2015 Regional Urban Water Management Plan and IRP Update

Kickoff Workshop

April 8, 2015

Workshop Agenda

- Opening Remarks
- Legislative Changes to UWMP Act
- 2015 RUWMP Process and Overall Schedule
- 2015 IRP Update
- Next Steps

Legislative Changes to UWMP Act

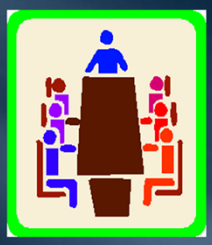
Member Agency Kick-off Workshop
April 8, 2015

Overview

- Background
- New Legislation
- New Requirements

Background

- Independent Technical Panel on Demand Measurement Measures ("ITP")
  - AB 1420 (2007)
  - Seven member panel
  - February 2014 Report to Legislature
  - Resulted in 3 Legislative Bills
    - AB 2067 (Weber)
    - SB 1420 (Wolk)
    - SB 1036 (Pavley)



New Legislation

- AB 2067 (Weber)
  - Changes submittal date
    - CWC § 10621(d): Each urban water supplier shall update and submit its 2015 plan to DWR by July 1, 2016.
  - Changes demand management measures ("DMMs")
    - CWC § 10631(f): Reduced DMMs from 14 to 7
    - Describe nature and extent of each DMM implemented over past 5 years
    - Describe DMMs to be implemented to meet 20x2020 target
    - Members of CUWCC in compliance with MOU can still submit BMP Coverage Reports instead of describing DMMs

New DMMs To Be Described

- Water waste prevention ordinances
- Metering (W)
- Conservation pricing
- Public education and outreach (W)
- Programs to assess and manage distribution system real loss
- Water conservation program coordination and staffing support (W)
- Other DMMs that impact GPCD (W)

SB 1420 (Wolk)

- New CWC § 10631(e)(1)(J): Distribution system water loss reporting
- New CWC § 10631(e)(4)(A): Voluntary reporting of water savings estimated to result from codes, standards, ordinances, or transportation and land use plans
- New CWC § 10644(a)(2): Required electronic submittal of UWMP, including standardized forms, tables, or displays

Distribution System Water Loss

- Adds “distribution system water loss” as a new water use sector
- 2015 UWMPs: Quantify distribution system water loss for the most recent 12-month period available
- Future UWMPs: Quantify distribution system water loss for the 5 years before the update
- Water loss to be reported on worksheet based on AWWA water system balance methodology

Projected Water Savings (Voluntary)

- "If available and applicable to an urban water supplier, water use projections may display and account for the water savings . . . ."
- If chooses to report, water supplier must:
  - Provide citations of the various codes, standards, ordinances, or transportation and land use plans used in making projections
  - Indicate the extent that the water use projections consider savings from these sources
- Water use projections that don't account for these savings must note that fact
- ITP recommended DWR develop guidance

Electronic, Standardized Reporting

- CWC § 10644(a)(2):

  - UWMP must be submitted electronically
  - UWMP must include “any standardized forms, tables, or displays specified by the department”

SB 1036 (Pavley)

- Voluntary reporting on the energy intensity of water supply
- CWC § 10631.2(a): UWMP "may, but is not required to, include" certain energy information
- CWC § 10631.2(b): DWR to include in guidance a methodology for voluntary calculation or estimation of energy intensity of urban water systems (ITP's recommendation)
  - May consider PUC's studies and calculations

Resources

- DWR's website on urban water management: http://www.water.ca.gov/urbanwatermanagement/
- ITP Report: http://www.water.ca.gov/wateruseefficiency/sb7/committees/urban/u2/
- UWMP Act
  - CWC §§ 10608-10656

2015 RUWMP Process and Overall Schedule

Member Agency Kick-off Workshop
April 8, 2015

Background

- Urban Water Management Planning Act
  - *"…every urban water supplier providing water for municipal purposes to more than 3,000 customers or supplying more than 3,000 AF of water annually prepare and adopt, in accordance with prescribed requirements, an urban water management plan…"*
- Plans must be filed with DWR every 5 years
- Must be deemed complete by DWR for grant eligibility
- Act contains requirements for preparing UWMP
  - Process Requirement
  - Content Requirement

Process Requirement

- Collaborative process
  - Coordinate with appropriate agencies in the area
- Public hearing
  - To encourage active involvement of the public
  - 60-day notification to cities and counties within agency's service area
  - Publication of notice in newspaper
- Board adoption
- Submission to DWR
  - Electronic submittal using standardized forms and tables developed by DWR

Key Content Requirement

- RUWMP will report on IRP Update findings
- Assess water supply reliability
  - 5-Year increment to 20 years for three hydrologic conditions
    - Single dry
    - Multiple dry
    - Average year
- Provide water shortage contingency analysis
  - Actions under 50% Reduction in water supply
  - Actions to address catastrophic interruption
  - Estimate of minimum supply available for next 3 years

Key Content Requirement

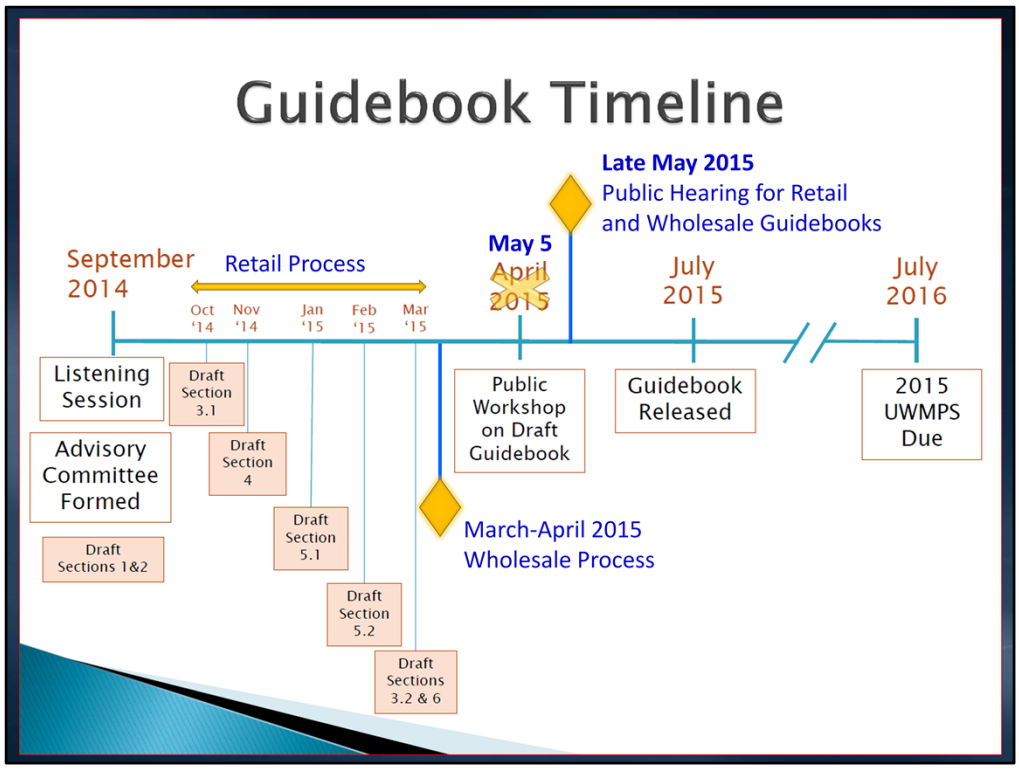
- Describe
  - Water supply projects and programs
  - Recycled water use and its potential use
  - Efficient uses of water and demand management measures
  - Water quality impacts
  - Coordination process with various stakeholders in preparation of the plan
- For retail agencies SB 7 target for 2015
  - Reduced gpcd by at least 10% on or before December 31, 2015

Current UWMP Activities

- DWR UWMP Guidebook Process
  - Improve 2010 Guidebook
  - Develop standardized forms, tables, or displays for electronic submittal
  - Incorporate legislative changes
  - Develop guidance on optional reporting
    - Climate change
    - Water savings from codes, standards, ordinances
    - Energy intensity of water supply

Current UWMP Activities

- Advisory Committee
  - Composed of diverse agencies
  - Review materials and provide feedback to DWR
- MWD participation
  - Guidebook consistent with UWMP Act requirement
  - Provide input to DWR in developing standardized forms and tables
  - Difference in retail and wholesale reporting
    - DWR to release separate guidebooks


Guidebook Timeline
Late May 2015
Public Hearing for Retail and Wholesale Guidebooks
May 5
April 2015
September 2014
Retail Process
July 2015
July 2016
Oct '14
Nov '14
Jan '15
Feb '15
Mar '15
Listening Session
Draft Section 3.1
Advisory Committee Formed
Draft Section 4
Draft Sections 1&2
Draft Section 5.1
Draft Section 5.2
Draft Sections 3.2 & 6
Public Workshop on Draft Guidebook
March-April 2015
Wholesale Process
Guidebook Released
2015 UWMPS Due

Milestone	Proposed 2015 Schedule Coordinated IRP and RUWMP Process
Kick-off IRP Update and RUWMP Workshop	April 8, 2015
IRP and RUWMP MA Coordination Meetings / Data Refinement • Water Use Efficiency • Local Resources • Retail Demands	 • April-July 2015 • June-July 2015 • July 2015
First Draft RUWMP to MAs, Workshops with MAs and Sanitation Districts	September - October 2015
2015 IRP Update Report to Metropolitan Board	December 8, 2015
Final Draft RUWMP to MAs	December 2015
Deadline Comments from MAs	January 19, 2016
Notifications of Public Hearing: • Cities and Counties • Draft for Public Review on MWD website • Newspaper Publications	 • February 8, 2016 • February 8, 2016 • February 8 and 15, 2016
Final 2015 RUWMP	March 2016
Board Information Letter / Public Hearing	April 11, 2016
2015 RUWMP Adoption by Metropolitan Board	May 10, 2016
Submission of RUWMP to DWR • Report (Print, CDs, Mailing) • Electronic submittal to DWR	Deadline July 1, 2016 • Early June 2016 • June 2016

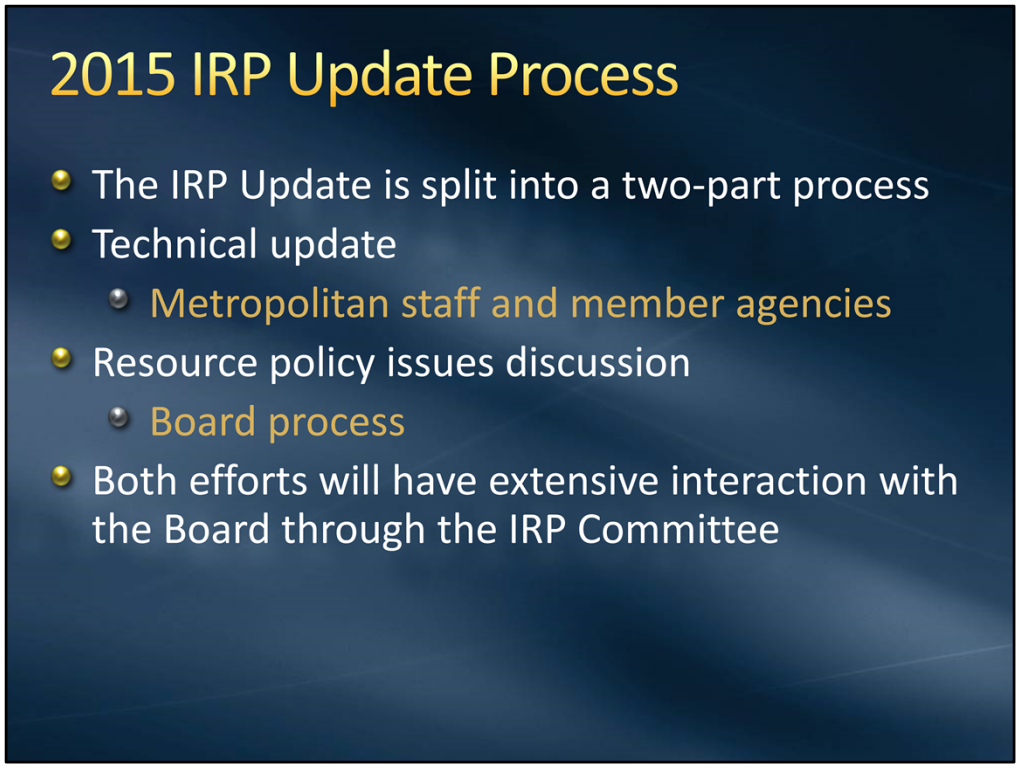
Questions?

