EAST BAY MUNICIPAL UTILITY DISTRICT

Water Supply Board Briefing

Water Operations Department

January 24, 2017

Water Supply Briefing

- Recent Storms
- California Water Supply
- District Water Supply
- Flood Control Operations
- Aqueduct & In-Line Plants
- Water Supply Projections

Recent Storms

Summary

From January 1 to January 22, 2017…

- State reservoir storages increased up to 25% of capacity (Pardee & Camanche increased 7% of capacity)
- Observed Precipitation:
  - 23.3” at Northern Sierra 8-Station
  - 24.6” at San Joaquin 5-Station
  - 22.4” at Mokelumne 4-Station
- Snow water content increased from 70% to 193% of average (Caples snow water content increased 26”, 51% to 177% of average)
- Pardee received 214 TAF and instantaneous inflow peaked at 20,662 cfs

Recent Storms

East Bay Summary

- East Bay precipitation is 11.35” (299% of average)
- Briones Reservoir began spilling on January 10
- San Pablo Reservoir began spilling on January 11; releases up to 150 cfs have been made when there is no precipitation
- USL Reservoir began spilling on January 11; releases up to 100 cfs have been made when there is no precipitation
- Chabot Reservoir began spilling on January 23; releases of 150 cfs were made from January 14-17
- Lafayette Reservoir releases of 10 cfs began January 17

Recent Storms

East Bay Reservoir Spills and Releases

Recent Storms

Storm Effects

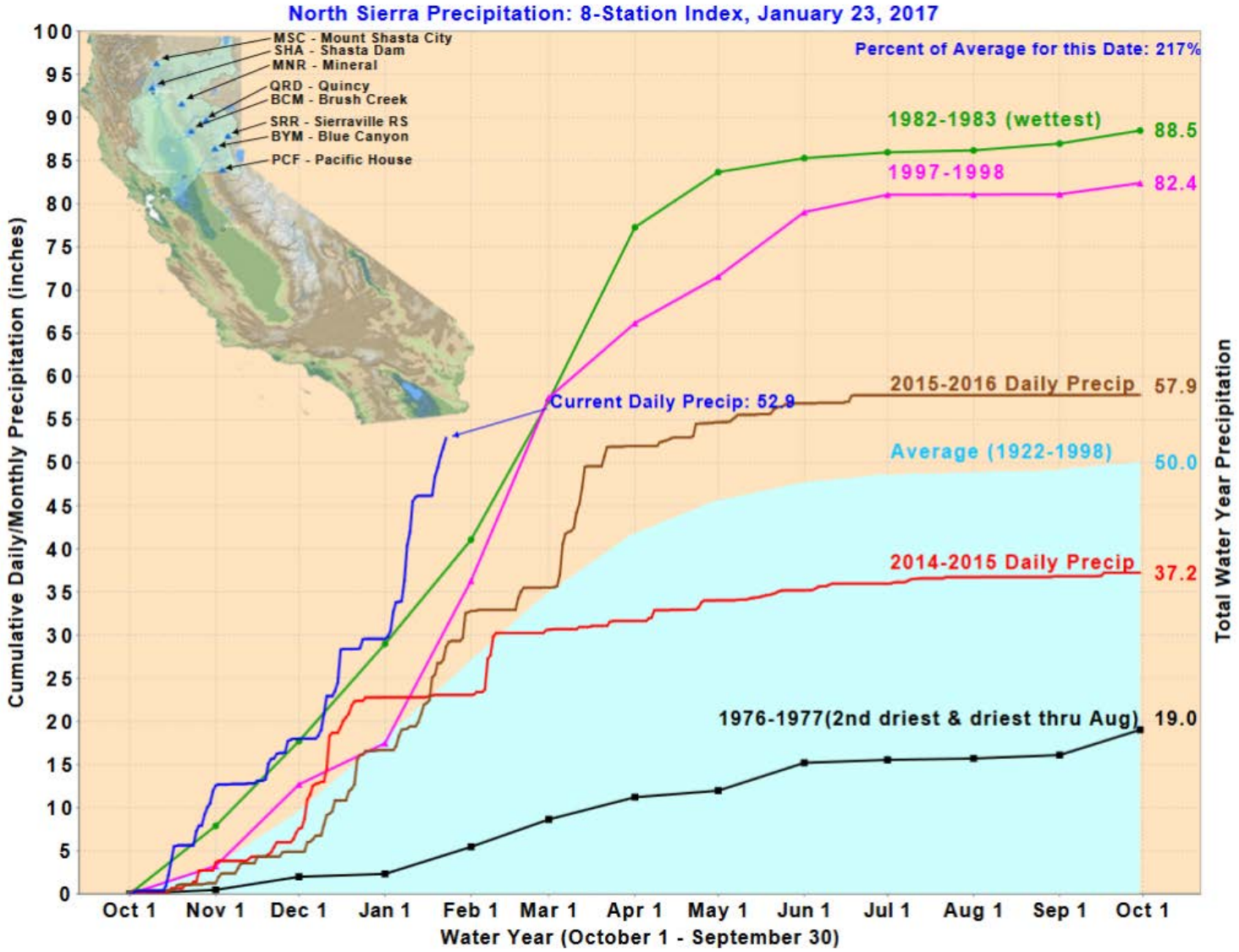
- Flooding and Road Closures
- Redwood Canyon Golf Course flooding
- Landslides
  - Briones Aqueduct
  - Sobrante WTP

