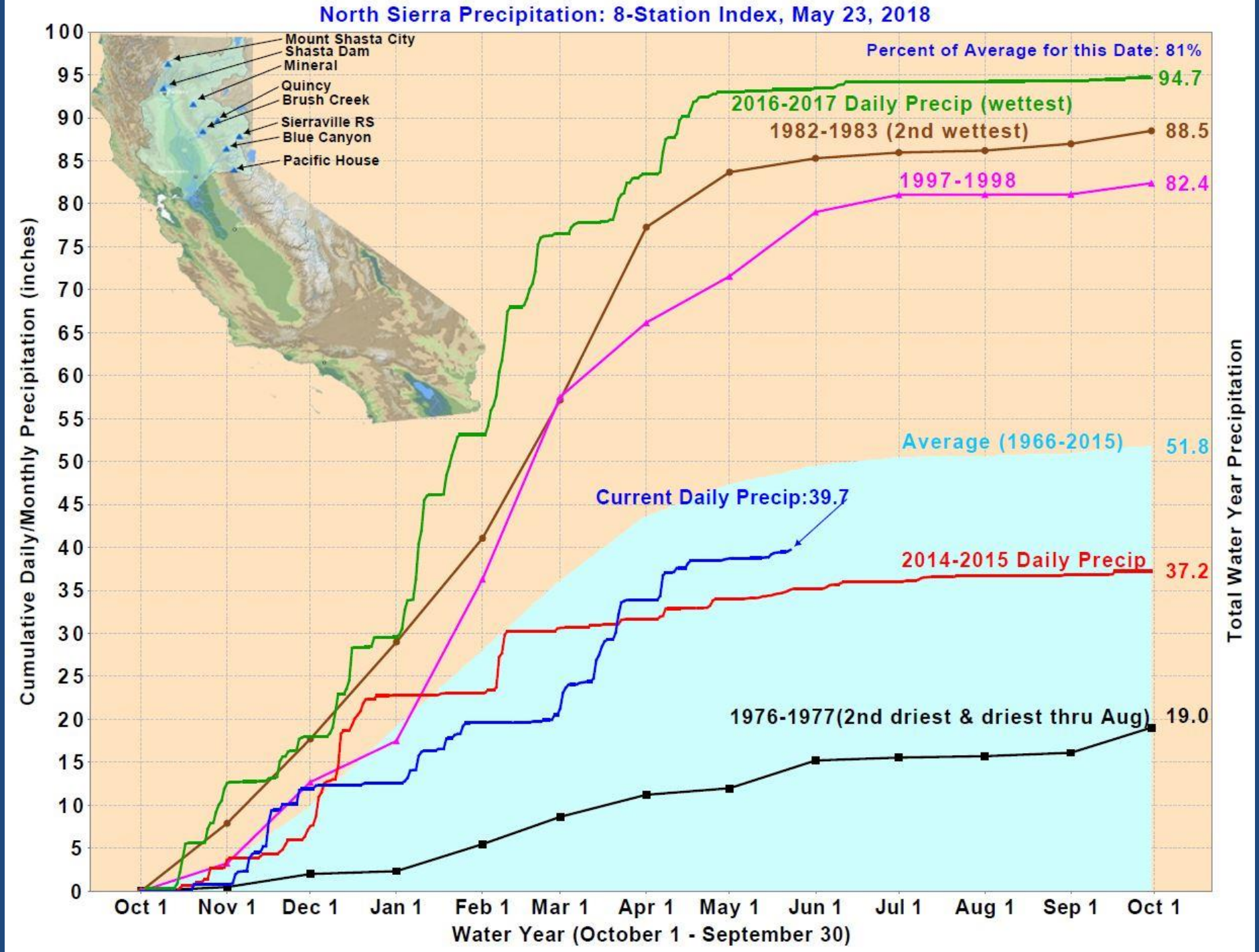
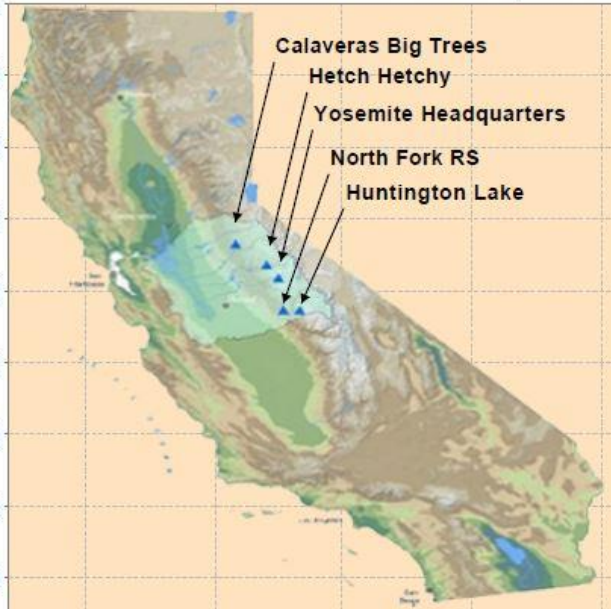
Stanislaus County Water Advisory Committee

May 30, 2018

2018 Hydrologic Conditions and Water Supply Outlook


North Sierra Precipitation: 8-Station Index, May 23, 2018
Mount Shasta City
Shasta Dam
Mineral
Quincy
Brush Creek
Sierraville RS
Blue Canyon
Pacific House
Percent of Average for this Date: 81%
2016-2017 Daily Precip (wettest)
94.7
1982-1983 (2nd wettest)
88.5
1997-1998
82.4
Average (1966-2015)
51.8
Current Daily Precip:39.7
2014-2015 Daily Precip
37.2
1976-1977(2nd driest & driest thru Aug)
19.0
Cumulative Daily/Monthly Precipitation (inches)
Total Water Year Precipitation
0
5
10
15
20
25
30
35
40
45
50
55
60
65
70
75
80
85
90
95
100
Oct 1
Nov 1
Dec 1
Jan 1
Feb 1
Mar 1
Apr 1
May 1
Jun 1
Jul 1
Aug 1
Sep 1
Oct 1
Water Year (October 1 - September 30)

San Joaquin Precipitation: 5-Station Index, May 23, 2018



Percent of Average for this Date: 78%

1982-1983 (wettest) 77.4

72.7 2016-2017 Daily Precip (2nd wettest)

1997-1998 65.2

Average (1966-2015) 40.2

Current Daily Precip:29.6

2014-2015 Daily Precip 19.0

15.4 1976-1977(2nd driest & driest thru Aug)

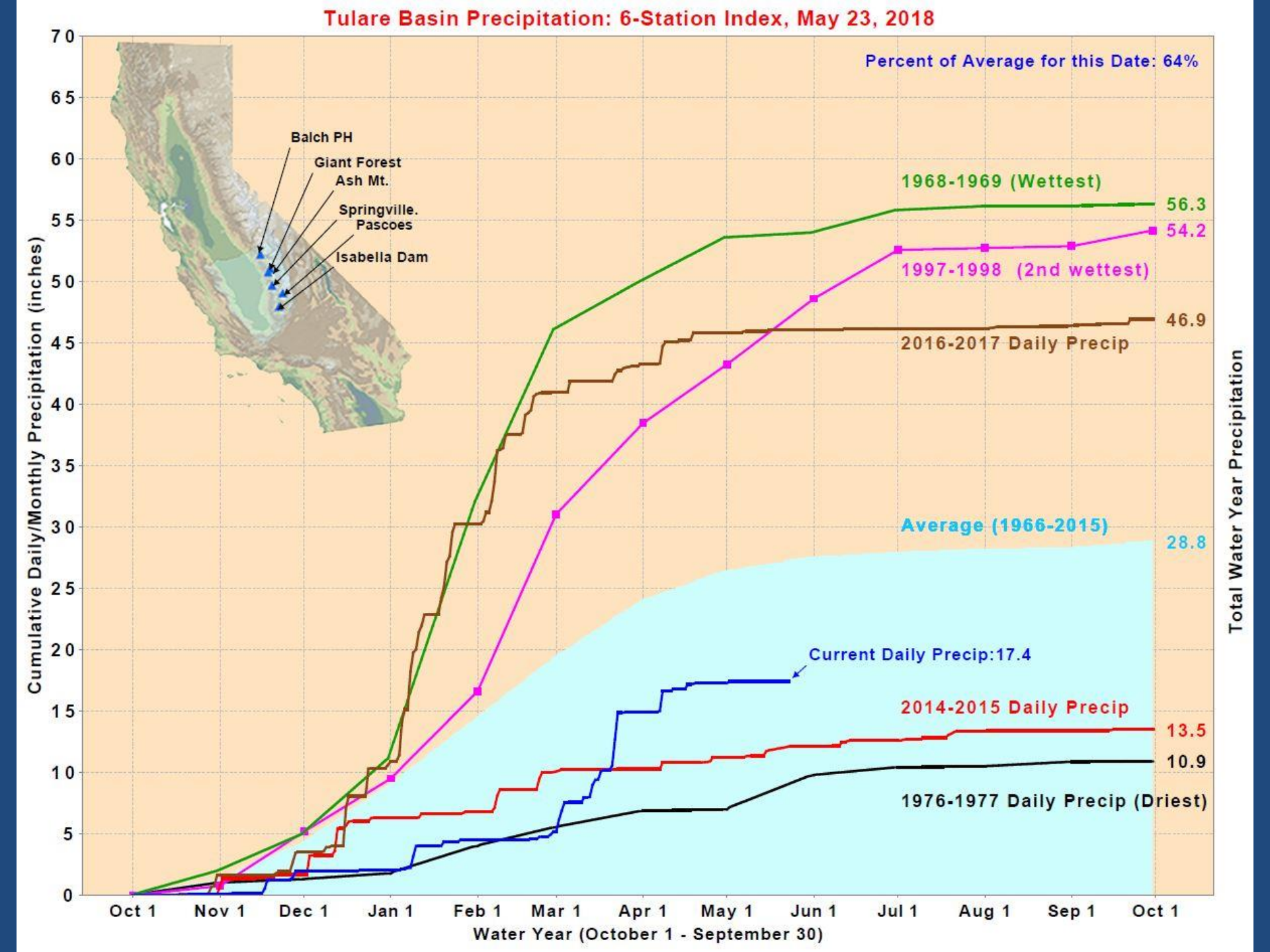
Cumulative Daily/Monthly Precipitation (inches)