2015 Integrated Water Resources Plan Update

2015 IRP/RUWMP Kickoff Workshop
April 8, 2015

Presentation Overview

- Update process and goals
- Draft schedule
- Review of 2010 IRP targets and current conditions
- Next steps

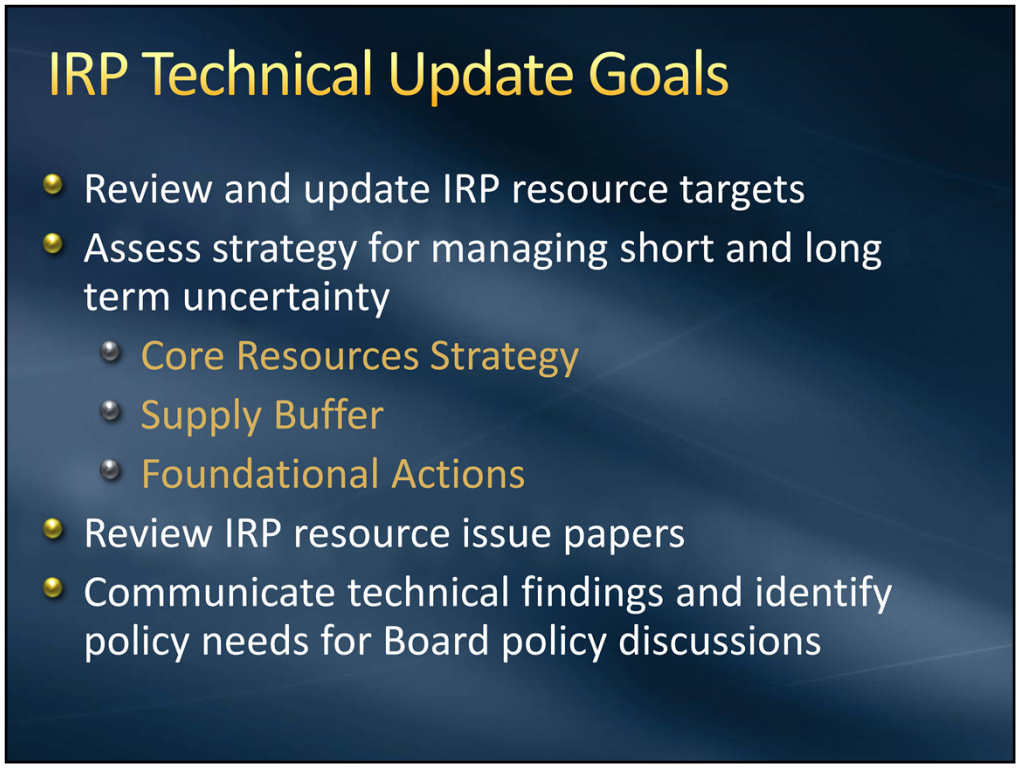


Staff is proposing that IRP Update be completed in a two phase process

The first phase will be a Technical Update of the IRP
- This effort would largely involve metropolitan staff and member agencies
- I will show you a proposed schedule at the end of the presentation

The second phase of the update would begin following completion of the Technical Update
- This effort would largely be a board process to discuss policy issues
- And would be fed by discussions raised in the technical process

Both phases will have extensive interaction through the IRP subcommittee
- **???**



So let's focus in more detail on the Technical Update portion of the IRP Update

Our goals for the IRP Technical Update process include:

- Completing a full review and update of all of the resource targets from the 2010 IRP Update

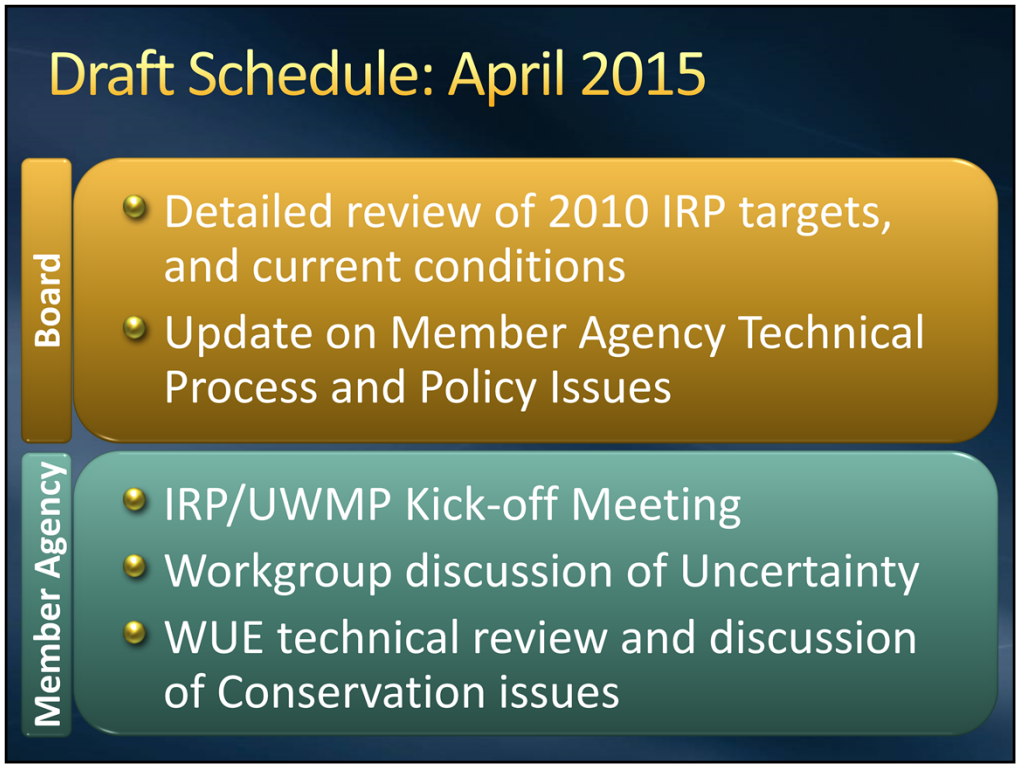
- Working with the IRP subcommittee to identify policy issues to feed the subsequent board process

Internal Process –
Ongoing

MA Technical Process –
MA workgroup meetings twice a month April through August, as needed through October
WUE meetings monthly standing meeting April through July

Board –
Reporting in Feb and March (IRP Committee)
Monthly Updates from MA tech process
Wrapping up around the end of the year, head into Board Policy Process

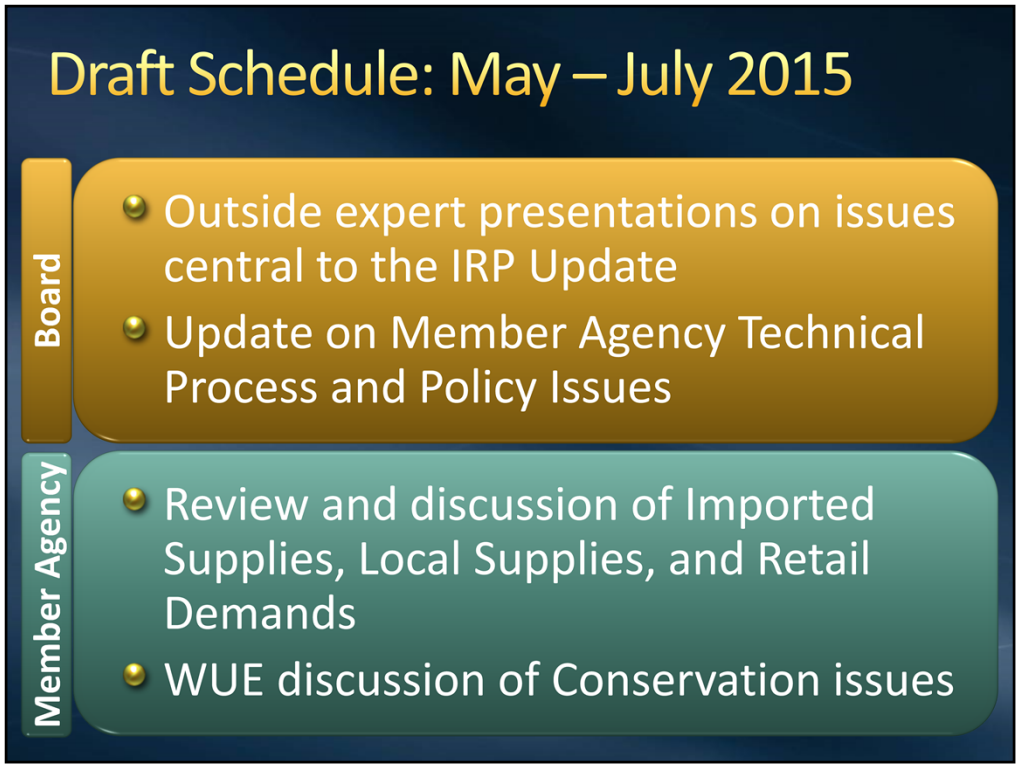
Following slides breakdown activities at Board and MA levels