Recent Storms

San Pablo WTP Water Quality

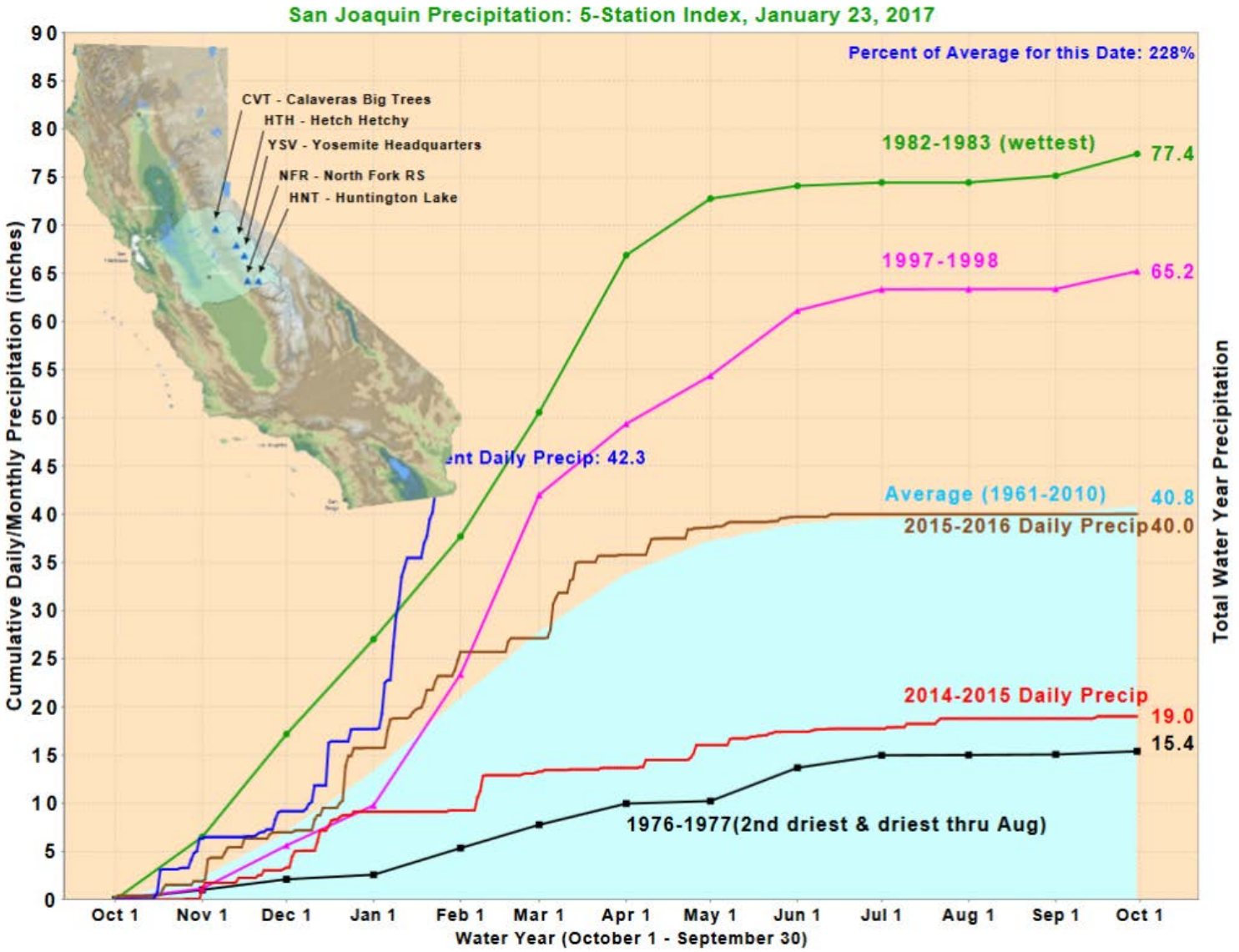
California Water Supply

North Sierra Precipitation



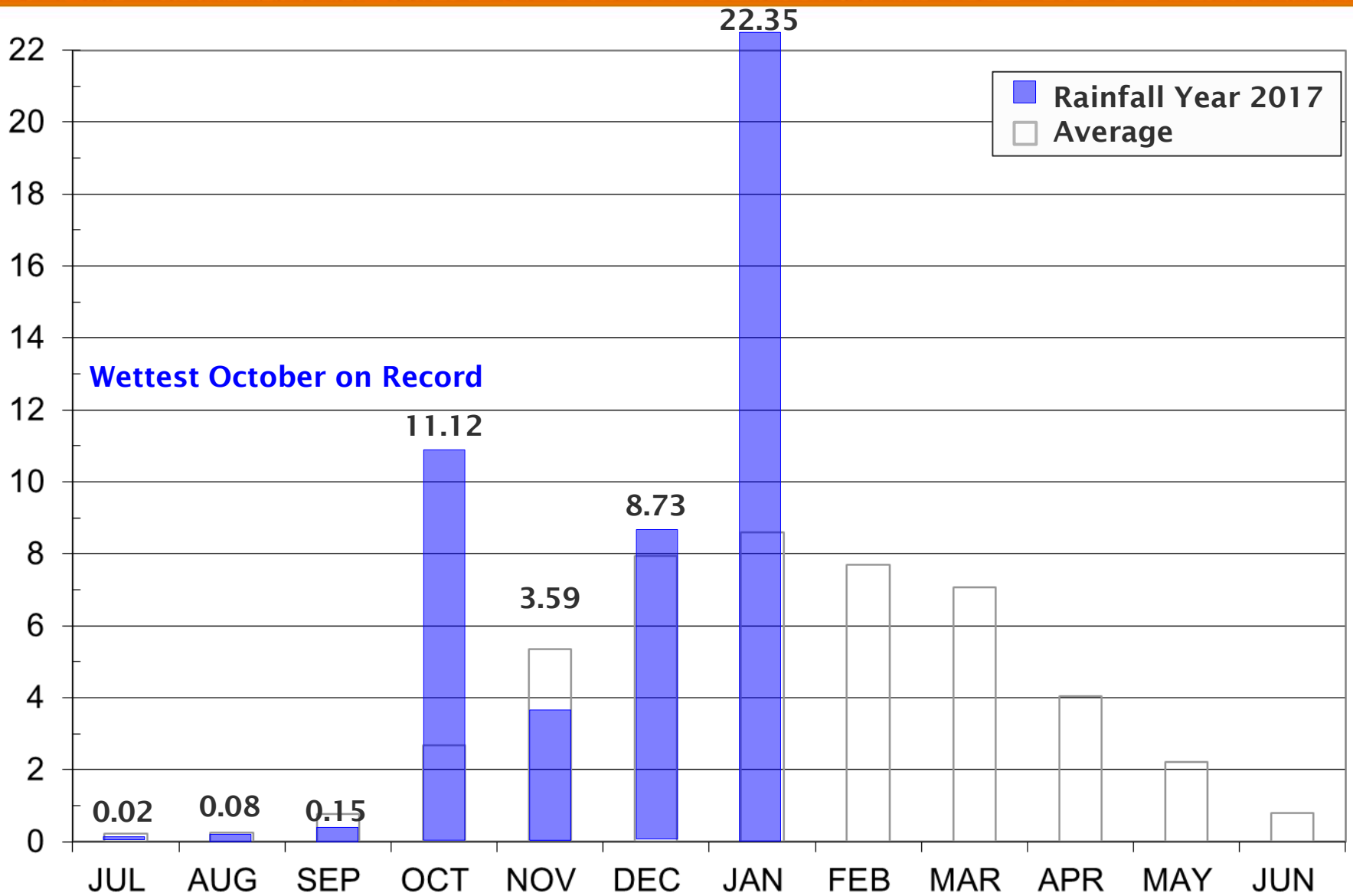
California Water Supply

San Joaquin Precipitation



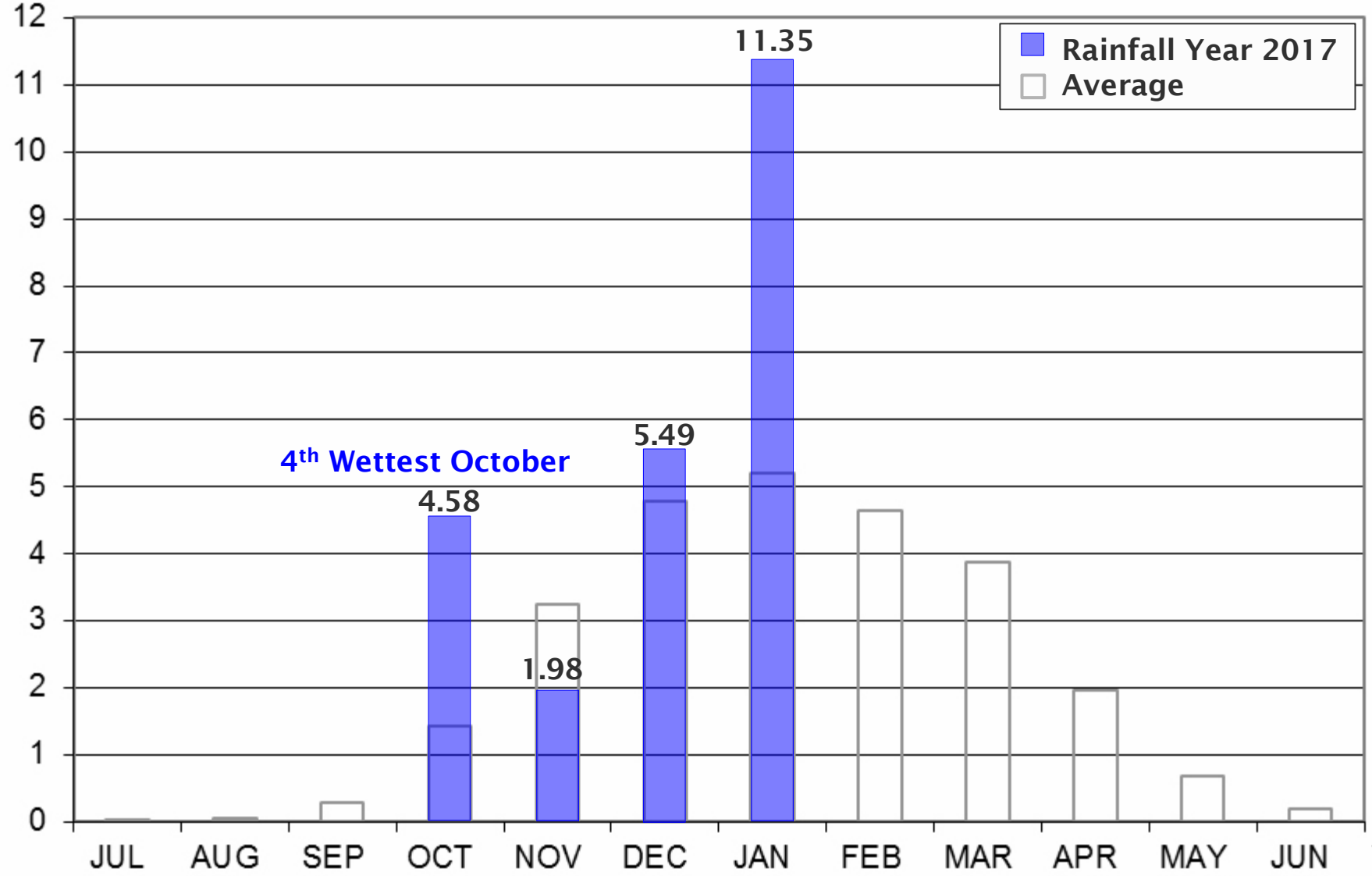
Current Water Supply

Mokelumne Precipitation



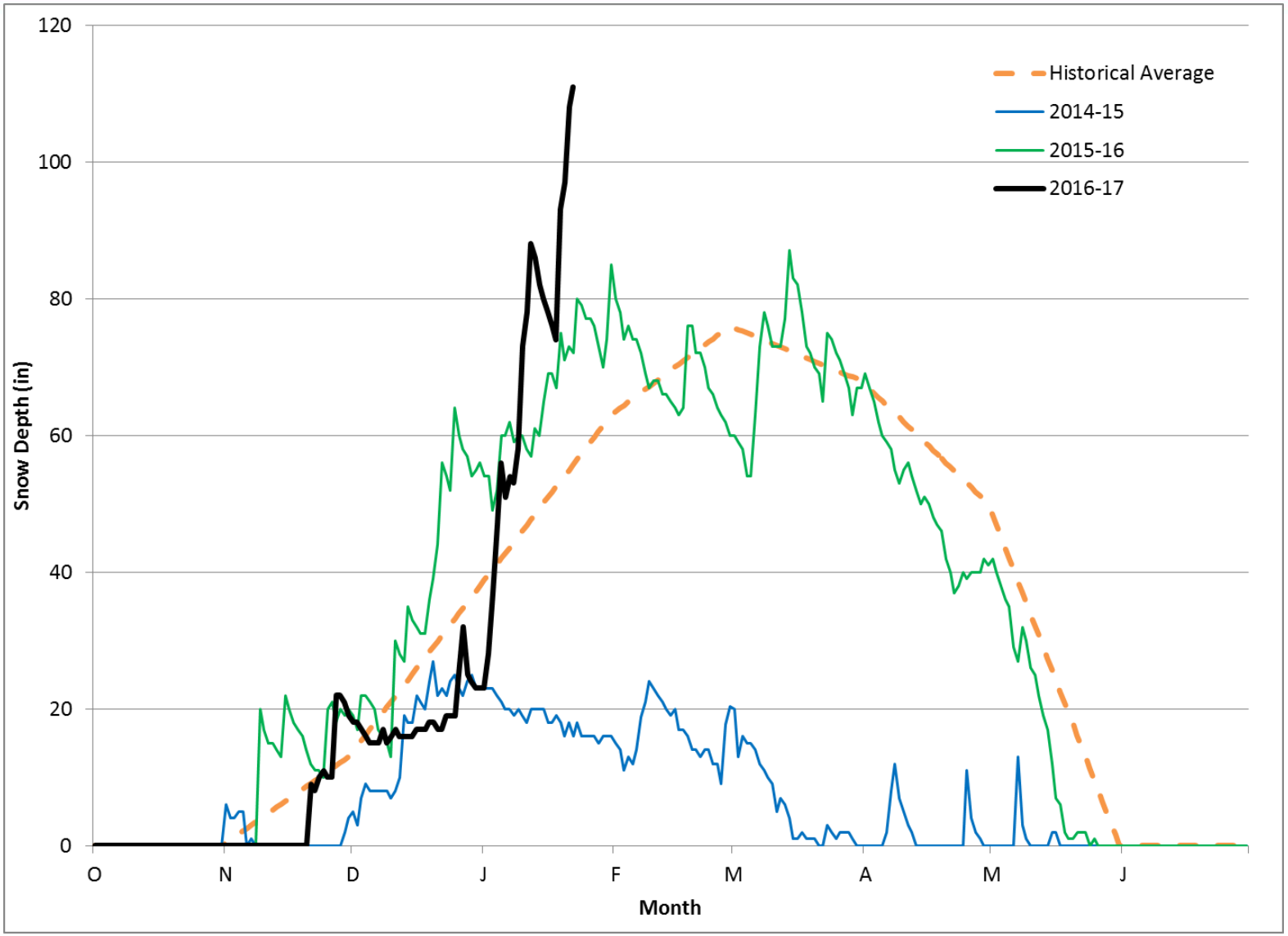
Current Water Supply

East Bay Precipitation



Current Water Supply

Caples Lake Snow Depth



Current Water Supply

Precipitation & Snow

As of 1/22/2017	Cumulative Precipitation	% of Average
