
| Rincon del Diablo M.W.D | | |
| No. 4 Annexation of 1972 | 11-2-72 | 29,025.69 * |
| San Dieguito W.D | | |
| No. 2 Annexation of 1972 | 12-8-72 | 163,013.76 * |
| Valley Center M.W.D | | |
| No. 2 Annexation of 1967 | 11-26-67 | 22,940.13 |
| No. 3 Annexation of 1967 | 11-30-67 | 431,522.52 |
| Yuima M.W.D | 12-16-63 | 49,938.95 |
| No. 1 Annexation of 1967 | 11-21-67 | 26,228.17 |
| No. 2 Annexation of 1969 | 11-24-69 | 8,774.70 |
| Pendleton Military Res.-Nuclear Generating Plant | 12-16-77 | 1,689,247.94 |
| Total | | \$ 11,371,230.80 |
| 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.).

TABLES

TABLE 15

WATER SALES BY METROPOLITAN WATER DISTRICT
Fiscal Years 1941-42 to 1991-92

| Year | To Member Agencies | | | | | | |
|----------|--------------------|---------|---------------|---------|-------------------|-----------|-------------|
| | 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 | 2,826.4 | 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 | 42,464.2 | 193,754.6 |
| 1952-53 | 30,845.3 | 24 | 99,589.6 | 76 | 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 | 266,059.1 | 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 | 4,089.4 | 933,827.7 |
| 1961-62 | 608,811.0 | 66 | 312,975.9 | 34 | 921,786.9 | 3,676.9 | 925,463.8 |
| 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 | 364,606.5 | 26 | 1,062,123.5 | 74 | 1,426,730.0 | 1,210.0 | 1,427,940.0 |
| 1984-85 | 455,061.0 | 29 | 1,119,443.0 | 71 | 1,574,504.0 | ** | 934.0 |
| 1985-86 | 500,955.0 | 30 | 1,145,856.0 | 70 | 1,646,811.0 | ** | 346.0 |
| 1986-87 | 568,812.9 | 31 | 1,252,783.6 | 69 | 1,821,596.5 | ** | 1,508.0 |
| 1987-88 | 598,722.0 | 31 | 1,322,484.0 | 69 | 1,921,206.0 | ** | 675.0 |
| 1988-89 | 745,787.3 | ** | 1,362,428.6 | 65 | 2,108,195.9 | ** | 694.0 |
| 1989-90 | 1,035,681.0 | ** | 1,464,980.0 | 59 | 2,500,661.0 | ** | 783.0 |
| 1990-91 | 889,972.0 | ** | 1,373,777.0 | 61 | 2,263,749.0 | ** | 0.0 |
| 1991-92 | 805,111.9 | ** | 1,083,795.5 | 57 | 1,888,907.4 | ** | 0.0 |

*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 | Fiscal Year 1990-91 | | | Fiscal Year 1991-92 | | | (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 (9)-(3) | (11) Percent Difference of M.W.D. Supply (10)/(3) |
|---------------------------------|---------------------------------|----------------------------------|---|---------------------------------|----------------------------------|--|---|--|--|--|--|
| | (2) Local Water Supply | (3) M.W.D. Water Supply | (4) Total Water Use (2)+(3) | (5) Local Water Supply | (6) M.W.D. Water Supply | (8) Difference in Totals (7)-(4) | | | | | |
| Anaheim | 41,592 | 29,576 | 71,168 | 42,263 | 22,896 | 65,159 | -6,009 | -8.44% | -6,680 | -22.59% | |
| Beverly Hills | 0 | 13,760 | 13,760 | 0 | 12,216 | 12,216 | -1,544 | -11.22% | -1,544 | -11.22% | |
| Burbank | 761 | 19,795 | 20,556 | 195 | 18,326 | 18,521 | -2,035 | -9.90% | -1,469 | -7.42% | |
| Calleguas M.W.D. | 24,365 | 102,797 | 127,162 | 27,335 | 83,222 | 110,557 | -16,605 | -13.06% | -19,575 | -19.04% | |
| Central Basin M.W.D. | 127,630 | 136,699 | 264,329 | 122,562 | 124,903 | 247,465 | -16,844 | -6.37% | -11,796 | -8.63% | |
| Chino Basin M.W.D. | 148,685 | 52,362 | 201,047 | 79,067 | 107,708 | 186,775 | -14,292 | -7.11% | 55,326 | 105.62% | |
| Coastal M.W.D. | 18,182 | 44,748 | 62,930 | 5,364 | 36,621 | 41,985 | -20,945 | -33.28% | -8,127 | -18.16% | |
| Compton | 8,269 | 4,332 | 12,601 | 5,438 | 3,905 | 9,343 | -3,268 | -25.86% | -427 | -9.86% | |
| Eastern M.W.D. | 42,277 | 55,919 | 98,196 | 86,851 | 44,008 | 130,859 | 32,663 | 33.26% | -11,911 | -21.30% | |
| Foothill M.W.D. | 5,862 | 9,550 | 15,412 | 5,386 | 8,394 | 13,780 | -1,602 | -10.59% | -1,156 | -12.10% | |
| Fullerton | 15,986 | 15,173 | 31,159 | 22,418 | 7,101 | 29,519 | -1,640 | -5.26% | -8,072 | -53.20% | |
| Glendale | 3,955 | 24,948 | 28,903 | 2,069 | 23,135 | 25,204 | -3,699 | -12.80% | -1,813 | -7.27% | |
| Las Virgenes | 1,820 | 23,792 | 25,612 | 383 | 18,509 | 18,892 | -5,720 | -28.24% | -5,263 | -22.20% | |
| Long Beach | 28,381 | 44,324 | 72,705 | 29,663 | 35,606 | 65,269 | -7,436 | -10.23% | -8,718 | -19.67% | |
| Los Angeles | 341,376 | 406,572 | 747,948 | 267,598 | 287,464 | 555,062 | -192,866 | -25.79% | -119,108 | -29.30% | |
| M.W.D. of Orange County | 180,894 | 248,322 | 429,216 | 152,113 | 227,848 | 379,961 | -49,245 | -11.47% | -20,474 | -8.24% | |
| Pasadena | 14,360 | 22,490 | 36,850 | 12,229 | 18,400 | 30,629 | -6,221 | -16.88% | -4,090 | -18.19% | |
| San Diego C.W.A. | 39,463 | 562,129 | 601,592 | 63,386 | 425,665 | 489,051 | -112,541 | -18.71% | -136,464 | -24.28% | |
| San Fernando | 2,504 | 1,049 | 3,553 | 2,653 | 652 | 3,305 | -248 | -6.88% | -387 | -7.85% | |
| San Marino | 5,048 | 1,700 | 6,748 | 5,099 | 733 | 5,832 | -916 | -13.57% | -967 | -56.88% | |
| Santa Ana | 29,954 | 17,840 | 47,794 | 25,426 | 18,748 | 44,174 | -3,620 | -7.57% | 908 | 5.09% | |
| Santa Monica | 4,748 | 9,802 | 14,550 | 7,485 | 5,174 | 12,659 | -1,861 | -13.00% | -4,628 | -47.21% | |
| Three Valleys M.W.D. | 52,104 | 72,193 | 124,297 | 48,228 | 60,895 | 109,123 | -15,174 | -12.21% | -11,258 | -15.60% | |
| Torrance | 2,894 | 20,229 | 23,123 | 4,288 | 16,386 | 20,674 | -2,449 | -10.59% | -3,943 | -19.00% | |
| Upper San Gabriel Valley M.W.D. | 106,420 | 70,603 | 176,023 | 86,860 | 74,696 | 161,556 | -14,467 | -8.22% | 4,093 | 5.60% | |
| West Basin M.W.D. | 17,011 | 169,422 | 186,433 | 7,204 | 146,262 | 153,466 | -32,947 | -17.67% | -23,140 | -13.66% | |
| Western M.W.D. of Riverside Co. | 197,159 | 83,603 | 280,762 | 193,706 | 58,350 | 252,056 | -28,706 | -10.22% | -25,253 | -30.21% | |
| Totals | 1,460,690 | 2,263,749 | 3,724,439 | 1,305,289 | 1,867,843 | 3,193,132 | -531,307 | -14.27% | -375,906 | -16.61% | |

MAJOR BOARD ACTIONS

July 11, 1991

Motion: Approved Amendment No. 2 to James M. Montgomery's contract for final design of the Pipeline 4 Extension, Phase I project for a new contract upper fee limit of \$3,602,298.