MA process in green, Board in yellow

MA
Today – IRP/UWMP kick-off meeting
April 16th - WUE
April 22nd – Uncertainty

Board
April 28th – IRP Committee, review of targets and progress update



MA

WUE continue on regularly scheduled meetings

MA workgroups

May – Imported Supplies, Groundwater

June – Groundwater, Local Resources

July – Local Resources, Retail Demands, Conservation

Board

Outside Experts

May – Conservation Rates and Conservation Potential

June – Groundwater and Stormwater Issues

July – Uncertainty and Climate Change

Monthly progress reports

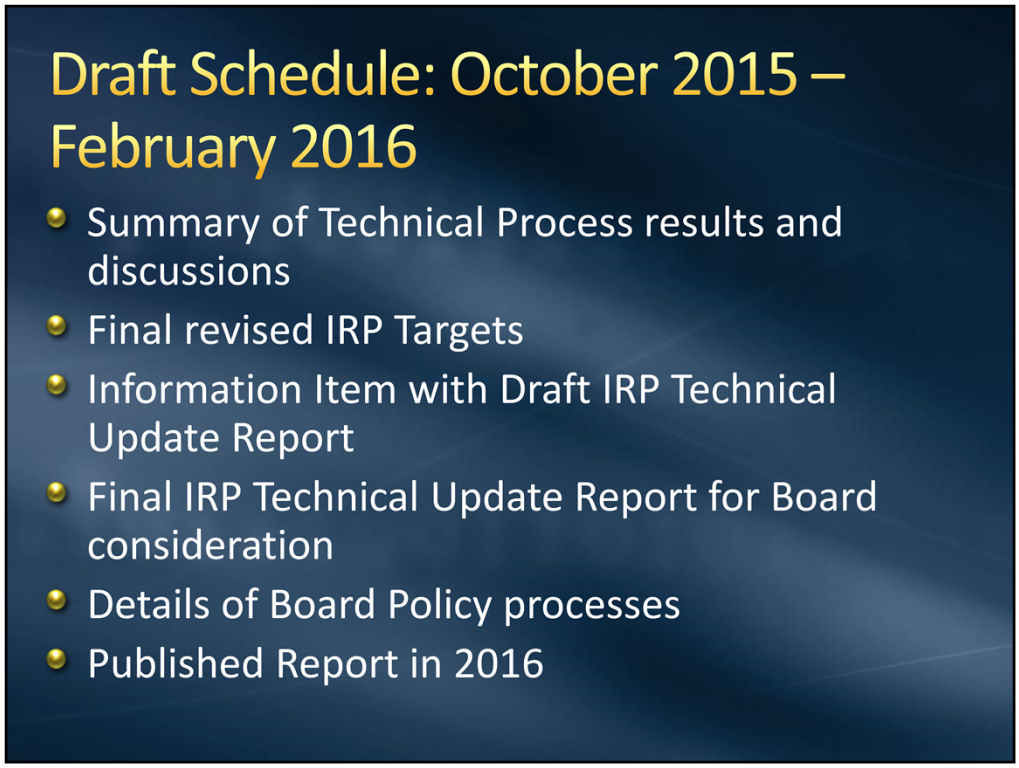
MA

MA workgroups

August/September – Unfinished topics as needed, Finalize, Costs and Portfolios

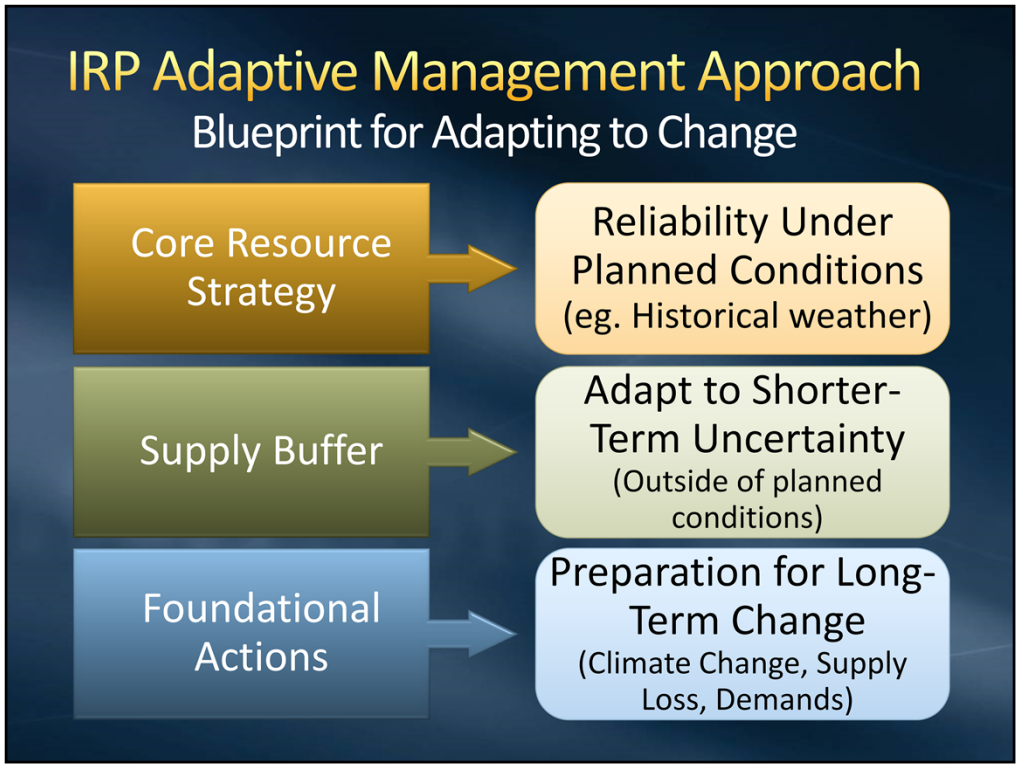
Board

August/September – Results of workgroup technical process, issues for policy process



Board
Finalize based on Committee input
Draft report
Final report
Provide details on policy process
Publish report

Review of 2010 IRP Targets and Current Conditions



Adaptive approach
Today will focus on first two components

Water Use Efficiency
Conservation and recycling to achieve a 20% reduction at the regional level
Commitment is above and beyond 20x2020 legislation

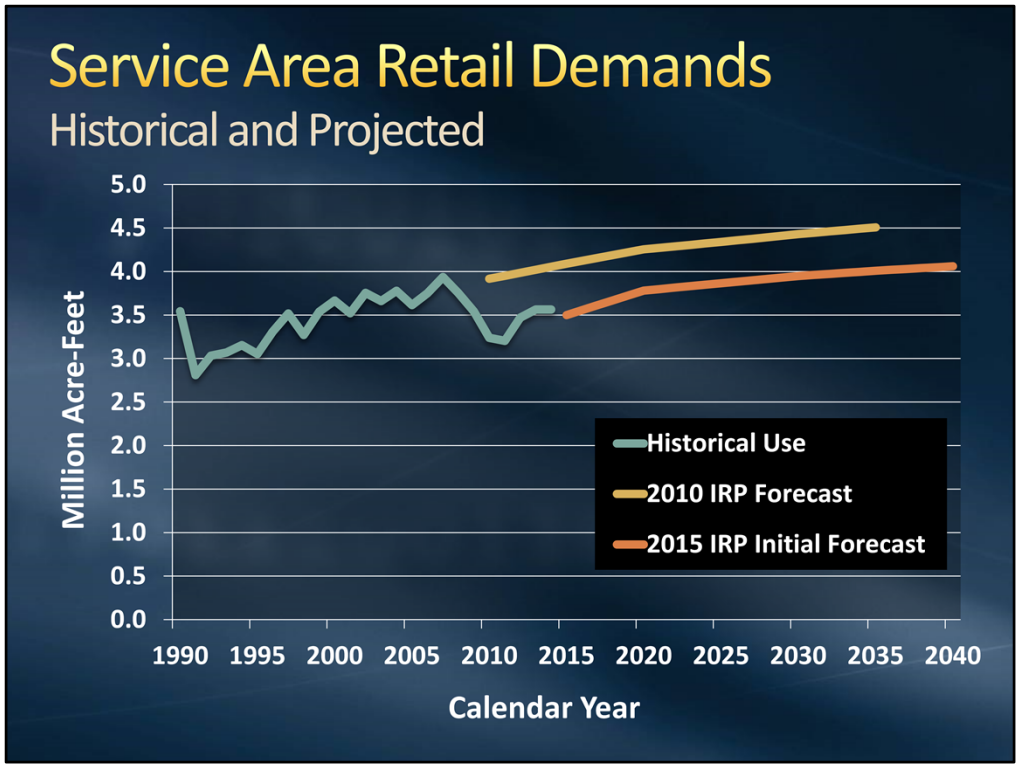
Local Resources
Sought to develop just over 100 TAF of additional local supplies through groundwater recovery, seawater desalination, and recycling

State Water Project
Pursue short, mid, and long-term improvements to help stabilize delta supplies
Short-term examples: emergency preparedness actions, Complete BDCDP
Mid-term examples: Implement BDCP, implement flood control protection
Long-term examples: Water supply conveyance, ecosystem restoration

Colorado River
Continue to develop dry-year supply programs on the Colorado River System
Provide flexibility in conjunction with Lake Mead ICS to provide a full CRA as needed

Next I will go into a little bit more detail on each of these items as to what the Technical Update will look like

Retail Demands
No target specified in the IRP
Forecast of retail demands in the IRP had an assumed
Major factor in determining reliability under planned conditions



The 2015 initial retail demand forecast reflects projected reduction in demographics and employment as well as lowered trend in water use seen in recent years.

The 2015 initial forecast reflects the net decrease in population and the impacts of WUE in recent years.

Changes in water-use consumption patterns seen in recent years. Are they the new normal?

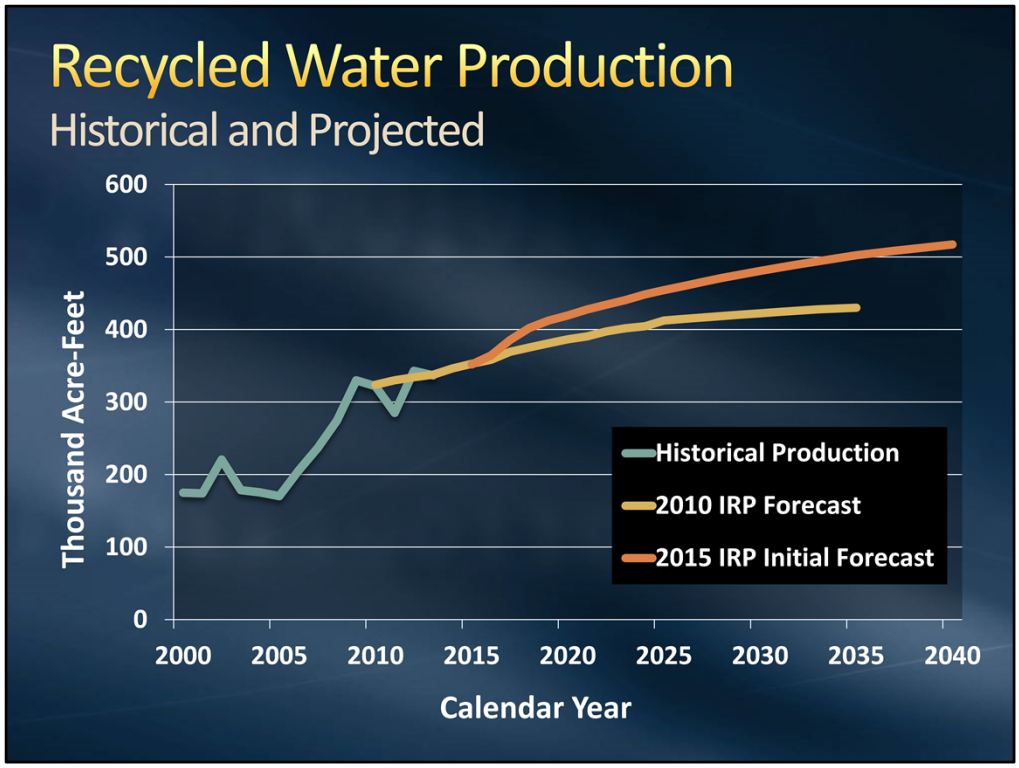
IRP Forecasts vs. IRP Targets

- Forecast
  - Projection of existing and under-construction projects and programs
    - Goes towards meeting baseline level of development assumed in the IRP
    - May go towards meeting IRP Targets
- Target
  - Level of new production or yield sought under the IRP
    - Builds on assumed baseline level of development

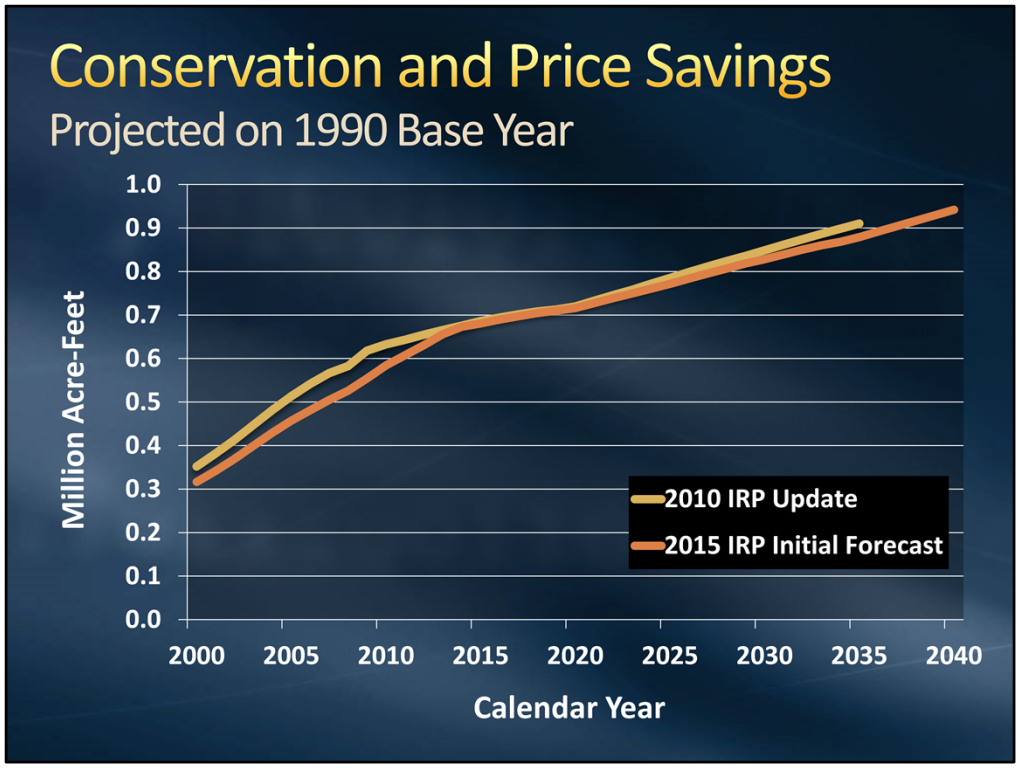
Water Use Efficiency

- 2010 IRP Target
  - 20% reduction in potable GPCD as a region
    - 580 TAF in addition to existing 2010 forecast
  - Recycling and Conservation
- Major changed conditions
  - Revised demographic projections
  - Recent reductions in water use
  - Revised recycled water projection methodology