East Bay		
East Bay Watershed	23.4”	171%
Mokelumne Basin		
4-Station Average	46.04”	196%
Caples Lake Snow Depth	111”	199%
Caples Lake Snow Water Content	31.29”	177%

Current Water Supply

Reservoir Storage

As of 1/22/17	Current Storage	Percent of Average	Percent of Capacity
Pardee	202,050 AF	113%	99%
Camanche	315,200 AF	122%	76%
East Bay	153,570 AF	123%	102%
Total System	670,820 AF	119%	87%

Current Water Supply

Pardee Release and Spill

Current Water Supply

Runoff

Water Year	True Natural Flow (TAF)
2012	420
2013	435
2014	260
2015	220
2016	695
2017	389*

*Through January 22, 2017

Flood Control Operations

Conditions

- WY17 Mokelumne precipitation is 196% of average
- January 2017 Mokelumne precipitation is 22.35”, 360% of average for the month
- January storms through Sunday received over 20” of precipitation and 200 TAF runoff
- Pardee inflow exceeded 20,000 cfs
- Pardee has spilled 72 TAF into Camanche
- Camanche has released 176 TAF since ramping to 3,000 cfs on January 4
- San Pablo has released 670 AF, USL has released 1,000 AF, Chabot has released 1,230 AF, & Lafayette has released 100 AF.

Flood Control Operations

Camanche Releases

Flood Control Operations

Actions

- Making maximum releases from Camanche Reservoir
- Made releases from San Pablo, USL, Chabot, and Lafayette Reservoirs
- Currently not releasing from San Pablo and USL Reservoirs due to spill and increased flows from precipitation and runoff
- Preparing to make releases from East Bay Reservoirs when precipitation and runoff subside
- Notifying agencies and public regarding releases and spills