Motion: Authorized the General Manager to award and execute a Professional Services Agreement with Boyle Engineering Corporation to provide construction management services for Pipeline 4B, Phase I, for a not-to-exceed amount of \$3.9 million.

Motion: Authorized the General Manager to execute a Professional Services Agreement with Morrison Knudson/Bechtel Corporation to provide construction management services for Pipeline 4 Extension Phase I, for a not-to-exceed amount of \$9.7 million.

Resolution: Certified completion of Final Environmental Impact Report for the San Diego County Water Authority Pipeline 4B, Phase II, approving the project and mitigation monitoring plan, and authorized the filing of a notice of determination.

Resolution: Amended the following sections of the Authority's Administrative Code: Section 12.3 - Position and Salary Range; Section 12.4 - Merit Increases Within Salary Ranges; Section 13.3 - Overtime; Section 13.4 - Vacation Leaves; Section 13.4A - Executive Leave; Section 13.7 - Holidays; Section 13.8 - Payroll Period and Pay Day; and Section 13.9 - Awards of Service Emblems.

Resolution: Adopted Resolution of Necessity for Pipeline 4E, Phase I properties.

Motion: Took a position of watching AB 455 - Cortese - Development Projects; Water Supply.

Motion: Supported many of the basic concepts in S 484 - Bradley - Central Valley Project Improvement Act, especially provisions for equitable transfer; however, the Board requested Senator Bradley to work closely with Governor Wilson's office to develop amendments which will make the legislation a more practical part of California's water strategy. The Authority offered assistance to Governor Wilson and Senator Bradley in finalizing provisions of this legislation.

Motion: Authorized offer re litigation to acquire property, SDCWA vs. Lozano, to purchase parcel 542-E, a fee take with reservation, in the total amount of \$62,000, which included all interest and costs.

SAN DIEGO COUNTY WATER AUTHORITY

August 8, 1991

- Resolution: Certified completion of addendum to the Final Program Environmental Impact Report for the Water Distribution Plan (SH# 87112505) and approved the revision to the Cowles Mountain tunnel segment of the Pipeline 4 Extension, Phase I project.
- Motion: Honored I. E. "Nick" Nichols upon his retirement from the Authority.
- Motion: Reseated Director Mike Madigan, representing the City of San Diego.
- Resolution: Established the vote of representatives of member agencies as determined by assessed valuations for fiscal year 1991-92.
- Resolution: Fixed the tax rate for fiscal year 1991-92.
- Motion: Adjourned the August 8th regular Board meeting to Thursday, August 15, at 4:00 p.m. to hold a public hearing and consider adoption of the Water Standby Availability Charge resolution and ordinance.
- Resolution: Established the amount due from the City of San Diego for the fiscal year 1991-92 for the in lieu charge as a condition of providing water service.
- Motion: Awarded the construction contract for Spec 423 to J. F. Shea Company, Inc. for Pipeline 4E, Phase I, in the amount of \$43,141,000, and authorized the General Manager to execute an agreement with the contractor.
- Motion: Approved Amendment No. 2 to the agreement with Boyle Engineering for the design of Pipeline 4B, Phase I for a new contract upper limit amount of \$2,338,670.
- Motion: Approved the project for protecting the San Luis Rey River Aqueduct crossing under the Capital Improvement Program.
- Motion: Appointed Mr. Robert Campbell, Chief Financial Officer, as Treasurer of the Water Authority, replacing Mr. Henry Lozano, effective immediately.
- Motion: Authorized the General Manager to sign the MOU implementing Best Management Practices regarding urban water conservation.
- Motion: Supported AB 1013 relating to public utilities and water desalination facilities.
- Motion: Authorized the General Manager to amend the current agreement to study Baja California Desalination project.
- Resolution: Certified the Final Environmental Impact Report for Pipeline 4 Extension, Phase II (Lower Otay Pipeline), approving the project, and adopting the Mitigation Monitoring Program.

MAJOR BOARD ACTIONS

- Motion: Authorized the scope of the Water Authority Financial Assistance Program be expanded to include funding assistance for groundwater studies.
- Motion: Approved the recommendation concerning the Financial Assistance Program applications and authorized the General Manager to enter into a joint participation agreement with the City of Chula Vista, Encina AA, City of Encinitas, Fallbrook PUD, City of Oceanside, Padre Dam MWD and Rancho Santa Fe CSD.
- Motion: Appointed a Fiscal Policy Subcommittee to develop the Water Resource Charge. Chairman Madigan appointed Director Frahm as Chairman, and Directors Brannon, Drake, Johnson and Leach.

August 15, 1991

- Motion: Added consideration of memorandum from the General Manager regarding payments for Parcels 548 and 549, Pipeline 5 Extension, to the agenda pursuant to Government Code Section 54954.2(b)(2).
- Resolution: Overruled objections to proposed water standby availability charge, approved adoption of such charge and waived section 23.2(b) and (c) of the Administrative Code.
- Ordinance: Fixed a water standby availability charge on land within the boundaries of the Authority for fiscal year 1991-92.
- Motion: Authorized the General Manager to enter into an agreement with SDG&E which allowed for reimbursement of feasibility study costs by SDG&E. The agreement would include only those direct costs applicable to the desalination portion of the study, billed to SDG&E by the consultant, and not to exceed \$133,000.
- Motion: Authorized the General Manager to execute appropriate documents to acquire parcels 548 and 549 for a just compensation payment of \$182,882.
- Motion: Approved the recommendation of staff with an amendment to the contract to state that the annuity to be purchased by the Authority and its economic viability were totally at the risk of Mr. Lozano.

September 12, 1991

- Motion: Honored Director Charles Cooper upon his retirement from the Board of Directors.
- Motion: Approved the award of the contract for construction of the Scripps Ranch Pipeline (4B, Phase I) to Kasler Corporation and L. H. Woods and Sons, Inc., a joint venture, in the amount of \$51,988,000; and authorized the General Manager to execute the contract.

SAN DIEGO COUNTY WATER AUTHORITY

- Motion:** Authorized the General Manager to award and execute a construction contract for Pipeline 4 Extension, Phase I, Spec 421, to Traylor Brothers, Inc. in the amount of \$10,899,000.
- Motion:** Authorized the General Manager to execute a purchase order to provide sufficient funds to reimburse the Helix Water District for their actual expenses for relocating their facilities that conflict in plan and/or in profile with the construction of Pipeline 4 Extension, Phase I.
- Motion:** Authorized the General Manager to execute a purchase agreement with California Pipe Fabricators to provide emergency repair pipe sections for a cost of \$62,433.34.
- Motion:** Authorized the use of facsimile signatures on all checks issued under \$25,000 and continue the requirement of two manual signatures on all checks issued over \$25,000.
- Motion:** Approved the addition of one institutional and one retail firm to the Underwriting Team and authorized the General Manager to execute the contracts upon the recommendation of the Investor Relations Committee.
- Motion:** Authorized the General Manager to negotiate the sale of COPs, and depending upon market conditions at the time of issuance, use the structuring alternatives identified in the detailed report subject to review by the Investor Relations Committee.
- Motion:** Authorized the General Manager to urge the Department of Water Resources to maintain the current level of commitment to water conservation included in its Model Water Efficient Landscape Ordinance.
- Motion:** Authorized the General Manager to (1) amend the Authority's ultra low flow toilet rebate program proposal to MWD, and (2) amend the agreement for operation of the program based on member agencies' requests.
- Motion:** Recommended that SANDAG adopt the revised Quality of Life Standards and Objectives as they pertain to regional water supply and consider an appropriate means to convey the Board's comments to SANDAG.
- Motion:** Authorized the General Manager to enter into a Joint Participation Agreement with the Metropolitan Water District and the Otay Water District for development and utilization of reclaimed water.
- Motion:** Instructed staff to prepare a Regional Water Reclamation Implementation Plan for Board review by June 1992.
- Motion:** Established a policy of retaining a minimum of twenty-five percent (25%) of the current annual Section 8 Contracts of Indebtedness financing as a contingency for emergencies or unanticipated expenses. The balance of the Section 8 financing could be used for debt issues if economically feasible.

