THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

ANNUAL REPORT 2011

By spring 2011, Diamond Valley Lake was nearly full, following record-low levels in fiscal year 2009/10.

THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

ANNUAL REPORT FOR THE FISCAL YEAR

July 1, 2010 to June 30, 2011

LOS ANGELES, CALIFORNIA
2011

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LIST OF ABBREVIATIONS

Abbreviation	Term
AB	Assembly Bill
AF	Acre-feet or acre-foot
AMP	Allen-McColloch Pipeline
BDCP	Bay Delta Conservation Plan
CAP	Central Arizona Project
CEQA	California Environmental Quality Act
CFO	Chief Financial Officer
CIP	Capital Investment Plan
CPP	Community Partnering Program
CRA	Colorado River Aqueduct
CY	Calendar year
DART	Days Away, Restrictions and Transfers
D/DBP	Disinfectants/Disinfection Byproducts
DRIP	Desalination Research and Innovation Partnership
DVL	Diamond Valley Lake
DWR	Department of Water Resources
EHS	Environmental, Health and Safety
EIR	Environmental Impact Report
EPA	Environmental Protection Agency
FERC	Federal Energy Regulatory Commission
FY	Fiscal year
HAA5	Five haloacetic acids
IID	Imperial Irrigation District
IRP	Integrated Water Resources Plan
LRP	Local Resources Program
MAF	Million acre-feet
MCL	Maximum Contaminant Level
MIB	Methylisoborneol
MOU	Memorandum of Understanding
NDEP	Nevada Division of Environmental Protection
NDMA	N-Nitrosodimethylamine
NEPA	National Environmental Policy Act
O&M	Operations & Maintenance

LIST OF ABBREVIATIONS

Abbreviation	Term
OEHHA	Office of Environmental Health Hazard Assessment
ORP	Oxidation Retrofit Program
OSHA	Occupational Safety and Health Administration
PERB	Public Employment Relations Board
PCCP	Pre-stressed concrete cylinder pipe
PHG	Public Health Goal
PPCP	Pharmaceuticals and Personal Care Products
QSA	Quantification Settlement Agreement
R&R	Replacement and Refurbishment
RAA	Running Annual Average
RUWMP	Regional Urban Water Management Plan
SDCWA	San Diego County Water Authority
SNWA	Southern Nevada Water Authority
SWC	State Water Contractors
SWP	State Water Project
SWRCB	State Water Resources Control Board
T&O	Taste and odor
TDS	Total dissolved solids
TOC	Total organic carbon
TTHM	Total trihalomethane
WRM	Water Resource Management
WSAP	Water Supply Allocation Plan
WSO	Water System Operations

A welder works at a Metropolitan machine shop.

Board of Directors meeting in June 2011, presided over by Chairman John V. Foley.

About Metropolitan

The Metropolitan Water District of Southern California is a regional wholesaler that delivers water to 26 member public agencies serving 19 million people living in Los Angeles, Orange, Riverside, San Bernardino, San Diego and Ventura counties.

Metropolitan is governed by a 37-member board of directors representing the 26 member agencies consisting of 14 cities, 11 municipal water districts and one county water authority, which collectively serve the residents and businesses of more than 300 cities and numerous unincorporated communities.

Metropolitan directors are selected by their respective member agencies and may serve on the board of that particular member agency. It is a diverse group drawn from a variety of sectors, including business, government, academia, engineering and agriculture. The board operates under a weighted voting system, with voting share determined by assessed property valuation.

The mission of Metropolitan is to provide its 5,200-square-mile service area with adequate and reliable supplies of high-quality water to meet present and future needs in an environmentally and economically responsible way.

To supply Southern California with reliable and safe water, Metropolitan owns and operates an extensive range of capital facilities including the Colorado River Aqueduct, 16 hydroelectric facilities, nine reservoirs, nearly 1,000 miles of large-scale pipes and five water treatment plants. Four of these treatment plants are among the 10 largest plants in the world. In fact, Metropolitan is the largest distributor of treated drinking water in the United States.

The district imports water from the Colorado River and Northern California to supplement local supplies, and helps its member agencies develop increased water conservation, recycling, storage and other local resource programs.

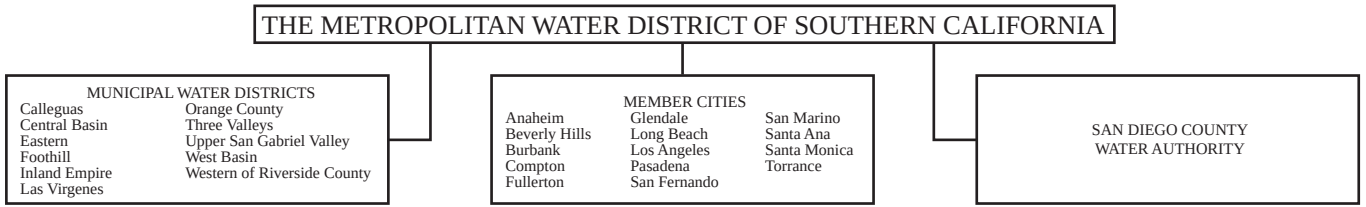
Metropolitan was established in 1928 under an act of the state Legislature to construct and operate the 242-mile Colorado River Aqueduct, which runs from an intake at Lake Havasu on the California-Arizona border, to an endpoint at Metropolitan's Lake Mathews reservoir in Riverside County.

When Metropolitan began delivering water, its service area consisted of approximately 625 square miles. Its service area has increased by 4,575 square miles since that time. The expansion is primarily the result of annexation of the service areas of member agencies.

In 1960, Metropolitan, along with 30 other public agencies, signed a long-term contract that made possible the construction of the State Water Project's 444-mile California Aqueduct, which currently serves urban and agricultural agencies from the San Francisco Bay Area to Southern California. As the largest of the now-29 contractors, Metropolitan contracts with the state Department of Water Resources, which operates the SWP, for slightly less than half of all State Water Project supplies.

Water supplies from the State Water Project travel to Southern California via the California Aqueduct. Metropolitan also has groundwater banking partnerships and water transfer arrangements that secure additional supplies, and provides financial incentives to its member agencies for local investments in water management projects and programs. An increasing percentage of Southern California's water supply comes from these local resources, including: conservation, water recycling and recovered groundwater.

Metropolitan's Board of Directors typically meets on the second Tuesday of each month. Board committee meetings usually occur on the Monday preceding the board meeting, and the second and fourth Tuesday of the month. Board and committee meetings are open to the public and are broadcast on the Internet through Metropolitan's Web site, www.mwdh2o.com. A schedule of board and committee meetings is available on the Web.



Calleguas MWD
Berylwood Heights Mutual Water
Brandeis Mutual
Butler Ranch
California American Water Company
California Water Service Company
Camarillo
Camrosa Water District
Crestview Mutual Water Company
Golden State Water Company
Lake Sherwood Community Services District
Oak Park Water Service
Oxnard
Pleasant Valley Mutual Water Company
Simi Valley
Solano Verde Mutual Water Company
Thousand Oaks
Ventura Co. Water Works Dist. (Nos.1 and 19)
Zone Mutual Water Company

Central Basin MWD
Bell Gardens
Bellflower-Somerset Mutual Water Co.
California Water Service Company
Cerritos
Commerce
Downey
Golden State Water Company
Huntington Park
La Habra Heights County Water District
Lakewood
L.A. County Rancho Los Amigos
Lynwood
Maywood Mutual Water Co. Nos. 1, 2 and 3
Montebello
Norwalk
Orchard Dale Water District
Paramount
Park Water Company
San Gabriel Valley Water Company
Santa Fe Springs
Signal Hill
South Gate
Suburban Water Systems
Vernon
Walnut Park Mutual Water Company
Water Replenishment District of So. Cal.

Eastern MWD
Hemet
Lake Hemet Municipal Water District
Nuevo Water Company
Perris
Rancho California Water District
San Jacinto

Foothill MWD
Crescenta Valley Water District
La Canada Irrigation District
Las Flores Water Company
Lincoln Avenue Water Company
Mesa Crest Water Company
Rubio Canon Land & Water Assoc.
Valley Water Company

Inland Empire Utilities Agency
Chino
Chino Hills
Cucamonga Valley Water District
Fontana Water Company
Monte Vista Water District
Ontario
San Antonio Water Company
Upland
Water Facilities Authority

MWD of Orange County
Brea
Buena Park
East Orange County Water District
El Toro Water District
Emerald Bay Service District
Fountain Valley
Garden Grove
Golden State Water Company
Huntington Beach
Irvine Ranch Water District
La Habra
La Palma
Laguna Beach County Water Dist.
Mesa Consolidated Water District
Moulton Niguel Water District
Newport Beach
Orange
Orange County Water District
San Clemente
San Juan Capistrano
Santa Margarita Water District
Seal Beach
Serrano Water District
South Coast Water District
Trabuco Canyon Water District
Tustin
Westminster
Yorba Linda Water District

San Diego County Water Authority
Carlsbad Municipal Water District
Del Mar
Escondido
Fallbrook Public Utility District
Helix Water District
Lakeside Water District
National City
Oceanside
Olivenhain Municipal Water District
Otay Water District
Padre Dam Municipal Water District
Camp Pendleton Marine Corps Base
Poway
Rainbow Municipal Water District
Ramona Municipal Water District
Rincon del Diablo Municipal Water District
San Diego
San Dieguito Water District
Santa Fe Irrigation District
Sweetwater Authority
Vallecitos Water District
Valley Center Municipal Water District
Vista Irrigation District
Yuima Municipal Water District

Three Valleys MWD
Boy Scouts of America, Firestone Ranch Reserv.
Cal Poly Pomona
Covina
Covina Irrigating Company
Glendora
Golden State Water Co. (San Dimas & Claremont)
La Verne
Mt. San Antonio College
Pomona
Rowland Water District
Suburban Water Systems
Valencia Heights Water Company
Walnut Valley Water District

Upper San Gabriel Valley MWD
Arcadia
Azusa
Monrovia
Main San Gabriel Basin Watermaster/Alhambra
Golden State Water Company
South Pasadena
Suburban Water Systems
Valley County Water District

West Basin MWD
California American Water Co. (L.A. Division)
California Water Service Company
Golden State Water Company
El Segundo
Inglewood
Lomita
Los Angeles County Waterworks District #29
Manhattan Beach
Water Replenishment Dist. of Southern California

Western MWD of Riverside County
Box Springs Mutual Water Company
Corona
Eagle Valley Mutual Water Company
Elsinore Valley MWD
Lee Lake Water District
Norco
Rancho California Water District
Riverside

Contracting Agencies
Alhambra
Arvin Edison
Azusa
Chiriaco Summit Water District
Coachella Valley Water District
Desert Water Agency
Monterey Park
San Gabriel Basin Water Quality Authority
San Gabriel Valley Municipal Water District
Sierra Madre
Western Water Company

Figure 1. Composition of The Metropolitan Water District of Southern California

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JUNE 30, 2011

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Municipal Water
District of Orange County

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West Basin Municipal
Water District

Vice Chair
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Los Angeles

Vice Chair
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Eastern Municipal
Water District

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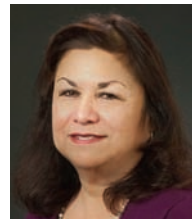
John T. Morris
San Marino

DIRECTORS
JUNE 30, 2011

Judy Abdo
Santa Monica

Linda Ackerman
Municipal Water District of Orange County



Sylvia Ballin
San Fernando

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Municipal Water District of Orange County

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JUNE 30, 2011

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Los Angeles

Laura Friedman
Glendale

Ted Grandsen
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Santa Ana

Aaron A. Grunfeld
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Keith Lewinger
San Diego County Water Authority

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Long Beach

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Glen D. Peterson
Las Virgenes Municipal Water District

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Los Angeles

Diana Sanchez
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July 1, 2010 to June 30, 2011

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Note:
This list includes all officers and members who served on the board at any time during the fiscal year.

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June 30, 2011

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Kristine Murray
Randy A. Record

ORGANIZATION, PERSONNEL AND TECHNOLOGY

John W. Murray Jr., Chair
James T. Edwards, Vice Chair
Sylvia Ballin
James D. Bowersox
Larry D. Dick
Thomas P. Evans
Laura Friedman
Gloria Gray
Edward C. Little
Rudy C. Montalvo
Jesús E. Quiñonez
Diana Sanchez
Robert Wunderlich

WATER PLANNING AND STEWARDSHIP

David D. De Jesus, Chair
Bill D. Wright, Vice Chair
Linda Ackerman
Timothy F. Brick
Glenn A. Brown
Larry D. Dick
James T. Edwards
David W. Fleming
Gloria Gray
Daniel E. Griset
Keith Lewinger
Suja Lowenthal
John T. Morris
Kristine Murray
Glen D. Peterson
Jesús E. Quiñonez
Randy A. Record
Fern Steiner

HISTORICAL
ROLL OF DIRECTORS
June 30, 2011

ANAHEIM

A. W. Franzen .....March 1, 1929 to April 11, 1930
O. E. Steward.....April 18, 1930 to April 12, 1935
E. P. Hapgood.....May 3, 1935 to June 14, 1960
Charles A. Pearson .....July 12, 1960 to May 8, 1972
Keith A. Murdoch.....June 13, 1972 to May 29, 1979
Joseph C. Truxaw.....August 17, 1979 to November 20, 1990
Bob Kazarian.....November 20, 1990 to July 12, 1994
Edward G. Alario .....November 8, 1994 to April 14, 1998
S. Dale Stanton.....April 14, 1998 to July 8, 2004
Tom Tait.....July 8, 2004 to December 13, 2005
Marcie L. Edwards .....December 13, 2005 to August 18, 2009
KRISTINE L. MURRAY.....August 18, 2009 to

BEVERLY HILLS

Paul E. Schwab.....March 1, 1929 to June 19, 1931
George R. Barker.....June 19, 1931 to August 2, 1935
Arthur Taylor.....August 2, 1935 to August 2, 1951
Floyd E. Fischer .....August 17, 1951 to December 2, 1977
Ellen Stern Harris .....January 10, 1978 to March 10, 1981
Nicholas H. Cominos.....March 10, 1981 to September 1, 1984
Mel Odom.....January 11, 1983 to February 14, 1984
Ina S. Roth.....February 14, 1984 to February 11, 1992
Dan Webster.....March 10, 1992 to September 8, 1999
Betty H. Harris .....September 8, 1999 to June 14, 2007
ROBERT WUNDERLICH .....July 6, 2007 to

BURBANK

Harvey E. Bruce .....March 1, 1929 to February 11, 1933
James L. Norwood.....March 10, 1933 to April 30, 1943
May 9, 1947 to October 13, 1953
Frank C. Tillson.....May 14, 1943 to May 9, 1947
Walter H. Long.....October 13, 1953 to June 13, 1961
Earle C. Blais.....June 13, 1961 to June 11, 1985
Michael A. Nolan .....June 11, 1985 to July 9, 1991
Larry L. Stamper .....July 9, 1991 to June 6, 1995
Thomas H. McCauley.....June 6, 1995 to December 16, 1998

Fred Lantz ..... January 12, 1999 to March 9, 1999
George E. Battey Jr. ..... March 9, 1999 to December 10, 2001
GLENN A. BROWN ..... December 10, 2001 to

CALLEGUAS MUNICIPAL WATER DISTRICT

Richard Bard ..... January 10, 1961 to August 22, 1969
Carl E. Ward ..... September 16, 1969 to February 9, 1993
Vincent M. Hardy ..... October 14, 1980 to June 30, 1990
Patrick H. Miller ..... August 21, 1990 to February 1, 1999
Jeffrey A. Borenstein ..... April 7, 1999 to December 31, 2000
TED GRANDSEN ..... February 9, 1993 to

CENTRAL BASIN MUNICIPAL WATER DISTRICT

Milo Dellmann ..... November 23, 1954 to November 23, 1983
Claire S. Thompson ..... November 23, 1954 to November 30, 1959
Frank H. Wheelock ..... November 23, 1954 to April 10, 1973
Victor H. York ..... November 23, 1954 to November 30, 1963
E. Thornton Ibbetson ..... December 8, 1959 to January 12, 1998
William H. Kent ..... October 10, 1961 to April 7, 1977
Carl Fossette ..... March 13, 1973 to May 30, 1986
Douglas W. Ferguson ..... June 14, 1977 to August 11, 1993
Leonis C. Malburg ..... July 8, 1986 to May 8, 1995
Gary A. Morse ..... August 11, 1993 to February 10, 1997
January 5, 1999 to June 6, 2003
Jorge G. Castro ..... February 10, 1997 to March 9, 1999
Phillip J. Pace ..... May 8, 1995 to January 8, 2008
Richard F. Mayér ..... January 12, 1998 to January 5, 1999
Charles M. Treviño ..... March 9, 1999 to December 31, 2000
Robert Apodaca ..... June 6, 2003 to August 18, 2009
PHILLIP D. HAWKINS ..... January 8, 2008 to
Edward C. Vasquez ..... August 18, 2009 to July 13, 2010
RUDY C. MONTALVO ..... July 13, 2010 to

COASTAL MUNICIPAL WATER DISTRICT
(absorbed into MWDOC in 2001)

C. C. Cravath ..... August 14, 1942 to January 22, 1957
Lynndon L. Aufdenkamp ..... January 22, 1957 to February 12, 1991
James E. O'Connor ..... December 7, 1976 to July 1, 1979

John Killefer.....January 12, 1982 to September 9, 1993
Wayne T. McMurray.....February 12, 1991 to December 31, 2000
Donald C. Simpson.....October 7, 1996 to December 9, 1996
Langdon W. Owen.....December 9, 1996 to January 17, 2001

COMPTON

C. A. Dickison.....July 17, 1931 to January 20, 1933
William H. Foster.....January 20, 1933 to June 28, 1935
Warren W. Butler.....June 28, 1935 to January 24, 1980
Regina Murph.....March 11, 1980 to March 25, 2003
Kenneth M. Orduna.....April 8, 2003 to January 14, 2004
Isadore Hall III.....February 9, 2004 to April 13, 2009
Yvonne Arceneaux.....April 13, 2009 to September 14, 2010
DIANA SANCHEZ.....September 14, 2010 to

EASTERN MUNICIPAL WATER DISTRICT

Irwin E. Farrar.....August 31, 1951 to March 1, 1982
Doyle F. Boen.....March 9, 1982 to October 11, 1994
Chester C. Gilbert.....October 11, 1994 to June 1, 1999
Clayton A. Record Jr.....June 1, 1999 to January 9, 2001
Marion V. Ashley.....January 9, 2001 to January 6, 2003
RANDY A. RECORD.....January 14, 2003 to

FOOTHILL MUNICIPAL WATER DISTRICT

Nelson Hayward.....February 8, 1955 to July 4, 1959
Conrad R. Fanton.....November 10, 1959 to November 2, 1964
A. B. Smedley.....April 13, 1965 to August 1, 1990
Brooks T. Morris.....September 11, 1990 to November 27, 1991
William T. O'Neil.....January 14, 1992 to May 10, 1999
JAMES T. EDWARDS.....May 10, 1999 to

FULLERTON

Walter Humphreys.....April 10, 1931 to January 19, 1945
H. H. Kohlenberger.....July 27, 1945 to March 7, 1959
Hubert C. Ferry.....February 23, 1960 to February 8, 1983
Norman L. De Vilbiss.....February 8, 1983 to April 12, 1988
JAMES H. BLAKE.....August 23, 1988 to

GLENDALE

W. Turney Fox ..... March 1, 1929 to November 27, 1931
Samuel G. McClure ..... November 27, 1931 to January 13, 1933
Frank P. Taggart ..... January 13, 1933 to August 31, 1934
Bernard C. Brennan ..... August 31, 1934 to April 23, 1937
Herman Nelson ..... June 4, 1937 to August 27, 1954
Paul L. Burkhard ..... September 28, 1954 to June 10, 1958
Normal C. Hayhurst ..... June 10, 1958 to June 9, 1970
Lauren W. Grayson ..... June 9, 1970 to May 21, 1972
William H. Fell ..... June 13, 1972 to July 13, 1976
C. E. Perkins ..... July 13, 1976 to July 13, 1988
James M. Rez ..... August 23, 1988 to March 9, 2009
Peter Kavounas ..... March 9, 2009 to December 8, 2009
LAURA FRIEDMAN ..... December 8, 2009 to

INLAND EMPIRE UTILITIES AGENCY
(formerly Chino Basin MWD)

A. C. Reynolds ..... February 12, 1952 to March 12, 1963
Ray W. Ferguson ..... March 12, 1963 to December 31, 1980
Carl B. Masingale ..... March 10, 1981 to August 9, 1984
John G. Gilday ..... September 11, 1984 to February 15, 1985
Edward A. Girard ..... March 12, 1985 to May 31, 1990
Anne W. Dunihue ..... September 20, 1988 to February 11, 1992
Bill M. Hill ..... August 21, 1990 to February 9, 1999
Dwight F. French ..... February 11, 1992 to August 18, 1994
Wyatt L. Troxel ..... August 19, 1994 to November 14, 2003
Gene Koopman ..... February 9, 1999 to December 31, 2000
November 14, 2003 to February 10, 2009
Angel Santiago ..... February 10, 2009 to February 3, 2011
MICHAEL CAMACHO ..... February 3, 2011 to

LAS VIRGENES MUNICIPAL WATER DISTRICT

Earle Brookins ..... December 13, 1960 to March 26, 1963
A. Myron McBride ..... March 26, 1963 to May 11, 1965
A. Macneil Stelle ..... June 8, 1965 to October 23, 1967
March 11, 1975 to February 9, 1993
Whitney P. Reeve ..... December 19, 1967 to March 11, 1975
GLEN D. PETERSON ..... February 9, 1993 to

LONG BEACH

Nowland M. Reid .....April 10, 1931 to January 27, 1933
W. M. Cook .....January 27, 1933 to April 30, 1943
Gus A. Walker .....April 30, 1943 to December 31, 1976
Lloyd C. Leedom .....May 9, 1947 to June 30, 1979
Samuel C. Rue .....October 9, 1979 to March 12, 1985
Ida Frances Lowry .....March 12, 1985 to February 9, 1993
Henry J. Meyer .....February 9, 1993 to August 19, 1997
Helen Z. Hansen .....August 19, 1997 to May 13, 2008
SUJA LOWENTHAL .....May 13, 2008 to

LOS ANGELES

John R. Haynes .....March 1, 1929 to February 4, 1930
John R. Richards .....March 1, 1929 to October 28, 1947
W. P. Whitsett .....March 1, 1929 to January 10, 1947
John G. Bullock .....November 1, 1929 to September 15, 1933
O. T. Johnson Jr. .....November 5, 1929 to August 29, 1930
W. L. Honnold .....February 28, 1930 to July 21, 1933
J. Eisner .....August 29, 1930 to July 2, 1937
Walter A. Ham .....January 20, 1933 to January 4, 1935
D. W. Pontius .....January 20, 1933 to September 3, 1955
Perry H. Greer .....July 21, 1933 to August 14, 1950
V. H. Rossetti .....October 13, 1933 to November 19, 1960
Otto J. Emme .....January 11, 1935 to October 22, 1947
Louis S. Nordlinger .....August 13, 1937 to June 8, 1940
Joseph Jensen .....August 16, 1940 to February 3, 1944
March 8, 1946 to July 8, 1974
Ransom W. Chase .....March 14, 1947 to February 11, 1975
Gordon B. Crary .....March 14, 1947 to November 8, 1959
Howard D. Mills .....March 14, 1947 to March 17, 1965
W. R. Fawcett .....May 13, 1952 to November 27, 1953
Luther C. Anderson .....January 12, 1954 to February 11, 1975
Noah Dietrich .....November 8, 1955 to November 23, 1970
Ferdinand Mendenhall .....July 29, 1958 to October 8, 1974
Ben P. Griffith .....August 9, 1960 to June 7, 1961
Pietro Di Carlo .....February 14, 1961 to November 7, 1967
William S. Peterson .....February 14, 1961 to August 10, 1979
Aubrey E. Austin Jr. .....February 28, 1961 to May 13, 1975

Albert F. Bush	November 14, 1961 to February 11, 1975
John W. Luhring	January 16, 1962 to August 8, 1967
Joseph M. Quinn	May 14, 1968 to September 18, 1973
B. Walter Hicks	May 8, 1973 to August 20, 1974
Samuel B. Nelson	September 18, 1973 to October 9, 1984
Katherine B. Dunlap	August 20, 1974 to September 11, 1984
Jerry Godell	October 8, 1974 to October 9, 1984
Edward L. Kussman	October 8, 1974 to November 8, 1993
Herman Leavitt	February 11, 1975 to August 19, 1975
Yolanda M. Nava	February 11, 1975 to September 14, 1976
S. Dell Scott	February 11, 1975 to October 12, 1993
Willie J. Stennis	May 13, 1975 to December 31, 1978
Mladin Zarubica	August 19, 1975 to March 16, 1981
Soledad S. Garcia	September 14, 1976 to September 11, 1984
Mark Lainer	November 13, 1979 to February 12, 1991
Mark Nathanson	April 14, 1981 to September 11, 1984
Michael Glazer	September 11, 1984 to April 9, 1991
Helen Romero Shaw	September 11, 1984 to November 8, 1993
Marilyn L. Garcia	October 9, 1984 to February 9, 1993
Rachel Levin	October 9, 1984 to April 4, 1989
Frank S. Wyle	October 9, 1984 to August 1, 1991
Robert Abernethy	April 4, 1989 to October 13, 1992
	February 9, 1993 to November 8, 1993
Vernon R. Watkins	February 12, 1991 to August 20, 1992
Alf W. Brandt	April 9, 1991 to February 13, 1996
Michael J. Gage	August 1, 1991 to September 21, 1993
Carolyn L. Green	August 20, 1992 to December 31, 1995
	April 30, 1996 to May 16, 1997
William G. Luddy	October 13, 1992 to May 10, 2005
George Wein	October 12, 1992 to August 20, 2002
David Y. Handelman	November 8, 1993 to November 14, 1995
Kenneth T. Lombard	November 8, 1993 to April 11, 1995
Katherine W. Moret	November 8, 1993 to December 31, 2000
Christopher C. Pak	November 8, 1993 to December 19, 1995
Bonny L. Herman	April 11, 1995 to April 12, 2004
Larry J. Kosmont	February 13, 1996 to December 31, 2000
Aaron E. Michaelsen	February 13, 1996 to January 13, 1997
L. Michael Russell	June 11, 1996 to January 12, 1998
S. David Freeman	January 12, 1998 to December 31, 2000
Ronald R. Gastelum	January 12, 1998 to November 10, 1998

Jorge G. Castro .....June 7, 1999 to October 7, 2003
Deborah Dentler .....August 20, 2002 to January 6, 2006
David Farrar .....October 7, 2003 to January 6, 2006
Robert B. Simonds .....April 12, 2004 to January 6, 2006
Ronald F. Deaton.....May 10, 2005 to January 6, 2006
AARON A. GRUNFELD.....January 6, 2006 to
JOHN W. MURRAY JR. .....January 6, 2006 to
JESÚS E. QUIÑONEZ.....January 6, 2006 to
Nancy Sutley .....January 6, 2006 to May 12, 2009
DAVID W. FLEMING.....May 12, 2009 to

MUNICIPAL WATER DISTRICT OF ORANGE COUNTY

Glenn P. Allen .....December 11, 1951 to December 17, 1986
W. B. Hellis.....August 19, 1955 to February 9, 1975
William J. Teague.....February 11, 1969 to October 10, 1972
Robert R. Dowling .....September 14, 1971 to May 11, 1976
Doyle Miller .....October 10, 1972 to October 31, 1987
Carl J. Kymla.....October 9, 1973 to October 20, 1993
Philip J. Reilly .....December 9, 1975 to December 8, 1978
Gerald E. Price .....May 11, 1976 to December 31, 1988
M. Roy Knauft Jr.....September 13, 1977 to January 12, 1993
Kenneth H. Witt .....October 13, 1981 to December 31, 2000
William F. Davenport.....January 13, 1987 to February 14, 1995
JOHN V. FOLEY .....August 22, 1989 to
Wesley M. Bannister .....January 12, 1993 to October 31, 2006
Jerry A. King .....January 11, 1994 to July 21, 1999
Robert J. Huntley.....February 14, 1995 to October 31, 1999
Peer A. Swan .....August 31, 1999 to June 30, 2002
Ed Royce Sr.....February 7, 2000 to December 31, 2000
Langdon W. Owen.....January 17, 2001 to April 24, 2003
Ergun Bakall.....July 1, 2002 to December 8, 2009
LARRY D. DICK.....August 12, 2003 to
Steve Anderson.....January 30, 2007 to January 16, 2008
LINDA ACKERMAN.....April 8, 2008 to
BRETT R. BARBRE.....December 8, 2009 to

PASADENA

Franklin Thomas ..... March 1, 1929 to August 27, 1952
Morris S. Jones ..... September 16, 1952 to October 10, 1961
Robert B. Diemer ..... January 16, 1962 to October 27, 1966
Don C. McMillan ..... January 10, 1967 to October 26, 1975
Karl A. Johnson ..... December 9, 1975 to April 11, 1980
Martin Goldsmith ..... July 8, 1980 to June 11, 1985
TIMOTHY F. BRICK ..... June 11, 1985 to

SAN DIEGO COUNTY WATER AUTHORITY

Fred A. Heilbron ..... January 10, 1947 to February 14, 1973
J. L. Burkholder ..... January 24, 1947 to April 6, 1953
Richard S. Holmgren ..... August 11, 1953 to February 19, 1963
J. William Fisher ..... April 12, 1955 to October 11, 1955
Hans H. Doe ..... August 20, 1959 to October 20, 1986
Paul Beermann ..... February 19, 1963 to July 9, 1963
Harry Griffen ..... February 19, 1963 to October 13, 1997
George R. Henderson ..... August 13, 1963 to November 29, 1964
Ralph E. Graham ..... September 14, 1971 to January 14, 1975
August 17, 1979 to June 28, 1982
Raymond E. Badger ..... September 18, 1973 to May 14, 1979
Lloyd L. Lee ..... November 20, 1973 to December 31, 1980
John M. Cranston ..... January 14, 1975 to December 31, 1986
John P. Starkey ..... January 13, 1981 to March 12, 1992
Michael D. Madigan ..... August 18, 1982 to October 13, 1992
Francesca M. Krauel ..... November 8, 1983 to August 20, 2001
John F. Hennigar ..... November 18, 1986 to October 31, 1989
Dale Mason ..... January 13, 1987 to February 8, 1999
Herbert H. Stickney ..... November 14, 1989 to April 13, 1993
Christine M. Frahm ..... April 14, 1992 to March 12, 1999
John M. Leach ..... October 13, 1992 to October 25, 1993
Joseph Parker ..... April 13, 1993 to January 11, 1999
June 7, 1999 to February 10, 2009
Mark W. Watton ..... December 13, 1993 to January 12, 1998
February 8, 1999 to May 14, 2001
Gordon W. Tinker ..... October 12, 1997 to December 31, 2000
Claude A. “Bud” Lewis ..... January 12, 1998 to December 7, 2006

James F. Turner .....January 11, 1999 to December 31, 2000
February 10, 2003 to August 17, 2004
Harold W. Ball .....May 14, 2001 to February 10, 2003
George I. Loveland.....October 15, 2001 to November 1, 2006
W.D. “Bud” Pocklington.....August 17, 2004 to December 14, 2010
James H. “Jim” Bond .....November 1, 2006 to February 10, 2009
James M. Barrett.....December 7, 2006 to July 12, 2010
KEITH LEWINGER .....February 10, 2009 to
FERN STEINER .....February 10, 2009 to
LYNNE L. HEIDEL.....July 12, 2010 to
JAMES D. BOWERSOX .....December 14, 2010 to

SAN FERNANDO

Neville R. Lewis.....December 14, 1971 to August 21, 1984
Pat J. Modugno.....August 21, 1984 to August 8, 1986
Doude Wysbeek .....December 9, 1986 to June 10, 1997
Sergio Rascon.....June 10, 1997 to July 7, 2000
Hugo C. Mejia .....July 7, 2000 to November 8, 2004
Steven Veres.....November 8, 2004 to September 5, 2007
SYLVIA BALLIN.....September 5, 2007 to

SAN MARINO

Harry L. Heffner.....March 1, 1929 to September 29, 1933
John H. Ramboz .....September 29, 1933 to November 18, 1960
Howard A. Miller .....January 10, 1961 to April 26, 1975
Preston Hotchkis.....June 10, 1975 to September 10, 1986
Preston B. Hotchkis.....March 10, 1987 to March 13, 1990
JOHN T. MORRIS .....March 13, 1990 to

SANTA ANA

S.H. Finley.....March 1, 1929 to April 10, 1942
A. H. Allen .....April 10, 1942 to December 10, 1968
Howard W. Crooke.....December 10, 1968 to September 1, 1977
John Garthe.....November 8, 1977 to July 9, 1991
Daniel H. Young.....July 9, 1991 to December 31, 1993
Lee Harry.....February 8, 1994 to April 8, 1997
Thom Coughran.....April 8, 1997 to February 3, 2005
DANIEL E. GRISET.....February 3, 2005 to

SANTA MONICA

George H. Hutton..... March 1, 1929 to January 16, 1931
Arthur A. Weber ..... January 16, 1931 to October 12, 1934
William H. Carter ..... February 15, 1935 to March 13, 1936
Edmond S. Gillette..... June 12, 1936 to January 8, 1937
Arthur P. Creel..... January 8, 1937 to March 3, 1941
Samuel G. McClure ..... March 21, 1941 to November 14, 1947
Samuel J. Crawford..... December 5, 1947 to September 15, 1959
Mark T. Gates ..... January 12, 1960 to July 12, 1972
Francis A. Goplen ..... August 18, 1972 to December 9, 1980
Robert Gottlieb ..... December 9, 1980 to December 8, 1987
Christine E. Reed ..... March 8, 1988 to April 24, 1996
JUDY ABDO..... June 11, 1996 to

THREE VALLEYS MUNICIPAL WATER DISTRICT

Hugh W. Stiles..... December 8, 1950 to December 31, 1961
Arthur H. Cox ..... January 16, 1962 to April 16, 1974
William C. Leech..... April 16, 1974 to February 9, 1982
William H. Koch..... February 9, 1982 to February 12, 1985
Mel Harper..... February 12, 1985 to February 18, 1986
Richard W. Hansen ..... June 10, 1986 to August 20, 1991
Bruce R. J. Milne ..... August 20, 1991 to February 10, 1997
Henry S. Barbosa ..... February 10, 1997 to February 20, 2002
DAVID D. DE JESUS ..... March 8, 2002 to

TORRANCE

John Dennis..... March 17, 1931 to April 14, 1933
J. R. Jensen..... April 14, 1933 to December 31, 1933
Charles T. Rippy ..... January 19, 1934 to August 8, 1950
George W. Stevens..... September 22, 1950 to June 13, 1961
George A. Bradford ..... June 13, 1961 to October 13, 1964
George Vico..... November 17, 1964 to August 13, 1968
Ben Haggott ..... August 13, 1968 to November 14, 1982
Marvin Brewer..... March 8, 1983 to November 27, 1993
BILL D. WRIGHT..... March 8, 1994 to

UPPER SAN GABRIEL VALLEY MUNICIPAL WATER DISTRICT

J. Ercel Cleminson	April 9, 1963 to January 30, 1964
Howard H. Hawkins	April 9, 1963 to December 31, 1989
	February 9, 1993 to March 4, 1997
Frank E. Vachon	March 10, 1964 to March 10, 1970
Robert T. Radford	March 10, 1970 to December 31, 1970
Travis L. Manning	January 12, 1971 to December 31, 1978
Burton E. Jones	January 9, 1979 to February 9, 1993
John E. Maulding	January 9, 1990 to February 9, 1993
ANTHONY R. FELLOW	February 9, 1993 to February 10, 2009
	February 9, 2010 to
Frank F. Forbes	March 4, 1997 to December 31, 2000
R. William "Bill" Robinson	February 10, 2009 to February 9, 2010

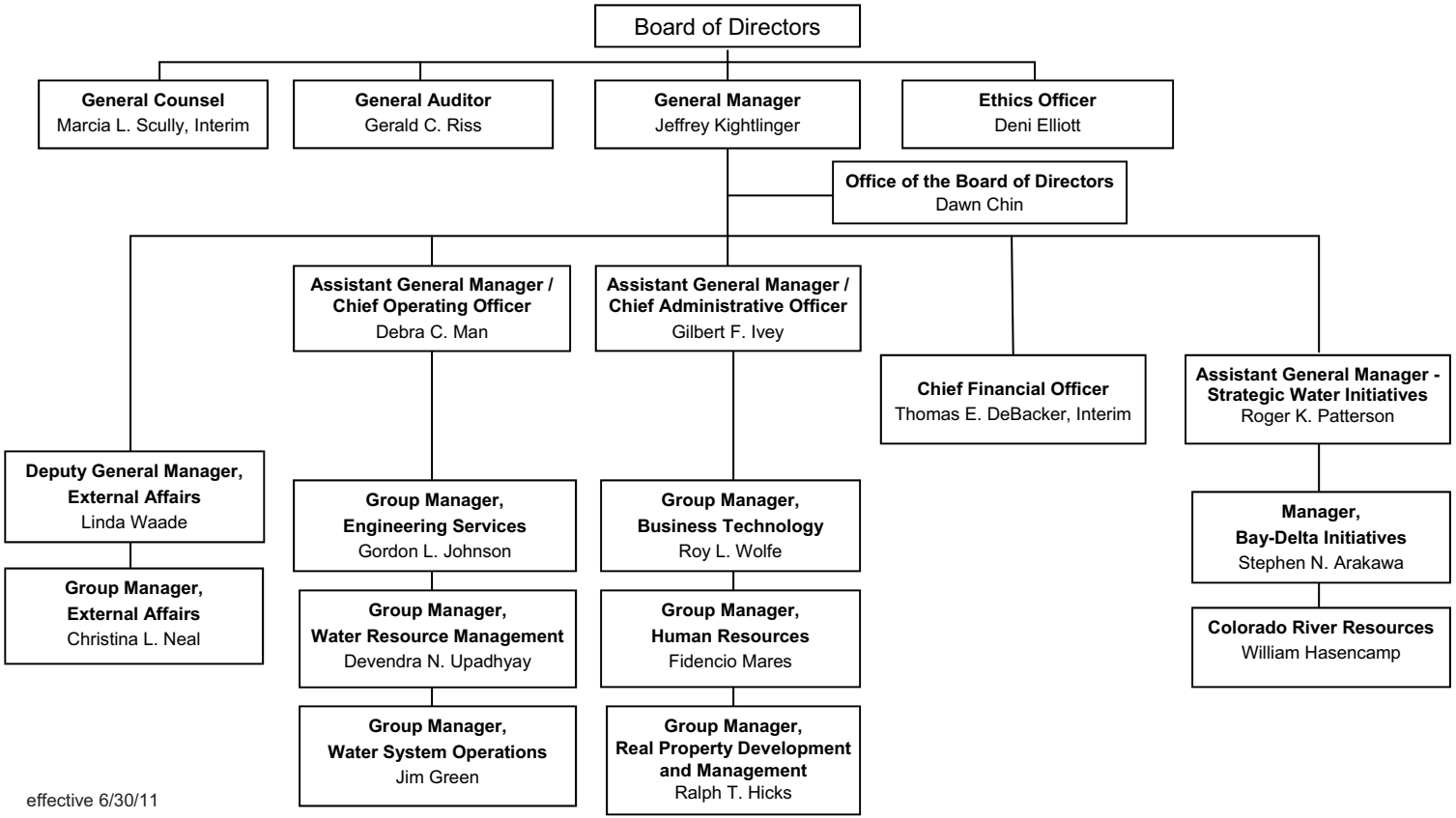
WEST BASIN MUNICIPAL WATER DISTRICT

Robert E. Austin	August 20, 1948 to October 21, 1968
Ben Haggott	March 10, 1953 to October 8, 1956
W. C. Farquhar	August 19, 1955 to July 13, 1976
T. V. Tallon	August 9, 1960 to April 9, 1963
Louis J. Alexander	August 13, 1963 to March 30, 1972
Charles D. Barker	September 10, 1963 to December 31, 2000
Einar C. Matson	November 12, 1968 to February 12, 1984
Lester E. Carlson	October 8, 1974 to September 2, 1988
E. L. Balmer	August 19, 1976 to May 23, 1989
Harold E. Crozier	October 25, 1988 to April 9, 1991
Charles L. Stuart	July 11, 1989 to April 11, 1995
Robert Goldsworthy	April 9, 1991 to March 8, 1994
EDWARD C. LITTLE	March 8, 1994 to January 12, 1998
	January 5, 1999 to September 5, 2001
	April 9, 2007 to
Bondie O. Gambrell	April 11, 1995 to February 10, 1997
Mark S. Dymally	February 10, 1997 to January 5, 1999
Carol W. Kwan	January 12, 1998 to January 5, 1999
	September 5, 2001 to April 9, 2007
Willard H. Murray Jr.	January 5, 1999 to April 13, 2009
GLORIA GRAY	April 13, 2009 to

WESTERN MUNICIPAL WATER DISTRICT OF RIVERSIDE COUNTY

Howard Boylan ..... December 14, 1954 to July 13, 1976
Lois B. Krieger ..... August 19, 1976 to December 31, 2000
John M. Mylne III ..... October 12, 1993 to January 7, 2008
S.R. “Al” Lopez ..... January 7, 2008 to July 13, 2009
THOMAS P. EVANS ..... July 13, 2009 to

Notes:
Current Directors’ names are shown in capital letters.
A 2001 reorganization reduced the number of directors on the board from 51 to 37.



effective 6/30/11

For more information, please go to www.mwdh2o.com

STAFF
June 30, 2011

EXECUTIVE MANAGEMENT

General Manager ..... J. Kightlinger
Interim General Counsel ..... M.L. Scully
General Auditor ..... G.C. Riss
Ethics Officer ..... D. Elliott
Assistant General Manager/Chief Operating Officer ..... D. Man
Assistant General Manager/Chief Administrative Officer ..... G.F. Ivey
Interim Chief Financial Officer ..... T. DeBacker
Assistant General Manager/Strategic Water Initiatives ..... R.K. Patterson
Deputy General Manager ..... L. Waade

BUSINESS TECHNOLOGY

Group Manager ..... R. Wolfe
Manager, Information Technology Section ..... D. Edwards
Manager, Business Services Section ..... A. Kokuga
Manager, Business Outreach Section ..... J. Arena

CHIEF ADMINISTRATIVE OFFICER

Executive Strategist ..... M. Wheeler
Board Executive Secretary ..... D. Chin

CHIEF FINANCIAL OFFICER

Manager, Financial Services Section ..... K.R. Norris
Acting Controller ..... Hal Soper III
Manager, Budget & Financial Planning ..... Vacant

ENGINEERING SERVICES

Group Manager/Chief Engineer ..... G. Johnson
Manager, Engineering Services Section ..... W. Lieu

EXTERNAL AFFAIRS

Group Manager ..... C.L. Neal
State Legislative Representative ..... K. Cole
Federal Legislative Representative ..... B. Hiltscher
Manager, Media Services Section ..... A. Acuña
Manager, Legislative Services Section ..... D. Zinke
Manager, Conservation & Community Services Section ..... Y.L. Martinez
Executive Strategist ..... T. Philp

STAFF
June 30, 2011

HUMAN RESOURCES

Group Manager ..... F. Mares
Manager, Human Resources ..... G. Burton
Manager, Employee Relations Section ..... S. Lem
Manager, Total Compensation Section ..... D. Pitman

LEGAL

Assistant General Counsel ..... S.B. Bennion

REAL PROPERTY DEVELOPMENT & MANAGEMENT

Group Manager ..... R.T. Hicks
Assistant Group Manager ..... J.T. Wicke

STRATEGIC WATER INITIATIVES

Manager, Bay-Delta Initiatives ..... S.N. Arakawa
Manager, Colorado River Resources ..... W.J. Hasencamp

WATER RESOURCE MANAGEMENT

Group Manager ..... D. Upadhyay
Interim Manager, Resource Implementation Section ..... K. Donhoff
Manager, Resource Planning & Development Section ..... G.L. Chan

WATER SYSTEM OPERATIONS

Group Manager ..... J.F. Green
Assistant Group Manager ..... B.M. Coffey
Manager, Operations & Planning Section ..... M. Morel
Manager, Water Quality Section ..... M.H. Stewart
Manager, Operations Support Services Section ..... L.L. Shraibati
Manager, Conveyance & Distribution Section ..... W. Pecsi
Manager, Water Treatment Section ..... Vacant
Manager, Environmental, Health & Safety Section ..... B. Koch

General Manager Jeffrey Kightlinger addresses Metropolitan employees in the Union Station cafeteria.

This obscure terrazzo seal, uncovered during a treatment plant shutdown, was laid the year before Metropolitan first delivered Colorado River water to Southern California in 1941.

Introduction

It was a year of accomplishments for Metropolitan as the region – and the state – continued to advance a historic long-term solution to the water system and ecosystem crisis in the Sacramento-San Joaquin Delta. Additionally, the season's storms and the public's continued conservation and water efficiency efforts would result in record levels of water reserves for Southern California.

One of the key accomplishments for 2010/11 was the update of Metropolitan's comprehensive long-term water management strategy for its six-county service area. The Board of Directors approved the updated Integrated Water Resources Plan (IRP) in October. This represented a continued evolution by Metropolitan to emphasize water use efficiency and local resource development as the foundations for meeting increased future water needs.

