

Urban Water Management Plan

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Jay Jasperse

George Lincoln

Sonoma County Water Agency

Paul Selsky

Brown and Caldwell



Prepared for

2010

Urban Water Management Plan

Sonoma County Water Agency

May 2011



Overview of Presentation

- Purpose of Plan
- Background
- Components of the Plan
- Summary & Conclusions
- Next Steps

Purpose of Plan

- Satisfy UWMP Act requirements
- Submit every 5 years to Department of Water Resources (DWR)
- Project water supplies and demands
- Provide a 25 year comparison of water supplies and demands (to 2035)
 - Average, single dry, and multiple dry years
- Foundation for retail Plans & IRWMPS

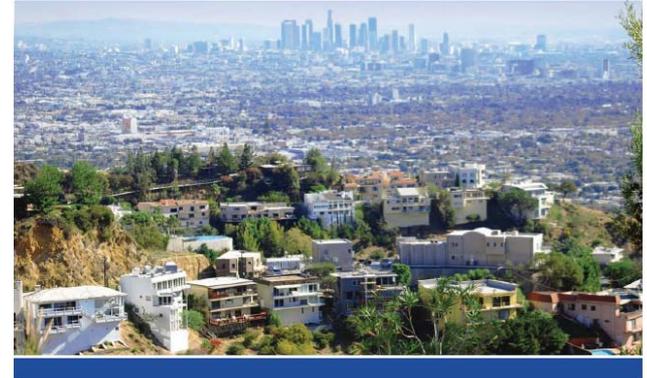
Background

- New requirements/SBX7-7
 - GPCD target for 2020
 - 60-day City/County notification
 - Lower income household water use
 - Climate change effects (optional)
- Wholesale versus retail
- Schedule-adoption by July 1, 2011
- DWR Guidebook released March 2011

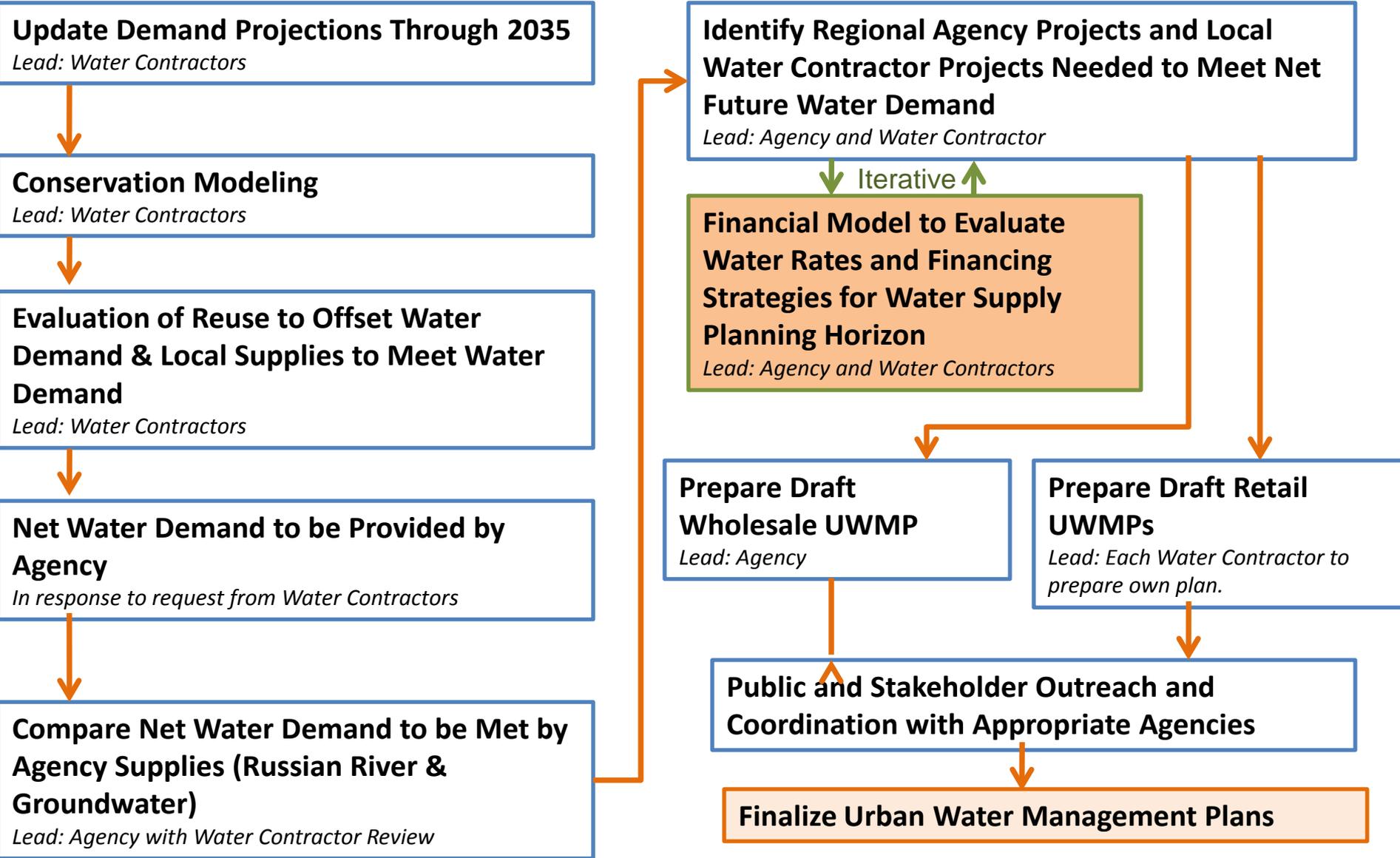


California
Department of Water Resources

Guidebook to Assist Urban Water Suppliers to Prepare a 2010 Urban Water Management Plan



Urban Water Management and Financial Planning Process



Components of Water Agency Plan

- Introduction (Section 1)
- Description of Existing Water System (Section 2)
- Wholesale water demand projections (Section 3)
- Water Supply (Section 4)
- Conservation (Section 5)
- Comparison of Demand and Supply (Section 6)
- Appendices

Section 1 - Coordination

- Coordination
 - Coordination with Appropriate Agencies
 - Water Contractors, Other Transmission System Customers and MMWD
 - Russian River Customers
 - Counties -Sonoma, Marin, Mendocino
 - Regional, State and Federal Agencies
 - Other Entities

Public Outreach

- City and County 60 day notification
- Email notice
- Mailed ~2,000 post cards
- Press release
- Agency web page
- Youtube video
- Social Media
- WAC/TAC meeting
- Public hearing
- Appendix A



The Sonoma County Water Agency is currently preparing an update to its Urban Water Management Plan (UWMP) and welcomes your input. The UWMP update is required by the California Urban Water Management Planning Act and must be completed by July 1, 2011.