Total Water Year Precipitation

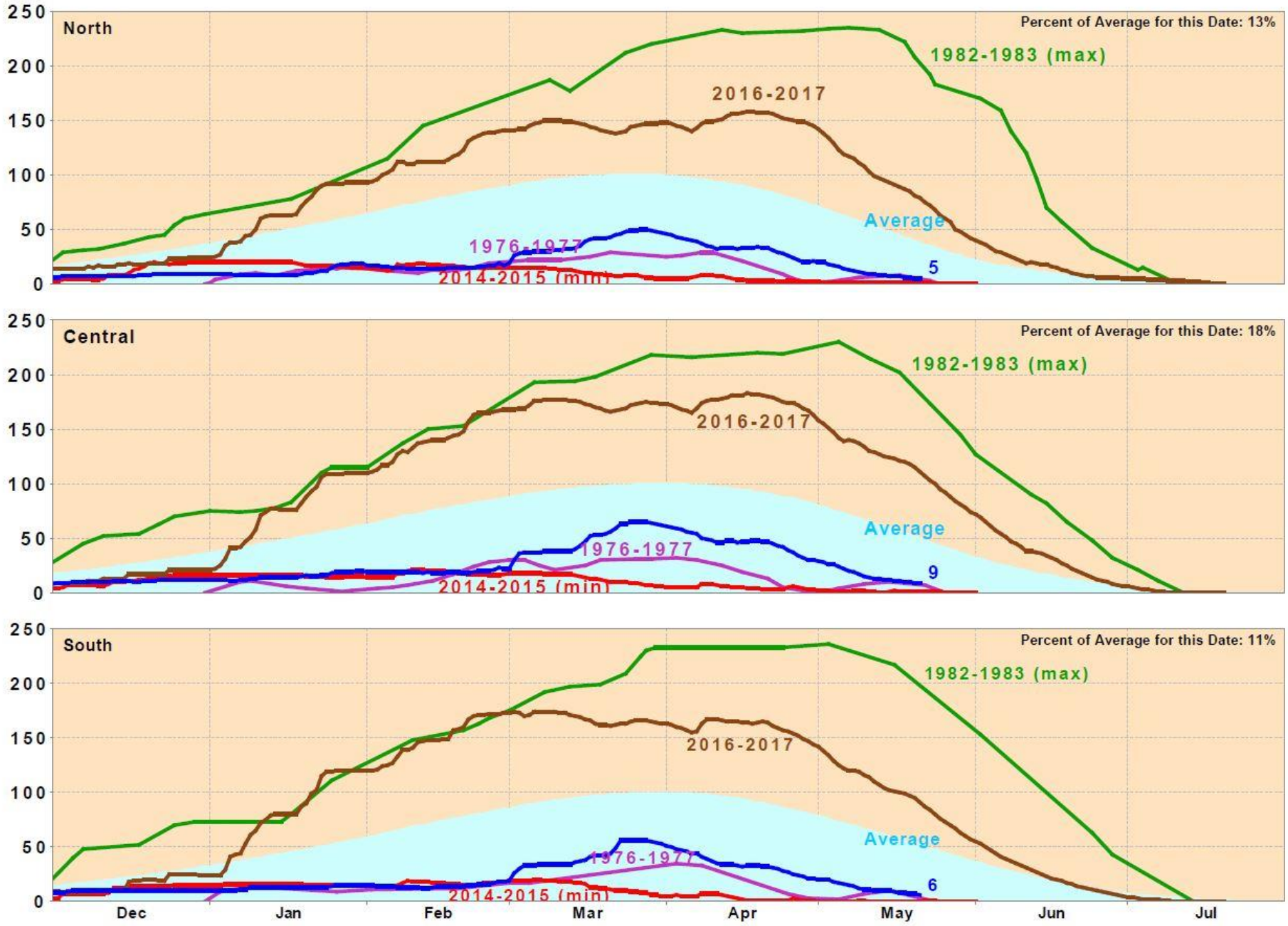
0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90

Oct 1 Nov 1 Dec 1 Jan 1 Feb 1 Mar 1 Apr 1 May 1 Jun 1 Jul 1 Aug 1 Sep 1 Oct 1

Water Year (October 1 - September 30)


Tulare Basin Precipitation: 6-Station Index, May 23, 2018
Percent of Average for this Date: 64%
Balch PH
Giant Forest
Ash Mt.
Springville.
Pascoes
Isabella Dam
1968-1969 (Wettest)
56.3
54.2
1997-1998 (2nd wettest)
46.9
2016-2017 Daily Precip
Average (1966-2015)
28.8
Current Daily Precip:17.4
2014-2015 Daily Precip
13.5
10.9
1976-1977 Daily Precip (Driest)
Cumulative Daily/Monthly Precipitation (inches)
Total Water Year Precipitation
0
5
10
15
20
25
30
35
40
45
50
55
60
65
70
Oct 1
Nov 1
Dec 1
Jan 1
Feb 1
Mar 1
Apr 1
May 1
Jun 1
Jul 1
Aug 1
Sep 1
Oct 1
Water Year (October 1 - September 30)

California Snow Water Content, May 21, 2018, Percent of April 1 Average



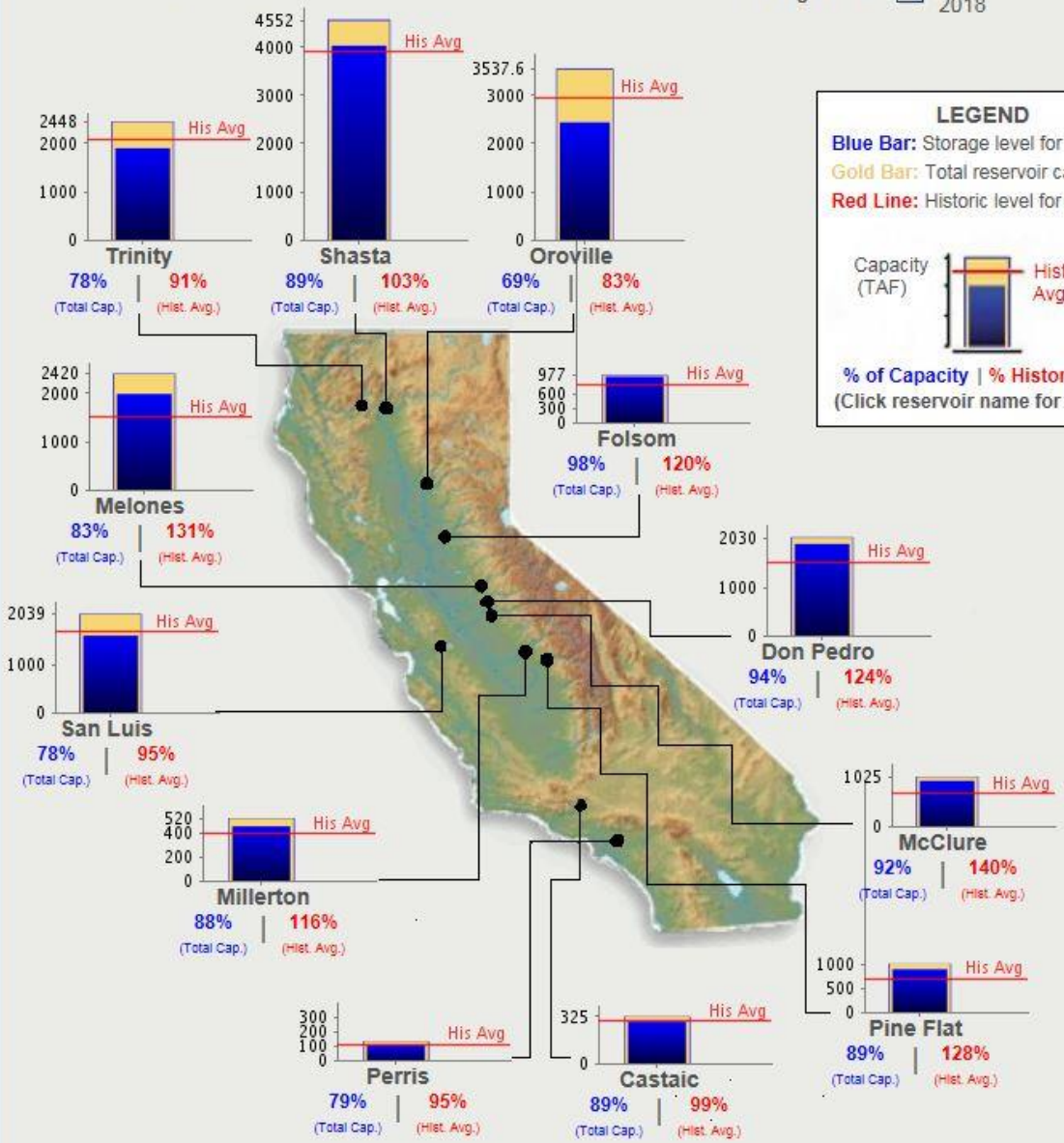
Statewide Percent of April 1: 7%

Statewide Percent of Average for Date: 15%

CURRENT CONDITIONS FOR MAJOR RESERVOIRS: 22-MAY-2018

Data as of Midnight: 22-May-2018

Change Date: 22-May-2018



LEGEND

Blue Bar: Storage level for date

Gold Bar: Total reservoir capacity.

Red Line: Historic level for date.

Capacity (TAF) — Historical Avg Mark

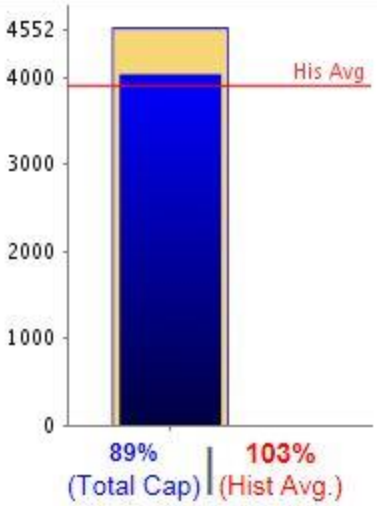
% of Capacity | % Historical Avg

(Click reservoir name for details)

Click for printable version of current data.

