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2020 Urban Water Management Plan

Public Hearing

May 11, 2021

sonomawater.org

Purpose of Urban Water Management Plan (UWMP)

- Satisfy UWMP Act requirements
- Submit UWMP every 5 years to Department of Water Resources (DWR)
  - 2020 UWMP due July 1, 2021
- Prepare UWMP to DWR 2021 UWMP Guidebook requirements for wholesale water suppliers
- Provide a 25-year comparison of water supplies and demands (to 2045)
- Foundation for Water Contractors' Plans
- Informs water availability for WSAs (SB 610/221)

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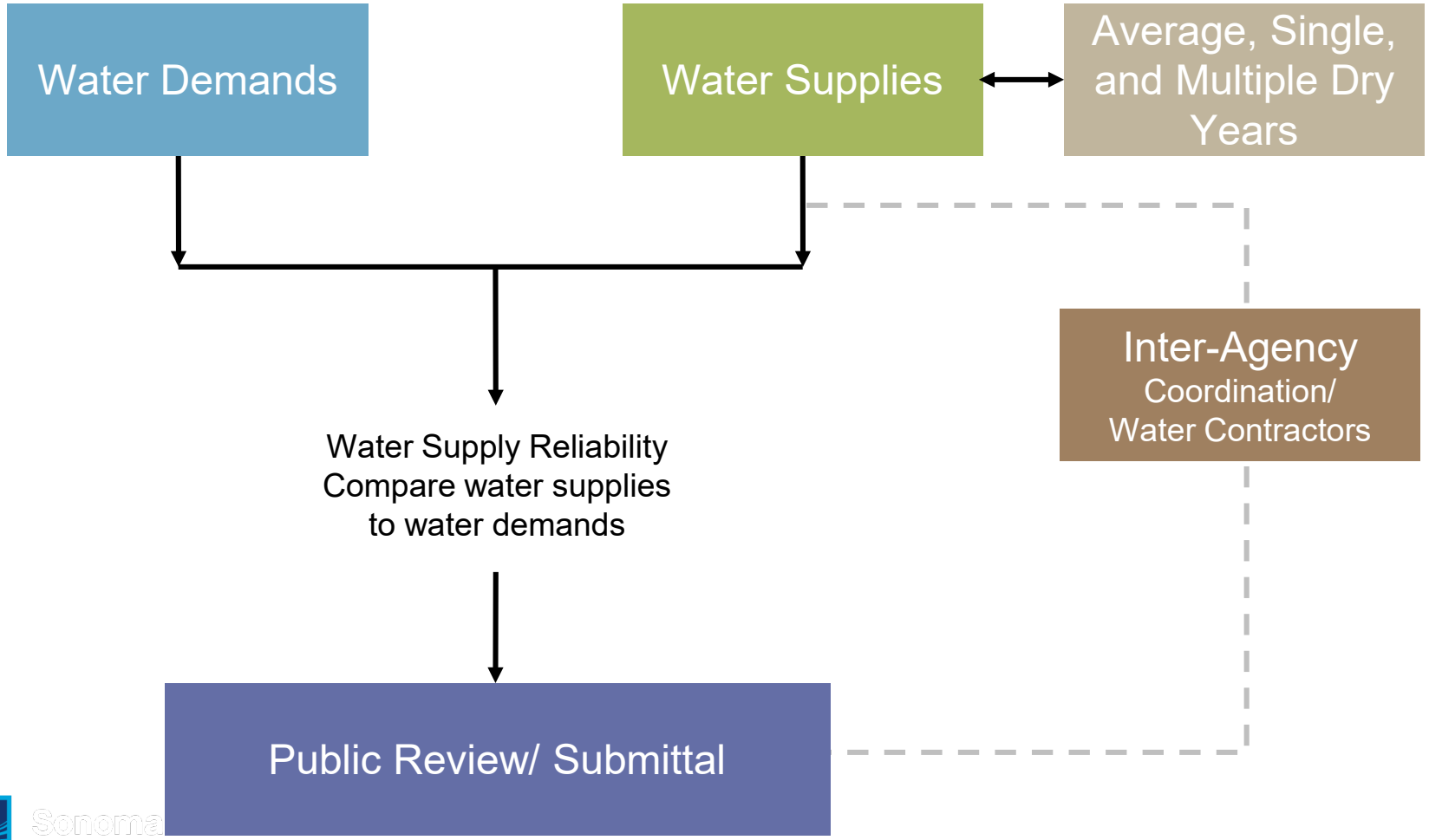
UWMP Flow Chart



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Key Results

- Projected water demands have decreased since 2015 UWMP projection
- Adequate water supply to reliably meet forecasted water demands through 2045 for average and multiple dry year scenarios
- Demand reduction and other conservation measures will be required for a single dry year scenario (similar to 2015 UWMP results)

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Key Elements of 2020 UWMP

- UWMP preparation and coordination*
- System description
- System water use*
- System supplies*
- Water supply reliability assessment*
  - Normal, single dry, and five consecutive dry years
- Drought risk assessment (lasting 5-yrs)*
  - Starting after assessment for years 2021-2025

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*For items in blue, more detail is included in subsequent slides

Key Elements cont.