MAJOR BOARD ACTIONS

- Motion:** Directed staff to define a scope of work on what the study on the San Luis Rey River activities would achieve.

October 10, 1991

- Resolution:** Certified completion of addendum to the Final Program Environmental Impact Report for the Water Distribution Plan (sch # 87112505) relative to the Pipeline 4 Extension, Phase I Proposed Diameter Revision and Realignment within the City of La Mesa.
- Resolution:** Added Section 16.8, Billing and Payment for Water Deliveries, to the Authority's Administrative Code.
- Resolution:** Added Section 3.4.1A regarding the use of facsimile signatures to the Authority's Administrative Code.
- Resolution:** Adopted and added Article 28, Injury and Illness Prevention Program, to the Authority's Administrative Code.
- Resolution:** Requested creation of an ACWA Urban section.
- Resolution:** Revised Section 3.4.1 of the Administrative Code - Treasurer.
- Resolution:** Authorized the execution and delivery of documents and approved the distribution of a Preliminary Official Statement in connection with Water Revenue Certificates of Participation, Series 1991-A.
- Motion:** Received and filed the audited financial statements for the fiscal year ended June 30, 1991.
- Motion:** Awarded the Personal Computer Bid for Fiscal Year 1991-92 to CompuCom Systems and authorized the General Manager to execute a purchase agreement in the amount of \$134,000.
- Motion:** Authorized the General Manager to draft and execute a revised agreement with Rauscher for ongoing financial consulting services not to exceed a maximum amount of \$70,000 plus out-of-pocket costs for Fiscal Year 1991-92 and a separate agreement for services related to the sale of Certificates of Participation, Series 1991A not to exceed a maximum amount of \$75,000 plus out-of-pocket costs.
- Motion:** Authorized the General Manager to retain Orrick, Herrington and Sutcliffe for bond counsel services for Water Revenue Certificates of Participation, Series 1991A subject to negotiations by the General Manager for the terms of the agreement and scope of services to be rendered.
- Motion:** Instructed staff to bring back in November, an amendment to the Administrative Code which would dual-track the Treasurer's Report on the Board agenda and the Fiscal Policy Committee agenda.

SAN DIEGO COUNTY WATER AUTHORITY

- Motion:** Recommended providing no additional matching funds for Expanded Ultra Low Flush Toilet Program.
- Resolution:** Approved the appraisal for Pipeline 4B, Phase I of the Berger Company, authorizing the purchase of an easement and authorizing a Notice of Intention of the Board of Directors of the San Diego County Water Authority to adopt a Resolution of Necessity to acquire an easement by eminent domain.
- Motion:** Approved the sale of surplus materials and equipment as provided in the Administrative Code and Board Resolution.
- Motion:** Authorized the General Manager to award and execute a contract with Case Power & Equipment Company for the purchase of one 4x4 backhoe and one tractor mower for the total sum of \$129,807.51.
- Motion:** Authorized inclusion of a San Diego County Multi-Species Conservation Planning Effort in the Capital Improvement Program, the transfer of \$250,000 from Miscellaneous Property Acquisition to this project, and further authorized the expenditure of \$250,000 to fund the Authority's planning share of the Southern San Diego County MSCP.
- Ordinance:** Amended Ordinance 91-3 fixing capacity charges on ultimate users of water from the San Diego County Water Authority by adding section 2.4.1 to the Administrative Code.
- Motion:** Amended strategic goals and objectives of the Public Information Committee.
- Motion:** Directed staff to meet and confer with County of San Diego re San Luis Rey River Planning Study Scope of Work to work out a memorandum of understanding where the County would accept the resources study by the Water Authority as the standard by which future mining activities would be controlled. Staff would report to the Board in November. Staff was also directed to estimate the cost and time necessary for preparations of the resource study including the standards for controlling future mining.
- Motion:** Instructed staff to coordinate with Director Thompson and former Director Cooper to make arrangements for a tour of Mexico's water facilities in the Tijuana area.

November 14, 1991

- Resolution:** Amended section 16.8(D) and added section 16.8(E) to the Administrative Code regarding Billing and Payment for Water Deliveries.
- Motion:** Authorized the General Manager to submit a Public Institutions Conservation Assistance Proposal to MWD.

MAJOR BOARD ACTIONS

- Motion:** Authorized the General Manager to submit the proposal for a Commercial/Industrial Water Conservation Program to MWD.
- Motion:** Authorized the General Manager to negotiate and sign a one year contract extension with Ernst & Young.
- Motion:** Authorized the General Manager to award and execute a construction contract with PCL Civil Constructors (Contractor), in the amount of \$40,498,600 for Specification 422.
- Motion:** Authorized the General Manager to award and execute an agreement with Parsons, Brinckerhoff, Quade & Douglas, Inc. to perform preliminary design services for the protection of the San Luis Rey River aqueduct crossings for a total not-to-exceed fee of \$425,000 and return to the Board in December with a draft memorandum of agreement with the County and scope for participating in the preparation of a mineral resource management plan.
- Motion:** Authorized the General Manager to award and execute an agreement with RECON, Regional Environmental Consultants, to perform environmental consulting services for the permanent protection of the San Luis Rey River aqueduct crossings project for a total not-to-exceed fee of \$160,000.
- Motion:** Accepted the Sweetwater Bypass and Flow/Pressure Control Facility and directed the Chief Engineer to file a Notice of Completion for the project.
- Resolution:** Approved the appraisal of J.P. Meek Company, authorizing the purchase of properties and authorizing the noticing of the intention of the Board of Directors of the San Diego County Water Authority to adopt a resolution of necessity to acquire property by eminent domain for a portion of Pipeline 4 Extension, Phase II project.
- Motion:** Hired Vincent F. Biondo, Jr. as General Counsel for the Authority.

December 12, 1991

- Resolution:** Honored Paul D. Engstrand upon his retirement as General Counsel for the Authority.
- Motion:** Approved the contract presented by the committee establishing the terms and conditions for the employment of Vincent F. Biondo, Jr. as General Counsel.
- Motion:** Authorized the General Manager to execute an amendment to the professional services agreement with Parsons, Brinckerhoff, Quade and Douglas to expand their scope to include the preparation of in-stream sand mining guidelines for the San Luis Rey River for the protection of all facilities along the river and to prepare flood plain mapping for a not-to-exceed amount of \$232,000; and authorized the General Manager to execute a memorandum of agreement with the County to prepare the in-stream mining guidelines for the San Luis Rey River.

