



Strategic Water Supply Assessment

COMMUNITY WORKSHOP #1

March 9, 2022



Workshop Agenda: Strategic Water Supply Assessment

- Background
- Project Overview
- Assessment & Process
- Public Engagement
- Q&A

Background

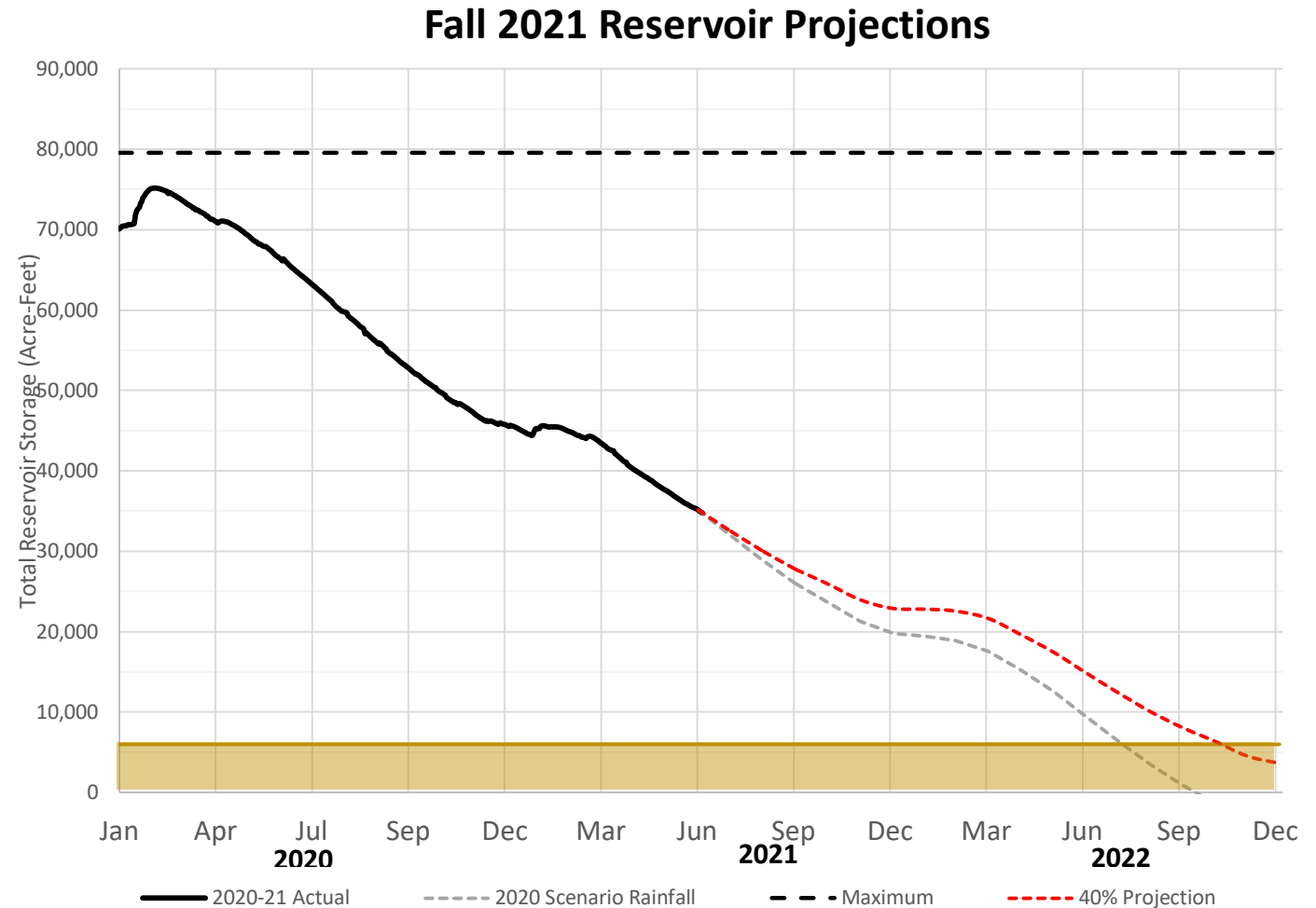
Background: Strategic Water Supply Assessment

- Marin Water has met demands during periods of extreme drought with a combination of rationing, conservation, and increased Sonoma Water supplies
- However, recent drought conditions that severely threatened water supply reliability have prompted MMWD to explore various water supply options to enhance resiliency for its customers