"The updated IRP provides a road map for maintaining regional water supply reliability over the next 25 years and involves a fundamental shift in the way Southern California meets its water supply requirements and reliability goals," said Metropolitan General Manager Jeffrey Kightlinger, as Metropolitan convened four stakeholder forums to engage the public in crafting the updated IRP. Metropolitan's history of integrated resources planning began more than 20 years ago when the agency released its first IRP in 1996. The most recent plan guides the agency through the year 2035.

Events of recent years demonstrated the need to continue to adjust Metropolitan's long-term water planning in the face of varying circumstances that include changing climate patterns, environmental regulations and regulatory restrictions which had a growing impact on the availability of Metropolitan water supplies. The updated IRP creates a path for future water supply reliability despite this backdrop of uncertainty, changing conditions and population growth.

Aided by input and feedback from Metropolitan member agencies and hundreds of participants at these four forums, Metropolitan staff proposed a three-tiered approach to water planning as its revised approach to reliability amid shifting conditions. The proposed strategy called for maintaining traditional levels of supplies from the Colorado River and the State Water Project while meeting increased future needs through other core resources, such as water use efficiency and new local supplies. To prepare for significant and even dramatic change, the IRP also called for developing an uncertainty buffer if additional local supply/demand efforts should prove necessary, and to take foundational actions to further advance stormwater capture, recycling, desalination and other water resource actions if necessary. The Board of Directors on Oct. 12 overwhelmingly approved the updated IRP, providing a backdrop for a variety of actions and other developments throughout the fiscal year.

Along with long-term water planning, in August the board adopted energy management policies that will help guide the agency in containing costs, reducing its financial exposure to escalating electrical power markets. The policies direct Metropolitan to pursue cost-effective renewable energy projects and identify revenue streams for renewable energy facilities to help contain future costs. One example is the 10-acre, 1-megawatt solar power installation at the Robert A. Skinner Water Treatment Plant which came online shortly before the start of the fiscal year and generated nearly 2,400 megawatts of energy during fiscal year 2010/11.

As new energy management policies and the updated IRP help direct Metropolitan staff in the coming years, a Blue Ribbon panel of experts assembled by Metropolitan's Board of Directors presented Metropolitan with a suite of potential options to address prospective challenges 50 years into the future. Led by former board member Robert Simonds, the Blue Ribbon Committee provided proposals dealing with water and energy management, new technologies, and financing mechanisms along with workforce and communication strategies.

To guide Metropolitan during this era of change, the board chose a veteran leader as its new chairman. John V. Foley, who has represented the Municipal Water District of Orange County on the Metropolitan board since 1989, was unanimously elected to a two-year term as chairman effective January 2011. Foley had previously

presided as Metropolitan board chairman from December 1993 through 1998.

"I am honored and energized to lead Metropolitan's board at this pivotal time in the agency's history," Foley said upon his election on Oct. 12, 2010. Every public agency and business faces its challenges, especially now in the midst of severe economic times. Metropolitan's responsibility to its member public agency customers is to weather and address these challenges, the new chairman said.

Over the past two decades, Metropolitan has built a legacy of sound planning that sets forth the approach to achieving Metropolitan's underlying goal of water supply reliability. One milestone identified in the IRP was the state's legislative target enacted in 2009 to lower urban per-capita water use in California by 20 percent by the year 2020. Metropolitan's IRP calls for meeting – and in many cases exceeding – this target. To address this and build momentum for increased water use efficiency and conservation, Metropolitan held a one-day summit in November 2010 that attracted more than 350 participants. Panel discussions included Metropolitan board members, state agencies, environmental and community leaders.

The board also continued its outreach efforts by conducting dozens of inspection trips, providing a first-hand look at important water systems and facilities including Metropolitan's Colorado River Aqueduct facilities, the Sacramento-San Joaquin Delta, the State Water Project and Diamond Valley Lake, educating elected officials, community leaders and others about Metropolitan's and the state's water supply and delivery systems and complex water policy issues.

As 2010 came to a close, the process of fashioning water system and ecosystem improvements in the Sacramento-San Joaquin Delta reached an important milestone. The Bay Delta Conservation Plan released its first full working draft in November. The following month, state and federal agencies released separate updates that echoed optimism for a plan that could improve water supply and reliability from Delta water projects while restoring and protecting tens of thousands of acres of Delta wetlands habitat. The state update of the BDCP represented one of the final key water actions of Gov. Arnold Schwarzenegger's administration as his successor, Governor-elect Jerry Brown, prepared to take office. Work continued in the first half of 2011 on analyzing conveyance options and the potential beneficial effects of numerous water system/ecosystem improvements.

The season's storms created a healthy State Water Project supply for the coming year, leading the Board of Directors to lift mandatory water supply restrictions imposed two years earlier under its allocation plan. Residents throughout the service area had responded to the call to reduce water use, with all 26 member agencies meeting or exceeding their targets.

Preparations for a specific call for lower water use were particularly dramatic for 1.7 million residents in Los Angeles County during 10 days in March as the F.E. Weymouth Water Treatment Plant was taken out of service for necessary upgrades and repairs. The coordination with local water agencies and communities proved to be seamless, as temporary bans on outdoor water use and other measures resulted in lowering water consumption by up to 40 percent.

As the fiscal year wound to a close, a series of storms in late spring led to record snowpack in the Colorado River watershed along with a deep snowpack in the Sierra Nevada. Lake Mead was on a path to being far closer to surplus conditions than the shortages anticipated just a year earlier. Metropolitan's Diamond Valley Lake, once more than half depleted, was nearing full capacity. The Metropolitan board approved the sale of replenishment water to member agencies with available capacity in groundwater basins.

Metropolitan would begin the 2011/2012 fiscal year expecting to store record levels of reserves in its storage network. After two years of mandatory water restrictions – a first in the district's history – the prospect of starting a new fiscal year with strong water reserves would prove to be a welcome buffer. And, it was a reminder of the sound planning and benefits of past water management actions by Metropolitan that increased storage capacity by 14-fold since the 1990s to take full advantage of surplus water conditions. The combination of wet weather, long-term planning and the prospect of a balanced Delta fix left Metropolitan well-positioned for the coming year.

The interior of a finished water reservoir cleaned during a treatment plant shutdown.

Workers perform a backfilling operation during the Weymouth Water Treatment Plant shutdown.

Delivering Metropolitan's Water Supplies

Metropolitan supplies water to its 5,200-square-mile service area, a six-county region from Ventura County in the north to San Diego County in the south through a conveyance and distribution system consisting of the 242-mile-long Colorado River Aqueduct and its five pumping plants, 800 miles of pipeline, five water treatment plants and nine reservoirs. In addition, Metropolitan has 16 hydroelectric power recovery plants throughout its system. See Table 1-1 for the rated capacity of Metropolitan's five treatment plants.

TABLE 1-1
METROPOLITAN'S DISTRIBUTION SYSTEM
WATER TREATMENT PLANTS

Plant (Location)	Process/ Water Type	Rated Capacity (MGD)
Joseph Jensen Water Treatment Plant (Granada Hills)	Conventional treatment with ozone SPW	750
Robert A. Skinner Water Treatment Plants #1, #2, & #3 (Winchester)*	Conventional treatment and direct filtration with ozone, blend of CRW/SPW	630
F. E. Weymouth Water Treatment Plant (La Verne)	Conventional treatment, blend of CRW/SPW	520
Robert B. Diemer Water Treatment Plant (Yorba Linda)	Conventional treatment, blend of CRW/SPW	520
Henry J. Mills Water Treatment Plant (Riverside)	Conventional treatment with ozone SPW	220

SPW = State Project Water
CRW = Colorado River Water
MGD = Million Gallons per Day
* Consists of three separately regulated water treatment plants

In fiscal year 2010/11, Metropolitan sold more than 1.45 million acre-feet of water, with daily system deliveries as high as 6,650 AF per day. Various factors, including aggressive member agency conservation efforts, the continuation of mandatory water restrictions under the regional Water Supply Allocation Plan, milder weather and a depressed economy contributed to water sales that were about 160,000 AF lower than the prior fiscal year. Table 1-2 shows the monthly water sales for all member agencies in FY 2010/11. Figure 1-1 shows the total fiscal year water sales by category, Figure 1-2 shows the monthly water sales by category and Figure 1-3 shows a comparison of water sales by category for the past two fiscal years. Table 1-3 shows historical water sales by calendar and fiscal year, and Table 1-4 shows the water use by member agency for FY 2010/11, and major shutdowns and service interruptions are shown in Table 1-5. Metropolitan sold approximately 990,000 AF of treated water and 460,000 AF of untreated water in FY 2010/11. Improved water supply conditions combined with lower than expected demands in FY 2010/11 allowed Metropolitan to significantly increase its regional storage reserves. Wet weather conditions throughout California also allowed member agency reservoirs and local groundwater basins to recover after several dry years.

From August 2010 to June 2011, Metropolitan's temporary Water Management Program allowed member agencies to purchase an additional 37,417 AF of water at the full-service rate outside of their WSAP allocations. In April 2011, the board terminated the 2010/11 WSAP and in May 2011, Metropolitan offered a limited amount of water under the Replenishment Service Program.

At the start of FY 2010/11, the increase in the 2010 SWP allocation to 50 percent (from as low as 15 percent a few months earlier) allowed Metropolitan to increase its storage by approximately 700,000 AF to a total of 1.7 million AF in dry-year storage reserves by the end of CY 2010. This represented the first increase in regional storage in more than three years. This increase in storage resulted from the factors described above, plus a favorable water exchange with the Westlands Water District and continued implementation of Five-Year Supply Actions initiated in 2008, soon after Delta pumping restrictions began. This favorable exchange enabled Metropolitan to take delivery of about 111,000 AF from Westlands in CY 2010, with the return of about 74,000 AF in CY 2011, resulting in a 37,000 AF

increase in supply for Metropolitan. This exchange also benefited Westlands, which would otherwise have lost this water. Five-Year Supply Actions implemented in CY 2010 included the following: increasing water transfers through the State Water Contractors Buyer's Group; purchasing water from San Bernardino Valley Municipal Water District through a coordinated operations agreement; increasing water transfers from the Yuba Accord; and transferring water from San Luis Water District.

The initial SWP allocation for CY 2011 was 25 percent. Subsequent increases through April 2011 resulted in a SWP allocation of 80 percent. In addition to Table A water, Metropolitan took 182,000 AF of Article 21 interruptible water available to the SWP contractors for the first time since 2007. Additionally, Metropolitan took delivery of its entire amount of SWP Carryover water from CY 2010, or 106,000 AF.

TABLE 1-2
MONTHLY WATER SALES FOR ALL MEMBER AGENCIES
Fiscal Year 2010/11
(Acre-Feet)

Month	Full Service	Agricultural	Storage Program*	Totals
July	147,829	2,203	6,958	156,990
August	155,925	3,373	6,818	166,116
September	151,710	4,895	1,292	157,898
October	112,539	4,232	1,385	118,156
November	98,605	3,319	25,813	127,737
December	89,097	1,435	4,350	94,882
January	77,307	-1,053	3,987	80,240
February	85,480	680	4,869	91,029
March	65,270	565	1,843	67,677
April	83,390	479	1,442	85,311
May	105,742	1,605	8,885	116,232
June	121,640	2,910	70,205	194,755
Totals	**1,294,533**	**24,642**	**137,846**	**1,457,022**

* Includes sales from the Conjunctive Use Program
Negative numbers indicate adjustments in billable sales
A total of 1.58 million AF was delivered, including water sales and the San Diego County Water Authority/Imperial Irrigation District transfer.

The end-of-year storage for CY 2011 was projected to increase between 700,000 and 800,000 AF to a total of roughly 2.5 million AF, the highest level of dry-year storage reserves in Metropolitan's history. These increases improve Metropolitan's supply and demand outlook for 2011 and beyond. The improved outlook for water supply and storage provided the backdrop necessary for the board to discontinue the WSAP. The 2011 Interim Agricultural Water Program reductions were also discontinued at that time. In May, the board provided direction to the General Manager to offer a discounted replenishment rate for about 225,000 AF of deliveries through Dec. 31, 2011.

The Colorado River watershed precipitation was above normal for the first time in nine years, with a projected runoff of 134 percent for the 2010/11 water year. Metropolitan operated the CRA to deliver 1.0 million AF in FY 2010/11, which was similar to the last fiscal year.

During the fiscal year, deliveries into Diamond Valley Lake through the Inland Feeder exceeded 43,000 AF per month, filling the reservoir to capacity in May 2011.

Metropolitan expects to deliver or store more than 1.85 million acre-feet of total supply through the SWP in CY 2011, which includes its 80 percent allocation, Article 21 surplus water, and delivery of water for Desert Water Agency and Coachella Valley Water District. With roughly 900,000 acre-feet of estimated Colorado River supplies, Metropolitan's total water supply for CY 2011 is expected to exceed 2.7 million acre-feet.

Major Accomplishments for Fiscal Year 2010/11

System Operations and Planning

- Increased delivery of available SWP supplies into Metropolitan's system by taking full advantage of deliveries through the West Branch of the SWP and by increasing SWP blends through the Weymouth, Diemer and Skinner treatment plants, resulting in salinity levels below the 500 mg/L goal for total dissolved solids.
- Increased Metropolitan's dry-year storage portfolio balance from 1.0 MAF to 1.7 MAF during CY 2010.
- Utilized the Inland Feeder throughout FY 2010/11 to refill Diamond Valley Lake, raising storage from 430,000 to 795,000 AF.
- Stored approximately 262,000 AF (fiscal year) in Central Valley groundwater banking programs and 21,000 AF in groundwater conjunctive use programs with the member agencies in Metropolitan's service area.

Colorado River

- Delivered 1.1 MAF of water supplies on the Colorado River Aqueduct in CY 2010.
- Stored 133,000 AF into the Advance Delivery Account with Desert Water Agency and Coachella Valley Water District and 110,000 AF of intentionally created surplus water in Lake Mead during CY 2010.

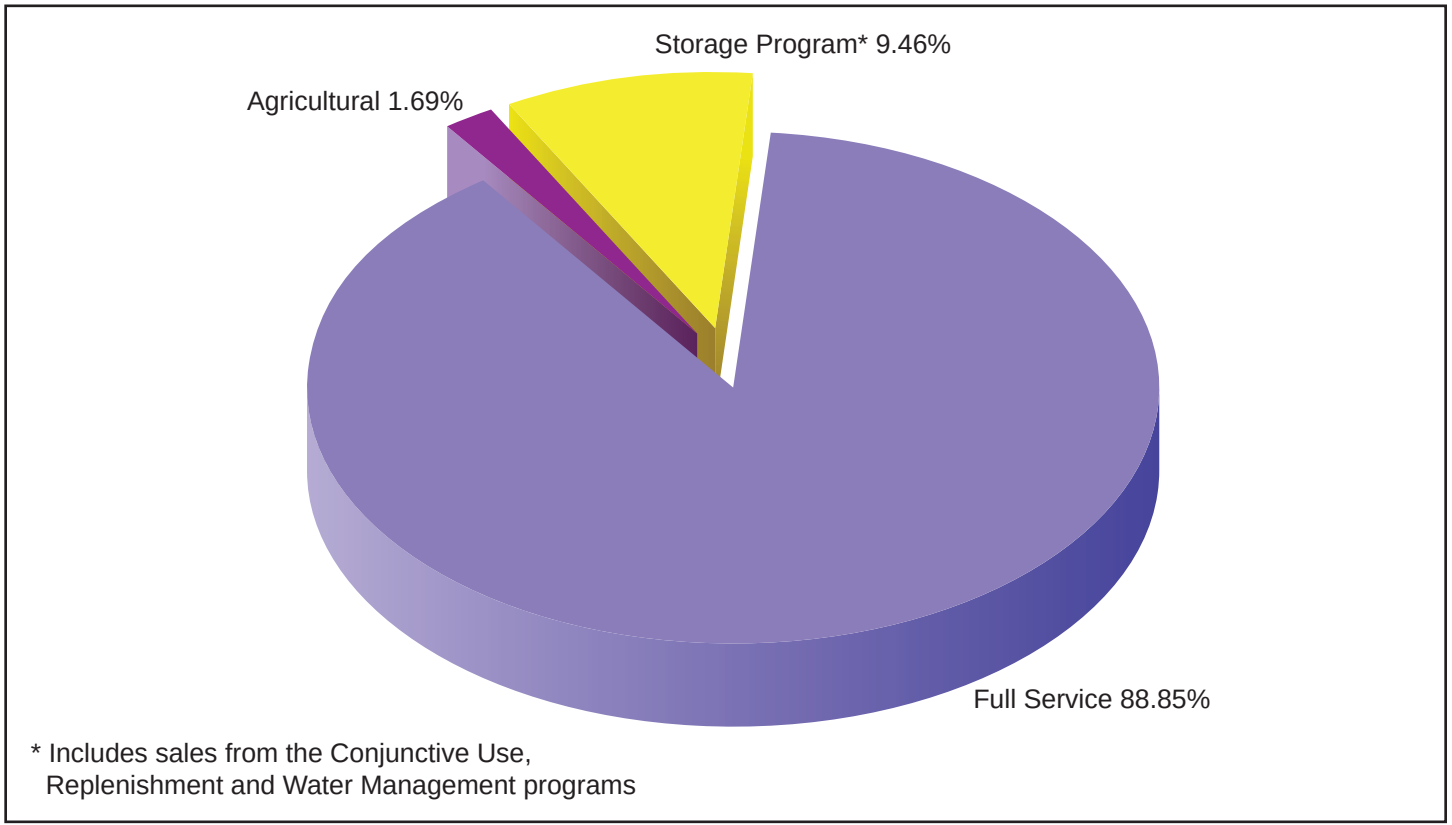


Figure 1-1. Total Water Sales for Fiscal Year 2010/11 - All Member Agencies

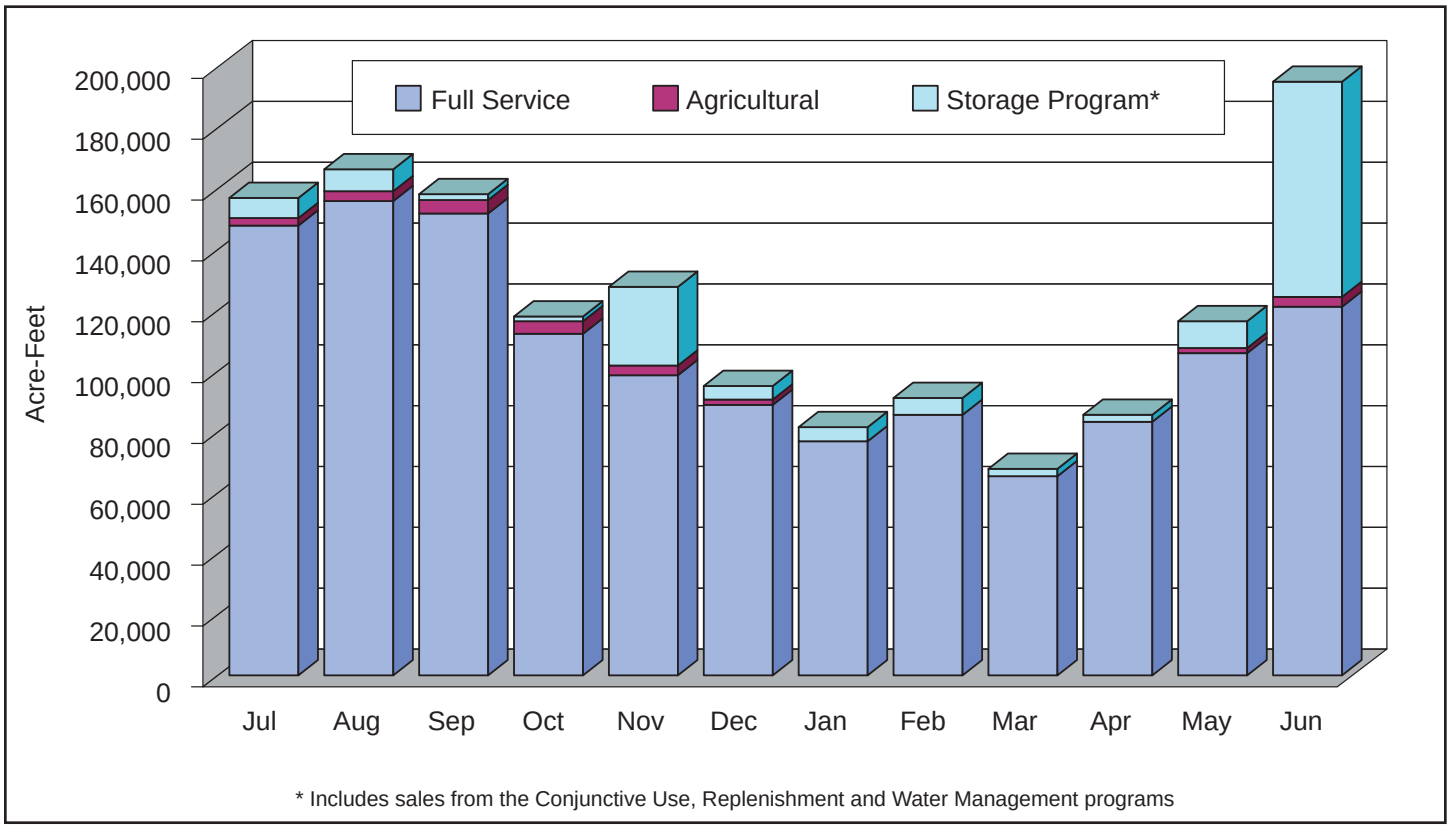


Figure 1-2. Monthly Water Sales for Fiscal Year 2010/11 - All Member Agencies

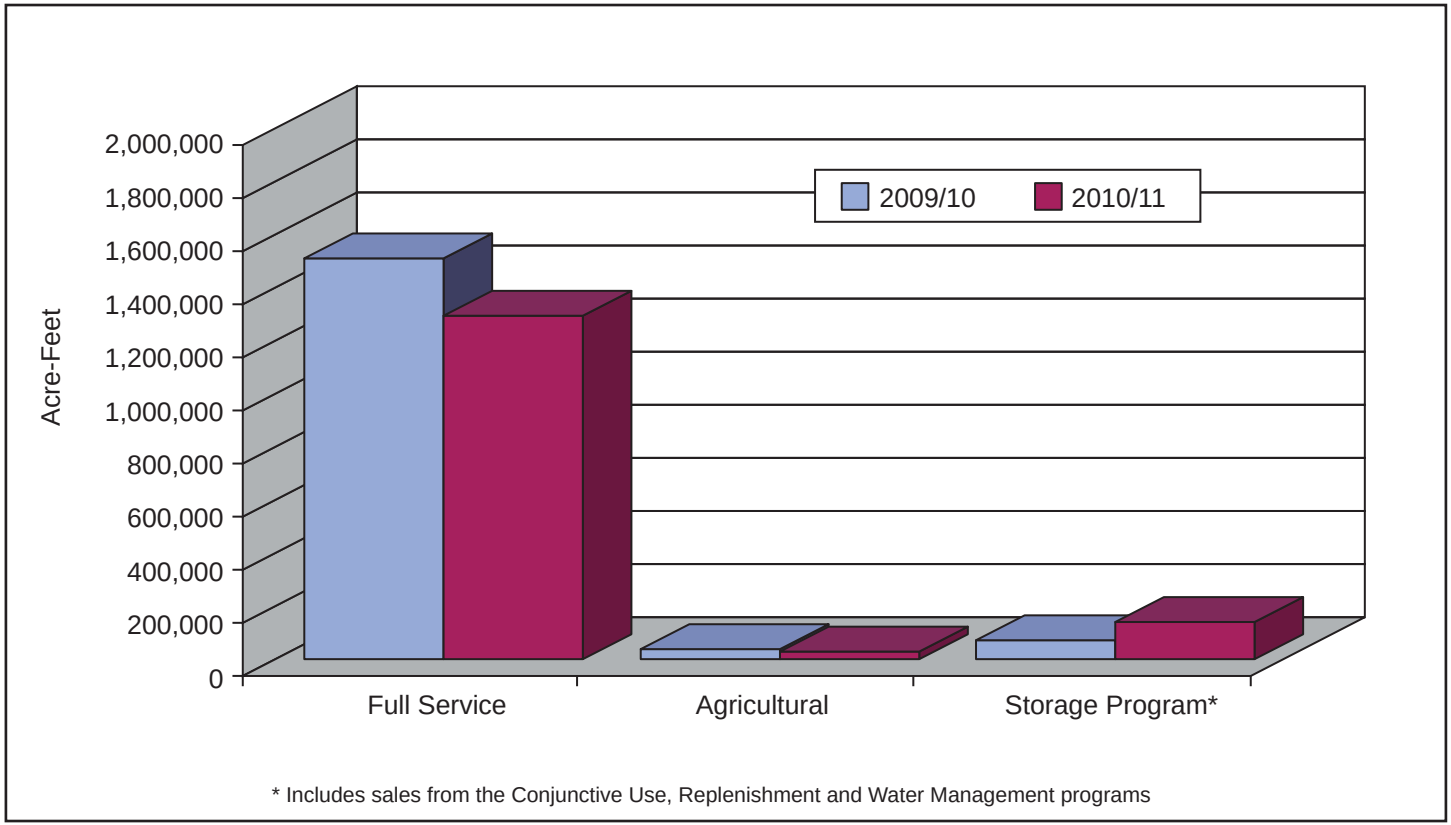


Figure 1-3. Comparison of Water Sales to Member Agencies For The Past Two Fiscal Years

TABLE 1-3
HISTORICAL WATER SALES
Calendar Year & Fiscal Year Totals
(Acre-Feet)

	Calendar Year	Fiscal Year		Calendar Year	Fiscal Year
1941	4,444		1977	1,312,876	1,390,466
1942	12,391	9,739	1978	1,302,312	1,198,325
1943	16,355	14,566	1979	1,230,068	1,235,193
1944	24,567	15,875	1980	1,295,903	1,282,064
1945	37,883	30,606	1981	1,597,315	1,462,825
1946	54,134	46,686	1982	1,366,664	1,502,949
1947	73,573	59,721	1983	1,180,616	1,226,783
1948	148,178	113,090	1984	1,547,078	1,428,253
1949*	163,817	145,008	1985	1,653,414	1,574,216
1950*	170,825	165,616	1986	1,685,359	1,642,249
1951*	192,416	165,473	1987	1,857,591	1,825,657
1952	203,068	197,210	1988	2,017,403	1,923,824
1953	221,022	219,397	1989	2,371,479	2,095,079
1954	333,968	245,875	1990	2,626,124	2,511,375
1955	386,341	385,946	1991	1,809,606	2,264,864
1956	482,909	405,962	1992	1,989,165	1,888,907
1957	518,754	543,706	1993	1,812,644	1,910,644
1958	578,384	539,734	1994	1,955,411	1,930,529
1959	660,718	601,099	1995	1,458,237	1,591,496
1960	816,722	734,919	1996	1,675,254	1,641,670
1961	977,795	935,228	1997	1,838,675	1,787,857
1962	1,033,361	931,795	1998	1,413,674	1,569,024
1963	943,745	1,020,822	1999	1,776,306	1,593,687
1964	1,122,880	1,064,381	2000	2,325,836	2,075,680
1965	1,105,809	1,148,847	2001	2,100,771	2,164,556
1966	1,115,040	1,059,631	2002	2,438,570	2,326,920
1967	1,008,946	1,059,354	2003	2,241,051	2,271,628
1968	1,208,064	1,077,178	2004	2,420,724	2,417,678
1969	997,623	1,057,335	2005	1,973,041	2,051,100
1970	1,152,914	1,165,866	2006	2,089,518	2,081,039
1971	1,184,697	1,113,968	2007	2,317,410	2,296,177
1972	1,213,417	1,248,710	2008	2,097,361	2,176,372
1973	1,218,156	1,177,860	2009	1,823,260	2,044,327
1974	1,223,256	1,139,175	2010	1,507,090	1,614,812
1975	1,294,650	1,329,636	2011		1,457,022
1976	1,390,822	1,389,248			

Note:
* Calendar years 1949, 1950 and 1951 are estimated values.
Figures from 1979 to present consist of billable sales of treated and untreated water.

TABLE 1-4
WATER USE BY METROPOLITAN'S MEMBER AGENCIES
Fiscal Year 2010/11[1]
(Acre-Feet)

Member Agency	Total Local Production[2]	Total Local Use[3]	MWD Direct Deliveries[4]	MWD Indirect Deliveries	MWD Total Deliveries	Total Water Use	MWD Direct Deliveries as % of Total Use
Anaheim	52,113	52,113	22,712		22,712	74,824	30%
Beverly Hills	1,071	1,071	10,249		10,249	11,320	91%
Burbank	11,335	11,335	7,451	6,202	13,654	18,786	40%
Calleguas	40,583	44,541	91,365		91,365	135,906	67%
Central Basin	217,753	240,245	38,399	24,220	62,619	278,644	14%
Compton	6,885	6,885	1,829		1,829	8,713	21%
Eastern	134,029	134,029	88,643		88,643	222,671	40%
Foothill	10,430	10,430	8,715		8,715	19,145	46%
Fullerton	20,289	20,289	9,882		9,882	30,171	33%
Glendale	11,160	11,160	17,010		17,010	28,170	60%
Inland Empire	221,357	221,357	42,948	8,885	51,832	264,304	16%
Las Virgenes	5,143	5,275	18,723		18,723	23,998	78%
Long Beach	32,143	32,143	33,630		33,630	65,773	51%
Los Angeles	235,336	230,977	166,926		166,926	397,903	42%
MWDOC	242,509	256,055	195,667	27,543	223,210	451,722	43%
Pasadena	11,764	12,093	18,968		18,968	31,061	61%
San Diego CWA	85,966	85,966	407,372		407,372	493,338	83%
San Fernando	3,495	3,495	59		59	3,555	2%
San Marino	4,029	4,029	424		424	4,452	10%
Santa Ana	29,150	29,150	13,166		13,166	42,317	31%

TABLE 1-4 (Continued)
WATER USE BY METROPOLITAN'S MEMBER AGENCIES
Fiscal Year 2010/11[1]
(Acre-Feet)

Member Agency	Total Local Production[2]	Total Local Use[3]	MWD Direct Deliveries[4]	MWD Indirect Deliveries	MWD Total Deliveries	Total Water Use	MWD Direct Deliveries as % of Total Use
Santa Monica	2,346	2,346	8,182		8,182	10,528	78%
Three Valleys	59,559	59,559	51,730	13,765	65,496	111,289	46%
Torrance	3,584	9,851	17,378		17,378	27,229	64%
Upper San Gabriel	221,415	140,099	3,429	35,384	38,814	143,528	2%
West Basin	62,530	60,573	116,245		116,245	176,818	66%
Western	200,291	198,102	76,948		76,948	275,050	28%
	1,926,265	1,883,169	1,468,048	115,999	1,584,047	3,351,216	44%

Notes:

Total Local Production = groundwater, surface water, recycled wastewater, Los Angeles Aqueduct supplies and any use of MWD's replenishment deliveries.

Total Local Use = Total Local Production adjusted for inter-member agency water transfers and locally produced water for groundwater replenishment.

Total Water Use = Total Local Use + MWD Direct Deliveries.

Footnotes:

1 - Local production data includes three year averages for those sources unavailable at time of publication.

2 - Total Local Production is the amount of water produced but not necessarily used within a member agency boundary, not including water used for environmental purposes.

3 - Total Local Use includes net imports from other member or non-MWD agencies, not including water used for environmental purposes.

4 - MWD Direct Deliveries includes SDCWA/IID wheeling.

TABLE 1-5
2010/11 MAJOR SHUTDOWNS & SERVICE INTERRUPTIONS

FACILITY	DATES	NO. OF DAYS	LIMITS OF SHUTDOWN	PURPOSE
Lakeview Pipeline	Jul 11-17, 2010	7	From Lake Perris to the San Diego Canal	For a minor leak repair on pipeline.
Santa Monica Feeder	Nov 16-18, 2010	3	From the Beverly Hills Pressure Control Structure to the pipeline terminus	For replacement of shutoff valves.
Lakeview Pipeline	Dec 9-17, 2010	9	From Lake Perris to the San Diego Canal	For a minor leak repair on pipeline.
Box Springs Feeder - Mills treatment plant - Perris Valley Pipeline	Jan 9-15, 2011	6	From the DWR's Santa Ana Valley Pipeline to the Mills treatment plant	For pipeline repairs in four locations and inspections and rehabilitation work at the Mills plant.
Colorado River Aqueduct	Feb 1-20, 2011	19	From Intake pumping plant to Lake Mathews	For switch house fault current protection upgrades, expansion joint repairs at Eagle Mountain Pumping Plant and tunnel cleaning.
Lower Feeder (Tr) - South Coast Feeder	Feb 8-12, 2011	5	From the West Orange County Feeder to the Middle Cross Feeder	For replacement of plug valves as part of the air release and vacuum valve relocation program and prestressed concrete pipe inspection on the South Coast Feeder.
Lake Mathews Reservoir - Lake Mathews Forebay	Feb 26- Mar 7, 2011	10	From the Lake Mathews Outlet Tower to the Lake Mathews Forebay	For quagga mussel cleaning and meter repairs and Lake Mathews Forebay Outlet Tower repairs.
Lower Feeder (Untr*) - Santiago Lateral - East Orange County Feeder No. 1	Feb 26- Mar 7, 2011	10	From the Lake Mathews Forebay to the Diemer treatment plant	For coating repairs in the Santiago Control Tower.

TABLE 1-5 (Continued)
2010/11 MAJOR SHUTDOWNS & SERVICE INTERRUPTIONS

FACILITY	DATES	NO. OF DAYS	LIMITS OF SHUTDOWN	PURPOSE
Upper Feeder (Untr*) -Etiwanda Pipeline	Feb 26- Mar 27, 2011	30	From Lake Mathews to the Weymouth treatment plant	For meter inspection on the Etiwanda Pipeline and to accommodate the work on the Junction Structure at the Weymouth plant.
Diemer treatment plant - Lower Feeder (Tr*) - Second Lower Feeder - East Orange County Feeder No. 2 - Allen-McColloch Pipeline	Feb 27- Mar 5, 2011	7	Diemer treatment plant	For new electrical service switchover, installation of a new flow meter on the Yorba Linda Feeder, installation of new slide gate guides in the Yorba Linda Control Structure and installation of steel liners on the Allen-McColloch Pipeline.
Palos Verdes Feeder	Mar 18-22, 2011	5	From the Eagle Rock Tower to the sectionalizing valve at Collins Avenue	For installation of the Monterey Road sectionalizing valve.
Weymouth treatment plant - Upper Feeder (Tr*) - San Marino Lateral - Eagle Rock Lateral - Middle Feeder (North) - Orange County Feeder	Mar 18-27, 2011	10	Weymouth treatment plant	For repair of leaking valves and seismic upgrades in the Junction Structure, tie-in of ozone contactor influent and effluent lines, rehabilitation of 3 turnout valves on the Upper Feeder (Tr), and pipeline inspection on the Orange County Feeder.
La Verne Pipeline - Glendora Tunnel	Mar 18-27, 2011	10	From the San Dimas power plant to the Weymouth treatment plant	For prestressed concrete pipe inspection.

TABLE 1-5 (Continued)
2010/11 MAJOR SHUTDOWNS & SERVICE INTERRUPTIONS

FACILITY	DATES	NO. OF DAYS	LIMITS OF SHUTDOWN	PURPOSE
Yorba Linda Feeder - Yorba Linda Feeder Bypass	Mar 18-27, 2011	10	From the Weymouth plant to the Diemer plant	For prestressed concrete and steel pipe inspection.
Mills treatment plant	March 22, 2011	12-hours	Mills treatment plant	For electrical upgrades.
Box Springs Feeder -Mills treatment plant	Mar 24-26, 2011	3	Mills treatment plant	For operational flexibility to reduce finished water reservoir storage.
Calabasas Feeder	Mar 31- Apr 21, 2011	22	From the West Valley Feeder No. 2 to the pipeline terminus	For pipeline repair with carbon fiber in 7 locations and with a steel liner in 1 location.
Foothill Feeder - Jensen plant	Apr 26-27, 2011	1	From Castaic Lake to the Jensen plant	For meter maintenance and high-voltage switchgear cleaning at the Jensen plant.

*Untr = Untreated
Tr = Treated

An influent channel at a Metropolitan water treatment plant.

Metropolitan's assistance on the Lower Yolo Habitat Restoration Project will help provide near- and long-term fishery benefits.

CHAPTER 2

Strategic Water Initiatives

Metropolitan provides imported water supplies from two main sources, the Colorado River and the Sacramento-San Joaquin Delta watersheds. Strategic Water Initiatives staff coordinates resources throughout the organization to manage and protect Metropolitan's interests in these two vitally important watersheds.

Bay-Delta Initiatives

In January 2011, a new state administration under Gov. Jerry Brown assumed leadership over the process set forth by the Legislature and Gov. Schwarzenegger through the Sacramento-San Joaquin Delta Reform Act of 2009. Metropolitan's Bay-Delta Initiatives staff participated in or closely monitored the numerous and diverse legal, legislative, regulatory, scientific and policy proceedings and processes concurrently in motion toward restoring and better managing the Delta in the near and long term. Figure 2-1 shows a map of the Delta region.

Near-Term Actions

Habitat Restoration

To help meet Endangered Species Act requirements for 8,000 acres of new tidal wetlands, and the Delta restoration goals anticipated under the Bay Delta Conservation Plan, Metropolitan continued to advance the Lower Yolo Habitat Restoration Project and Suisun Marsh Tule Red Project. Each of these regions has attributes that make them a high priority for providing near-term fishery benefits. In the Yolo Bypass, Metropolitan has assisted the State and Federal Contractors Water Agency with conducting a scoping meeting, completing biological surveys, preparing permit applications, and

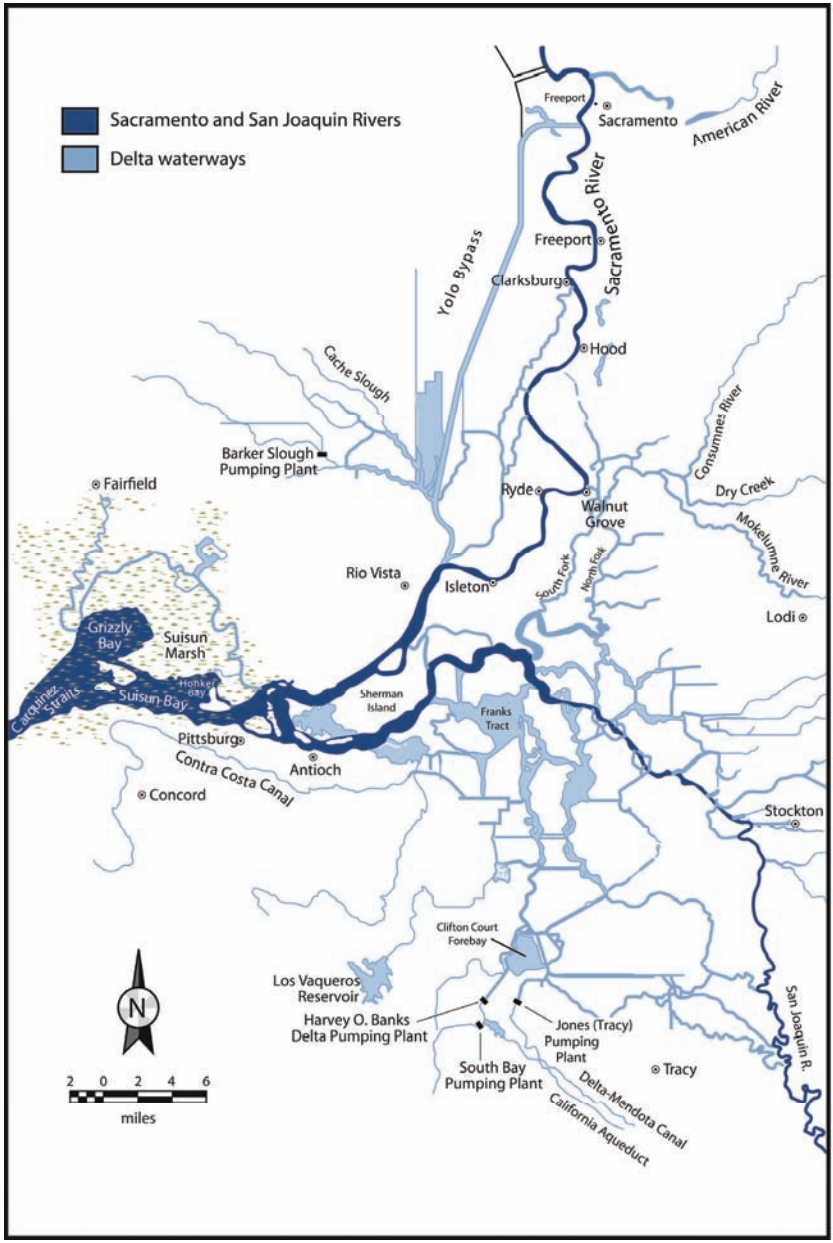


Figure 2-1. Map of the Delta Region

preparing a draft environmental impact report due for completion in late summer 2011. In the Suisun Marsh, Metropolitan entered into an agreement with Westlands Water District, Santa Clara Valley Water District, and the state and federal water contractors to pursue acquisition and restoration of the Tule Red property.

Two-Gates Project, Turbidity Forecasting

Metropolitan and U.S. Bureau of Reclamation representatives agreed to place the physical gate elements under the Two-Gates Fish Protection Project on hold in favor of pursuing forecasting methods to characterize turbidity and fish distribution. Metropolitan staff and consultants, in collaboration with the state Department of Water Resources and other resource agencies, produced weekly forecasts of Delta turbidity and adult Delta smelt movement for three months between December 2010 and February 2011. The forecasts enhance understanding for how water projects can be operated to avoid adult entrainment (or loss at the Delta export pumps) and protection of newly spawned fish. Modeling tools initially developed for the Two-Gates Project were enhanced and utilized to produce the weekly forecasts.

Regulatory Activities

In August 2010, the State Water Resources Control Board adopted a Delta flow criteria report developed in compliance with the Sacramento-San Joaquin Delta Reform Act of 2009. The Department of Fish and Game submitted draft Delta biological objectives and flow criteria to the state board in September 2010 in compliance with the same act. The flow criteria developed through these processes do not have any regulatory or adjudicative effect. Metropolitan joined with the state and federal water contractors to participate in these processes and submit comments.

In April 2011, the state board released draft salinity and flow objectives for the south Delta, in accordance with the 2006 Bay-Delta Water Quality Control Plan. The state board anticipates filing a final environmental document for the update of the 2006 Bay-Delta Plan by next year. Metropolitan has participated in the proceedings as part of the State Water Contractor submittals.

Long-Term Actions

Bay Delta Conservation Plan

The state of California released the working draft of the BDCP to the public in November 2010. This plan outlines a three-pronged approach to ecosystem restoration: new water conveyance infrastructure, habitat restoration and measures to offset non-water project related stressors that negatively affect sensitive species. Metropolitan is working closely with the state of California, federal fishery agencies and other water contractors to finalize the species effects analysis and complete the public Draft BDCP and associated environmental review.

Delta Habitat Conservation and Conveyance

Metropolitan provided engineering support to Department of Water Resources personnel dealing with the Delta Habitat Conservation and Conveyance Program. Technical committees met to review the tunnel optimization study and fish facilities intake alternatives. DHCCP staff also continued with geotechnical investigations in preparation for preliminary design of the conveyance facilities.

Delta Stewardship Council

The Delta Stewardship Council focused its efforts on the development of the Delta Plan, which the council is required to approve by Jan. 1, 2012. The council conducted a CEQA scoping process for the Delta Plan Environmental Impact Report, and released several drafts of the Delta Plan for public review and comment. Metropolitan participated in council meetings throughout the year, coordinated with other water contractor agencies to review draft council documents, and submitted comments on several drafts of the Delta Plan.

Water Quality

The renewal of the Sacramento Regional County Sanitation District discharge permit was a major initiative this year, and staff worked with the Legal Department and other water agencies to successfully advocate for the adoption of more stringent permit limits. Metropolitan also participated in other key water quality regulatory and planning processes of the state and regional water boards to

develop drinking water quality protection policies and water quality criteria for nutrients.

Emergency Preparedness Plan

Working in a lead role with the contractors for the State Water Project and Central Valley Project, Metropolitan continued to facilitate and expedite plans for stockpiling material in the Delta region. In the event of a major earthquake in the Delta, these stockpiles would be used to create an emergency freshwater pathway in order to export water supplies.

Science Development

Metropolitan funded work by Dr. Richard Deriso, Chief Scientist of the Inter-American Tropical Tuna Commission. Dr. Deriso and his colleague, Dr. Mark Maunder, developed a lifecycle model for the endangered Delta smelt. The model suggests that Delta smelt populations could be improved if food supplies could be increased. They found no evidence that the decline in smelt was attributable to salvage at the export pumps or changes in Delta outflow. A journal article on this work was published in the Canadian Journal for Fisheries and Aquatic Science.

Colorado River Issues

Metropolitan has contracts for Colorado River water with the federal Bureau of Reclamation for a basic apportionment of 550,000 acre-feet, and up to an additional 842,000 AF when available from water unused by Arizona, Nevada, higher priority users in California, or surplus water.

Figure 2-2 shows a map of the Colorado River Basin and the states that rely on the Colorado River system for water. The map also shows California's water agencies that fall within the state's 4.4 MAF basic apportionment, which includes Metropolitan and the higher-priority agricultural users (Palo Verde Irrigation District, Yuma Project Reservation Division, Imperial Irrigation District, and Coachella Valley Water District).