Target vs Forecast
Planned conditions and Shorter-term uncertainty

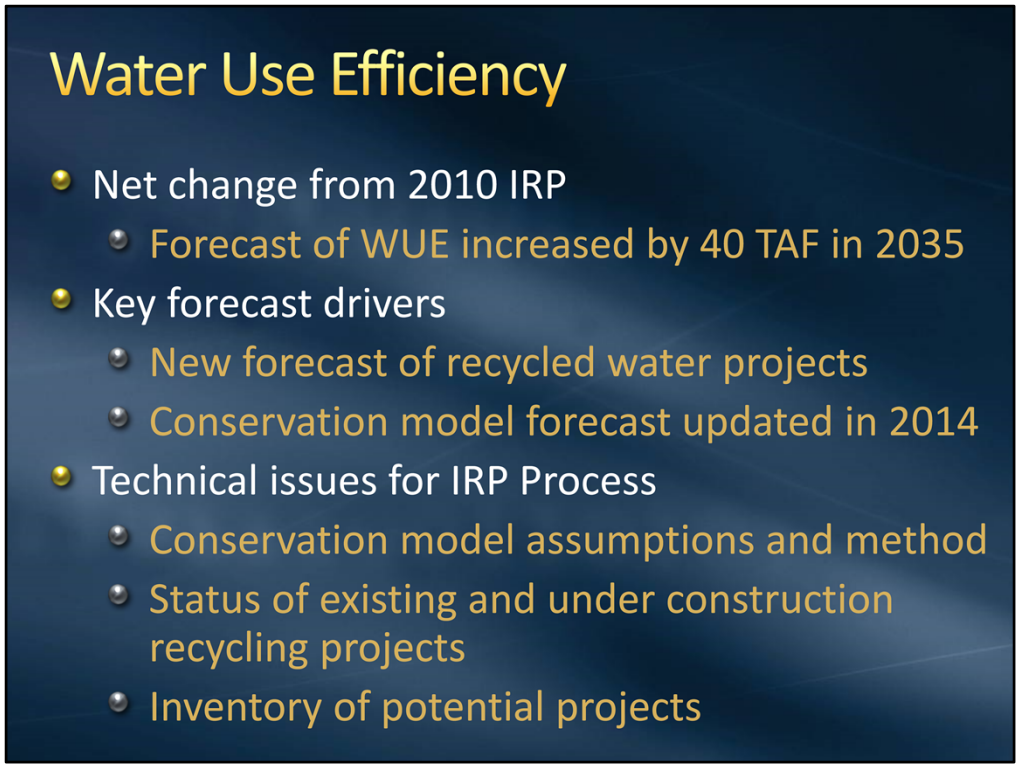


Since the 2010 IRP, XXX TAF had been added to Metropolitan's Local Resources Program. In addition, XXX acre-feet had been added without Metropolitan's financial assistance.



This graph includes active and code-base conservation, price-savings and savings from un-metered water. Code-based and price-savings conservation is calculated using demographic data. The 2015 initial forecast is lower than the 2010 IRP due to update in historical and forecasted demographics. The Department of Finance re-benchmark their historical population estimates periodically. The recent re-benchmark was in 2010 when they aligned their annual estimates with the 2010 Census data. The result was lower.

A note about un-metered water. Un-metered water is water loss due to distribution system leakages. When demand is reduced through conservation, the quantity of water that moved through the system is less, which in turn, the amount losses is less. The difference is un-metered water savings.



Net Change
Recycling +72,000
Conservation -30,000
Net +42,000

What we expect from the technical process:

WUE Meetings monthly
Local Supplies end of June beginning of July

Review of recycling projects in all categories of development

Inventory, timing, yield, costs. Etc.

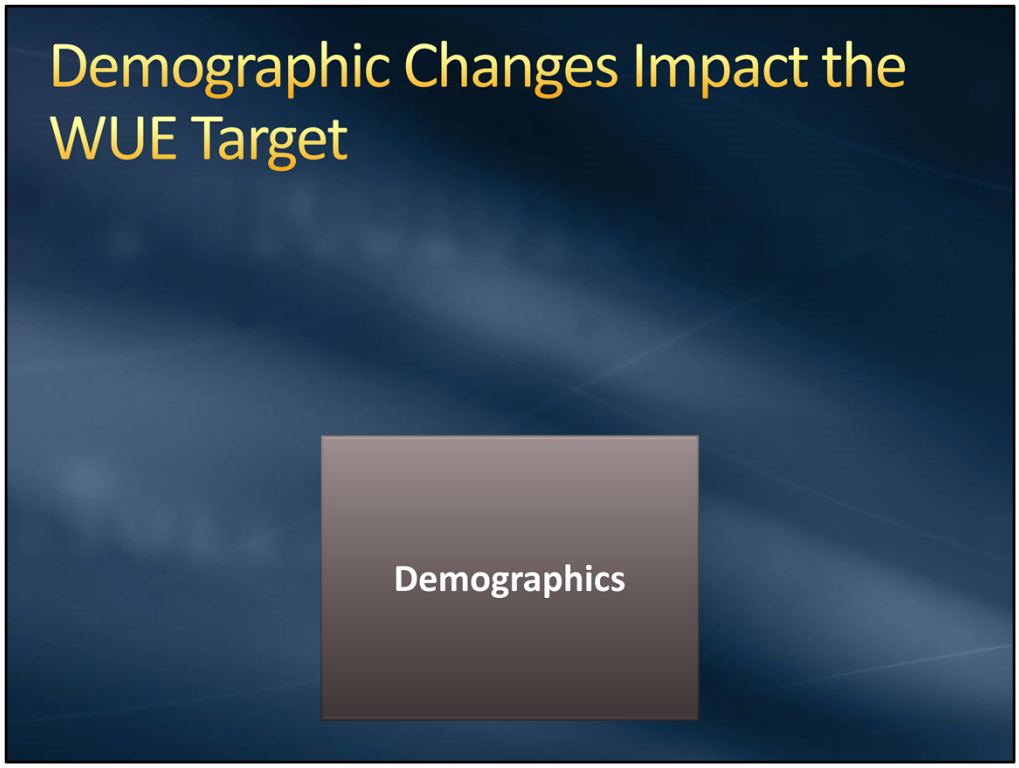
Review of conservation model assumptions

Review of IRP Issue Papers

Discussion of issues related to implementing WUE

RUWMP coordination

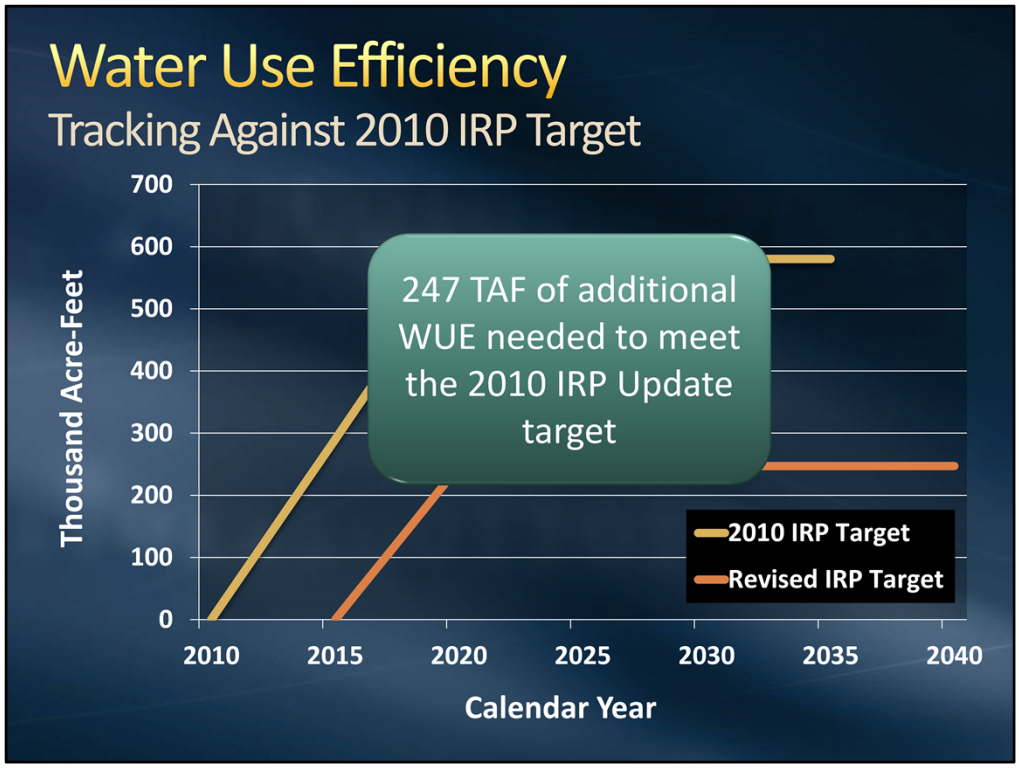
Demographic Changes Impact the WUE Target



Quantifying Changes in WUE Target

- 2010 IRP Update WUE Target was 580 TAF
- Increase due to revised GPCD Target
  - +120 TAF
- Reduction due to revised Demographics
  - -418 TAF
- Reduction due to increased Recycling
  - -35 TAF
- New 20% reduction target is 247 TAF

Use the 580 and the new 230 and show the growth in actual for rec and conservation

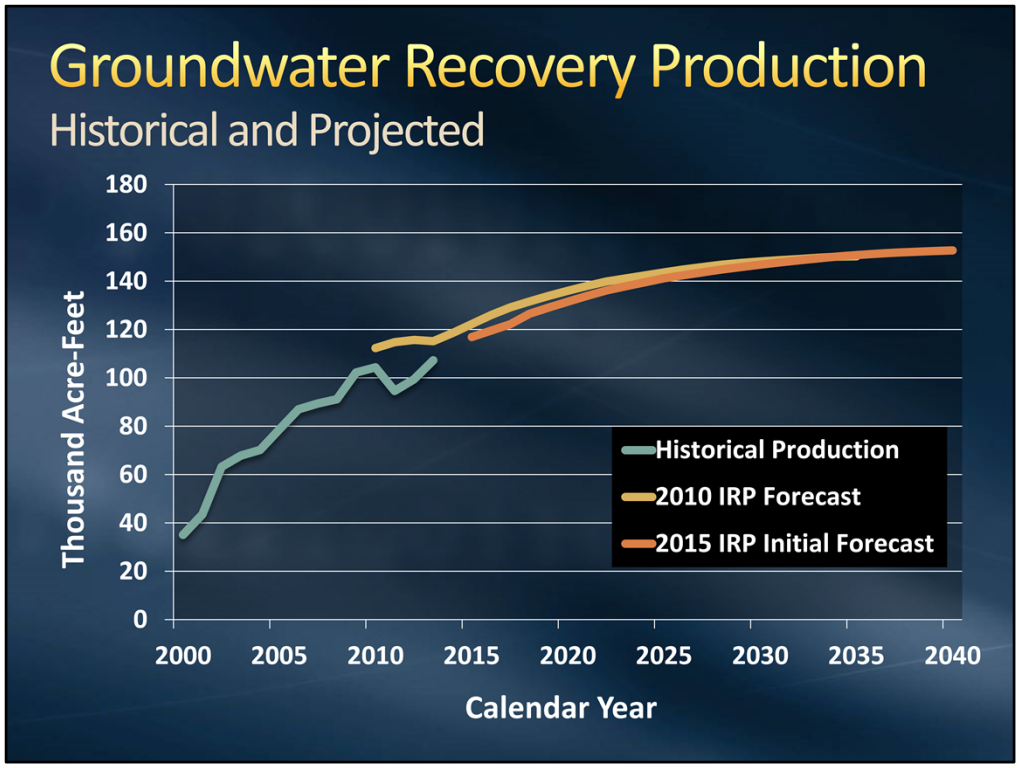


To meet 20% reduction goal
Use the 580 and the new 245 and show the growth in actual for rec and conservation