The Water Agency is a wholesaler of potable water, serving nine primary municipal customers in Sonoma and Marin Counties. The Water Agency's UWMP will discuss and describe:

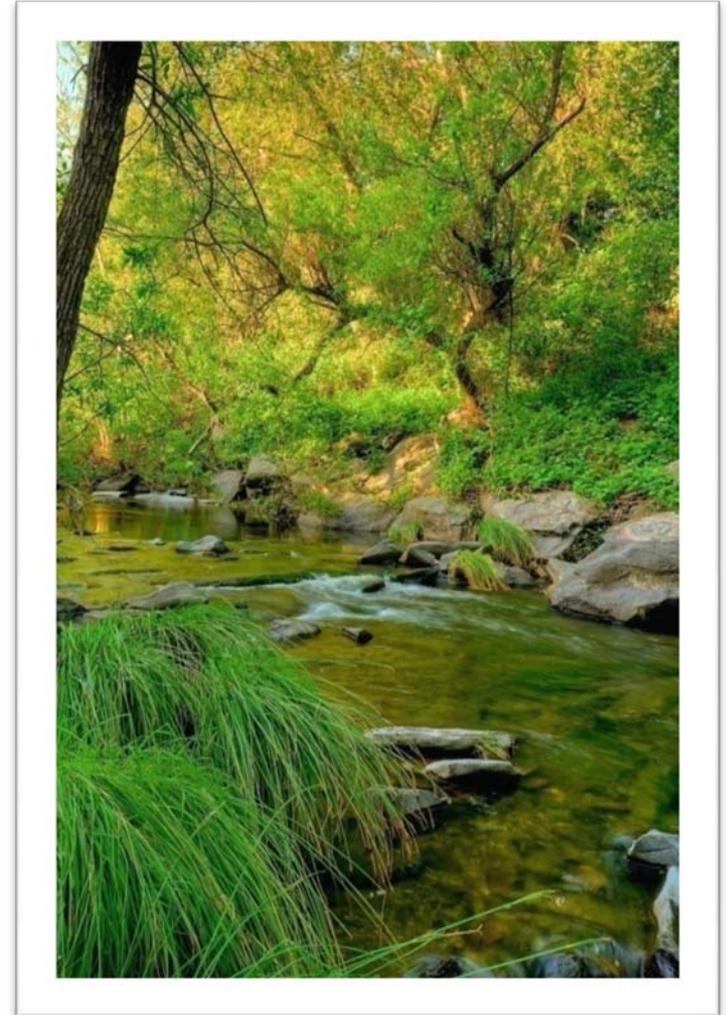
- Existing water supplies and transmission system;
- Projected water demands in the Water Agency's service area over the next 25 years;
- Projected water supplies available to the Water Agency over the next 25 years, the reliability of that supply, and general plans for water supply projects;
- Current and planned Water Agency water conservation activities;
- A water shortage contingency analysis;
- And a comparison of water supply and water demand over the next 25 years under different hydrological assumptions (normal year, single dry year, multiple dry years).

Urban Water Management Plan Update
We Encourage Your Involvement!