Report Generated: 23-May-2018 9:07 AM

SHASTA - STORAGE CONDITIONS AS OF MAY 22, 2018



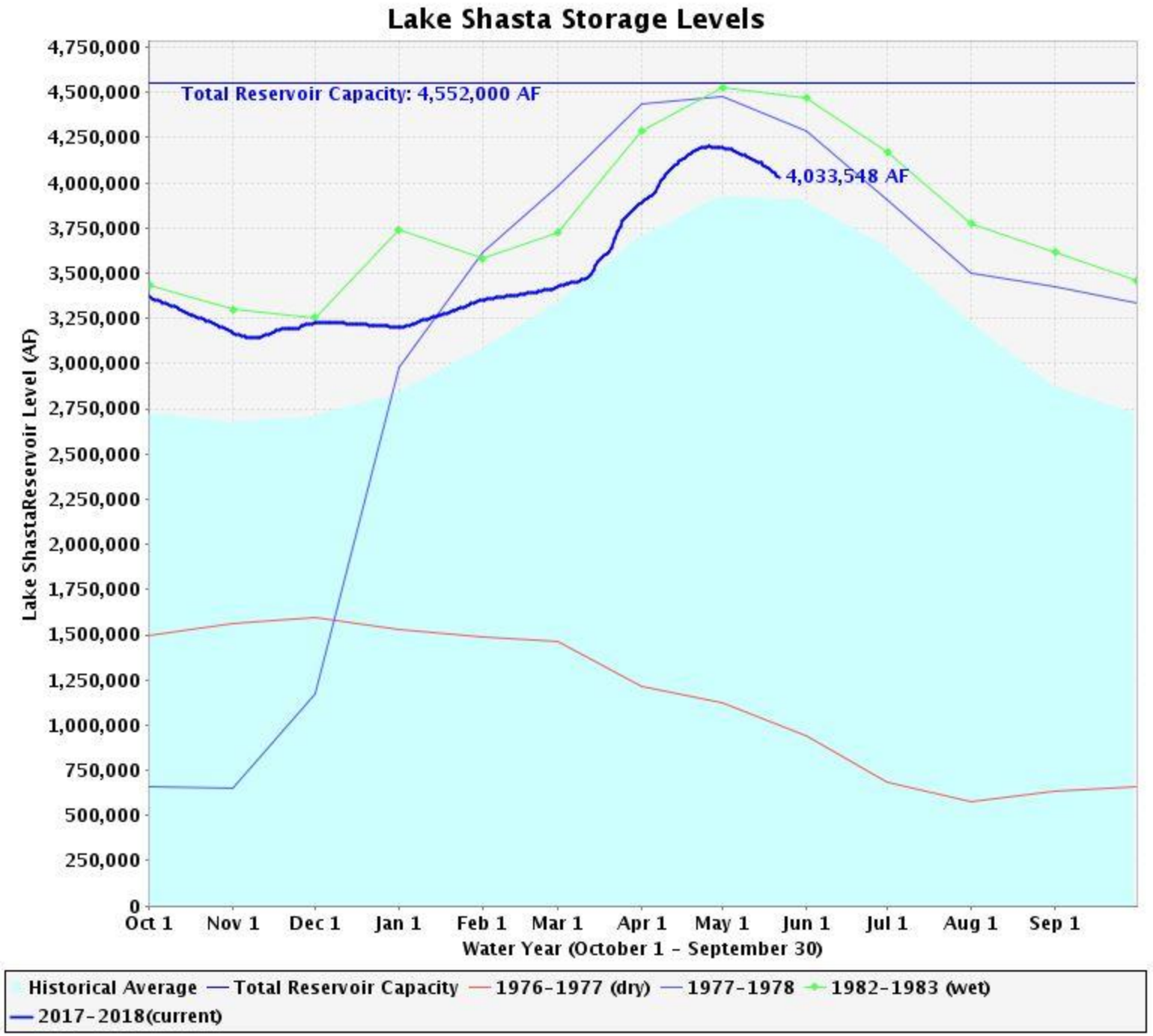
Data as of Midnight: May 22, 2018

- Current Storage: 4033548 AF
- 89% of Total Capacity
- 103% of Historical Avg. For This Date
- (Total Capacity: 4552000.0 AF)
- (Avg. Storage for May 22: 3907448.0 AF)

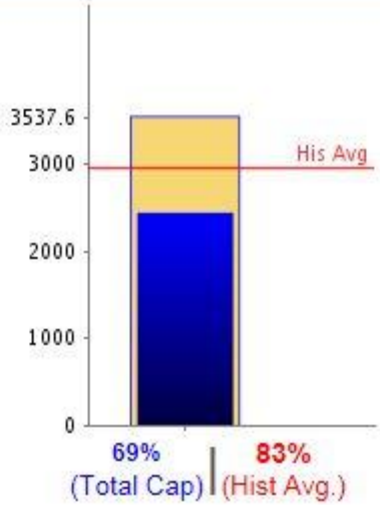
Change Date: 22-May-2018

Major Reservoir Current Conditions Graphs

Printable Version of Current Data


Lake Shasta Storage Levels
Total Reservoir Capacity: 4,552,000 AF
4,033,548 AF
Lake ShastaReservoir Level (AF)
4,750,000
4,500,000
4,250,000
4,000,000
3,750,000
3,500,000
3,250,000
3,000,000
2,750,000
2,500,000
2,250,000
2,000,000
1,750,000
1,500,000
1,250,000
1,000,000
750,000
500,000
250,000
0
Oct 1
Nov 1
Dec 1
Jan 1
Feb 1
Mar 1
Apr 1
May 1
Jun 1
Jul 1
Aug 1
Sep 1
Water Year (October 1 - September 30)
Historical Average
Total Reservoir Capacity
1976-1977 (dry)
1977-1978
1982-1983 (wet)
2017-2018(current)

OROVILLE - STORAGE CONDITIONS AS OF MAY 22, 2018



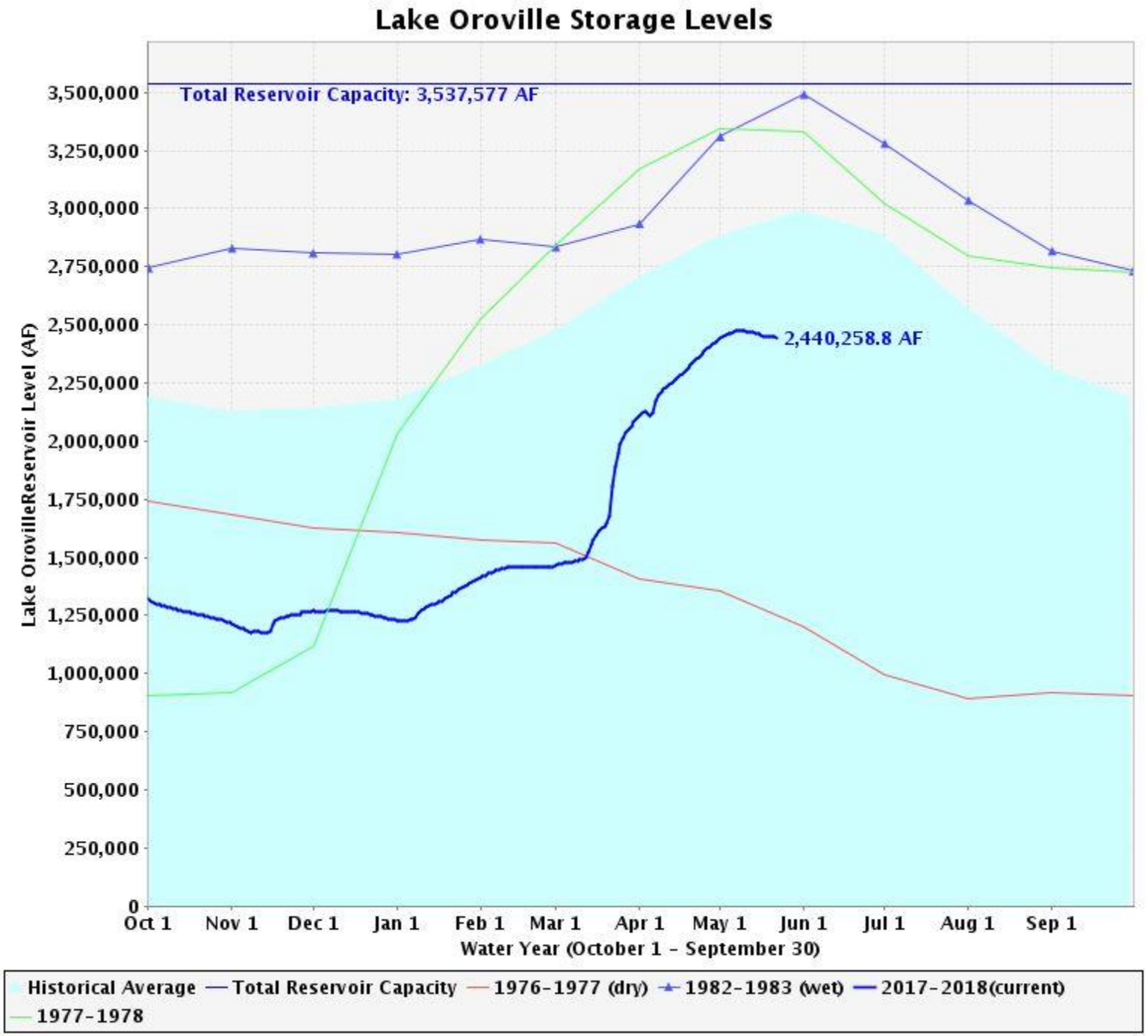
Data as of Midnight: May 22, 2018

- Current Storage: 2440258 AF
- 69% of Total Capacity
- 83% of Historical Avg. For This Date
- (Total Capacity: 3537577.0 AF)
- (Avg. Storage for May 22: 2957174.0 AF)