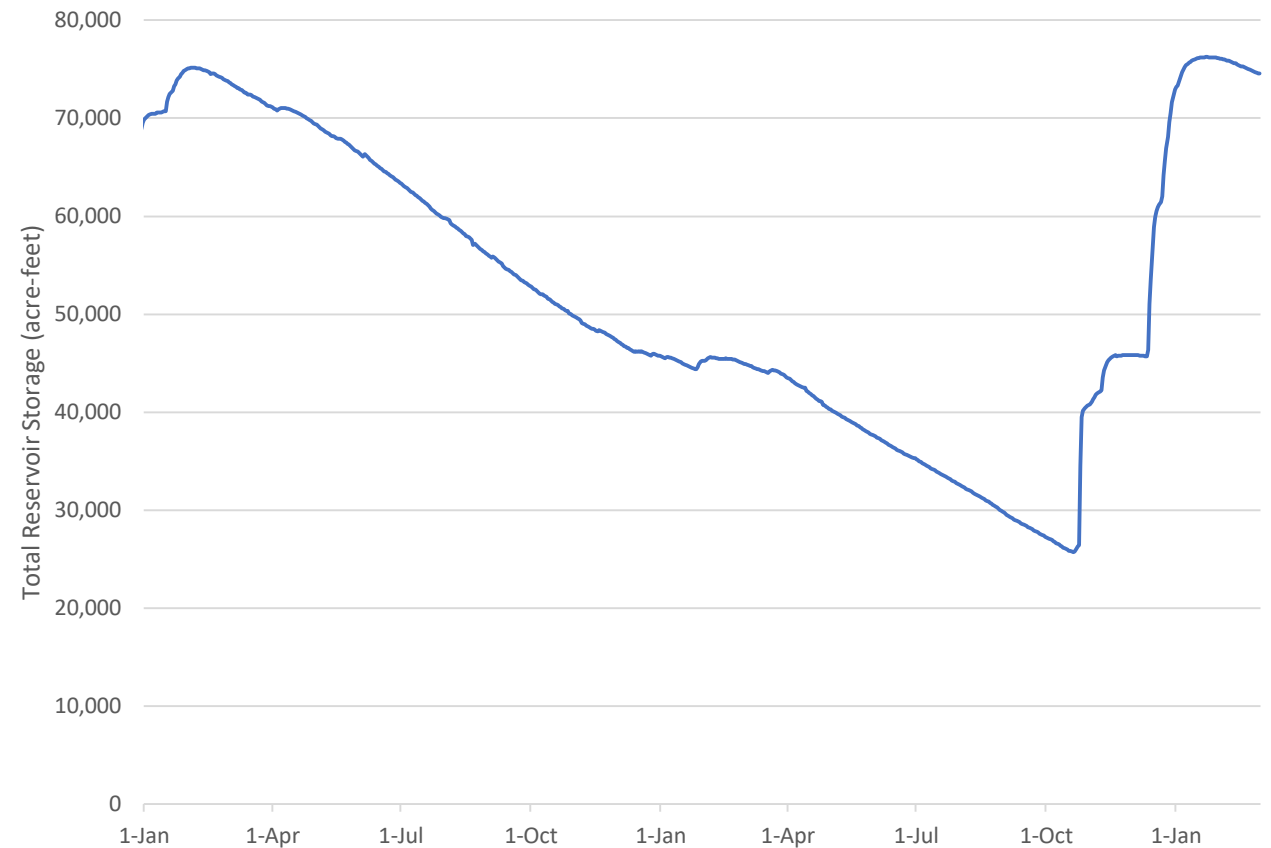
Background: Strategic Water Supply Assessment

- Severe drought conditions over the past two years
- Reservoir levels dropped historically low
- Planning for an emergency water supply



Background: Strategic Water Supply Assessment

- Exceedingly high rainfall totals in October & December
- Storage levels have improved drastically:
 - Storage levels 106% of historical average for February
 - Approximately 2 years supply in the reservoirs



Water Supply Assessment: A Roadmap

- Support District's near-term and long-term investments to enhance drought resiliency
- Roadmap laying out best opportunities to pursue and when
- Public engagement is central component of project

Project Overview

Water Supply Assessment: Project Overview

- Strategic Water Supply Assessment will be additive to past planning efforts and is designed to fill in the gaps on water supply alternatives
- Comparative analysis of water supply options available to MMWD and provide recommendations on a strategic water supply roadmap
- Respond to accelerated pace of climate change and greater hydrologic extremes than those that have occurred in the past

Water Supply Assessment: Project Overview

The Assessment will address the following questions:

1. What is the current risk to MMWD's water delivery reliability under recent and projected future droughts?
2. How much additional water supply is needed under different future hydrologic drought and demand scenarios?
3. What are the range of water supply alternatives that could increase resiliency of MMWD's system? And what are their strengths and weaknesses?
4. What recommendations can be developed to support MMWD's near-term investment in drought resiliency?