SAN DIEGO COUNTY WATER AUTHORITY

- Motion:** Awarded Specification 429, Oceanside 5 Flow Control Facility Sleeve Valve Prepurchase contract, to Bailey, Division of CMB Industries, in the amount of \$119,750, and authorized the General Manager to execute the contract.
- Resolution:** Approved the appraisal of J.P. Meek Company, authorizing the purchase of properties and authorizing the noticing of the intention of the Board of Directors to adopt a Resolution of Necessity to acquire property by eminent domain for a portion of the Pipeline 4 Extension, Phase II Project. The Board also elected to have the opportunity to select the appropriate pipeline alignment and staff was instructed to send conditional letter of offer to both the Roarke/Jensen and Roarke/Buie/Jensen property owners along Proctor Valley Road.
- Resolution:** Adopted the San Diego County Water Authority Relocation Plan for Pipeline 4 Extension, Phase II Project.
- Motion:** Invested the bond proceeds from the 1991 Certificates of Participation in a collateralized investment agreement in U.S. Treasury securities and directed the General Manager to solicit Requests for Proposals from qualified banks or dealers.
- Motion:** Approved an agreement between the San Diego County Water Authority and the Trustees of California State University concerning capacity charges for the California State University, San Marcos and directed the General Manager to execute and record the agreement.
- Motion:** Approved and authorized the General Manager to execute the Memorandum of Agreement and directed staff to continue participating in efforts to coordinate a North County Multi-Species Conservation Plan.
- Motion:** Authorized the General Manager to execute the agreement for delivery of water into Lake Ramona.
- Motion:** Supported in principle S.2016, Central Valley Project Fish and Wildlife Act of 1991, and requested additional information on the bill's specific impact on transfers and environmental protection and restoration.
- Motion:** Authorized the General Manager to enter into an agreement to provide Reclaimed Water Development Funds to the Otay Water District per the adopted program.

January 9, 1992

- Resolution:** Honored John P. Starkey upon his retirement from the Board.
- Resolution:** Honored Dr. Philip R. Pryde upon his retirement from the Board.
- Motion:** Authorized the General Manager to award and execute a contract with City Chevrolet for the purchase of five yellow light-duty and utility vehicles for a total of \$73,990.85.

MAJOR BOARD ACTIONS

- Resolution:** Authorized the design and construction of the National City/South Bay Flow Control Facility No. 4 and authorized the General Manager to enter into an agreement with Sweetwater Authority for the reimbursement of all design, construction, and administration costs incurred by the Authority.
- Resolution:** Authorized the General Manager to execute an agreement with PSG Corrosion Engineering, Inc., to provide corrosion engineering services for a fee not-to-exceed \$79,000.00.
- Resolution:** Granted an easement to the City of San Marcos (Pipeline 5 Extension, Phase I) to provide for the installation of public improvements parallel to and crossing San Diego County Water Authority fee owned property with access reservation.
- Motion:** Authorized the General Manager to: (1) execute a quit claim of easement, relinquishing the Authority's segment of easement which is no longer in use to the underlying fee owner, Mr. L. Knight, and (2) collect compensation for the rights to be relinquished, from the property owner, in the amount of \$500 plus administrative fees of \$292.50.
- Motion:** Authorized the General Manager to award a purchase and installation contract (Spec 443) for a 900 MHZ multiple address radio system to JWP Controls for the amount of \$62,288.
- Motion:** Set a public hearing on the Urban Water Shortage Contingency Plan for January 27, 1992 at 1:00 p.m. to be conducted by the Chairman of the Water Policy Committee.
- Motion:** Authorized staff, in cooperation with Senator Killea, to shift the focus of SB 1224 to concentrate on restricting the types of toilets available for purchase in the state.
- Motion:** Authorized the General Manager to amend the Ultra-Low Flush Toilet Rebate Program agreements with the City of San Diego and Volt Delta Resources and provide continued administrative support for the program.
- Motion:** Directed staff to cooperate with and support SDG&E in the introduction and enactment of legislation to expedite PUC review of a combined power and desalination facility.
- Motion:** Approved the classification of Executive Assistant to the General Manager at a Salary Range 50 (\$60,403 - \$81,203) effective immediately.
- Motion:** Approved the classification of Director of Public Affairs at a Salary Range 51 (\$61,922 - \$83,242) effective immediately and that funding for the balance of this fiscal year be from current salary savings.
- Motion:** Approved the increase in dues for membership to the San Diego Chamber of Commerce.

SAN DIEGO COUNTY WATER AUTHORITY

- Motion: Authorized the General Manager to enter into a Joint Participation Agreement between the Bureau of Reclamation and other local agencies, subject to further review and approval as to form by General Counsel re Southern California Comprehensive Water Reclamation and Reuse Study; and contribute up to \$15,000 toward the pre-planning effort.
- Motion: Authorized the General Manager to enter into a Joint Participation Agreement between the Metropolitan Water District and the City of Oceanside, subject to further review and approval as to form by General Counsel, re Oceanside Desalter Plant Joint Participation Agreement.

February 13, 1992

- Resolution: Declared the public interest and necessity for the acquisition of property for Pipeline 4 Extension, Phase II between Sweetwater Reservoir and Lower Otay Dam and authorized proceedings of eminent domain for the purpose of acquiring real property to be used in connection therewith. (Parcel Nos. 192-B, 194-A-3, 194-A-4, 194-B-2, 199-A, 199-C)
- Motion: Reseated Director Susan Collins, representing the Yuima Municipal Water District.
- Resolution: Honored L. C. Snavely upon his retirement from the Board of Directors.
- Motion: Authorized settlement in the following cases: SDCWA v. Folia, Case No. N47863 for \$79,364 plus interest and costs to acquire 16,795 square feet; SDCWA v. Bunjes, Case No. N47872 for \$296,000 plus interest and costs not to exceed \$7,000 for .53 acres; SDCWA v. Lomeli, Case No. N47862SDCWA for \$110,000 plus interest and costs not to exceed \$500 for .74 acres and SDCWA v. Mireiter, Case No. N47861 authorizing special counsel to file a new trial motion, and if necessary, proceed with an appeal.
- Motion: Authorized the General Manager to issue an additional purchase order for \$35,000 to Mission Management, Inc. to provide for computer system design services.
- Motion: Adopted the Urban Water Shortage Contingency Plan in compliance with AB 11X.
- Motion: Approved the Financial Assistance Guidelines for Groundwater Development.
- Motion: Authorized the General Manager to enter into Joint Participation Agreements with the following agencies for Financial Assistance Program applications: Olivenhain MWD - \$15,800 for EIR and \$32,560 for Waste Discharge Permit; San Elijo JPA - \$23,500; Vista ID - \$32,583; City of San Diego Clean Water Program - \$50,000; and Sweetwater Authority - \$50,000, for a recommended total amount of \$204,443.

MAJOR BOARD ACTIONS

- Motion: Authorized the General Manager to enter into an agreement to provide Reclaimed Water Development Fund funding to the Fallbrook Public Utility District per the adopted program guidelines.
- Resolution: Amended Article 27, Section 27.8, Procedures for Preparing a Negative Declaration, of the Administrative Code.
- Resolution: Amended Article 27, Section 27.9, Procedures for Preparing Environmental Impact Reports, of the Administrative Code.
- Resolution: Amended Article 18, Special Funds, of the Administrative Code.
- Resolution: Adopted the classification of Deputy General Counsel.
- Resolution: Amended Section 26.3, Acquisition Procedures, of the Administrative Code.
- Resolution: Amended Section 3.2 of the Administrative Code to provide for the office of the General Counsel.
- Resolution: Authorized hiring Special General Counsel for Condemnation of Rights of Way.
- Motion: Directed staff to begin discussions with SANDAG to request that the SDCWA be considered as an advisory member or other appropriate relationship on their governing Board.
- Motion: Approved the General Manager's employment contract with a yearly salary of \$121,000 and any general across-the-board cost of living increase granted to management employees.
- Motion: Authorized the General Manager to execute an agreement with PSG Corrosion Engineering, Inc., to provide corrosion engineering services for investigation of existing aqueduct steel pipe for a fee not-to-exceed \$222,000.
- Motion: Authorized the General Manager to acquire the Hughes residence and property (Pipeline 4 Extension, Phase II) for \$255,000.
- Motion: Approved the tunnel alternative for the San Diego River and Mission Flume crossing for the Pipeline 4B, Phase II project.
- Motion: Declared the existing two-axle truck tractor surplus and authorized the General Manager to dispose of it through auction and further authorized the General Manager to award and execute a contract with Inland Kenworth, Inc., for the purchase of one three-axle truck tractor for a total cost of \$69,587.43.
- Motion: Authorized the General Manager to acquire the Skibbe parcel (Pipeline 4 Extension, Phase II) for an amount not-to-exceed \$365,000.