Figure 2-2. Colorado River Basin

Fiscal year 2010/11 began with concerns of prolonged drought conditions in the Colorado Basin and the threat of a first-ever shortage declaration on the Colorado River. In November 2010, Lake Mead reached its lowest level on record, with an elevation of 1,081.9 feet (39 percent of capacity) – just 6.9 feet above the trigger for declaring shortages on the Colorado River. One additional dry year could have pushed the Colorado River into that shortage level.

The winter of 2010/11, however, saw record-breaking snowfall in much of the Colorado River Basin. As a result, Lake Powell ended the fiscal year at its highest level since 2001, with storage of 17.1 million acre-feet (70 percent of capacity). That storage triggered the release of more than 4 million acre-feet of additional water from Lake Powell during the water year that will end Sept. 30, 2011, for a total release to Lake Mead for the year projected to be 12.45 million acre-feet. Since 2000, Lake Powell has not released more than 8.9 million acre-feet in any one year. With the increased releases from Lake Powell, Lake Mead storage increased significantly from the November 2010 low point. At the end of the fiscal year, Lake Mead reached 1,102.4 feet (46 percent of capacity), with a projected end of calendar year 2011 elevation rising to 1,133.3 feet (57 percent of capacity); an increase of more than 51 feet from the record low level. The increased storage has postponed the risk of shortage for several years and increased the chance that surplus water could be made available to Metropolitan in the near future.

Colorado River Aqueduct

For the eighth consecutive year, Metropolitan did not have access to surplus water in calendar year 2010, limiting the water supply in the Colorado River Aqueduct to Metropolitan's Basic Apportionment and water management programs developed to augment its supply. Historically, Metropolitan had access to enough surplus water to fill the aqueduct to an operational capacity of about 1.25 million acre-feet, which included 550,000 acre-feet of Metropolitan's Basic Apportionment. With the loss of surplus in 2003, Metropolitan has implemented programs to help refill the aqueduct, and in calendar year 2010, a total of 1.22 million acre-feet of water was generated from Metropolitan's Basin Apportionment and water management programs, with 1.1 million acre-feet being diverted into the aqueduct, and 120,000 acre-feet stored in Lake Mead for future use.

Lake Mead Storage

In 2010, Metropolitan stored 120,000 acre-feet of conserved water in Lake Mead, the most water that it has stored in any single year. Beginning in 2006, Metropolitan was allowed to store conserved water in Lake Mead under certain conditions, and by the end of calendar year 2010 had accumulated a total of 260,000 acre-feet of storage credits in the reservoir. The sources of conserved water that were stored in Lake Mead in 2010 were from the operation of the Yuma Desalting Plant and the Palo Verde Irrigation District Land Fallowing and Crop Rotation Program. In 2011, Metropolitan has a plan approved by Reclamation to store an additional 200,000 in Lake Mead during calendar year 2011. The water stored in Lake Mead will help Metropolitan meet demands during dry years on the State Water Project.

Yuma Desalting Plant

In March 2011, the Yuma Desalting Plant completed a one-year pilot operation, which was funded by a partnership consisting of Metropolitan, Southern Nevada Water Authority, Central Arizona Project and the Bureau of Reclamation. During the pilot operation, the desalting plant ran at one-third capacity, conserving 30,500 acre-feet of water in Lake Mead. Metropolitan provided 80 percent of the non-federal funds, with SNWA and CAP providing 10 percent each. In exchange for their share of funding for the pilot operation, the non-federal agencies received a water supply proportionate to their contribution. Metropolitan received 24,400 acre-feet of additional water during fiscal year 2010/11.

Lower Colorado Water Quality

Metropolitan, SNWA, and CAP formed the Lower Colorado River Water Quality Partnership in January 2011 to effectively coordinate efforts to protect the water quality of the Colorado River. This new partnership included development of a coordination committee that meets on a regular basis to address water quality protection and share information. The partnership focuses on salinity, wastewater constituents, industrial contaminants, and invasive species.

Water Agreement Dispute

In September 2010, IID announced it would deliver non-conserved water to the Salton Sea, and subsequently sent 47,000 acre-feet of water to the Salton Sea that would have otherwise been made available to Metropolitan under the Quantification Settlement Agreement. Metropolitan responded by sending a letter to Reclamation, urging them to reject IID's action. Letters followed from Southern Nevada and the state of Colorado also expressing concern over IID's decision. Reclamation responded by provisionally allowing both Metropolitan and IID to divert the amount of water in dispute, while Reclamation facilitates discussions to resolve the issue in a way all parties can support. For the next several months, Metropolitan, IID, San Diego County Water Authority and Coachella Valley Water District engaged in settlement discussions, with no resolution by the end of the fiscal year.

Long-Term Planning

Metropolitan plans to store 200,000 acre-feet of water in Lake Mead during calendar year 2011, which would increase the total amount of water Metropolitan has stored in Lake Mead to 450,000 acre-feet. The improved storage conditions, along with Metropolitan's Colorado River water supply programs, leave Metropolitan in good position to provide a full supply of Colorado River water to Southern California when needed to meet demands for the next several years.

While near-term conditions have improved, Metropolitan continues to focus on providing long-term reliability from the Colorado River. In early 2010, Reclamation partnered with agencies in the Basin States, including Metropolitan, to undertake a study to evaluate options and strategies to meet the long-term water supply needs of agencies that rely on the Colorado River. During fiscal year 2010/11, the agencies completed the first of three interim reports from the study, which analyzed the future supplies that may be available in the Colorado Basin, factoring in the potential impact of climate change, and the future demand for Colorado River water. The next step of the study will be evaluating options and strategies to meet the supply and demand gap. The study is scheduled to be completed in 2012. Metropolitan will consider the results of the study to evaluate options that would be effective in meeting its long-term water supply goals for the Colorado River.

Metropolitan collaborated with the Inland Empire Utilities Agency and Western Municipal Water District on the Chino Basin Desalination Program.

CHAPTER 3

Water Resource Management

The Water Resource Management Group is responsible for planning, securing, and managing high-quality water resources for Metropolitan's member agencies in a reliable, cost-effective, and environmentally responsible manner. Principal responsibilities include managing imported water quantity and quality, advancing water-use efficiency, and providing supply and demand forecasts that are the foundation for resource planning. Other responsibilities include developing and implementing timely resource programs and projects, assisting member agencies in optimizing local resources to benefit the entire Metropolitan service area, and ensuring a fair return on Metropolitan's contractual investments in local and imported resources.

State Water Project Resources

Metropolitan currently has a water supply contract for 1,911,500 AF of water annually with the California Department of Water Resources, subject to availability. For FY 2010/11, Metropolitan took delivery of 1,363,353 AF, including exchange deliveries with Desert Water Agency and Coachella Valley Water District (Fig. 3-1). Fiscal year deliveries were nearly 20 percent greater than the annual average delivery for the preceding nine years. During the fiscal year, Metropolitan augmented its State Water Project supplies with a number of water transfers and exchanges, and dedicated 317,306 AF that went toward replenishing San Joaquin Valley and Mojave storage accounts that had been drafted during the 2007-09 drought. Metropolitan's net SWP payments were $491.8 million during FY 2010/11 (Table 3-1). Metropolitan also continued administering existing storage programs located outside its service area along the SWP system. These programs are described on the following pages.

Water Storage Programs

Semitropic/Metropolitan Water Banking and Exchange Program

Under the 1994 agreement with Semitropic Water Storage District, the program entitles Metropolitan to store up to 350,000 AF in the groundwater basin underlying Semitropic in Kern County and to retrieve between 31,500 AF and 223,000 AF annually. During FY 2010/11, Metropolitan delivered 124,223 AF before losses to storage. The total water in storage on June 30, 2011 was 155,715 AF.

Arvin-Edison/Metropolitan Water Management Program

Under a December 1997 agreement with Arvin-Edison Water Storage District, Metropolitan can store up to 350,000 AF and retrieve up to 75,000 AF per year. During FY 2010/11, Metropolitan delivered 79,981 AF to storage before losses. Arvin-Edison and Metropolitan exercised a water quality provision of the agreement allowing for the exchange of up to 40,000 AF of high-quality water. Arvin-Edison delivered high-quality Friant supplies and, in exchange, Metropolitan will return the entire balance by September 2011, using its SWP supplies. The one-to-one exchange improved the water quality in the California Aqueduct and did not require additional payments to Arvin-Edison. The total water in storage on June 30, 2011 was 109,543 AF.

San Bernardino/Metropolitan Coordinated Operating Agreement

A July 2000 coordinated operating agreement between Metropolitan and San Bernardino Valley Municipal Water District provides for the annual purchase of 20,000 AF and a carryover storage account of 50,000 AF. The agreement also provides Metropolitan with the option to purchase additional water when available. During FY 2010/11, Metropolitan purchased and took delivery of 20,000 AF. There was a carryover balance of zero on June 30, 2011.

TABLE 3-1
CHARGES, PAYMENTS AND CREDITS UNDER THE STATE WATER AND DEVIL CANYON CASTAIC CONTRACTS
(Millions of Dollars)

	Conservation (Delta)		Transportation								
Fiscal Year	Capital	Minimum OMP&R [2]	Capital	Minimum OMP&R [2]	Variable	Extra* Capacity Costs	Devil Canyon/ Castaic	Subtotals	Credits	Totals	Accumulated Totals
1963-73	2.50	0.66	197.31	19.33	1.02	39.16	3.56	263.54	(15.62)	247.91	247.91
1973-83	80.68	29.43	484.57	181.61	59.06		70.74	906.09	(49.53)	856.56	1,104.47
1983-93	163.85	127.62	662.42	1,391.73	88.29	85.62	88.50	2,608.03	(373.17)	2,234.86	3,339.33
1993/94	23.50	16.92	74.35	147.75	(5.86)	25.24	9.89	291.79	(101.81)	189.98	3,529.31
1994/95	22.58	17.29	77.05	150.63	8.96	24.01	10.24	310.76	(94.13)	216.63	3,745.94
1995/96	21.85	19.68	81.31	111.87	3.11	26.08	10.60	274.49	(65.33)	209.16	3,955.10
1996/97	21.51	21.19	85.23	109.56	10.00	29.18	10.44	287.11	(38.30)	248.81	4,203.91
1997/98	21.79	22.87	90.07	138.35	6.67	27.58	9.56	316.87	(64.74)	252.14	4,456.05
1998/99	20.56	23.07	90.58	139.60	6.50	29.48	9.40	319.19	(74.96)	244.23	4,700.28
1999/00	19.16	24.11	89.26	164.26	12.05	29.99	10.32	349.15	(70.06)	279.09	4,979.37
2000/01	26.91 [1]	24.60	115.99 [1]	156.53	35.73	32.99	10.81	403.57	(27.19)	376.38	5,355.75
2001/02	8.46	25.20	60.24	147.23	111.75	38.99	10.53	402.40	(68.44)	333.97	5,689.72
2002/03	16.32	25.90	88.45	161.36	64.83	32.95	10.26	400.07	(57.10)	342.97	6,032.68
2003/04	18.39	27.86	94.86	169.12	110.22	31.49	10.23	462.18	(69.47)	392.71	6,425.39
2004/05	20.60	29.65	98.51	149.53	102.39	28.28	10.99	439.94	(66.68)	373.26	6,798.65
2005/06	17.36	28.37	88.80	140.92	130.82	23.60	11.10	440.97	(41.33)	399.64	7,198.30
2006/07	21.34	25.40	87.95	172.78	88.82	28.64	11.90	436.83	(74.20)	362.63	7,560.92
2007/08	23.95	15.33	80.98	188.78	165.49	36.24	12.12	522.90	(58.60)	464.30	8,025.22
2008/09	23.18	30.50	73.30	224.90	56.72	31.30	13.40	453.30	(58.59)	394.71	8,419.93
2009/10	34.69	39.06	91.87	205.72	71.27	35.93	13.97	492.49	(54.28)	438.22	8,858.15
2010/11	34.70	49.13	97.02	206.13	100.66	36.22	14.10	537.96	(46.08)	491.88	9,350.03
TOTALS	643.89	623.85	2,910.12	4,477.68	1,228.50	672.94	362.65	10,919.64	(1,569.61)	9,350.03	

* Includes costs for excess capacity constructed for Metropolitan on the System and East Branch Enlargement

[1] DWR requested early payment of $36M to manage cash shortages due to 2001 California's energy crisis

[2] Minimum Operations, Maintenance, Power, and Replacement charge

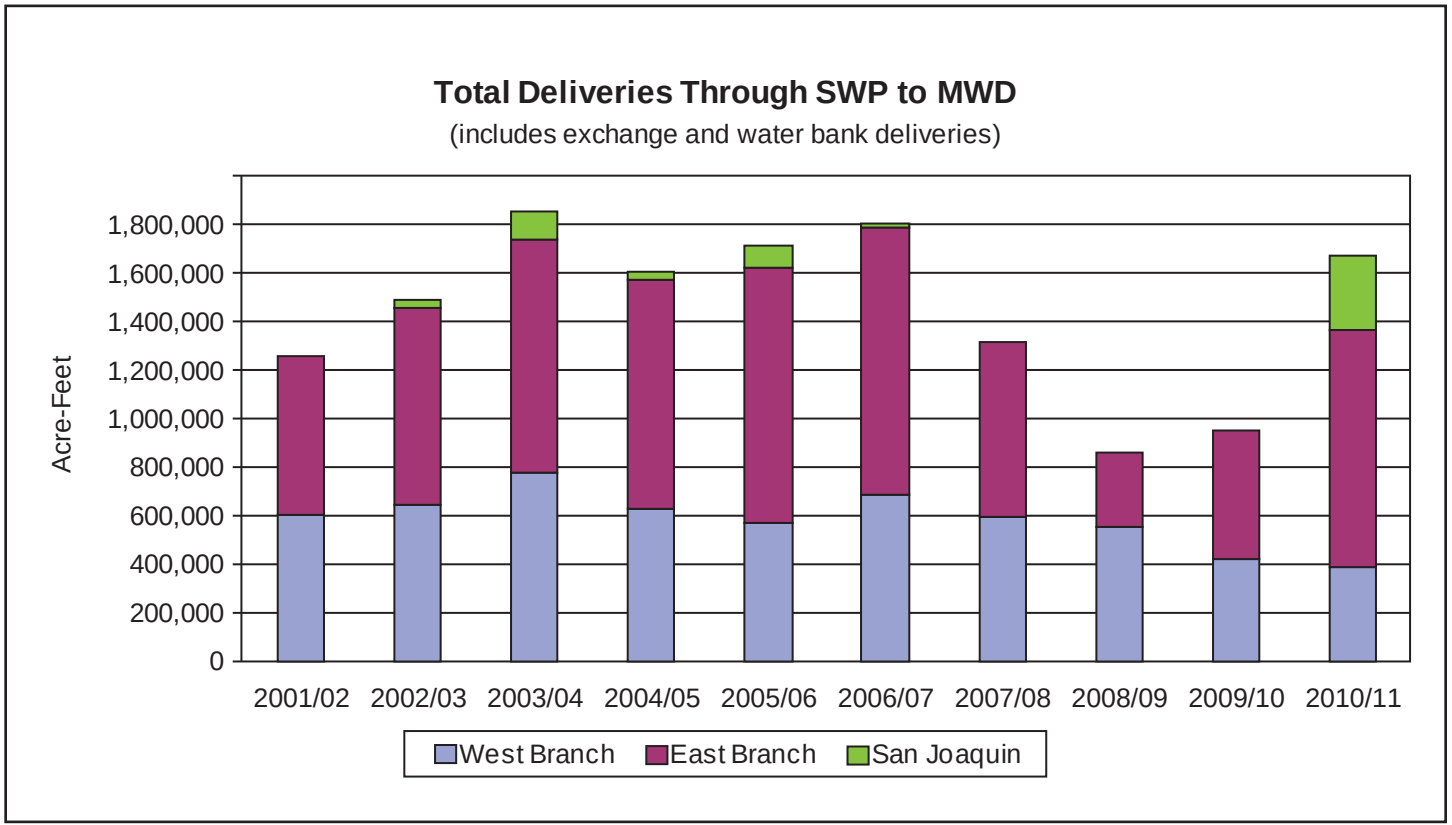


Figure 3-1. Total Deliveries through State Water Project to MWD

Kern Delta/Metropolitan Water Management Program

In May 2003, Metropolitan entered into an agreement with the Kern Delta Water District. This program allows Metropolitan to store up to 250,000 AF and retrieve up to 50,000 AF per year. During FY 2010/11, Metropolitan delivered 86,263 AF before losses to storage. The total water in storage on June 30, 2011 was 89,680 AF.

Mojave/Metropolitan Demonstration Water Exchange Program

In October 2003, Metropolitan entered into a demonstration agreement with Mojave Water Agency. At the close of the fiscal year, the two parties were finalizing amendments that would allow additional storage of nearly 400,000 AF. The agreement allows for the exchange of SWP water on the basis of one acre-foot of return water for each acre-foot of water previously delivered to Mojave. During FY 2010/11, Metropolitan recovered 2,891 AF from the exchange account and delivered 5,944 AF. The total water remaining in the exchange account on June 30, 2011 was 5,944 AF.

Water Transfers and Exchanges

State Water Contractors Buyers Group

In calendar year 2010, the State Water Contractors pursued up to 100,000 AF of Central Valley water transfers under an agreement authorized by the Metropolitan board the previous year. Metropolitan entered into similar agreements with the SWC in 2005 and 2008. Under the agreement, the water purchased by participating SWC members was allocated among the buyers, namely Metropolitan, Kern County Water Agency, Dudley Ridge Water District, and Antelope Valley East-Kern Water Agency. Metropolitan purchased 88,158 AF, approximately 90 percent of the total sellers' supplies. After carriage and conveyance losses, Metropolitan received 68,411 AF.

San Luis Water District/Westlands Water District Agreements

In August 2010, the board authorized two agreements with two Central Valley Project contractors: San Luis Water District and Westlands Water District. The first agreement involved the purchase of 18,453 AF of water transfer supplies. The Central Valley Project

contractors originally purchased this water to ensure adequate water supplies to irrigate permanent crops in 2010. This water became surplus as improved hydrology increased their water supplies. Metropolitan purchased and received 18,453 AF.

The second agreement authorized a one-year water exchange with the Central Valley Project contractors for the purpose of assisting with management of their 2010 water supplies. Under the agreement, Metropolitan used its conveyance and storage capabilities to conserve the Central Valley Project contractors supplies that otherwise would have been lost to spill. For every three acre-feet Metropolitan received from the Central Valley Project contractors, two acre-feet would be returned in 2011. Metropolitan and the Central Valley Project contractors exchanged 110,692 AF, of which Metropolitan will return 73,795 AF in summer 2011, leaving 36,897 AF for use by Metropolitan.

Shasta Exchange Supply

In January 2003, the board approved transfer agreements with various Sacramento Valley water and irrigation districts. Improved hydrology impeded the ability to pump this water at Banks Pumping Plant. Metropolitan entered into an exchange agreement in late August 2003 to make 47,124 AF available to the Bureau of Reclamation to prevent losing this supply to spill. After eight years of insufficient water, inadequate capacity and other issues the Bureau of Reclamation returned the water at Banks Pumping Plant in December 2010 for delivery to Metropolitan. After carriage and pumping capacity losses, Metropolitan received 33,171 AF.

Yuba Accord Water Transfers

In summer 2010, Metropolitan purchased 67,068 AF of supplies made available by the Yuba County Water Agency under a 2007 long-term agreement with DWR. After carriage and conveyance losses, Metropolitan received 52,045 AF.

Colorado River Resources

After a historic dry spell, hydrologic and storage conditions improved significantly in the Colorado River Basin during FY 2010/11, with increased deliveries on the Colorado River Aqueduct. Acquisitions and exchanges made possible by the 2003 Quantification Settlement Agreement continued in FY 2010/11. The QSA established water use limits for Imperial Irrigation District and Coachella Valley Water District, and provides the means for Metropolitan to acquire water to augment its basic annual apportionment of Colorado River water. Metropolitan conveyed 1,002,786 AF in its Colorado River Aqueduct during this fiscal year, including the exchange of 156,537 AF of conserved water acquired by San Diego County Water Authority. Of water resulting from the All-American and Coachella Canal lining projects, 16,000 AF was used by Metropolitan during the fiscal year with the remaining amount exchanged with SDCWA. Metropolitan's diversion included 272,583 AF of water not needed by the higher priority agricultural users. Figure 3-2 illustrates water conveyed annually in the aqueduct since calendar year 2000, including supplies above the basic apportionment.

Below-average runoff in the water year ending Sept. 30, 2010, capped off the driest 11-year period on record, resulting in Lake Mead storage reaching its lowest level in November since the initial filling of the reservoir in the 1930s. Subsequently, above average precipitation over the Upper Colorado River Basin has resulted in projected 2011 April through July unregulated inflow to Lake Powell of approximately 160 percent of normal. Storage in Lake Mead is projected to exceed 14.7 million acre-feet by the end of the calendar year for an increase of nearly 4.5 MAF from December 2010. While conditions have improved, the Bureau of Reclamation has not made surplus water available. In response, Metropolitan continued to pursue supplies from storage and acquisition programs to help meet demands. Figure 3-3 shows the storage levels of lakes Mead and Powell, which highlights impacts of dry conditions through 2010.

During this fiscal year, Metropolitan also took advantage of water management agreements negotiated in 2007 that allow agencies to develop and store new water supplies in Lake Mead. As of June 30, 2010, Metropolitan had 263,614 AF of storage in Lake Mead due to its funding participation in the Drop 2 Reservoir Project (also known as Brock Reservoir) and the Yuma Desalting Plant Pilot Run, both of which help conserve water previously lost from the system, and water saved from fallowing in the Palo Verde Valley.

Water Supply Acquisitions, Storage and Exchanges

In calendar year 2010, Metropolitan obtained 97,000 AF from its agricultural conservation program with IID, while an additional 116,310 AF was made available from Metropolitan's land-fallowing agreements with farmers in the Palo Verde Valley. An additional 32,304 AF was made available from short-term emergency fallowing program with farmers in the Palo Verde Valley.

Metropolitan collaborated on the Fallbrook Public Utility District Water Recycling Project.

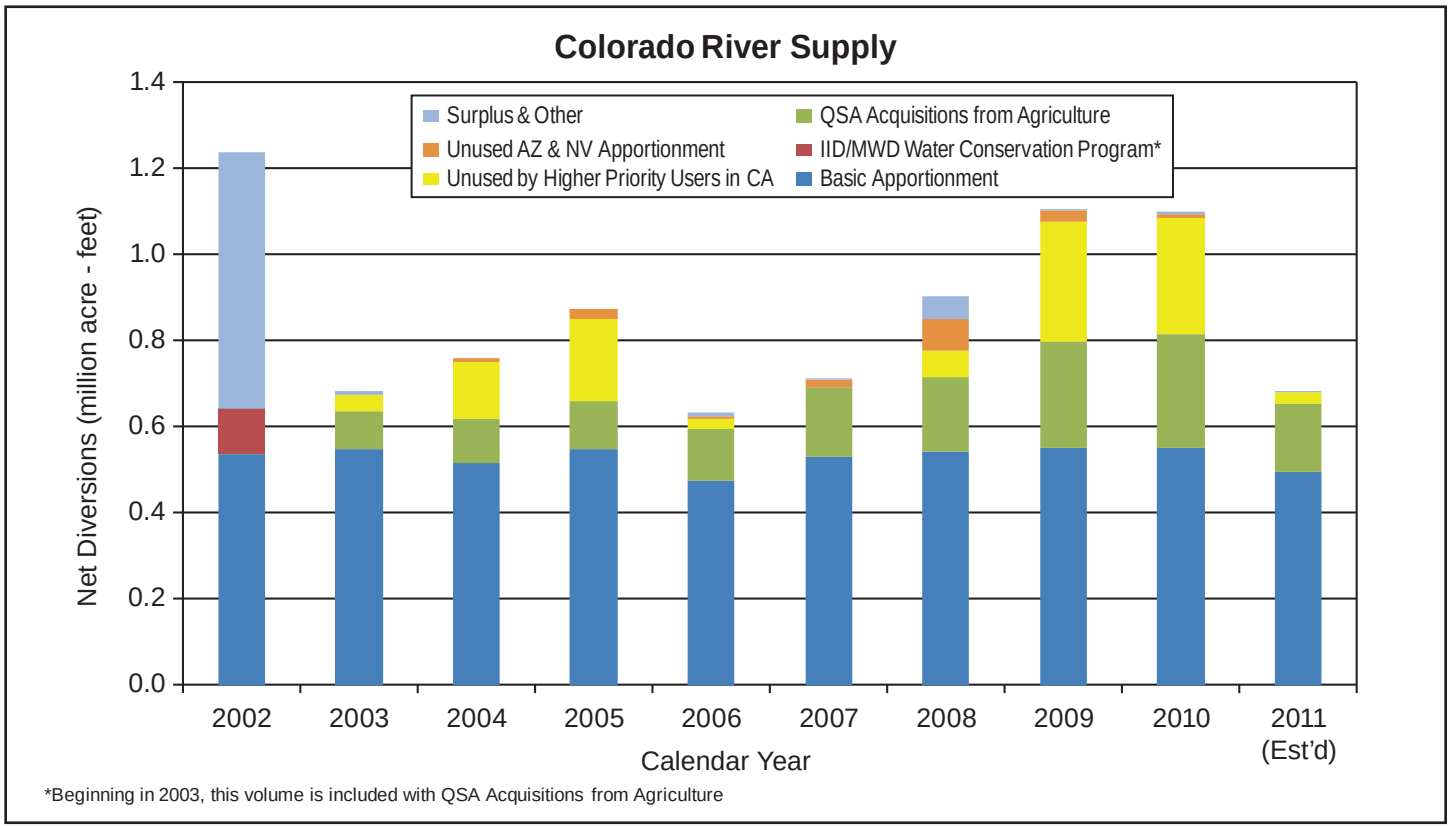


Figure 3-2. Colorado River Supply

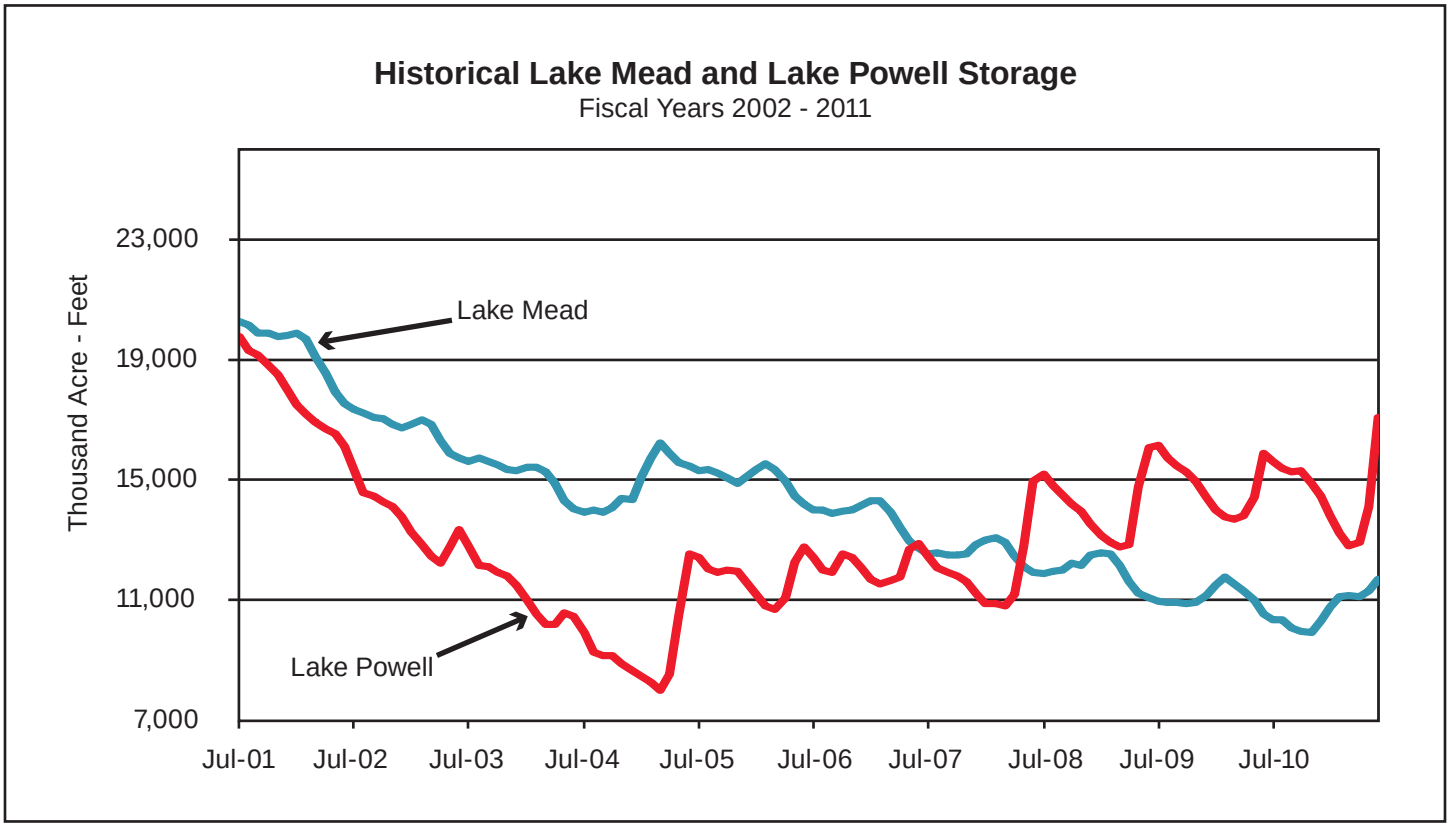


Figure 3-3. Historical Lake Mead & Lake Powell Storage

Local Resources

Water Recycling and Groundwater Recovery

Water recycling and groundwater recovery constitute important elements of the region's diverse local resource portfolio and help improve water supply reliability. Metropolitan provides financial incentives under its Local Resources Program for development and use of recycled water and recovered groundwater. The LRP provides up to $250 per acre-foot of water produced from new projects that expand regional water recycling and groundwater recovery. Eighty-five contracted water recycling and groundwater recovery projects are expected to collectively produce about 400,000 AF per year once fully implemented. Since inception of the LRP in 1982, Metropolitan has provided about $370 million for production of about 2.0 MAF of recycled water and recovered groundwater.

During FY 2010/11, Metropolitan provided $34 million for the development of 205,000 AF of recycled water and recovered groundwater in its service area. Combined with Metropolitan-funded projects, the region as a whole used about 335,000 AF of recycled water (Fig. 3-4), and about 90,000 AF of recovered groundwater (Fig. 3-5). Three new LRP incentive agreements are expected to produce up to 3,600 AF per year collectively, once fully implemented.

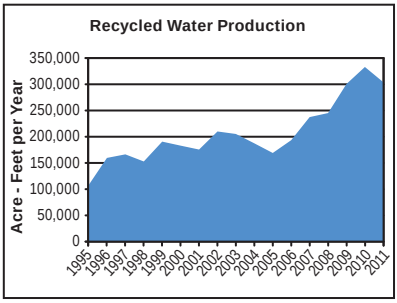


Figure 3-4

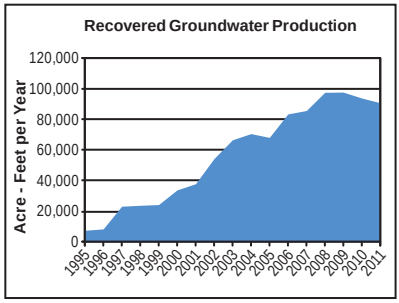


Figure 3-5

Seawater Desalination

Metropolitan supported local seawater desalination projects at permit hearings and coordinated responses to regulatory developments through participation in CalDesal, a consortium of California water agencies and other entities pursing the development of seawater and groundwater desalination. Metropolitan has incentive agreements with Long Beach, Municipal Water District of Orange County, and West Basin Municipal Water District for local seawater desalination projects. These projects are in the pilot-study phase with the potential to produce up to 46,000 AF per year. Metropolitan would provide incentives of up to $250 per acre-foot of production. A fourth incentive agreement with the San Diego County Water Authority is deferred due to litigation. Additionally, Metropolitan and West Basin are jointly studying the potential for delivering desalinated supplies through Metropolitan's regional distribution system.

Groundwater Storage

Metropolitan's dry-year conjunctive use programs store wet-year imported supplies to enhance reliability during dry, drought, and emergency conditions. During FY 2010/11, Metropolitan and Calleguas MWD agreed to terminate the North Las Posas groundwater storage program due to changed conditions and to allow basin parties to address basin management issues, reducing the number of active conjunctive use storage programs to nine. Following a period of withdrawals from Metropolitan's in-region groundwater conjunctive use storage accounts, Metropolitan began to store water this year and ended the year with nearly 30,000 AF in storage in the nine conjunctive use accounts. Table 3-2 shows the balance of stored water in each active in-region groundwater conjunctive use program.

Beginning in August 2010, imported water was made available to service area groundwater basins through a one-time Groundwater Management Program, and 33,500 AF was stored in service area groundwater basins this year. In May 2011, Metropolitan made 225,000 AF available through December 2011 for groundwater recharge via the Replenishment Service Program, which offers interruptible deliveries at a discount price. The board asked staff to review the Replenishment Service Program and suggest changes that would ensure regional benefits. This process is scheduled to have recommendations for board consideration by the end of 2011.

TABLE 3-2
METROPOLITAN'S CONJUNCTIVE USE PROGRAMS

Conjunctive Use Program	Total Storage (AF)	Dry-Year Yield (AF Per Year)	2010/11 Beginning Balance (AF)	Change in Storage (AF)	2010/11 Ending Balance (AF)
Los Angeles County					
Claremont	3,000	1,000	0	1,500	1,500
Compton	2,295	765	0	0	0
Foothill	9,000	3,000	522	-5	517
Live Oak	3,000	1,000	687	0	687
Long Beach Phase 1	13,000	4,333	6,402	0	6,402
Long Beach – Lakewood	3,600	1,200	900	0	900
Orange County					
Orange County	66,000	22,000	4	16,500	16,504
San Bernardino County					
Chino Basin	100,000	33,000	8,543	-8,543	0
Riverside County					
Elsinore Basin	12,000	4,000	0	2,569	2,569
TOTAL	**211,895**	**70,298**	**17,058**	**12,021**	**29,079**

2010/11 data is based on certifications submitted to Metropolitan as of July 2011. Some 2010/11 beginning balances differ from 2009/10 ending balances due to storage data received after publication of the 2009/10 Annual Report.

The Las Posas conjunctive use program in Ventura County was discontinued during FY 2010/11 due to changed conditions in the groundwater basin.

Conservation and Water-Use Efficiency

Metropolitan provided rebates on a wide array of water-efficient devices under two regional incentive programs: SoCal Water$mart for residential customers, and Save Water, Save A Buck for business customers. In FY 2010/11, Metropolitan's water conservation programs resulted in more than 12,900 AF of new water savings. Metropolitan has invested approximately $311 million in water conservation incentives since 1990.

Water Resource and System Planning

Integrated Water Resources Planning

The framework for regional water resource planning for Metropolitan's service area is the Integrated Water Resources Plan, first adopted by Metropolitan's board in 1996. The IRP provided a diversified 25-year plan to balance locally-developed resources with imported supplies. It called for investments in water conservation, recycling, groundwater treatment, storage and transfers, and in return brought supply diversity and stability. The IRP was updated in 2004 and again in 2010. The updated 2010 IRP, adopted by the board in October 2010 is based upon a three-component adaptive management approach:

- Core Resource Strategy – to ensure reliability under planned conditions.
- Supply Buffer – to enable adaptations for shorter-term uncertainty (outside of planned conditions).
- Foundational Actions – to mitigate for longer-term uncertainties, such as losses of existing supplies, stringent water quality or environmental regulations, and climate change, through research, studies, legislative efforts and pilot projects on alternative water supply options.

Regional Urban Water Management Plan

In November 2010, Metropolitan's board adopted the 2010 Regional Urban Water Management Plan in accordance with the Urban Water Management Planning Act. The 2010 RUWMP incorporated the most current planning projections of supply capability

and water demands developed through a collaborative process with Metropolitan member agencies. Information included in the 2010 RUWMP was compiled from numerous meetings, technical workshops, and stakeholder forums held as part of Metropolitan's overall planning process over the previous two years. The 2010 RUWMP provides a comprehensive summary of Metropolitan's water demand and supply outlook through 2035, consistent with the 2010 IRP.

Water Supply Allocation Plan

The Water Supply Allocation Plan has provided a formula for equitable distribution of available water supplies in case of extreme water shortages within Metropolitan's service area. Under the plan, member agencies could purchase up to a limited amount of Metropolitan water for municipal and industrial use without paying penalties.

FY 2010/11 was the second consecutive year in which Metropolitan implemented the WSAP. A Level 2 allocation was declared by the board in April 2010. However, due to improved regional water supply conditions and lower-than-expected demand trends, the board voted to terminate WSAP implementation and restore full imported water deliveries on April 13, 2011. Lifting of the WSAP allocation came two weeks after Gov. Jerry Brown announced an end to California's drought status on March 30, 2011. No agencies were assessed penalties for FY 2010/11. No allocation was declared for FY 2011/12.

Water Resource Data

Figure 3-6 displays precipitation for FY 2010/11 compared to average annual precipitation figures for three weather stations within Metropolitan's service area. Due to a wet October and December, precipitation increased significantly over the previous year and exceeded historical averages.

Figure 3-7 displays population served by Metropolitan since 1990, with historical population based on state Department of Finance estimates and projections based on regional transportation planning agencies. In 1990, the population served was approximately 15 million people. Since 1990, the population served increased to about 19 million people.

Figure 3-8 displays historical water sales since 1990 and projected water sales under normal weather and hydrologic conditions within Metropolitan's service area. Since 1990, water sales have ranged between 1.5 MAF and 2.5 MAF. Variations in sales are attributed to many factors that include weather and hydrologic conditions and economic activity. In fiscal year 2010/11, water sales dropped below 1.6 MAF as a result of Metropolitan-imposed shortage allocation during the first nine months of the fiscal year. Conservation activity and water use ordinances, coupled with a relatively cool and wet weather also attributed to the low sales volume. The projection under normal conditions is expected to trend downward into 2020 as Metropolitan implements the Integrated Water Resources Plan and the Long Term Conservation Plan to help reduce regional water use by 20 percent in 2020. The growth in population and demand will slowly outpace water use efficiency after 2020.

Whittier Narrows Golf Course now irrigates with recycled water, thanks to Metropolitan working with the Upper San Gabriel Valley Municipal Water District.

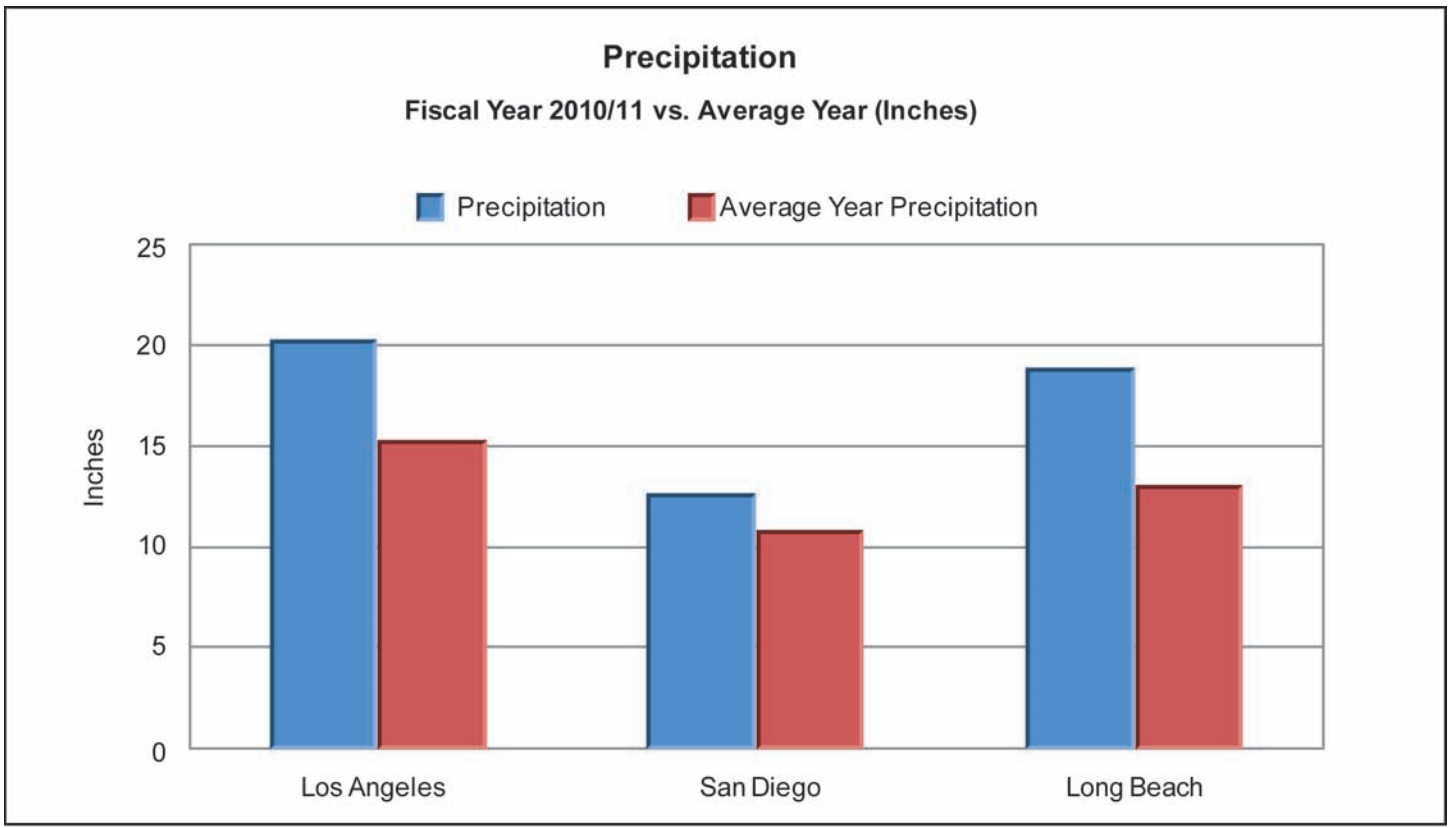


Figure 3-6. Precipitation

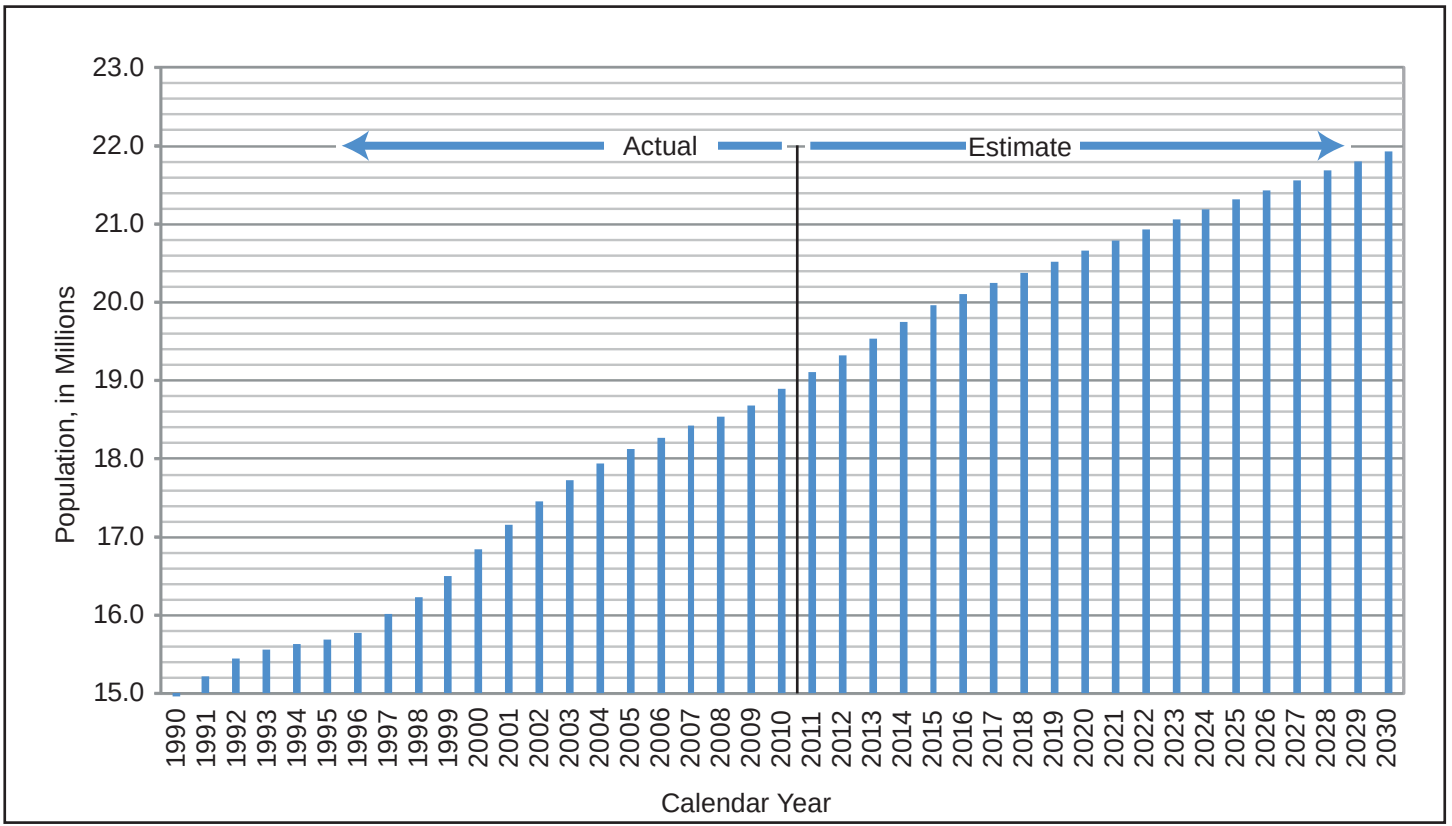


Figure 3-7. Population Growth

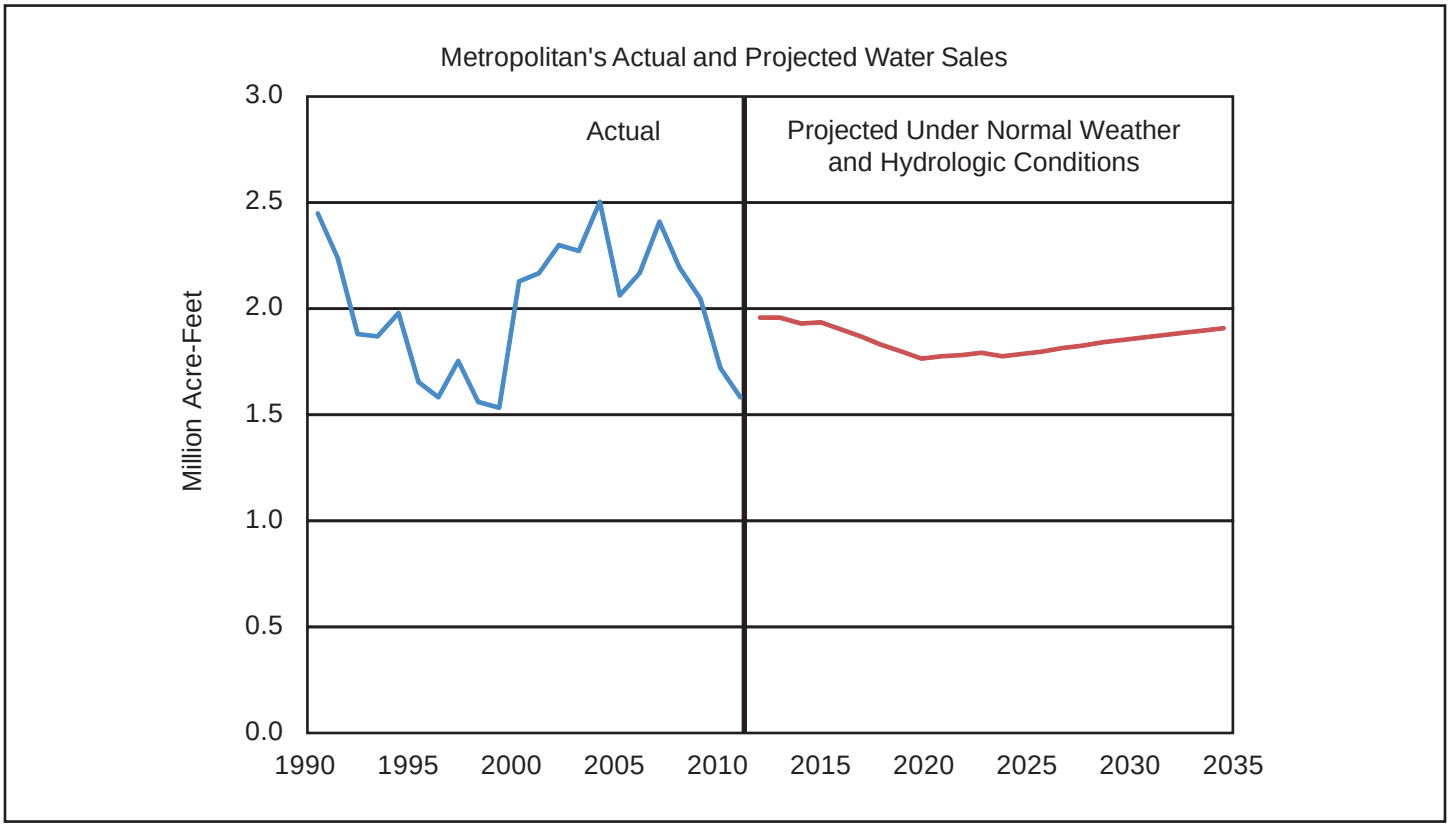


Figure 3-8. Metropolitan's Actual and Projected Water Sales

An influent tee is lowered by crane to tie into a newly-installed influent conduit during a treatment plant shutdown.

