Introduction to the 2020 Integrated Water Resources Plan

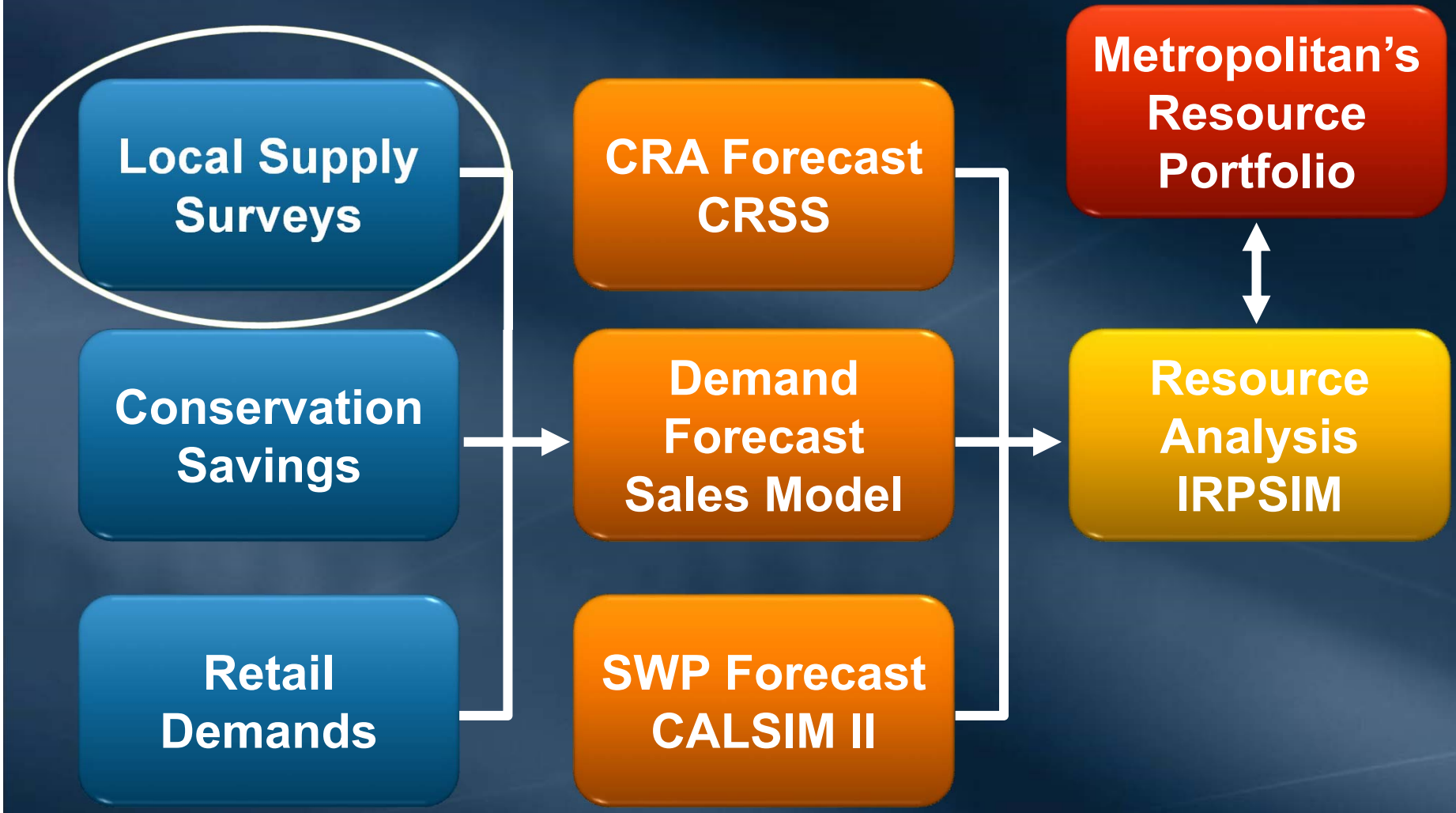
Member Agency Manager Meeting
February 14, 2020

Overview

- Data requested of member agencies
- Preview of IRP Committee presentation
  - Review full planning cycle of past IRP efforts
  - Introduce 2020 IRP approach
    - Identify policy areas for discussion
    - Scenario planning
- Feedback

Member Agency Data Request

Metropolitan's Planning Models



Goal of Local Supply Survey

- Annual Local Production Survey
  - Historical production data
    - Groundwater, surface water, Los Angeles Aqueduct, groundwater recovery, recycling, and seawater desalination
- Local Project Survey
  - Verify comprehensive local project inventory
  - Account for all local projects regardless of stage

Status of the Local Supply Survey

- Surveys sent Spring 2019
  - Staff representatives met with agency staff
  - Regular follow-up
- Surveys received
  - 18 responses
    - More detail needed
  - 8 agencies have not responded
- Entering final stage of data collection
- Opportunity to provide updated information

IRP Preview

The IRP is a plan for providing reliable water for the next 25 years

Identifies and aligns regional and local needs, priorities, resources and opportunities