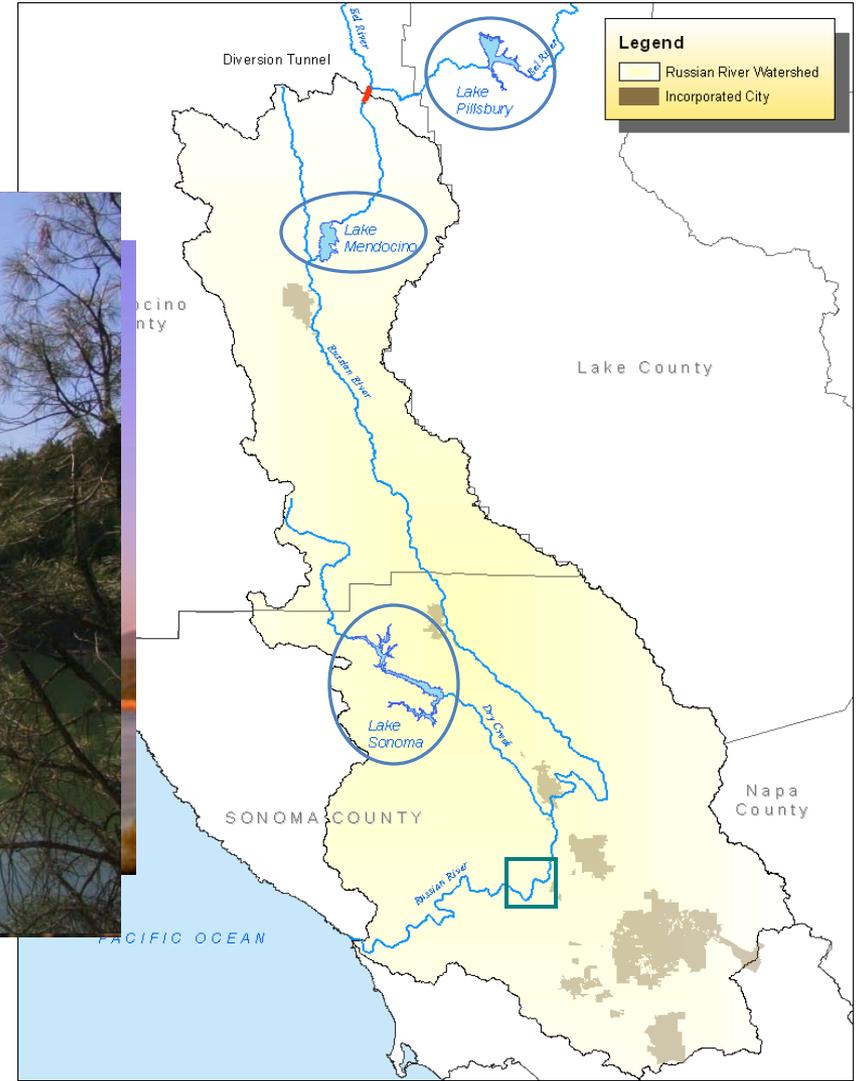
Key Assumptions

- PG&E Operation of Potter Valley Project
- Biological Opinion
- Future Water Supply Projects
- Climate Change