CHAPTER 4

Water System Operations

The Water System Operations Group conveys, treats and distributes water for nearly 19 million Southern Californians. WSO ensures excellent water quality for Metropolitan's six-county service area that meets all federal and state drinking water standards, and it operates and maintains Metropolitan's five treatment plants with a combined operational capacity of more than 2.6 billion gallons of water per day. WSO balances demand and supply as it operates, manages and maintains Metropolitan's water and power systems. It also oversees security; provides machine and fabrication services to support Metropolitan infrastructure; offers technical advice and support to member agencies, customers and other entities; provides technical training to ensure an effective, efficient and safe work environment; runs Metropolitan's Apprenticeship Program; assists in planning, design and construction of new facilities; and responds to emergencies to restore service in the shortest time possible.

Water Treatment

Metropolitan's five water treatment plants treat water from the Colorado River and Northern California. The F.E. Weymouth Water Treatment Plant generally serves parts of Los Angeles County, the San Gabriel Valley and areas of Orange County. The Robert A. Skinner Water Treatment Plant and Lake Skinner supply approximately 85 to 90 percent of San Diego's treated and raw water needs, while also serving western Riverside County and Moreno Valley. The Henry J. Mills Water Treatment Plant serves western Riverside County and Moreno Valley. The Joseph Jensen Water Treatment Plant supplements local water supplies in the San Fernando Valley, Ventura County and Central Los Angeles, while the Robert B. Diemer Water Treatment Plant provides treated water to areas of Orange County and coastal Los Angeles.

In FY 2010/11, the Weymouth, Diemer and Skinner plants reversed a three-year trend and began treating relatively larger amounts of State Water Project supplies, which modestly increased chlorinated disinfection byproduct levels and increased treatment chemical dosages and their associated costs. The increasing proportion of State Water Project supplies decreased the total dissolved solids concentration in the finished water, and the plants were able to limit salinity to below the board's annual goal of 500 mg/L.

The ozone processes at Jensen and Mills proved effective in minimizing chlorinated disinfection byproducts. Metropolitan successfully tested a new process at Mills to more cost-effectively control bromate, which is a regulated ozonation byproduct. Ozone facilities became fully operational at the Skinner plant in October 2010, with immediate taste-and-odor control benefits for member agencies receiving water from that plant. Chlorinated disinfection byproduct levels from Skinner began dropping once the ozone process startup was complete and the previous chlorine application point was turned off.

Construction of ozone facilities continued throughout the year at the Diemer plant, with an on-line date of late 2012. The second of three shutdowns needed to install ozone at Diemer was completed in late February, in order to connect a new electrical service and standby generator system.

At the Weymouth plant, rehabilitation projects in preparation for ozone continued to progress. Following a major shutdown of the Weymouth plant in March 2011, a new influent conduit and chemical mixing system was brought on-line. This new chemical feed system allows optimized chemical mixing and dosages throughout the plant.

As a result of these and numerous other capital projects during this fiscal year, more than $145 million was invested in refurbishing, upgrading and expanding the five water treatment plants.

Water Quality

Regulations

Metropolitan tracked regulatory developments on perchlorate and chromium 6 during the year. On Dec. 31, 2010, the Office of Environmental Health Hazard Assessment lowered the draft public health goal for chromium 6 from 0.06 parts per billion to 0.02 ppb. Then on Jan. 7, 2011, OEHHA proposed reducing the existing PHG for perchlorate from 6 ppb to 1 ppb. Staff submitted comments to OEHHA on the proposed revised PHG for perchlorate in March 2011 and for chromium 6 in June 2011. Metropolitan requested OEHHA to clarify the assumptions used in calculating the perchlorate PHG and supported the use of timely studies and sound science in developing the chromium 6 PHG. A PHG is not enforceable and represents non-mandatory goals. It is used by the California Department of Public Health as guidance to develop the enforceable drinking water standard or the Maximum Contaminant Level.

Water Quality Monitoring

Staff analyzed nearly 44,000 samples by conducting more than 255,000 analytical tests using 158 methods this year. The samples were collected from Metropolitan's water treatment plants, distribution system and source waters. The number of samples analyzed each year varies based on regulatory requirements and planned water quality studies.

Compliance

Chemical/Physical

Staff continued to analyze for inorganic and organic compounds, physical properties, and other constituents in Metropolitan's source and treated waters. Table 4-1 lists the sample locations for organic chemicals while Tables 4-2 through 4-4 show analytical results for trace metals, radiologicals, and general mineral and physical parameters. Staff also monitored for but did not detect any herbicides, pesticides, or organic compounds in the samples.

Total Dissolved Solids

Figure 4-1 shows how salinity or total dissolved solids levels in the Colorado River Aqueduct are typically higher than in the State Water Project because of the geology and size of the watershed. Precipitation also affects salinity levels, as exhibited by two steep declines in CRA salinity during high rainfall events in 1993 and 2005. Figure 4-2 presents TDS levels (as flow-weighted averages) in water leaving Metropolitan's five treatment plants. Sufficient supplies allowed Weymouth, Diemer and Skinner to treat higher blends of SWP supplies so that the plant levels were below the TDS water quality goal of less than 500 mg/L (milligrams per liter).

TABLE 4-1
SAMPLE LOCATIONS FOR ORGANIC COMPOUNDS
Fiscal Year 2010/11

Source Waters	Treated Waters
Devil Canyon Afterbay	Diemer Plant Effluent
Diamond Valley Lake (West Basin Center/12-meter depth)	Jensen Plant Effluent
Jensen Plant Influent	Mills Plant Effluent
Lake Havasu Intake (12-meter depth)	Skinner Reservoir Effluent[1]
Lake Mathews Headworks	Weymouth Plant Effluent
Lake Perris (near outlet tower at 9-meter depth)	
Lake Skinner Outlet Conduit	
San Jacinto Tunnel	

[1]Skinner Reservoir Effluent is a combined effluent from three Skinner plants.

Disinfection Byproducts

Metropolitan complied with the requirements of U.S. Environmental Protection Agency's Stage 1 Disinfectants and Disinfection Byproducts Rule. All running annual averages were below the MCLs of 80 µg/L (micrograms per liter) for total trihalomethanes which has been regulated since 1979, 60 µg/L for five haloacetic acids which Metropolitan has monitored since 1993, and 10 µg/L for bromate

TABLE 4-2
TRACE METALS IN METROPOLITAN WATER SUPPLIES

Fiscal Year 2010/11 Averages (in micrograms per liter or µg/L)

Metal	Maximum Contaminant Level (MCL)	Minimum Reporting Level	SOURCE WATERS											TREATMENT PLANT EFFLUENT				
			Colorado River Water			State Project Water				Blended Water								
			Lake Havasu	San Jacinto Tunnel West Portal	Lake Mathews	Castaic Lake at Jensen Influent	Silverwood Lake at Devil Canyon	Silverwood Lake at Mills Influent	Lake Perris	Weymouth Influent	Diemer Influent	Diamond Valley Lake	Lake Skinner	Weymouth	Diemer	Jensen	Skinner (Reservoir Effluent)[1]	Mills
Aluminum	1000(200[2])	10	20	18	52	39	106	69	48	62	68	15	36	78	129	86	ND	76
Antimony	6	2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic	10	0.5	2.7	2.7	2.7	3.1	2.0	2.0	2.4	2.3	2.4	2.6	2.5	1.4	2.0	2.5	0.6	1.1
Barium	1000	5	125	124	125	32	28	29	68	88	92	44	89	85	89	31	87	28
Beryllium	4	0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Boron	1000[3]	20	120	120	125	200	115	120	185	125	125	155	130	125	125	205	125	115
Cadmium	5	0.1	ND	0.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium	50	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium 6	NA	0.03	ND	ND	ND	0.30	0.07	0.08	ND	0.04	0.04	0.09	ND	0.07	0.07	0.30	0.13	0.12
Copper	1300[4](1000[2])	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iron	300[2]	50	60	ND	115	ND	60	70	ND	ND	77	ND	ND	ND	ND	ND	ND	ND
Lead	15[4]	1	ND	ND	ND	ND	ND	3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lithium	NA	10	45	45	46	ND	ND	ND	ND	30	31	13	28	30	31	ND	29	ND
Manganese	50[2]	5	ND	ND	8	9	14	12	68	7	9	ND	8	ND	ND	ND	ND	6
Mercury	2	0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Molybdenum	NA	2	5	5	6	3	ND	ND	4	4	4	3	4	4	4	4	4	ND
Nickel	100	2	ND	ND	ND	ND	ND	ND	3	ND	ND	ND	ND	ND	ND	ND	ND	ND
Selenium	50	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Silver	100[2]	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Strontium	NA	20	1060	1060	1060	284	165	169	285	702	735	405	718	690	726	284	713	167
Thallium	2	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vanadium	50[3]	1	2.5	2.5	3.2	4.4	3.1	3.1	4.1	3.1	3.1	2.7	3.1	2.8	2.9	4.1	ND	2.7
Zinc	5000[2]	20	ND	ND	ND	ND	ND	31	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Notes:

[1] Skinner Reservoir Effluent is a combined effluent from three Skinner plants.

[2] Secondary standard based on consumer acceptance rather than health considerations.

[3] Notification levels for boron and vanadium are health-based advisory levels.

[4] Action level. The MCL for lead has been replaced with a treatment technique focused on samples collected at the consumer's tap. Copper has a similar treatment technique and a secondary MCL.

NA = Not Applicable. Standards have not been established for these constituents.

ND = Not Detected

TABLE 4-3
RADIOLOGICAL COMPLIANCE MONITORING[1]
Average Values (in picoCuries per liter or pCi/L) of Four Consecutive Quarters

LOCATION	GROSS ALPHA	GROSS BETA	RADIUM 226	RADIUM 228	COMBINED RADIUM	STRONTIUM 90	TRITIUM	URANIUM	RADON 222
MCL	**15**	**50 ***	**NA**	**NA**	**5 ****	**8**	**20,000**	**20**	**NA *****
DLR	**3**	**4**	**1**	**1**	**1**	**2**	**1,000**	**1**	**100**
Lake Havasu Intake	6.2	7.1	ND	ND	ND	ND	ND	3.1	ND
San Jacinto Tunnel West Portal	5.9	4.3	ND	ND	ND	ND	ND	3.3	ND
Lake Mathews	5.7	5.4	ND	ND	ND	ND	ND	3.5	ND
Silverwood Lake	3.5	4.2	ND	ND	ND	ND	ND	2.7	ND
Lake Perris	ND	4.2	ND	ND	ND	ND	ND	1.8	ND
Diamond Valley Lake	ND	4.9	ND	ND	ND	ND	ND	2.1	ND
Lake Skinner	4.5	4.3	ND	ND	ND	ND	ND	2.8	ND
Weymouth Plant Effluent	5.2	4.2	ND	ND	ND	ND	ND	2.9	ND
Diemer Plant Effluent	5.6	4.3	ND	ND	ND	ND	ND	3.3	ND
Jensen Plant Influent	ND	ND	ND	ND	ND	ND	ND	2.1	ND
Jensen Plant Effluent	3.4	ND	ND	ND	ND	ND	ND	1.8	ND
Mills Plant Effluent	ND	ND	ND	ND	ND	ND	ND	2.1	ND
Skinner Reservoir Effluent [2]	3.6	ND	ND	ND	ND	ND	ND	2.5	ND

Notes:

[1] Results obtained during Calendar Year 2008 triennial sampling. Calendar year 2011 sampling will be completed in December 2011 and results will be included in Fiscal Year 2011/12 report.

[2] This is a combined effluent from three Skinner plants.

* The gross beta particle activity MCL is 4 millirem/year annual dose equivalent to the total body or any internal organ. The screening level is 50 pCi/L

** Standard is for radium 226 and radium 228 combined

*** To date, there has been no significant regulatory action on the proposed federal standards

DLR = Detection Limits for Purposes of Reporting

MCL = Maximum Contaminant Level

NA = Not Applicable. Standards have not been established for these constituents

ND = Not Detected. All results less than Detection Limit for Purposes of Reporting (DLR) were reported as ND

TABLE 4-4
GENERAL MINERAL AND PHYSICAL ANALYSIS OF METROPOLITAN'S WATER SUPPLIES
Fiscal Year 2010/11 Averages

CONSTITUENTS	SYMBOLS AND UNITS		SOURCE WATERS								TREATMENT PLANT EFFLUENT				
			Lake Havasu	San Jacinto Tunnel West Portal	Lake Mathews	Castaic Lake at Jensen Influent	Silverwood Lake at Devil Canyon	Lake Perris	Diamond Valley Lake	Lake Skinner	Weymouth	Diemer	Jensen	Skinner	Mills
Asbestos	ASB	MFL[1]	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bicarbonate	HCO_3	mg/L[2]	159	156	152	101	81	113	111	132	112	120	106	124	79
Bromide[3]	Br	mg/L	0.07	0.04	0.05	0.22	0.18	0.30	0.20	0.11	0.08	0.08	0.22	0.10	0.19
Calcium	Ca	mg/L	72	71	69	28	18	29	37	53	47	52	28	51	17
Carbonate	CO_3	mg/L	0	1	0	0	0	0	1	1	0	0	0	0	0
Chloride	Cl	mg/L	84	86	89	69	62	93	77	82	80	84	71	90	64
Cyanide	CN	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluoride	F	mg/L	0.3	0.3	0.3	0.2	ND	0.2	0.2	0.2	0.9	0.9	0.8	0.8	0.8
Foaming Agents	MBAS[4]	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Free Carbon Dioxide	CO_2	mg/L	1.7	1.2	1.5	3.1	1.3	2.3	1.4	1.1	2.1	2.2	1.0	1.1	0.5
Magnesium	Mg	mg/L	26	26	27	12	11	14	17	22	20	22	12	21	10
Nitrate	NO_3	mg/L	1.5	1.4	1.0	2.5	2.0	0.2	0.5	0.8	1.6	1.5	2.6	1.1	2.4
Potassium	K	mg/L	4.5	4.6	4.7	2.6	2.5	3.4	3.9	4.0	3.7	4.0	2.6	3.9	2.5
Silica	SiO_2	mg/L	7.6	7.4	7.0	13.9	11.7	16.4	8.8	8.5	8.9	8.5	13.5	9.0	11.4
Sodium	Na	mg/L	89	91	93	56	45	69	65	78	80	80	60	80	49
Sulfate	SO_4	mg/L	222	223	231	55	27	56	102	159	157	166	58	154	33
Total Alkalinity as $CaCO_3$	TA	mg/L	131	129	124	84	66	93	92	109	92	99	87	102	65
Total Hardness as $CaCO_3$	TH	mg/L	286	285	284	119	86	130	161	219	198	218	118	212	85
Total Organic Carbon	TOC	mg/L	2.80	2.84	2.55	2.00	3.21	3.65	2.78	2.83	NA	NA	NA	NA	NA
Color	COLOR	Units	3	2	3	5	11	8	5	4	1	1	2	1	1
Corrosivity: Aggressiveness Index	AI	AI	13	13	13	12	11	12	13	13	12	12	12	12	12
Corrosivity: Saturation Index	SI	SI	NA	NA	NA	NA	NA	NA	NA	NA	0.15	0.24	0.21	0.30	0.11
H^+ Concentration	pH	pH Units	8.19	8.35	8.25	7.78	8.05	7.96	8.21	8.32	7.99	7.96	8.24	8.02	8.48
Specific Conductance	EC	µS/cm[5]	962	963	983	526	405	612	649	803	781	824	544	814	425
Temperature	TEMP	°C	19	20	21	16	17	18	18	19	19	22	19	22	18
Threshold Odor Number	TON	TON[6]	20	4	12	8	12	17	10	24	2	2	2	18	3
Total Dissolved Solids	TDS	mg/L	587	589	598	291	219	337	368	473	455	479	301	473	230
Turbidity	TURB	NTU[7]	0.59	0.47	2.3	0.84	2.0	2.2	0.64	0.91	0.05	0.04	0.03	0.05	0.05
Pct. State Project Water	SPW	%	0	0	0	100	100	100	65	33	43	35	100	37	100

Notes:
[1] MFL = million fibers per liter
[2] mg/L = milligrams per liter
[3] Treatment plant bromides are influent values.
[4] Methylene blue active substances
[5] µS/cm = microSiemen per centimeter or micromho per centimeter (µmho/cm)
[6] TON = Threshold Odor Number
[7] NTU = Nephelometric Turbidity Units
NA = Not Applicable
ND = Not Detected

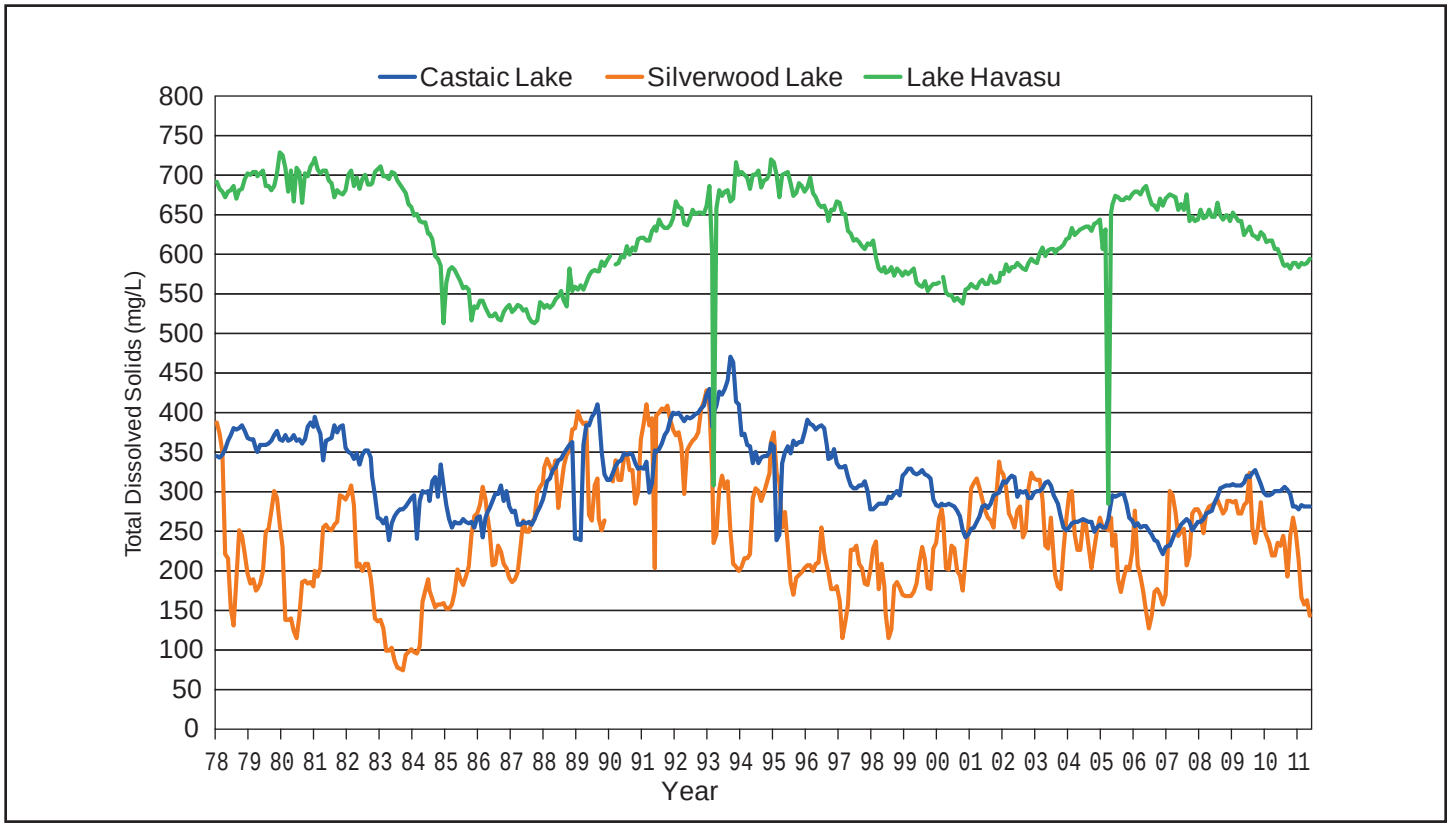


Figure 4-1. Total Dissolved Solids in East Branch SWP (Silverwood Lake), West Branch SWP (Castaic Lake), and CRA (Lake Havasu)

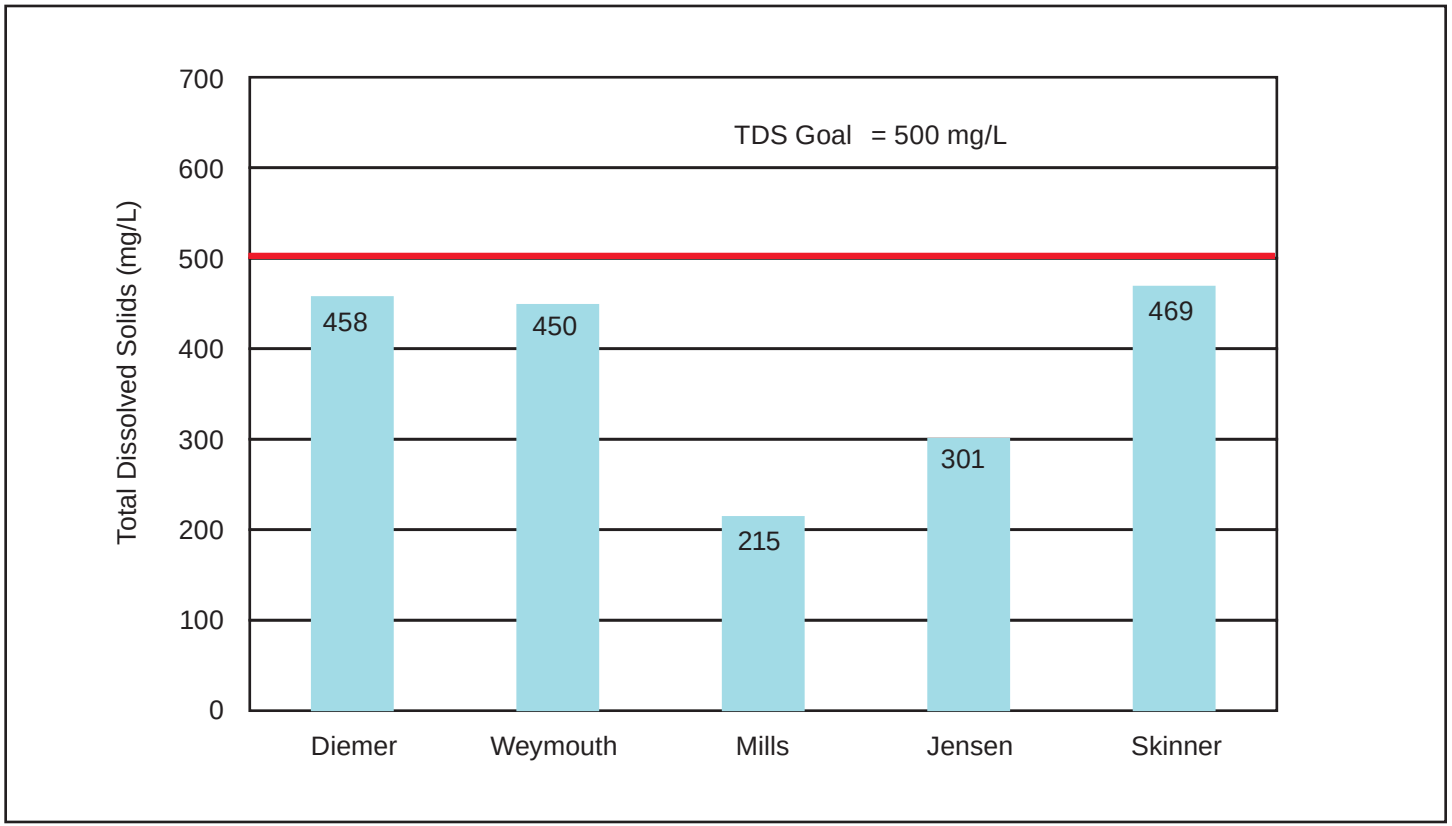


Figure 4-2. Total Dissolved Solids in Plant Effluent, Annual (Flow-Weighted) Averages, Fiscal Year 2010/11

established in 1998. Table 4-5 shows the level of disinfection byproducts in plant effluent, while Figures 4-3 and 4-4 summarize long-term trends for TTHMs and HAA5, which are byproducts of chlorination. Bromide levels in the plant influent water and HAA5 levels in the plant effluent are inversely related – when there is less bromide more chlorinated HAAs are formed.

TABLE 4-5
TOTAL TRIHALOMETHANES/HALOACETIC ACIDS LEVELS IN PLANT EFFLUENT
Fiscal Year 2010/11

	TTHM (µg/L)[1]		HAA5[2] (µg/L)	
Plant Effluent	**Weekly Range**	**Annual Average**	**Quarterly Range**	**Annual Average**
Diemer	37 – 58	48	15 – 25	19
Jensen	20 – 26	22	1.8 - 4.5	3.1
Mills	18 – 47	27	4.5 - 8.6	6.2
Skinner	24 – 45	35	5.6 - 18	11
Weymouth	54 - 68	61	16 - 33	25

[1]µg/L = micrograms per liter or parts per billion.
[2]HAA5 = five regulated haloacetic acids.

Figure 4-5 presents levels for total organic carbon and bromide, which are DBP precursors found in source waters. The Skinner plant influent was being chlorinated for quagga mussel control during fiscal years 2009 and 2010, but since that is no longer the case, bromide data has been consistent for FY 2010/11. Influent bromide levels naturally drop every spring and summer due to the snowmelt in the Sierras and subsequent increased outflows in the Delta. Figure 4-6 shows levels for bromate, a byproduct of ozonation, which began operating at Mills in 2003 and Jensen in 2005. An alternative bromate control strategy using the ammonia-chlorine process was tested at Mills beginning in October 2010, resulting in significantly lower bromate levels. Data for the Skinner plant, which began ozone disinfection in October 2010, will be reported after four quarters of monitoring.

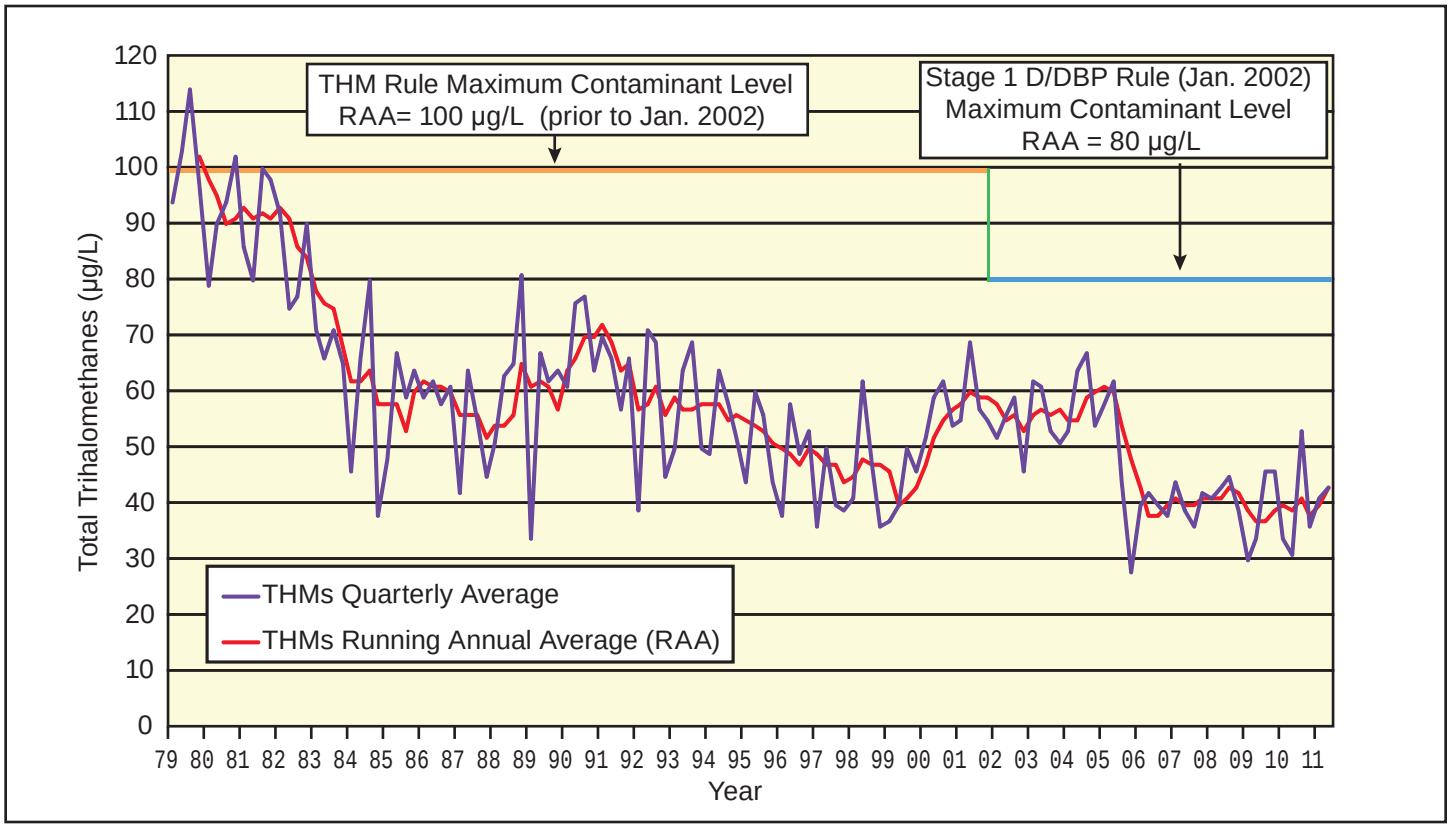


Figure 4-3. Trihalomethane Levels - Distribution Systemwide Quarterly and Running Annual Averages (µg/L = micrograms/Liter or parts per billion)

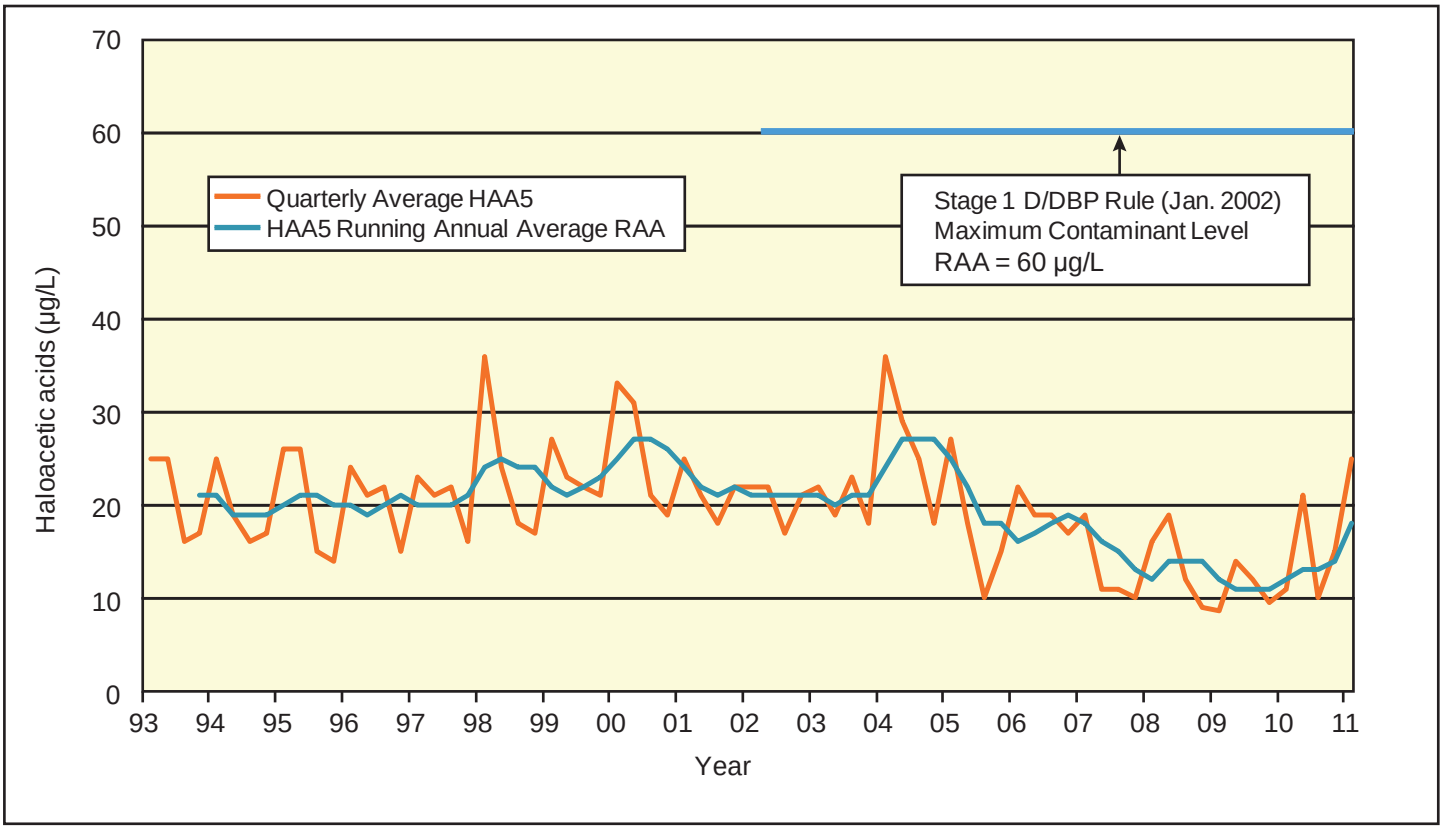


Figure 4-4. Haloacetic Acids - Distribution Systemwide Quarterly and Running Annual Averages

Microbiological

Staff monitored treatment plant influent for total coliforms and *E. coli* in compliance with the California Title 22 Surface Water Treatment requirements (Table 4-6). Coliforms are bacteria that naturally occur in the environment and *E. coli* may indicate fecal contamination. One factor for measuring the quality of Metropolitan's influent water is the *E. coli level*. When *E. coli* levels exceed 100 per 100 mL as a weekly median, additional treatment or operational controls may be warranted. This weekly median was not exceeded at all five treatment plants. The monthly average is included to provide consistency with historical data.

Total coliforms, but no *E. coli*, were detected in five out of the 7,910 samples collected from the distribution system under the Total Coliform Rule. The monthly average of 0.1 percent total coliform-positive samples is well below the 5.0 percent MCL.

Metropolitan complied with the California Waterworks Standards on disinfection, coliform bacteriological testing of drinking water pipelines, water storage, and treatment plants undergoing new installation or maintenance. Staff analyzed more than 600 bacteriological samples to meet regulatory requirements.

TABLE 4-6
RAW WATER COLIFORM RESULTS
California Title 22 Compliance - Surface Water Treatment
Fiscal Year 2010/11

	Treatment Plant Influent[1]				
	Diemer	**Jensen**	**Mills**	**Skinner**	**Weymouth**
	(CFU/100 mL)				
Total Coliforms					
Range	ND-3,800	23-5,700	13-11,000	30-19,000	ND-9,300
Average[2]	540	830	820	3,800	1,300
E. coli					
Range	ND-5	ND-10	ND-56	ND-140	ND-7
Average[2]	ND	2	3	11	1

Notes:
[1] Samples were collected weekly and analyzed by membrane filtration (EPA 1604).
[2] Annual average of monthly averages.
CFU/100 mL = colony-forming units/100 milliliters
ND = Not Detected; method detection limit is 1 CFU/100 mL.

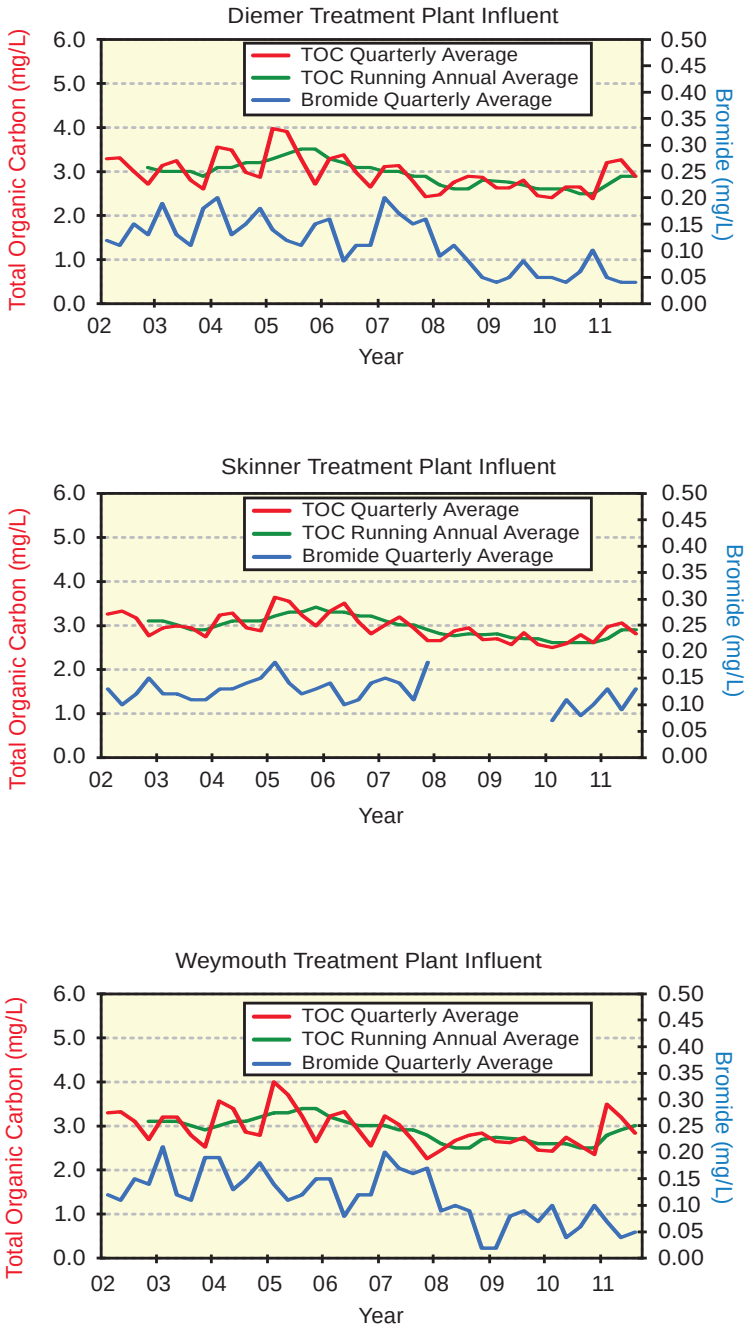


Figure 4-5. Total Organic Carbon (TOC) and Bromide Levels in Treatment Plant Influent, 2002-2011

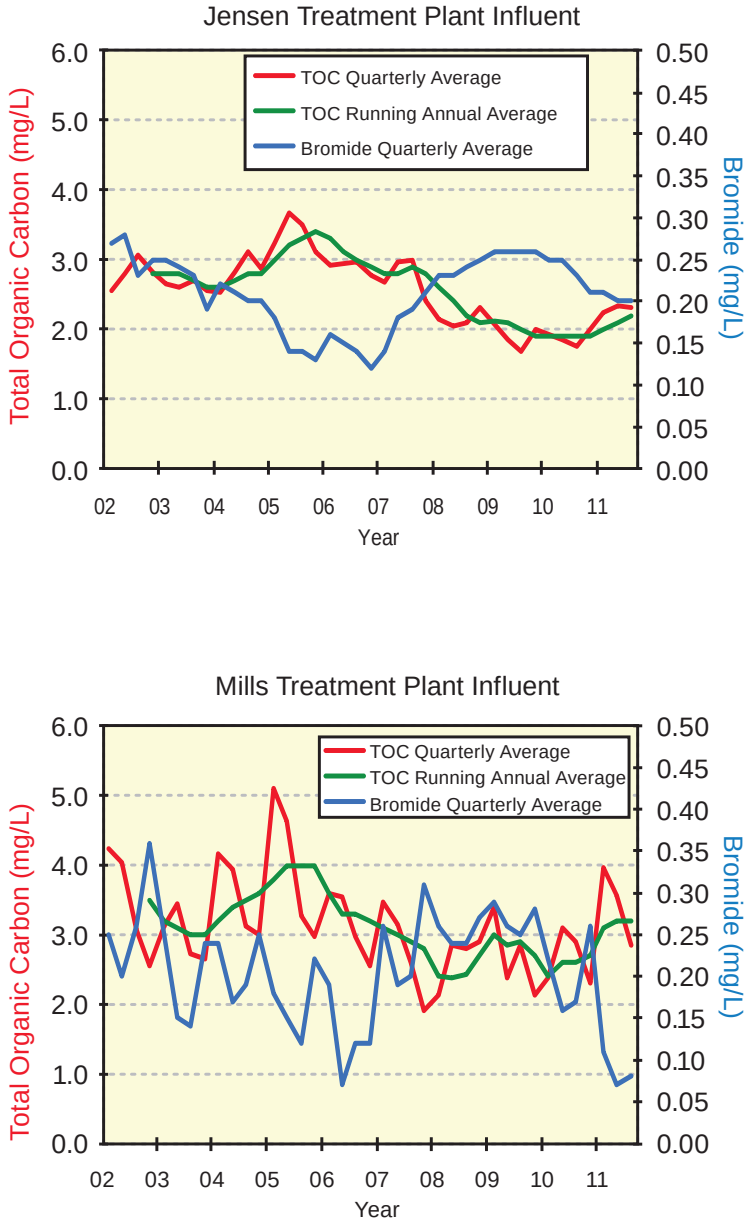


Figure 4-5 (Continued). Total Organic Carbon (TOC) and Bromide Levels in Treatment Plant Influent, 2002-2011

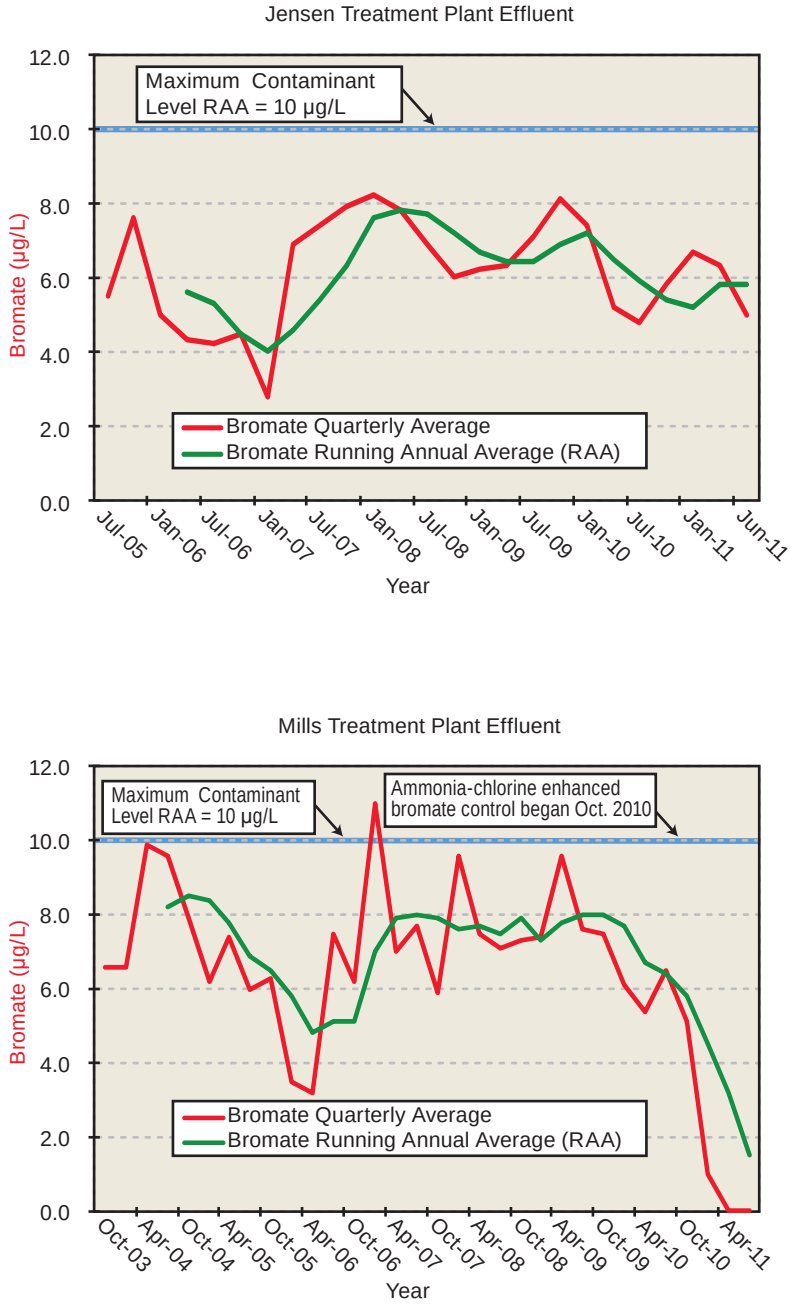


Figure 4-6. Bromate Levels in Treatment Plant Effluent, 2003 - 2011
(Jensen Ozone came online in 2005)

System Management and Pathogen Monitoring

Algae Control Program

Staff analyzed 2,200 samples for the taste-and-odor compounds 2-methylisoborneol and geosmin from Metropolitan's water system during T&O events (Fig. 4-7). Copper sulfate was applied to control cyanobacteria (blue-green algae) populations that produce T&O problems, mainly at Lake Skinner in recent years (Table 4-7 and Fig. 4-8). No copper sulfate has been applied at Lake Mathews or Diamond Valley Lake since FY 2004/05.