IRP informed other plans and policies

Conceptual Areas of Effort

Water Supply Reliability

System Resilience

Emergency Preparedness

Fiscal Responsibility

Conceptual Flow of Activities

IRP

Urban Water Management Plan

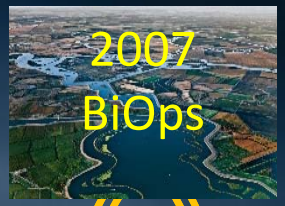
Rate Refinement

System Flexibility Study

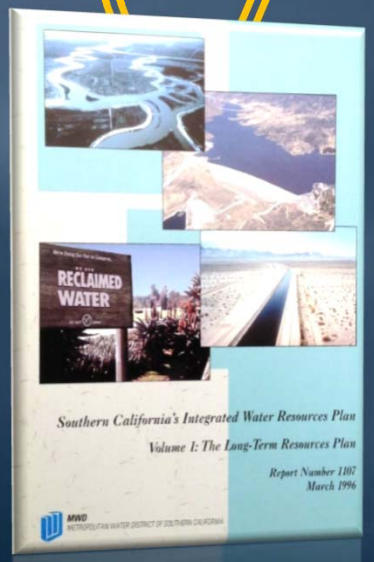
Emergency Storage

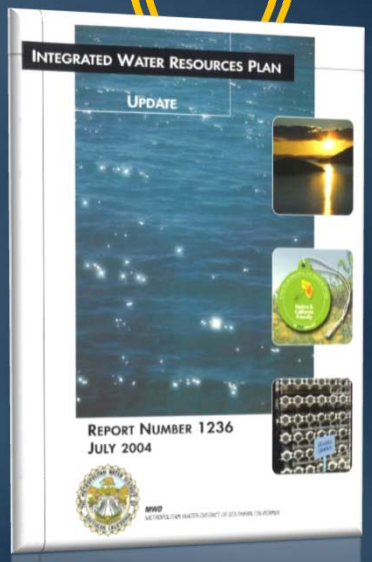
Completion of a Full Planning Cycle

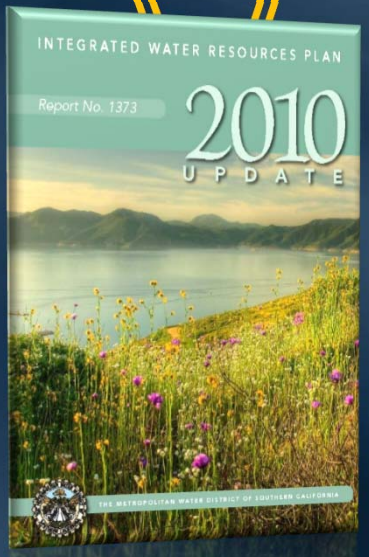
2020 Completes a Full Planning Cycle

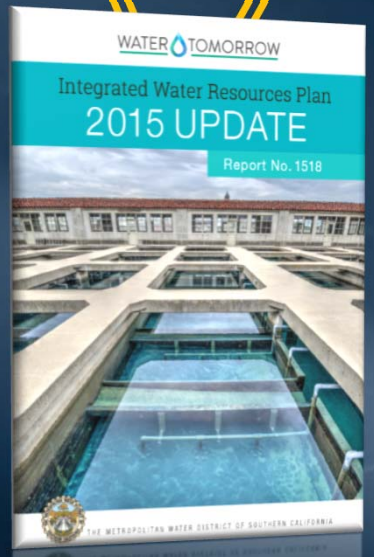


1996 **2004** **2010** **2015**









Lessons from a Full Planning Cycle
What worked well?

- Diversification through water use efficiency and local supply development
  - Reduced the region's dependency on imported supplies
  - Reduced per capita potable use
- Investments in storage
  - Buffered the region from drought
  - Buffered the region from "regulatory shocks"

Lessons from a Full Planning Cycle
What worked well? (cont.)

- Investments in conveyance, distribution, and treatment
  - Increased supply flexibility
- Transfers and exchanges (Colorado River)
  - Reduced dependency on surplus flows
  - Filled Colorado River Aqueduct when needed
- Consumers responded to calls for conservation

Lessons from a Full Planning Cycle

What did not work well?

- State consensus to improve SWP supply reliability
- SWP transfer market never materialized
- Regional investments in local supplies were offset by other losses (groundwater)
- Local supply estimates were overly optimistic

Lessons from a Full Planning Cycle

What did not work well? (cont.)

- The State stepped in despite regional reliability investments
- Demographic assumptions overestimated population growth and associated demand
- Some local areas could not benefit from available imported supplies

We've learned through experience

- IRP needs periodic updating
  - 5-year cycle appears appropriate
  - Each IRP provides opportunity to further incorporate developing conditions and lessons learned
  - Focus on no-regrets, long-term investments with mitigation for short-term disruptions (i.e., resilience)
- Focus on reducing development time for new supplies or conservation savings
  - Future supply actions
  - Legislative & regulatory involvement

2020 IRP Process

Main Objectives of 2020 IRP

- Focus on policy up front in process
  - Utilize simple broad assumptions to tee up policy discussion
  - Technical analysis is updated in the background
- Assessment of uncertainties
- Produce accessible & explicit technical analysis
  - Demands
  - Climate Change
- Expand on adaptive planning approach
- Public outreach

Policy Discussion

Focus on Policy Discussion

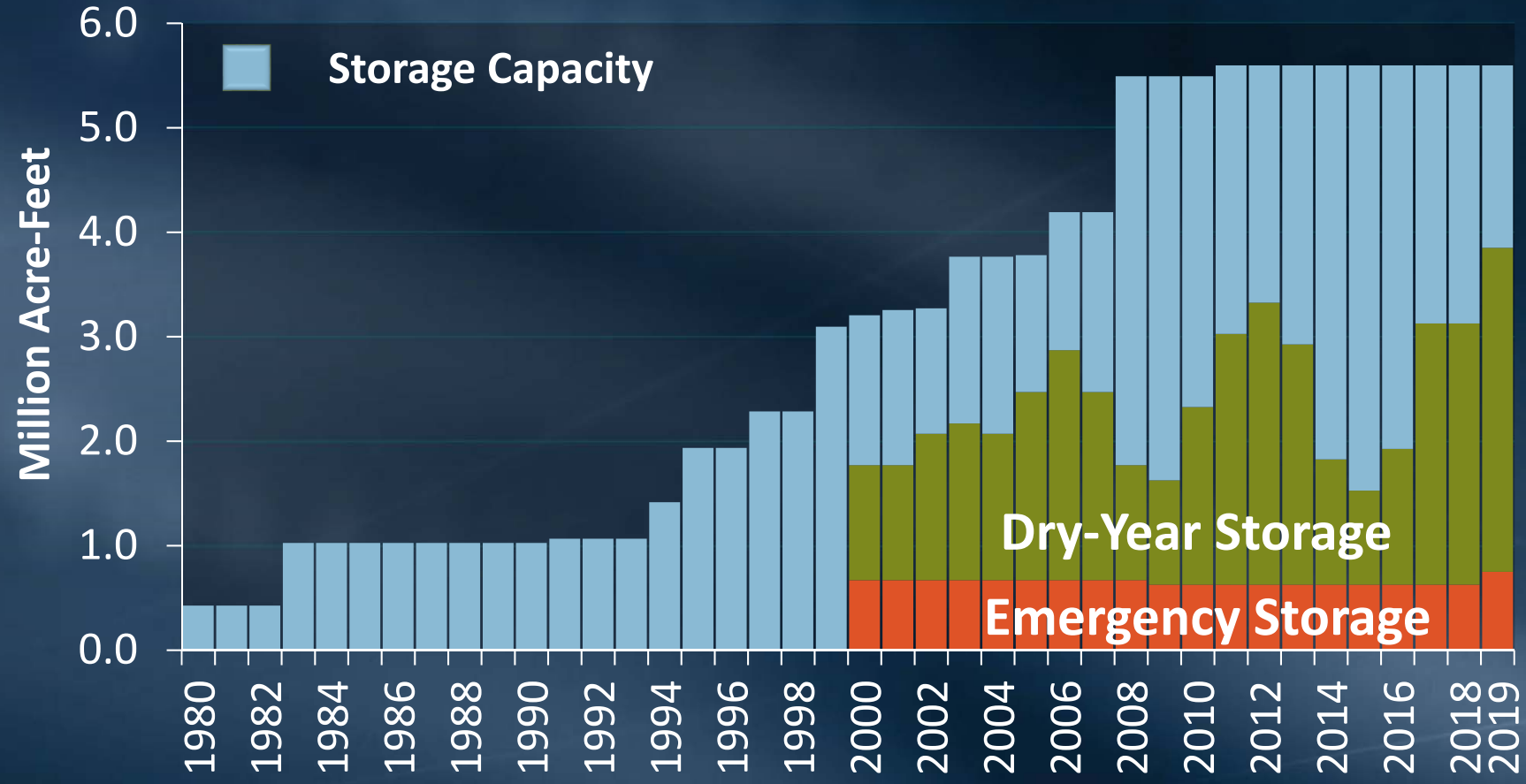
- Clear and understandable reliability goal
- Role in assuring that regional network can be fully accessed by local agencies (resilience goal)
- Role in assisting the region to plan for and comply with water conservation legislation
- How to account for member agency local supply plans and incorporate potential Regional Recycled Water Program