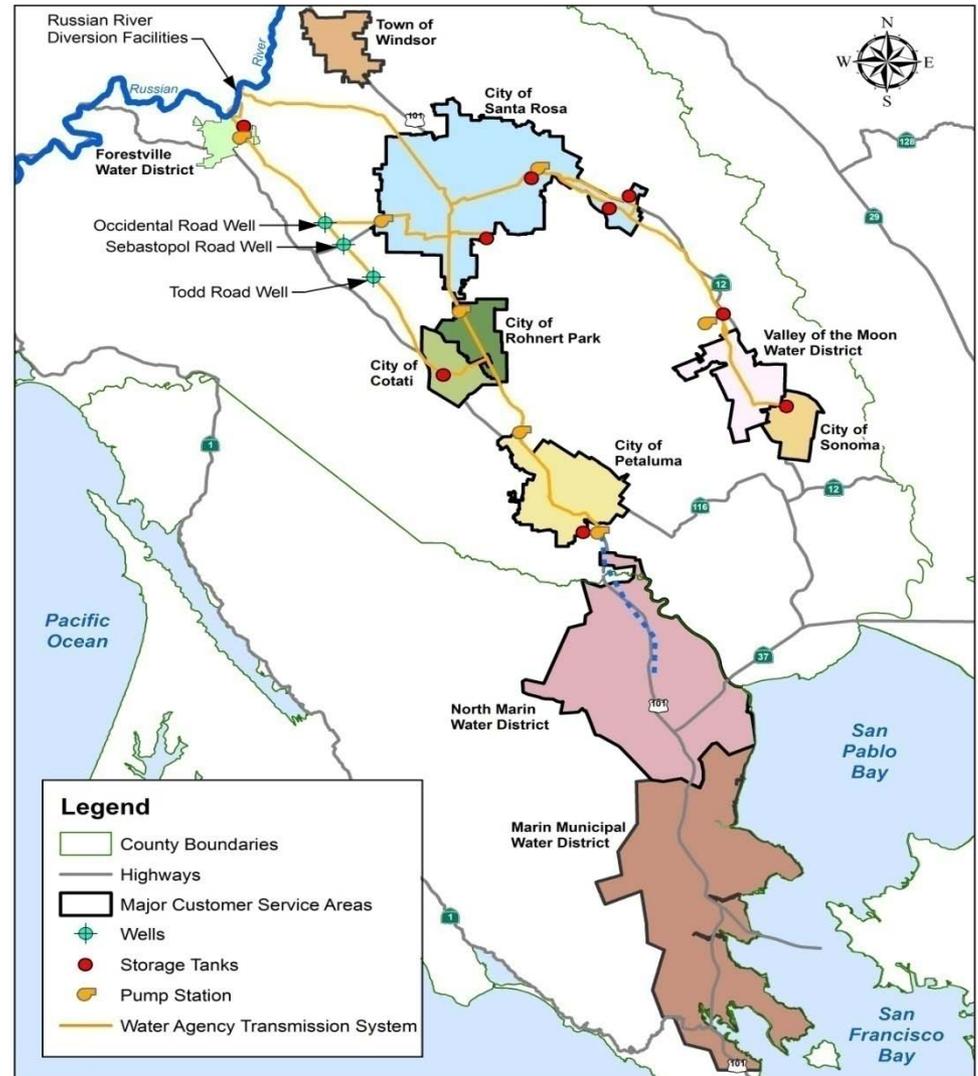
Section 2 - Russian River System

- Lake Pillsbury/Mirabel
- Lake Mendocino
- Lake Sonoma

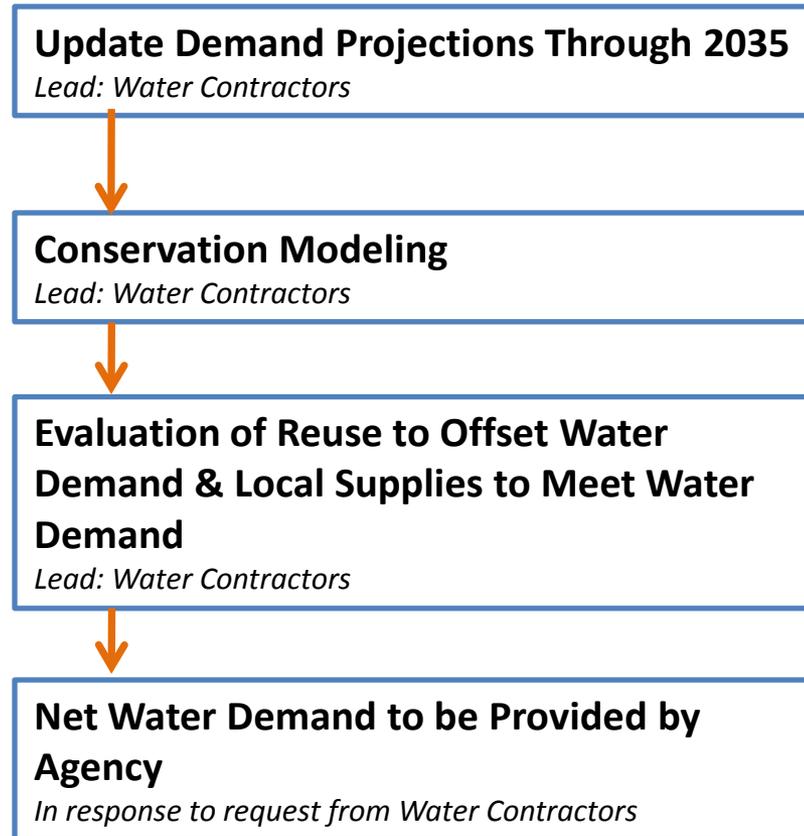


Water Agency System and Service Area

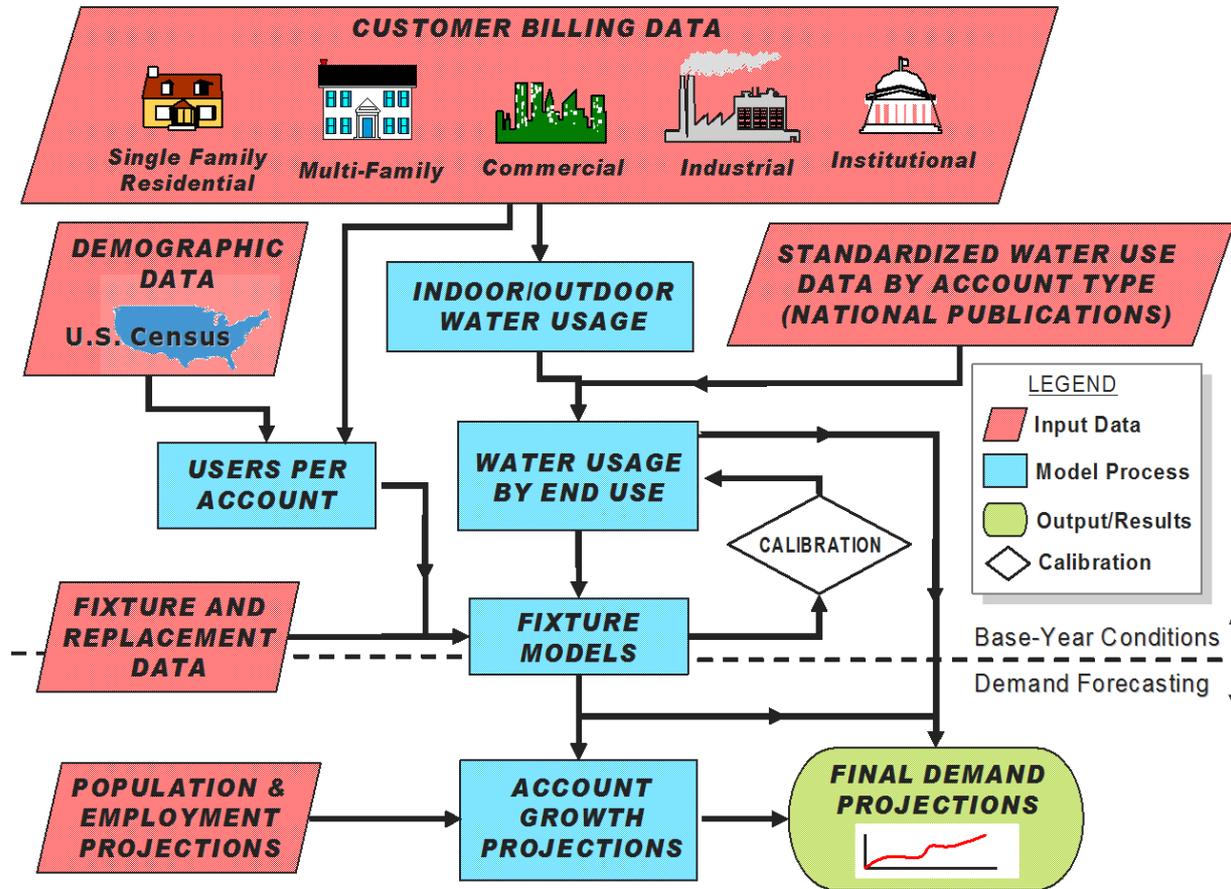
- Diversion Facilities
- Transmission System
- Service Area