TABLE 4-7
COPPER SULFATE TREATMENTS TO CONTROL TASTE-AND-ODOR EVENTS
Fiscal Year 2010/11

	Taste-and-Odor Treatments	Copper Sulfate (tons)
Lake Mathews	0	0
Lake Skinner	2	19
Diamond Valley Lake	0	0
TOTAL	**2**	**19**

Quagga Mussel Control Program

A program for control of invasive quagga mussels has been in effect since their detection in the Lower Colorado River in 2007. The main strategies for control of quagga mussels in the raw water system have continued, including chlorination at strategic sites, desiccation and removals during shutdowns, use of a mobile chlorinator for intermittent treatment at specific locations, and manipulation of lake oxygen levels. The efficacy of other disinfectants for control of mussels is also being evaluated in Metropolitan source waters.

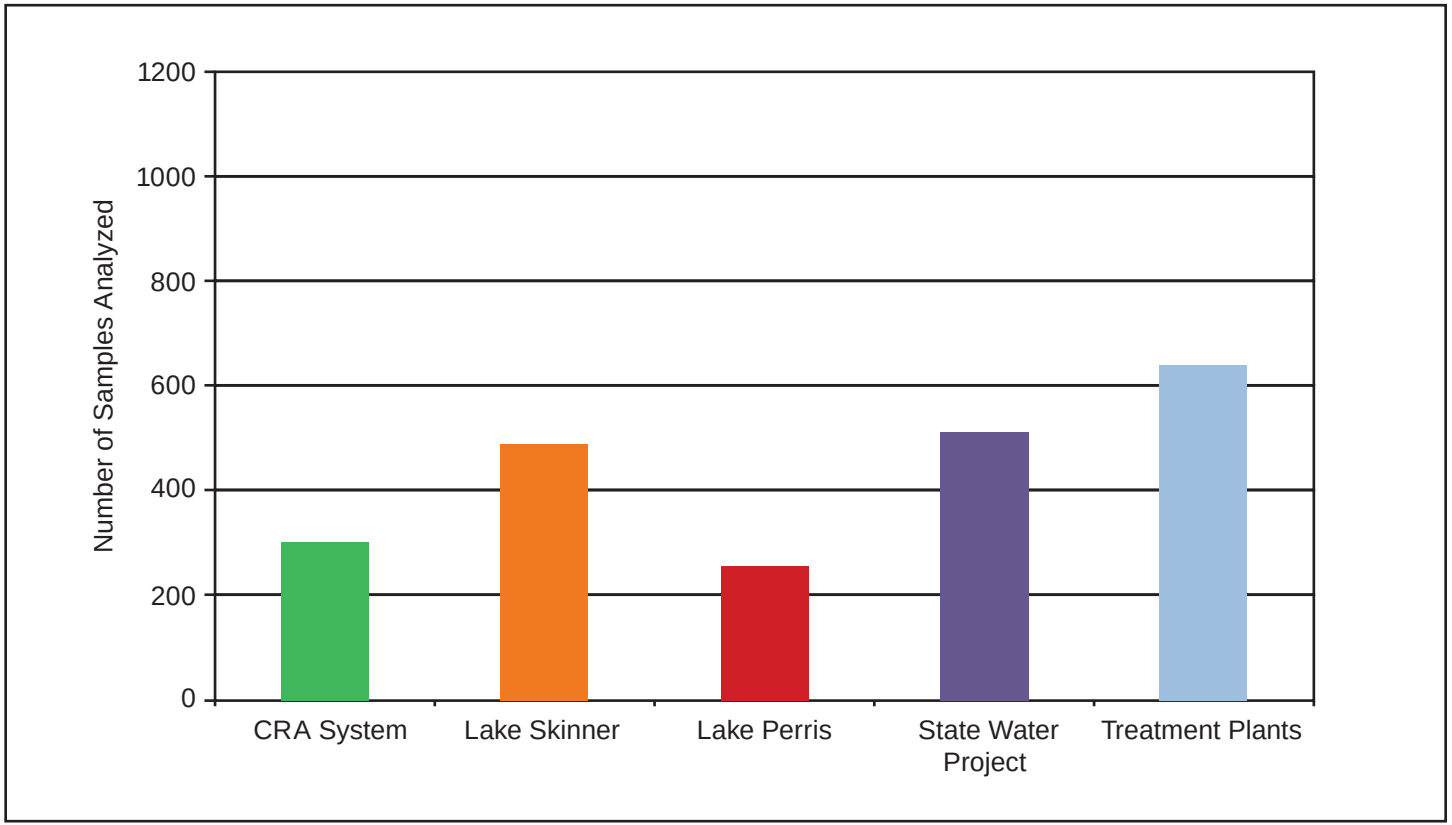


Figure 4-7. Number of Samples Analyzed for the Taste-and-Odor Compounds, 2- Methylisoborneol (MIB) and Geosmin, in Source and Finished Waters, Fiscal Year 2010/11

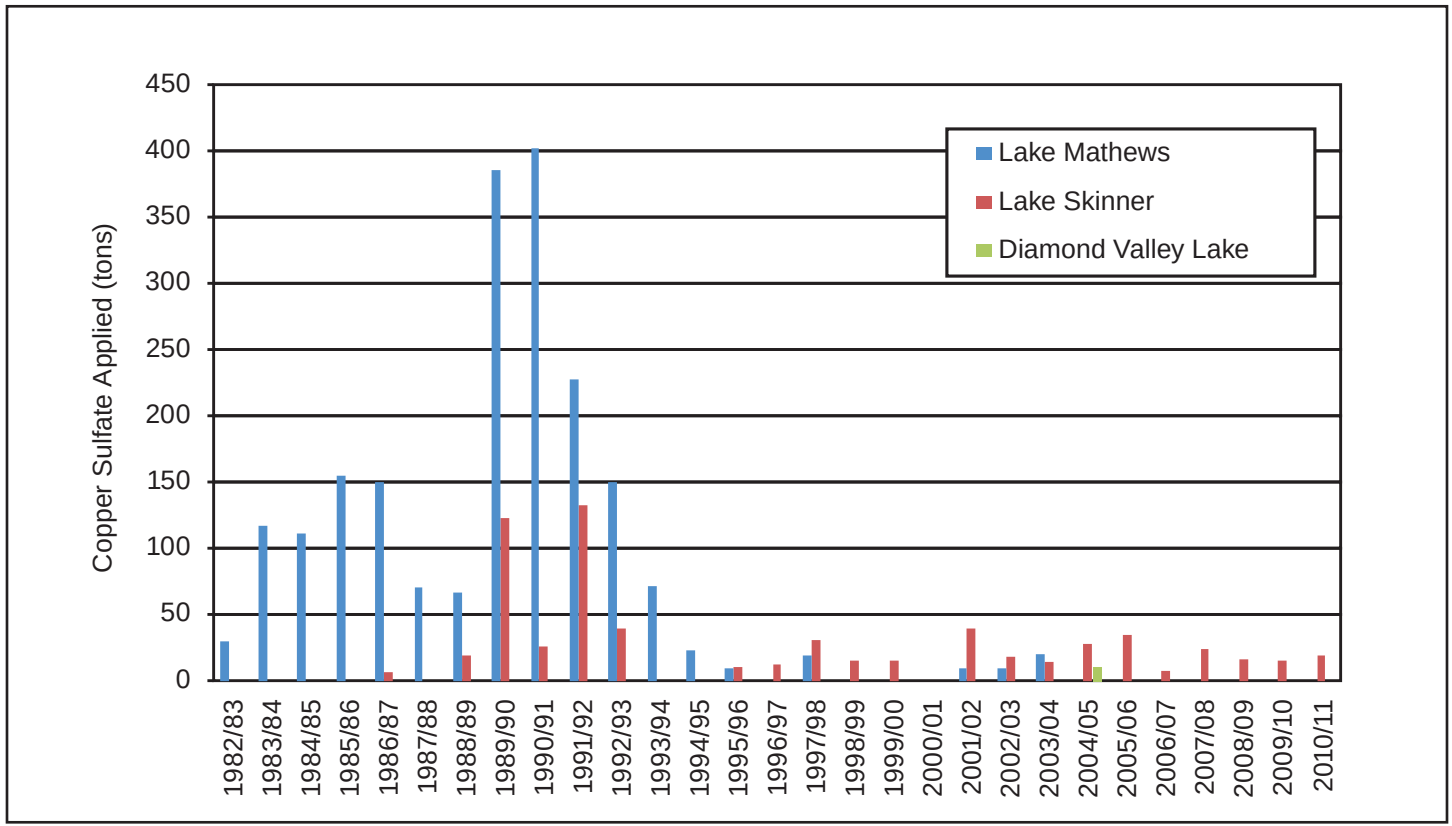


Figure 4-8. Copper Sulfate Usage between 1982 and 2011 in Metropolitan's Reservoirs

Pathogen Monitoring Program

The Pathogen Monitoring Program tests for the pathogenic protozoa *Cryptosporidium* and *Giardia* through monthly sampling of source waters, plant influent, and plant effluent. Staff did not detect either pathogen in any sample during this period. In the last 12 years, approximately 1 percent of the monthly raw water samples tested positive for either microbe, but after treatment, all plant effluent samples were negative.

Staff did not detect pathogenic enteric viruses during quarterly monitoring of water entering the treatment plants.

Watershed, Water Protection and Supply

Watershed and Source Water Protection

Metropolitan, Southern Nevada Water Authority, and the Central Arizona Project formed the Lower Colorado River Water Quality Partnership in March 2011 to collaborate and jointly advocate on source water protection issues. Staff continued to participate in the Lake Mead Water Quality Forum and coordinate with key Colorado River stakeholders. Metropolitan also advocated for continued phosphorus control at Las Vegas area wastewater plants and commented on permit renewals, supported efforts of the Colorado River Regional Sewer Coalition, and urged strict oversight of uranium exploration in the Grand Canyon area.

Partnering with the State and Federal Contractors Water Agency, Metropolitan supported the Central Valley Regional Water Quality Control Board to establish a discharge permit protective of drinking water quality for the Sacramento County Regional Sanitation District discharge to the Sacramento River.

Metropolitan's local watershed planning included modeling the Lake Mathews watershed to assess runoff pollution and develop best management practices. Staff also reviewed and commented on legislation, policies, and external projects affecting source water protection issues.

Pump-in Programs and Water Banking

Staff helped to ensure that water quality and supply requirements were met on water banking and pump-in programs involving Arvin-Edison and Semitropic water storage districts, and the Kern Delta Water District, throughout the year.

Water Quality Modeling and Forecasting

In partnership with DWR and other SWP municipal contractors, Metropolitan continued development of a comprehensive Delta and SWP water quality monitoring and forecasting program. It includes online instrumentation and computer modeling of the Delta, its tributaries, and SWP storage and conveyance facilities. The program integrates water quality data into short- and long-range system management, such as forecasts that assess the impact of in-Delta island flooding on Metropolitan's water treatment plants. In addition, an updated, seasonal water quality forecast for the Delta and the SWP is produced monthly by DWR and available online.

Uranium Mill Tailings

As of June 2011, the U.S. Department of Energy had removed more than 25 percent of a 16 million-ton pile of uranium mill tailings from the banks of the Colorado River near Moab, and shipped it via rail to a disposal cell at Crescent Junction, Utah, approximately 30 miles northwest of Moab. Initial tailings removal was accelerated by funds through the American Recovery and Reinvestment Act. Metropolitan continued its efforts to support increases in project funding to expedite cleanup efforts.

Topock Chromium 6 Remediation Project

Metropolitan continued working with stakeholders in support of Pacific Gas and Electric's chromium 6 groundwater remediation process along the Colorado River near Topock, Arizona. In January 2011, the California Department of Toxic Substances Control finalized the Environmental Impact Report and the U.S. Department of the Interior finalized the Record of Decision. These documents selected on-site treatment with fresh water flushing as the groundwater treatment. Metropolitan supports the decision to utilize this treatment

alternative as the means to achieve remediation of the chromium 6-contaminated groundwater.

Chromium 6 remained below California's detection limit of 1 microgram per liter as Metropolitan and PG&E worked to protect the river by conducting water quality monitoring of the interim treatment process.

Perchlorate

Remediation at the Tronox, Inc. and American Pacific Corp. sites in Henderson has reduced perchlorate loading (measured in pounds per day) into the lower Colorado River by more than 90 percent since 1998 (Figure 4-9). Consequently, perchlorate levels at Lake Havasu intake have dropped significantly (Figure 4-10) and have consistently remained below 2 µg/L (micrograms per liter). Metropolitan continued working with the Nevada Division of Environmental Protection in tracking perchlorate loading. Tronox filed for Chapter 11 bankruptcy protection in January 2009 and as result of the bankruptcy settlement, the Nevada Environmental Response Trust took ownership of the Tronox site in February 2011. Metropolitan worked closely with NDEP and the bankruptcy trustee in tracking remedial progress and asserting Metropolitan's interests as needed to ensure cleanup efforts remained at current levels.

Pharmaceuticals and Personal Care Products

Metropolitan investigated the occurrence of pharmaceuticals and personal care products in its source and treated waters. Considered as constituents of emerging concern in drinking water sources, PPCPs have been detected at very low ng/L (nanogram per liter) levels or about one million times lower than a single therapeutic dose.

To date, there are no standard analytical methods and no federal or state regulatory requirements for PPCPs in drinking water. Metropolitan currently collaborates with other leaders in the drinking water community on a Water Research Foundation-funded project to improve and standardize analytical methods for PPCPs.

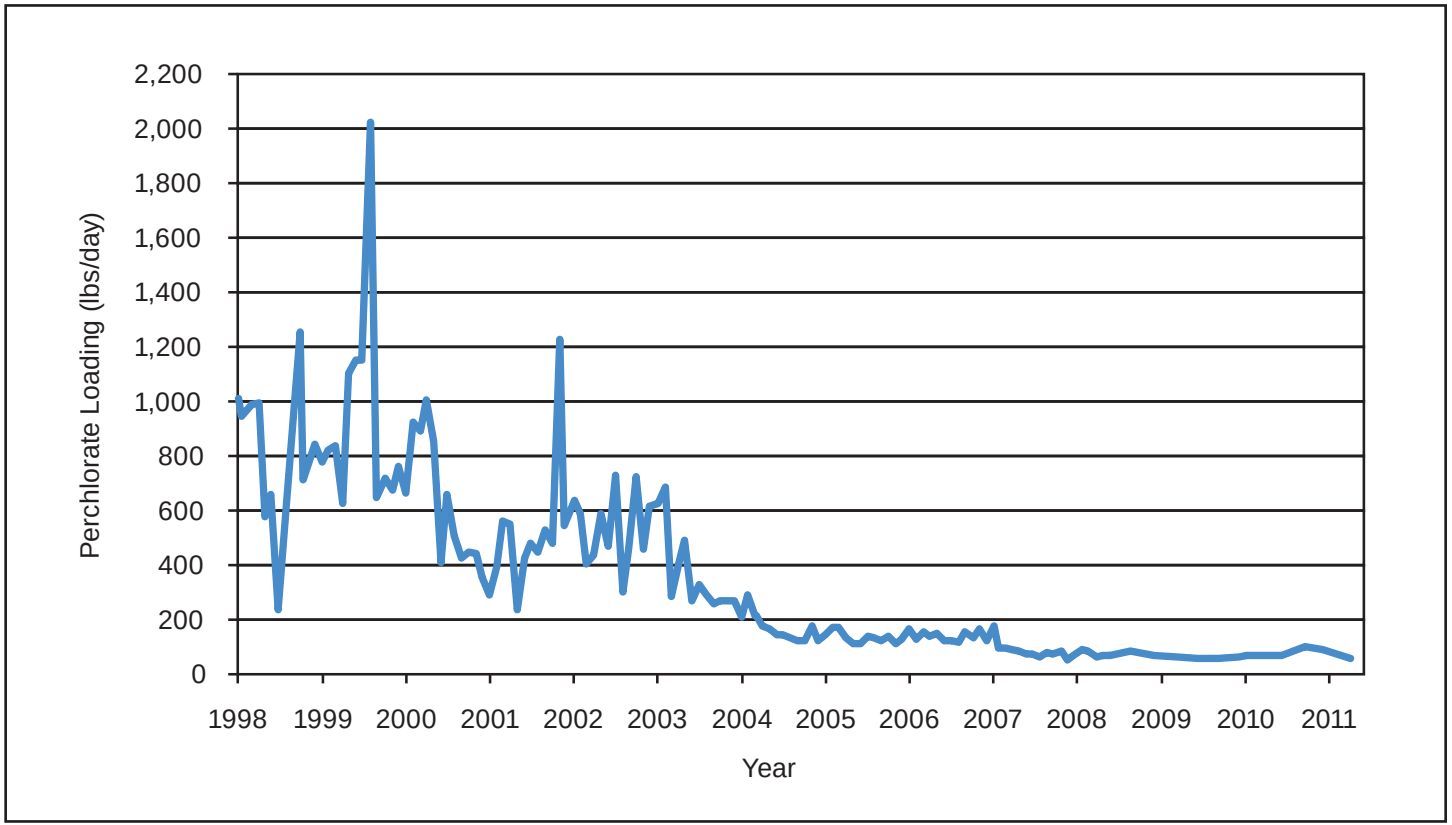


Figure 4-9. Perchlorate Loading in Las Vegas Wash at Northshore Road (½ mile upstream of Lake Mead)

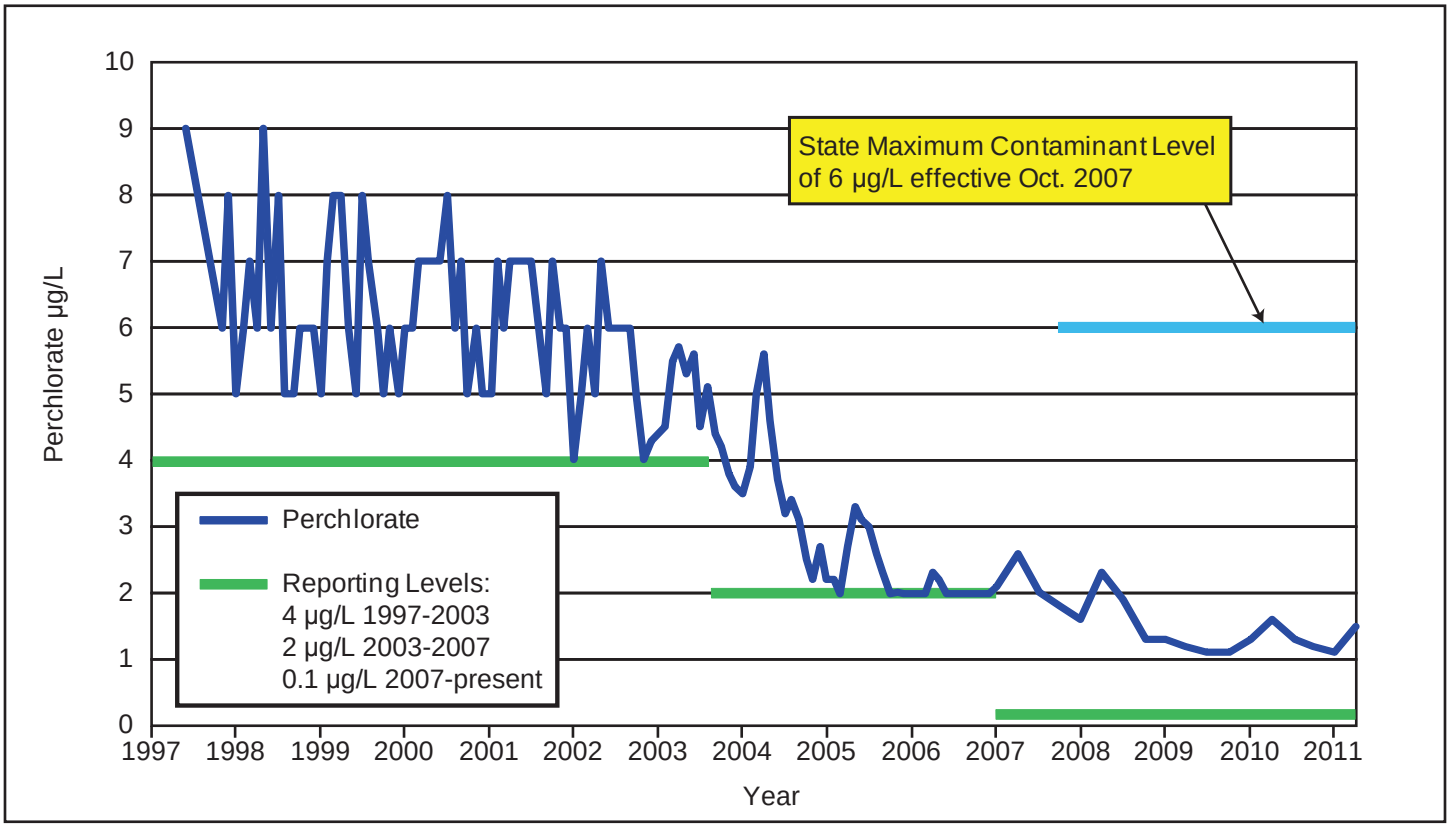


Figure 4-10. Perchlorate Levels at Lake Havasu

Staff conducted laboratory-scale ozone tests to evaluate the removal of PPCPs in Metropolitan's source waters. Preliminary results showed that ozone is effective at removing some PPCPs to various degrees.

N-Nitrosodimethylamine

N-nitrosodimethylamine is a byproduct of the disinfection process, particularly during chloramination. Metropolitan has monitored for NDMA in the distribution system since 1999. Table 4-8 shows that NDMA levels in the distribution system for FY 2010/11 were below the state's notification level of 0.00001 mg/L (milligrams per liter).

Staff continued studies on NDMA and other nitrosamines to assess the vulnerability of Metropolitan's two major watersheds to NDMA formation and evaluate cost-effective water treatment options to ensure compliance with future regulations.

TABLE 4-8
N-NITROSODIMETHYLAMINE LEVELS (ng/l)[1]
IN THE DISTRIBUTION SYSTEM
Fiscal Year 2010/11

Sample Location[2]	Range
Diemer Plant	ND[3] - 4.2
Jensen Plant	3.4 - 9.0
Mills Plant	ND - 3.5
Skinner Plant	ND - 5.0
Weymouth Plant	ND - 6.0
Central Pool Sites	ND - 9.2

Notes:

[1] Nitrosamines are usually expressed in nanograms per liter (ng/L) with two significant figures; however, comparison to the Notification Level is carried out using the same units (mg/L) and significant figures (one) as the published NL.

[2] Plant locations are distribution system sites associated with each treatment plant.

[3] ND - Not Detected; NDMA reporting level is 2 ng/L

Technology Assessment

Treatment Process Optimization and Development

Metropolitan continued studies to optimize ozone disinfection and treatment, evaluate an enhanced bromate formation control strategy, and identify factors affecting NDMA formation within its service area. A study began at Mills in October 2010 to evaluate the enhanced bromate formation control strategy utilizing ammonia and chlorine prior to ozone addition. This alternative strategy has the potential to significantly reduce chemical costs and improve plant operations.

Desalination Research and Innovation Partnership

Metropolitan has concluded the Desalination Research and Innovation Partnership. The DRIP program spanned 13 years and consisted of 67 projects with a value of $25 million in applied research. Metropolitan's studies and collaborative efforts with member agencies, other California water utilities, and universities involved advanced salinity removal techniques for Colorado River water, brackish groundwater, municipal wastewater and agricultural drainage water from inland sources, as well as improvements in the use of ultraviolet light for disinfection.

Regional Purified Water Reuse Study

Staff continued working with the Los Angeles County Sanitation Districts to investigate regional water purification alternatives. A pilot plant was established at the Joint Water Pollution Control Plant in Carson to investigate two advanced water treatment processes for purifying wastewater. Technologies being studied include micro-filtration, reverse osmosis, advanced oxidation with ultraviolet light and hydrogen peroxide, and membrane bioreactor systems.

Funded Projects

Metropolitan's partnership with funding agencies such as the federal EPA and Water Research Foundation focused on applied research efforts relating to membrane technologies for desalination, detection methods for pathogens, emerging contaminants, improved

analytical methods, and projects that address future regulatory issues (Table 4-9).

Service to Member Agencies and Drinking Water Industry

Metropolitan continued to provide member agencies with technical support, timely water quality and system updates as well as regulatory and legislative information. Partnering with the city of Glendale, Metropolitan provided technical assistance in pursuing multiple funding sources that included a proposal for a WaterSMART advanced water treatment grant managed by the U.S. Bureau of Reclamation. The proposal's recent approval will bring federal funding to support a study that will provide cost information and determine technical feasibility for removing chromium 6 from drinking water supplies.

Conveyance, Distribution and Support

Conveyance and Distribution

Water System Operations conducts preventive and corrective maintenance activities throughout the year to ensure reliable deliveries to member agencies. WSO also plans large shutdowns to complete capital projects. Occasionally, shutdowns are also required to repair leaks or faulty equipment. Several shutdowns which occurred during FY 2010/11 are described below.

During the first half of the fiscal year, crews repaired leaks in the Lakeview Pipeline, performed electrical upgrades and other maintenance work on the lower Santa Monica Feeder, and installed steel liner in four separate locations on the Box Springs Feeder.

February 2011 was a busy month for shutdowns with the Colorado River Aqueduct and Lower Feeder (Treated) shutdowns occurring during the first part of the month, and the Diemer plant, Allen-McColloch Pipeline, Lake Mathews Forebay, and the Lower Feeder (Untreated) shutdowns occurring during the latter part of the month.

During the CRA shutdown, Metropolitan performed electrical protection upgrades at three of five pumping plants, rebuilt three

TABLE 4-9
ACTIVE WATER QUALITY GRANTS[1]
Fiscal Year 2010/11

Prime Funding Agency	Title of Grant Project	Total Project Budget[2]	Amount of Award to MWD[3]
Water Research Foundation (WaterRF)	Detection of Infectious *Cryptosporidium* in Filtered Drinking Water	1,024,177	496,405
EPA	Desalination Research & Innovation Partnership - EPA IV[4]	788,545	433,700
WaterRF	Iodinated Acids and Iodide in Drinking Water Supplies	208,000	17,249
EPA	Detecting Pathogens in Water by Ultrafiltration and Microarray Analysis	1,253,833	599,883
WaterRF	Development of a Protocol to Predict the Formation of Nitrosamines While Minimizing the Formation of Regulated DBPs	604,842	400,000
WaterRF	Evaluation of Analytical Methods for EDCs and PPCPs via Interlaboratory Comparison[5]	533,000	30,000
	TOTALS	**$ 4,412,397**	**$ 1,977,237**

[1] Externally-funded grant projects managed by Water Quality's principal investigators during the fiscal year.

[2] Reimbursable dollars plus total in-kind commitments from all participating agencies; includes payments to subcontractors as applicable.

[3] Amount managed by Metropolitan; award amounts may occasionally change from prior years due to realigned budgets.

[4] DRIP-related project.

[5] EDCs are endocrine-disrupting chemicals; PPCPs are pharmaceuticals and personal care products.

10-foot diameter delivery line expansion joints at the Hinds pumping plant, cleaned nearly 50 miles of tunnel using the Tunnel Cleaning Machine to help maintain canal flow capacity, and installed more than 2,000 feet of canal curbing to increase the capacity of the canal during high flows. Vacuum valve/air release shut-off valves were replaced on a portion of the Lower Feeder (Treated), which were part of the Vacuum Valve Relocation CIP Project, as well as prestressed concrete pipeline inspection.

The Diemer plant shutdown was a continuation of the Oxidation Retrofit Program, and also involved steel-lining repair of the AMP's prestressed concrete cylindrical pipe. At Lake Mathews, staff repaired meters and valves and cleaned out quagga mussels between the Junction Shaft and the Lake Mathew Forebay. Additionally, slide gates were recoated in the Santiago Control Tower on the Lower Feeder (Untreated).

In March 2011, Metropolitan performed pipeline inspections and repairs on six feeders during the Weymouth treatment plant shutdown, and rehabilitated three turnout valves on the Upper Feeder (Treated). Crews also reinstalled a sectionalizing valve on the Palos Verdes Feeder, and repaired the Calabasas Feeder with carbon fiber and steel sleeves.

The Infrastructure Protection and Asset Preservation Program provided coating and/or mortar repairs at the following structures or facilities: (1) Inglewood Lateral, (2) West Coast Feeder, (3) Calabasas Feeder, (4) West Valley Feeder No. 1, (5) Middle Feeder, (6) Venice Hydroelectric Plant/Pressure Control Structure, (7) San Dimas HEP/PCS, (8) Coyote Creek HEP/PCS, (9) Deodara PCS, (10) Lake Mathews Bunger valves, and (11) Service Connection OC-28. Only 27 lower-priority structures remain to be coated.

In FY 2010/11, more than 300,000 hours of maintenance, including shutdowns, were performed on conveyance and distribution infrastructure. See Table 1-5 for a full list of shutdowns that occurred during the year.

Operations Support Services

The section provides a wide range of support services to Metropolitan's core operational functions and, on a reimbursable contract basis, to the Department of Water Resources, member agencies and other public entities. Services include maintenance engineering, manufacturing, rehabilitation, new construction and emergency response.

Maintenance Engineering

Maintenance Engineering focuses on technical evaluations of critical systems, tracks key performance indicators for maintenance, develops operational and maintenance policies and introduces predictive and condition-based maintenance techniques.

As part of a larger continuous improvement effort, the long-term Performance Excellence Initiative implements best practices in day-to-day operations and maintenance activities to ensure Metropolitan's reliability. This fiscal year's efforts focused on improving the reliability of emergency power systems, developing consistent failure codes for equipment, and completing rollout of the handheld devices and machine vibration analysis programs.

Handheld wireless devices are now used by 40 percent of the maintenance craft employees, capturing maintenance data that helps staff derive early warning signs and decide how to correct recurring equipment problems. Feedback from field technicians have resulted in improvements that allow devices to capture electrical motor test data and search warehouse stocks.

The newly-expanded Machine Vibration Analysis Program provides advance information on the future degradation of equipment, which ensures equipment reliability and avoids costly repairs or catastrophic failures.

In order to improve reliability of Metropolitan's emergency power supply systems, staff analyzed previous power outages and examined best practices used in other industries such as hospitals. In parallel with this effort, national standards for emergency generator maintenance were adopted, with implementation by Metropolitan expected by

December 2011 as the baseline for a new rigorous maintenance program.

Manufacturing Services

Manufacturing services include fabricating, machining, coatings, testing of valves and pumps, refurbishing equipment, diving inspections, floating reservoir cover cleaning and crane safety and certification.

During FY 2010/11, Metropolitan completed various manufacturing and fabrication projects that included: (1) fabricating 35 mortar lined 84-inch diameter pipe sections for the Box Springs Feeder; (2) fabricating 10 mortar lined 70-inch diameter pipe sections for Phase III of the AMP repairs; (3) expediting fabrication and installation of pipe sections to repair a Calabasas Feeder leak discovered during a shutdown inspection; (4) rehabilitating a 36-inch diameter conical plug valve on the Palos Verdes Feeder; (5) fabricating and coating of two large drop gates and 12 lifting beams for the DWR Hyatt Power Plant; (6) fabricating a sluice gate frame and rehabilitated gate for the Eagle Mountain Pumping Plant; and (7) refurbishing a thrust block for the Hinds Pumping Plant.

Construction Services

Construction staff and equipment are deployed throughout Metropolitan's service area and perform general construction, install equipment, transport large equipment and respond to emergency construction needs.

In response to severe Southern California rainstorms in December 2010 and January 2011, Metropolitan crews used heavy equipment to restore 50 locations in the Riverside and Orange County areas impacted by the erosion. Restoring rights-of-way allowed access for pipe inspections and operations, and the Federal Emergency Management Agency partly reimbursed erosion repair expenses.

During FY 2010/11, Metropolitan crews took the following actions to complete various general construction projects: (1) installed pipe sections on 54-inch Calabasas Feeder; (2) installed a conical plug valve on the Palos Verdes Feeder in South Pasadena; (3) installed

three new slide gates for the Weymouth finished water reservoir; (4) constructed the Lake Skinner Sodium Bisulfate unloading and storage facility; and (5) installed 2,100 feet of metal curbing extensions on the CRA.

Power Support

In addition to providing technical support on power issues, Power Support staff provides preventive and corrective maintenance to all hydroelectric power plants, pressure control structures, treatment facilities and pumping plants.

Working on a two-year cycle, crews performed minor maintenance on hydroelectric power plants at Lake Mathew, Venice and Foothill (Units 1 and 2), where they cleaned electrical and mechanical equipment, and conducted minor electrical testing. Major maintenance is done every six years and consists of comprehensive electrical testing of equipment such as the turbines and transformers. In 2010/11, this was done at the Etiwanda, Greg Avenue and the Wadsworth Pumping Plant sites.

Infrared Thermography Surveys are conducted annually for major equipment at various locations – including storage facilities, distribution system, treatment facilities and Union Station – in order to detect electrical and mechanical anomalies, and address maintenance or replacement issues. Staff provided engineering support in designing, operating and testing of the emergency generator systems, and testing and commissioning of new equipment for the Oxidation Retrofit Program at Diemer as part of the Capital Investment Plan.

Fleet Services

Metropolitan continues to modernize management of its 1,750 motor vehicles and other fleet assets with an estimated value of $47 million. The Maximo Fleet Module manages, maintains and tracks fleet assets, while the fuel management system manages fuel supplies and allows automated control of fuel usage and dispensing.

By December 2011, staff was expected to install 300 Global Positioning Systems units in critical emergency equipment, operating equipment and fleet pool vehicles to enhance safety, optimize fleet

maintenance, improve asset management and control costs. The GPS system collects and organizes detailed automotive information directly from the vehicle's engine computer and provides location-based information from a global positioning system. Maintenance and operational information gets transmitted wirelessly to a Web-accessible information center that also issues e-mail alerts. Benefits of the system include improved maintenance practices, fleet utilization, lower fuel costs, and enhanced safety and security.

Security and Emergency Management

Security staff developed a written protocol that supported the Transportation Security Administration's field inspections of the rail car chemical deliveries at the Jensen treatment plant and the Chemical Unloading Facility. Staff also provided support for the site evaluations by the Federal Energy Regulatory Commission at the Red Mountain, Sepulveda and Venice hydroelectric plants. Additionally, staff completed annual surveys of all critical infrastructure sites. All of these sites were updated to identify possible hostile surveillance positions at the suggestion of the Department of Homeland Security. Local police agencies were encouraged to visit the facilities to become oriented to the sites and devise emergency response routes.

Emergency Management staff conducted exercises and workshops for employees and coordinated training focused on response and communications following a major earthquake or widespread ongoing flooding. These exercises require participating employees to activate the Emergency Operations Center and area Incident Command Centers, and encompassed about 7,100 hours of training.

Emergency Management staff participated in the development of ARkStorm, a large-scale emergency training scenario and major scientific study that brought together more than 120 experts from dozens of federal, state, local, public and private entities to model a catastrophic winter storm and flooding in California. This effort culminated in the ARkStorm Summit held in Sacramento, where representatives from California's congressional delegation, U.S. Geological Survey, scientific community, and policy makers discussed the ARkStorm scenario.

In April 2011, Metropolitan conducted a functional exercise based on the ARkStorm scenario. This exercise simulated facility damage and water quality problems caused by flooding. The state Department of Public Health participated in the exercise that simulated the need for a boil-water advisory, and the results of which will be incorporated into Metropolitan's emergency planning.

Energy Management

Hydroelectric Power Recovery Plant Operations

Metropolitan has 16 small-conduit hydroelectric power recovery plants that generated a total of 328 million kilowatt-hours for FY 2010/11 (Table 4-10) producing gross revenues of $24 million. This was about 67 million kilowatt-hours more generation and $5 million higher revenue compared to FY 2009/10. The higher energy production was the result of increased water deliveries as California moved out of a multi-year drought. As of June 1, 2011, generation from all 16 plants was sold under contractual agreements with Pacific Gas & Electric, Southern California Edison, Southern California Public Power Authority, Los Angeles Department of Water and Power and DWR.

TABLE 4-10
HYDROELECTRIC POWER RECOVERY PLANTS PRODUCTION FOR THE PAST TWO FISCAL YEARS

Power Plant	Nameplate Capacity (Megawatts)	2010/11 Production (kWh)	2009/10 Production (kWh)
Greg Ave.	1	2,356,800	9,600
Lake Mathews	5	22,500,210	33,181,820
Foothill Feeder	9	48,770,949	44,659,175
San Dimas	10	54,333,435	12,522,149
Yorba Linda	5	13,516,820	12,567,523
Sepulveda Canyon	9	30,661,544	19,670,120
Venice	10	11,696,928	10,575,031
Temescal	3	16,980,915	19,194,798

TABLE 4-10 (Continued)

HYDROELECTRIC POWER RECOVERY PLANTS PRODUCTION FOR THE PAST TWO FISCAL YEARS

Power Plant	Nameplate Capacity (Megawatts)	2010/11 Production (kWh)	2009/10 Production (kWh)
Corona	3	16,585,931	18,402,122
Perris	8	20,603,613	12,937,583
Rio Hondo	2	1,371,848	3,087,131
Coyote Creek	3	3,637,981	8,348,824
Red Mountain	6	32,898,258	21,173,450
Valley View	4	8,105,967	5,059,298
Etiwanda	24	33,680,940	31,358,362
Wadsworth (DVL)	30	9,945,133	7,889,264
TOTAL	**131**	**327,647,273**	**260,636,250**

Annual Power generation varies significantly, depending on: agency flow demands, mix of water sources (Colorado vs. State Water Project), what shutdowns/outages are taking place and each generator's operational constraints.

Wadsworth Hydro Plant Energy Sales

Starting June 1, 2011, generation from DVL's Wadsworth hydroelectric plant began being sold to Edison through the existing hydroelectric power contract. Sales under this contract, which was negotiated after several years of staff work, will provide Metropolitan with the full "renewable" value of the energy and satisfy the requirements of the California Renewable Portfolio Standard. Prior to this date, energy from Wadsworth was sold as standard energy at market prices. Revenues from Wadsworth generation for June through September 2011 are expected to exceed $3 million versus an estimated $1 million from standard energy sales.

Solar Power Energy Production

Metropolitan has two solar photovoltaic energy facilities. The facility at the Skinner plant is rated at one megawatt and the DVL Visitor Center facility is rated at 520 kilowatts. During FY 2010/11, the Skinner plant produced 2,350 megawatt-hours of energy and the visitor center produced 554,000 kilowatt-hours of energy. The energy is used to offset retail energy use at the two locations.

Colorado River Aqueduct Power

In FY 2010/11, Metropolitan pumped more than 1 million AF through the Colorado River Aqueduct, requiring 1.97 billion kilowatt-hours of electricity. The energy demands for FY 2010/11 required purchasing about 584 million kilowatt-hours from the energy market at a cost of $24 million, or 4.1 cents per kilowatt-hour. Energy costs for pumping Colorado River water are shown in Table 4-11. The current and historical energy resources used to meet CRA water delivery energy requirements are shown in Table 4-12 and Figures 4-11 and 4-12.

TABLE 4-11

ENERGY COST FOR PUMPING COLORADO RIVER WATER

Fiscal Year 2010/11

Energy Source	Cost ($)
Hoover Power Plant	18,393,443
Parker Power Plant	4,533,650
Supplemental Energy Purchases/Sales [1]	23,836,069
Exchange (Edison & DWR) [2]	0
Colorado River Water Pumping Revenue [3]	(1,014,768)
Benefit Energy and Exchange Surcharge [4]	13,972
Reduction in Energy Surcharge [5]	(51,090)
TOTAL	**45,711,276**

Notes:

[1] Supplemental Energy Purchases/Sales. A negative number indicates the net cost of supplemental energy was revenue to Metropolitan.

[2] Cost of exchanging energy with another utility.