How should we be thinking about our reliability goal today?

- What should be included in a reliability goal?
- Should we identify a more specific goal for water supply reliability?
  - Reduce chance of allocation to <5% in any year?
  - Incorporate consumer response in dry years?
- Should reliability analysis identify targets for regional storage? How much is enough?
  - Spatial analysis
  - Renewal of existing storage/banking programs
  - Framework to evaluate new opportunities

Increased Storage Provided Substantial Benefit to Region

How much storage is desired?



System Flexibility/Resiliency

IRP

Urban Water Management Plan

Rate Refinement

System Flexibility Study

Emergency Storage

Develop a Resilience Goal

Sample Resilience Definitions

- The ability to anticipate, prepare for, and adapt to changing conditions and withstand and recover rapidly from disruptions. (U.S. Presidential Policy Directive #21, 2013)
- The capacity to survive, adapt, and grow no matter what kinds of chronic stresses and acute shocks are experienced (Welsh Water Resilience Framework, 2014).
- The ability to absorb, accommodate, or recover from the effects of a hazardous event in a timely and efficient manner, including through ensuring the preservation, restoration, or improvement of its essential basic structures and functions (SB 45 “Resilience Bond”, 2020)
- The ability of a system to absorb and rebound from shocks (MWD Seismic Resilience First Biennial Report)

IRP Will Address a Potential Crossroads

Prevent Rolling-On

Managing Success (in the near-term)

For illustrative purposes only

IRP Will Address a Potential Crossroads

- How aggressive should we be in developing more local resources?
- Should we encouraging efficiency beyond legislative targets?
- How does a resiliency goal impact development and prioritization of local supplies?