Water Contractor and MMWD Demand Projection Process



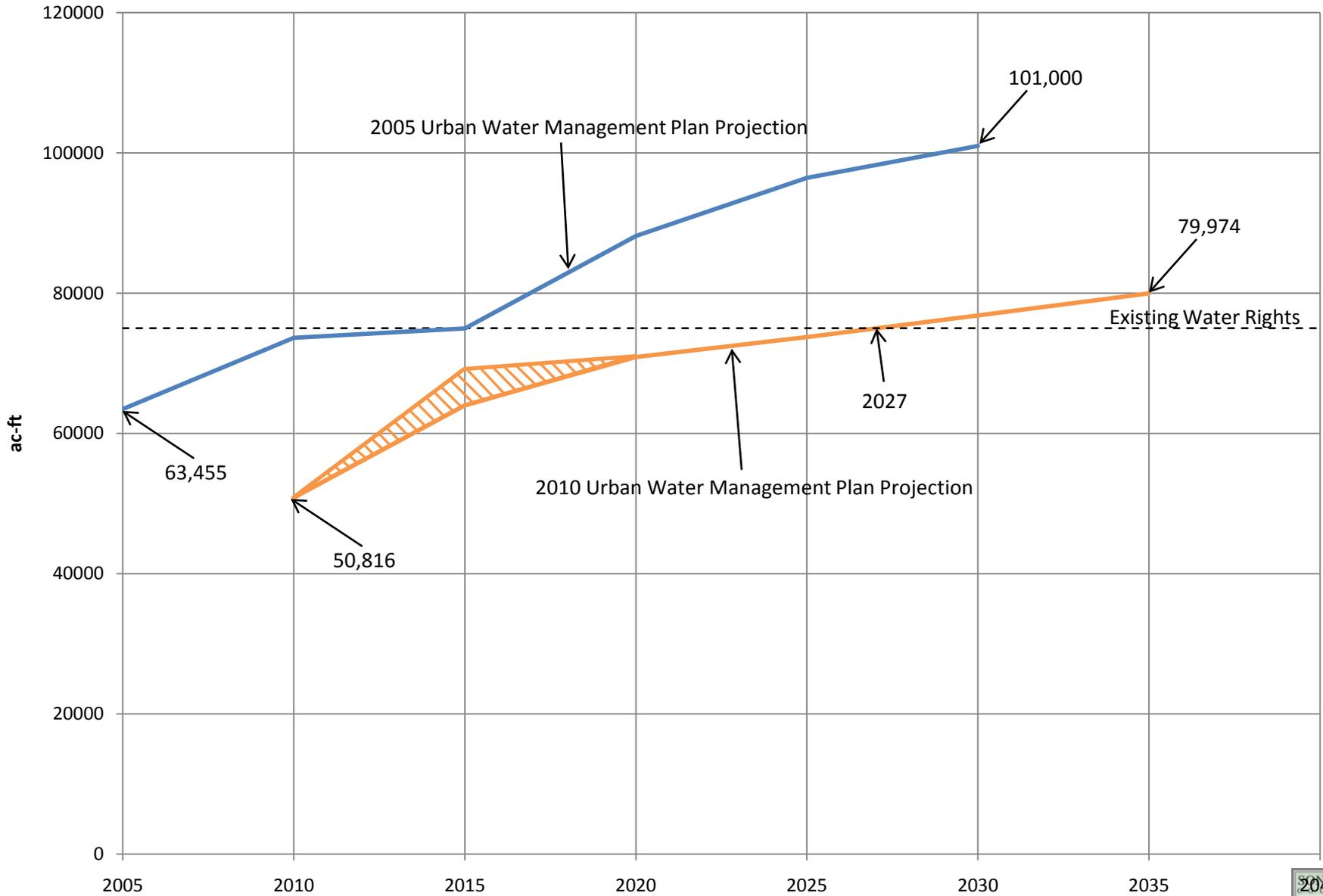
Water Contractor and MMWD Demand Projection Process DSS Model Flow Chart



Basis for Demand Projections for Water Contractors and MMWD

Water Contractor	Basis for Population Projections
City of Santa Rosa	Santa Rosa 2035 General Plan
North Marin Water District	Avg. of ABAG (2005, 2007, 2009) Projections
City of Petaluma	City of Petaluma 2025 General Plan DOF and Coast Guard
City of Rohnert Park	2009 ABAG Projections
Valley of the Moon Water District	Sonoma County General Plan
City of Sonoma	City of Sonoma General Plan 2020, 2009 ABAG Projections, City of Sonoma 2008 GMO, 2010 DOF
City of Cotati	2007 City of Cotati Water Supply Assessment
Town of Windsor	2007 ABAG Projections
Marin Municipal Water District	Avg. of ABAG (2005, 2007, 2009) Projections

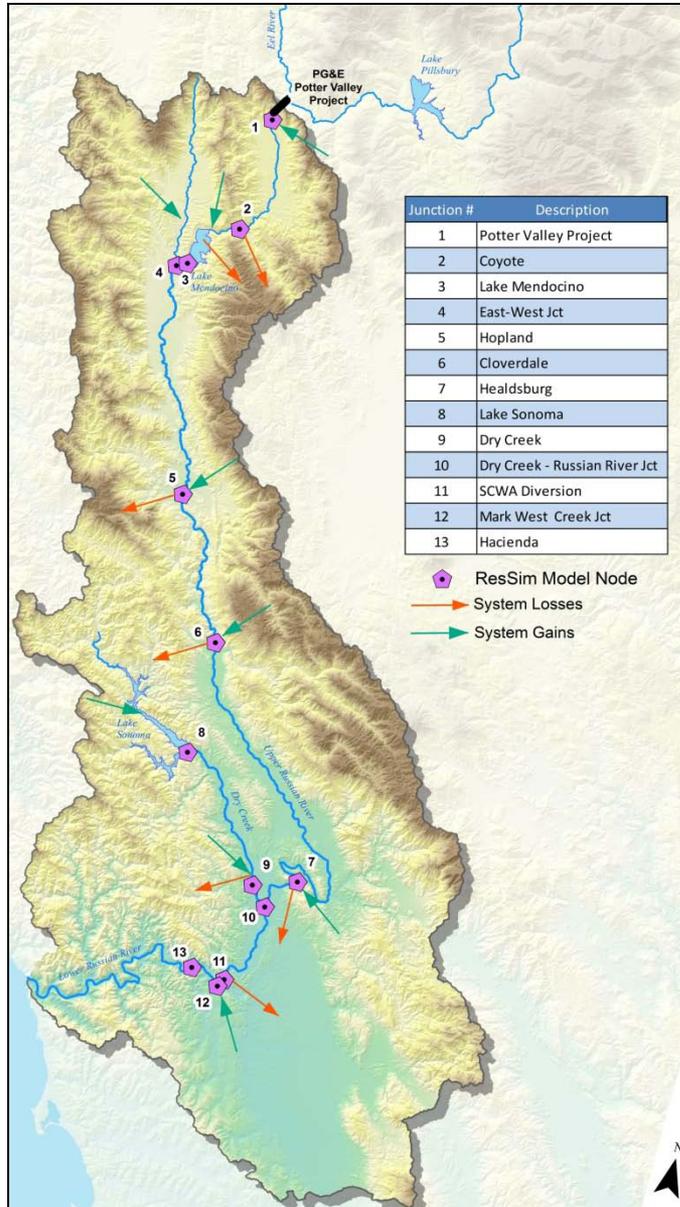
Section 3 - Projected Russian River Demand



Section 4 – Water Supply

- Surface Water
 - Russian River Supplies
- Groundwater
 - Santa Rosa plain wells
- Recycled Water

Russian River ResSim Model



Purpose: Simulate effects of varying system demand levels and/or operational criteria under a diverse set of historical hydrologic conditions.