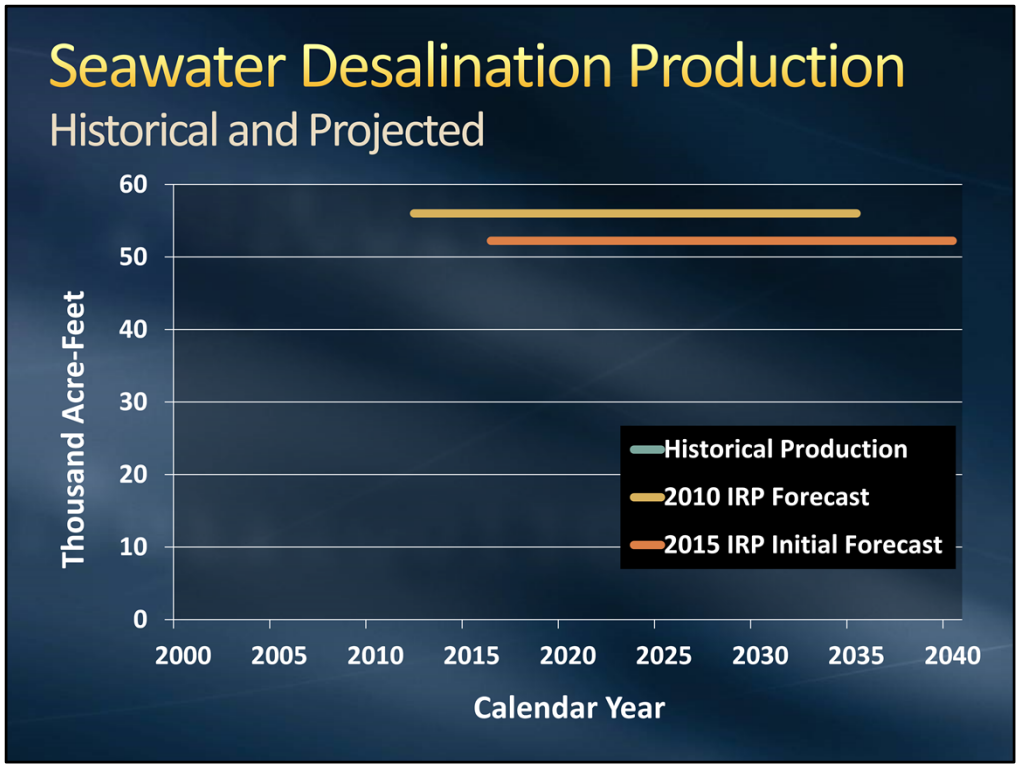
Local Resources Augmentation

- 2010 IRP Target
  - 102,000 acre-feet of new local supply
  - Groundwater Recovery, Seawater Desalination, and Recycling
- Major changed conditions
  - Timing and yield of existing and under construction local projects

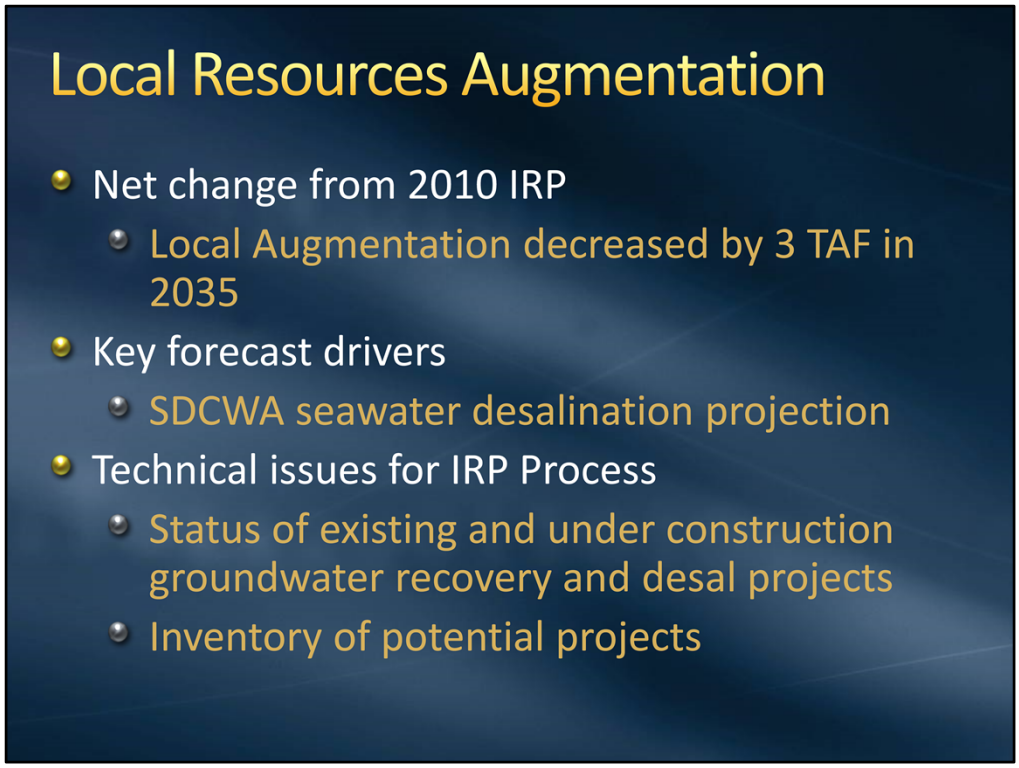
Forecast vs Target
Planned conditions/Uncertainty



Mike, what changed from 2010 to 2015 so that forecast is less?



56,000 is max capacity (dry-year production)
48,000 is average year production (average and wet year production)
Graph shows 52,240 as average based on hydrology

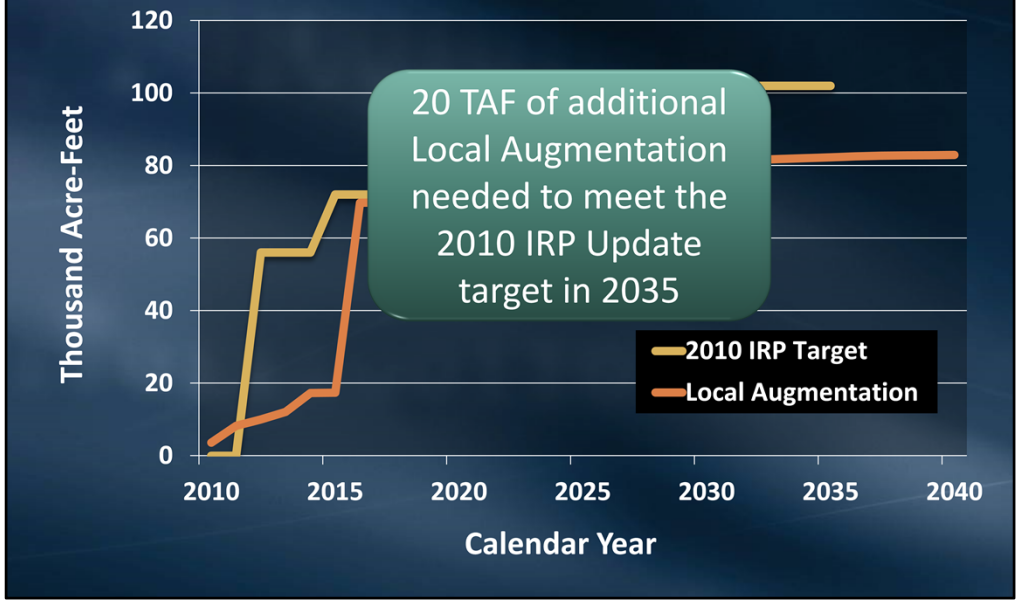


Net change: diff btw 2035 projections for desal and GW recovery in 2010 and 2015
GW recovery - virtually the same for 2035
Seawater desal - 3,700 acre-feet less
48 TAF in wet and normal years
56 TAF in dry years

What we expect from the technical process:

Local Resources Augmentation

Tracking Against 2010 IRP Target



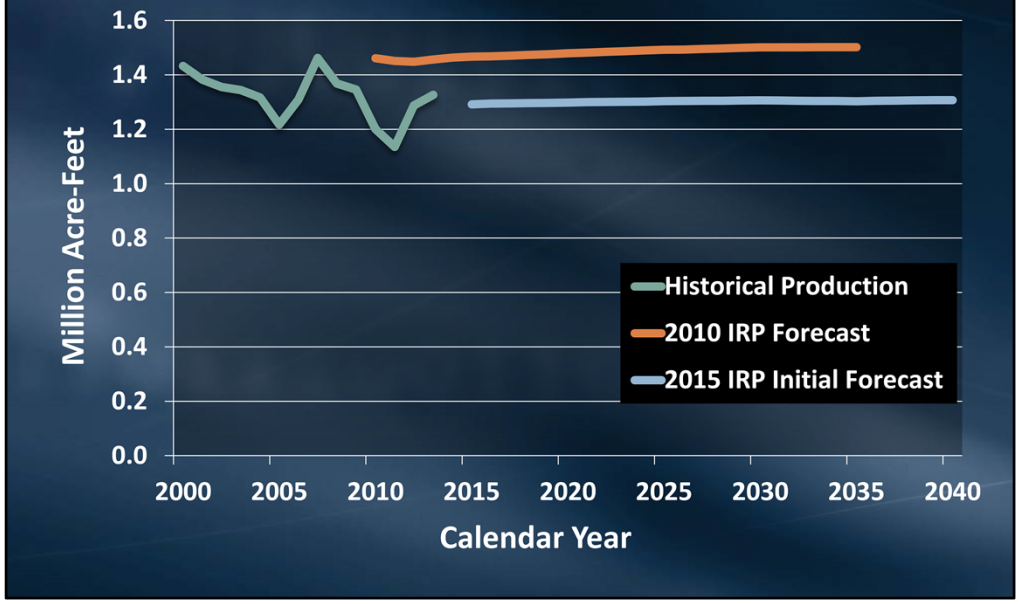
Groundwater

- 2010 IRP Target
  - No explicit target set in the IRP
  - Implied level of production underlying the IRP forecast
- Major changed conditions
  - Declining local groundwater basin levels
  - Reduced availability of supplies for recharge

Recharge of stormwater has declined more than 950 TAF
Recharge of imported water has declined and is offset by increase in recycled water recharge
GW production has remained nearly constant

Local Groundwater Production

Historical and Projected



Groundwater

- Net change from 2010 IRP
  - Groundwater decreased by 200 TAF in 2035
- Key assumptions
  - Near-term averages for adjudicated basins
  - Agency forecasts for managed basins
- Technical issues for IRP Process
  - Review of basin production levels
  - Implications of passive and active recharge availability