SAN DIEGO COUNTY WATER AUTHORITY

- Motion: Added Director Griffen's leave request to the Board agenda and approved a 90-day leave of absence for Director Griffen.
- Motion: Authorized the General Manager to purchase computer hardware for the Olympic Training Center irrigation system for a fee not to exceed \$35,000.
- Motion: Took a position of support on AB 2112 - Desalination Act of 1992 and the California Safe Drinking Water and Drought Relief Bond Law of 1992.

March 12, 1992

- Resolution: Declared the public interest and necessity for acquisition of property for Pipeline 4 Extension, Phase I near Lake Murray, San Diego and authorized proceedings in eminent domain for the purpose of acquiring real property to be used in connection therewith.
- Motion: Reseated Director Dale Mason, representing the Vallecitos Municipal Water District.
- Resolution: Concurred with the nomination of H. Warren Buckner to the office of Vice President of ACWA/JPIA.
- Motion: Accepted the grant deeds for two parcels needed for the Oceanside Flow Control Facility (FCF) and connecting pipeline for the Oceanside FCF No. 5 project and authorized the General Manager to execute two Certificates of Acceptance.
- Motion: Authorized the General Manager to execute Amendment No. 1, Professional Services Agreement Between SDCWA and Walls Inspection Company for Pipe Plant Fabrication Inspection Services for P5EI, Spec. 332, to the existing agreement with Walls Inspection Company in the amount of \$75,000.
- Motion: Authorized the General Manager to negotiate a final scope of work and execute a contract for Reservoir Program Economic Impact and Reliability Study with Barakat and Chamberlain for an amount not-to-exceed \$68,250.
- Motion: Authorized the staff to negotiate a final scope of work and execute a contract for Reservoir Program Biological Surveys with Pacific Southwest Biological Services, Inc. for an amount not-to-exceed \$385,000.
- Resolution: Adopted Annual Statement of Investment Policy.
- Motion: Deferred a planned \$10 per acre foot increase in water rates for July 1992.
- Motion: Directed staff to evaluate changing the effective date of Authority water rates from a fiscal year basis to a calendar year basis.

MAJOR BOARD ACTIONS

- Motion: Adopted the Disadvantaged Business Enterprise (DBE) Program as submitted, adding the costs of the program to the 1992-93 fiscal year budget and directed staff to establish and present annual goals to the Board for approval by July 31, 1992.
- Motion: Changed the effective appointment date of the Board Officers and Chairmen of Standing Committees to begin January 1, extending the current Board Officers and Committee Chairmen terms until December 31, 1992 and directed staff to prepare the appropriate Administrative Code revisions for Board approval.
- Motion: Approved the Authority's participation in the Memorandum of Understanding (MOU) between City of San Diego, County of San Diego, Metropolitan Transit Development Board (MTDB), San Diego Association of Governments (SANDAG), SDCWA, San Diego Unified Port District and CALTRANS and authorized the General Manager to execute the MOU.
- Resolution: Revised Section 3.4.1, Treasurer, and Section 3.4.3, Repurchase Agreements, to the Authority's Administrative Code.
- Motion: Authorized the submittal of the proposal to MWD for continued funding of the Turf Audit Program.
- Motion: Instructed the General Manager to set a 10% level of conservation as allowed in Authority Ordinance 91-6, and directed the General Manager to work with all member agencies to maintain that level of conservation until further notice.
- Motion: Opposed AB 3214, Property Tax Revenue Allocations: Special Districts and School Districts, Isenberg.
- Motion: Adopted a statement of position re the Central Valley Project Water Management Legislation in lieu of specific positions on S.484, S. 2016 and the "Author's Mark" legislation (Johnston bill).
- Motion: Opposed AB 3111, Polanco, Water Resources Alternatives Policy Act and requested amendments that will ensure that water produced by a qualifying facility is safe, reliable, compatible with local agency needs, and priced consistent with the real incremental cost of alternative supplies.
- Motion: Opposed AB 3522, Polanco, Metropolitan Water District.
- Motion: Opposed AB 3304, Moore, Auditing Metropolitan Water District and San Diego County Water Authority due to its excessive cost, duplication and lack of demonstrated need.
- Resolution: Supported AB 1224, Killea, the San Diego Area Wastewater Management District.

SAN DIEGO COUNTY WATER AUTHORITY

Motion: Officially requested Senator Deddeh to defer SB 1270, Proposed Legislation Subjecting Special Water District Act Agencies to the Public Utilities Act and Regulation by the Public Utilities Commission (PUC).

April 9, 1992

Resolution: Adopted negative declaration for capacity charges.

Ordinance: Established capacity charges for FY 1992-93.

Resolution: Approved the appointment of Christine M. Frahm to fulfill the unexpired term of John P. Starkey as a representative of the San Diego County Water Authority on the Board of Directors of the Metropolitan Water District.

Motion: Authorized the General Manager to execute amendment no. 1 to the existing agreement with Moore & Taber in the amount of \$94,980 for a total not-to-exceed amount of \$544,980.

Motion: Approved the sale of surplus equipment as provided in the Administrative Code and Board resolution.

Motion: Authorized the General Manager to execute agreements for property appraisal services for a total combined not-to-exceed amount of \$176,924 to the following companies for the Pipeline 2A project in Valley Center: Lee C. Johnson Company - \$26,950; Roberts & Roberts Appraisals - \$27,500; Pacific Agri-vest - \$69,300; The Catling Company - \$27,610; and David J. Yerki, Inc. - \$25,564.

Motion: Approved amendment no. 1 to the agreement with Boyle Engineering Corporation for the design of relocation of Pipelines 3 and 4 at state route 52 in the amount of \$20,000.

Motion: Authorized staff to prepare an amendment to the agreement with Boyle Engineering Corporation for construction support services during the bidding and construction phases of the Oceanside No. 5 Flow Control Facility project for a not-to-exceed amount of \$96,775.

Resolution: Fixed the time and place for a public hearing regarding the proposed Water Availability Standby Charge for 1992-93.

Resolution: Authorized bank signatures for commercial account, money market account, savings account, certificates of deposit, investments, custody accounts, payroll account and wiring of funds.

Motion: Approved the Equal Employment Opportunity/Affirmative Action Program as submitted and directed staff to establish annual goals and present them to the board for approval by July 31, 1992.

Resolution: Amended Section 2.1(b) - Nomination Committee and Section 2.1(c) - Executive Officers Term, of the Administrative Code.

MAJOR BOARD ACTIONS

Resolution: Amended Section 16.1 of the Administrative Code to add provisions for temporary service connections.

Motion: Approved staff participation in and appropriate funding in the amount of \$475,000 for the North County Wildlife Forum.

Motion: Approved the Integrated Communications Plan for the period May, 1992 through June, 1993.

Motion: Approved the revised Financial Assistant Program Reimbursement Policy.

Motion: Authorized the General Manager to sign and execute agreements necessary to implement the Public Institutions Conservation Assistance Program.

Motion: Supported AB 3012, Frazee, Master Water Reclamation Permit.

Motion: Supported AB 2732, Kelley, Storage of Reclaimed Water.