Uncertainties

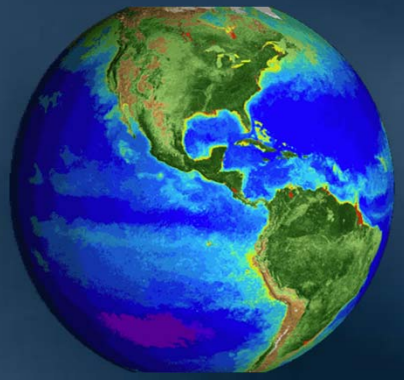
Shared Uncertainties and Challenges

Environmental Regulations

Aging Infrastructure

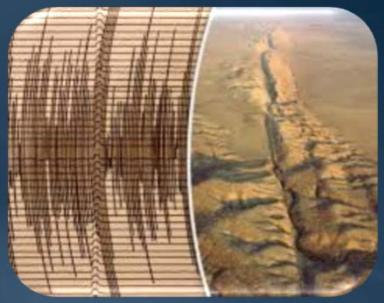
Groundwater Regulatory Uncertainty

Low Demands



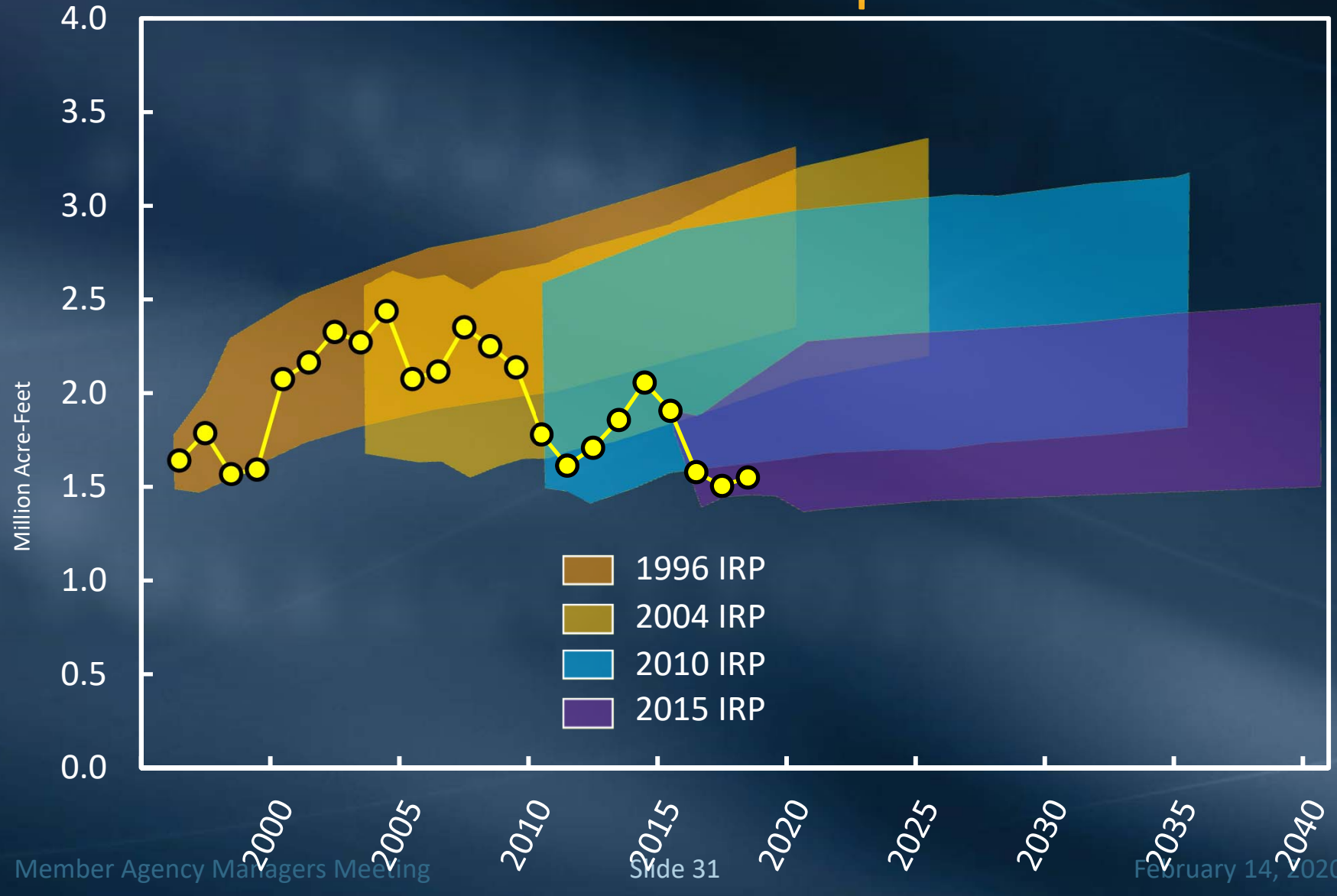
Climate Change

Groundwater Contamination



Seismic Uncertainty

Complete Planning Cycle Provides Insight into Usefulness of Scenarios and Adaptation



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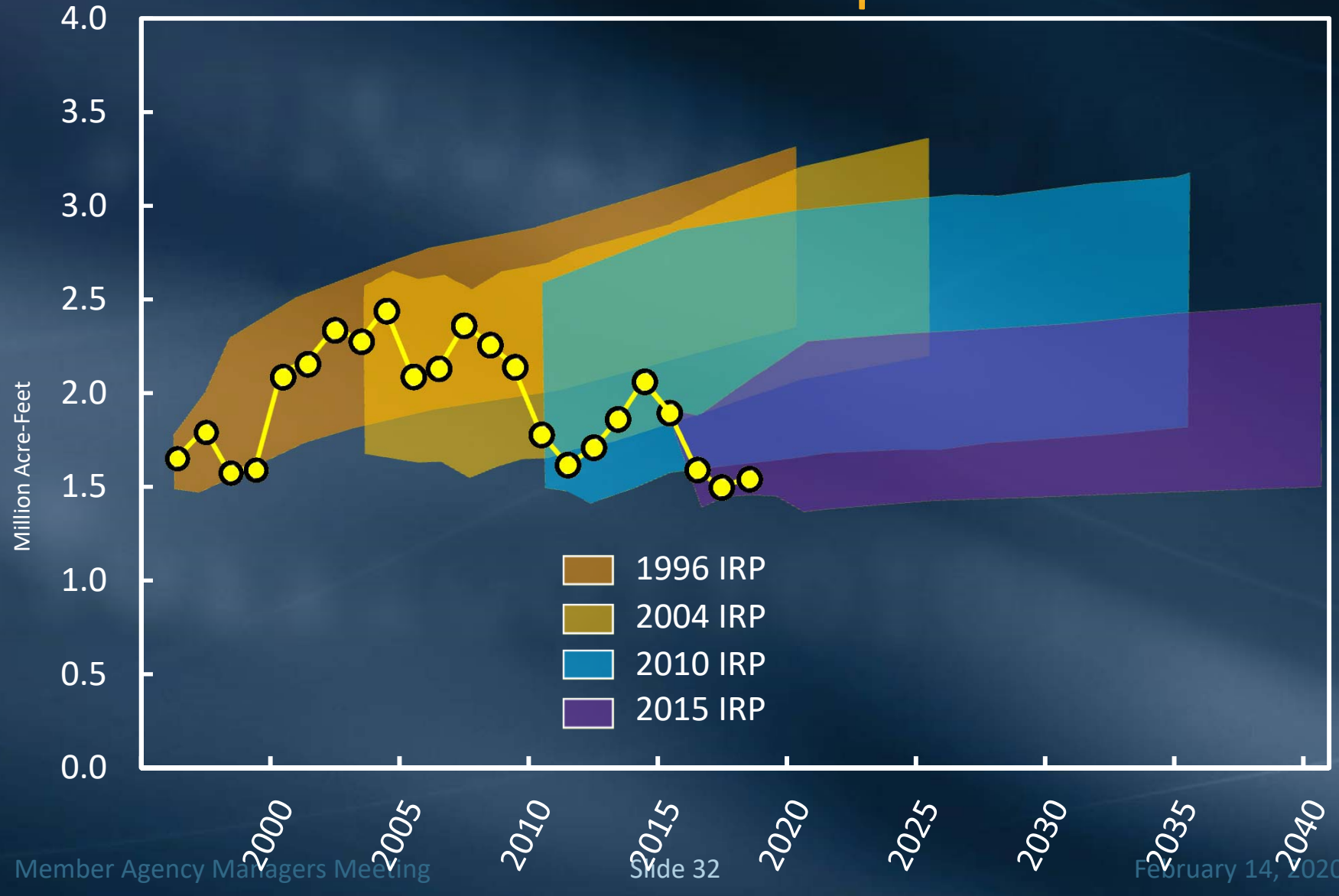