Passive

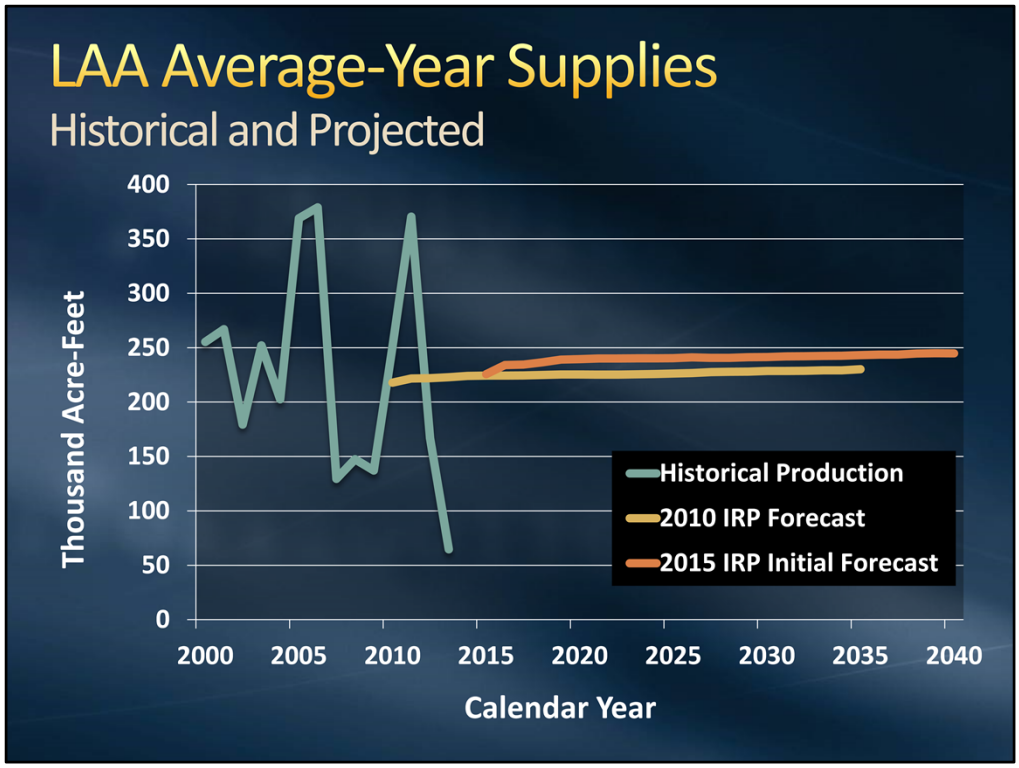
Natural percolation

Active

Stormwater
Imported
Recycled

Other Local Supplies

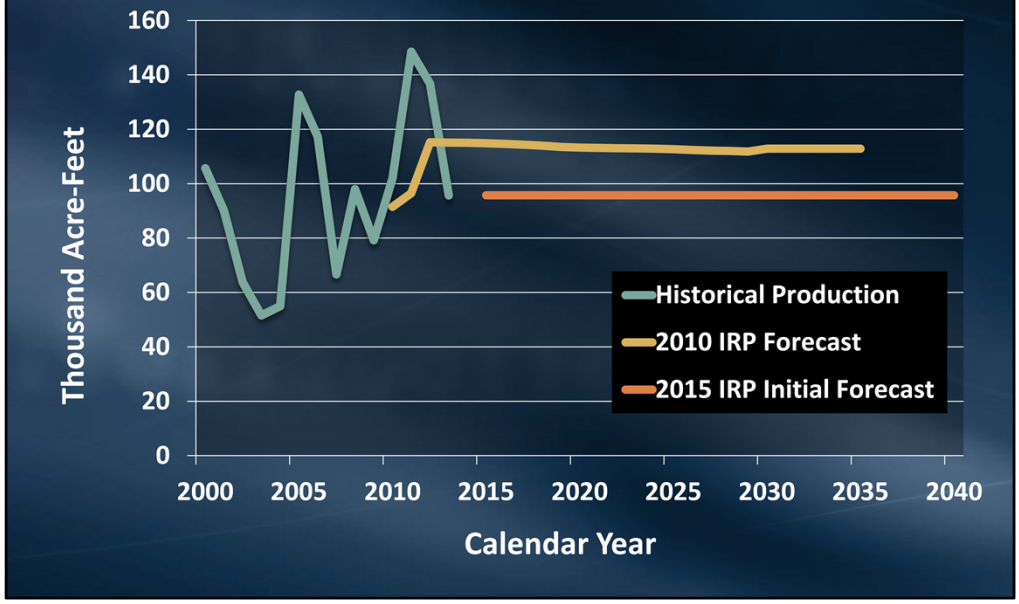
- 2010 IRP Target
  - No explicit target set in the IRP
  - Implied level of production underlying the IRP forecast
  - Los Angeles Aqueduct and Surface Water Production
- Major changed conditions
  - Updated Los Angeles Aqueduct forecast
  - Updated surface water forecasts



Increase due to forecast methodology

Surface Water Average-Year Supplies

Historical and Projected



Other Local Supplies

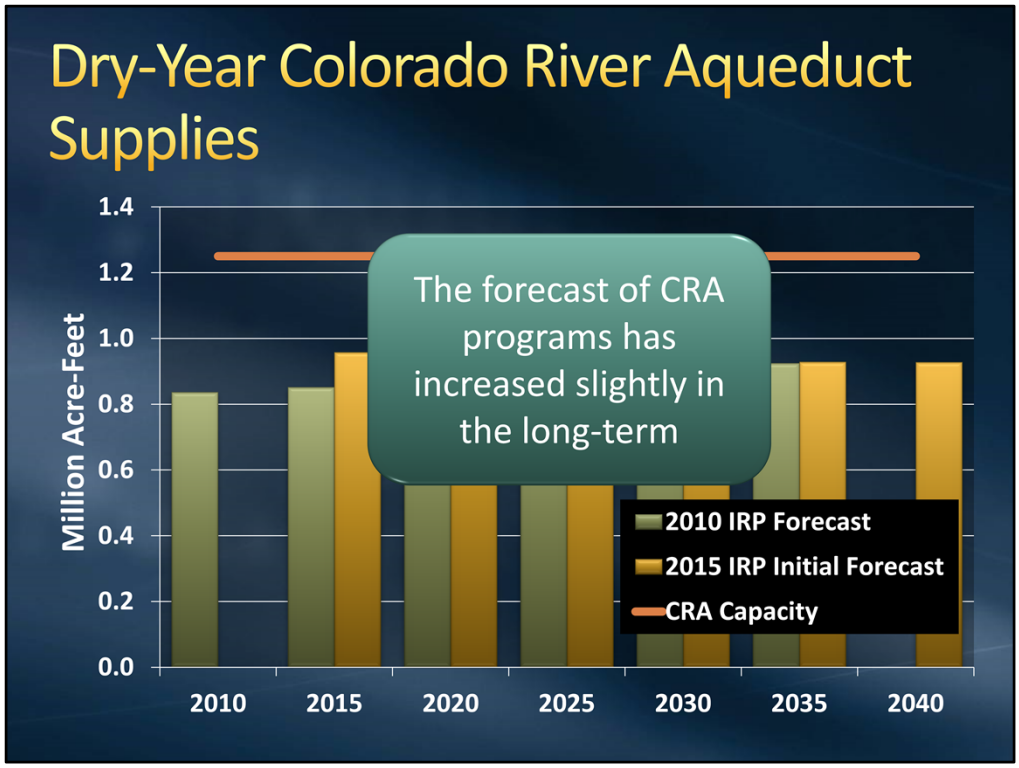
- Net change from 2010 IRP
  - Other local supplies decreased by 4 TAF in 2035
- Key forecast drivers
  - LAA forecast provided by LADWP
  - Major reservoirs modeled based on hydrologic conditions
- Technical issues for IRP Process
  - New LAA forecast with extended hydrology
  - Updated assessment of reservoir production

LAA increased by 13 TAF in 2035
Surface decreased by 17 TAF in 2035

What we expect from the technical process:

CRA Supplies

- 2010 IRP Target
  - Develop programs that will maintain a full CRA during dry years
- Major changed conditions
  - Updated near and long-term outlook for Colorado base supplies
  - Continued development of CRA programs and dry-year supplies



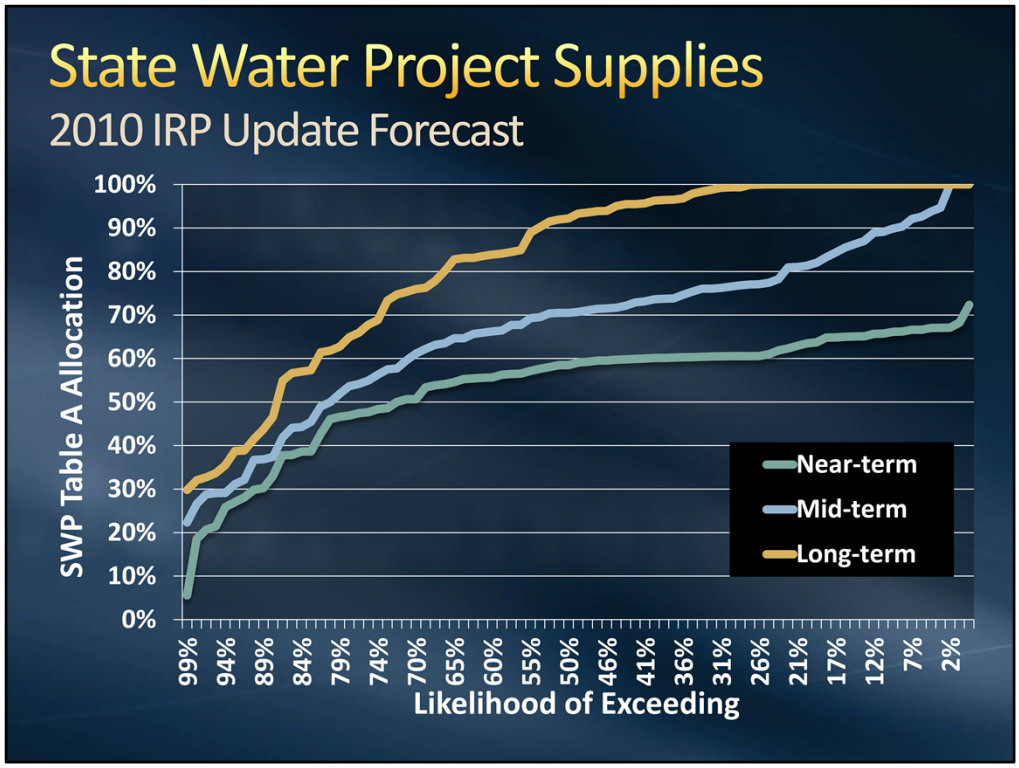
Quantify remaining from ICS etc.
Contributes to ability to fill aqueduct when needed
Contributes to the flexibility and utility of ICS

