

Presentation to the Water Implementation Task Force

SAN DIEGO WATER SUPPLY



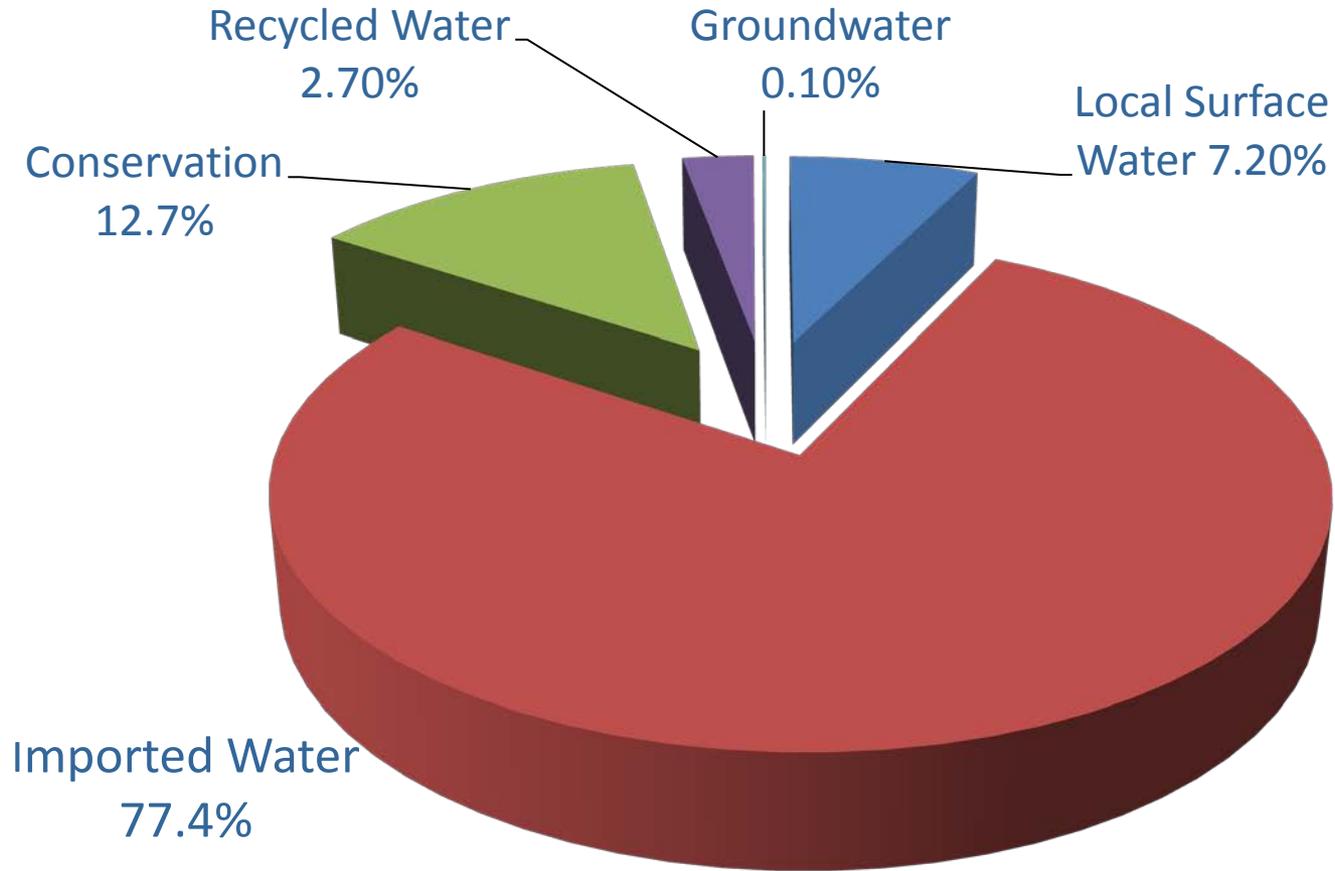
THE CITY OF SAN DIEGO
PUBLIC UTILITIES
DEPARTMENT

June 7, 2012



WATER SUPPLY: FY 2011

SEVEN YEAR HISTORICAL AVERAGE



California Water Projects



Federal Water Projects

- Central Valley Project
- Coachella Canal
- All American Canal

State Water Projects

Local Water Projects

- Mokelumne Aqueduct
- Hetch Hetchy Aqueduct
- Los Angeles Aqueduct
- Colorado River Aqueduct