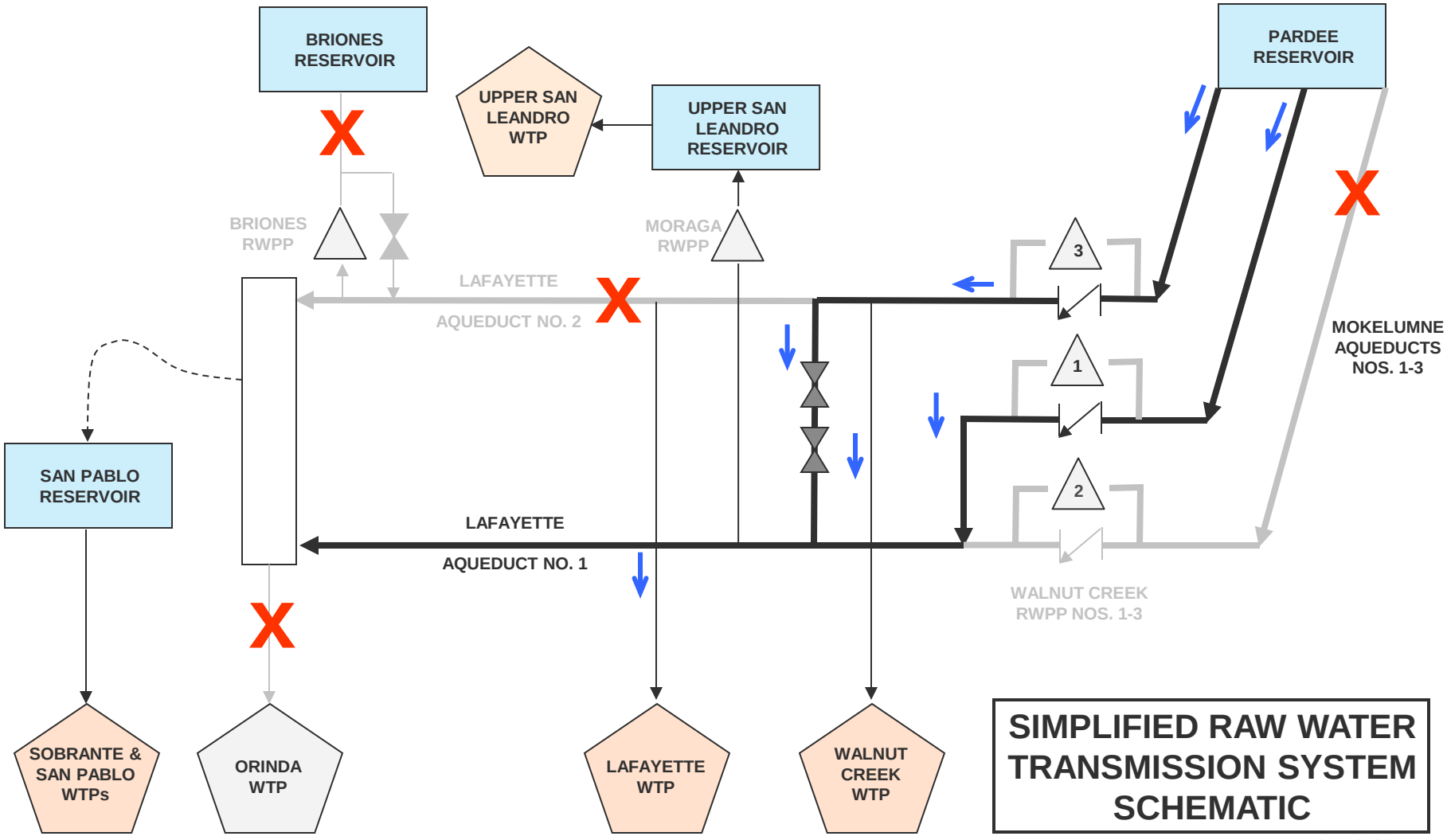
Aqueduct & In-Line Plants

Conditions

- Campo Seco turbidity jumped from 2.5 to 10 ntu on Jan 18, to 15 ntu on Jan 19, and then to 24 ntu
- ~70 hour travel time to East Bay at current rates
- In-line plants have problems at 3 to 5 ntu and consider water untreatable above 8 ntu
- Briones Reservoir needed as back-up source
- Briones and Lafayette No. 2 Aqueducts shut down since November as part of the Orinda WTP upgrades