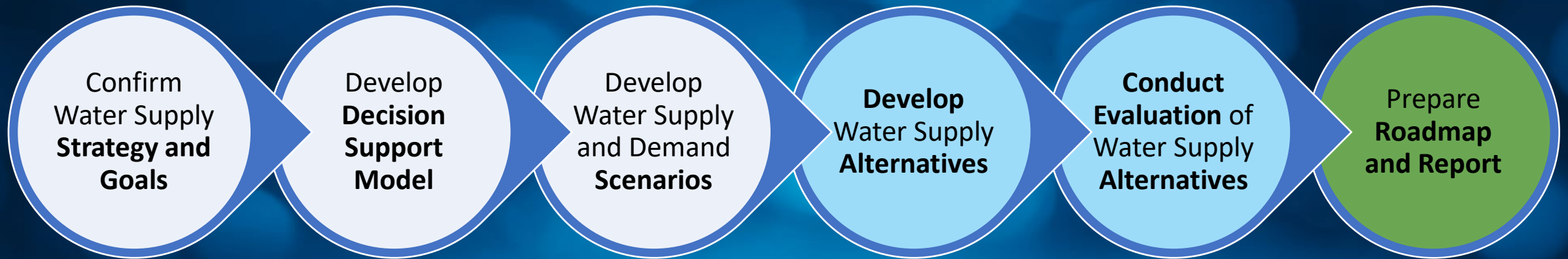
Process for Assessment

Key Project Scope Elements

Understanding Current Risks & Establishing Goals

Identifying & Evaluating Alternatives

Recommendations
& Path Forward

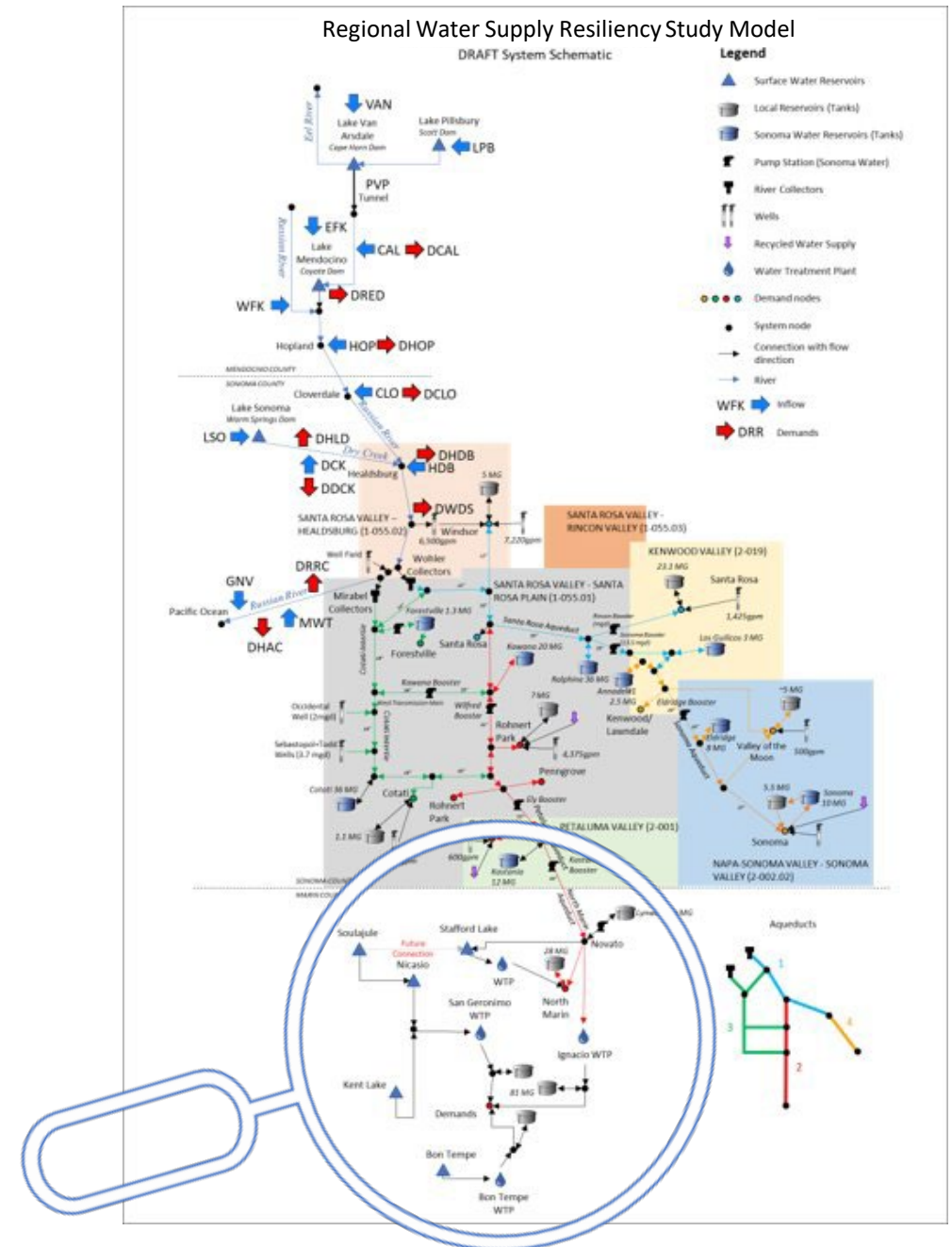


Confirming Water Supply Strategy and Goals

- Articulate the District's long-term water supply strategy and goals
- Identify specific goals and measures of performance
- Develop principles to guide the water supply assessment
- Support communicating the strategic assessment and recommendations