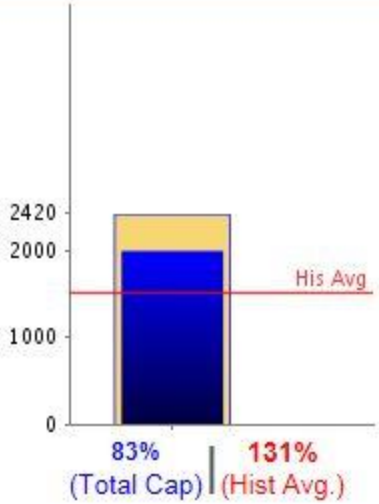
Change Date: 22-May-2018

Major Reservoir Current Conditions Graphs

Printable Version of Current Data


Lake Oroville Storage Levels
Total Reservoir Capacity: 3,537,577 AF
2,440,258.8 AF
3,500,000
3,250,000
3,000,000
2,750,000
2,500,000
2,250,000
2,000,000
1,750,000
1,500,000
1,250,000
1,000,000
750,000
500,000
250,000
0
Lake OrovilleReservoir Level (AF)
Oct 1
Nov 1
Dec 1
Jan 1
Feb 1
Mar 1
Apr 1
May 1
Jun 1
Jul 1
Aug 1
Sep 1
Water Year (October 1 - September 30)
Historical Average
Total Reservoir Capacity
1976-1977 (dry)
1982-1983 (wet)
2017-2018(current)
1977-1978

MELONES - STORAGE CONDITIONS AS OF MAY 22, 2018



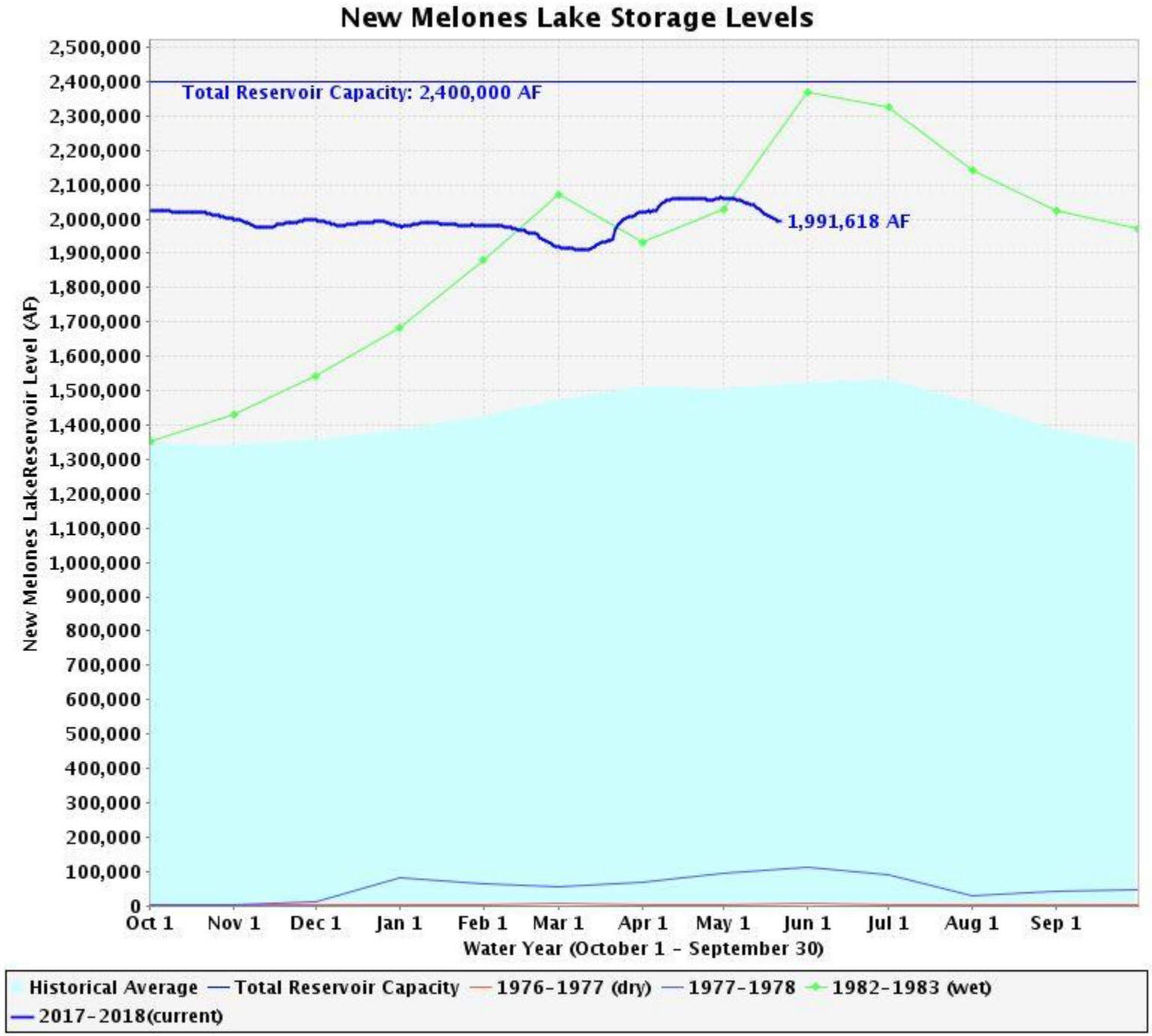
Data as of Midnight: May 22, 2018

- Current Storage: 1991618 AF
- 83% of Total Capacity
- 131% of Historical Avg. For This Date
- (Total Capacity: 2400000.0 AF)
- (Avg. Storage for May 22: 1515308.0 AF)

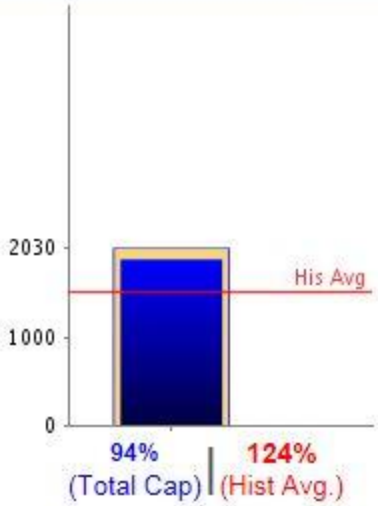
Change Date: 22-May-2018

Major Reservoir Current Conditions Graphs

Printable Version of Current Data


New Melones Lake Storage Levels
Total Reservoir Capacity: 2,400,000 AF
1,991,618 AF
New Melones LakeReservoir Level (AF)
2,500,000
2,400,000
2,300,000
2,200,000
2,100,000
2,000,000
1,900,000
1,800,000
1,700,000
1,600,000
1,500,000
1,400,000
1,300,000
1,200,000
1,100,000
1,000,000
900,000
800,000
700,000
600,000
500,000
400,000
300,000
200,000
100,000
0
Oct 1
Nov 1
Dec 1
Jan 1
Feb 1
Mar 1
Apr 1
May 1
Jun 1
Jul 1
Aug 1
Sep 1
Water Year (October 1 - September 30)
Historical Average
Total Reservoir Capacity
1976-1977 (dry)
1977-1978
1982-1983 (wet)
2017-2018(current)

DON PEDRO - STORAGE CONDITIONS AS OF MAY 22, 2018



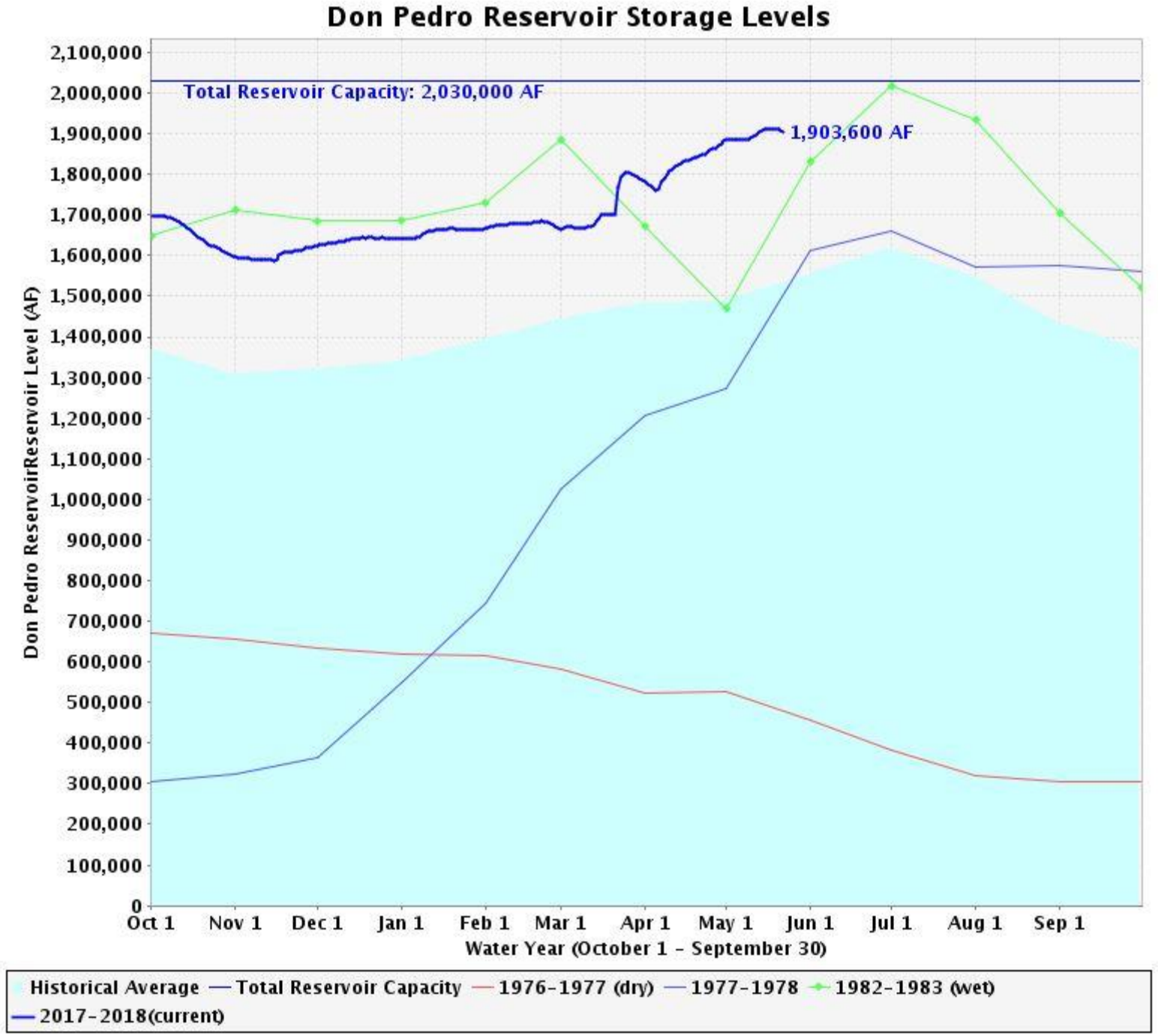
Data as of Midnight: May 22, 2018

- Current Storage: 1903600 AF
- 94% of Total Capacity
- 124% of Historical Avg. For This Date
- (Total Capacity: 2030000.0 AF)
- (Avg. Storage for May 22: 1533884.323 AF)