Model Features:

Physical Data

- 9 Primary Model Reaches
- 13 Primary Model Junctions
 - Reservoir Outflows
 - USGS Gages
 - System Gains & Losses
- Reservoir Data
 - Elevation Storage Curves
 - Dam dimensions
 - Uncontrolled and controlled outlet constraints

Operational Data

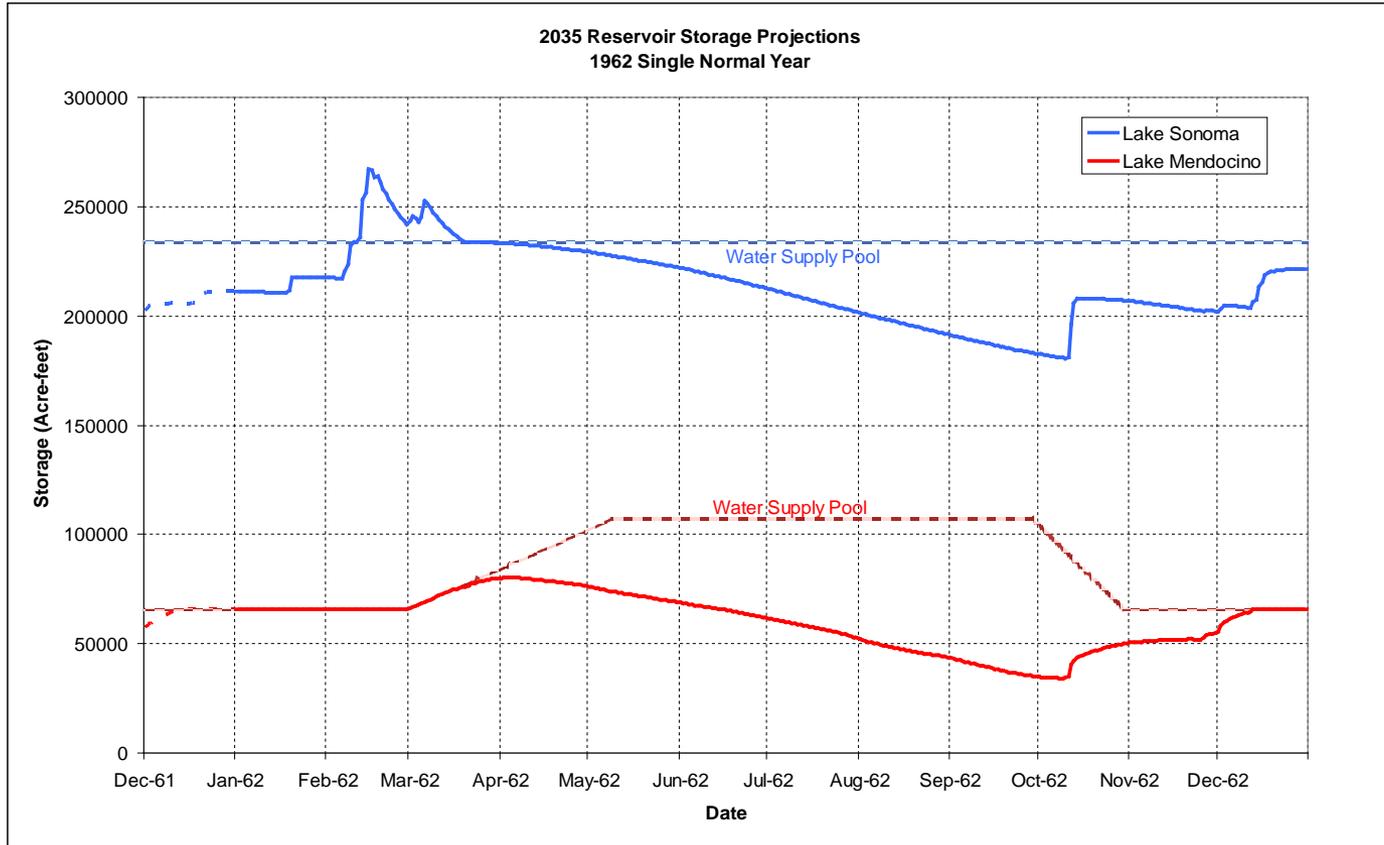
- Reservoir rule curves
- Minimum Instream Flow Requirements
 - Normal – Biological Opinion
 - Dry and Critical – Decision 1610/BO Compliance
- Hydrologic Index – Decision 1610

Flow Data

- Potter Valley Project Diversions: Eel River Model
- Unimpaired Flows: 1910-2008 prepared by USGS