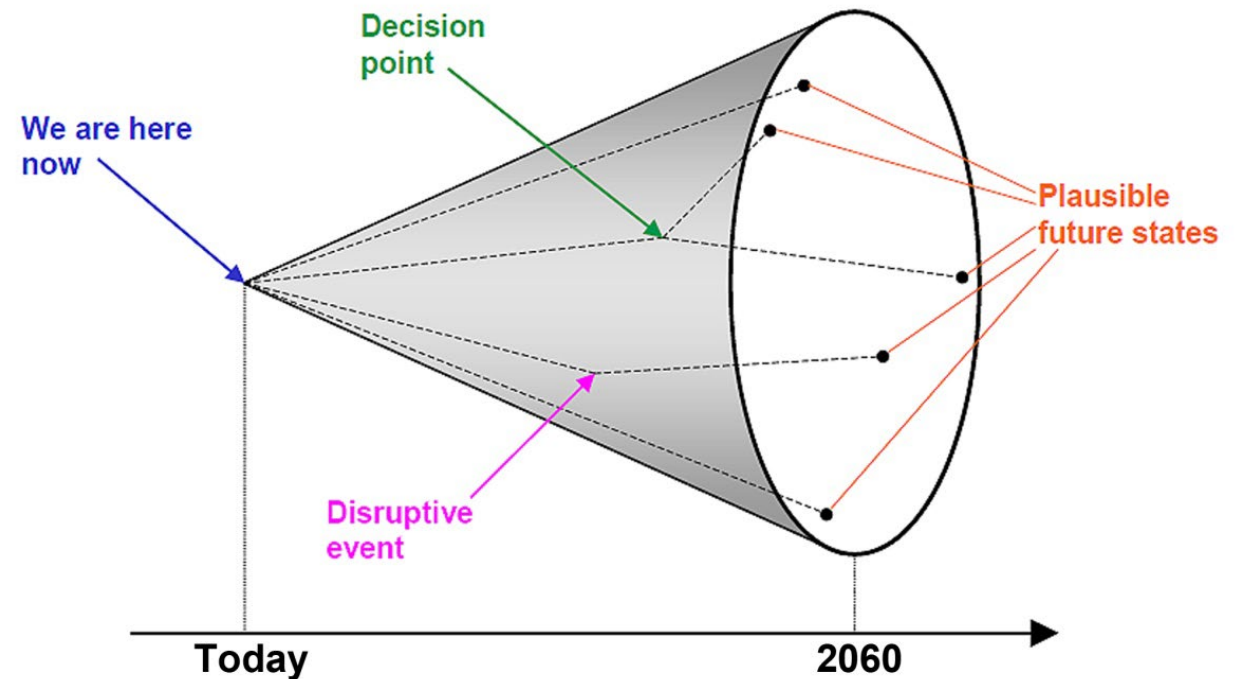
Decision Support Model

- Regional and local system model for evaluating water supply resiliency
 - System infrastructure, hydrology, demands, operations
- Updating decision support models
 - Sonoma Water and Marin Water models
- Adding detail necessary to support option evaluations
- Test system performance under various scenarios and water management alternatives
- Suggest system improvements to improve resiliency