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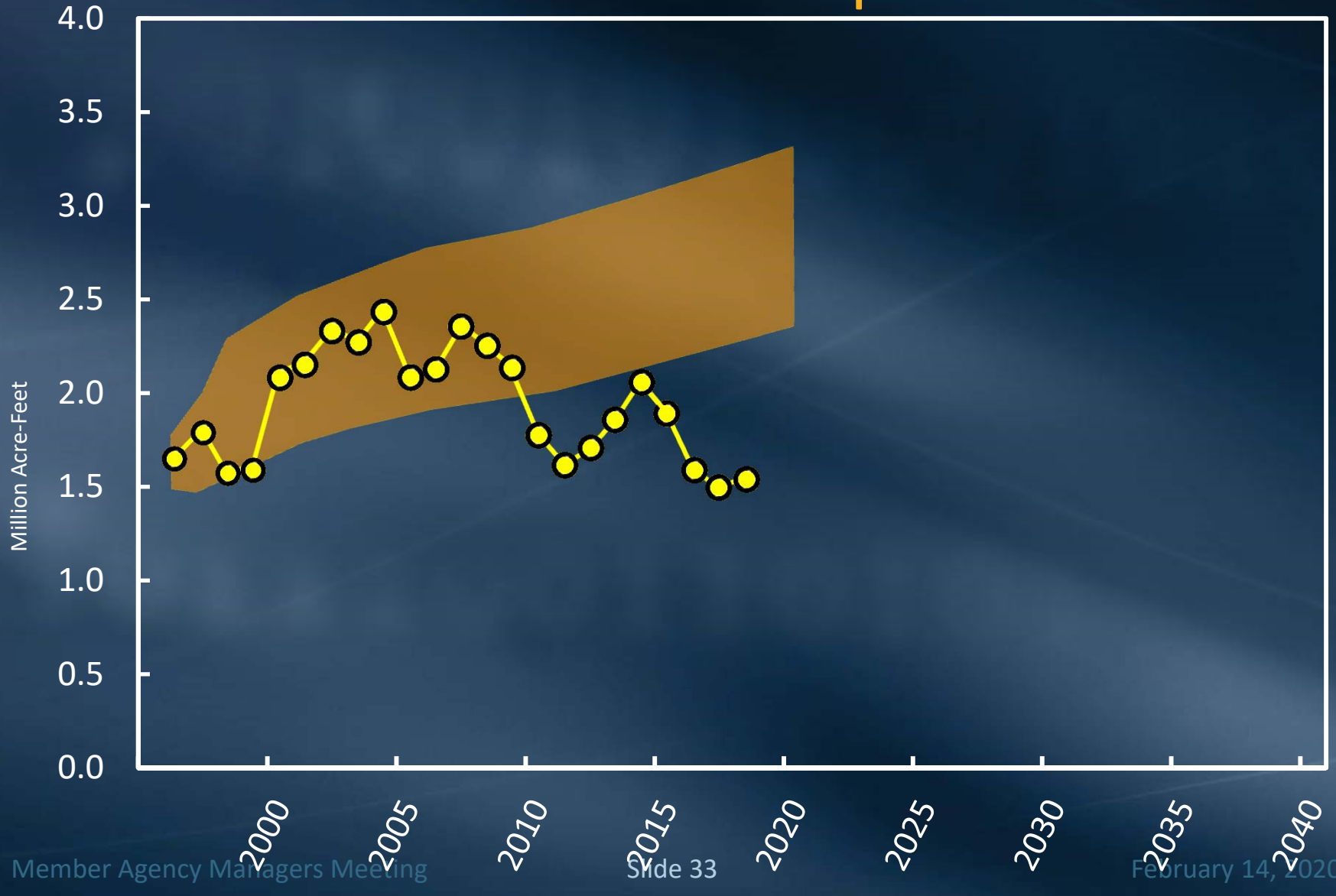
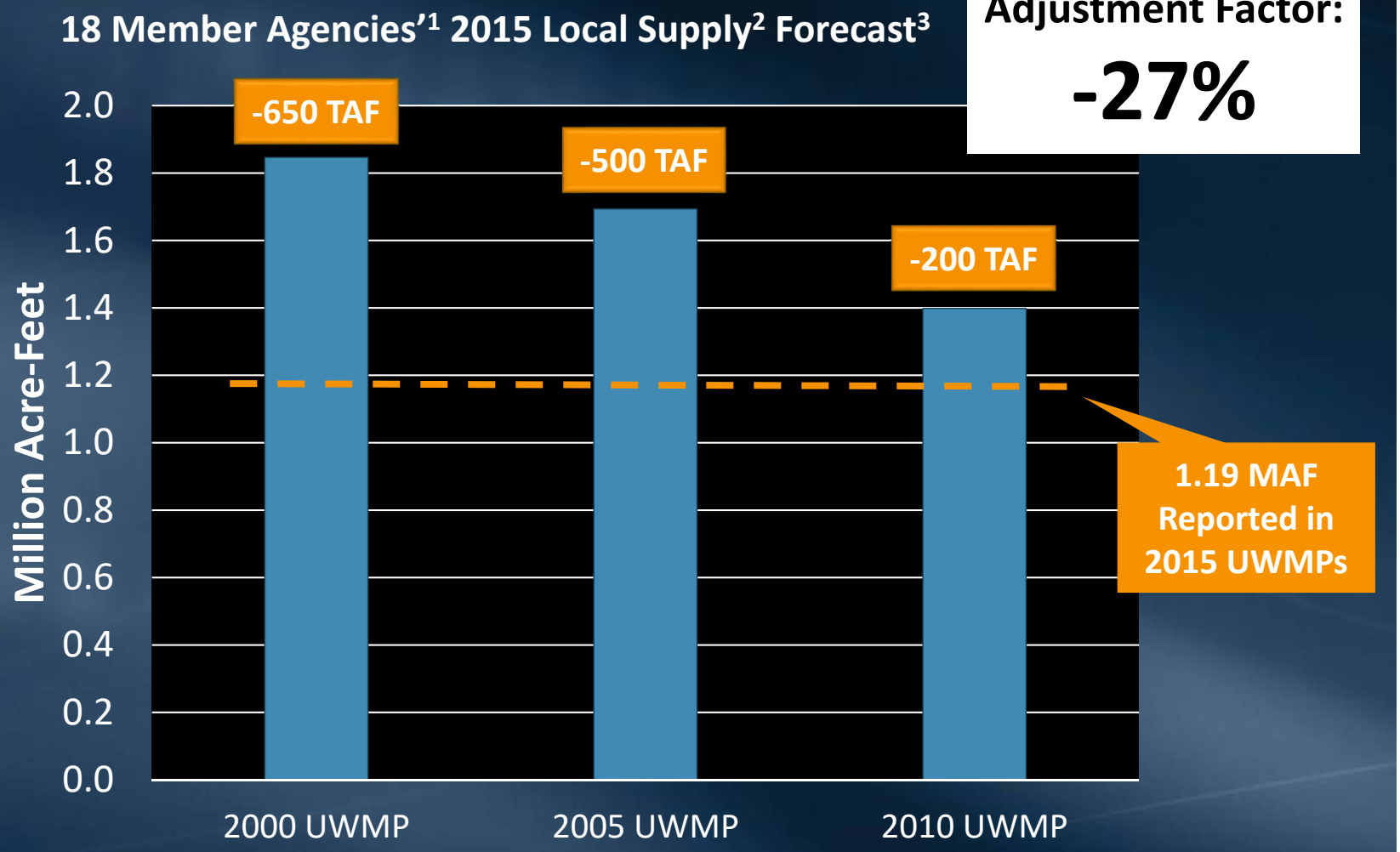