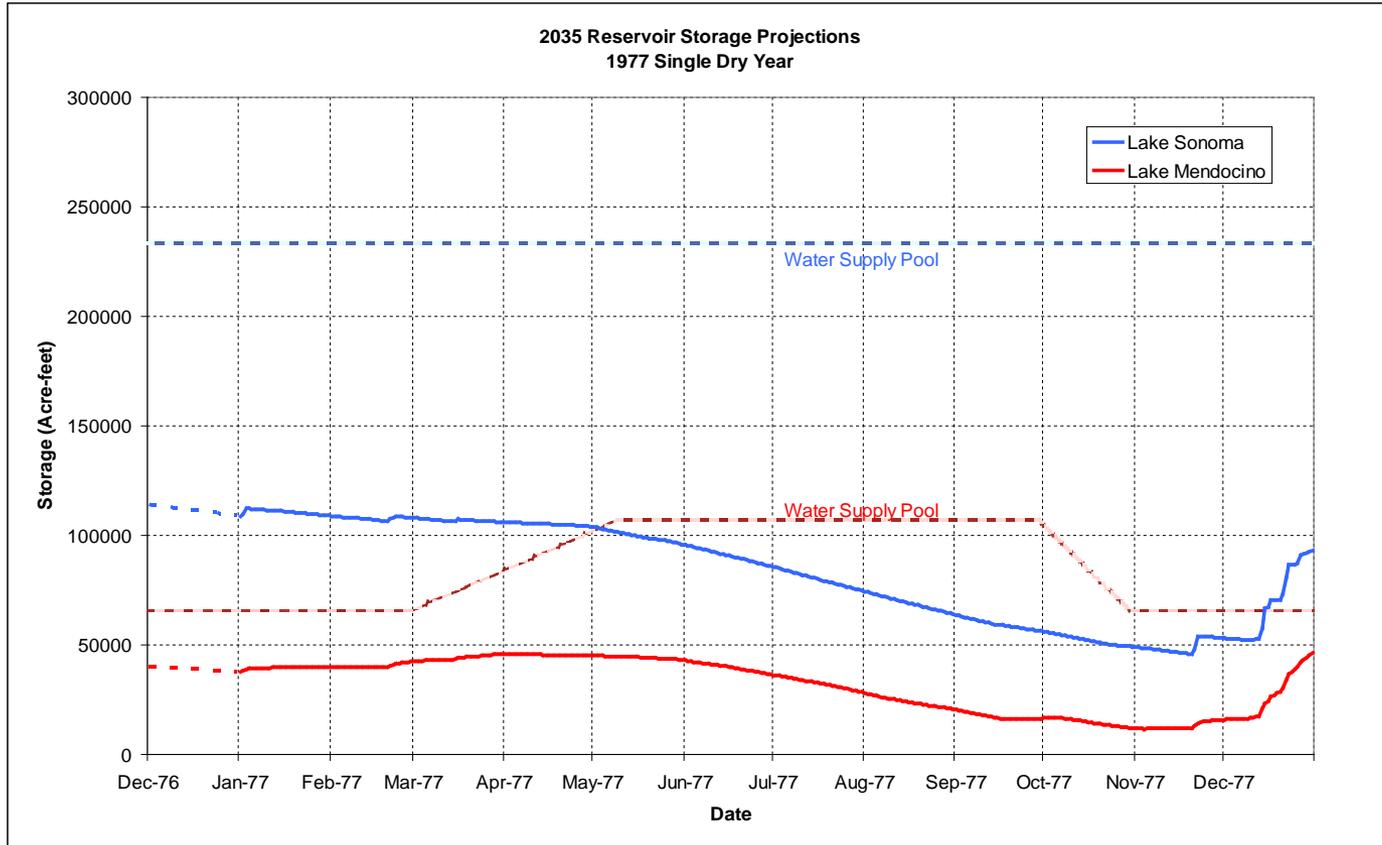
2035 Modeling Results

Single Normal Year



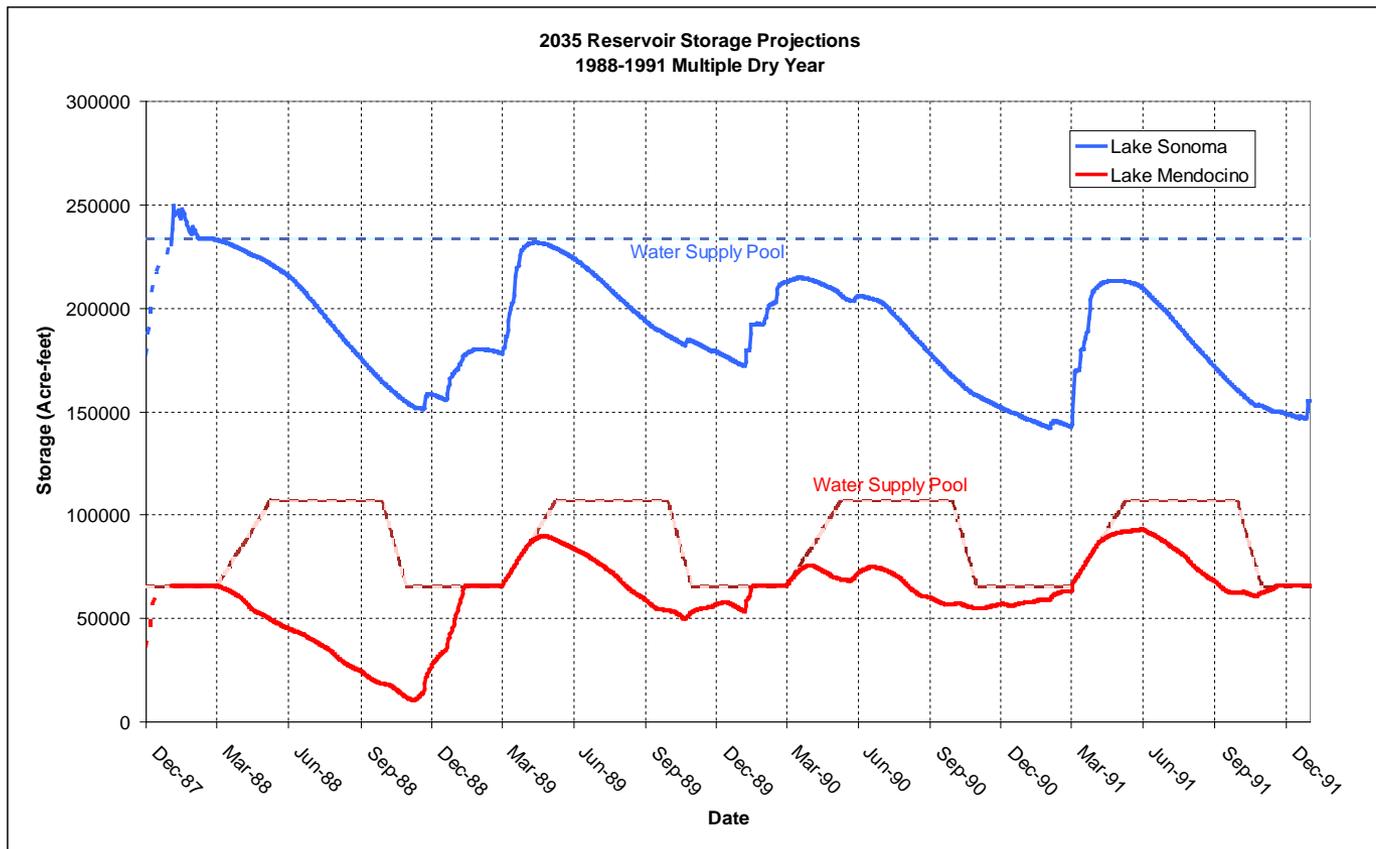
2035 Modeling Results

Single Dry Year



2035 Modeling Results

Multiple Dry Year



Water Supply - Water Agency Groundwater Supplies

Facilities: 3 Water Agency wells in the Santa Rosa Plain

Projected Supply: 2,300 acre-feet/year (afy)

- 2005 UWMP projected supplies were 3,870 afy
- Past annual groundwater production up to 5,906 afy

Operational Strategy: Summer peak demands & periods of drought

Scientific Studies: Water Agency & USGS led studies in Alexander Valley, Sonoma Valley, & Santa Rosa Plain groundwater basins

Groundwater Management Activities: Sonoma Valley & Santa Rosa Plain

Groundwater Elevation Monitoring: Water Agency implementing monitoring program in 13 of 14 groundwater basins within the county

Water Supply - Water Agency Recycled Water

Recycled water supply projections contained in retail level Urban Water Management Plans

Coordination & Promotion Recycled Water:

- Local Supply/Recycled Water /Tier2 Conservation Fund
- North Bay Water Reuse Authority

Sonoma Valley County Sanitation District: Offset groundwater pumping, increase reliability of Sonoma Valley groundwater supplies. Possible partners - Valley of the Moon Water District & City of Sonoma

Airport Larkfield Wikiup Sanitation Zone: Offset Russian River water used for irrigation. Possible partner - Town of Windsor

Water Supply Projects

To meet projected future demands to
2035:

	<u>Projected Completion</u>
<u>Transmission System</u>	
South Transmission System (Cotati-Ely Booster)	2022
South Transmission System (Ely Booster-Kastania)	2022
Kawana-Ralphine-Sonoma Booster Pipeline	2025
<u>Russian River Water Rights</u>	
Modify/Acquire additional 5,000 afy	2027
<u>Water Supply</u>	
Additional production capacity (~7 mgd)	2030

Water Supply Reliability

Integrated Water Management Programs consistent with:

- Water Agency Water Supply Strategies Action Plan
- California Water Plan & other state policies

Conservation/Recycle Water: Offset groundwater & Russian River water use

Conjunctive Use: Pursue management of groundwater & Russian River supplies balancing Russian River & groundwater pumping based on hydrologic conditions (2009 vs. 2010)

Stormwater Recharge: Enhance recharge of storm water to groundwater

Groundwater Banking: Evaluate feasibility of banking winter Russian River water

Water Agency Facilities: Continue to implement projects to enhance resiliency against natural hazards

Section 5 - Water Conservation

- California Urban Water Conservation Council MOU
 - Foundational and Programmatic BMPs
- Wholesale Water Provider Requirements per MOU (Foundational BMP's)