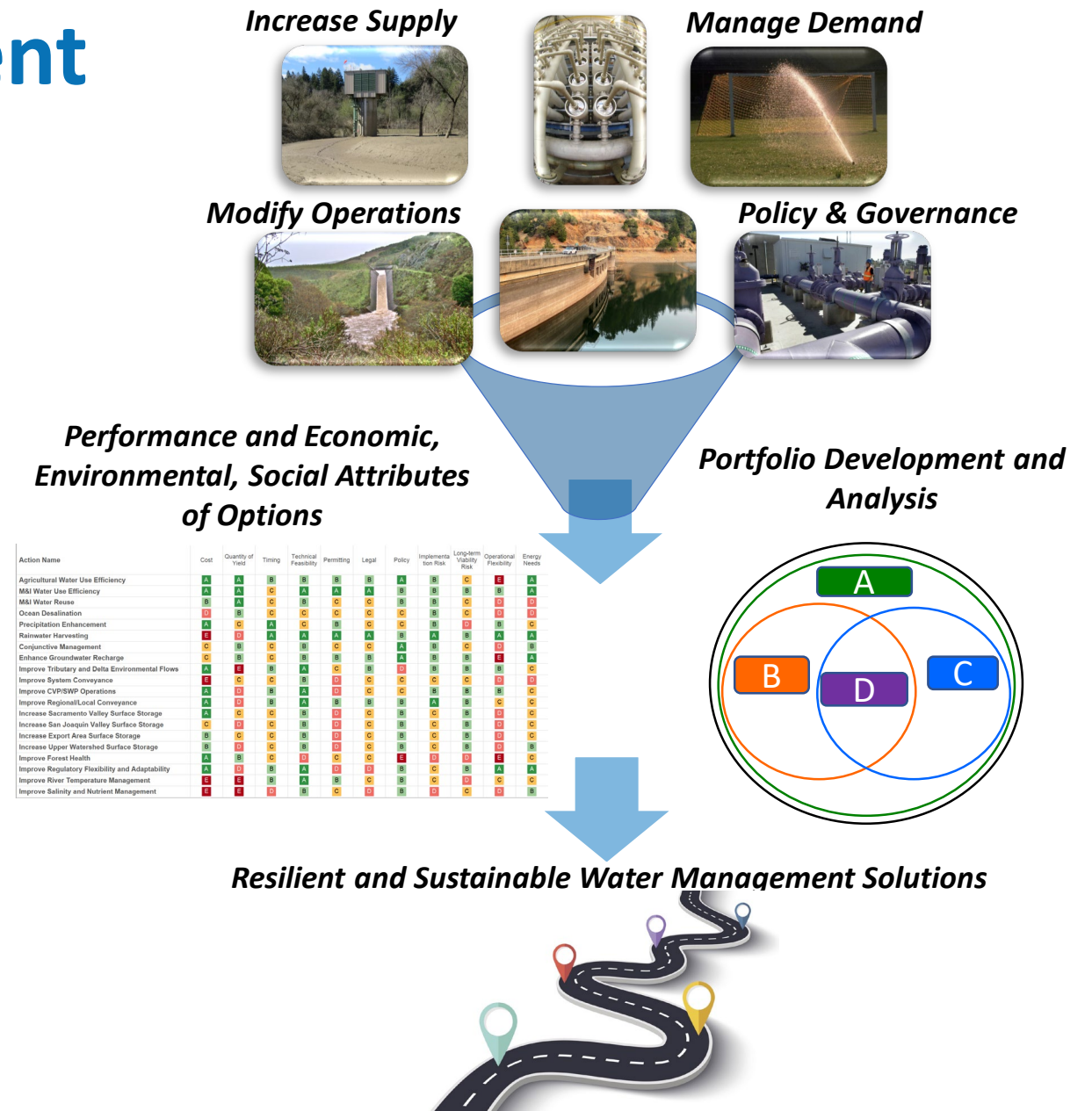
Water Supply and Demand Scenarios

- Recognizing that future is uncertain
 - Climate change
 - Drought variability
 - Demands
 - Policies and regulations
- Seeking robust solutions
- Scenarios allow us to explore plausible future conditions and identify promising solutions
 - Historical droughts
 - Climate projections
 - Paleo reconstructions
 - Stress tests



Water Supply Assessment Process

- Consider a broad range of water management alternatives
- Identify most promising alternatives
- Evaluate alternatives for performance and other economic, environmental, and social criteria
- Explore strategic combinations of alternatives
- Develop roadmap with specific project, pathways, and triggers to achieve resilient and sustainable solutions



Initial Water Management Strategies to Be Considered

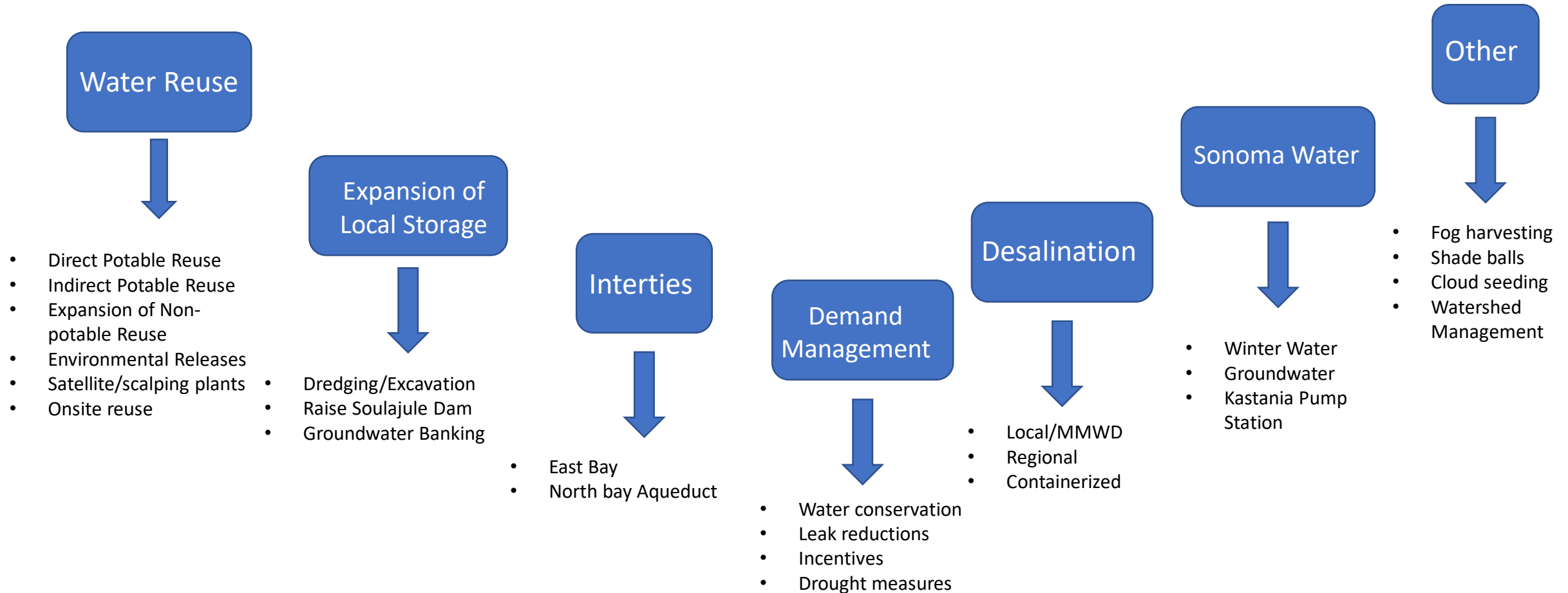
- Baseline – Existing water supply system with planned improvements
- Water Shortage Contingency Plan Drought Conservation Scenario
- Water Purchases with Conveyance through East Bay Intertie
- Desalination in North Bay
- Sonoma Water Options
- Increase Local Surface Storage
- Expand Recycled Water