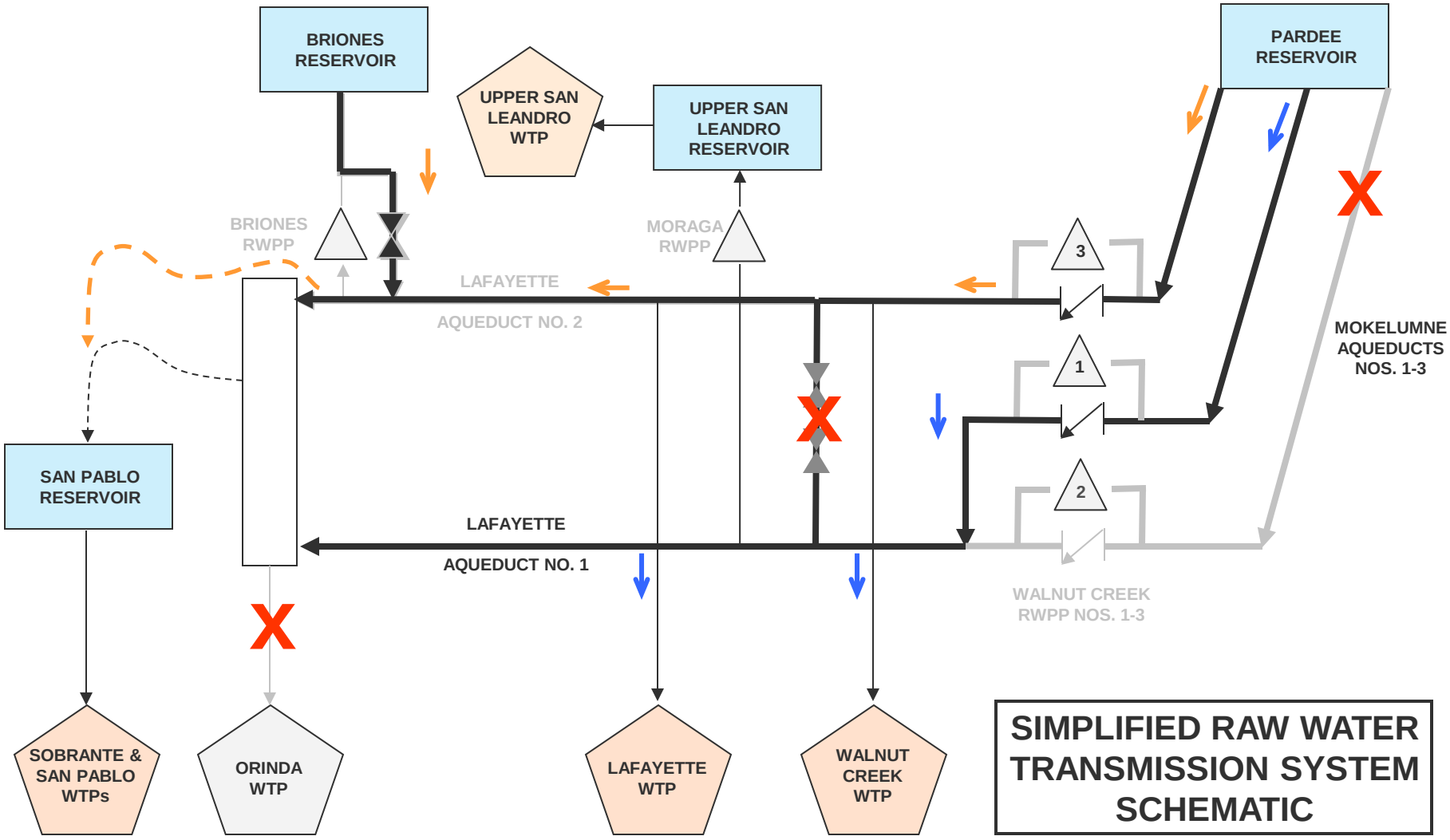
Aqueduct & In-Line Plants

Baseline Configuration – January 18



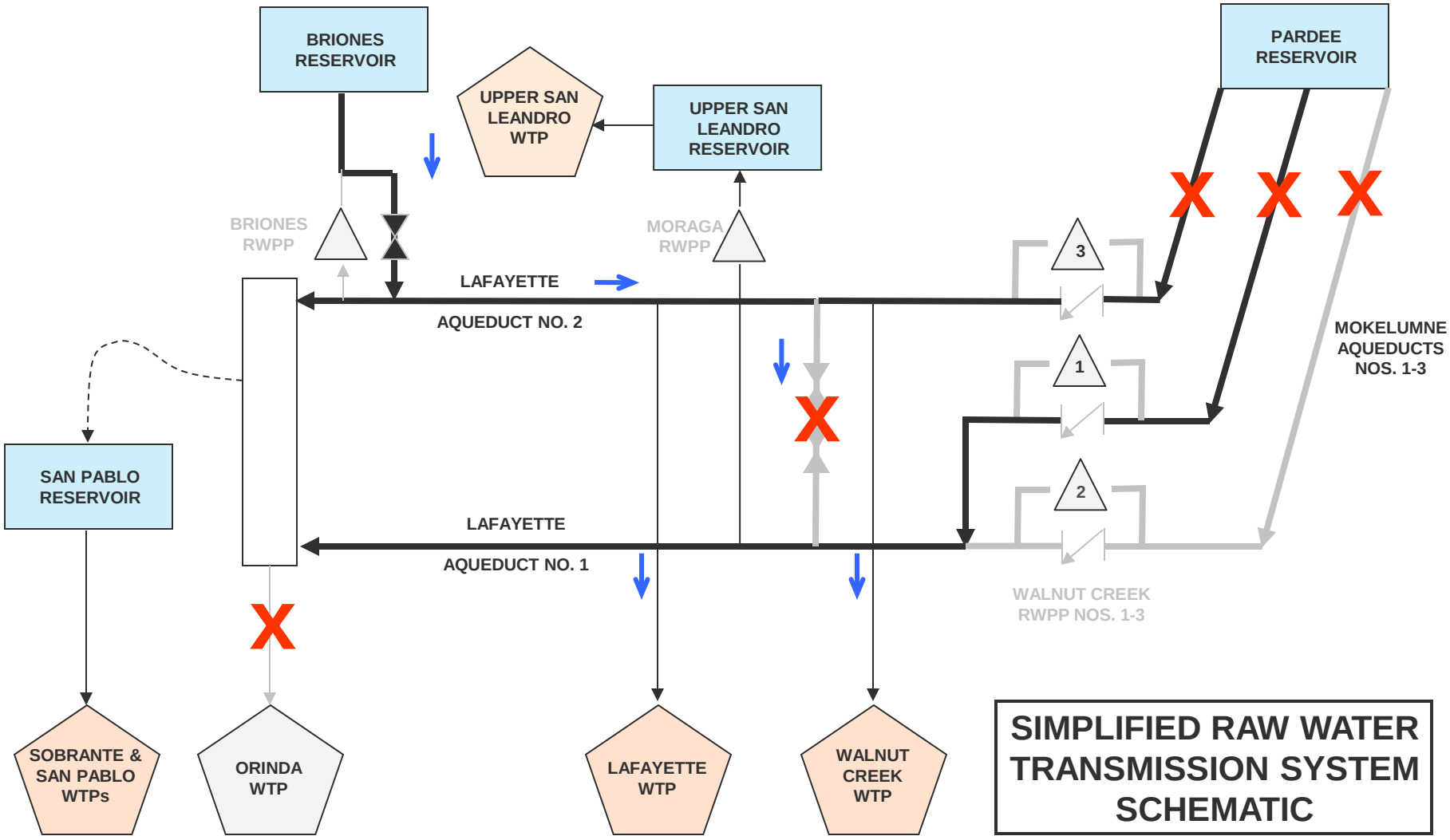
Aqueduct & In-Line Plants

Fill/Flush Configuration – January 19



Aqueduct & In-Line Plants

Reverse Flow Configuration – January 21

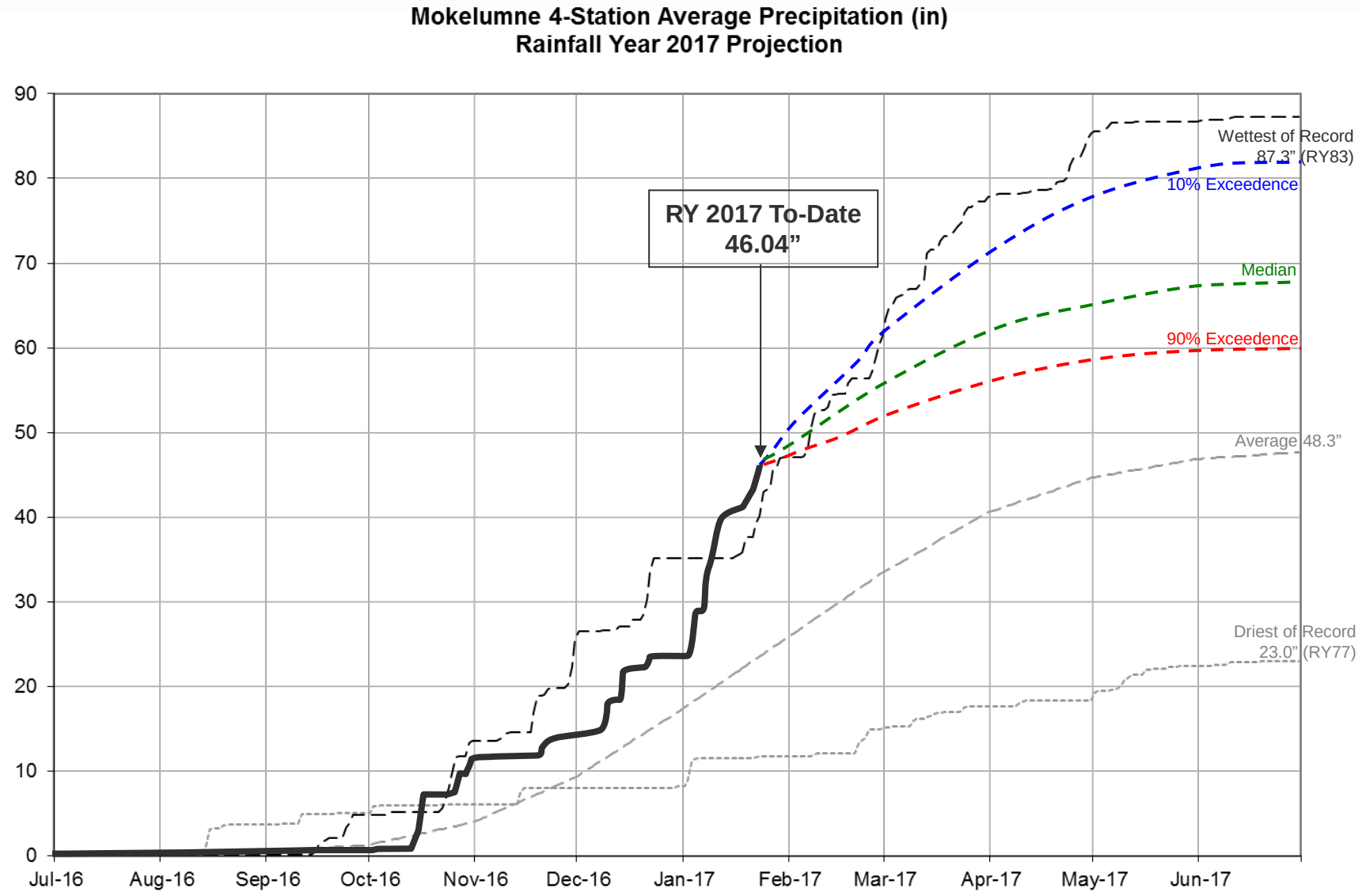


SIMPLIFIED RAW WATER TRANSMISSION SYSTEM SCHEMATIC

NOT TO SCALE

Water Supply Projections

Mokelumne Precipitation Rainfall Year 2017



Water Year 2017

Summary as of January 22, 2017

- East Bay watershed season precipitation is 171% of average
- Mokelumne River watershed season precipitation is 196% of average
- Precipitation accumulation season 49% complete (51% remaining)
- Camanche Reservoir Releases maintained at 5,000 cfs for flood control (177 TAF released from Camanche since January 4)
- True Natural Flow received to date is 389 TAF (224 TAF since January 4)
- Total system storage is 304 TAF more than last year at this time

Lots of snow!