Motion: Instructed the General Manager to make all reasonable deliveries re Water Resources Outlook/Revised 1992 Drought Management Plan, but encourage a voluntary 10% level of conservation as allowed in Authority Ordinance 91-6.

Resolution: Adopted the relocation plan for Mrs. Annie J. Bradley for a portion of Pipeline 4 Extension, Phase II right of way and authorized the General Manager to conclude the negotiations with Mrs. Bradley for a total take at the Authority's appraised fair market value of \$225,000.

Motion: Directed staff to negotiate a Memorandum of Understanding and report back to the Board on the feasibility of developing a pilot riding and hiking trail system in the City of San Marcos.

Motion: Authorized settlement re Brouwer (Escondido Pump Station) for a total not-to-exceed \$65,000.

Motion: Approved contract with Carpi & Clay for a not-to-exceed retainer fee of \$76,000 and reasonable and necessary expenses not-to-exceed \$61,000.

Resolution: Amended Section 2.4 of the Administrative Code to revise the time for Board meetings.

Motion: Instructed Legislative Advocate Clay to request that Senator Craven put SB 1461, Olivenhain Municipal Water District, on hold until all member agencies can be notified of the bill.

May 14, 1992

Resolution: Honored John M. Leach upon his retirement from the Board.

Motion: Proclaimed National Public Works Week May 17-23, 1992.

SAN DIEGO COUNTY WATER AUTHORITY

- Resolution: Elected to receive allocation of taxes pursuant to provisions of the Community Redevelopment Law for the Centre City Redevelopment Project.
- Motion: Approved settlement of San Diego County Water Authority vs Kaiser Foundation Hospitals for the sum of \$1,941,904. (Parcel 602, Pipeline 4B, Phase I)
- Resolution: Accepted counter offer from Mr. & Mrs. Green for a total take, fee-simple acquisition for the sum of \$237,500 for P4EII.
- Motion: Authorized the General Manager to execute a purchase order in an amount not-to-exceed \$91,837 to provide sufficient funds to reimburse SDG&E for utility relocation for P4EI Project.
- Motion: Approved Consent Order with Department of Toxic Substances Control and appropriating \$3,000 to fund it for FY 92 (Chatham Brothers).
- Motion: Authorized staff to attend the American Water Works Association National Convention.
- Motion: Authorized the General Manager to ask MWD for matching funding for the Ultra Low Flush Toilet Rebate Program.
- Motion: Authorized the General Manager to sign a \$90,000 agreement with MWD and Mission Resource Conservation District for the Turf Audit Program.
- Motion: Authorized the General Manager to sign a \$57,500 agreement with MWD, U.S. Navy and Black & Veatch for the Commercial/Industrial Audit Program.
- Resolution: Authorized the investment of monies in Local Agency Investment Fund.
- Motion: Accepted the Strategic Plan for SDCWA.
- Motion: Denied appeal of Standard Pacific of San Diego re an Encroachment Permit for fencing and structures not in conformance with Article 25 of the Administrative Code.
- Motion: Authorized the General Manager to execute a professional services agreement with P&D Technologies for environmental services for the Pipeline 5 Extension, Phase II Project for a not-to-exceed amount of \$150,000.
- Motion: Approved Change Order with Kiewit Pacific Co. for realignment of Pipeline 5 Extension, Phase I for a not to exceed amount of \$3.5 million in San Marcos.
- Motion: Directed staff to work with WARAC to establish a position on SB 1461 and a recommended groundwater management strategy for the San Dieguito Basin.

MAJOR BOARD ACTIONS

- Motion: Approved the recommended short list for emergency storage sites (Guejito Valley, Lake Wolhford, Moosa Canyon, Pamo Valley and San Vicente and authorized the General Manager to initiate EIR/EIS on 5 sites for emergency storage.
- Motion: Authorized the General Manager to execute a contract with Katz and Associates, a public affairs consultant, to support the emergency storage project for a not to exceed amount of \$190,000.
- Motion: Authorized the General Manager to execute a contract with Pacific Southwest Biological Services, Inc. and a cost-sharing agreement for habitat quality assessments for Pipeline No. 6 and the mitigation program banking projects with Metropolitan Water District.
- Motion: Directed staff to consider replacement reclamation projects if and when projects are dropped from the City of San Diego's Clean Water Program.

June 11, 1992

- Motion: Opposed SB-1461 (Ayala) re the Metropolitan Water District Act, Section 134-10.
- Resolution: Declared the public interest and necessity for the acquisition of property for Pipeline 4 Extension Phase II, located generally between the Sweetwater and Otay Reservoirs, and authorized proceedings in eminent domain for the purpose of acquiring real property to be used in connection therewith. Parcel No.'s 187-B, 188-B, 188-C, 189-B, 189-C, 191-B, 191-C, 191-D, 191-E, 195-B, 196-B, 197-B, 197-C, 198-B, 198-C, 200-B, 201-B, 201-C, 201-D, 201-E, 202-B, 203-B, 204-B, 204-C, 204-D, 204-E, 205-B-1, and 205-B
- Motion: Authorized the General Manager to enter into a Joint Participation Agreement with the Metropolitan Water District and the Encina Wastewater Authority for development and utilization of reclaimed water.
- Motion: Approved the Authority's participation in the Memorandum of Understanding between SDCWA and the County of San Diego regarding water reclamation and authorized the General Manager to execute the MOU.
- Motion: Authorized the General Manager to enter into an agreement for consultant services with Michael W. Wright as an Environmental Permits Coordinator on the Storage Project for a not-to-exceed amount of \$115,320 for labor and expenses for a period of approximately two years.
- Motion: Authorized the General Manager to execute an agreement with MWD to participate in the Strategic Assessment Study.

SAN DIEGO COUNTY WATER AUTHORITY

- Motion: Supported Assembly Bill 3030, Costa, Groundwater Management.
- Motion: Approved the Authority's Comprehensive Xeriscape Plan.
- Motion: Opposed SB 2070 and 2071, Ayala, Water Standby and Water Availability Charges.
- Motion: Awarded a contract to G. F. Bledsoe Construction for \$224,995 for the Escondido Warehouse Expansion and authorized the General Manager to execute a contract.
- Motion: Authorized the General Manager to execute a Professional Services Agreement with the team of Black and Veatch, Ebasco and EQE to provide engineering consulting services for Storage Alternatives Risk Analysis for an amount not-to-exceed \$250,000.
- Motion: Authorized the General Manager to execute a Professional Services Agreement with UXB International for Pipeline 4B, Phase I, to provide Unexploded Ordnance Locating Services for an amount not-to-exceed \$85,921.16.
- Resolution: Approved the Authority's Budget for Fiscal Year 1992-93.
- Resolution: Revised Section 15.1 (c), Definitions, MWD Charges, to the Authority's Administrative Code.
- Resolution: Revised Section 2.2, Standing Committees, to provide for a Special Budget Committee, of the Authority's Administrative Code.
- Resolution: Adopted position classifications and assigned salary ranges for Fiscal Year 1992-93.

APPENDIX C

SAN DIEGO COUNTY WATER AUTHORITY

FINANCIAL STATEMENTS

*Years ended June 30, 1992 and 1991
with Report of Independent Auditors*

SAN DIEGO COUNTY WATER AUTHORITY

FINANCIAL STATEMENTS

Years ended June 30, 1992 and 1991

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



• Suite 1200 • Phone 619 236 1100
301 West Broadway Fax: 619 239 8189
San Diego, California 92101

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, 1992 and 1991, 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, 1992 and 1991, and the results of its operations and its cash flows for the years then ended in conformity with generally accepted accounting principles.