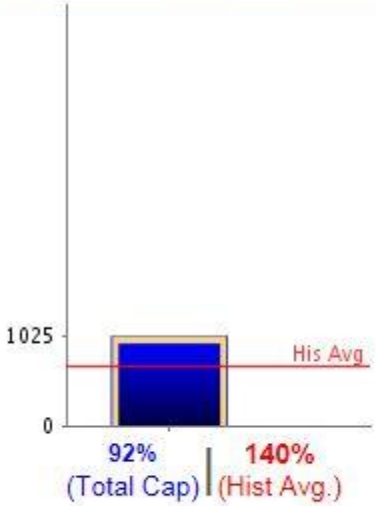
Change Date: 22-May-2018

Major Reservoir Current Conditions Graphs

Printable Version of Current Data


Don Pedro Reservoir Storage Levels
Total Reservoir Capacity: 2,030,000 AF
1,903,600 AF
Don Pedro ReservoirReservoir Level (AF)
2,100,000
2,000,000
1,900,000
1,800,000
1,700,000
1,600,000
1,500,000
1,400,000
1,300,000
1,200,000
1,100,000
1,000,000
900,000
800,000
700,000
600,000
500,000
400,000
300,000
200,000
100,000
0
Oct 1
Nov 1
Dec 1
Jan 1
Feb 1
Mar 1
Apr 1
May 1
Jun 1
Jul 1
Aug 1
Sep 1
Water Year (October 1 - September 30)
Historical Average
Total Reservoir Capacity
1976-1977 (dry)
1977-1978
1982-1983 (wet)
2017-2018(current)

MCCLURE - STORAGE CONDITIONS AS OF MAY 22, 2018



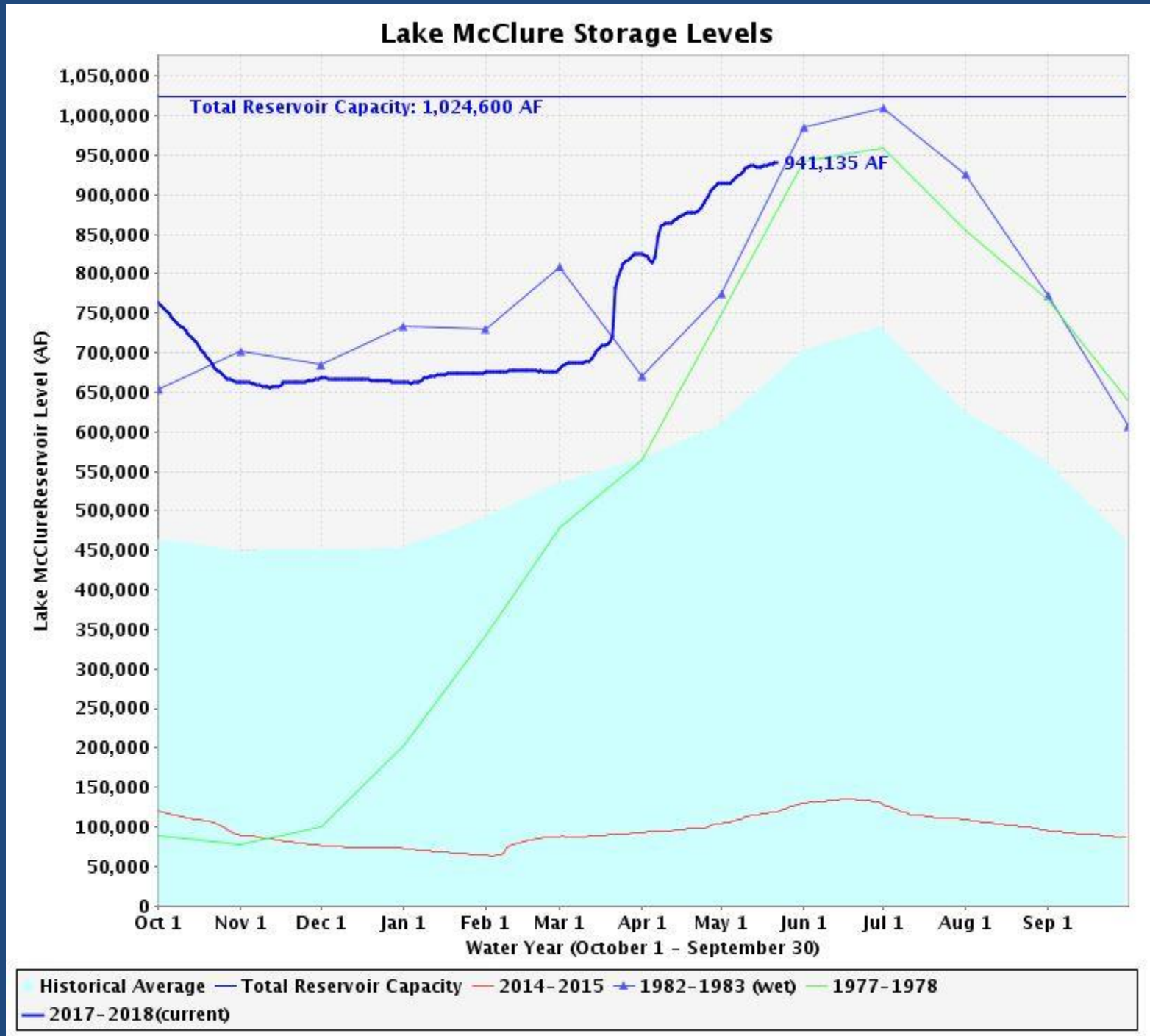
Data as of Midnight: May 22, 2018

- Current Storage: 941135 AF
- 92% of Total Capacity
- 140% of Historical Avg. For This Date
- (Total Capacity: 1024600.0 AF)
- (Avg. Storage for May 22: 673676.0 AF)

Change Date: 22-May-2018

Major Reservoir Current Conditions Graphs

Printable Version of Current Data


Lake McClure Storage Levels
Total Reservoir Capacity: 1,024,600 AF
941,135 AF
Lake McClureReservoir Level (AF)
1,050,000
1,000,000
950,000
900,000
850,000
800,000
750,000
700,000
650,000
600,000
550,000
500,000
450,000
400,000
350,000
300,000
250,000
200,000
150,000
100,000
50,000
0
Oct 1
Nov 1
Dec 1
Jan 1
Feb 1
Mar 1
Apr 1
May 1
Jun 1
Jul 1
Aug 1
Sep 1
Water Year (October 1 - September 30)
Historical Average
Total Reservoir Capacity
2014-2015
1982-1983 (wet)
1977-1978
2017-2018(current)

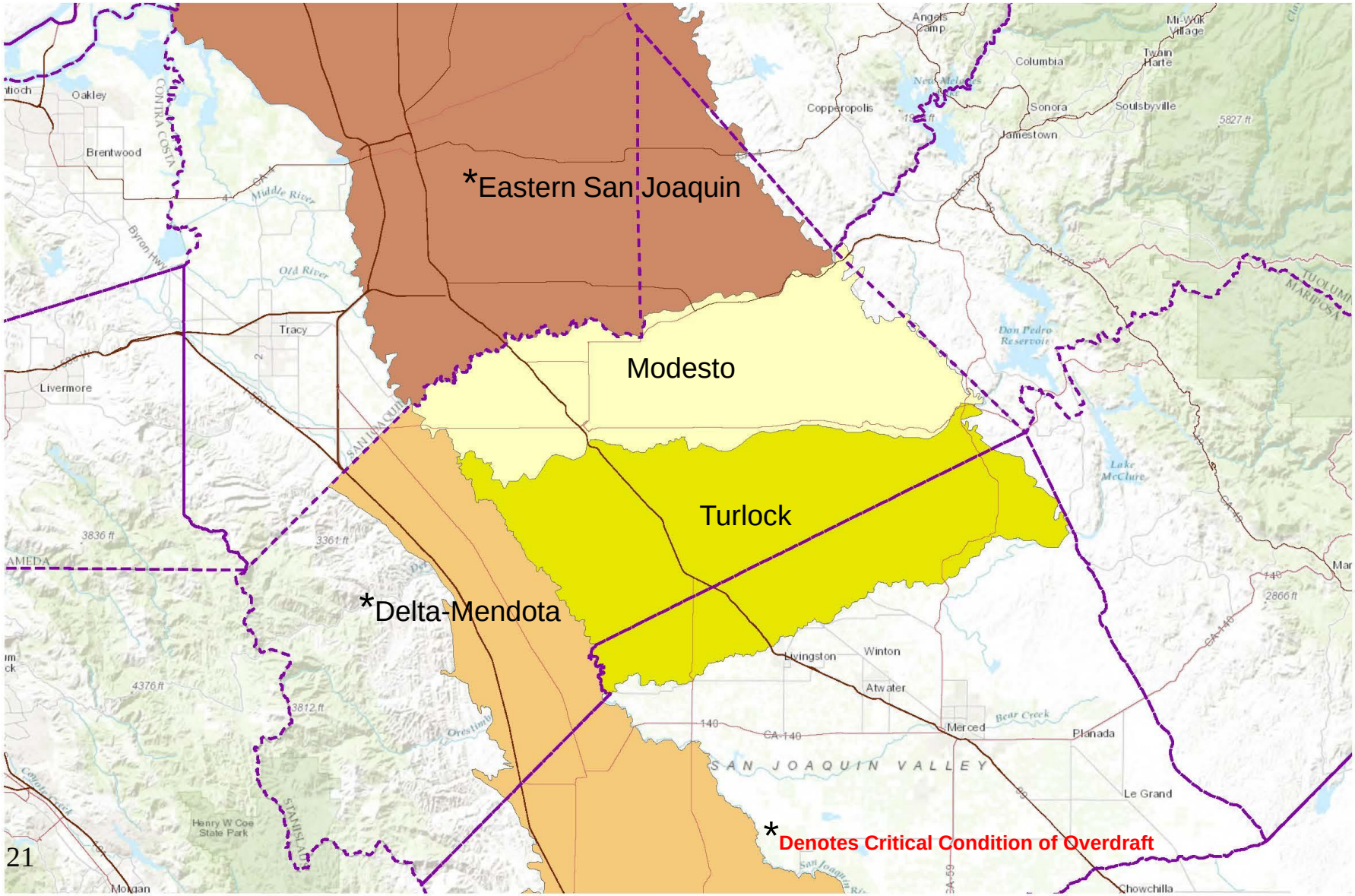
2018 Water Allocations

WEST		EAST	
Federal	45%	SSJID	100%
		OID	100%
State	35%	Mod ID	100%
		TID	100%
CCID	100%	Mer ID	100%