[3] Payments received for energy costs associated with moving non-Metropolitan water on the CRA

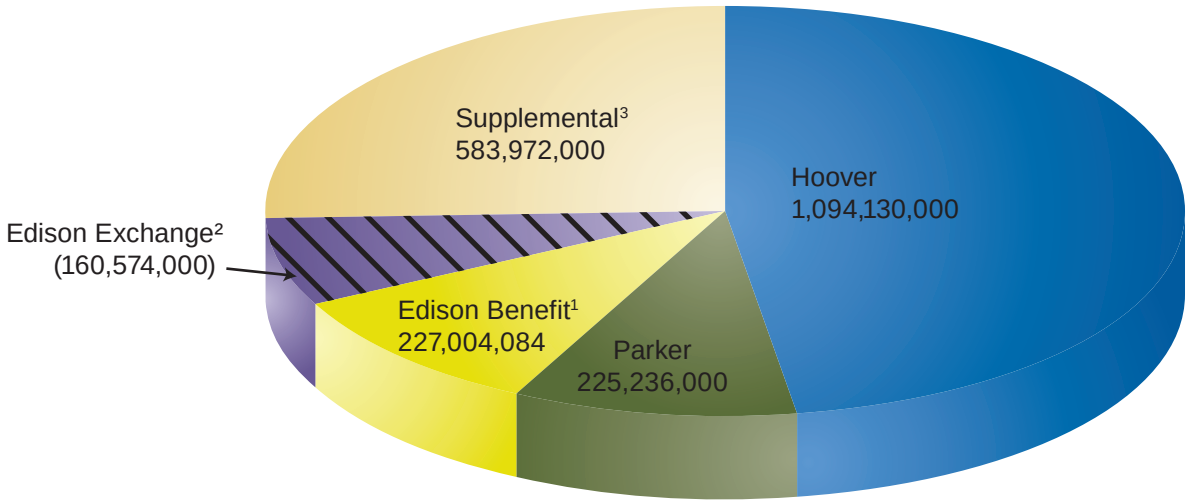
[4] Tax paid to State of California for Edison Benefit and Exchange energy.

[5] Reduction in tax due to transmission losses and small hydro generation.

TABLE 4-12
METROPOLITAN'S HISTORICAL CRA ELECTRIC ENERGY USE
Kilowatt Hours

	Hoover	Parker	Edison Benefit[1]	Edison Exchange[2]	DWR Exchange[2]	Edison & DWR Exchange & Edison Benefit	Supplemental Energy Purchases/Sales[3]	Total
1987/88*	1,432,001,000	290,400,000	216,981,190	1,764,000	0	218,745,190	832,498,639	2,773,644,829
1988/89	1,231,206,000	237,142,000	215,485,363	(27,764,000)	0	187,721,363	735,276,330	2,391,345,693
1989/90	1,205,476,000	230,545,000	219,139,828	24,777,000	0	243,916,828	754,629,485	2,434,567,313
1990/91	1,130,155,000	223,831,000	221,837,010	13,298,000	0	235,135,010	871,799,953	2,460,920,963
1991/92	1,086,888,000	206,513,000	210,490,214	16,145,000	0	226,635,214	891,296,400	2,411,332,614
1992/93	966,614,000	182,606,000	208,800,738	(28,220,000)	0	180,580,738	1,035,586,974	2,365,387,712
1993/94	1,256,009,000	214,961,000	199,304,945	(16,175,000)	0	183,129,945	914,591,730	2,568,691,675
1994/95	1,166,517,000	217,365,000	186,648,325	(88,977,000)	0	97,671,325	680,010,352	2,161,563,677
1995/96	1,357,937,000	237,627,000	286,971,075	(32,150,000)	0	254,821,075	401,318,041	2,251,703,116
1996/97	1,292,375,000	243,993,000	253,134,785	47,302,000	0	300,436,785	595,050,513	2,431,855,298
1997/98	1,370,317,000	302,069,000	200,076,045	90,000,000	(123,316,955)	166,759,090	327,992,313	2,167,137,403
1998/99	1,411,403,000	297,219,000	212,312,000	13,490,000	108,417,736	334,219,736	329,691,494	2,372,533,230
1999/00	1,392,515,000	262,383,000	263,326,907	(26,405,000)	3,967,942	240,889,849	646,961,000	2,542,748,849
2000/01	1,311,068,000	243,647,000	173,785,599	21,586,000	0	195,371,599	788,937,000	2,539,023,599
2001/02	1,322,037,000	241,048,000	199,205,189	(54,931,000)	0	144,274,189	804,044,166	2,511,403,355
2002/03	1,193,682,000	230,871,000	284,085,067	50,371,800	(162,807,504)	171,649,363	232,051,017	1,828,253,380
2003/04	1,179,118,000	229,886,000	164,721,756	(61,823,800)	105,280,095	208,178,051	(141,923,768)	1,475,258,283
2004/05	931,893,000	198,606,000	381,481,989	18,022,000	5,059,196	404,563,185	(39,632,380)	1,495,429,805
2005/06	1,158,901,000	212,687,000	405,612,265	(116,265,000)	37,054,891	326,402,156	74,465,049	1,772,455,205
2006/07	1,143,870,000	229,881,000	387,630,441	(38,400,000)	68,876	349,299,317	(421,365,512)	1,301,684,805
2007/08	1,117,068,000	217,106,000	431,283,980	70,272,000	0	501,555,980	(250,140,000)	1,585,589,980
2008/09	1,075,217,000	223,056,000	260,209,614	90,363,000	0	350,572,614	371,765,025	2,020,610,639
2009/10	994,222,000	195,063,000	233,871,837	21,870,000	0	255,741,837	595,894,000	2,040,920,837
2010/11	1,094,130,000	225,236,000	227,004,084	(160,574,000)	0	66,430,084	583,972,000	1,969,768,084

Notes:
* Includes June 1987 data
1 Energy provided by Edison at no cost pursuant to 1987 Service and Interchange Agreement.
2 Energy exchanged with SCE. Negative number indicates net energy banked with SCE.
Positive number indicates net energy received from SCE. These numbers represent what is in the Exchange Balance as of June 30.
3 Supplemental Energy Purchases/Sales. A negative number indicates that the net amount of supplemental energy was sold to other utilities.



Notes:
[1] Energy provided by Edison at no cost pursuant to 1987 Service and Interchange Agreement.
[2] Energy exchanged with SCE. Negative number indicates net energy banked with SCE. Positive number indicates net energy received from SCE.
[3] Supplemental Energy Purchases/Sales. A negative number indicates that the net amount of supplemental energy was sold to other utilities.

Figure 4-11. Metropolitan's CRA Electric Energy Use (kWh)
Fiscal Year 2010/11

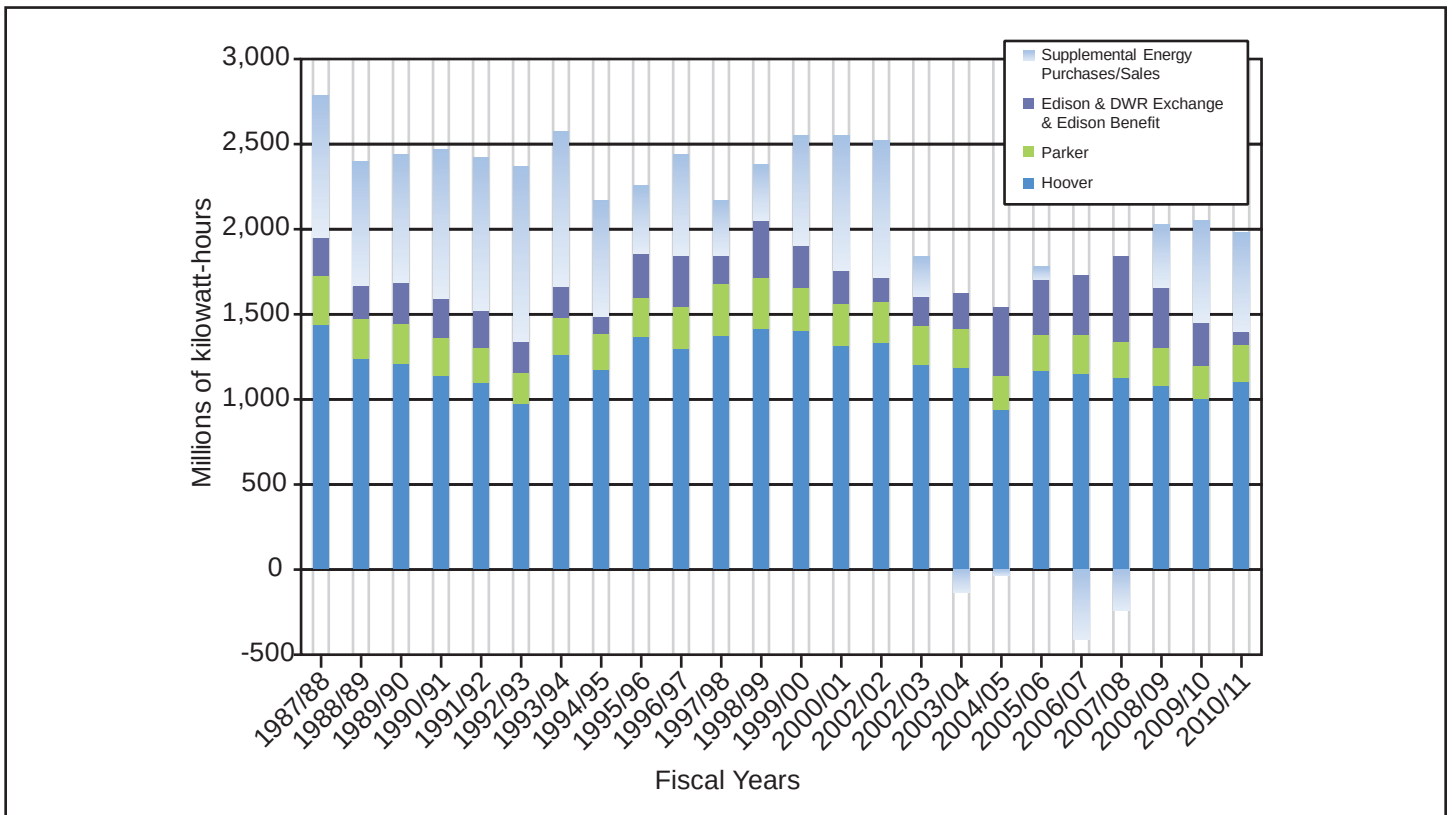


Figure 4-12. CRA Energy Mix 1987 to 2011

Future Hoover Dam Power Contract

As the 111th Congress came to a close in January 2011, Hoover power legislation failed to be brought to the Senate floor for a vote after previously winning House approval. The legislation has been re-introduced into the House and Senate, and Metropolitan and other Hoover contractors are working to move the bill through both houses with the goal to have it signed into law before the end of 2011. The measure would allow existing Hoover contractors to receive 95 percent of their current entitlement of Hoover energy and capacity, with the remaining 5 percent made available to new entities.

Energy Management and Reliability Study

On Aug. 17, 2010, Metropolitan's board approved energy management policies developed as part of an energy management and reliability study. This culminates three years of collaboration between staff, the board and Metropolitan's member agencies to develop strategic power planning initiatives and policies. Under the policies, staff will implement cost-effective and environmentally responsible energy programs, projects and initiatives on a case-by-case basis, as authorized by the board. The policies recognize the numerous energy-related influences on Metropolitan's operations including increasing power costs, greenhouse gas regulations and potential impacts of the expiration or renewal of Metropolitan's Hoover contract in 2017.

Hinds Pumping Plant Substation

As the fiscal year began, Edison had completed the expansion and modification to its portion of the Hinds substation as well as modifications to Metropolitan's electrical facilities. This work also included the interconnection and energizing of a new transmission line from a gas-fired generator located in Blythe, California. Metropolitan is working with Edison and the owner of the transmission line, Blythe Energy, LLC, to finalize the as-built documentation for the project and develop two new land licenses for the use of Metropolitan land by the substation and transmission facilities.

Electric Reliability Requirements Compliance Audit

On May 25, 2011, Metropolitan was audited for the first time by the Western Electricity Coordinating Council on its compliance with national electric reliability standards. Compliance with these standards was mandated by the Federal Energy Policy Act of 2005, and Metropolitan's 230 kilovolt CRA transmission system is subject to the standards. WECC reported they did not find any violations of the audited standards. This "No Findings" determination is the most favorable conclusion possible. Violations can result in penalties of up to $1 million per day. The next audit is expected in 2016 or 2017.

Greenhouse Gas Regulations

The California Air Resources Board continued its efforts to develop regulations that would result in satisfying the requirements of AB32, The California Global Warming Solutions Act of 2006. The goal of the law is to reduce greenhouse gas emissions to 1990 levels by 2020. CARB has proposed the use of a cap-and-trade program to help achieve this emissions goal. Cap-and-trade would establish a declining cap on the number of allowances available to cover the amount of emissions attributable to the electric sector with the ability to trade allowances. CARB has proposed including Metropolitan under cap-and-trade due to the non-hydro energy imported into California to power the CRA pumps. Metropolitan is working with CARB to implement a compliance methodology that is more appropriate for the water sector rather than including Metropolitan in the electric sector.

Technical Training

Apprenticeship Program Training

The Apprenticeship Program added 16 new apprentices this fiscal year, which brings the active total up to 54 apprentices. These additional apprentices were selected from an eligibility list of 180 candidates who achieved an accumulated score above 80 percent from a written test and an oral interview.

Metropolitan's Apprenticeship Program curriculum continues to be recognized by the state Department of Apprenticeship Standards as meeting the breadth and level commensurate with journey-level mechanical and electrical trades. Additionally, the California Department of Public Health allowed an internally-provided class on water treatment and distribution to qualify apprentices to take state certification exams for water treatment and distribution operators. Previous costs for outsourcing instruction were eliminated and students are now able to directly submit program transcripts.

Technical and Safety Training

WSO Technical Training staff continued partnering with the Apprenticeship Program staff to complete the rollout of the updated System Operating Orders Manual. In FY 2010/11, 49 sessions of SOOM training were presented to 620 employees. SOOM training is specifically aimed at preventing injuries while working on Metropolitan treatment plants and distribution systems, and interfacing with electrical utilities and connected water agencies.

The WSO Technical Training team partnered with Human Resources and Information Technology to successfully roll out the new MyLearning training database. This new database provided substantial improvements over the previous training database by allowing managers and employees to manage their training plans, view course catalogues, and register for classes all electronically. In FY 2010/11, there were 5,156 enrollments in 526 technical and safety related courses covering 73 topics.

Another feature of MyLearning is online training, which can be launched and tracked from the Web site. These courses can be accessed individually by employees at more convenient times and without the travel costs and potential shift changes normally associated with conventional class delivery. WSO training enrollments included 780 sessions of online courses. Additionally, online training is being expanded to include technical and regulatory subject matter.

Environmental, Health and Safety

Environmental, Health and Safety staff continued to provide oversight to ensure compliance with environmental and safety regulations and procedures. Staff conducted numerous site inspections to proactively address environmental issues. There were 97 routine regulatory inspections in the areas of air quality, waste water, hazardous materials, and safety. Staff coordinated and tracked all identified corrective actions with no violations.

Environmental

Staff continued to provide all required compliance reporting for waste water and hazardous materials/hazardous waste. EHS, Water Treatment and Engineering staff worked to improve best management practices in compliance with stormwater management permits. Staff negotiated with and secured dewatering permits from regulatory agencies in support of Metropolitan's shutdown projects. In addition, staff managed 336 air quality permits for portable and stationary equipment (e.g., diesel-powered emergency generators).

Health & Safety

Staff proactively addressed safety performance through site inspections, safety toolbox talks, safety committee communications and revision of safety procedures. Staff reinforced requirements of the Injury and Illness Prevention Program by engaging staff and managers in safe work practices. In addition, staff provided safety coverage during the 2010/11 shutdown season to successfully minimize accidents and injuries. This included safe work practices and ventilation monitoring for all underground operations (such as Colorado River Aqueduct tunnel cleaning).

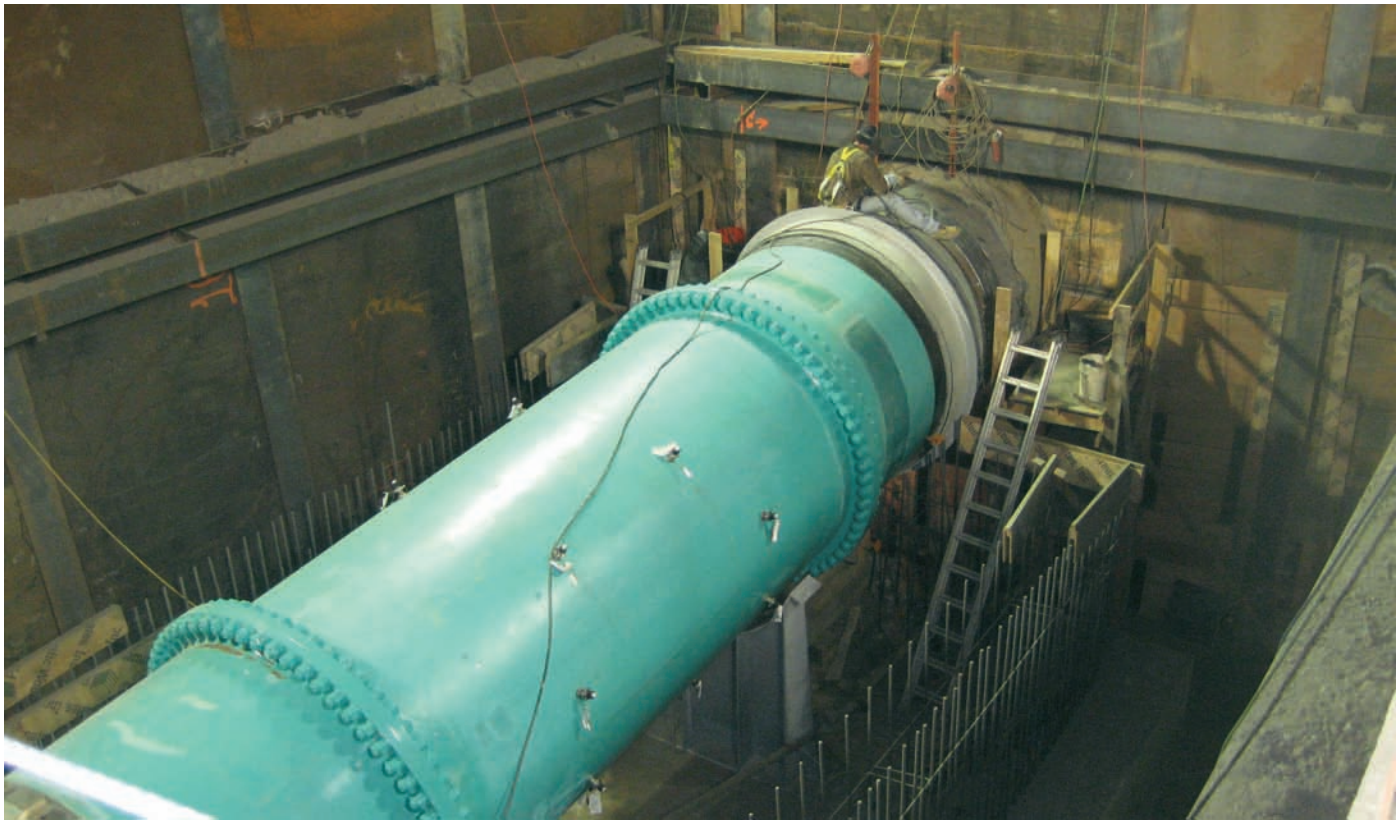
Table 4-13 deals with injuries, illnesses and incidents that required time off from work during FY 2010/11 for each Metropolitan facility. The Occupational Health and Safety Administration defines Total Incident Rate (also known as injury/illness rate) as the number of recordable incidents in a year. Overall, Metropolitan's Total Incident Rate increased slightly from 4.7 in FY 2009/10 to 5.4 in FY 2010/11. A recordable incident is generally defined as a new work-related injury or illness that results in death, lost time from work, work

restriction, or medical treatment beyond first aid. EHS is examining these incidents and will be working with operator managers to reduce the injury rate.

TABLE 4-13
ACCIDENT INCIDENTS
Fiscal Year 2010/11

Location	Total Incident Rate	DART Incident Rate
Diemer	10.7	5.3
Diamond Valley Lake	3.0	3.0
Eagle Mountain	20.4	10.2
Eagle Rock	0	0
Gene Camp	9.0	5.0
Hinds	0	0
Inland Feeder	0	0
Iron Mountain	20.4	10.2
Jensen Plant	6.0	4.5
La Verne	5.4	3.4
Lake Mathews	30.6	22
Lake Skinner	12	7.5
Mills Plant	14	7.9
Sacramento	0	0
Soto Street	3.5	3.5
Sunset	0	0
Union Station	1.0	0.8
Washington, D.C.	0	0
AVERAGE RATE	**5.4**	**3.5**
Federal Utility Average	**4.1**	**2.5**
State Utility Average	**4.9**	**3.6**

To note the extent and severity of incidents, DART rate is defined as the injuries or illnesses severe enough to warrant days away, restrictions, or transfers. OSHA requires that both rates are adjusted based on 200,000 hours worked by 100 employees, averaging 40 hours per week over a 50 week span (two weeks taken away for leaves). MWD's 2010/11 Total Incident rate is above the 2009 federal and state incident rates. Metropolitan's DART rate is below the California DART rate but above the federal DART rate for utilities.



This new Yorba Linda Feeder 96-inch flow meter measures flow into the Diemer plant.

Ozone facilities construction at the Diemer Water Treatment Plant.

CHAPTER 5

Engineering Services

The Engineering Services Group is a full-service engineering organization that assists Metropolitan in treating and distributing water to its member agencies with continued reliability and high water quality. Engineering Services provides a wide range of technical services with a focus on cost-effectiveness and customer service. Its key functions include program management, engineering design, environmental planning, construction management and inspection, facility planning, field survey, dam surveillance, substructures investigations, and corrosion control. In addition to performing its core operations and maintenance (O&M) activities, Engineering Services also provides oversight of Metropolitan's Capital Investment Plan, which represents Metropolitan's commitment to construct and rehabilitate facilities that enable long-term, reliable water deliveries.

Below are highlights of Engineering Services' major activities for fiscal year 2010/11:

Capital Investment Plan

Each year under the CIP, numerous capital projects are managed and executed throughout Metropolitan's service area, ranging in cost from less than $100,000 to more than $100 million. The CIP is driven by a number of factors: Supply Reliability, Infrastructure Reliability, Water Quality, Cost Efficiency & Productivity, and Regulatory. Figure 5-1 depicts the actual fiscal year 2010/11 expenditures by category.

During fiscal year 2010/11, CIP expenditures totaled approximately $224 million, with Water Quality and Infrastructure Reliability projects representing the largest expenditure components at

approximately $100 million each. The infrastructure expenditures were spread across nearly 200 projects, with the largest being electrical system upgrades at the F.E. Weymouth and Robert B. Diemer water treatment plants and the Colorado River Aqueduct, water/chemical feed system upgrades and refurbishments at Weymouth and Diemer, seismic upgrade of the Upper Feeder Junction Structure at Weymouth, and refurbishment/replacement of pipeline sections on the Box Springs Feeder, Allen McColloch Pipeline and Calabasas Feeder.

With the renewed focus of the CIP on infrastructure reliability, there is an increasing trend toward refurbishment and replacement of Metropolitan's existing infrastructure to enable Metropolitan to meet long-term member agency demands without unplanned shutdowns. As shown in Figure 5-2, infrastructure reliability investments have grown steadily and are expected to remain at a high level for the foreseeable future.

Water quality projects represent the second largest component of CIP expenditures, as shown in Figure 5-1. These projects reflect Metropolitan's ongoing investment to retrofit its five water treatment plants to use ozone as the primary disinfectant. For a list of specific projects that completed construction during the year or were under design, see Tables 5-1 through 5-3.

Oxidation Retrofit Program

The Oxidation Retrofit Program was established to upgrade Metropolitan's water treatment plants to use ozone as the primary disinfectant to comply with drinking water regulations, control taste and odor, and reduce the level of disinfection byproducts in the finished water at all five water treatment plants. To date, ozonation facilities are operational at the Joseph Jensen, Henry J. Mills, and Skinner water treatment plants, while construction is approximately 80 percent complete at Diemer. Final design continued for the Weymouth plant, which represents the final stage of the Oxidation Retrofit Program. Its completion will allow Metropolitan to comply with state and federal water quality regulations under all source water blends.

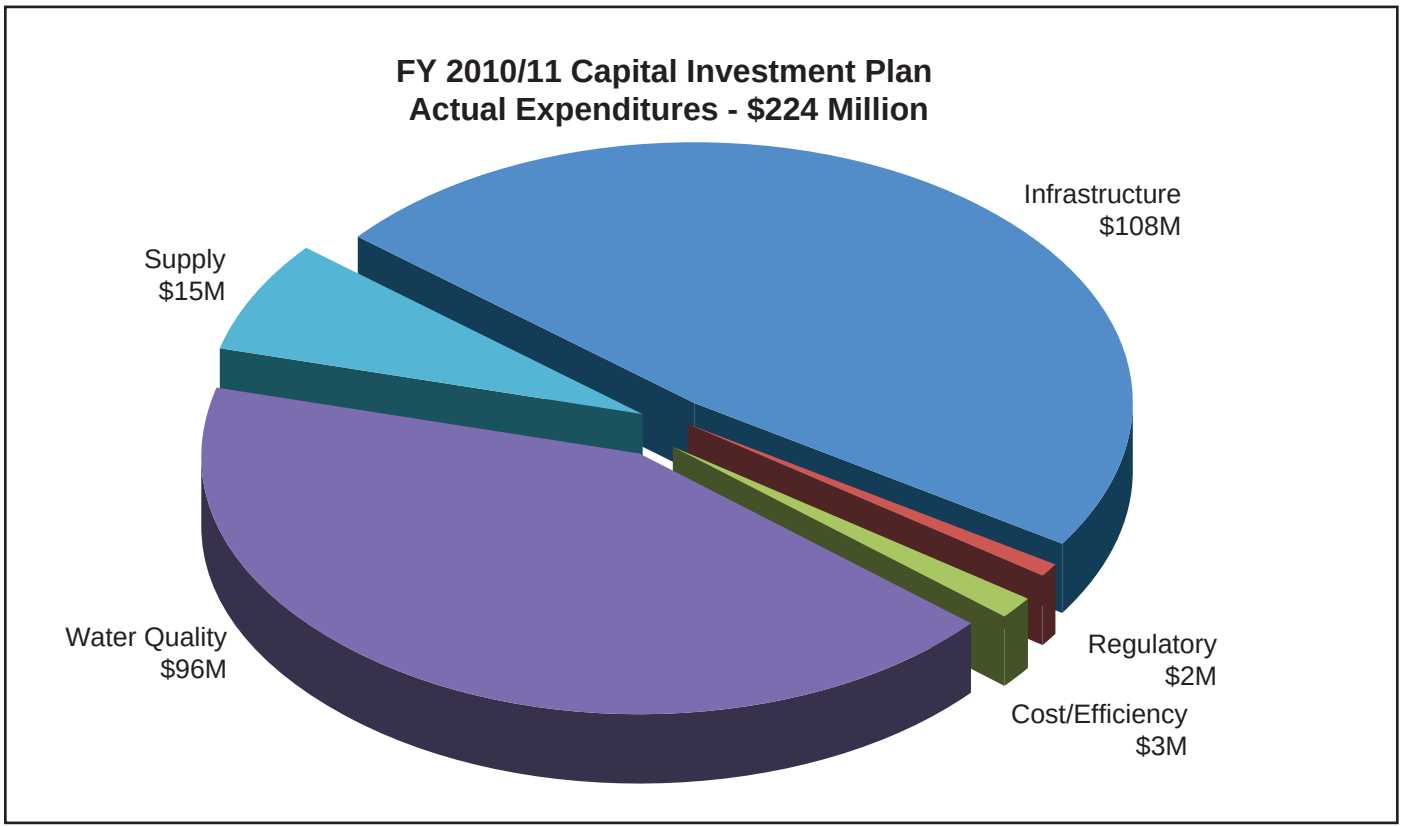


Figure 5-1. Fiscal Year 2010/11 Capital Investment Plan Expenditures

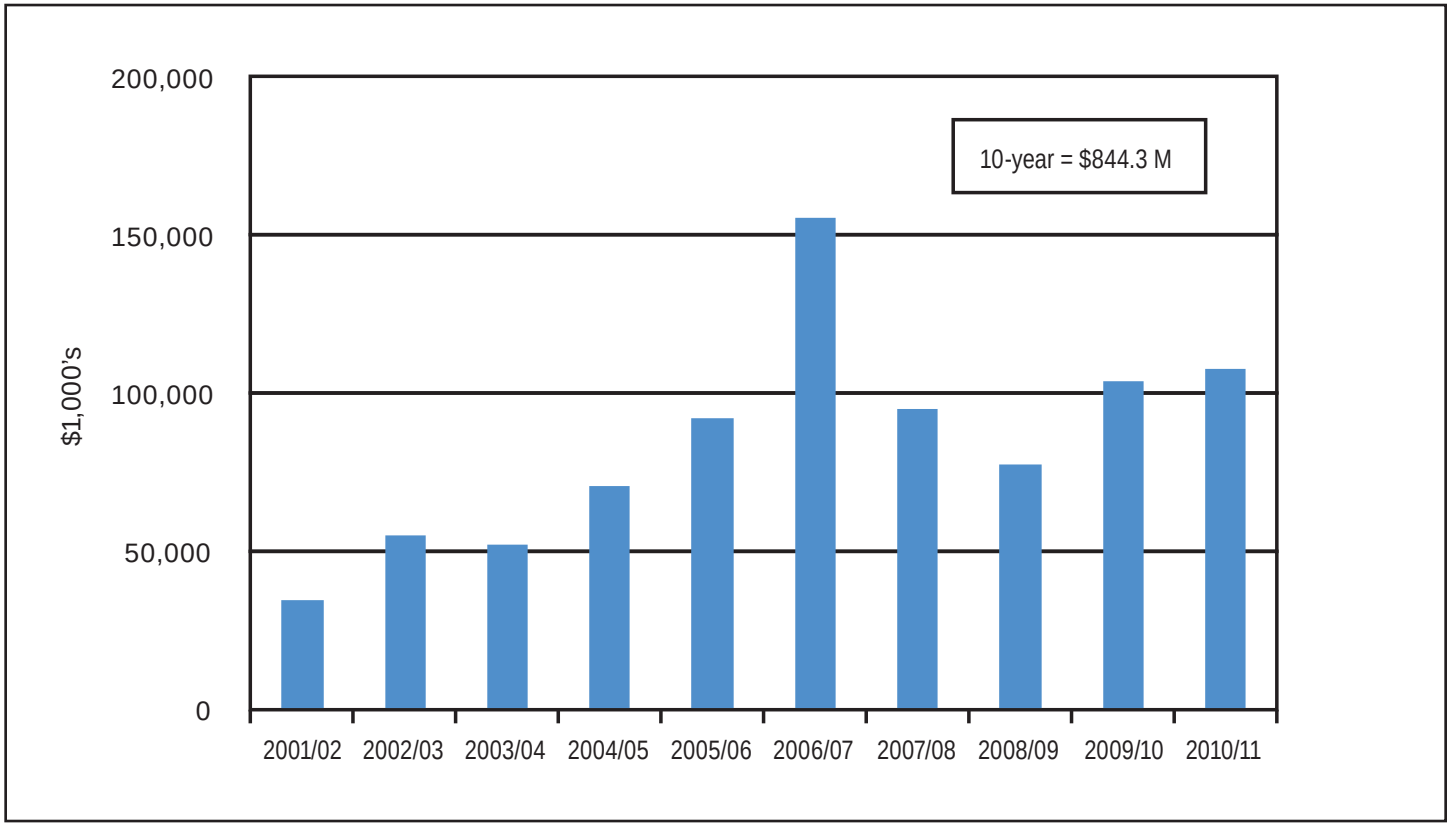


Figure 5-2. Capital Expenditures in Infrastructure Reliability
10-Year Period 2001/02 - 2010/11

TABLE 5-1
CONSTRUCTION CONTRACTS COMPLETED AS OF JUNE 30, 2011 (Unaudited)

Completion Date	Contract / Spec. No.	Project	Base Bid Amount	Final Amount
7/6/10	1700/1676	Calabasas Feeder Carbon Fiber Lining Repair	810,870	859,370
7/28/10	1687/1586B	Middle Feeder North Cathodic Protection	798,006	836,624
9/10/10	1699/1668	Diemer East Washwater Tank Roof Refurbishment	485,500	487,227
12/7/10	1683/1649	Skinner Chemical Systems and Solids Collection Improvements	2,392,000	2,386,332
2/15/11	1693/1652	Weymouth Filter Rehabilitation Demonstration	1,588,122	1,646,959
2/25/11	1694/1667A	Colorado River Aqueduct Pumping Plants 230 kV Line Reactors and 6.9 kV Switch Houses	5,181,000	5,266,640
3/8/11	1706/1679	Eagle Mountain Pumping Plant Delivery Pipe Expansion Joint Repair	358,196	365,219
3/11/11	1707/1673	Box Springs Feeder Repair - Phase 3	1,530,000	1,530,000
3/28/11	1703/1607	Skinner Electrical Buildings Upgrades - Phase 2	419,680	446,320
4/13/11	1711/1687	Allen-McColloch Pipeline Repair Stage 2	1,148,000	1,247,978
5/2/11	1696/1623	Air Release and Vacuum Valve Relocation for Treated Water Pipelines Construction Package No. 8	1,182,520	1,264,425
5/25/11	1716/1691	Calabasas Feeder Carbon Fiber Lining Repair Stage 2	678,000	678,000
5/31/11	1705/1671	Mills Electrical Buildings 1 and 2 Seismic Upgrades	550,108	561,863
6/3/11	1609/1483	Skinner Oxidation Retrofit Program and Washwater Reclamation Plant No. 3	184,650,000	205,852,498 *
6/7/11	1709/1684	Rehabilitation of Service Connections FM -01 (Foothill MWD), P-01 (Pasadena), and SMR-01 (San Marino) of the Upper Feeder	377,000	470,521
6/8/11	1698/1640	Weymouth Junction Structure Seismic Upgrades	2,429,481	2,552,383 *

* Estimated Final Amount.

TABLE 5-2
MAJOR CONSTRUCTION CONTRACTS IN PROGRESS
AS OF JUNE 30, 2011 (Unaudited)
Accrual Basis

Contract No.	Project	Percent Contract Complete through 6/30/2011	Estimated Contract Completion Date	Contract Earnings through 6/30/2011 [1]	Base Bid Amount
1663	Perris Valley Pipeline South Reach	70	Sep 2011	16,247,484	22,300,000
1664	Weymouth Coagulant Tank Farm Modifications	99	Oct 2011	10,605,697	10,437,000
1667	Diemer Oxidation Retrofit Program	82	Jun 2012	156,006,779	188,080,588
1682	Weymouth Inlet Conduit Relocation and Rapid Mix Systems	99	Jul 2011	30,045,253	30,077,700
1688	Diemer North Access Road	76	Aug 2011	7,067,361	9,085,000
1689	Weymouth Power System Upgrade	72	Aug 2012	18,154,606	25,130,000
1690	Colorado River Aqueduct Access Covers and Water Tank Improvements	99	Aug 2011	4,870,837	4,792,162
1695	Air Release and Vacuum Valve Relocation for Treated Water Pipelines Construction Package No. 7	89	Aug 2011	837,488	944,800
1697	Air Release and Vacuum Valve Relocation for Treated Water Pipelines Construction Package No. 10	99	Jul 2011	1,095,101	1,095,101
1701	Diemer Fire and Potable Water Pump Station	61	Jan 2012	3,016,690	4,966,937
1704	La Verne Maintenance Shop Upgrade Program - Phase 3	99	Aug 2011	1,246,403	1,236,627
1708	Diemer Emergency Broadcast System Rehabilitation	27	Nov 2011	188,530	710,000
1710	Weymouth Effluent Conduit Repair	84	Aug 2011	361,000	427,569

TABLE 5-2 (Continued)
MAJOR CONSTRUCTION CONTRACTS IN PROGRESS
AS OF JUNE 30, 2011 (Unaudited)
Accrual Basis

Contract No.	Project	Percent Contract Complete through 6/30/2011	Estimated Contract Completion Date	Contract Earnings through 6/30/2011 [1]	Base Bid Amount
1712	Air Release and Vacuum Valve Relocation for Treated Water Pipelines Construction Package No. 9	26	Feb 2012	372,959	1,414,818
1713	Air Release and Vacuum Valve Relocation for Treated Water Pipelines Construction Package No. 11	29	Jan 2012	342,053	1,167,535
1714	Air Release and Vacuum Valve Relocation for Treated Water Pipelines Construction Package No. 12	12	Jan 2012	152,828	1,289,178
1717	Weymouth North Perimeter Security Wall	85	Aug 2011	185,208	219,000
1718	La Verne Maintenance Shops Upgrade - Phase 1	9	Aug 2012	592,076	6,684,000
1719	Diemer North Slope Erosion Control	2	Feb 2012	7,288	369,208
1720	Eagle Mountain Pumping Plant Standby Diesel Engine Generator Replacement	2	May 2012	22,000	1,032,945
1721	Skinner Switchgear Building and Electrical Building No. 5 HVAC	0	Oct 2011	-	110,000
1722	Diemer Filter Media Replacement	0	Jul 2012	-	3,599,285
1723	Calabasas Feeder Stray Current Drain Station	0	Dec 2011	-	62,600
1724	Palos Verdes Reservoir Floating Cover Removal	0	Sep 2011	-	144,900

[1] Earnings reflected represent the value of work performed by the contractor as of the date indicated and include contract retention and other similar deductions from amounts earned by the contractor but otherwise required to be withheld by Metropolitan by law or contract.

TABLE 5-3
MAJOR ENGINEERING PROJECTS IN DESIGN

Program Number	Program Title and Total Program Estimate	Project Number	Project Description	Phase	Estimated or Actual Completion Date Through Phase Indicated
15346	Chlorine Containment and Handling Facilities	104113	CUF Chlorination Containment Facility	Preliminary and Final Design	July 2012
	$165,509,000	104199	Diemer Filter Outlet Chlorination Capacity Increase	Preliminary and Final Design	March 2012
		103828	Jensen Filter Outlet Chlorination Capacity Increase Project	Final Design	September 2011
		103782	Mills Filter Outlet Chlorine Capacity Increase	Final Design	May 2011
		104006	Skinner Filter Outlet Chlorine Capacity Increase	Final Design	August 2011
		104200	Weymouth Filter Outlet Chlorination Capacity Increase	Preliminary Design	August 2010
15377	Conveyance And Distribution System - Rehabilitation Program	104195	Box Spring Feeder Repairs - Phase 3 and Phase 4	Final Design	October 2010
	$88,504,000	103557	Hydroelectric Plants Fire Alarm Systems	Final Design	June 2011
		103996	Lake Skinner West Bypass Screening Structure Rehabilitation	Preliminary Design	May 2012
		103144	Orange County Feeder Station 1920+78 Blow-Off	Preliminary Design	November 2012
		103531	Orange County Feeder Inspection	Preliminary Design	November 2011
		103235	San Gabriel Tower Communication Line	Final Design	June 2012
		103181	West Valley Feeder #1 Access Roads and Structures Improvements - Stage 2	Final Design	August 2011
15441	Conveyance And Distribution System - Rehabilitation Phase II Program	104288	Allen-McColloch Pipeline Repairs - Phase 2	Final Design	September 2010
	$68,224,000	104150	Allen-McColloch Pipeline Stray Current Drain Stations	Final Design	June 2012

TABLE 5-3 (Continued)
MAJOR ENGINEERING PROJECTS IN DESIGN

Program Number	Program Title and Total Program Estimate	Project Number	Project Description	Phase	Estimated or Actual Completion Date Through Phase Indicated
15441	Conveyance And Distribution System - Rehabilitation Phase II Program (Continued)	104289	Allen-McColloch Valve & Service Connection Vault Repairs	Final Design	September 2010
		104196	Calabasas Feeder Repairs - Stage 2	Final Design	October 2010
		104153	Calabasas Feeder Stray Current Drain Station	Final Design	March 2011
		104198	Etiwanda Pipeline Mortar Lining Repair	Preliminary Design	February 2012
		104327	Monterey Valve Replacement	Final Design	February 2011
		103919	Puddingstone Radial Gate Rehabilitation	Final Design	February 2011
		104152	Second Lower Feeder Stray Current Drain Stations	Preliminary Design	June 2012
		104151	Sepulveda Feeder Stray Current Drain Stations	Final Design	June 2012
		103800	Upper Feeder Cathodic Protection System	Final Design	September 2012
		104211	Upper Feeder Service Connections FM-01, P-01, SMR-01 Upgrades	Final Design	September 2010
15373	CRA - Conveyance Reliability Program	103749	Access Structure, Transition Structure, and Manhole Covers Replacement	Final Design	October 2010
	$106,134,200	103750	Aqueduct Reservoir and Discharge Line Isolation Gates	Final Design	October 2010
		103739	Copper Basin Outlet, and Copper Basin and Gene Wash Dam Sluiceways Rehabilitation	Final Design	November 2012
15385	CRA - Discharge Containment Program	104241	Hinds Pumping Plant Equipment Wash Area Upgrades	Final Design	December 2010
	$10,757,000	103318	Transformer Oil and Sodium Hypochlorite Containment Project	Final Design	June 2012
15384	CRA - Electrical/Power Systems Reliability Program $20,458,700	103760	Danby Towers Foundation Rehabilitation	Final Design	January 2011

TABLE 5-3 (Continued)
MAJOR ENGINEERING PROJECTS IN DESIGN

Program Number	Program Title and Total Program Estimate	Project Number	Project Description	Phase	Estimated or Actual Completion Date Through Phase Indicated
15374	CRA - Pumping Plant Reliability Program $42,961,600	103183	Suction & Discharge Lines Expansion Repair	Final Design	September 2010
15438	CRA Reliability Phase II Program	103874	CRA 2.4 kV Standby Diesel Engine Generators Replacement	Preliminary Design	June 2012
	$47,184,000	104090	CRA Intake 2.3kV Power Line Relocation	Preliminary Design	March 2012
		103851	CRA Reliability Phase II - Pumping Plants 230 KV & 69 KV Disconnect Switch Replacement	Preliminary Design	September 2011
		104172	Eagle Mountain Pumping Plant Standby Generator Replacement	Final Design	December 2010
		104273	Hinds Pumping Plant Standby Generator Replacement	Final Design	October 2011
		104242	Pumping Plant Flow Meters Replacement	Final Design	November 2011
15380	Diemer Water Treatment Plant - Improvements Program	103904	Diemer Filter Outlet Seismic Upgrade, North East Slope	Preliminary Design	December 2010
	$195,943,900	103902	Diemer Finish Water Reservoir Seismic Upgrade/South Slope	Final Design	September 2010
15436	Diemer Water Treatment Plant - Improvements Program Phase II	104123	Diemer Filter Valve Replacement	Preliminary Design	November 2010
	$155,182,000	103772	Emergency Broadcast System Rehabilitation	Final Design	October 2010
15363	Diemer Water Treatment Plant - Solid Handling and Water Reclamation $43,061,000	103335	Sludge Transfer Modifications	Final Design	February 2011
15402	Hayfield Groundwater Storage Program $25,715,000	104126	Hayfield Groundwater Extraction Project For One Well	Final Design	March 2011

TABLE 5-3 (Continued)
MAJOR ENGINEERING PROJECTS IN DESIGN

Program Number	Program Title and Total Program Estimate	Project Number	Project Description	Phase	Estimated or Actual Completion Date Through Phase Indicated
15371	Jensen Water Treatment Plant - Improvements Program	103295	Bulk Chemical Tank Farm Upgrades	Final Design	September 2011
	$121,935,400	103222	Jensen Solids Dewatering Facility and Lagoons	Final Design	March 2013
		103569	Jensen Module 1 Filter Valve Refurbishment	Final Design	April 2012
		103220	Jensen Module 1 Traveling Bridge Refurbishment	Final Design	June 2012
15442	Jensen Water Treatment Plant - Improvements Program Phase II	103892	Jensen Chemical Trench Extension	Final Design	September 2011
15424	Mills Water Treatment Plant - Capacity Upgrade $204,370,600	103615	Mills Solids Handling Systems	Preliminary Design	November 2010
15452	Mills Water Treatment Plant - Improvements Program Phase II	104063	Mills Electrical Building Nos. 1 and 2 Seismic Upgrades	Final Design	September 2010
	$16,016,000	104062	Mills Electrical System Reliability	Preliminary Design	June 2013
		104180	Mills Industrial Wastewater Handling Facilities Improvements	Preliminary and Final Design	December 2011
		104179	Mills Modules 3 And 4 Potable Water Safety Stations and Water Line Extensions	Final Design	September 2010
15447	Quagga Mussel Control Program	104291	Diemer Ozone Cooling Water Chlorination System - Design and Construction	Final Design	September 2011
	$18,168,900	104055	Skinner Outlet Conduit - New Chloride Injection Point	Final Design	May 2011
		104162	Skinner Ozone Cooling Water Chlorination	Final Design	November 2010
15417	Reservoir Cover Replacement Program $25,424,500	103391	Palos Verdes Reservoir Cover Replacement	Final Design	April 2012

TABLE 5-3 (Continued)
MAJOR ENGINEERING PROJECTS IN DESIGN

Program Number	Program Title and Total Program Estimate	Project Number	Project Description	Phase	Estimated or Actual Completion Date Through Phase Indicated
15388	Skinner Water Treatment Plant - Oxidation Retrofit Program $251,373,100	104057	Skinner ORP Completion Project	Final Design	July 2011
15369	Weymouth Water Treatment Plant - Improvements Program $244,036,100	103746	Weymouth Washwater Reclamation Reliability Upgrade	Final Design	December 2010
15440	Weymouth Water Treatment Plant - Improvements Program Phase II $134,439,500	103840	La Verne Emergency Broadcast & Address System, Voice, Fire Alarm Emergency Evaluation	Preliminary Design	October 2010
		104137	Weymouth Combined Filter Outlet Chemical Trench	Final Design	September 2011
		104037	Weymouth Filter Outlet Conduit Repairs	Final Design	October 2010
		103881	Weymouth Raw Water Bypass	Final Design	August 2011
15392	Weymouth Water Treatment Plant - Oxidation Retrofit Program $404,925,000	104192	Weymouth ORP Final Design (Staged Approach)	Final Design	November 2011
15446	Yorba Linda Power Plant Modifications $29,875,000	103805	Yorba Linda Power Plant	Final Design	December 2011

Activities over the past year for the final two plants to be upgraded included the following:

- Completed construction of the new Southern California Edison 66-kilovolt incoming service line at the Diemer plant, and began preparing for start-up of the new ozonation facilities.
- Neared completion on several projects in support of the main Weymouth ORP, including relocation of the plant's inlet conduit and upgrade of the plant's 70-year-old electrical system.