September 18, 1992

SAN DIEGO COUNTY WATER AUTHORITY

BALANCE SHEETS

| | June 30 | |
|---|-----------------------|-----------------------|
| | 1992 | 1991 |
| Assets | | |
| Current assets: | | |
| Cash and cash equivalents (Note 3) | \$ 30,594,000 | \$ 11,176,000 |
| Short-term investments | 5,173,000 | - |
| Accounts and taxes receivable (Notes 1 and 4) | 30,946,000 | 29,615,000 |
| Inventories | 8,005,000 | 8,414,000 |
| Other current assets | 107,000 | 77,000 |
| Total current assets | <u>74,825,000</u> | <u>49,282,000</u> |
| Restricted cash, cash equivalents and investments (Notes 3 and 4): | | |
| Cash and cash equivalents | - | 5,053,000 |
| Investments | 374,308,000 | 169,156,000 |
| | <u>374,308,000</u> | <u>174,209,000</u> |
| Property, plant and equipment, net (Notes 1, 2 and 7) | 312,886,000 | 183,478,000 |
| Deferred compensation deposit (Note 6) | 2,285,000 | 1,674,000 |
| Other assets (Note 4) | 8,158,000 | 3,603,000 |
| | <u>\$ 772,462,000</u> | <u>\$ 412,246,000</u> |
| Liabilities and Equity | | |
| Current liabilities: | | |
| Accounts payable and accrued liabilities | \$ 64,983,000 | \$ 37,413,000 |
| Current maturities of long-term debt (Note 4) | 8,120,000 | 3,439,000 |
| Total current liabilities | <u>73,103,000</u> | <u>40,852,000</u> |
| Long-term debt (Note 4) | 454,373,000 | 161,576,000 |
| Deferred compensation (Note 6) | 2,285,000 | 1,674,000 |
| Commitments and contingencies (Note 7) | | |
| Equity: | | |
| Contributions in aid of construction | 7,141,000 | 5,464,000 |
| Retained earnings (Note 4): | | |
| Designated | 61,153,000 | 54,153,000 |
| Undesignated | 174,407,000 | 148,527,000 |
| Total equity | <u>242,701,000</u> | <u>208,144,000</u> |
| | <u>\$ 772,462,000</u> | <u>\$ 412,246,000</u> |

See accompanying notes.

SAN DIEGO COUNTY WATER AUTHORITY

STATEMENTS OF REVENUES, EXPENSES AND CHANGES
IN UNDESIGNATED RETAINED EARNINGS

| | June 30 | |
|---|-----------------------|-----------------------|
| | 1992 | 1991 |
| Water sales | \$ 125,282,000 | \$ 122,062,000 |
| Operating expenses: | | |
| Cost of sales | 102,569,000 | 96,713,000 |
| Depreciation and amortization | 4,151,000 | 4,143,000 |
| Operations and maintenance | 3,424,000 | 3,164,000 |
| Planning and reclamation | 3,398,000 | 2,798,000 |
| General and administrative | 4,904,000 | 4,711,000 |
| Total operating expenses | <u>118,446,000</u> | <u>111,529,000</u> |
| Operating income | 6,836,000 | 10,533,000 |
| Other revenues (expenses): | | |
| Property taxes and in-lieu charges | 8,822,000 | 8,200,000 |
| Water availability and capacity charges | 15,180,000 | 16,690,000 |
| Interest expense | (15,753,000) | (8,948,000) |
| Interest income | 17,795,000 | 13,368,000 |
| Total other revenues | <u>26,044,000</u> | <u>29,310,000</u> |
| Net income | 32,880,000 | 39,843,000 |
| Undesignated retained earnings at beginning of year | 148,527,000 | 131,837,000 |
| Transfer to designated retained earnings (Note 4) | (7,000,000) | (23,153,000) |
| Undesignated retained earnings at end of year | <u>\$ 174,407,000</u> | <u>\$ 148,527,000</u> |

See accompanying notes.

SAN DIEGO COUNTY WATER AUTHORITY

STATEMENTS OF CASH FLOWS

| | June 30 | |
|---|----------------------|----------------------|
| | 1992 | 1991 |
| Operating activities | | |
| Net income | \$ 32,880,000 | \$ 39,843,000 |
| Adjustments to reconcile net income to net cash provided by operating activities: | | |
| Depreciation and amortization | 4,151,000 | 4,143,000 |
| Increase in accounts and taxes receivable | (1,331,000) | (7,491,000) |
| (Increase) decrease in inventories | 409,000 | (1,917,000) |
| Increase in other current assets | (30,000) | (2,000) |
| Increase in other assets | (4,799,000) | (96,000) |
| Increase in accounts payable and accrued liabilities and rebatible arbitrage | 28,487,000 | 8,749,000 |
| Net cash provided by operating activities | <u>59,767,000</u> | <u>43,229,000</u> |
| Financing activities | | |
| Purchase of property, plant and equipment | (133,315,000) | (30,560,000) |
| Contributions in aid of construction | 1,677,000 | 248,000 |
| Proceeds from issuance of long-term debt | 300,000,000 | - |
| Principal repayment of debt | (3,439,000) | (3,335,000) |
| Net cash provided by (used for) capital and related financing activities | <u>164,923,000</u> | <u>(33,647,000)</u> |
| Investing activities | | |
| Purchase of investment securities | (210,325,000) | (7,698,000) |
| Increase in cash and cash equivalents | 14,365,000 | 1,884,000 |
| Cash and cash equivalents at beginning of year | 16,229,000 | 14,345,000 |
| Cash and cash equivalents at end of year | <u>\$ 30,594,000</u> | <u>\$ 16,229,000</u> |
| Supplemental cash flow information | | |
| Cash paid during the year for interest | <u>\$ 19,959,000</u> | <u>\$ 11,007,000</u> |

See accompanying notes.

SAN DIEGO COUNTY WATER AUTHORITY

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.

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.

NOTES TO FINANCIAL STATEMENTS (Continued)

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 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 10 and April 10, 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, 1992 and 1991, are in-lieu charges of \$703,000 and \$673,000, 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 - \$13,944,000).

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.

NOTES TO FINANCIAL STATEMENTS (Continued)

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, 1992 and 1991 was \$6,410,000 and \$2,037,000, 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 has implemented two new 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 \$10,515,000 and \$10,673,000 for the years ended June 30, 1992 and 1991, respectively. The Authority also implemented a capacity charge on all new water meters purchased within the boundaries of the Authority, commencing October 1, 1990 generating revenue of \$4,665,000 and \$6,017,000 in fiscal 1992 and 1991, respectively.

Included in restricted cash, cash equivalents and investments at June 30, 1992 and 1991, is approximately \$31,870,000 and \$16,690,000, respectively, related to the water availability standby charge and the capacity charge revenues.

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, 1992 and 1991.

SAN DIEGO COUNTY WATER AUTHORITY

NOTES TO FINANCIAL STATEMENTS (Continued)

2. Property, plant and equipment

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

| | June 30 | |
|-------------------------------|-----------------------|-----------------------|
| | 1992 | 1991 |
| Water systems | \$ 172,774,000 | \$ 154,957,000 |
| Buildings | 4,532,000 | 4,517,000 |
| Automobiles and equipment | 4,271,000 | 3,473,000 |
| Construction in progress | 170,511,000 | 55,826,000 |
| | <u>352,088,000</u> | <u>218,773,000</u> |
| Less accumulated depreciation | 39,202,000 | 35,295,000 |
| | <u>\$ 312,886,000</u> | <u>\$ 183,478,000</u> |

Included in construction in progress at June 30, 1992 and 1991 is \$4,155,000 related to the construction of the Pamo Reservoir Project. The Authority has suspended further work on this project pending completion of a county-wide water storage study and plan. In the opinion of management, the ultimate completion of this study may impact the completion of the Pamo Project or the realization of the costs incurred; however, the effect on the financial statements of the Authority is not expected to be material.

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; repurchase agreements; reverse repurchase agreements; and government money market funds.