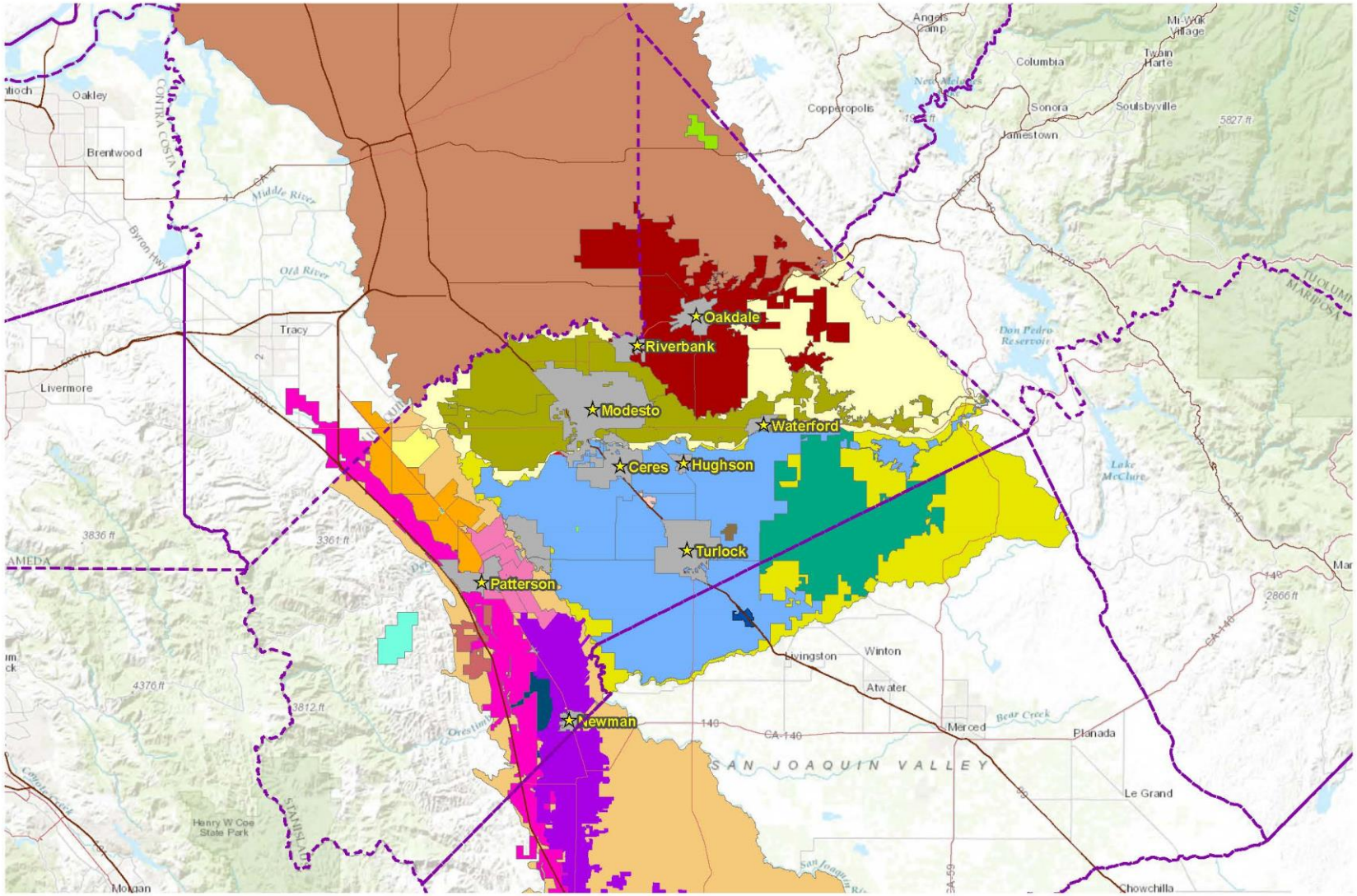
Questions & Discussion

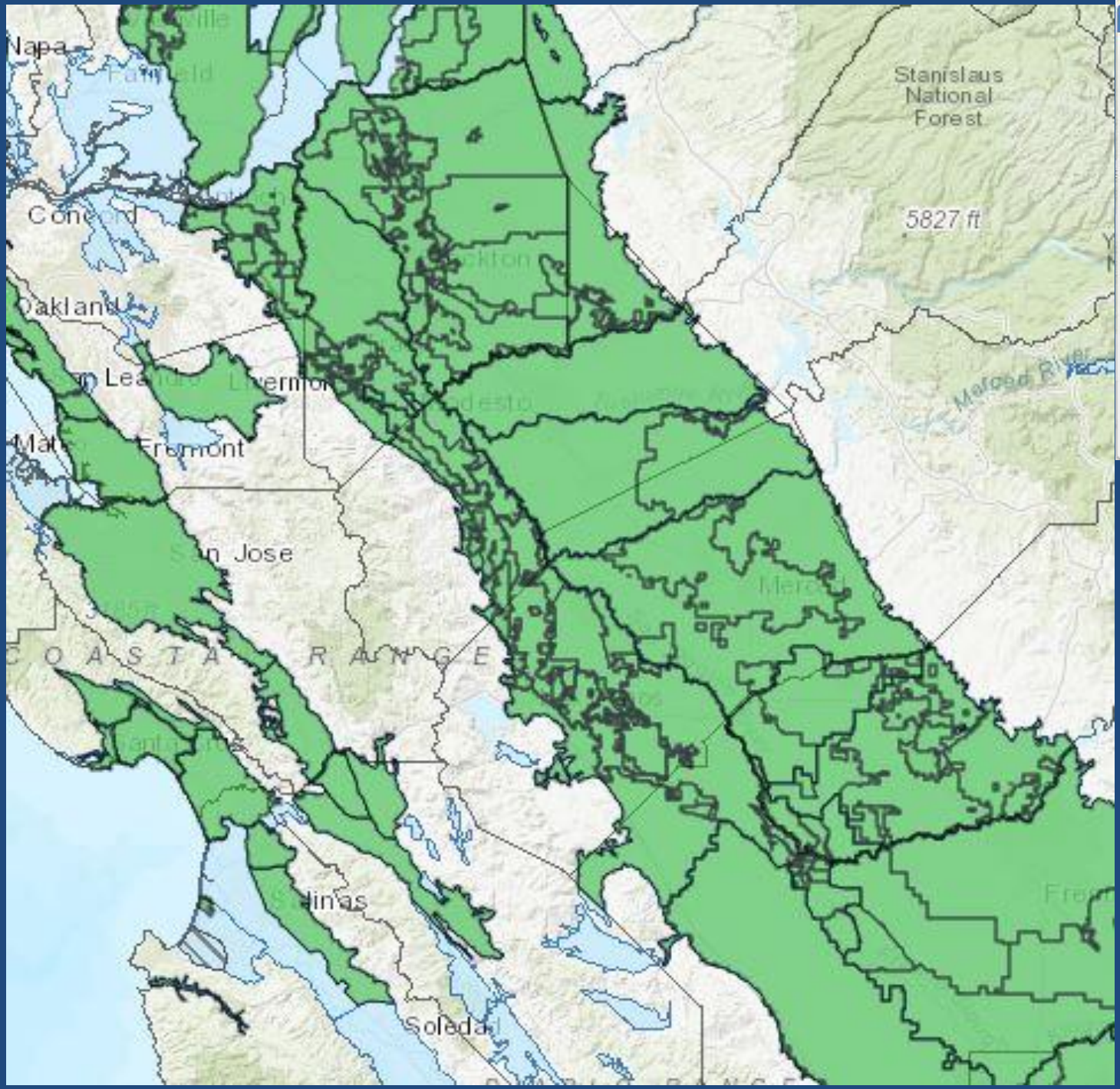
Sustainable Groundwater Management Act Compliance

Stanislaus County Groundwater Basins

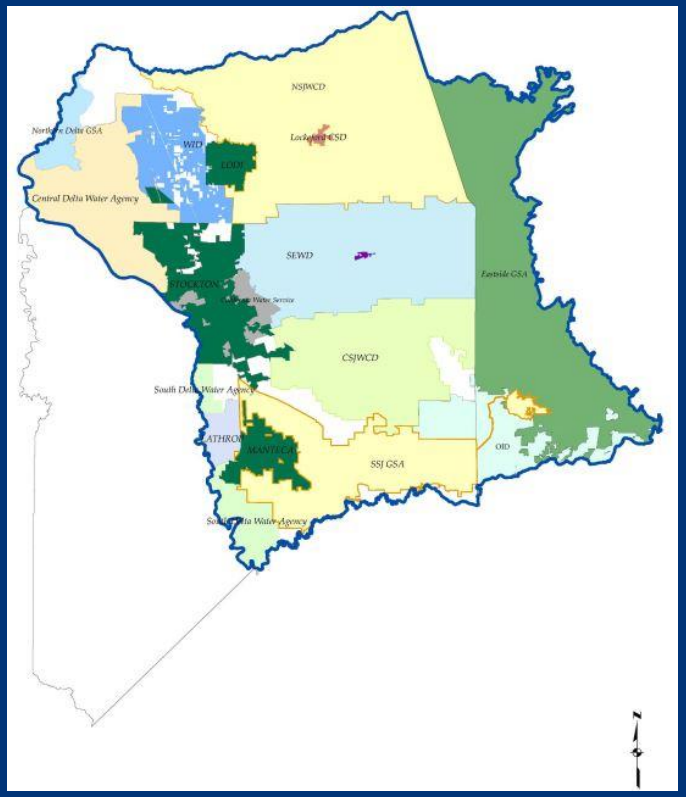


Stanislaus County Water Agencies




Napa
Concord
Oakland
Fremont
San Jose
COAST RANGE
Salinas
Soledad
Stanislaus National Forest
5827 ft
Layers
Downloads
Clear all
Exclusive GSAs
GSA Notice Submitted
GSA Service Area
Alternatives Submitted
Exclusive Local Agencies (Water_Code_§10723)
Adjudicated Areas
Counties
Bulletin 118 Groundwater Basins (2016)
Bulletin 118 Groundwater Basins
CASGEM Basin Priorities High/Medium Only