Schedule and Outreach Overview

- March 9 Public Workshop #1
- March-April Strategy, model updates, scenarios
- April-May Water supply alternatives development
- May/June Public Workshop #2
- June Alternatives evaluation
- July Roadmap and report preparation
- July/August Public Workshop #3

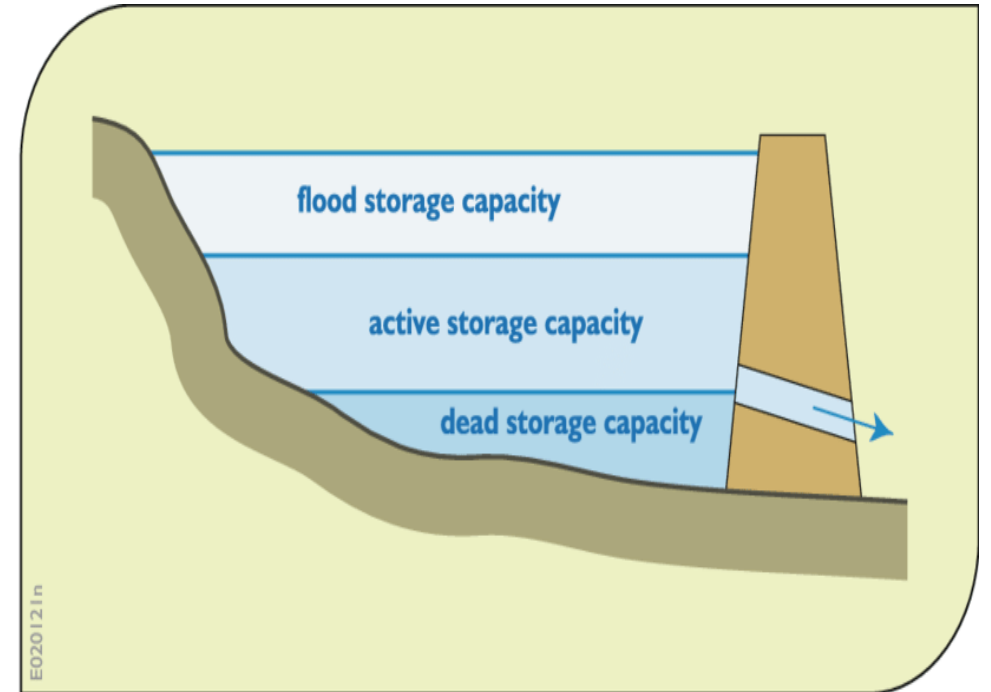
Water Supply Options

Long Term Water Supply Options



Water Supply Assessment: Expand Local Storage

- Review availability of excess runoff in watersheds
- Regulatory/environmental approvals for the dredging or excavation work
- Requires new water rights



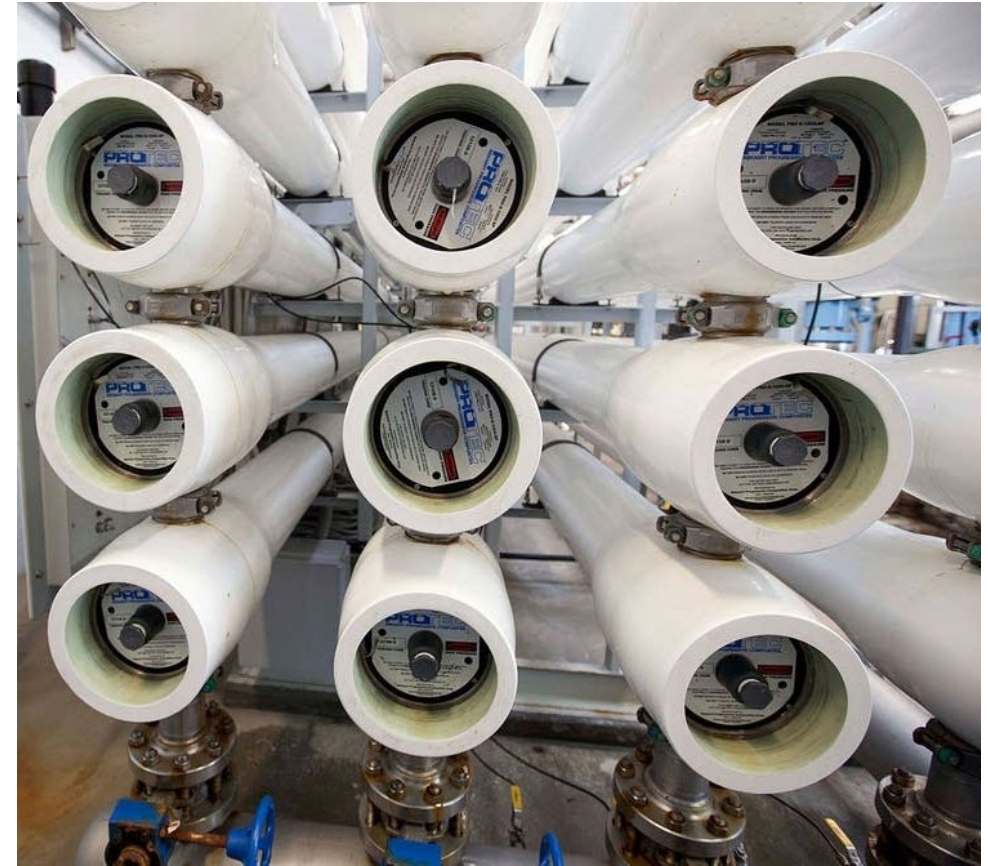
Water Supply Assessment: Sonoma Water Options