Member agencies tend to overestimate local supply development

Performance Adjustment Factor:

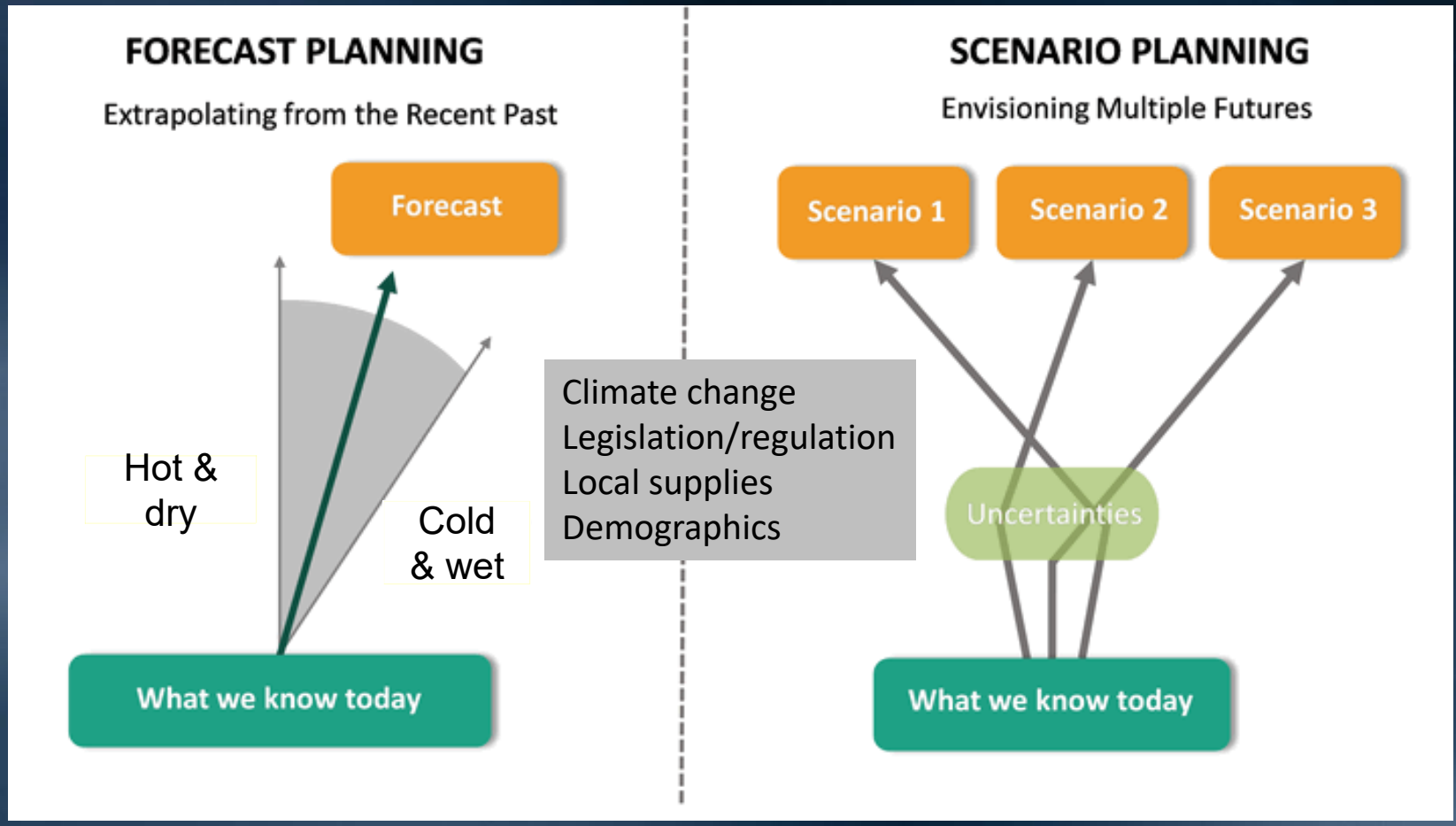
-27%



1. Member Agencies whose UWMPs were available and contained comparable local supply information to their respective 2015 UWMPs
2. Includes Groundwater, Surface Water, Groundwater Recovery, Recycled Water, Los Angeles Aqueduct, and Seawater Desalination supplies.
3. Average year Projection from respective UWMPs