Eastern San Joaquin Groundwater Basin

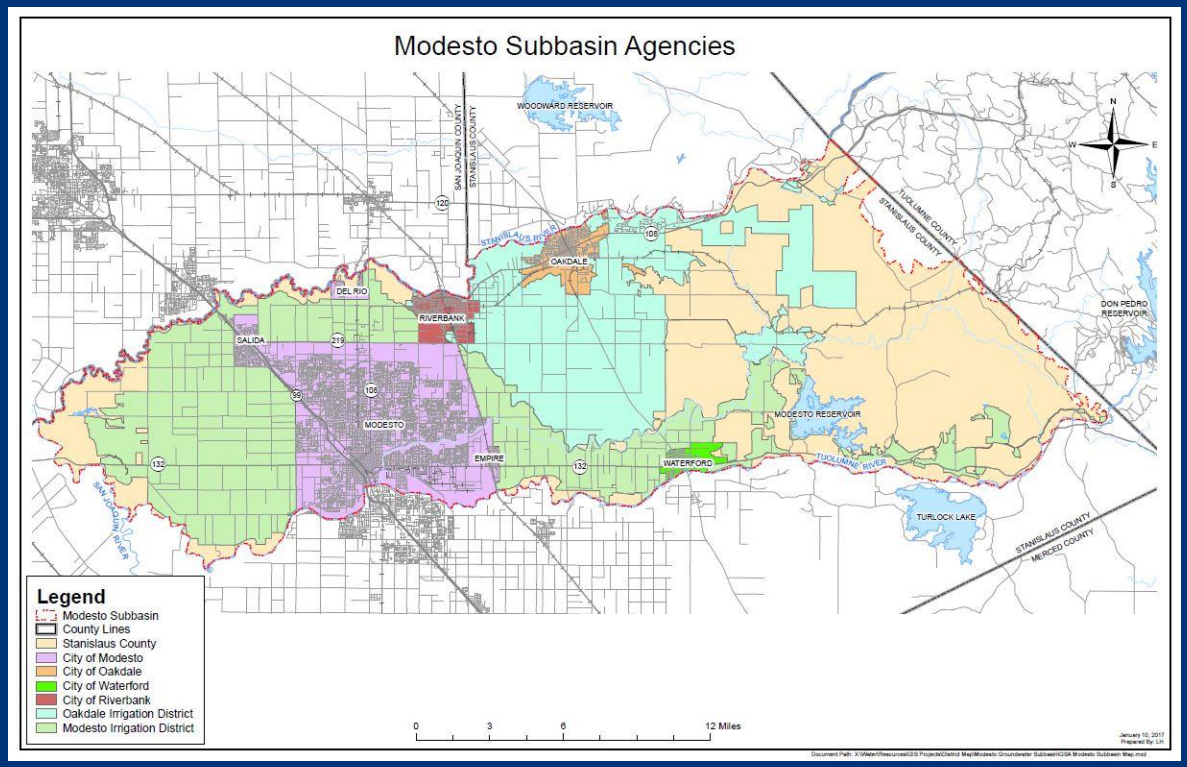


Eastern San Joaquin Subbasin GSAs

City of Lathrop
City of Lodi
City of Manteca
City of Stockton
Linden CWD
Stockton East WD
Central Delta Water Agency
South Delta Water Agency
Central San Joaquin Water Conservation District
North San Joaquin Water Conservation District
Eastside San Joaquin GSA

Oakdale ID
South San Joaquin ID
Woodbridge ID
Central Delta WD
Linden CWD

Modesto Groundwater Basin



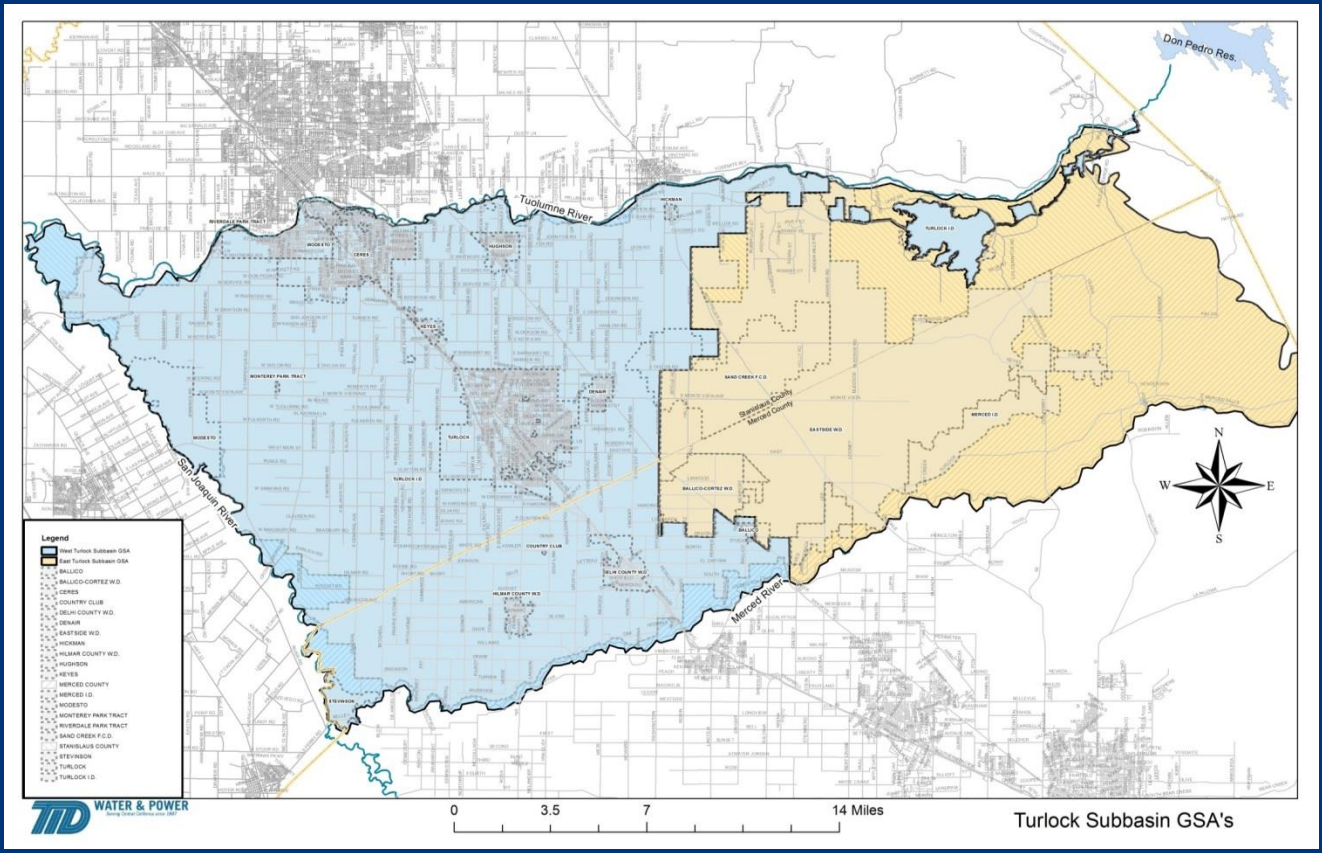
Stanislaus & Tuolumne Rivers Groundwater Basin Association GSA

City of Modesto
City of Oakdale
City of Riverbank
City of Waterford

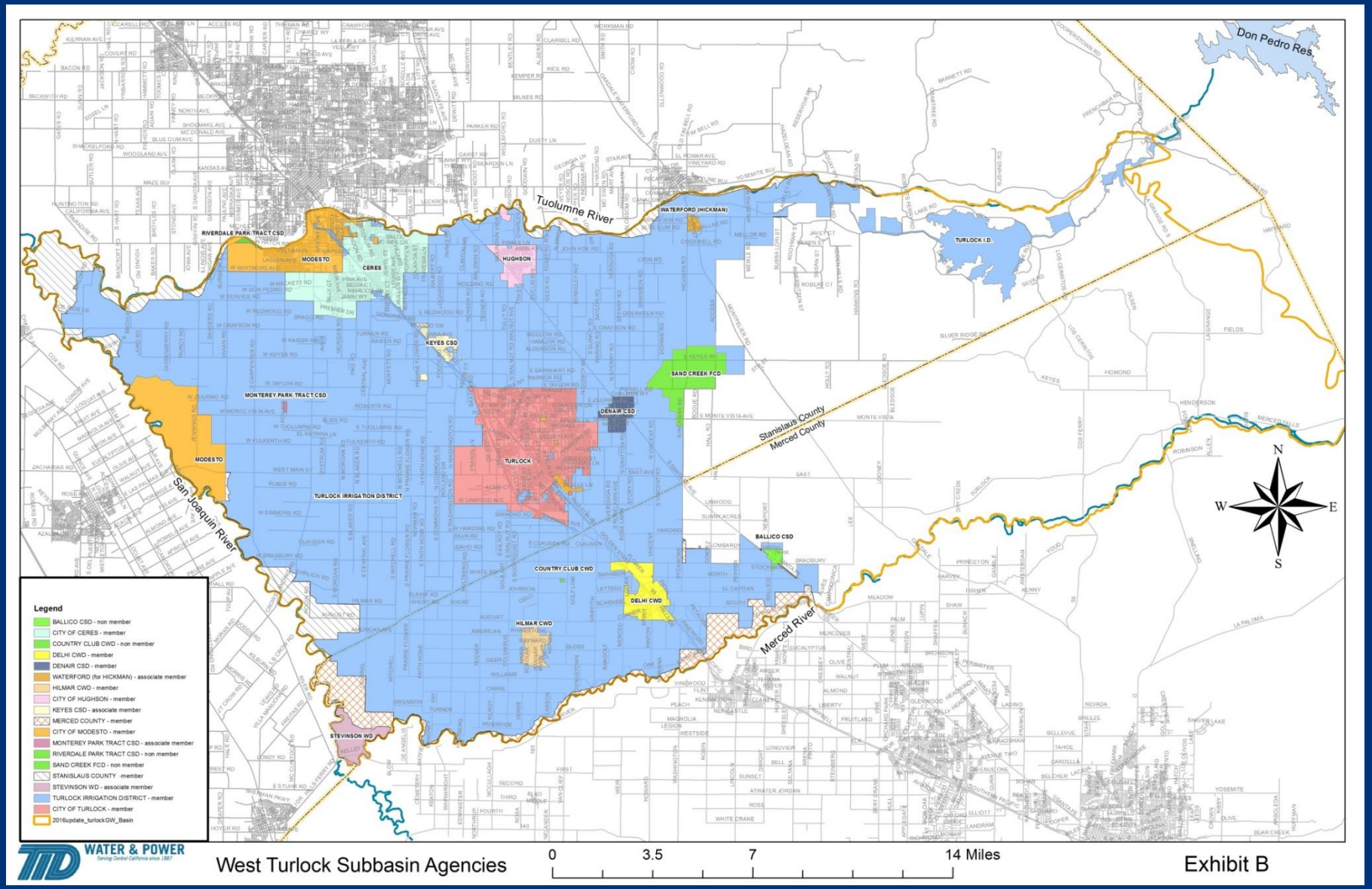
Oakdale ID
Modesto ID
Stanislaus County
*Tuolumne County**