- Climate change
- Energy intensity
- Water shortage contingency plan*
  - Six standard water shortage levels
  - Methodology for annual water supply and demand assessment
  - Seismic risk assessment (existing local hazard mitigation plan complies)
- Demand management measures
- Adoption and submittal

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*For items in blue, more detail is included in subsequent slides

Coordination with Water Contractors

- Projected population (ABAG, DOF, Other)
- Projected demands for wholesale water
  - Contractor demands minus local supply, conservation, and recycled water = net wholesale demands
- Contractors & Marin Water use consistent methodology to develop their projected demands
  - Prepared by EKI Water & Environment
- Projected wholesale water supply amounts

  Average years, single dry years, multiple dry years (5)

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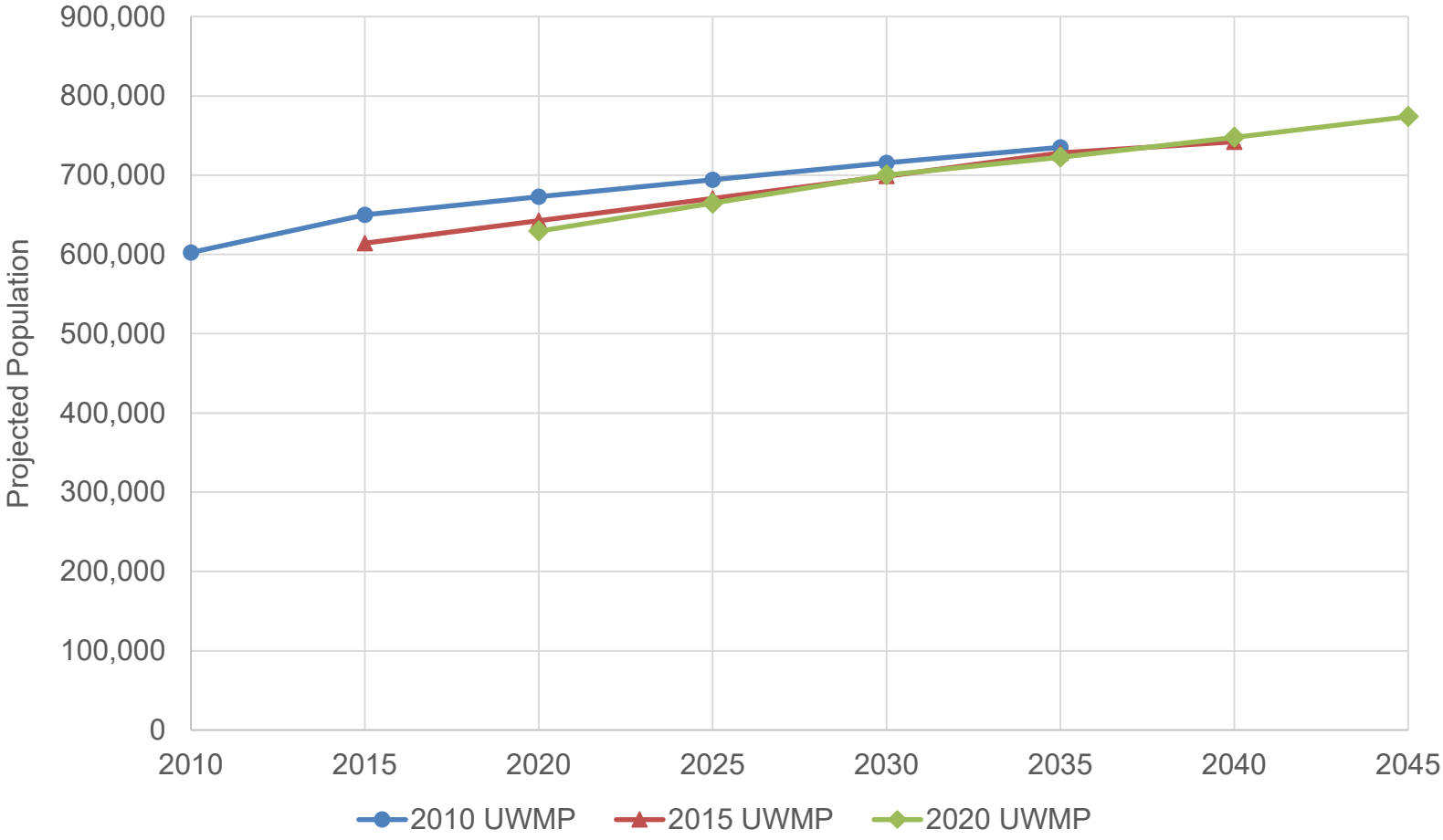
Projected Population