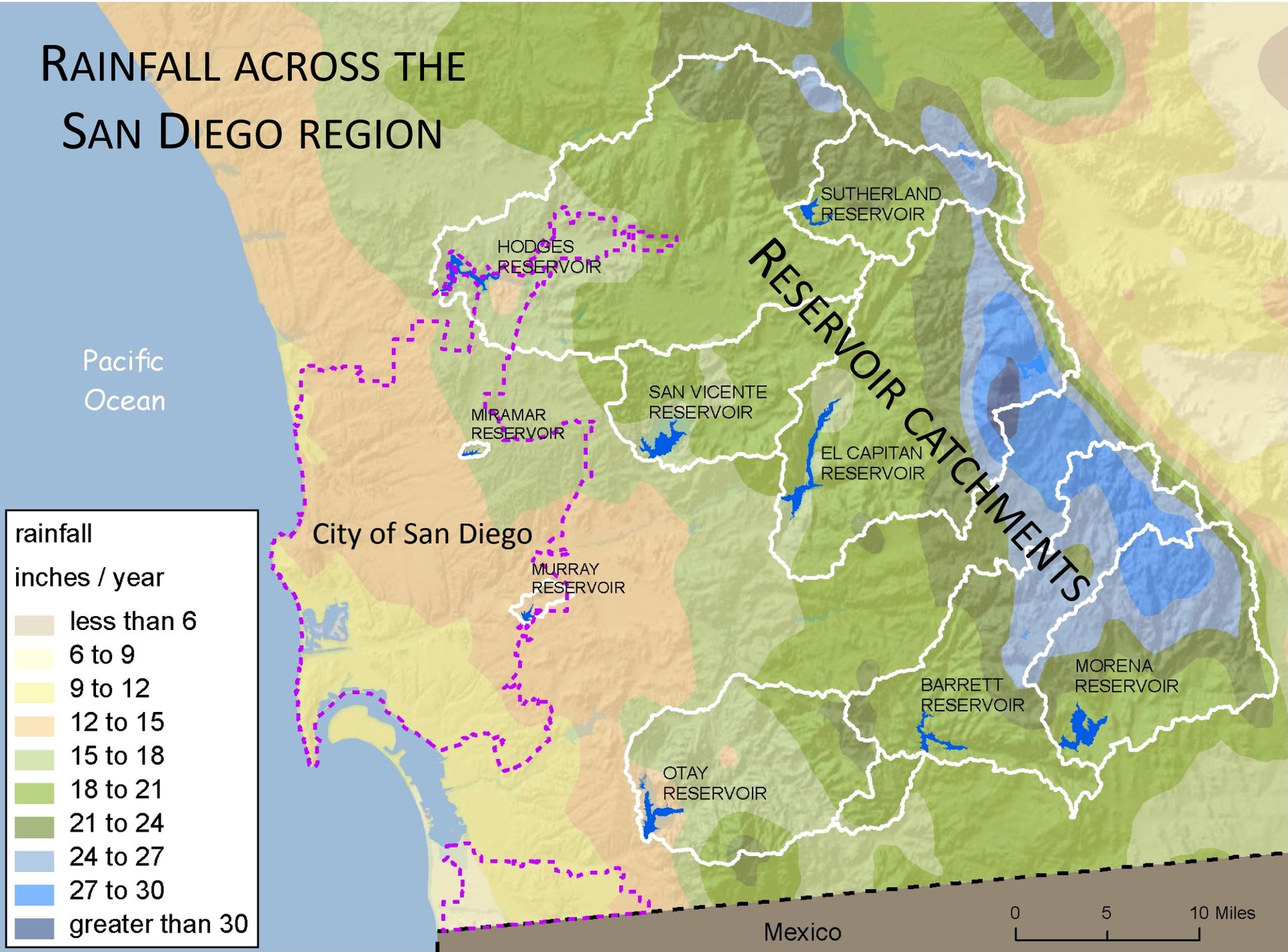
Bay-Delta



SAN DIEGO WATER SYSTEM



RAINFALL ACROSS THE SAN DIEGO REGION



SOURCE WATER SYSTEM

IMPORTED
WATER
AQUEDUCTS

LOCAL SURFACE WATER
PROVIDES 29,000 AFY

Pacific
Ocean

Miramar WTP

Alvarado WTP

Otay WTP

HODGES
RESERVOIR

SAN VICENTE
RESERVOIR

OTAY
RESERVOIR

SUTHERLAND
RESERVOIR

EL CAPITAN
RESERVOIR

BARRETT
RESERVOIR

MORENA
RESERVOIR

imported aquaducts

local pipelines

catchments

water treatment plant
service areas

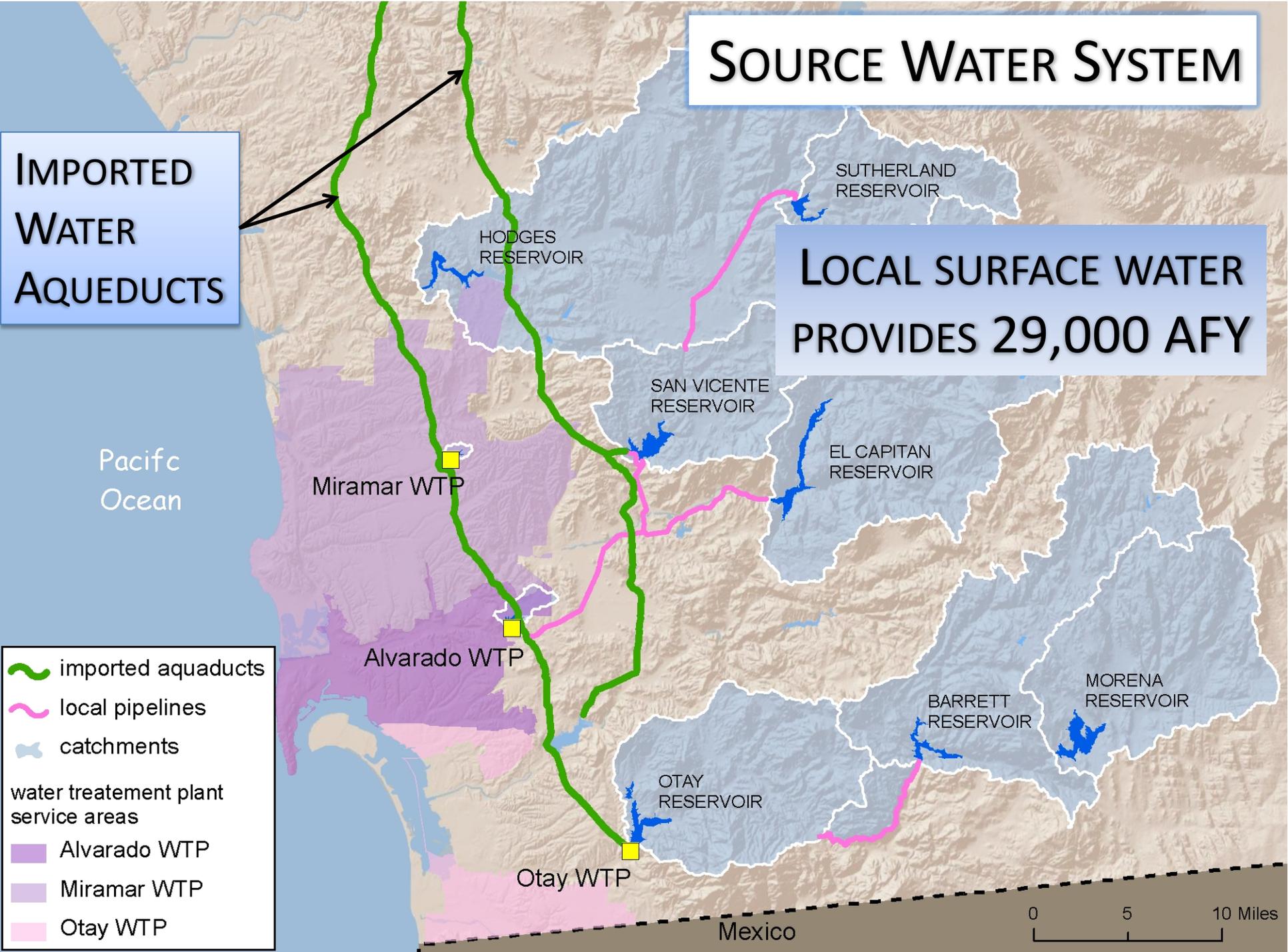
Alvarado WTP