SAN DIEGO COUNTY WATER AUTHORITY

NOTES TO FINANCIAL STATEMENTS (Continued)

3. Cash 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, 1992 | | | June 30, 1991 | |
|---|---------------------|-------------|------------------|---------------------|---------------------|
| | Category | | | Total Total | |
| | 1 | 2 | 3 | Cost | Cost |
| U.S. Treasury Securities | \$72,843,000 | \$ — | \$ — | \$72,843,000 | \$59,454,000 |
| Bankers' Acceptances | — | — | 5,927,000 | 5,927,000 | — |
| Certificates of Deposit and Demand Deposits | 6,758,000 | — | — | 6,758,000 | 23,376,000 |
| | <u>\$79,601,000</u> | <u>\$ —</u> | <u>5,927,000</u> | <u>85,528,000</u> | <u>82,830,000</u> |
| Investments in State Treasurer's Investment Pool | | | | 15,000,000 | — |
| Guaranteed Investment Contract Deposits | | | | 307,013,000 | 102,555,000 |
| Money Market Funds | | | | 4,819,000 | 1,674,000 |
| Total cash, cash equivalents and investments | | | | <u>412,360,000</u> | <u>187,059,000</u> |
| Less: | | | | | |
| Restricted cash, cash equivalents and investments | | | | 374,308,000 | 174,209,000 |
| Deferred compensation deposit | | | | 2,285,000 | 1,674,000 |
| Current and unrestricted cash, cash equivalents and investments | | | | <u>\$35,767,000</u> | <u>\$11,176,000</u> |

NOTES TO FINANCIAL STATEMENTS (Continued)

4. Long-term debt

Long-term debt consists of the following:

| | June 30 | |
|--|-----------------------|-----------------------|
| | 1992 | 1991 |
| Water revenue certificates of participation and general obligation bonds, including an arbitrage rebate liability of \$3,376,000 in 1992 and \$2,459,000 in 1991 | \$ 461,476,000 | \$ 163,629,000 |
| U. S. Government contract | 1,017,000 | 1,388,000 |
| Total long-term debt | <u>462,493,000</u> | <u>165,015,000</u> |
| | 8,120,000 | 3,439,000 |
| Less amounts due within one year | <u>\$ 454,373,000</u> | <u>\$ 161,576,000</u> |

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 (hereafter 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 6.3% 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 at June 30, 1992 is \$25,644,000 which represents the required reserve, and \$207,379,000 which represents unexpended proceeds of the certificates.

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 (hereafter at par).

NOTES TO FINANCIAL STATEMENTS (Continued)

4. Long-term debt (continued)

The certificates require 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 and 1991 is \$14,000,000 which represents the required reserve, and \$30,886,000 and \$88,555,000, respectively, which represents unexpended proceeds of the certificates.

On August 13, 1992, the Authority approved the issuance of long-term debt obligations in an aggregate principal amount not to exceed \$165,000,000 for the purpose of refunding the 1989 Water Revenue Certificates of Participation.

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, 1992 and 1991 is \$2,425,000 and \$4,525,000, 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 4.5% to 5.5% 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 3.5% in 1980 to 0.5% in 2002. Included in certificates of participation and general obligation bonds at June 30, 1992 and 1991 is \$15,675,000 and \$16,645,000, 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 2.6% annually.

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 \$345,000 respectively, at June 30, 1992 and \$197,000 and \$543,000, respectively, at June 30, 1991.

NOTES TO FINANCIAL STATEMENTS (Continued)

4. Long-term debt (continued)

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 establishing the rate stabilization fund and 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, 1992 and 1991, the balance in this fund, which is included in restricted cash, cash equivalents and investments, totaled \$61,153,000 and \$54,153,000, respectively and is also reflected as designated retained earnings in the accompanying balance sheet.

For the years ended June 30, 1992 and 1991, the Authority's actual debt service ratio is calculated as follows:

| | June 30 | |
|---|----------------------|----------------------|
| | 1992 | 1991 |
| Net water revenues (as defined) | \$ 48,784,000 | \$ 48,649,000 |
| Transfer to rate stabilization fund | (7,000,000) | (23,153,000) |
| Net water revenues | <u>\$ 41,784,000</u> | <u>\$ 25,496,000</u> |
| Debt service requirements (principal and interest) | <u>\$ 19,699,000</u> | <u>\$ 10,158,000</u> |
| Debt service ratio | <u>212%</u> | <u>251%</u> |

Included in other assets are deferred financing costs of \$6,847,000 and \$1,996,000, net of accumulated amortization, at June 30, 1992 and 1991, respectively. The deferred financing costs are being amortized over the life of the related obligations.

NOTES TO FINANCIAL STATEMENTS (Continued)

4. Long-term debt (continued)

The aggregate principal and interest payments on long-term debt at June 30, 1992 are as follows:

| | Principal Payment | Interest Payment | Total Debt Service |
|------------|-----------------------|-----------------------|-----------------------|
| 1993 | \$ 8,120,000 | \$ 29,692,000 | \$ 37,812,000 |
| 1994 | 9,941,000 | 28,443,000 | 38,384,000 |
| 1995 | 14,507,000 | 28,871,000 | 43,378,000 |
| 1996 | 15,045,000 | 27,223,000 | 42,268,000 |
| 1997 | 15,915,000 | 26,345,000 | 42,260,000 |
| Thereafter | 398,965,000 | 265,561,000 | 664,526,000 |
| | <u>\$ 462,493,000</u> | <u>\$ 406,135,000</u> | <u>\$ 868,628,000</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, 1992 and 1991 is \$5,599,000 and \$4,342,000, respectively. The Authority's total payroll is \$6,115,000 and \$4,626,000 for the years ended June 30, 1992 and 1991, 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.

NOTES TO FINANCIAL STATEMENTS (Continued)

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, 1991, but reflects all Plan amendments adopted through June 30, 1992. 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 \$1,153,000 at June 30, 1991 and is computed as follows:

| | |
|---|---------------------|
| Pension benefit obligation: | |
| Retirees and beneficiaries currently receiving benefits and terminated employees not yet receiving benefits | \$ 4,554,000 |
| Current employees: | |
| Accumulated employee contributions, including allocated investment earnings | 1,855,000 |
| Employer-financed vested | 2,938,000 |
| Employer-financed nonvested | 434,000 |
| Total pension benefit obligation | 9,781,000 |
| Net assets available for benefits at cost (market value is \$9,568,000) | 8,628,000 |
| Unfunded pension obligation | <u>\$ 1,153,000</u> |

During fiscal 1992, PERS changed the non-economic actuarial assumptions resulting in a decrease in the pension benefit obligation of \$298,000. There were no changes in benefit provisions in the current year.

NOTES TO FINANCIAL STATEMENTS (Continued)

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 1992 and 1991 of \$965,000 and \$709,000, respectively, were made in accordance with actuarially determined requirements computed through an actuarial valuation performed as of June 30, 1991 and 1990, respectively. The contributions consisted of \$808,000 and \$608,000 normal costs (14.43% and 14.00% of current covered payroll) and \$157,000 and \$101,000 amortization of the unfunded actuarial accrued liability (2.80% and 2.32% 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) |
|----------------------------|---|----------------------------|-----------------------------|---|------------------------|--|
| | 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) |
| Fiscal year ending June 30 | | | | | | |
| 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 |

SAN DIEGO COUNTY WATER AUTHORITY

NOTES TO FINANCIAL STATEMENTS (Continued)

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 1992, 1991 and 1990, the Authority's contributions to the System, all made in accordance with actuarially determined requirements, were 17.2 percent, 16.3 percent and 17.4 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, 1992 and 1991, assets of the plan totaled \$2,285,000 and \$1,674,000, 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 \$896 million and will be expanded over the next ten years. Included in the Program estimate is \$110 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.