- Winter Water – stream flow above requirements as a result of precipitation events in the Russian river watershed. Evaluate dedicated conveyance to reservoir for storage.
- Groundwater well rehabilitation – increases available water in dry years
- Aquifer storage and recovery – utilizing wet year water supply to store underground and retrieve at during droughts



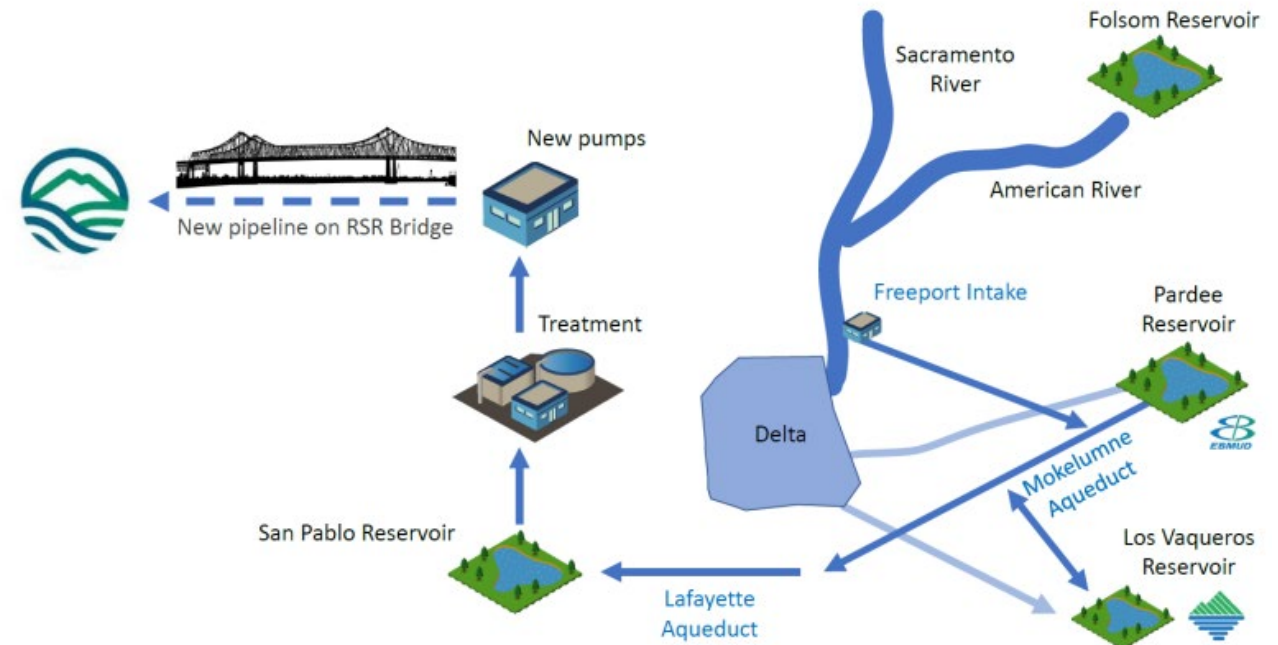
Water Supply Assessment: Desalination

- Regional East Bay Location – requires intertie, plant costs shared
- Regional North Bay Location – explore options for partnership with North bay water agencies
- Local desalination – Marin Water owned and operated



Water Supply Assessment: Interties

- Connect to East Bay or across North Bay aqueduct
- Construction of pipeline and pumping facilities
- Multiple complex agreements and regulations
- Wide array of stakeholders



Water Supply Assessment: Water Reuse Options

- Recycled Water – expansion of existing system (Peacock Gap in design)
- Indirect Potable Reuse (IPR) – highly treated water pumped through reservoir system (e.g. Kent Lake)
- Direct Potable reuse (DPR) – highly treated water directly to customers
- Environmental releases – highly treated water to watershed



Water Supply Assessment: Other

- Identify and evaluate alternate water supply technologies & innovative concepts:
 - Fog Capture
 - Cloud Seeding
 - Watershed Management – selective removal of certain types of vegetation to increase runoff

Water Supply Assessment: Demand Management

- Continue our long-term efforts in water use efficiency
- Enhanced programs and initiatives such as non-functional turf
- Leak Detection – Evaluate new technologies

We are in a severe drought.
Save water with help from our rebates. Every drop counts.