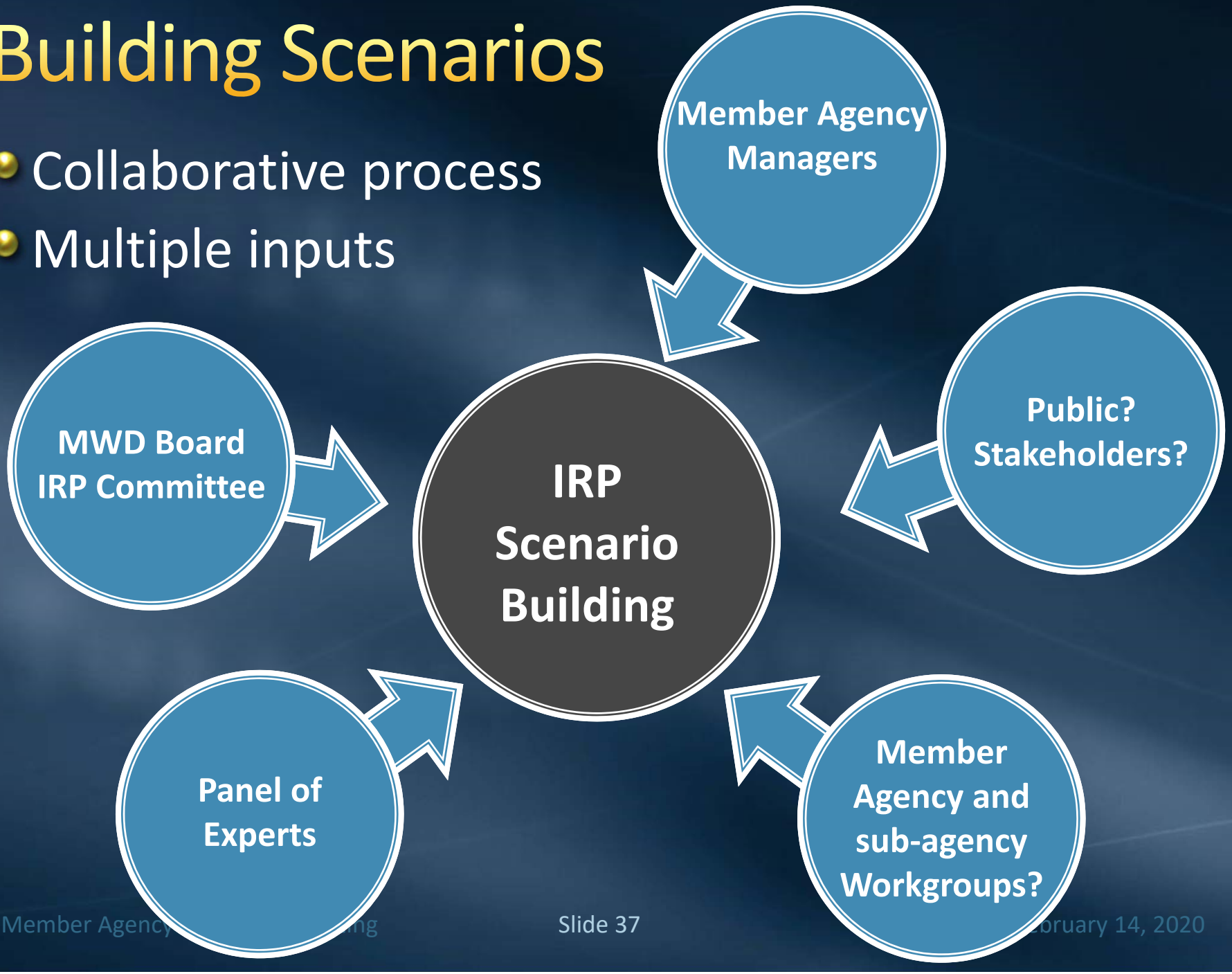
Scenario Planning
Not Predictive Forecasts

How is Scenario Planning Different?



Building Scenarios

- Collaborative process
- Multiple inputs



Consensus on Major Topics

- Link to Urban Water Management Plans*
  - Coordinate with member agencies
  - Ensure consistent local and regional planning assumptions
- Agreement on Local Supply
  - Account for all potential projects and apply a risk factor?
  - Account for projects not yet in construction?
  - Do we need a base case assumption?

**Prior UWMPs only included projects currently operating or in construction*

Produce Accessible and Explicit Technical Analysis

- Clearly construct scenarios
  - Example on demands:
    - Econometric demand model
    - Water-budget demand model potentially truncates the econometric model at limits of water conservation laws
- Use expert panels to inform scenarios
  - Climate change panel
  - Demand estimate panel

Expert Panel: Climate Change

- Inform scenario building process
- Touches every aspect of resource planning
- Bring in a panel of experts
  - State of the science
  - Potential impacts to water supply and how we use water
  - Understanding and choosing climate scenarios
  - How to recognize climate change as it happens

Expert Panel: Retail Demands

- Inform scenario building process
- Bring in a panel of experts
  - Explain why drivers for retail demands no longer having the same impact
  - Consider modeling behavioral changes in how people use water

Outreach

Outreach

- Member agencies, sub agencies, water organizations
- Informed stakeholders, target groups
  - Environmental organizations
  - Business
  - Watershed, flood control
  - DACs
  - Local government
- Citizens

Outreach Approaches

Water Agencies

Work with water organizations

County/subregion

In-person meetings, discussion, opportunities for comment

Stakeholders Target Groups

Shared interest

County/subregion

Facilitated meetings, discussion, opportunities for comment

Civic Involvement

Citizen Panels

General Public, (Random selection)