Miramar WTP

Otay WTP

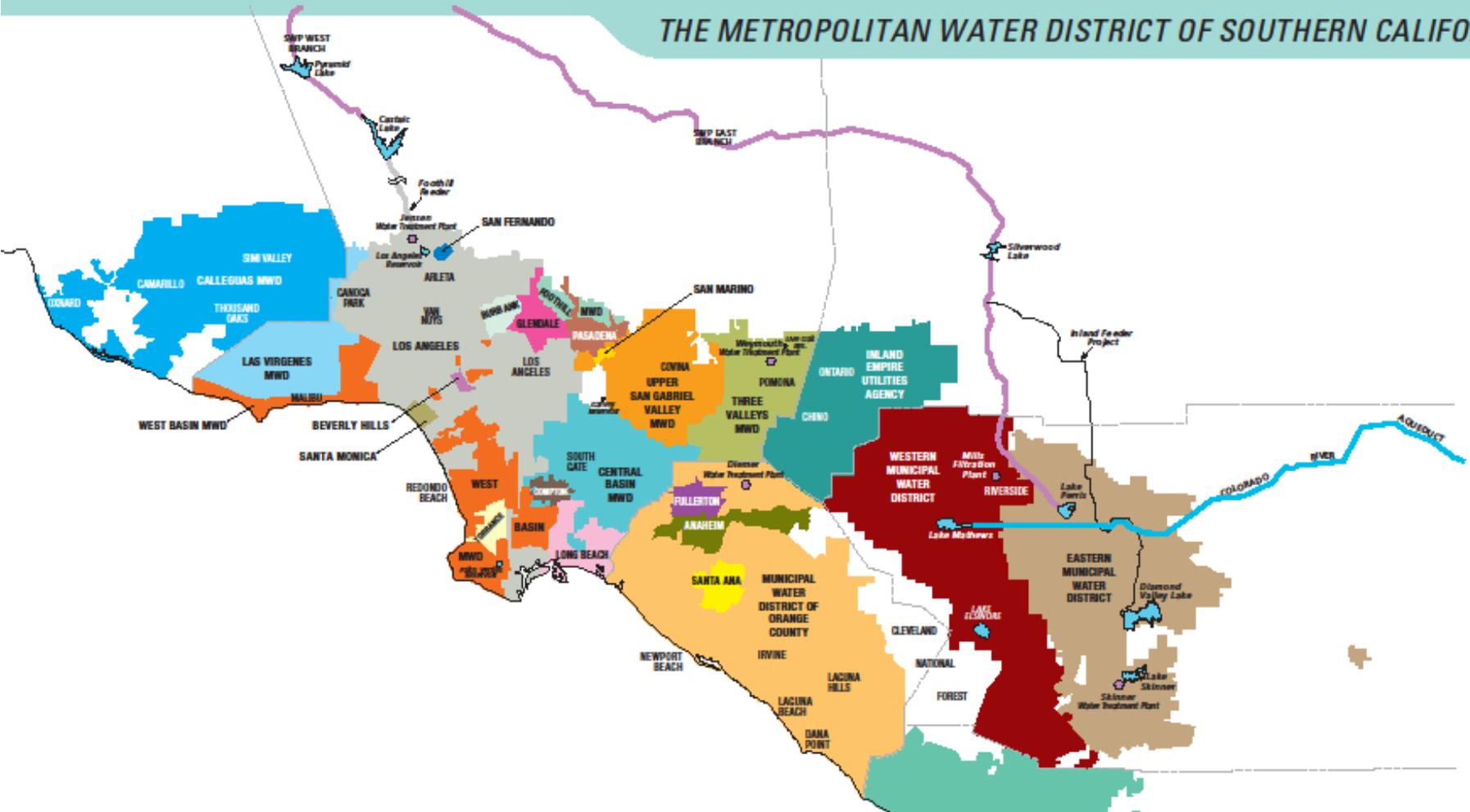
Mexico

0 5 10 Miles

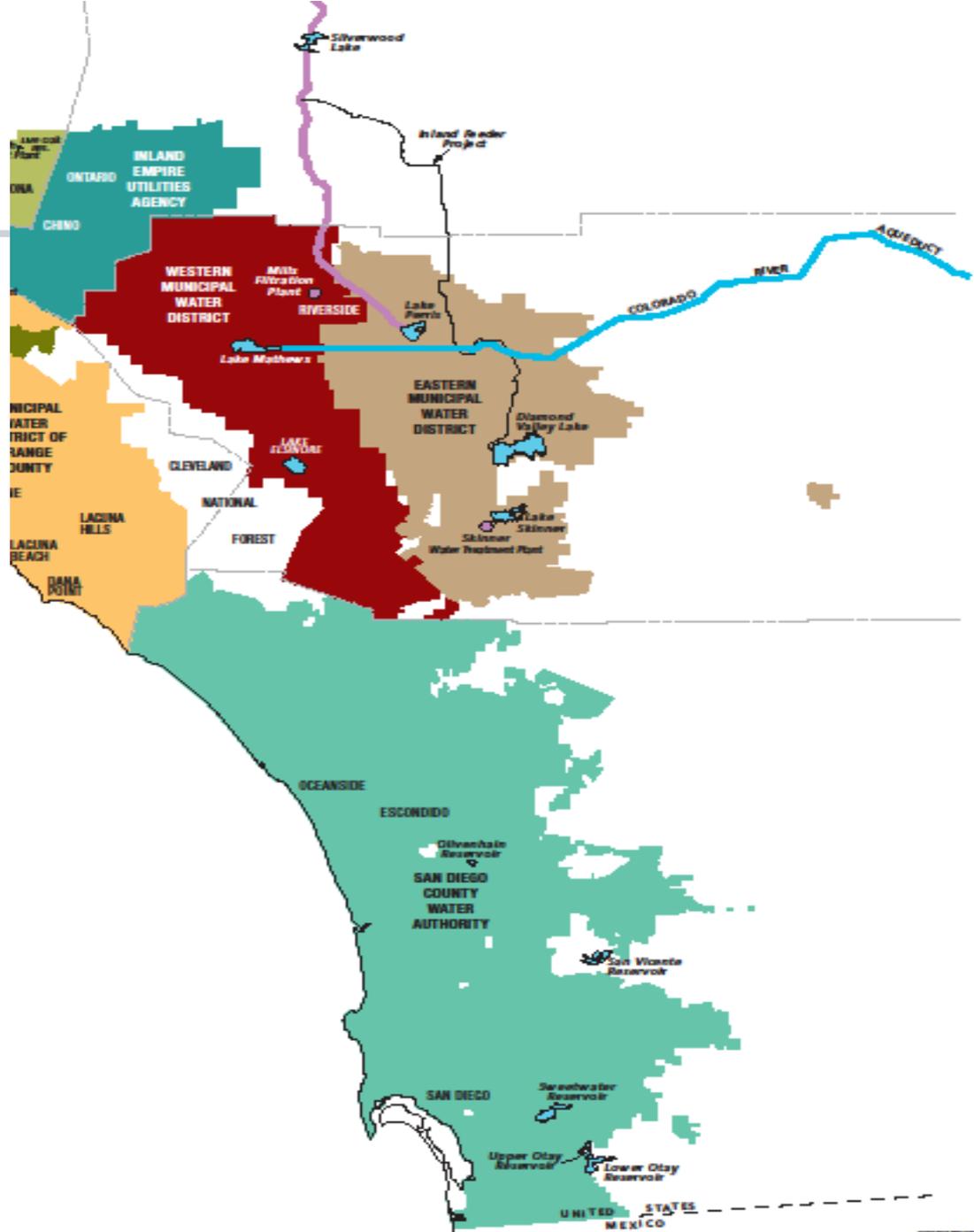


MWD SERVICE AREA

THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA



CWA SERVICE AREA

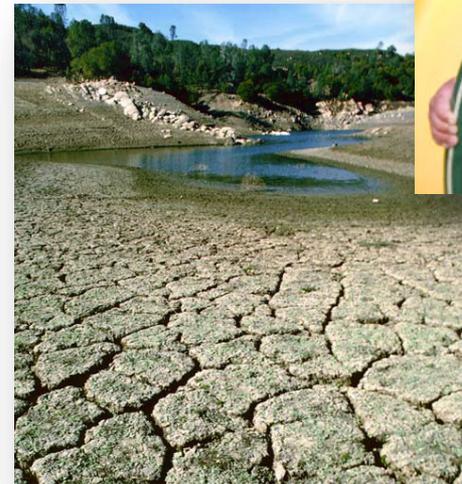




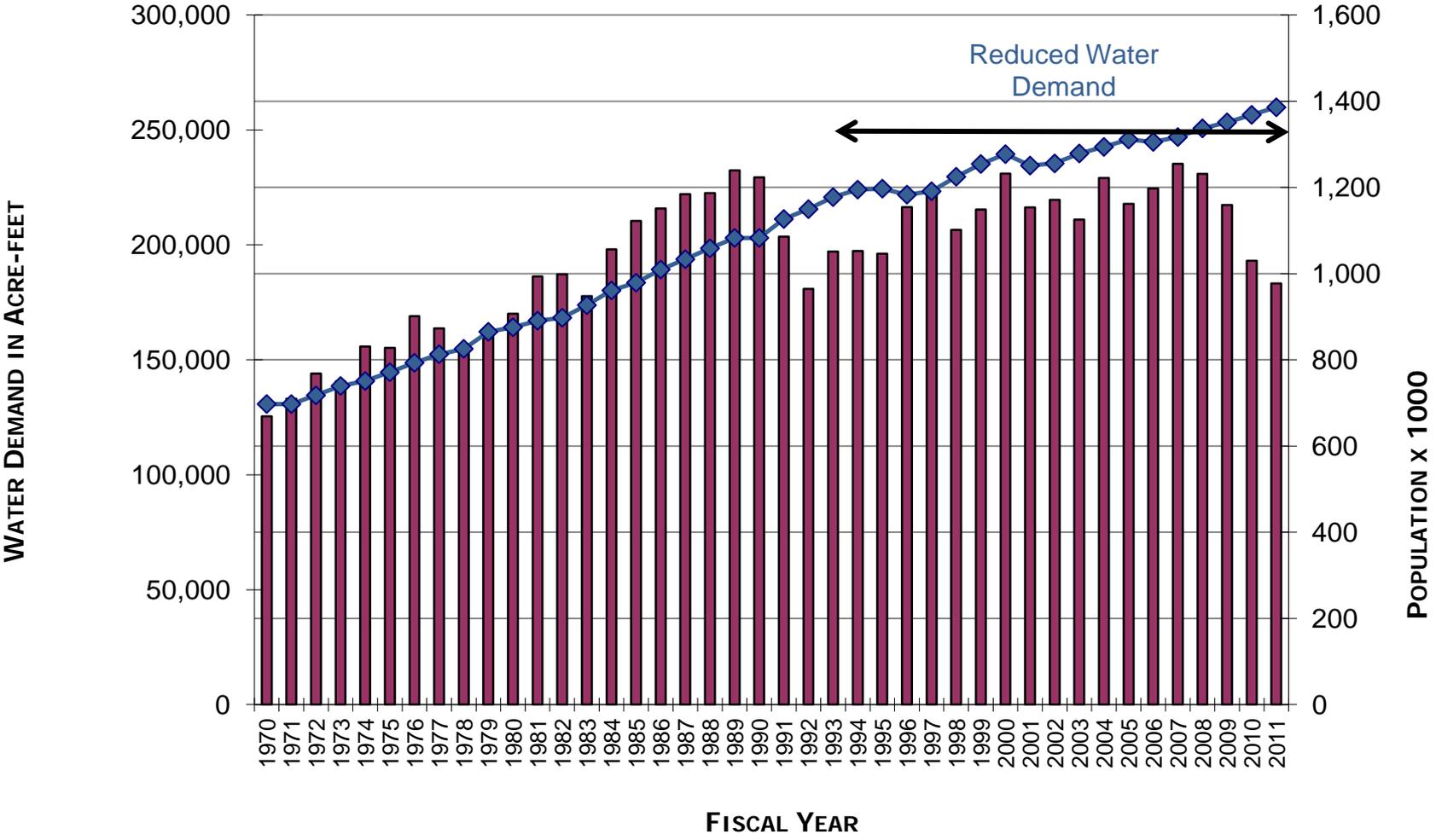
WATER SUPPLY CHALLENGES

- Limited local supplies
- Increasing cost of imported water
- Pumping restrictions
- Recurring drought conditions
- Internal population growth
- Natural disasters

SAN DIEGANS
WASTE
NO WATER
ALL DAY. EVERY DAY.



SAN DIEGO IS CONSERVING





CITY HELPS RESIDENTS CONSERVE WATER

WATER AUDITS/SURVEYS



INCENTIVES



INFORMING THE PUBLIC

SUSTAINABLE LANDSCAPE & RAIN BARREL REBATE PROGRAM



RAIN BARREL

RELATION TO OTHER PLANNING WORK

LRWRP

- Strategic planning
- Conceptual analysis
- Examines trade-offs between alternatives
- Develops overall targets for supply & demand-side programs

UWMP

- Required by State every five years
- Compares supplies and demands under normal & dry years
- Summarizes conservation & drought management

MASTER PLANS & STUDIES

- Facilities plans for water & recycled water
- Groundwater management plans & studies

CIP

- Identified projects for near-term implementation
- Detailed cost and schedule information



LONG-RANGE WATER RESOURCES PLAN (LRWRP)



- High-level strategy for City's water resources
- Evaluates water supply and demand-side options against multiple planning objectives
- Takes a long-range viewpoint, through year 2035
- Addresses risk and uncertainty of future conditions
- Open, participatory forum involving stakeholders