Cash for Grass
Now is the time to replace your thirsty lawn. We're offering \$3 per-square-foot of lawn removed through October 2021. We also offer a free sheet mulching program.

Flume Flow Meter
Install a Flume flow meter to access real-time water use data on your phone or computer. It's easy to install and straps on to most existing water meters. It can help you find leaks and new ways to save water.

Graywater
Reuse water from your washing machine for your garden with a laundry-to-landscape graywater kit. We partnered with The Urban Farmer Store to offer a \$100 discount.

Hot Water Recirculator
To reduce water waste while you wait for the water to warm up, we recommend installing a hot water recirculating system. The district offers a \$50 rebate to help offset the cost of the system.

Pool and Spa Covers
An uncovered pool will lose water due to evaporation. Marin Water offers a rebate of up to \$100 for customers who purchase and install pool or spa covers.

Clothes Washer Rebate
Replacing your older clothes washer with a new high-efficiency model is an easy way to save money and conserve water. You may qualify for a rebate of up to \$100.

For water-saving tips, water-efficient fixtures, and additional resources visit:
MarinWater.org/Conserve

Public Engagement & Next Steps

Public Engagement

- Project Information
 - marinwater.org/WaterSupplyResiliency
- Next Workshops
 - 2 more: May/June & July/August timeframe
- Marin Water e-News:
 - Sign up: marinwater.org/e-News
- Board Meetings
 - Receive meeting notifications:
marinwater.org/get-notifications

The screenshot shows the 'Water Supply Resiliency' page on the Marin Water website. The page features a navigation bar with links to Customer Services, Your Water, Mt. Tam Watershed, Education and Outreach, Board of Directors, and About Us. The main content area is titled 'Water Supply Resiliency' and includes a sub-header 'Improving our water supply security to address the impacts of climate change'. Below this, there is a paragraph explaining the district's focus on augmenting its water supply through new sources and strengthening existing systems. A section titled 'Message from Our Board President' includes a link to 'Read Letter'. The 'Strategic Assessment' section outlines the district's 5-month strategic assessment of various water supply projects. Below this, there are three columns: 'Assessment Information' (listing Board Approval of Assessment, Item 9, and Scope of Work), 'Projects to be Assessed' (listing Intertie (Richmond)/San Rafael Bridge Pipeline, Winter Water from Sonoma Water, Local Storage Expansion, Desalination, and Water Reuse), and 'Public Engagement' (listing three community workshops with dates TBD). The 'About Our Water Supply & Usage' section provides details about the district's water supply, including its 100 percent locally sourced drinking water and the total of 75 percent captured and stored in the district's seven reservoirs. At the bottom, there is a section titled 'A Note about Water Conservation' with a link to 'Learn More About Those Efforts'.

Water Supply Resiliency

Improving our water supply security to address the impacts of climate change

Severe conditions brought on by the drought over the last several years have intensified the district's focus on augmenting its water supply through new sources as well as strengthening existing systems to increase storage capacity and maximize supply, if and where possible. The efforts outlined below will help the district ultimately determine which options are viable, affordable, and make the most sense for our community and the region. This webpage will be periodically updated as there is new information to share.

Use the buttons below to jump to a section on the page:

[Strategic Assessment](#) [About Our Water Supply & Usage](#) [A Note about Water Conservation](#)

Message from Our Board President

Read this letter from President Larry Russell which outlines the District's commitment to improving water supply resiliency to address climate change.

[Read Letter](#)

Strategic Assessment

The District has initiated a 5-month strategic assessment of various water supply projects that could supplement community needs in times of future shortages. The effort is intended to:

1. Build on extensive previous water supply planning efforts and incorporate new options
2. Evaluate current risk to District's water delivery reliability under recent and future extended drought scenarios
3. Determine a timeline for developing alternative water supplies to maintain resiliency

Assessment Information

- Board Approval of Assessment (Item 9)
- Scope of Work

Projects to be Assessed

- Intertie (Richmond)/San Rafael Bridge Pipeline
- Winter Water from Sonoma Water
- Local Storage Expansion
- Desalination
- Water Reuse

Public Engagement

- Community Workshop #1 Wed, 3/9, 5-7 p.m.
- Community Workshop #2 Date TBD
- Community Workshop #3 Date TBD

About Our Water Supply & Usage

The district provides 100 percent locally sourced drinking water to its 191,000 customers. A total of 75 percent of that water supply is captured and stored in the district's seven reservoirs, which include Phoenix, Lagunitas, Bon Tempe, Alpine and Kent on Mt. Tamalpais, and Nicasio and Soulajule in west Marin. Together, these reservoirs hold 79,566 acre-feet of water, or about 30 billion gallons. The remaining 25 percent of our water supply comes from neighboring Sonoma County's Russian River water system.

[Our Reservoir Levels & Rainfall](#) [Sonoma Water Supply Levels](#) [Customer Usage](#)

A Note about Water Conservation

While this web page is dedicated to augmenting the district's water supply, in tandem, the district is also working toward long-term customer conservation programs and policies that focus on areas where it is most reasonable and impactful to reduce water waste that places higher demand on the system.

[Learn More About Those Efforts](#)

Q & A