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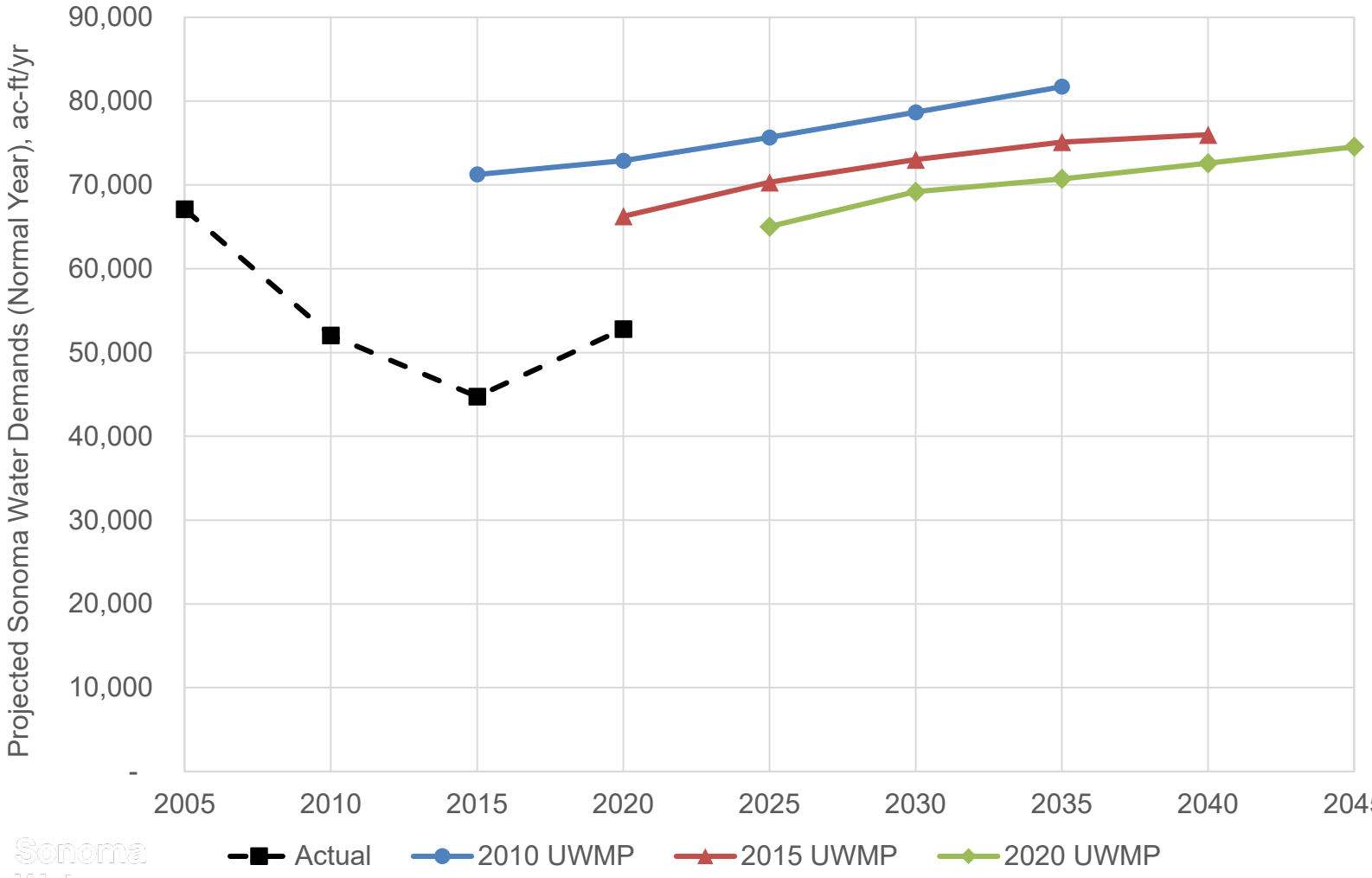
Projected Wholesale Demands



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Note: includes transmission system losses

Water Supply Modeling

- Assumptions (PVP, B.O., FIRO, Climate)
- Performed using Water Agency's Russian River Operations Model
- Uses 108 years of estimated unimpaired flow hydrology (1910-2017)
- Reservoir storage levels determined by previous end of the year storage (Conservative)
- Supply equals demand if end of the year storage is adequate