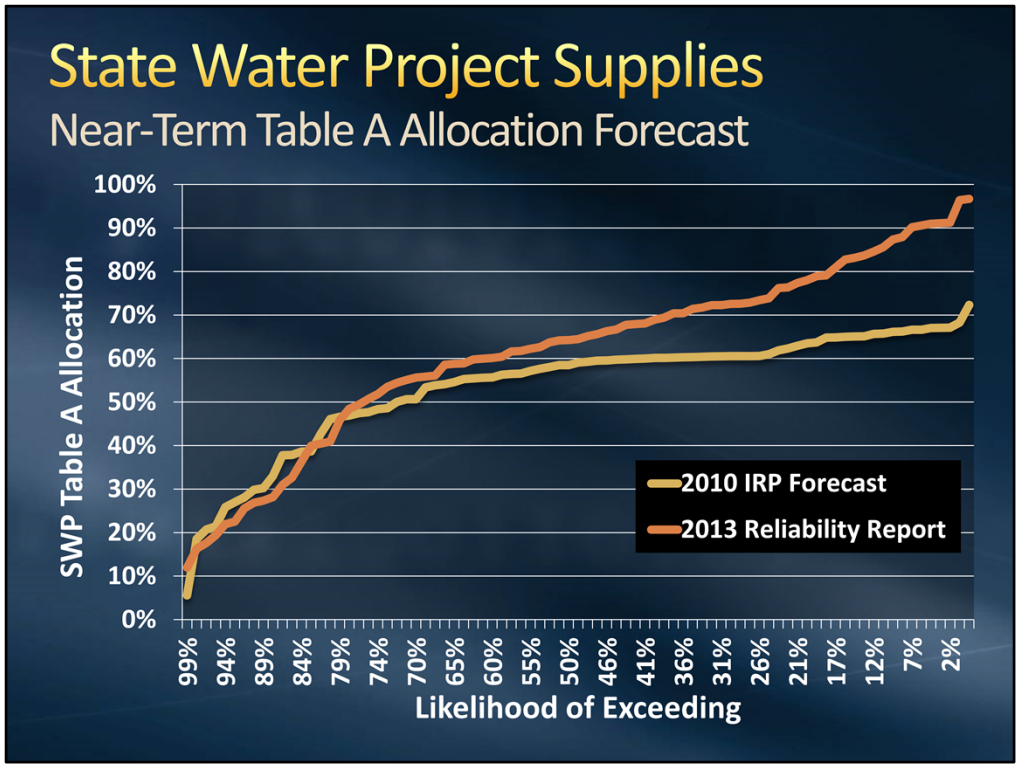
CRA Supplies

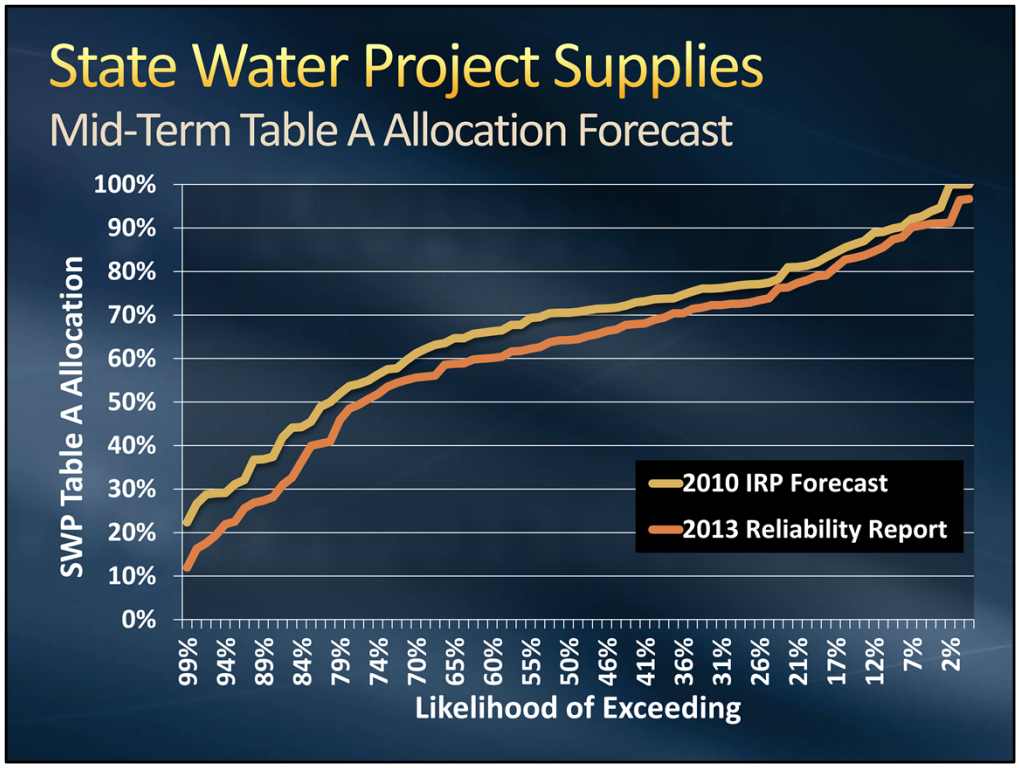
- Net change from 2010 IRP
  - Base CRA dry-year supplies increased by 5 TAF in 2035
- Key forecast drivers
  - CRSS initial conditions updated from USBR 24-Month Study as of January 2015
  - Updated inventory of CRA programs
- Technical issues for IRP Process
  - Extended hydrology forecast
  - Modeling of supplies that vary by hydrology

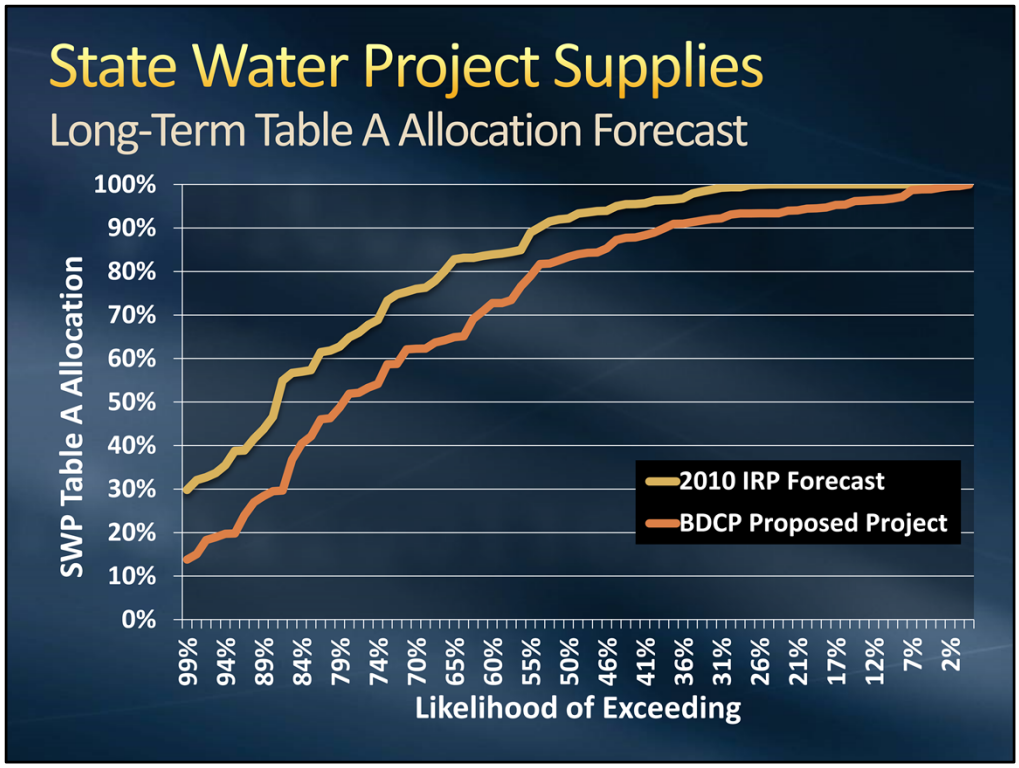
State Water Project Supplies

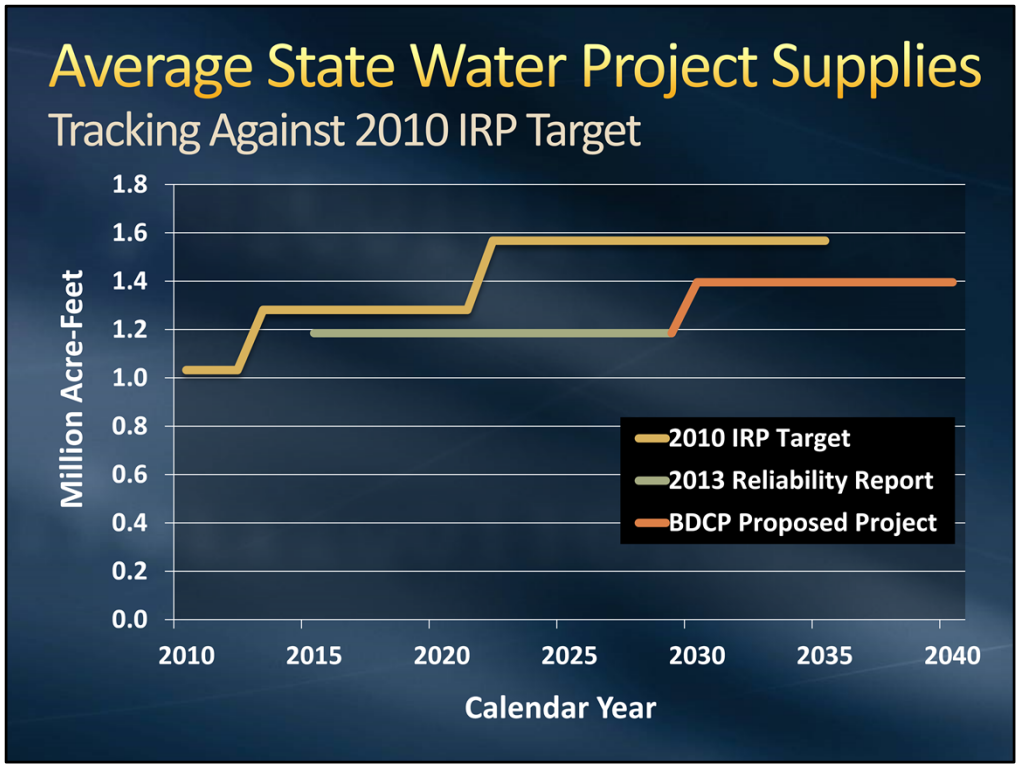
- 2010 IRP Target
  - Restore SWP supplies through short, mid, and long-term Delta actions
  - 2005 DWR Reliability Report serves as a proxy for restored SWP supplies
    - Most recent forecast under Pre-BiOp Conditions
- Major changed conditions
  - Updated DWR modeling studies
  - Timing and yield of Delta improvements


State Water Project Supplies
2010 IRP Update Forecast
SWP Table A Allocation
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
99%
94%
89%
84%
79%
74%
70%
65%
60%
55%
50%
46%
41%
36%
31%
26%
21%
17%
12%
7%
2%
Likelihood of Exceeding
Near-term
Mid-term
Long-term

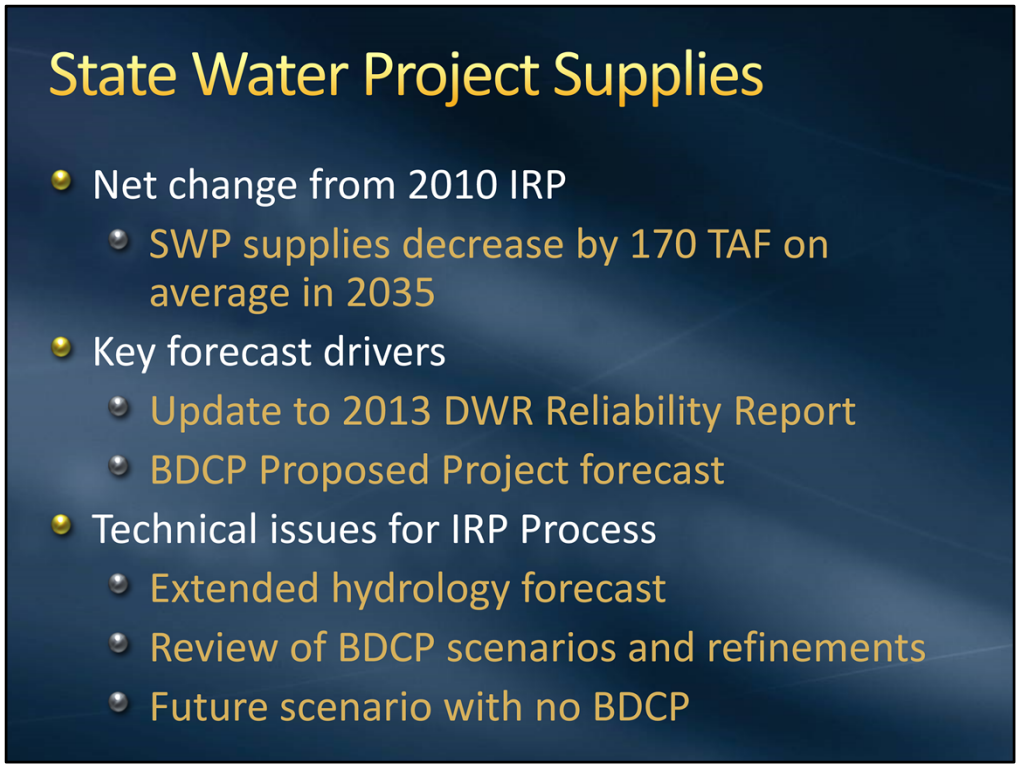

State Water Project Supplies
Near-Term Table A Allocation Forecast
SWP Table A Allocation
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
99%
94%
89%
84%
79%
74%
70%
65%
60%
55%
50%
46%
41%
36%
31%
26%
21%
17%
12%
7%
2%
Likelihood of Exceeding
2010 IRP Forecast
2013 Reliability Report


State Water Project Supplies
Mid-Term Table A Allocation Forecast
SWP Table A Allocation
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
99%
94%
89%
84%
79%
74%
70%
65%
60%
55%
50%
46%
41%
36%
31%
26%
21%
17%
12%
7%
2%
Likelihood of Exceeding
2010 IRP Forecast
2013 Reliability Report


State Water Project Supplies
Long-Term Table A Allocation Forecast
SWP Table A Allocation
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
99%
94%
89%
84%
79%
74%
70%
65%
60%
55%
50%
46%
41%
36%
31%
26%
21%
17%
12%
7%
2%
Likelihood of Exceeding
2010 IRP Forecast
BDCP Proposed Project



Use the 580 and the new 230 and show the growth in actual for rec and conservation



Reliability Report assumes business as usual with current fisheries rules and with climate change interpolated from 2050.