Rehabilitation and Replacement

With an ongoing focus on assuring long-term system reliability, Metropolitan invested approximately $108 million during the year for the rehabilitation or replacement of aging infrastructure. Following are highlights of key accomplishments:

Water Treatment Plant Improvements

- Completed construction of the Phase I electrical system upgrades at the Diemer plant, where staff continued to manage construction of the domestic/fire pump station and the emergency broadcast system upgrade.
- Finished construction of the Junction Structure seismic upgrades and four demonstration filters at the Weymouth plant, and initiated one year of demonstration testing for the filter rehabilitation project.
- Completed construction at the Jensen plant of two new solids thickeners and finished seismic upgrade of the plant's administration building.
- Finished start-up and testing of the new Skinner ozonation facilities.

Conveyance and Distribution System

- Replaced eight precast concrete vault structures on the Allen-McColloch Pipeline to provide safe access for routine maintenance and pipeline shutdowns.
- Completed the third and fourth phase of the Box Springs Feeder Repairs, including the installation of steel liner pipe on 12 segments of prestressed concrete cylinder pipe (PCCP) with broken-back cracks.
- Finished repair of eight segments of PCCP on the Calabasas Feeder with carbon fiber-lining, discovering a previously undetected broken-back pipe segment. This pipe was repaired by Metropolitan forces.
- Refurbished three service connections on the Upper Feeder during a 10-day shutdown.
- Continued rehabilitation of the final 80 sites for the Treated Water Cross Connection Prevention Program, having previously eliminated potential cross connections at 221 sites.

CRA Conveyance Rehabilitation

- Repaired leaking expansion joints on the delivery pipes at Eagle Mountain Pumping Plant during a 19-day shutdown of the CRA.
- Upgraded fault current protection at all five CRA pumping plants to protect equipment in the event of a short-circuit, completing work during two 19-day CRA shutdowns in April 2010 and February 2011.
- Completed rehabilitation of a slide gate and frame during a two-week outage at Eagle Mountain Reservoir.
- Replaced access covers along the CRA and completed water tank safety improvements at all five CRA pumping plants.
- Completed final design to modify flow meters and replace 230kV disconnect switches on the CRA.

Infrastructure Protection

Engineering Services regularly monitors critical facilities such as dams, reservoirs, pipelines and chemical tanks to assess their condition and ensure facilities are fit for service. In addition, staff works to prevent encroachments on Metropolitan's rights-of-way, prevent third-party damage to facilities, improve public/worker safety, and identify rehabilitation needs.

These efforts involve predictive assessments using specialized equipment, data collection, visual inspections, trend analysis, coordination with external agencies, and close collaboration with Water System Operations maintenance staff. The following are highlights of key accomplishments:

Corrosion Control

- Completed all planned engineering inspections of pipelines, canals, treatment facilities, chemical tanks, chlorine trailers, and pressure vessels, including non-destructive electromagnetic testing of about 4.3 miles of PCCP lines.
- Assessed 450 miles of electrically continuous distribution pipeline for external corrosion.
- Installed nine cathodic protection systems on the Middle Feeder.
- Completed final design of cathodic protection systems for West Valley Feeder No. 2 and the Upper Feeder, and awarded a construction contract for a stray current mitigation system for the Calabasas Feeder.
- Completed preliminary design of stray current mitigation systems for the Sepulveda Feeder, Second Lower Feeder and Allen-McColloch Pipeline, which involved significant collaborative testing with other utilities.

Dam Safety

- Staff maintained a continuous dam safety surveillance program for Metropolitan dams; completed 54 engineering inspections; submitted 19 dam safety surveillance reports to the California Division of Safety of Dams; coordinated daily inspections of facilities and dams with WSO staff; analyzed seismic data near dams following earthquakes; and participated in a Metropolitan-wide emergency exercise for a major flood scenario.

Field Survey and Mapping

- Responded to more than 265 field survey requests, 120 mapping requests, 280 Geographic Information System requests, and 300 right-of-way mapping requests; and expanded Metropolitan's right-of-way database, which is now available to staff via the Enterprise GIS application and Google Earth.
- Surveyed more than 120 locations to prevent contractor damage to pipelines and prevent or document possible unauthorized encroachments onto Metropolitan properties.

Environmental Planning

Engineering Services continued to support Metropolitan's planning, construction and operational activities to comply with state and federal environmental regulations, along with local and regional codes and ordinances. Staff provided California Environmental Quality Act clearances for nearly 200 board actions, more than 100 O&M projects, and 70 capital projects. Other environmental clearance activities included processing 31 permits and completing one Environmental Impact Report, two EIR amendments, and 101 environmental notices. For each project, staff assessed needed environmental clearances; prepared technical reports, CEQA documents, and permit applications, and monitored implementation of all mitigation measures in the field. In addition, staff provided Federal Register and legislative reviews; reviewed and commented on more than 350 external requests and real estate transactions; and continued proactive management of more than 60,000 acres of Metropolitan's reserve lands.

Energy Management

Metropolitan's Energy Management Program coordinates all energy-related activities to enable the design and operation of Metropolitan's facilities in the most energy-efficient and cost-effective manner. The four primary goals are to: (1) identify Metropolitan's greenhouse gas emissions inventory; (2) implement cost-effective renewable energy production initiatives and/or projects; (3) reduce energy consumption; and (4) develop and implement comprehensive strategies to manage power resources in the most cost-effective manner.

In fiscal year 2010/11, staff activities primarily focused on policy development. The board adopted energy management policies for Metropolitan that balance long-term reliability with cost control, with the added benefit of reducing greenhouse gas emissions. For the future, staff anticipates returning to the board to obtain approval on a case-by-case basis for energy projects. Other activities during the year included an assessment of the proposed Weymouth Solar Power Plant, and submission of Metropolitan's 2010 emission data to the California Air Resources Board and the Climate Registry to comply with greenhouse gas emission reporting and certification requirements.

Cooperative Education Program

Engineering Services continued to sponsor its summer and year-round cooperative education program, which is designed to provide college students an opportunity to augment their studies with practical work experience in the water industry. This program was established in 2002; a total of 105 college students have participated to date.

In fiscal year 2010/11, six summer student interns and eight year-round student interns were recruited from Cal Poly Pomona, Cal Poly San Luis Obispo, Cal State Los Angeles, Cal State Northridge, Cal State Fullerton and UCLA.

Legal Department staff conduct research in the Metropolitan law library.

CHAPTER 6

Legal

The Legal Department represents Metropolitan, its directors, officers, and, on occasion, employees in litigation and administrative proceedings; renders legal advice; prepares or reviews contracts; and monitors litigation, administrative proceedings, and state and federal legislative and regulatory proposals that could affect Metropolitan.

Major Events

State Water Project

On Dec. 14, 2010, U.S. District Court Judge Oliver Wanger issued his decision on the motions for summary judgment in the Delta smelt biological opinion case, finding that the biological opinion for Delta smelt contained various legal and science-based flaws, and would have to be redone. On Dec. 27, 2010, the judge formalized his ruling that the biological opinion was "arbitrary, capricious, and unlawful," and remanded it to the U.S. Fish and Wildlife Service for reconsideration. While Metropolitan and the other State Water Contractors did not prevail on all of their legal claims in the case, the judge agreed with Metropolitan that there were major flaws in the Fish and Wildlife Service's determination that the Delta smelt was in jeopardy, and with the scientific basis for the biological opinion's restrictions on project operations. Legal helped prepare pleadings and testimony for the hearing, including science experts instrumental in convincing the judge that elements of the biological opinion were scientifically indefensible. Legal assisted with a settlement agreement permitting the State Water Project and Central Valley Project to operate under different criteria than those in the biological opinion through June 30, 2011. On May 4, 2011, Judge Wanger issued a decision directing the Fish and Wildlife Service to complete a new draft biological opinion

by Oct. 1, 2011, and a final biological opinion with environmental documentation by Dec. 1, 2013.

In litigation challenging the salmon biological opinion, Judge Wanger held a two-day hearing in December 2010 on the motions for summary judgment. The ruling was expected before the end of calendar year 2011. Legal also assisted in challenging California Endangered Species Act take regulation and take permit for longfin smelt.

Legal participated in groups/committees engaged in developing the Bay Delta Conservation Plan and assisted on topics under the federal Endangered Species Act, the California Endangered Species Act, the Natural Communities Conservation Planning Act, California Environmental Quality Act and National Environmental Policy Act, as well as the Delta Stewardship Council's process to develop the Delta Plan.

Legal worked with the state Department of Water Resources in finalizing the Environmental Impact Report for the Monterey Amendments to the SWP delivery contracts and coordinated with the state and other contractors in defending new lawsuits brought in 2010.

Metropolitan and 12 other SWP contractors are pursuing additional discovery and preparing for trial of *Solano County Water Agency v. Department of Water Resources*, litigation filed by four SWP contractors asserting that since they are located in the "area of origin" of State Water Project water they are entitled to receive their entire contract amount before any water is delivered to contractors south of the Bay-Delta. The trial court denied cross-summary judgment motions on Nov. 11, 2010. Legal supported DWR's administration of the State Water Contract's shortage provisions and coordinated litigation activities among DWR and co-parties.

Colorado River

In the Quantification Settlement Agreement litigation, Metropolitan, Imperial Irrigation District, Coachella Valley Water District, the San Diego County Water Authority and others appealed various aspects of the court's ruling, which held the QSA and 11 related agreements invalid. This ruling has been stayed pending outcome

of the appeal. Legal participated in post-trial case management conferences and assisted in preparing the appeal. Metropolitan is participating in defense of the lawsuit filed by the County of Imperial and Imperial County Air Pollution Control District alleging that approval of the QSA violated the Clean Air Act and NEPA.

Legal represented Metropolitan in discussions organized by the Bureau of Reclamation regarding Imperial Irrigation District's delivery of Colorado River water to the Salton Sea to avoid the cost of conserving water to meet QSA mitigation obligations.

Legal participated in the mediation of issues relating to compensation of the San Luis Rey Indian Tribes for conserved water and an agreement to provide the energy to move water to the San Luis Rey settlement parties.

Legal helped protect Colorado River water supplies through negotiations on rules governing inadvertent overruns and Lake Mead storage, potential use of Colorado River water for new solar power plants, and removing or reducing other conflicting uses such as consumptive use on Yuma Island.

Water Quality

Legal coordinated preparation of joint water agency comments and presented testimony before the Central Valley Regional Water Quality Control Board for its consideration of a discharge permit for the Sacramento Regional County Sanitation District. On Dec. 9, 2010, the Central Valley Regional Water Quality Control Board approved a discharge permit, setting new strict discharge limits that will require nitrification/de-nitrification facilities and tertiary filtration for this major discharger to the Bay-Delta. Following appeal to the State Water Resources Control Board, Legal coordinated preparation of the water agencies' response to the appeal.

In *Orange County Water District, et al v. Northrop Grumman Corp., et al* and *Northrop Grumman Corp. v. Metropolitan Water District, et al.*, Legal engaged in discovery requests, and coordinated analysis of treatment protocols, costs, and historical sources of perchlorate.

In *In re Tronox, Inc*., Metropolitan and other water agencies participated in the Tronox bankruptcy to obtain additional funding for the Henderson Environmental Trust, which is responsible for ongoing remediation of perchlorate and other contaminants.

Legal assisted Water Quality regarding proposed remediation of chromium 6 groundwater contamination adjacent to the Colorado River at Pacific Gas & Electric's Topock compressor station site.

Water Supply

After obtaining Central Basin Municipal Water District's dismissal of its litigation challenging the Water Supply Allocation Plan, Legal reviewed member agency appeals under the WSAP and advised on proposed revisions. Legal helped defend and prepare an appeal of a CEQA lawsuit filed by environmental groups challenging the 2009 Drought Water Bank and helped negotiate a settlement favorable to Metropolitan and other participants in the water bank.

Energy

In the appeal of *Alameda County Flood Control and Water Conservation District, Zone 7, et al. v. California Department of Water Resources*, involving SWP energy cost allocation issues, Legal assisted in drafting and reviewing all appellate court filings, including Metropolitan's notice of cross-appeal and related briefs.

Legal provided support with the ongoing relicensing process for the hydroelectric facilities at Oroville Dam. Legal assisted in defending a CEQA lawsuit filed by the counties of Butte and Plumas in August 2008, and a complaint filed by Butte County with the Federal Energy Regulatory Commission; participated in SWRCB negotiations and hearings; assisted in preparing extensive comments; and provided counsel and support regarding DWR's applications for regulatory permits and approvals required for the new license.

Legal provided advice and drafting for the proposed Hoover Power Allocation Act. This legislation resolves disputes among the Lower Basin States over allocation of Hoover power when existing contracts expire in 2017.

Legal participated in the litigation and settlement discussions associated with FERC transmission rate filings of Southern California Edison and Pacific Gas & Electric, limiting increases in power costs.

Communications

Legal continued work with Information Technology on the implementation of the e-discovery management system and assisted in registering a trademark for bewaterwise.com.

Capital Projects

Legal provided support in the management of the construction contract, change orders, and notices of claim regarding Perris Valley Pipeline. Staff worked with outside counsel to defend and settle *Foxfire v. Rasic*, relating to pipeline construction. Legal assisted in defending an inverse condemnation lawsuit by the owner of property adjacent to PVP construction, *Village Retail LLC v. Metropolitan Water District, et al*, obtaining summary judgment on all land-related issues and offering a separate settlement of issues relating to subsurface water.

Operations

Legal supported Operations' review, tracking, and response to regulatory and legislative changes having the potential to impact Metropolitan's ability to treat, transport, and deliver water. Legal assisted with responses to state/federal rulemaking initiatives on chemical security, Clean Water Act, and stormwater management issues.

Legal often responds to Cal/OSHA, South Coast Air Quality Management District, Regional Water Quality Control Board, and other regulatory agency actions that could impact Water System Operations activities.

Workforce

Legal assisted in supporting the Memorandum of Understanding negotiations with Metropolitan's four bargaining units. Legal advised in interpreting and applying the MOUs, operating policies and

employee-related administrative code sections, to ensure proper, uniform, and equitable application.

Legal directed implementation of the *Cargill v. Metropolitan* settlement agreement. All claims have been processed and evaluated, and all eligibility disputes have been resolved.

Legal assisted with labor/employment law compliance and strategic advice, including employment actions, employee relations, reasonable accommodation and leave issues, affirmative action and Equal Employment Opportunity matters, wage/hour issues, drug/ alcohol issues and potential workforce violence matters.

Legal prepared and conducted four training sessions titled "Avoiding Litigation Landmines" for new and existing Metropolitan managers.

Legal represented Metropolitan in four employment lawsuits. Metropolitan obtained summary judgment of one; a successful demurrer and motion to strike, without leave to amend, effectively dismissing a second; and settlement of a third after successfully demurring to and obtaining dismissal of two of the plaintiff's claims.

Legal defended Metropolitan's interests and management rights in Public Employment Relations Board matters alleging unfair labor practices. Of five, one was withdrawn, one was settled after PERB issued a complaint, one is at the post-hearing briefing stage, one is at the informal conference stage and the remaining charge is in abeyance due to settlement discussions.

Legal defended Metropolitan's interests in hearing officer appeal requests lodged by bargaining units. Legal scheduled hearing officer appeals involving eight grievances and eight disciplinary actions. Metropolitan received one favorable decision based on the merits and another decision in which Metropolitan's jurisdictional objections were overruled. Legal negotiated settlements of 10 appeals: five grievances and five disciplinary actions. Two appeals were voluntarily withdrawn: a grievance and a disciplinary action.

Real Estate Matters

Legal negotiated settlement of all pending Perris Valley Pipeline condemnation cases; provided counsel on third-party property rights requests/inquiries on such matters as leases, licenses, entry permits, road easements and surplus property sales; and assisted in resolving a dispute with Angel View Crippled Children's Foundation regarding an easement held by Metropolitan since 1933.

Finance

Metropolitan, joined by eight member agencies, is defending litigation that seeks to invalidate Metropolitan's rates and charges adopted April 13, 2010. This case challenges inclusion of State Water Project transportation costs and the Water Stewardship Rate in Metropolitan's water transportation charges.

Legal assisted with the issuance of $250 million in water revenue bonds to finance capital investments, $486 million in water revenue refunding bonds and $40 million in general obligation refunding bonds; advised on rates and charges, investments and taxation issues; represented Metropolitan in extending two standby bond purchase agreements supporting $200 million variable rate demand bonds and assisted in replacing or renewing two additional standby bond purchase agreements supporting $500 million variable rate demand bonds; and assisted with novation of $300 million in interest rate swap agreements to a new counterparty.

Administration

Legal responded to numerous Public Records Act requests/ document subpoenas and established uniform protocols for the document review process.

Legal reviewed/approved procurement and professional contracts, streamlined contract review, revised Metropolitan's General Conditions for construction contracts, increased coordination with Contract Services and Risk Management and reviewed contract administrator training materials.

Metropolitan adopted its first biennial budget, and also received awards for its 2010/11 budget and its 2010 Comprehensive Annual Financial Report.

CHAPTER 7

Finance

The Office of the Chief Financial Officer is responsible for providing strategic, innovative, and proactive financial guidance to support the financial policies of Metropolitan's board, management, and staff; efficiently managing Metropolitan's financial resources; working to achieve low, stable water rates and charges by maintaining Metropolitan's strong financial position; and ensuring that adequate financial controls are in place to accurately communicate financial results and protect Metropolitan's assets. Financial information is presented throughout this chapter, as noted, on either the accrual basis or the cash basis of accounting.

Chief Financial Officer

The Office of the CFO's roles and responsibilities include:

- Developing a biennial budget and managing, refining, and supporting Metropolitan's business planning and performance measurement programs.
- Collecting, investing, safekeeping, and disbursing Metropolitan's funds.
- Maintaining effective financial controls to safeguard assets.
- Issuing debt to efficiently fund Metropolitan's Capital Investment Plan at the lowest possible cost, and managing the debt program by prudently utilizing interest rate swaps and asset liability management techniques.
- Developing and maintaining accounting guidelines and policies for accurate and timely financial reporting and control.
- Providing innovative and proactive financial analyses, planning, and management services including developing the annual

revenue requirement, cost-of-service study, and recommended water rates and charges.

- Providing monitoring and reporting services, preparing the annual tax levy and annexation fee calculations, and administering rates and charges.
- Maintaining Metropolitan's official accounting records, cash control, and accounting services related to vendor, payroll, and other payments.
- Managing Metropolitan's Business Continuity Program to ensure critical business processes can be restored in the event of a disaster.
- Accounting for cash receipts and receivables, and determining the availability of funds for investment.

FY 2010/11 Major Financial Activities and Accomplishments

Security Sales/Debt Administration

Metropolitan maintained S&P long-term water revenue bond ratings of AAA and Moody's of Aa1; Fitch ratings were downgraded to AA+ due primarily to demand volatility.

During fiscal year 2010/11, Metropolitan sold the $128 million Special Variable Rate Water Revenue Refunding Bonds, 2010 Series A issue to refund the variable rate Water Revenue Refunding Bonds, 2004 Series C issue. The 2010 Series A issue was the first issuance of variable rate water revenue bonds supported by Metropolitan's own liquidity and balance sheet in lieu of bank standby credit. The refunding allows Metropolitan to take advantage of historically low interest rates, to eliminate exposure and the risks associated with rising costs for liquidity, and to offer bonds in the marketplace that will trade solely on Metropolitan's credit.

Metropolitan closed the $88.8 million Water Revenue Refunding Bonds, 2010 Series B issue at a true interest cost of 3.25 percent to refund the variable rate Water Revenue Bonds, 2005 Authorization Series B-1 and B-2 issues. The refunding allows Metropolitan to take advantage of historically low interest rates and to eliminate exposure and the risks associated with rising liquidity costs.

In July 2010, Metropolitan successfully novated (assigned) $312 million of interest rate swaps from UBS AG to Deutsche Bank AG. The novation will allow Metropolitan more favorable swap terms and conditions and will reduce counterparty risk.

In October 2010, Metropolitan closed the $39.5 million Waterworks General Obligation Refunding Bonds, 2010 Series A issue at a true interest cost of 3.63 percent to refund certain outstanding general obligation bonds. The refunding allowed Metropolitan to realize $2.67 million net present value savings.

In October 2010 and January 2011, Metropolitan successfully repriced the 2009 Series A-1 and Series A-2 Security Industry and Financial Markets Association Index Bonds at a rate equal to the SIFMA index.

In December 2010, Metropolitan closed the $250 million Water Revenue Bonds, 2010 Authorization Series A issue to provide funding for a portion of Metropolitan's ongoing Capital Investment Plan. The 2010 Authorization Series A bonds were issued as taxable Build America Bonds. Metropolitan will receive a direct subsidy from the federal government for 35 percent of the interest payments on the bonds. After receipt of the subsidy, Metropolitan's true interest cost is 4.62 percent.

Treasury Operations

- Continued to meet all liquidity requirements and managed Metropolitan's investment portfolio in compliance with the California Government Code and Metropolitan's investment policy.
- Exceeded the rate of return of the short-term portfolio benchmark by 0.98 percent, translating to approximately $5.4 million of additional earnings. The long-term portfolio returned 2.29 percent compared with the benchmark return of 2.69 percent.
- Managed net interest exposure within board-approved parameters.

Accounting Operations

- Provided accurate, timely, and transparent standard financial reports to the board and member agencies.
- Recorded and reported Metropolitan's financial activities in a timely manner, ensuring sufficient financial controls to protect Metropolitan's assets.
- Adhered to accounting cycle time requirements including the processing of bi-weekly payroll, matching and approving invoices for payment, calculating the tax levy, and completing the monthly closing of the cash and the accrual general ledger.
- Completed the FY 2009/10 external audit with a clean opinion.
- Achieved internal financial audit reviews with ratings of generally satisfactory or higher and no major findings.
- Maintained the 90-day past-due amounts on non-DWR accounts receivable to below $600,000.
- Continued the documentation and testing of internal controls over financial reporting, using a methodology based on specialized software that provides a structured process, to efficiently and effectively document and assess internal controls.
- Funded $45 million for asset replacement and refurbishment projects from the Replacement and Refurbishment Fund. Received the Award of Excellence from the Government Finance Officers Association for FY 2009/10 for financial reporting.

Budget and Financial Planning

- Completed Metropolitan's first biennial budget covering FY 2011/12 and 2012/13.
- Received the GFOA Award of Excellence for the FY 2010/11 budget.

Business Continuity

- Conducted a Business Recovery Exercise with Information Technology, activating the Disaster Recovery Facility and

successfully testing Metropolitan's ability to recover critical business systems in the event of a major regional disaster.

- Completed an annual review and update of the Business Continuity Plan for Metropolitan's critical business processes.

Financial Information

Metropolitan operates as a utility enterprise within the state of California. Metropolitan has established separate funds in accordance with regulations, bond covenants, trust arrangements, and board policies. These funds are classified as either "restricted" or "unrestricted." Most restricted funds have minimum cash and investment balance requirements and all are non-discretionary in terms of the use of assets. The board has discretion in establishing the minimum cash and investment balance requirements for the various unrestricted funds and in the use of such assets. The fund groupings maintained are as follows:

- Operating Funds
- Debt Service Funds
- State Contract Funds
- Construction Funds
- Rate Stabilization Funds
- Trust and Other Funds

Revenues

Metropolitan's principal revenue source is water sales, which include all revenues received by Metropolitan from charges for the sale and availability of water, including Metropolitan's water rates, readiness-to-serve charges, a capacity charge, and wheeling/exchange transactions. Other sources of revenue include property taxes, interest income and hydroelectric power sales. Water rates and charges are established by the board of directors on an annual basis and are not subject to regulation by the California Public Utilities Commission or any other governing body.

The rate structure implemented on Jan. 1, 2003 unbundles Metropolitan's previous water rate into separate rates and charges (a power rate, a treatment surcharge, a system access rate, a water stewardship rate, and a capacity charge) to reflect the different services provided by Metropolitan. This rate structure also includes a two-tiered block pricing structure for water supply. Effective Jan. 1, 2011, the full service Tier 1 rate (including all rate elements), which is based on recovering the cost of maintaining a reliable amount of supply, was $527 per acre-foot for untreated water. Likewise, the full service Tier 2 rate, which is set at Metropolitan's cost of developing additional supply to encourage efficient use of local resources, was $652 per acre-foot. The surcharge for water treatment was set at $217 per acre-foot. A complete list of current water rates and charges is available in Table 7-1.

TABLE 7-1
WATER SALES RATE STRUCTURE-CURRENT [1]
(Dollars per acre-foot-unless otherwise specified)

	Calendar Year [2]							
	2011	2010	2009	2008	2007	2006	2005	2004
Tier 1 Supply Rate	$ 104	$ 101	$ 109	$ 73	$ 73	$ 73	$ 73	$ 73
Delta Supply Surcharge	51	69	--	--	--	--	--	--
Tier 2 Supply Rate	280	280	250	171	169	169	154	154
Water Supply Surcharge	--	--	25	--	--	--	--	--
System Access Rate	204	154	143	143	143	152	152	163
Water Stewardship Rate	41	41	25	25	25	25	25	30
System Power Rate	127	119	110	110	90	81	81	60
Full Service Untreated:								
Tier 1	527	484	412	351	331	331	331	326
Tier 2	652	594	528	449	427	427	412	407
Replenishment Water Rate:								
Untreated	409	366	294	258	238	238	238	233
Treated	601	558	436	390	360	335	325	300
Interim Agricultural Water Program								
Untreated	482	416	322	261	241	241	241	236
Treated	687	615	465	394	364	339	329	304
Treatment Surcharge	217	217	167	157	147	122	112	92
Full Service Treated:								
Tier 1	744	701	579	508	478	453	443	418
Tier 2	869	811	695	606	574	549	524	499
Capacity Charge ($ per cubic foot second)	7,200	7,200	6,800	6,800	6,800	6,800	6,800	6,100
Readiness-to-Serve Charge ($Millions)	125	114	92	82	80	80	80	80

1 Effective January 2003 a new rate structure was implemented.
2 Rates are set on a calendar year basis.

In accordance with revenue bond covenants, operating revenues are allocated to the Water Revenue Fund upon receipt and are transferred to various funds for payments or deposits in the following order of priority:

- Operations and Maintenance Fund to pay operations and maintenance expenditures;
- Revenue Bond Interest and Principal Funds, as required;
- Revenue Bond Reserve Fund, if required;
- Excess Earnings Funds, as needed, in accordance with tax and non-arbitrage certificates;
- Payments required for any obligation of Metropolitan that is junior to the lien on the Revenue Bonds; and
- Revenue Remainder Fund, if any funds remain in the Water Revenue Fund after the above transfers.

Metropolitan is empowered under the Metropolitan Water District Act to levy and collect taxes on all taxable property within its boundaries for the purpose of carrying on its operations and paying obligations. Property taxes are levied annually by the board to pay Metropolitan's general obligation bond debt service and a portion of Metropolitan's obligations under its State Water Project contract.

Metropolitan’s total cash receipts in fiscal year 2010/11 totaled $1.35 billion. Sources of cash receipts include collections from water sales, property taxes, interest earnings, hydroelectric power sales, readiness-to-serve charge, capacity charge, wheeling transactions, and miscellaneous collections, such as rents. Total receipts were $36 million more than the prior fiscal year. This was due primarily to $57 million of higher other receipts, which included a $28 million increase due to Las Posas contract termination, a $17 million board-approved increase in the RTS charge, and $8 million from the La Verne land sale. This was partially offset by $13 million less revenue due to lower water sales, and $9 million of lower tax revenue.

Table 7-2 lists receipts by source and the change in receipts from the prior year.

TABLE 7-2
RECEIPTS BY SOURCE
Cash Basis
(Dollars in millions)

	Year Ended June 30,		
	2011	**Change**	**2010**
Water sales	$ 944	$ (13)	$ 957
Property Taxes and Annexation Receipts	88	(9)	97
Readiness-To-Serve, Connection Maintenance and other charges [1]	279	57	222
Interest on Investments [2]	17	(2)	19
Hydroelectric Power Sales	22	3	19
Total	**$ 1,350**	**$ 36**	**$ 1,314**

[1] Includes receipts from readiness-to-serve, connection maintenance charge, capacity charge, wheeling/exchange transactions, and miscellaneous receipts
[2] Excludes construction and trust funds.

Expenses

Metropolitan continued its efforts to manage finances, control costs, enhance productivity, and maintain conservation programs during the fiscal year. Major components of Metropolitan operations and maintenance costs include labor, chemicals, utilities, outside services, materials, and operating equipment.

Metropolitan is one of 29 contractors to the State Water Project. Under the contract, Metropolitan is obligated to pay the state Department of Water Resources its portion of the costs for construction of the system as well as the minimum operations, maintenance, power and replacement costs of the project regardless of the amount of water actually delivered. Variable power charges are based on actual deliveries of supplies from the State Water Project.

In addition, Metropolitan has an obligation to pay its share of the capital and operating costs of certain off-aqueduct power facilities regardless of the amount of water delivered; adjustments to such charges are made in subsequent periods based on actual water deliveries.

Metropolitan also buys power to pump Colorado River water into its service area. The power is secured by Metropolitan under federal energy contracts and from purchases of supplemental energy from a variety of sources as available. In addition, Metropolitan has entered into, and is negotiating, a number of agreements with entities along the Colorado River that have higher priority rights to water on the Colorado River. These agreements give Metropolitan firm rights to water that it otherwise would not have.

Future construction requirements to expand facilities, construct new facilities, and provide enhanced water treatment capability are being funded by a variety of financing mechanisms. The Capital Investment Plan is being financed through a combination of long- and short-term debt along with Replacement and Refurbishment funding from operating revenues. General obligation bond debt service is funded from ad valorem property taxes. Revenue bond and commercial paper debt service is funded from water sales revenues.

Fiscal year 2010/11 cash expenditures totaled $1.384 billion. Cash is expended for ongoing operations, debt service, state water contract capital costs, water supply programs, and construction. Total expenditures were $50 million higher than the prior year, mainly due to $28 million higher operating expenditures and $25 million higher debt service costs.

Table 7-3 lists expenditures by function and the changes from the prior year.

TABLE 7-3
CASH EXPENDITURES
(Dollars in millions)

	Year Ended June 30,		
	2011	**Change**	**2010**
O&M/Operating Expenses [1]	$ 853	$ 28	$ 825
Debt service	317	25	292
SWC capital costs [2]	168	3	165
Water transfer capital costs	-	(12)	12
R&R construction	45	10	35
Other, net	1	(4)	5
Total	**$ 1,384**	**$ 50**	**$ 1,334**

[1] Includes operating equipment.

[2] Net of credits.

Budget Process

Metropolitan combines elements of program budgeting and performance reporting in its budget system. These elements provide for funding, analysis, review, and control. As directed by the board, staff developed a biennial budget for fiscal years 2011/12 and 2012/13 and presented it during the board workshops. Metropolitan's first biennial budget was approved in April 2011.

The process begins one year in advance, starting in July when each group identifies major maintenance projects and capital projects. Project requests are submitted to the Engineering Section (now the Engineering Services Group) beginning in July, giving staff adequate time to plan project design and construction schedules, and to allow the Water System Operations Group to plan for system shutdowns. Each department and group prepares operating budgets from August to November based on established directives from top management. Each program is analyzed and reviewed as to resources required and the extent to which the program is consistent with the priorities and strategies of the General Manager's Business Plan for the fiscal year. All recommended programs are then incorporated into the overall budget. The proposed biennial budget documents include an updated 5-year forecast of expenditures and projected rates and charges. These forecasts incorporate projected costs associated with a Bay-Delta

conveyance solution and ecosystem restoration to help member agencies and the general public understand long-term cost trends and potential future water rate impacts.

Budgetary control is maintained through monthly variance reports, which compare budget estimates with actual receipts and expenditures for board and management information purposes, and form the basis for corrective actions. This is one of several control measures used to ensure efficient operations and attain Metropolitan's goals and objectives within the limits of allocated resources. All major expenditure categories are controlled via the board-approved annual budget and authorized appropriations during the year. Receipts and expenditures are summarized monthly by account type for cash basis reporting purposes.

Treasury Operations and Cash Management

Metropolitan has adopted an investment policy which specifies the types and amounts of investments that may be made. In accordance with Section 53600 et seq. of the Government Code of the State of California, the authority to invest public funds is expressly delegated to the board of directors for subsequent re-delegation to the Treasurer.

Investments by the Treasurer are limited to those instruments specified in Metropolitan's board-approved Statement of Investment Policy. The policy sets out, in order of importance, that investments will be made based on safety, liquidity and return.

As an investment standard, any investment shall be made as if it is one that would be purchased by a prudent person, not for speculation. The Treasurer may invest in any security authorized for investment under state law as follows:

- Time Deposits
- Repurchase Agreements
- Reverse Repurchase Agreements
- Local Agency Investment Fund Deposits
- Negotiable Certificates of Deposit
- Bankers' Acceptances
- Commercial Paper

- U.S. Government and Agencies
- Securities Related to the State Water Project
- Medium-Term Notes
- Mortgage Obligations and Asset-Backed Securities

The overall treasury activities during the year, including bond construction and trust funds, involved an average investment portfolio of $1.003 billion with cash basis investment earnings of $21.6 million. The fair value of the investment portfolio on June 30, 2011 was $1.119 billion.

The Metropolitan Water District has received the Certificate of Achievement for Excellence in Financial Reporting from the Government Finance Officers Association (GFOA) for its 2009/10 Comprehensive Annual Financial Report. The Certificate of Achievement is the highest form of recognition in the area of governmental accounting and financial reporting. Metropolitan has received the award for each of the past 17 fiscal years. A Certificate of Achievement is valid for a period of one year only.

In addition, the GFOA presented its award for Distinguished Budget Presentation to Metropolitan for the district's annual budget for the fiscal year 2010/11. The GFOA judged Metropolitan's budget document to be proficient in several categories including policy documentation, financial planning and organization. Metropolitan has received the award from the GFOA for eight consecutive years and 18 times over the last 20 years.

TABLE 7-4
SUMMARY OF CHANGES IN NET ASSETS - ACCRUAL BASIS
(Dollars in millions)

	Fiscal Year Ended June 30,									
	2011	2010	2009 Restated [1]	2008	2007	2006	2005	2004	2003	2002
Water sales	$ 1,035.4	$ 1,044.3	$ 1,032.1	$ 991.3	$ 963.2	$ 864.2	$ 810.2	$ 914.2	$ 844.3	$ 871.4
Readiness-to-serve charges	119.5	103.0	87.0	82.1	80.0	80.0	80.0	80.0	80.0	80.0
Power recoveries	22.9	18.3	17.4	23.1	26.1	26.8	20.9	23.0	20.6	15.3
Operating revenues	1,177.8	1,165.6	1,136.5	1,096.5	1,069.3	971.0	911.1	1,017.2	944.9	966.7
Taxes, net	79.3	98.1	105.6	98.7	96.4	102.7	91.8	96.7	94.0	101.8
Investment income	2.0	40.6	27.3	65.9	55.3	32.5	47.2	10.3	42.3	45.8
Other, net	22.0	6.4	6.0	2.9	10.1	4.6	7.2	4.4	3.0	6.0
Nonoperating revenues	103.3	145.1	138.9	167.5	161.8	139.8	146.2	111.4	139.3	153.6
Total revenues	1,281.1	1,310.7	1,275.4	1,264.0	1,231.1	1,110.8	1,057.3	1,128.6	1,084.2	1,120.3
Power and water costs	(364.8)	(433.7)	(402.1)	(350.3)	(335.4)	(366.2)	(278.5)	(244.9)	(304.6)	(377.9)
Operations and maintenance	(394.9)	(395.6)	(440.0)	(405.0)	(368.4)	(370.4)	(321.2)	(310.6)	(288.0)	(262.5)
Member agency distribution	-	-	-	-	-	-	-	(36.3)	-	(33.4)
Depreciation and amortization	(286.4)	(246.4)	(226.1)	(228.9)	(214.4)	(205.3)	(210.5)	(201.7)	(203.6)	(177.4)
Operating expenses	(1,046.1)	(1,075.7)	(1,068.2)	(984.2)	(918.2)	(941.9)	(810.2)	(793.5)	(796.2)	(851.2)
Bond interest	(132.4)	(133.3)	(103.4)	(120.0)	(118.9)	(110.0)	(100.3)	(100.9)	(107.1)	(117.7)
Interest and adjustments on OAPF [2]	(3.0)	(3.4)	(3.8)	(4.1)	(4.5)	(4.9)	(5.4)	(6.9)	(5.9)	(12.2)
Nonoperating expenses	(135.4)	(136.7)	(107.2)	(124.1)	(123.4)	(114.9)	(105.7)	(107.8)	(113.0)	(129.9)
Total expenses	(1,181.5)	(1,212.4)	(1,175.4)	(1,108.3)	(1,041.6)	(1,056.8)	(915.9)	(901.3)	(909.2)	(981.1)
Contributed capital	17.7	4.6	66.1	15.6	14.5	15.2	7.7	0.1	4.5	-
Cumulative effect of change in accounting principle			0.5							
Change in net assets	$ 117.3	$ 102.9	$ 166.6	$ 171.3	$ 204.0	$ 69.2	$ 149.1	$ 227.4	$ 179.5	$ 139.2

[1] Restatement relates to implementation of Governmental Accounting Standards Board Statement No. 53, *Accounting and Financial Reporting for Derivative Instruments.* This pronouncement requires derivative instruments to be reported at their fair value on the balance sheet along with a related deferred outflow to be recorded for effective hedges.

[2] Off-Aqueduct Power Facilities.

TABLE 7-5
TEN MEMBER AGENCIES WITH LARGEST ASSESSED VALUATIONS YEAR ENDED JUNE 30, 2011
(Dollars in Billions)

Member Agency	Assessed Valuation	Percent of Total
Los Angeles	$397.6	19.40
San Diego County Water Authority	369.0	18.01
MWD of Orange County	346.9	16.93
West Basin MWD	138.1	6.74
Central Basin MWD	109.1	5.32
Inland Empire Utilities Agency	80.6	3.93
Calleguas MWD	79.4	3.87
Western MWD	74.9	3.66
Upper San Gabriel Valley MWD	73.4	3.58
Eastern MWD	54.1	2.64
	$1,723.1	84.09
Total Gross Assessed Valuation (All 26 Member Agencies)	**$2,049.1**	

TABLE 7-6
TEN-YEAR SUMMARY OF ASSESSED VALUATIONS AND PROPERTY TAX RATES
(Dollars in Billions)

Fiscal Year Ended June 30,	Gross Assessed Valuation [1]	Homeowner's Exemption	Net Assessed Valuation	Secured Property Percentage Tax Rate
2011	$ 2,049.1	$ 17.1	$ 2,031.9	0.0037
2010	2,081.9	17.2	2,064.7	0.0043
2009	2,120.9	17.2	2,103.7	0.0043
2008	2,015.4	17.1	1,998.3	0.0045
2007	1,839.5	16.9	1,822.6	0.0047
2006	1,642.2	17.0	1,625.2	0.0052
2005	1,478.0	16.8	1,461.2	0.0058
2004	1,359.5	16.6	1,342.9	0.0061
2003	1,257.3	16.3	1,241.0	0.0067
2002	1,169.3	16.2	1,153.1	0.0077

[1] Gross assessed valuations (before deduction of Homeowner's and Business Inventory Exemptions), as of August each year, of all secured and unsecured property within Metropolitan's service area, as certified by the County Auditor-Controllers for the respective counties.

TABLE 7-7
TEN-YEAR SUMMARY OF PROPERTY TAX LEVIES AND COLLECTIONS - CASH BASIS
(Dollars in Thousands)

Fiscal Year Ended June 30,	Total Tax Levy	Tax Collections			Outstanding Delinquent Taxes [1]	Percent of Current Taxes Collected to Total Tax Levy	Percent of Total Tax Collections to Total Tax Levy	Percent of Delinquent Taxes to Total Tax Levy
		Current	Delinquent	Total				
2011	$ 95,385	$ 71,069	$ 16,987	$ 88,056	$ 9,478	74.5 %	92.3 %	9.9 %
2010	107,892	82,373	15,083	97,456	16,987	76.3	90.3	15.7
2009	109,776	91,632	12,951	104,583	15,083	83.5	95.3	13.7
2008	107,059	87,670	11,224	98,894	12,951	81.9	92.4	12.1
2007	103,913	81,315	13,647	94,962	11,224	78.3	91.4	10.8
2006	104,531	91,042	4,988	96,030	13,647	87.1	91.9	13.1
2005	100,114	88,201	8,761	96,962	4,988	88.1	96.9	5.0
2004	99,307	89,178	3,838	93,016	8,761	89.8	93.7	8.8
2003	100,239	91,420	7,906	99,326	3,838	91.2	99.1	3.8
2002	106,497	96,566	7,114	103,680	7,906	90.7	97.4	7.4

[1] Delinquent taxes shown are net of the "Allowance for Uncollectibles" - determined by historical trends of collections and payments.

TABLE 7-8
TEN-YEAR SUMMARY OF NET OPERATING INCOME AND REVENUE BOND DEBT SERVICE COVERAGE [1]
Cash Basis - (Dollars in Millions)

	Fiscal Year Ended June 30,									
	2011	2010	2009	2008	2007	2006	2005	2004 (Restated)	2003 (Restated)	2002 (Restated)
Receipts from Water Sales	$ 944	$ 957	$ 961	$ 948.0	$ 878.0	$ 814.1	$ 813.0	$ 839.0	$ 870.0	$ 844.0
Additional Receipt Sources	205	189	146	134.0	126.0	123.9	119.0	104.0	89.0	83.0
Total Receipts	1,149	1,146	1,107	1,082.0	1,004.0	938.0	932.0	943.0	959.0	927.0
Operating Expenditures [2]	(853)	(825)	(780)	(792.0)	(648.0)	(693.0)	(603.0)	(604.0)	(530.0)	(609.0)
Net Operating Receipts	296	321	327	290.0	356.0	245.0	329.0	339.0	429.0	318.0
Hydroelectric Power Receipts & Other [2]	96	52	41	48.0	52.0	54.0	40.0	36.0	26.0	20.0
Interest on Investments [3]	17	19	32	47.0	33.0	26.0	27.0	23.0	42.0	39.0
Adjusted Net Operating Receipts	409	392	400	385.0	441.0	325.0	396.0	398.0	497.0	377.0
Prior Lien Bonds Debt Service	-	-	-	-	-	-	-	-	-	-
Adjusted Net Operating Receipts after Prior Liens	409	392	400	385.0	441.0	325.0	396.0	398.0	497.0	377.0
Junior Lien Bonds and Additional Bonds Debt Service	-	-	-	-	-	-	-	-	-	-
Bonds and Additional Bonds Debt Service	(277)	(244)	(223)	(219.0)	(200.0)	(176.0)	(157.0)	(159.0)	(151.0)	(154.0)
Subordinate Revenue Obligations	(1)	(1)	(1)	(1.0)	(1.0)	(1.0)	(1.00)	-	-	0.0
Funds Available from Operations	$ 131	$ 147	$ 176	$ 165.0	$ 240.0	$ 148.0	$ 238.0	$ 239.0	$ 346.0	$ 223.0
Ratios										
Bonds and Additional Bonds Debt Service Coverage	1.48	1.61	1.79	1.76	2.21	1.85	2.52	2.50	3.29	2.45
Debt Service Coverage on all Obligations	1.47	1.60	1.78	1.75	2.19	1.84	2.51	2.50	3.29	2.45

1 Cash basis financial information is presented using the flow of funds criteria as described in Metropolitan's revenue bond covenants. The flow of funds criteria is used, among other things, to determine the debt service coverage ratios.

2 Fiscal Years 2001 - 2004 restated to include other receipts.

3 Excludes interest applicable to Bond Construction accounts, Excess Earning account(s), Other Trust accounts, and the Deferred Compensation Trust account.

Minor differences are due to rounding.

TABLE 7-9
TEN LARGEST WATER CUSTOMERS
Year Ended June 30, 2011
Accrual Basis (Dollars in Millions)

Agency	Water Sales	Percent of Total	Water Sales in Acre-Feet	Percent of Total
San Diego CWA	200.7	20.1	407,372	25.1
City of Los Angeles	145.7	14.6	208,023	12.8
MWD of Orange County	99.2	9.9	166,352	10.2
West Basin MWD	94.6	9.5	130,281	8.0
Calleguas MWD	83.8	8.4	116,245	7.2
Eastern MWD	56.5	5.6	84,877	5.2
Western MWD of Riverside	47.1	4.7	72,408	4.5
Central Basin MWD	39.3	3.9	62,614	3.9
Three Valleys MWD	39.2	3.9	63,493	3.9
Inland Empire Utilities Agency	32.9	3.3	67,591	4.2
Total	**$839.0**	**83.9**	**1,379,256**	**85.0**
Total Revenue	**$1,010.0**	**Total Acre-Feet**	**1,623,575**	

Rising water levels drew boaters to Diamond Valley Lake.