Charge question to explore

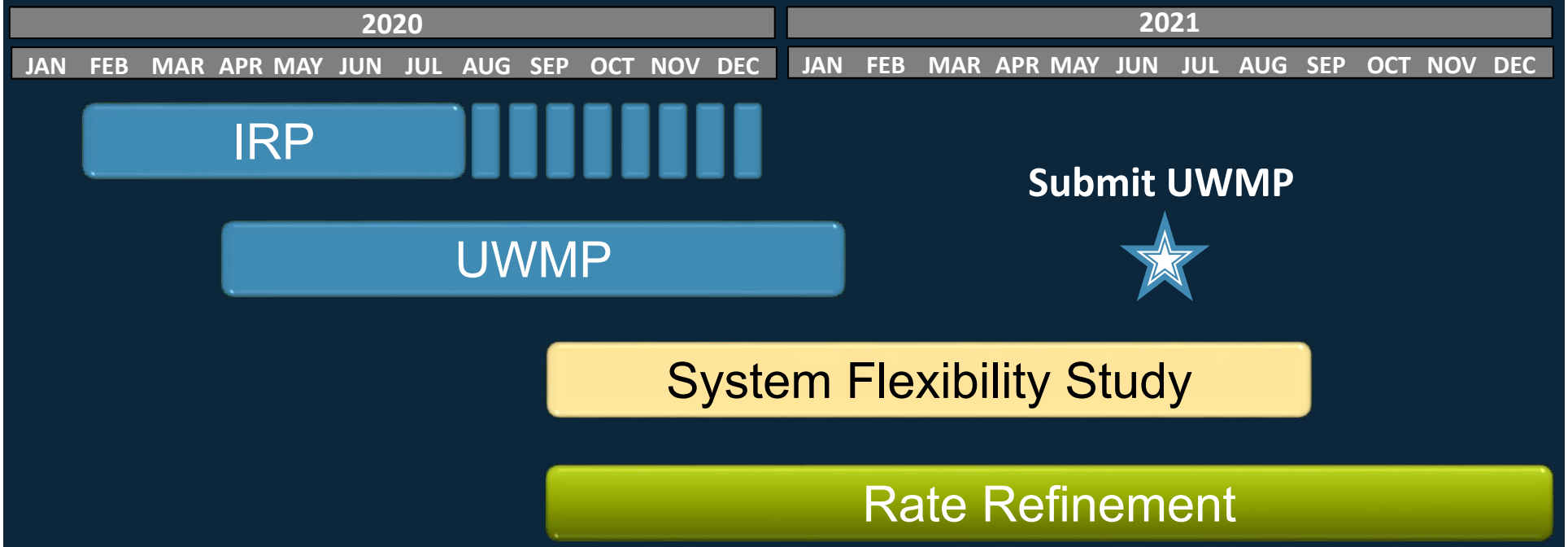
Professional Facilitation

Learn values, preferences

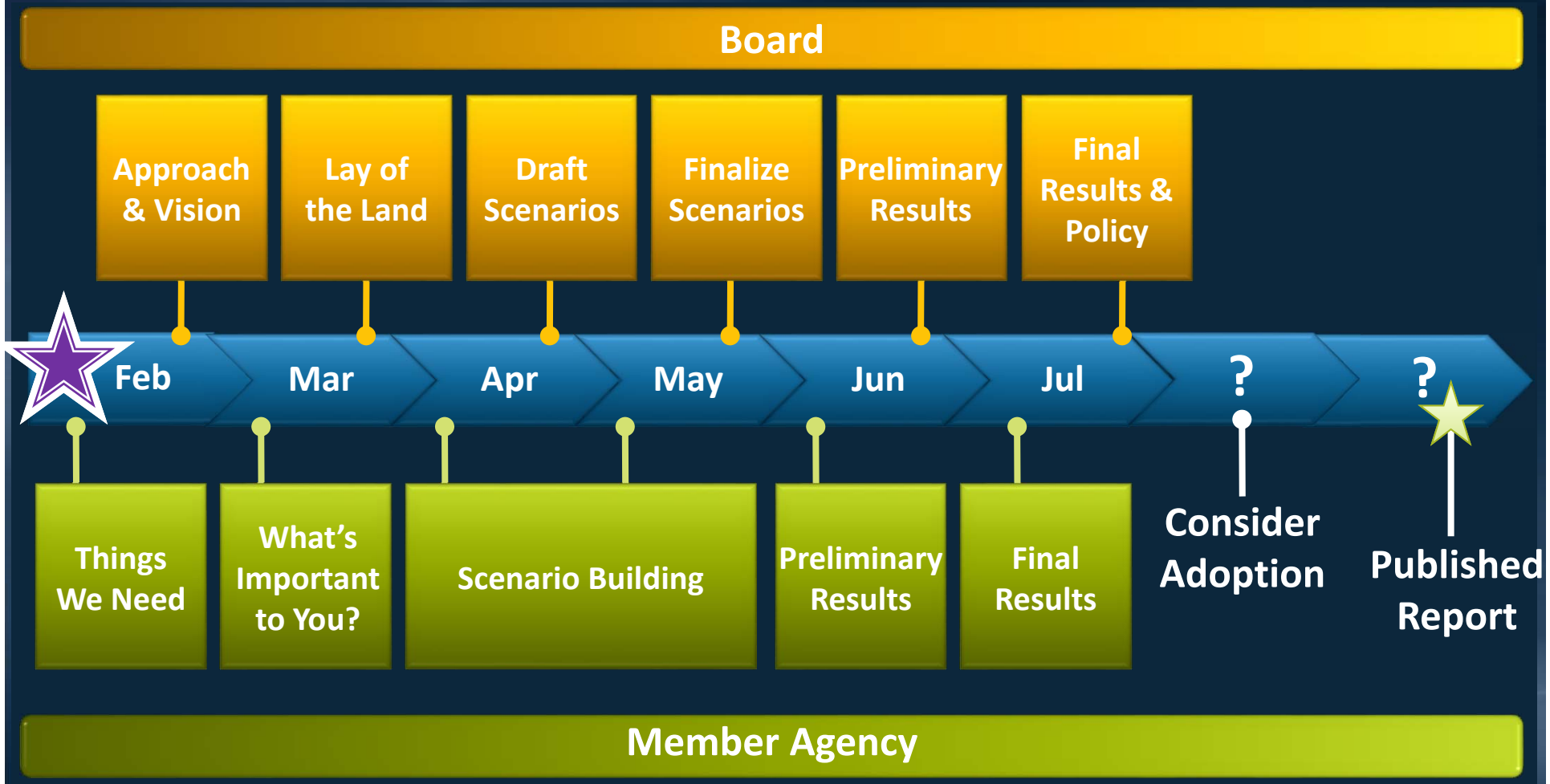
What's Next

Schedule Overview

General sequence of activities



IRP Proposed 2020 Schedule



Next Steps/Feedback

- IRP Committee Presentation on February 25
- Kick-off Technical Process with Member Agencies on March 13
- Feedback


THE METROPOLITAN WATER DISTRICT OF
SOUTHERN CALIFORNIA
1928