State Water Project and Central Valley Project TUCP

State Water Board Workshop
05/06/14
• Hydrologic Progression Since January

• Actual Operations based on TUCP Order

• Latest Petition Request

• Forecasted Operations
Early January Hydrologic Picture
Northern Sierra 8-Station WY Precipitation Totals

*WY 2014 Precipitation through 1/29/14 = 3.5" - half of WY total typically occurs by late January
Salinity Intrusion Projections based on January Hydrologic Forecasts

90% Exceedence projected EC conditions as experienced during Pre-Project Period (1920 – 1943)

50% Exceedence projected EC conditions as experienced during Post-Project Period (1944 – 1990)
Preparing for the Worst

• Allocation Reductions

• Petition State Board to Modify Delta Standards

• Plan for Emergency Drought Barriers

• Begin Development of the Drought Operations Plan
February/March Improvements
Northern Sierra Precipitation: 8-Station Index, May 2, 2014

Percent of Average for this Date: 62%

Cumulative Daily/Monthly Precipitation (inches)

Water Year (October 1 - September 30)

Total Water Year Precipitation

1982-1983 (wettest) 88.5
Average (1922-1998) 50.0
1976-1977 (2nd Driest) 44.3
1923-1924 (driest) 32.1
2000-2001 19.0
2007-2008 17.1
Northern Sierra 8-Station WY Precipitation Totals

Inches

**Late January**

*WY 2014 Precipitation through 1/29/14 = 3.5" - half of WY total typically occurs by late January*
Northern Sierra 8-Station WY Precipitation Totals

Today

*WY 2014 with forecasted precipitation through 5/1/14 = 28.1"
Driest Oct thru April (since 1905)

1977 = 10.2
1924 = 12.9
1913 = 15.7
1931 = 18.1
2014 = 18.2
1987 = 18.5
Combined Shasta/Oroville/Folsom Storages

End of Month Storage

Historical Average
Jan Actual/90% Forecast
April Actual/90% Forecast
Sep
Improved Conditions

• Some Increased Supply

• Scaled Back Requests for Modified Delta Standards

• Emergency Drought Barrier Installation on Hold
Actual Operations
February and March

• Unmodified D-1641 Standards Largely Met

• Exceptions
  – DCC Opening for Water Quality: February 1 – 10
  – X2 Objectives: < 5 TAF less outflow

• Additional unquantifiable upstream benefits
April

- X2 Objectives: ~210 TAF less outflow
  - 70% upstream savings
  - 30% export of Table 4 water

- Additional unquantifiable upstream benefits
Additional Upstream Benefits

• There is significant uncertainty inherent to this system

• Operational buffers are necessary to ensure regular compliance with Delta standards (>99% of the time historically)

• This level of performance comes with a cost
Additional Upstream Benefits

- Target for Unmodified Standard with Operational Buffer
- Range of Outcome Given Uncertainty
- Flow under the TUCP Order
- Quantified Savings
- Non Quantified Savings
Latest Petition Requests
Additional Petition Requests for Upstream Savings

- Emmaton EC Compliance moved to Threemile Slough
- Delta Outflow Modifications in May and July
- Rio Vista Flow Modification in the Fall
Forecasted Operations
Unmodified Operation

Target for Unmodified Standard

Emmaton Standard

Range of Outcome Given Uncertainty

Threemile Slough
Modified Operation

Old Target for Unmodified Standard

New Target w/o Buffer at Emmaton

Range of Outcome Given Uncertainty

Savings

Threemile Slough
DSM2 simulation of Delta conditions under historical Delta inflows and exports

EC in umhos/cm for Three-Mile Slough Objective – April 2014 Forecast
2015 Reservoir Reserves

• Forecasted end of September Storages:
  o Oroville > 1.0 MAF
  o Shasta > 1.1 MAF
  o Folsom > 300 TAF

• Adequate for Health and Safety Supplies
  o Drinking, Hygiene, Sanitation, and Fire Suppression