GOALS OF 2012 LRWRP

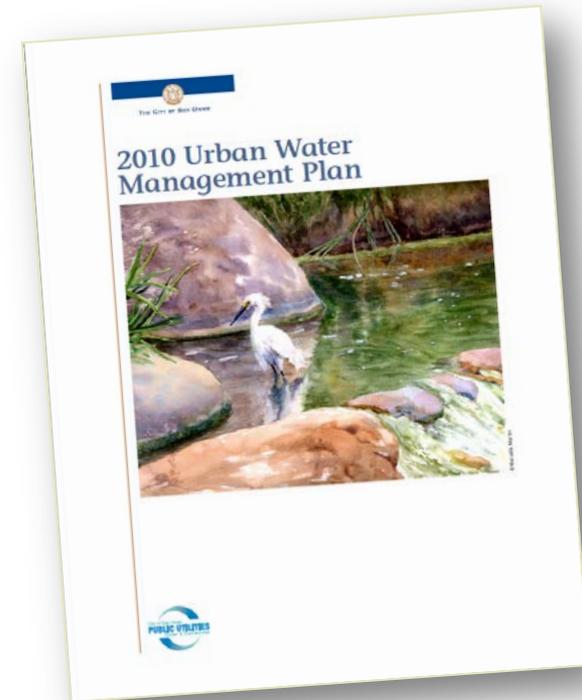
- Evaluate emerging issues such as:
 - climate change
 - energy footprint
 - emerging contaminants of water sources
- Re-assess objectives & stakeholder values
- Update water demand projections & water supply options
- Update imported water availability & costs
- Determine preferred future supply mix
 - Develop adaptive & flexible implementation strategy



URBAN WATER MANAGEMENT PLAN/OBJECTIVES



- Required by law to update every five years
 - Established: AB 797 Klehs, 1983
- Provides a 25 year estimate of water supplies & demands (2010 - 2035)
- Foundation, basis for water supply assessments (SB 610/221)
- Required for funding or drought assistance from state
- Includes detailed information on future supply development
- Integrated Regional Water Management Planning process
 - Coordination with other agencies





SAN DIEGO'S WATER REUSE PROGRAM



Phase 1 – Water Reuse Study



Phase 2 – Water Purification Demonstration Project

Phase 3 – Full-Scale Water Purification Project



WATER PURIFICATION DEMONSTRATION PROJECT

COMPONENTS



- Operate one MGD facility
- San Vicente Reservoir study
- Define regulatory requirements
- Conduct energy and economic analysis
- Public education and outreach