Supply to Demand Comparison

Normal Years, ac-ft/yr

	2025	2030	2035	2040	2045
Supply	65,020	69,177	70,725	72,588	74,547
Demand	65,020	69,177	70,725	72,588	74,547
Difference	0	0	0	0	0

Single Dry Years, ac-ft/yr

	2025	2030	2035	2040	2045
Supply	65,020	58,168	58,897	59,789	60,656
Demand	65,020	69,177	70,725	72,588	74,547
Difference	0	(11,009)	(11,828)	(12,799)	(13,891)

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Difference to be managed through demand management and/or supply augmentation measures, as described in WSCP

Supply to Demand Comparison

Multiple Dry Years, ac-ft/yr

	2020	2025	2030	2035	2040
Supply	65,020	69,177	70,725	72,588	74,547
Demand	65,020	69,177	70,725	72,588	74,547
Difference	0	0	0	0	0

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Minimum Lake Mendocino Storage, ac-ft

Year	Average Year	Single Dry Year*	Multiple Dry Years
2025	61,269	18,787	50,001
2030	60,553	18,050	49,240
2035	59,961	17,525	48,278
2040	59,792	17,282	48,534
2045	59,007	16,764	47,045

*Single dry year reliability significantly improved since 2015, due to forecast informed reservoir operations (FIRO)

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Minimum Lake Sonoma Storage, ac-ft

Year	Average Year	Single Dry Year*	Multiple Dry Years
2025	178,645	61,628	156,597
2030	175,308	62,497	148,040
2035	173,333	59,620	146,977
2040	171,184	56,333	146,369
2045	168,987	52,905	140,058

*Storage levels below 100,000 ac-ft will require 30 percent reduction in diversions

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Transmission System Modeling:

Assess Timing & Need for New Projects

- Performed using Sonoma Water's hydraulic transmission system model
- Peaking factors developed based on historical water demand
- Timing for new projects based on storage tank levels declining below 50 percent full during a 5-day peak demand period
- Projected increased water demand developed over the planning horizon assigned to specific aqueducts where land use planning information was available

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Future Water Supply Projects

Project name	Planned Implementation Year
South Transmission System Section 1	2030
South Transmission System Section 2	2035
Mirabel West Wells	2035

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Drought Risk Assessment - Methodology

- Assesses reliability under a hypothetical five-year drought (2021-2025)
  - Starts with Oct. 1, 2020 actual storage levels and simulates five driest consecutive years on record (1987-1991)
  - Utilizes 2025 customer demand projections to be conservative (2021-2024 demands expected to be lower)

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Drought Risk Assessment - Results

- Sonoma Water has sufficient supplies to meet demand in all DRA years

	2021	2022	2023	2024	2025
Supply	65,020	65,020	65,020	65,020	65,020
Demand	65,020	65,020	65,020	65,020	65,020
Difference	0	0	0	0	0

Note: Although the DRA is modeled after the five driest consecutive years on record (1987-1991), actual hydrologic conditions in 2021 have been closer to the driest single year on record (1977).

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Water Shortage Contingency Plan

Shortage Levels and Response Actions			
Shortage Level	Percent Shortage Range	Demand Reduction Actions	Supply Augmentation Actions
1	Up to 10%	• Notification of potential water shortage • Encourage voluntary demand reduction	
2	10 - 20%	• Encourage enhanced voluntary demand reduction measures	• Encourage wholesale customers to maximize use of local supplies • Maximize use of Sonoma Water's groundwater wells
3	20 - 30%	• Imposition of Section 3.5 allocations	
4	30 – 40%	• Petition SWRCB for temporary relief from minimum in-stream flow requirements • Implement measures identified in Section 3.5e of Restructured Agreement	
5	40 – 50%	• Implement measures identified in Section 3.5e of Restructured Agreement	
6	>50%	• Implement measures identified in Section 3.5e of Restructured Agreement	

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Annual Supply and Demand Assessment

- To be prepared and submitted to DWR annually by July 1 (starting in 2022)
- 2020 UWMP includes procedures for conducting the annual assessment
  - Key data inputs: unconstrained customer demand, Russian River operations, hydrology and watershed conditions, Potter Valley Project inflows, weather forecasts and historical hydrological records

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Public Outreach and UWMP Adoption

- City and County 60-day notification
- Email notice
- E-News, Social Media, Website
- TAC Ad Hoc meetings
- Coordination with GSAs
- Public hearing
- Adoption by governing body
- Submittal to DWR, State library, and cities/counties plus public availability

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Next Steps

- Public hearing
- Plan adoption

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