CHAPTER 8

Administrative

The Office of the Chief Administrative Officer provides a wide range of business support including, needed services for Metropolitan directors, leadership for Metropolitan workforce and Human Resources initiatives, oversight of Metropolitan's real estate holdings and Business Outreach to promote reinvestment in the region's business community thereby enhancing Metropolitan's core mission of importing, treating, managing and distributing water supplies. The Office also advances technology solutions to enhance business efficiencies, information security and computer support services. Staff also manage grants and provide business and administrative services to support sustainability and productivity efforts.

Real Property Development and Management

Revenue Optimization

After two years of planning and implementing revenue-enhancing activities, the Real Property Development and Management Group staff achieved tangible results in fiscal year 2010/11, posting $13.2 million in revenue, with base revenue of $5.4 million and $7.8 million for the sale of the Arrow Highway property. In comparison, the FY 2009/10 revenue was $3.9 million. This significantly exceeds initial estimates of a 6 percent growth rate. The group generated income through new mission-compatible leasing of underutilized properties, coupled with dispositions of surplus properties in FY 2010/11, and positioned itself to expand leasing and other revenue-generation activities over the next few years.

The 2-year-old game plan has transitioned into revenue-generating strategies for Metropolitan's real property assets. A July 2010 Request for Proposal to develop Metropolitan's Palo Verde

property near Blythe has resulted in a November 2010 option agreement with Bright-Source Energy to construct a 600- to 800-megawatt solar facility that had brought in more than $1 million by the end of the fiscal year.

FY 2010/11 also brought in new short-term and long-term revenue generation activities focused on telecommunications and right-of-way leases, as well as revenue-producing recreation improvements and solar energy development at Diamond Valley Lake.

Other Highlights for Fiscal Year 2010/11

- Declared the 23,803-acre Arrow Highway site as surplus property and sold the La Verne acreage for nearly $8 million.
- Obtained the board's surplus property determination for the Box Springs Feeder right-of-way resulting in a May 2011 purchase offer from the city and county of Riverside, with an expected sale completion by fall 2011.
- Entered into an option with Axio Power (now Sun Edison) to lease up to 627 acres of Diamond Valley Lake's north and west properties for the development of solar generation projects, while initiating the entitlement process with staff from the city of Hemet and Riverside County.

Property Management

Handling varied requests from outside parties seeking to use Metropolitan's properties has kept Metropolitan's Real Estate Representatives busy over the fiscal year. Despite six vacant positions in the group, the representatives kept up with processing demands. Requests, especially new complex leases, comprise a range of uses and timeframes, including several single-issue entry permits for other organizations and utilities to perform maintenance and construct new infrastructure, as well as agriculture and ecological studies, along with television and film production.

Highlights for the Year

- Granted easements and entry permits for several member agencies and other entities to maintain or improve their infrastructure, among them: Rancho California Water District;

Castaic Water Agency; cities of Santa Ana and Riverside; state agencies, including the Department of Fish and Game and Caltrans; Southern California Edison; Riverside County; Cingular Wireless and the Riverside County Transportation Commission.

- Processed more than 100 property transactions including leases, licenses, and entry permits, in times ranging from a few days for simple permits, to a few months for complex leases involving multiple internal and external parties.
- Completed several telecommunications transactions including agreements with leaseholders for improvements at two separate sites: one near Iron Mountain for Riverside County to upgrade public and emergency service communications, and the other for construction of a new site for Cingular Wireless at Black Metal Mountain near the Gene Pumping Plant.

Right of Way

The Right of Way Unit plans, researches and acquires properties needed for future water conveyance and operations. Staff duties include analyzing real property needs for new facilities and right-of-ways, detailed property negotiations, relocation services, valuation studies and appraisals, annexation services, as well as preparing a variety of documentation for complex transactions.

Highlights for the Year

- Obtained required entry permits for access and construction staging area in support of Metropolitan's Facilities Rehabilitation Program, including repairs to portions of the Calabasas and Box Springs Feeders.
- Completed remaining permanent easements necessary for construction of the Perris Valley Pipeline.
- Conducted property research, planning, and valuation studies for Bay-Delta initiatives in the Yolo Bypass and Suisun Marsh areas.

Diamond Valley Lake

With rising water levels, DVL's public recreation facilities continue to see high patronage. Boat launching, fishing, biking and hiking remain positive visitor draws, and the Visitor Center continues to attract the public year-round for a variety of events and uses.

To increase revenue and enhance recreation experiences for the public from Metropolitan's DVL properties, staff has completed a proposed land use plan for DVL. The plan includes a mix of potential revenue-enhancing elements, such as overnight facilities and the development of additional educational uses, and recreation improvements.

Highlights for Fiscal Year 2010/11

- Received 69,700 marina visitors, the second highest visitation count since the facility opened in 2003.
- Planted 28,000 pounds of trout, paid for with Fishing Access Permit funds.
- Put the finishing touches on the Diamond Valley Lake Land Use Plan that will be presented to the Real Property and Asset Management Committee.
- Completion of the first-year operation of the Western Center Academy, a high-tech charter school that has renewed its lease for another year.

Human Resources

The Human Resources Group supports many stakeholders ranging from external job applicants to current and retired employees, board members, and regulatory agencies. Metropolitan entered the fourth year of a comprehensive five-year Human Resources Strategy that aligns workforce initiatives with Metropolitan's business goals. The approach emphasizes continued collaboration with management, the board and labor to ensure that Metropolitan's workforce delivers outstanding business performance, while improving productivity and reducing costs.

Human Resources continues to foster a high performance workplace with excellent leadership practices and cost-effective processes, while hiring, supporting and retaining talented and engaged employees.

High Performance Workplace

Voices 2009 Survey Follow-Up

Metropolitan has responded to key feedback in the Voices 2009 High Performance Workplace Survey by improving performance management practices, tackling issues of low performers and by further improving employee/labor/management working relationships. In preparation for Performance Management System improvements during 2011, 80 percent of all managers completed a one-day workshop on conducting Effective Performance Conversations.

Other improvements include increasing goal alignment with the General Manager's Business Plan, and conducting ongoing management workshops and leadership forums as well as all-hands meetings with staff. A formal follow-up to the Voices 2009 Survey is planned during FY 2011/12 that will assess how effectively Metropolitan deploys high performance workplace practices.

Labor Relations

In spite of a challenging environment in which to conduct contract negotiations, Metropolitan continues to use an interest-based bargaining approach with all four bargaining units and has maintained amicable and cooperative working relationships. Metropolitan's board, labor and management have continued working collaboratively with the goal of rapidly bringing negotiations to closure.

Talent Management

The board's Organization, Personnel and Technology Committee continued to focus on deploying integrated talent management and workforce planning strategies to prepare for a future where half of experienced staff is eligible to retire. Quarterly briefings are held to review changes in workforce demographics, recruitments, retirements and other separations. Metropolitan deployed new Human Resources

Information Systems to enhance access to internal and external job candidates.

MyJobs, the new online recruitment system, enhanced Metropolitan's diversity outreach through Web-based job boards and expands notifications about available positions. It enables candidates to apply online and simplifies application screening for required skills and competencies. In addition, this system has improved and streamlined internal processing, communication, tracking of applicants and reporting. MyJobs is a key component of Metropolitan's strategy of placing the right people with the right skills in the right positions at the right time.

MyLearning, the learning management system, was implemented after extensive testing to ensure consistency with Metropolitan's stringent safety and regulatory compliance requirements for job training. MyLearning has also increased workforce access to more than 200 online learning modules that minimize time away from the worksite while also reducing the overall cost of training.

Managing succession in an organization where more than half the workforce can retire within the next 10 years is a challenge, given the diversity and specialization of the jobs at Metropolitan. Metropolitan launched new initiatives to define critical jobs and capture technical knowledge before it walks out the door, while simplifying and better managing recruitment and succession processes.

Human Resources Excellence

This year, Metropolitan continued restructuring streamlining and automating HR processes, while also improving positive working relationships with the bargaining units and employees. Proactive staff interventions reduced grievances and speeded resolution of employee concerns while improving the credibility and effectiveness of the HR organization.

Total Compensation

Classification/Compensation

With completion of the AFSCME classification and compensation study, Metropolitan can use up-to-date job descriptions when posting job openings for each of Metropolitan's four bargaining units (i.e., the American Federation of State, County and Municipal Employees, the Management and Professional Employees Association, the Supervisor's Association, and the Association of Confidential Employees). Job analyses and market assessments are ongoing to satisfy MOU requirements.

Human Resources Information Systems

Human Resources maintained personnel data and record tracking systems while completing full implementation of PeopleSoft 8.9, which improved non-employee tracking and activated the employee relations modules. Staff continued follow-up on the Cargill settlement to prevent reoccurrence.

Benefits

Metropolitan provides and administers a host of health, voluntary, retirement and deferred compensation plans, leaves, reimbursement, and recognition programs for employees and retirees. An individualized Total Compensation Statement outlining the cost and value of total benefits and compensation was distributed to every employee in March 2011. Staff also conducted annual open enrollment from mid-September to mid-October 2010, visiting 15 locations and providing one-on-one consultations to 698 employees regarding health and voluntary benefits.

Changes due to the passage of 2010 federal health care reform, the Family Medical Leave Act and COBRA regulations required revisions to internal procedures. Staff negotiated a three-year contract to provide objective financial education to employees. Staff also negotiated a three-year contract to provide advice to the Deferred Compensation Committee on deferred compensation investment policy and fund offerings to ensure meeting the Plan Administrator's fiduciary liability.

In order to maximize the value of total benefits, Metropolitan hosted 18 workshops on such topics as retirement, pre-retirement, estate planning and financial education that drew nearly 400 participants. Metropolitan also approved and processed 16 leave donation requests that resulted in employees transferring 4,869 leave hours to colleagues who had exhausted their leave balances.

Fall and spring service awards luncheons honored 132 employees with 20 or more years of service, and drew 287 total participants.

Staffing

Although only critical vacancies were being filled due to continuing budget constraints, Metropolitan nevertheless maintained participation in regional and Hire-a-Vet job fairs. New automated recruitment tools streamlined application tracking and processing, while reducing advertising costs. The Student Intern program expanded to include the Business Technology Group.

Training and Organizational Development

Demonstrations on using MyLearning to expand access to self-directed training and development opportunities were held at all Metropolitan facilities. Employees interested in management opportunities invested their own time in courses to assess their interest and aptitude to become managers, by attending workshops on Moving into Management and Preparing for Job Interviews. Metropolitan began a mandatory Drug and Alcohol Awareness course that was completed by 85 percent of employees. A blended online/classroom curriculum on Finance for Non-Finance Managers was prepared and delivered in collaboration with the CFO's office.

Onsite educational fairs by local universities and colleges offered academic educational opportunities for employees. More than 100 employees took advantage of the Tuition Reimbursement Program.

Several students participated in the Internship Program to attract college students to jobs at Metropolitan.

The expanded New Manager Orientation and personalized coaching was provided for managers to improve their skills in managing performance, developing strategy, addressing difficult personnel issues and improving team effectiveness. Staff also offered a comprehensive career management curriculum for employee development.

Equal Employment Opportunity

In order to streamline investigation processes, staff from the Equal Employment Opportunity Office was moved under the Employee Relations Section. Staff received training in conducting internal investigations, and began handling a full caseload of EEO complaints. This has reduced the money spent on outside investigators to handle EEO complaint investigations.

Staff continued management of Metropolitan's Affirmative Action Plan for Covered Veterans and Persons with Disabilities, including partnering with the staffing unit on diversity outreach. The EEO office achieved more than 99 percent compliance in ensuring Metropolitan managers completed state-required training on preventing workplace harassment and also developed a program to properly classify and utilize non-employee staff such as consultants and temporary workers.

Employee Relations

Employee Relations played an integral role in ongoing contract negotiations. Joint efforts with management and the Legal Department, led to a continued drop in the number of grievances and unfair labor practice charges, while also maintaining 100 percent timely resolutions/ responses to grievances. Employee Relations also worked with the Talent Management unit to successfully train managers on reasonable suspicion of drug and alcohol use.

Performance Management

Staff began detailed preparation of an improved software system for streamlining performance management processes and to improve employee alignment with Metropolitan business objectives. The new

system, scheduled for deployment in 2011, will clarify performance expectations, streamline administration and improve tools for addressing and improving poor performance.

Workers' Compensation

Staff's comprehensive management of Workers' Compensation claims held loss rates at 50 percent below that of other public agency employers, with costs per claim almost 20 percent less than other public agency employers.

Risk Management

The risk management unit completed more than 675 incident reports involving Metropolitan property damage, liability claims, workplace injuries and illnesses, regulatory visits and inspections, security issues, and chemical spills and releases. Staff also conducted approximately 650 risk assessments that included professional service agreements, purchase orders, construction contracts, entry permits, leases, special events and film permits. Excess liability and specialty insurance coverages for 2011/12 were obtained at more than $300,000 below budget.

Business Technology

The Business Technology Group provides technical and general services that support Metropolitan in securing, conveying, treating, and distributing water to its member agencies. The group has responsibility for Metropolitan's initiatives related to new information technology, business process sustainability and productivity, administrative support services, grant management, and Business Outreach.

Information Technology

Business Technology delivers information technology options, services and solutions in the areas of enterprise and business applications, control systems, mobile/wireless computing, telecommunications, network services and information security.

IT Strategic Plan

Metropolitan continues to utilize its updated IT Strategic Plan as the framework guiding Metropolitan's investment and deployment of information technology. Metropolitan looks to IT to optimize water system operations, improve asset management, streamline business operations, and manage costs. The goal is to leverage IT investment to increase long-term reliability, while improving Metropolitan's overall efficiency and effectiveness.

Following are some of the highlights for the 2010/11 fiscal year:

- Completed a Materials Interface and Mobile Technology project providing WSO field maintenance workers with hand-held units for mobile computing.
- Finished an initial investigation to upgrade the controls, communications, the pump/generator unit power controls, and the protection relay/vibration monitoring systems for the Hiram W. Wadsworth Pumping Plant.
- Implemented a new Water Quality Monitoring and Event Detection System to provide real-time analysis of water quality information that will allow staff to rapidly identify potential incidents and contaminates.
- Implemented a new Computer Aided Design Management System to effectively manage production of engineering design drawings, specifications and calculations by storing them in a secure and central repository.
- Continued the ongoing protection of Metropolitan's IT networks, infrastructure, databases and cyber assets by utilizing a complement of security software tools and related methods.
- Continued investigation and strategy development for using cloud computing alternatives versus traditional "on-premises" installed software applications and data storage, creating significant potential for cost savings by streamlining software purchases, upgrades and storage.

Productivity, Cost Reduction and Sustainability

Business Technology has focused on achieving cost reductions and efficiencies in a broad range of services that include contracting services, procurement of goods and nonprofessional services, inventory management, warehousing, business process sustainability, building services, and Metropolitan's Rideshare Program. In addition, Business Technology aims to provide these services in the most eco-friendly, sustainable manner that reduces Metropolitan's impact on natural and non-renewable resources.

Network Server Consolidation

Network server consolidation continued in the Data Center through use of virtualization software, generating hardware savings of $248,000 per year with a total of $780,000 since 2008. In addition, fewer servers have meant energy savings of 2.5 million kilowatts per year.

iPad Tablets

Tablet technology has been deployed as a cost-saving alternative to laptops for board members in reviewing board-related material. This is expected to save $25,000 annually and reduce paper consumption associated with board material.

PaperWise Program, Web-Based Delivery

As part of an ongoing program that has saved a quarter-million dollars and 265 tons of paper since 2008, Metropolitan has introduced a new Online Manual System that speedily provides technical documentation, operational and maintenance information to employees in Web-based form, while eliminating large volume printing. Other eco-friendly business standards include electronic board letter packets and electronically submitted bids/proposals.

Another Web-based system is Business Outreach's online Contract Compliance and Accountability Program that streamlines monitoring of 140 construction and professional service contracts valued at more than $700 million. The online compliance reporting system integrates and simplifies information from various prime contractors, ensuring Small and Disabled Veteran Businesses participation goals are met.

Rideshare Program

Rideshare Program costs have been reduced by $107,000 annually in addition to removing 635 vehicles from highways and 3,500 metric tons in emissions annually. Metropolitan is now receiving rebates from the Metropolitan Transportation Authority and the Orange County Transportation Authority to offset costs. Additionally, processes and customer service improved through the elimination of the public transit vouchers and implementing employee reimbursement through payroll.

Video Conferencing

Metropolitan's Video Conferencing and Remote Monitoring Software are credited with reducing fuel and travel costs by $205,000, miles traveled by 846,000 and emissions by 248 metric tons.

Spring Green Expo

The annual Spring Green Expo provided an opportunity for employees and the public to attend seminars on a wide variety of environmental topics and environmentally friendly products and services. More than 40 vendors showcased green products and services and college students from seven Southern California universities presented their innovative sustainability concept projects.

Business Outreach

Metropolitan's Business Outreach Program promotes business and economic development in Southern California through increased outreach and support for member agencies, regional and small business and the Disabled Veteran business communities.

The program's investment in Southern California companies and communities injected approximately $100 million into the region's economy this fiscal year. Metropolitan is also responsible for creating more than 14,000 direct and indirect jobs through contracts with local and regional businesses.

Highlights for Fiscal Year 2010/11

- Exceeded Metropolitan's overall 18 percent goal by helping direct 30 to 35 percent of contract dollars toward small and disabled veteran business enterprises.

- Launched Business Outreach's new Tap Into Opportunities newsletter to extend Metropolitan's outreach, attract businesses within Metropolitan's service area and introduce Metropolitan to a statewide, national and international audience.
- Coordinated two "Connect 2 Met" conferences, partnering with Metropolitan board members and more than 650 members of the small business community on public agency contracting.
- Implemented Business Outreach Program's new monthly "Managing Your Innovation" workshop series to introduce new and emerging water technologies to Metropolitan and its member agencies and to prepare entrepreneurs for business with Metropolitan.
- Implemented an awareness and training program at Metropolitan to help employees with the procurement process, and allow them to take advantage of Business Outreach's resources and connections in the business community.
- Certified more than 2,600 small businesses through the NETConnect System and partnered with governmental organizations to create a shared online Vendor Registration and Small Business Certification System that streamlines vendor registration and certification processes.
- Co-sponsored the fifth annual California Construction Expo where public agencies, contractors, engineering firms and resource partners from all over California showcase construction projects estimated at more than $150 billion.

- Partnered with the National Association of Women Business Owners Los Angeles, the city of Los Angeles, and other government organizations to survey the needs of business and how government and business organizations can help the Greater Los Angeles Business Community. The more than 2,000 survey results prompted the city of Los Angeles to approach Business Outreach for help in developing its Small Business and Contract Compliance Programs.

Grant Management Program

Metropolitan's Grant Management Program is designed to offset costs for projects and programs in its operations and maintenance and capital budgets. This fiscal year, Metropolitan was responsible for grant funding of approximately $20.6 million.

Federal Grants

Metropolitan and the Los Angeles County Sanitation District were awarded $334,208 from the Bureau of Reclamation's WaterSMART Advanced Water Treatment Pilot and Demonstration Project Grant to evaluate the feasibility of a regional indirect potable reuse program that would purify treated wastewater to augment replenishment needs of local groundwater basins. Metropolitan's World Water Forum was awarded $100,000 from the Bureau of Reclamation's WaterSMART Grant to fund competition among community colleges and universities supporting research and development of water-use efficient technology.

State and Local Grants

Metropolitan was awarded a $20 million grant for the F. E. Weymouth Treatment Plant Ozone Retrofit Project as part of the state of California's Proposition 50 funding. Through a partnership with the Water Research Foundation, Metropolitan coordinated a $150,000 grant to support the city of Glendale's Chromium 6 Pilot Treatment Study and partnered with the city of Glendale to develop a grant proposal to the Bureau of Reclamation for a grant of $400,000 for advanced water treatment. Metropolitan was awarded $62,100 from the Water Research Foundation for Optimizing Conventional Treatment for Removal of Cyanobacteria and their Metabolites.

YOUR WATER

The Metropolitan Water District of Southern California

IN THIS ISSUE

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News Events

CHAPTER 9

External Affairs

The External Affairs Group focuses on legislative services; community and customer services; educational programs; media; communications and publication services. The group is headed by the Group Manager and the Deputy General Manager of External Affairs.

External Affairs works with state and federal lawmakers to support and protect the operational interests of Metropolitan and its member public agencies. The group disseminates information about the board's adopted policies, and Metropolitan's operations, policies and programs. External Affairs also provides direct and clear communication regarding emerging challenges related to water quality, supply, reliability and delivery, and also offers responsive service to member agencies and other key audiences.

A broad spectrum of programs provides ongoing contact with member agencies; local, state and federal officials; the news media; the business community; environmental and community organizations and the general public. External Affairs staff produces and distributes numerous publications, brochures and videos, and also manages Metropolitan's Web sites and a wide-ranging K-12 water resource education program. External Affairs also provides coordination and support for major initiatives, such as the 20 x 2020 Water Summit and Integrated Water Resources Plan workshops.

Following is a summary of key responsibilities and programs of the respective sections within External Affairs.

Legislative Services

Protecting and promoting the interests of Metropolitan and its member agencies is a key responsibility of the Legislative Affairs offices in Sacramento, Washington, D.C., and Southern California which deal with the executive, legislative and regulatory branches of state and federal governments, as well as local government entities.

At the state level, Metropolitan consistently tracked and addressed key legislative issues, including proposed changes to key provisions of the comprehensive water policy reform package enacted in 2009, which addressed the challenges facing the Sacramento-San Joaquin Delta. Three bills would have impacted the Bay Delta Conservation Plan process by unnecessarily expediting a "Delta Corridors Plan" as a Delta conveyance option; imposing new requirements on state agencies before taking action for authorizing or implementing the BDCP; and requiring the California Legislature to approve a Delta conveyance facility prior to construction. All three bills failed to move from their respective houses of origin.

Metropolitan supported legislation that would give the Department of Water Resources greater flexibility to enter into contracts for water and power operations and improvements outside of the state's prescriptive contract requirements funded by any non-state sources. Metropolitan and other State Water Project contractors also opposed a bill that would require counties to be reimbursed by the SWP contractors for all county services associated with any SWP dams and reservoirs within their county, irrespective of the local benefits of the projects.

Furthermore, to help protect and better manage regional and local water supplies, Metropolitan supported legislation that would require recharge areas to be identified and mapped in groundwater management plans; allow recipients of Proposition 84 grants to retain funds recovered from parties responsible for groundwater contamination; and authorize wastewater agencies to offer voluntary liens to encourage property owners to switch from septic to sewer systems. Metropolitan also supported bills that would facilitate adoption of a drinking water standard for chromium 6 and extend the Department of Fish and Game's authority to address quagga mussel eradication and control programs.

At the federal level, Metropolitan worked with interested parties in California, Arizona and Nevada to urge members of Congress to reintroduce legislation that would authorize a new 50-year contract for the continued use of hydropower generated at Hoover Dam and successfully galvanized support from myriad organizations to help bolster its passage. In addition, Metropolitan supported legislation that would recognize hydropower as a renewable resource and streamline permitting for smaller conduit hydropower generation.

Additionally, Metropolitan supported two bills that would require the U.S. Environmental Protection Agency to set drinking water standards on perchlorate and chromium 6 as long as the Safe Drinking Water Act protocol for establishing the standards is followed.

Throughout the year, board members and management traveled to Washington, D.C. to brief members of Congress, key congressional staff, Administration officials and federal agency representatives on the importance of the Hoover Dam legislation, the progress of the BDCP, Colorado River water quality issues related to uranium mining legislation and other Metropolitan-related matters. To educate the leaders in the business sector, the community and local government on state and regional water supply issues and Metropolitan's efforts to secure water supply reliability through the BDCP, management and staff provided numerous presentations, held community leader briefings with state legislators and participated in numerous community forums.

Conservation and Community Services

The Conservation and Community Services Section works with residents, businesses, member agencies and others on a variety of issues and programs that impact Metropolitan's service territory. These include conservation, water quality, environmental issues, general public outreach and education. Staff also meets regularly with member agency education coordinators.

Conservation Outreach

Metropolitan sponsored conservation and Delta-related educational outreach throughout Southern California during fiscal year 2010/11. Online and social media included Google search advertising.

Metropolitan's bewaterwise.com® Web site continued to play a key role in educating the public, attracting nearly 400,000 unique visitors in 2010/11. Metropolitan also posted a Spanish-language version of the site.

Community Programs

The Community Partnering Program in 2010/11 provided sponsorships for education and other water-related programs for several organizations, including community groups, non-profit organizations, educational institutions, member agencies, public agencies and professional associations. Established in 1999, the CPP is a centralized clearinghouse that tracks, coordinates and evaluates Metropolitan's sponsorships of these programs and projects. Additionally, the CPP enhances established relationships throughout Metropolitan's service area and helps foster new relationships.

Community Programs also operates the California Friendly® Landscape Training Program. Working with its member agencies, Metropolitan conducted courses in California Friendly landscaping techniques for homeowners and professional landscapers, training more than 1,500 participants in Metropolitan's service area.

Education Programs

Launched in late September, Education Programs' Web site for K-12 students, teachers and families drew nearly 7,000 visitors, averaging more than 750 per month. The site includes a collection of water education curricula and supplemental resources, student activities and active Web links to help increase an awareness and understanding of water supplies and deliveries in Southern California.

"Conservation Connection: Water and Energy in Southern California," Metropolitan's newest curriculum for middle schools, completed its pilot testing on member agency selected campuses, and is slated to be introduced throughout Metropolitan in fall 2011. This curriculum has been approved by the California Department of Education and is on the department's approved materials list. Additionally, "Little Splash: a K-3 Water Conservation Activity and Coloring Booklet," is available for downloading on the Education Web site. "Little Splash" was also approved by the state Department of Education. Metropolitan staff provided teacher training on Metropolitan's educational programs, using in-service training and workshops that covered a wide variety of K-12 curriculum and programs. Through these initiatives, Metropolitan provided classroom curricula, outreach programs, classroom presentations and field trips to approximately 32,000 K-12 students.

Staff completed Solar Cup™ 2011 at Lake Skinner in Temecula on May 13-15. A record-high 40 teams from Southern California high schools competed in the ninth annual event, with more than 750 students participating. The seven-month program included 10 rookie schools and participants representing all six Metropolitan service area counties. The event attracted a wide variety of media coverage from approximately 20 print and electronic media outlets, with local, national and international news reports originating from Los Angeles; Duluth, Minnesota; Omaha, Nebraska; Grand Junction, Colorado; Austin, Texas; Washington, D.C. and Toronto, Canada. In addition to immersing themselves in engineering, math and communication concepts, students created water conservation-focused public service announcements and a water conservation education activity.

For the 18th year, the Diamond Valley Lake Education Program conducted numerous field trips engaging nearly 3,000 fourth through seventh graders in the all-day program. This year, staff added a hands-on water model to activities focusing on the science, mathematics, history and environmental background of water and DVL. Additionally, during the year, staff provided ongoing activities for nearly 9,500 students in grades 2-5 visiting the DVL Visitor Center in collaboration with the Western Science Center outreach program.

The 2011 “Water is Life” calendar featured student artwork from 19 participating member and retail agencies, which was exhibited on a tour of participating member agencies throughout Metropolitan’s service area.

In addition to a number of K-12 classroom presentations, staff participated in a variety of water education outreach events, conducting hands-on activities and staffing educational booths at conferences and water/environmental events throughout the region.

Media Services

The Media Services Section coordinates the communication of Metropolitan's messages, programs, information and achievements. The Press Office prepares and distributes news releases, conducts briefings, maintains media contacts, assists with opinion pieces and letters to the editor, and develops videos. The Publications team produces print, video and online materials that support Metropolitan's external and internal communications needs, while Web Services manages Metropolitan's various Web sites to provide a coordinated presentation to Metropolitan's audiences and customers.

Press Office

The Press Office ensures that the media and the public are informed about Metropolitan's programs and issues and other water-related subjects. Press Office staff work with reporters and editors from television, newspapers, radio, magazines, wire services, Internet news/blog sites, as well as trade and specialty publications. Metropolitan news is disseminated through electronic press releases, letters to editors, opinion pieces, speeches, videos and special events produced by staff.

The Press Office managed numerous media inquiries, including those related to water-supply and environmental issues and restrictions in the Sacramento-San Joaquin Delta, along with improved state water allocations, the end of the state drought, lifting Metropolitan's Water Supply Allocation Plan, and Metropolitan's financial policies and issues. Staff coordinated on-camera, radio and print interviews, managed the writing and placement of opinion pieces, and prepared and distributed press releases, media advisories and other related materials.

The Press Office also ensured that reporters and editors were apprised of Metropolitan positions on year-long legislative developments through press releases, and statements issued by the board chairman and General Manager Jeffrey Kightlinger. Opinion articles under the bylines of Metropolitan officials appeared in various newspapers throughout the state. The topics included water reliability, Delta issues, allocation of water costs and the need for continuing conservation.

During the year, the Press Office issued releases about various topics, including shutdowns, Solar Cup and various other programs, Metropolitan's water summit, a new energy management program, the seating of new Metropolitan board members, the adoption of an updated Integrated Water Resources Plan, and the lifting of mandatory conservation.

Staff met and coordinated with member agency Public Information Officers on various coordinated water-saving messages and water-use efficiency initiatives.

Metropolitan received coverage in major newspapers and in other print and electronic outlets throughout the region, the state and the nation.

Publications

Metropolitan produced Your Water, an electronic newsletter that covers important topics, including water quality and supply issues, member agency news and other key water developments. It also produces the Annual Report, as well as People Interactive, a multi-media online magazine devoted to employee news and profiles. External Affairs also coordinated production of a special commemorative edition of Metropolitan's first Annual Report, initially issued in 1939. Other brochures and publications included the annual Water Quality Report, and the annual report to the California Legislature on Achievements in Conservation, Recycling and Reuse, an updated Member Agency Directory, and materials providing an overview of the district, various programs and Diamond Valley Lake.

Web Services

The Web Services staff develops and manages Metropolitan's multiple Internet and intranet sites, along with Web sites for the board of directors and member agencies.

Web Services introduced the 20 x 2020 Web site and redesigned the Web pages for Business Outreach, Training, MyJobs, Tap Into Opportunities, the Integrated Water Resources Plan and Southern California Water Dialogue. Staff also upgraded Web software and implemented a new video software program. Web Services also subscribed to a new and more efficient system to handle Metropolitan's E-newsletter, Your Water, which is sent to more than 20,000 subscribers.

Customer Service

The Customer Service unit coordinates services for member agencies, businesses, and the public and also conducts customer satisfaction surveys. Survey results (ratings and written comments) are shared with management and the staff responsible for information and follow-up action.

Staff assisted member agencies, businesses and the public with requests for general information, speakers, and other services. Staff also coordinated management's regular meetings with member agency managers. Staff also assisted the Real Property Group with property management issues, and conducted and coordinated inspection trips and special events at Diamond Valley Lake, including daily operation of the Visitor Center.

During capital improvement and maintenance projects, staff oversaw and conducted outreach to residents, local governments and businesses affected by work at these facilities, including the Lakeview Pipeline, Box Springs Feeder, Weymouth and Diemer water treatment plants, cross-connection project, Calabasas Feeder, Upper Feeder, Perris Valley Pipeline, West Valley Feeder No. 2, Lower Feeder and Allen-McColloch Pipeline.

Hundreds of state bills tracked by Metropolitan included issues related to the Bay-Delta, the State Water Project, groundwater management and water quality.


Audit Department
Risk-Based Internal Audit Plan

CHAPTER 10

Audit

The Audit Department provides independent, objective assurance and consulting services designed to add value and improve operations. Audit staff help Metropolitan accomplish its objectives by using a proactive, systematic approach to evaluate the effectiveness of risk management, control and governance processes. Audits are conducted in accordance with The Institute of Internal Auditors' *International Standards for the Professional Practice of Internal Auditing.* These standards help define the Audit Department's role and responsibilities, ensure a strong contribution to governance and control activities, and establish expectations for auditor professionalism and independence. Independence is assured through the General Auditor's reporting line to the Board of Directors and the Audit and Ethics Committee.

Major Activities and Accomplishments

During fiscal year 2010/11, the Audit Department contributed to governance processes by performing the following major activities:

- Successfully carried out the 2010/11 Audit Plan, which resulted from a thorough risk assessment, along with input from key stakeholders including board members, management and staff.
- Completed 40 audits; responded flexibly to board and management by performing four special requests.
- Monitored two higher risk areas and participated in two Information Technology implementation projects.

Results are summarized on the following page:

List of Completed Reviews	Number of Reports
Financial/Contractual Audits	**40**
Consulting Agreements – Real Property Recordation Program	
Other Income, Expense and Receivables	
Purchasing	
Property Leases	
Construction Contract - Gantry Constructors, Inc.	
State Water Project Water Transfer Program – Yuba Accord Dry Year Water Purchase Program	
Oxidation Retrofit Program Contract with Kiewit Pacific Co.	
Consulting Agreements – RBF Consulting and Sanborn Map	
Consulting Agreement – Fraser Communications	
Trust Funds Held by Metropolitan	
Construction Contract –Brutoco Engineering & Construction, Inc.	
Employee and Director Expense Reports	
Calleguas Groundwater Storage Conjunctive Use Program	
Surplus Property	
Chino Basin Groundwater Conjunctive Use Program	
Infrastructure Reliability – Diemer Plant Improvements Program	
Business Continuity Program	
Construction Contract – Southern Contracting Company	
Proposition 13 Conjunctive Use Program	
Purchasing – Professional Services Contracting	
Surface Storage Operating Agreement	
Seasonal Shift Storage for Sunk Fixed Costs Agreements and Replenishment Service Program	
Local Resources Program – Water Recycling Projects	
Consulting Agreements – Butier Construction Managers and Tetra Design	
Construction Contract – Layfield Environmental Systems Corporation	
Employee Benefits 401(k) Savings Plan and 457 Deferred Compensation Plan	
Construction Contract – J.R. Filanc Construction Company, Inc.	
Palo Verde Irrigation District Forbearance and Fallowing Program	
Consulting Agreements – Take Supply Chain and Ciber, Inc.	
Accounts Payable and Cash Disbursements	
Colorado River Authority Pumping Plant Reliability Program	
Assist External Auditors (2)	
Revenue Bonds (7)	

List of Completed Reviews	Number of Reports
Special Requests:	**4**
Employee Separations Review	
Colorado River Water Users Association Review	
Audit Quality Self-Assessment	
Western Electricity Coordinating Council Review	
Monitoring:	**4**
Quarterly Consulting Contracts Reporting	
Bay Delta Initiative	
Systems Development Life Cycles (2)	

- Initiated several audits in the area of fraud identification in response to the current economic climate; developed computer assisted audit techniques to identify potentially fraudulent activities as part of the Purchasing audit; added a review of Accounts Payable and Cash Disbursements to the Audit Plan.
- Reassessed the Audit Plan quarterly to determine whether (1) it met the needs and requests of the board and management, (2) it was focused on areas of most concern or highest risks, and (3) that adequate progress was being made against the plan; adjusted the Audit Plan accordingly for variances in resource levels and modifications to the risk profile.
- Evaluated the adequacy and timeliness of Management's response to all significant control issues noted in audit reports; tracked and reviewed management responses on 47 recommendations included in audit reports, and received timely management responses to all reports.
- Worked with the board on governance activities including (1) performance of the annual external audit, and (2) coordination with directors to secure the new External Audit Services contract, including preparing the Request for Proposal, coordinating the interview process, and managing the contracting process once the board selected the external auditing firm.

Quality Assurance Activities

The Audit Department conducts a Quality Assurance & Improvement Program as part of quality enhancement efforts and to stimulate continuous improvement within the department. Related activities include the following:

- Conducted anonymous surveys with clients and audit staff on their perceptions of the audit process; highlighting for audit management both areas of strength and areas for improvement.
- Assessed conformance with IIA standards related to planning, field work, and reporting routines; reviewed a sample of audit work papers; streamlined audit timekeeping system; and clarified time charging practices.
- Identified staff training opportunities to enhance competencies; staff earned more than 300 continuing education credit hours in courses including fraud identification, performance management auditing, and Government Accounting Standards Board (GASB).


Internal Audit Plan

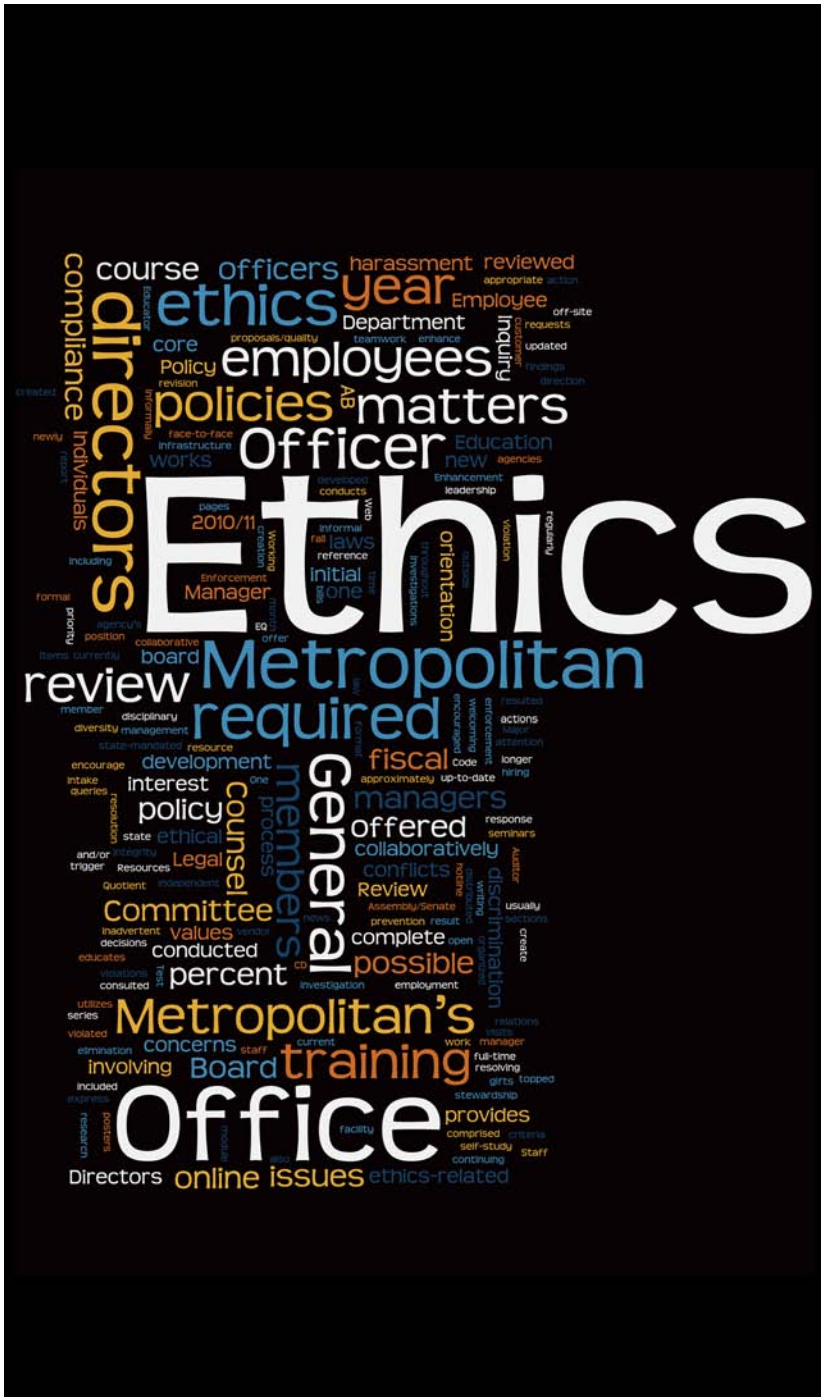

Image created using text from the Metropolitan Annual Report chapter prepared by the Ethics Office. Words are given prominence based on their number of occurrences in the chapter.

CHAPTER 11

Ethics

Metropolitan's Ethics Office works collaboratively with Metropolitan's Board of Directors, General Manager, General Counsel and General Auditor to promote the agency's core values: integrity, stewardship, diversity, leadership, open communication and teamwork. The Ethics Office enforces ethics-related laws and policies; educates directors, officers, and employees about what is expected of them in terms of ethical behavior and compliance, and works with the board of directors and with other departments to enhance Metropolitan's ethical culture.

The Ethics Office, as it is currently organized, began with the initial hiring of the current Ethics Officer in fall 2003 and the development of the Ethics Office infrastructure, policy and procedures.

Major projects in the 2010/11 fiscal year included revision of the Employee Ethics Manual, elimination of one full-time position, reorganization of the Ethics Education program with a priority on online module and course development, and the creation of a quarterly report format to include ethics news items relevant to Metropolitan directors and managers.

Enforcement

The Ethics Office utilizes a multi-layer review and enforcement process. Individuals express their concerns in writing directly to the Ethics Office or through the off-site, independent hotline. The Ethics Officer conducts initial investigations, resolving matters informally, if possible. Complicated matters or those involving members of the Board of Directors are reviewed by an Intake Committee. Each credible allegation involving a possible violation of ethics laws or policies can trigger a more formal process, under the direction of the

Inquiry and Review Committee, when informal resolution is not appropriate or possible. The Inquiry and Review Committee is comprised of executive management for staff matters, and composed of directors for matters relating to board members. Working in consultation with the Ethics Officer and General Counsel, the committee's findings can result in disciplinary action for employees, officers and directors who are found to have violated Metropolitan ethics policies. Individuals are encouraged to bring questions to the Ethics Office to prevent inadvertent violations of policy.

In the 2010/11 fiscal year, Metropolitan's Ethics Office logged 78 matters, including 33 concerns that required investigation and 45 queries that required research and interpretation of policies. Policy issues, customer relations, gifts, conflicts of interest, and outside employment topped the list of issues that required attention this year.

Metropolitan employees are required to review the H-03 Employee Ethics Policy annually. This year, the inclusion of a newly created self-test, "Test Your EQ (Ethics Quotient)" resulted in a higher review and response rate of 76 percent.

The Ethics Officer reviewed 12 responses to requests for proposals/quality criteria for potential conflicts of interest.

Education

Every two years, Metropolitan provides AB 1234 state-mandated ethics training to all directors and officers. The Ethics Office offers Metropolitan officials face-to-face training, a self-study CD series and up-to-date reference books on state ethics law for their review. Board members are also required to complete an online course in harassment and discrimination prevention. This course was developed collaboratively with the Ethics Office, Legal Department, and the vendor that provides online training for managers in this area. By the end of the fiscal year, Metropolitan had 100 percent compliance by those required to complete AB 1234 training, and 48 percent compliance with director completion of the harassment and discrimination training.

The Ethics Educator conducted 13 facility visits, 11 manager-requested seminars, and four collaborative trainings with Human

Resources. Staff conducted new employee orientation for 47 employees and new manager orientation for approximately 50 managers.

Enhancement

The Ethics Officer continued to work with the General Manager and the General Counsel to create or amend policies and/or the ethics sections of Metropolitan's Administrative Code to better encourage actions and decisions based on Metropolitan's core values.

The Ethics Officer received ethics-related Assembly/Senate bills and consulted with the Legal Department on policy issues.

The Ethics Office regularly updated its Web pages and distributed posters each month throughout Metropolitan to provide a continuing and welcoming resource for directors, employees, member agencies, and members of the public.

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THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

MAP SHOWING METROPOLITAN'S MEMBER AGENCIES AND FACILITIES
FOR THE DISTRIBUTION OF COLORADO RIVER WATER AND STATE PROJECT WATER

LEGEND

- Metropolitan's Water Distribution System
- MWD Tunnels
- Department of Water Resources' California Aqueduct
- MWD projects under construction
- Outside MWD Service Area
- Power Plants
- Pumping Plants
- Water Treatment Plants

SCALE IN MILES 0 5 10 15 20

VENTURA · LOS ANGELES · SAN BERNARDINO · RIVERSIDE · ORANGE · SAN DIEGO · IMPERIAL

CALLEGUAS MWD · LAS VIRGENES MWD · WEST BASIN MWD · LOS ANGELES · SAN FERNANDO · GLENDALE · PASADENA · BURBANK · FOOTHILL MWD · BEVERLY HILLS · SANTA MONICA · UPPER SAN GABRIEL VALLEY MWD · THREE VALLEYS MWD · INLAND EMPIRE UTILITIES AGENCY · WESTERN MWD · SAN BERNARDINO VALLEY MWD · SAN GORGONIO PASS WATER AGENCY · CENTRAL BASIN MWD · WEST BASIN · TORRANCE · LONG BEACH · MWD OF ORANGE COUNTY · RIVERSIDE COUNTY · EASTERN MWD · DESERT WATER AGENCY · COACHELLA VALLEY WATER DISTRICT · IMPERIAL IRRIGATION DISTRICT · SAN DIEGO COUNTY WATER AUTHORITY · CRESTLINE LAKE ARROWHEAD WATER AGENCY · MOJAVE WATER AGENCY · CASTAIC LAKE WATER AGENCY · PALMDALE WATER DISTRICT · LITTLEROCK CREEK IRRIGATION DISTRICT · P.W.D.

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