OUTCOMES

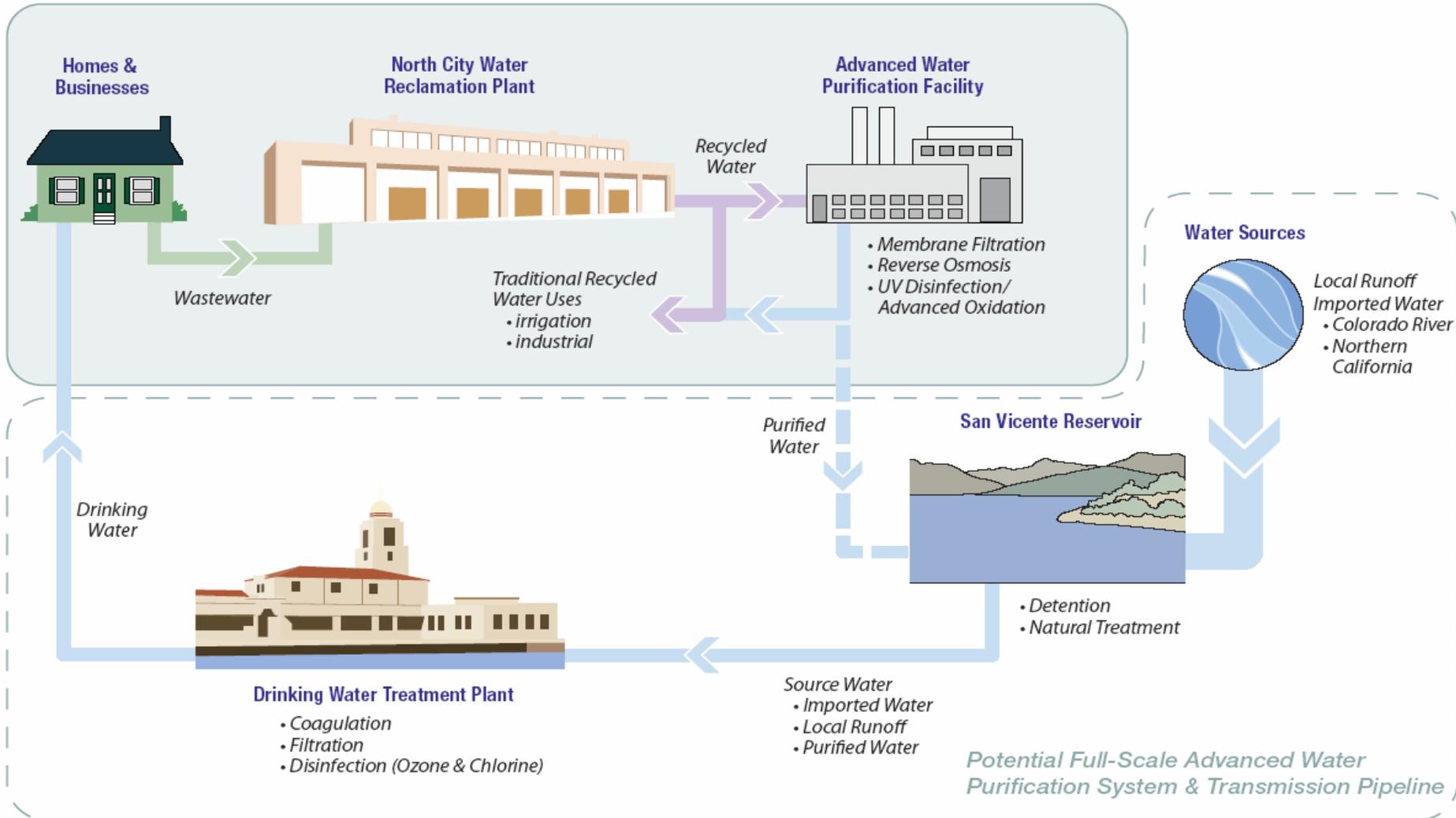


- Validate treatment process
- Gain regulatory approval
- Evaluate cost
- Public acceptance

City of San Diego's Water Purification Demonstration Project

Purification Process

Demonstration-Scale Project





2010 RECYCLED WATER MASTER PLAN UPDATE

- Compliance with Water Reclamation Ordinance SDMC 64.0806
- Completed every 5 years
- Current plan was developed in conjunction with the Recycled Water Study
- Evaluate opportunities for non-potable reuse if potable reuse options are not pursued.

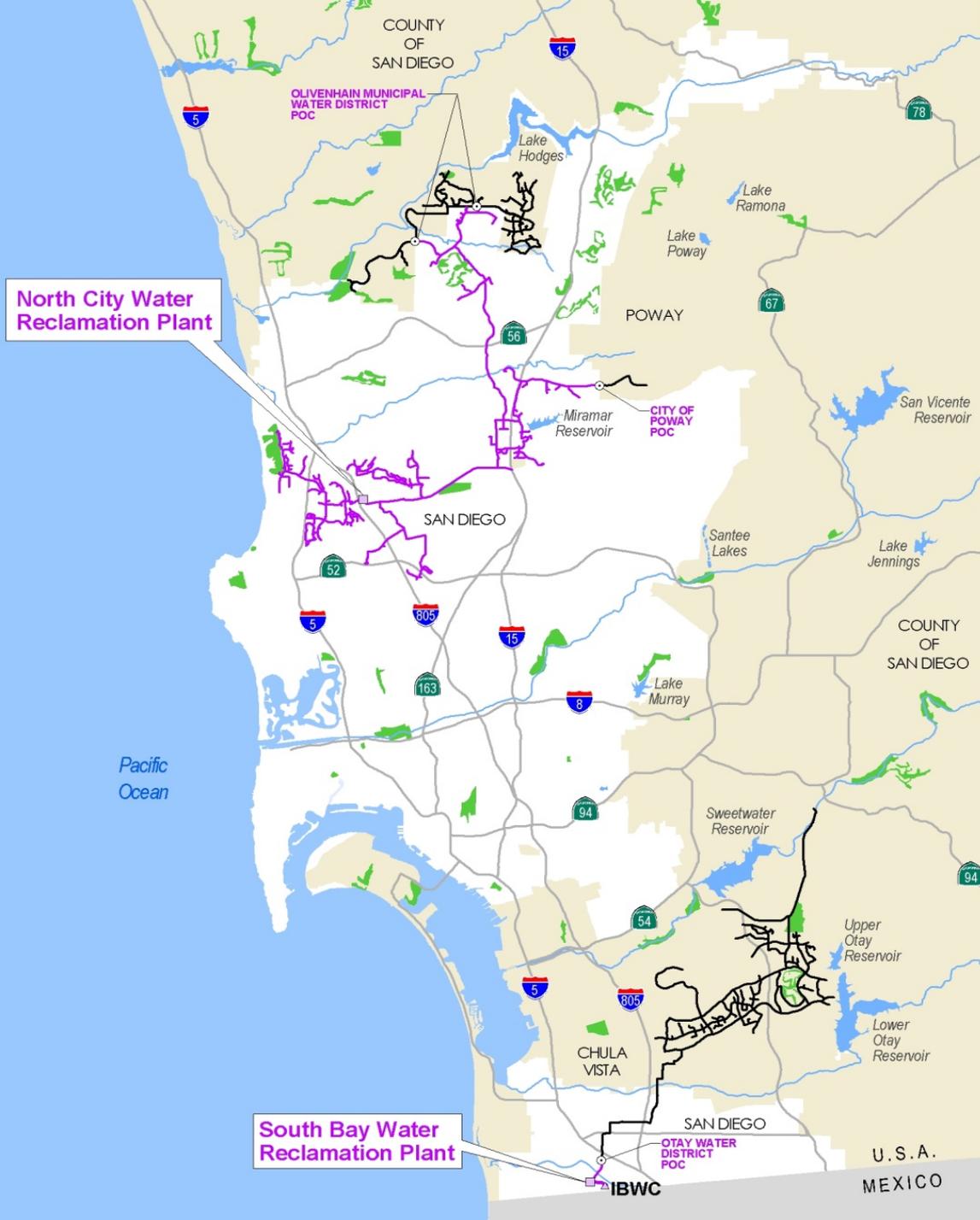
RECYCLED WATER DISTRIBUTION MAP

North City Water Reclamation Plant & Service Area (1997)