Summary of Supply Impacts

Preliminary 2035 IRP Analysis

	Change from 2010 IRP Forecast	Difference from 2010 IRP Target	Total Difference (Acre-Feet)
Water Use Efficiency			
Local Augmentation			
Groundwater			
Other Local Supplies			
Imported Supplies			
Total			

Need to do all forecasted stuff – Delta, Retail Demands, plus 100TAF

Summary of Supply Impacts

Preliminary 2035 IRP Analysis

	Change from 2010 IRP Forecast	Difference from 2010 IRP Target	Total Difference (Acre-Feet)
Water Use Efficiency	+40,000	-247,000	-207,000
Local Augmentation			
Groundwater			
Other Local Supplies			
Imported Supplies			
Total			

Need to do all forecasted stuff – Delta, Retail Demands, plus 100TAF

Summary of Supply Impacts

Preliminary 2035 IRP Analysis

	Change from 2010 IRP Forecast	Difference from 2010 IRP Target	Total Difference (Acre-Feet)
Water Use Efficiency	+40,000	-247,000	-207,000
Local Augmentation	-3,000	-20,000	-23,000
Groundwater			
Other Local Supplies			
Imported Supplies			
Total			

Need to do all forecasted stuff – Delta, Retail Demands, plus 100TAF

Summary of Supply Impacts

Preliminary 2035 IRP Analysis

	Change from 2010 IRP Forecast	Difference from 2010 IRP Target	Total Difference (Acre-Feet)
Water Use Efficiency	+40,000	-247,000	-207,000
Local Augmentation	-3,000	-20,000	-23,000
Groundwater	-200,000	NA	-200,000
Other Local Supplies			
Imported Supplies			
Total			

Need to do all forecasted stuff – Delta, Retail Demands, plus 100TAF

Summary of Supply Impacts

Preliminary 2035 IRP Analysis

	Change from 2010 IRP Forecast	Difference from 2010 IRP Target	Total Difference (Acre-Feet)
Water Use Efficiency	+40,000	-247,000	-207,000
Local Augmentation	-3,000	-20,000	-23,000
Groundwater	-200,000	NA	-200,000
Other Local Supplies	-4,000	NA	-4,000
Imported Supplies			
Total			

Need to do all forecasted stuff – Delta, Retail Demands, plus 100TAF

Summary of Supply Impacts

Preliminary 2035 IRP Analysis

	Change from 2010 IRP Forecast	Difference from 2010 IRP Target	Total Difference (Acre-Feet)
Water Use Efficiency	+40,000	-247,000	-207,000
Local Augmentation	-3,000	-20,000	-23,000
Groundwater	-200,000	NA	-200,000
Other Local Supplies	-4,000	NA	-4,000
Imported Supplies	+5,000	-170,000	-165,000
Total			

Need to do all forecasted stuff – Delta, Retail Demands, plus 100TAF

Summary of Supply Impacts

Preliminary 2035 IRP Analysis

	Change from 2010 IRP Forecast	Difference from 2010 IRP Target	Total Difference (Acre-Feet)
Water Use Efficiency	+40,000	-247,000	-207,000
Local Augmentation			-23,000
Groundwater			-200,000
Other Local Supplies			-4,000
Imported Supplies	+5,000	-170,000	-165,000
Total	**-162,000**	**-437,000**	**-599,000**

2035 initial decrease in supplies of 599 TAF, would be partially offset by 500 TAF reduction in Retail Demands

Need to do all forecasted stuff – Delta, Retail Demands, plus 100TAF

Summary

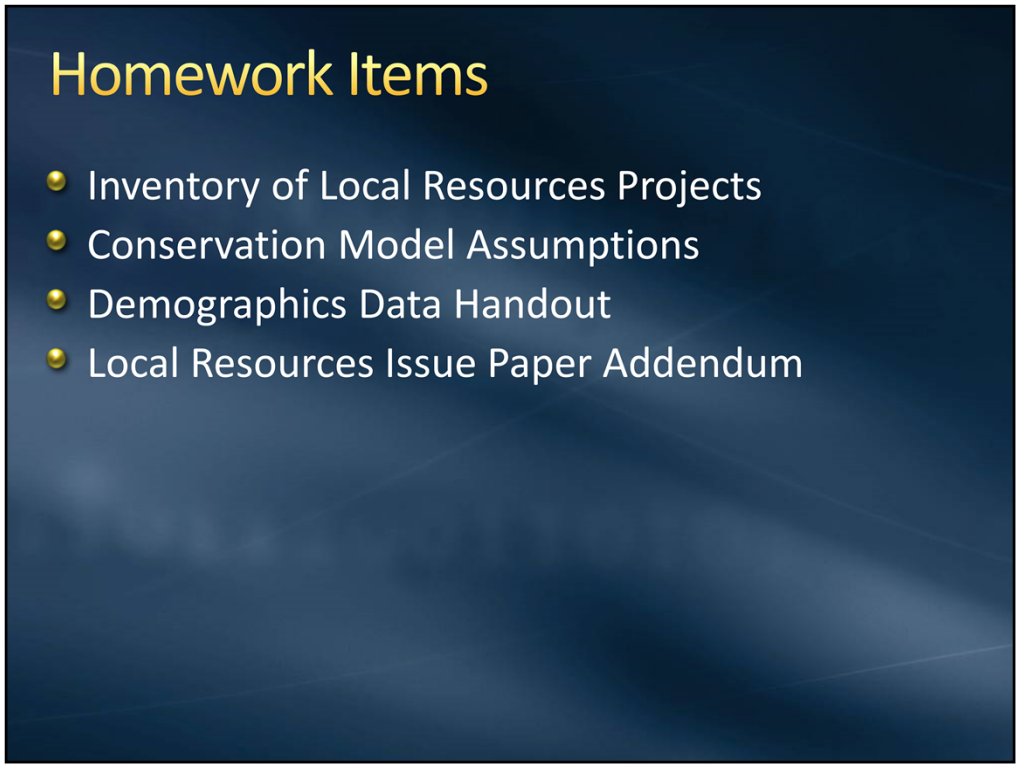
- Initial look at current and changed conditions for 2015
- Technical process will look at each area in depth
  - Discuss related issues
  - Incorporate refinements
- Final forecasts to reflect Member Agency and Board input

Illustrates challenge

Homework – Stacie

All future meetings will be noticed.

Will indicate when serving as RUWMP coordination



Homework to be emailed

- Local Projects Inventory (Each MA)
  - Inventory, Timing, Yield, Category, Costs, etc.
- Conservation Model Assumptions (WUE group)
- Demographics Data Handout (Each MA)
- IRP Issue Papers Review (Designated groups)

All future meetings will be noticed.

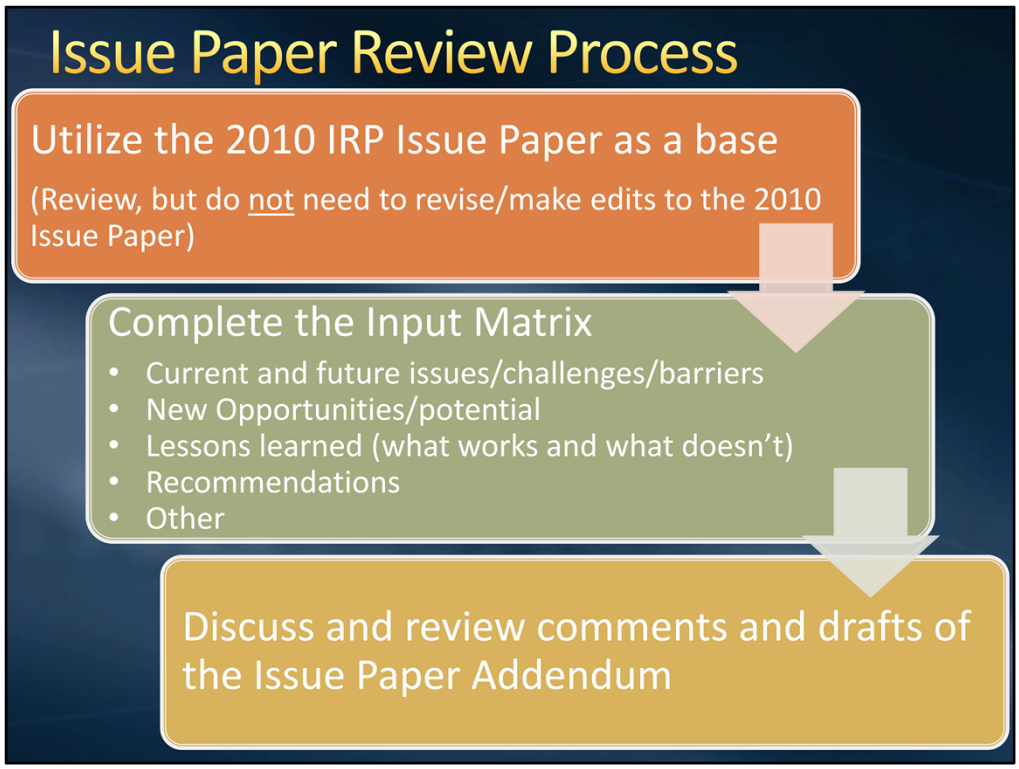
Local Resources Issue Paper Addendum

Purpose

To help inform future water resource decisions by identifying current and potential issues, opportunities, and actions

Overall Deliverable

A concise local resources issue paper addendum (that includes all resource areas)


Issue Paper Review Process
Utilize the 2010 IRP Issue Paper as a base
(Review, but do not need to revise/make edits to the 2010 Issue Paper)
Complete the Input Matrix
• Current and future issues/challenges/barriers
• New Opportunities/potential
• Lessons learned (what works and what doesn't)
• Recommendations
• Other
Discuss and review comments and drafts of the Issue Paper Addendum

Local Resources Issue Paper Addendum

Metropolitan Contacts

Conservation	• **Bill McDonnell**
Groundwater	• **Kathy Kunysz**
Recycled Water	• **Ray Mokhtari**
Seawater Desal	• **Warren Teitz**
Stormwater	• **Matt Hacker**
Graywater	• **David Sumi**
Synergy	• **Matt Hacker**


THE METROPOLITAN WATER DISTRICT OF
SOUTHERN CALIFORNIA