 - Conservation Coordinator
 - Provide Technical Assistance to Retailers
 - System Leak Detection/Repair
 - Conservation Pricing
 - Public Outreach/Education Program
 - School Education Program

Water Conservation

- Retail Water Providers requirements per MOU
 - Foundational and Programmatic BMPs
- SBx7-7: Water Conservation Act of 2009
 - 20% reduction in statewide water use by 2020, regional approach the locally preferred option.
- Sonoma Marin Saving Water Partnership mechanism for reporting/tracking progress.



Section 6 - Water Demand Compared to Water Supply

- Water Supply Climate Conditions
 - Normal Year Supply
 - Adequate Water Supply
 - Multiple Dry Year Supplies
 - Adequate Water Supply
 - Single Dry Year Supply
 - Some demand curtailments for portion of year

Appendix C - Water Shortage Contingency Plan

- Water Shortage Allocation Model – April 18, 2006 Resolution 06 -0342
 - Allocates water to Agency Customers during a projected water supply shortage in accordance with Restructured Agreement Section 3.5
 - In process of being updated
- Decision 1610 Water Supply Shortage Provision
 - 30 % reduction in diversions from Russian River to Water Agency Service Area when Lake Sonoma storage drops below 100,000 af before July 15th
- Catastrophic supply interruption plan
- Retail Suppliers each have their own WSCP

Summary & Conclusions

Significantly Lower Demand Projections

- Projected 2035 demands decreased over 23,000 afy relative to 2030 projections in 2005 Plan
- Increased conservation and lower growth projections play a large role
- Details regarding demand projections, conservation projections, recycled water use, & local supplies provided in water contractor plans

Reliable Water Supply

- Water Agency can provide supplies to meet projected demands for normal and multiple dry years through 2035
- During single dry years, demand management measures will be necessary similar to recent dry years (e.g., 2007 & 2009)
- Agency & water contractors have tools to implement demand management

Summary & Conclusions

Reduced Demands Result in Fewer Projects & Lower Costs

- Relative to past projections, fewer projects needed to meet future demands over the next 25 years resulting in lower costs

Integrated Water Supply Planning

- Water Supply Strategies Action Plan provides framework
- New modeling capabilities link financial & water supply planning

Continued Monitoring and Assessment of Plan's Assumptions

- Plan will be updated at least every 5 years & will be based on best available information

Next Steps

- Receive comments from Board and Public
- Review comments
- Revise Draft Plan
- Seek Adoption - June 21, 2011
- Submit Adopted Plan to DWR