- 30 mgd treatment capacity
- 83 miles of pipeline, 2 reservoirs

South Bay Water Reclamation Plant & Service Area (2002)

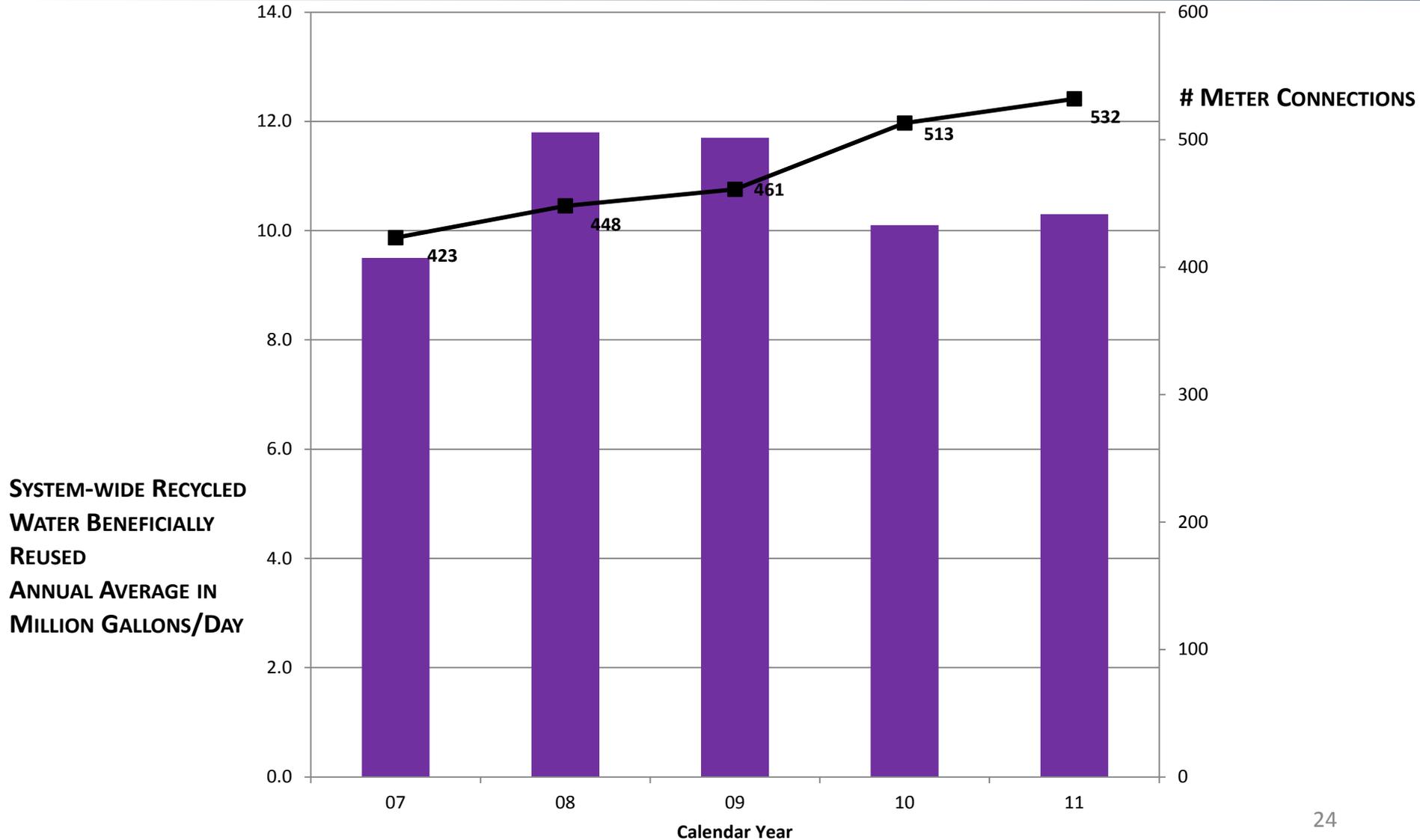
- 15 mgd treatment capacity
- 3 miles of pipeline, 1 reservoir



North City Water Reclamation Plant

South Bay Water Reclamation Plant

SYSTEMWIDE VOLUME OF RECYCLED WATER & METER CONNECTIONS





RECYCLED WATER STUDY

Objectives

- Identify opportunities to increase recycling of wastewater for Indirect Potable Reuse & Non-Potable Reuse
- Determine extent recycling can reduce wastewater flows to the Point Loma Wastewater Treatment Plant
- Determine implementation costs





NEXT STEPS



Financial and Policy Considerations

- Determine wastewater/water cost allocation & rate impacts
- Further evaluation of potential joint-agency projects



Technical Considerations

- Perform detailed site studies
- Integrate with other water & wastewater master planning efforts

Regulatory Considerations

- Coordinate with 2015 NPDES permit renewal process
- Coordinate with regulatory framework developed in the City's Water Purification Demonstration Project



ROLL-OUT SCHEDULE

- Natural Resources and Culture Committee –
May 2012
- Independent Rates Oversight Committee –
May 2012
- City Council –
July 2012
- Submit Study Report to Coastal Commission –
July 2012
- Coastal Commission –
To be determined



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Water Purification Demonstration Project



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