*Formed separate GSA and "linked" to STRGBA via separate Cooperation Agreement with Stanislaus County

Turlock Groundwater Basin



West Turlock Subbasin GSA



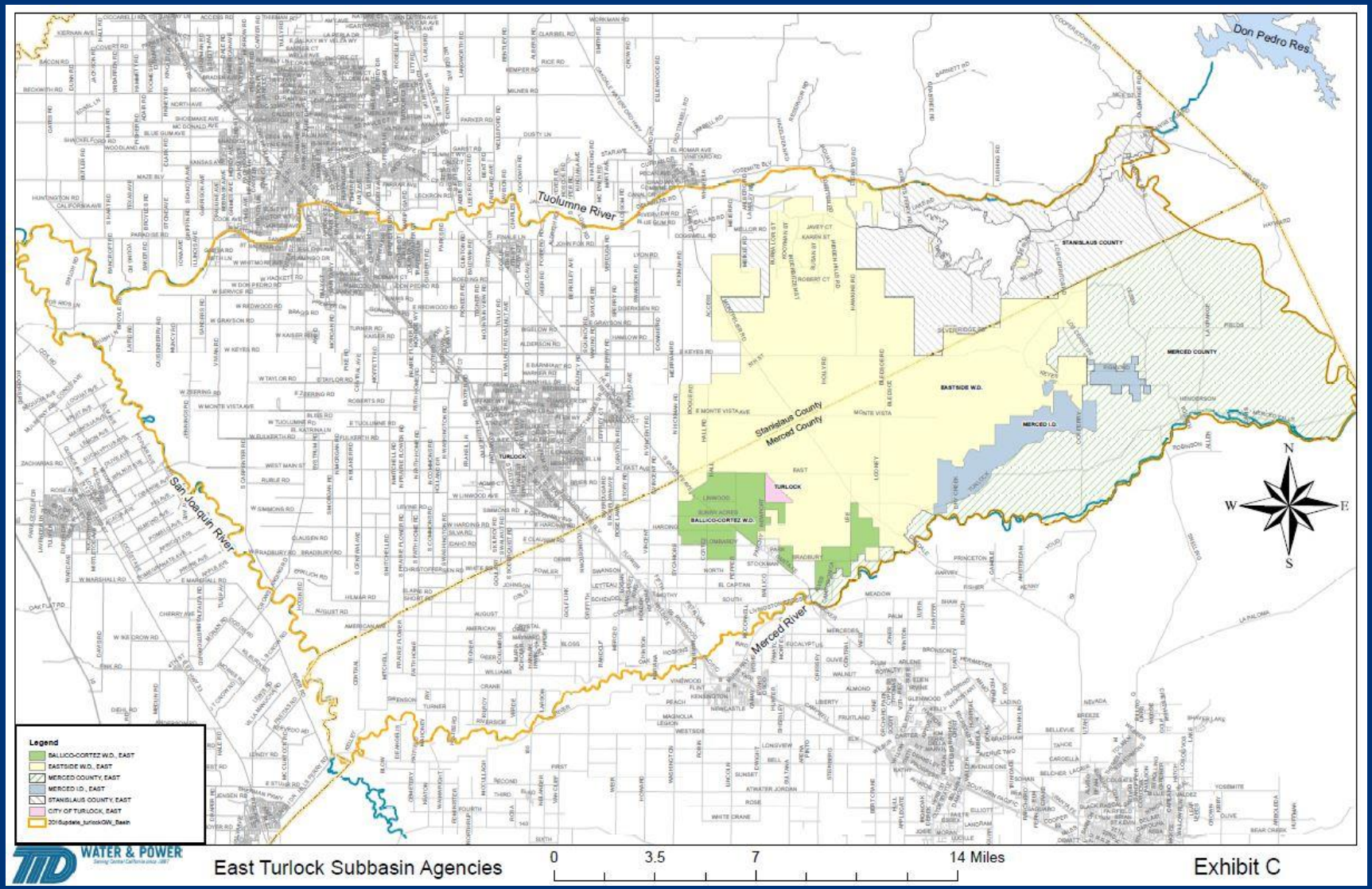
West Turlock Subbasin GSA

City of Ceres
City of Hughson
City of Modesto
City of Turlock
Denair CSD
Turlock Irrigation District
Merced County
Stanislaus County
Delhi County Water District
Hilmar County Water District

Associate Members:

Keyes CSD
City of Waterford

East Turlock Subbasin GSA



East Turlock Subbasin GSA

Eastside WD

Ballico-Cortez WD

Merced Irrigation District

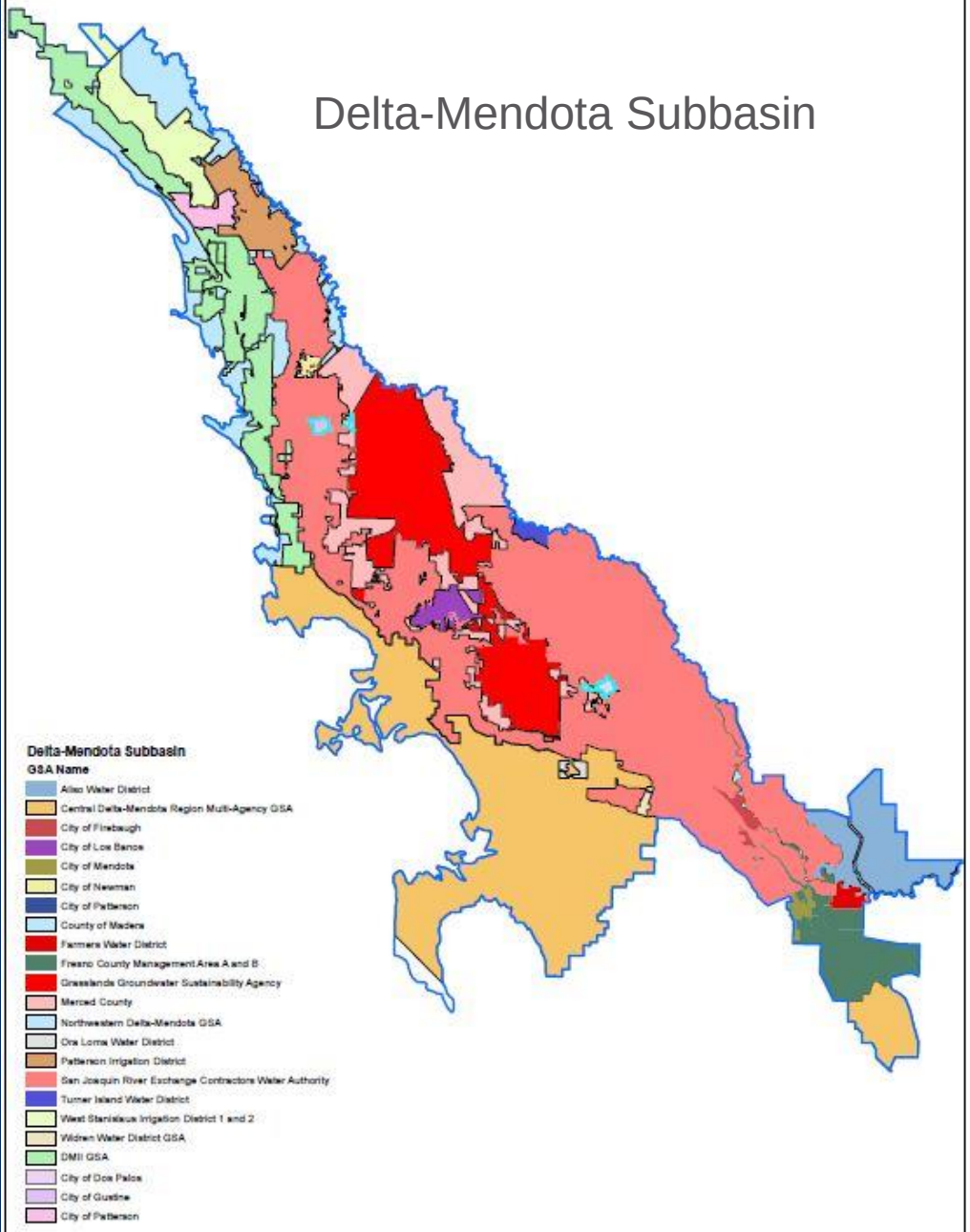
Merced County

Stanislaus County

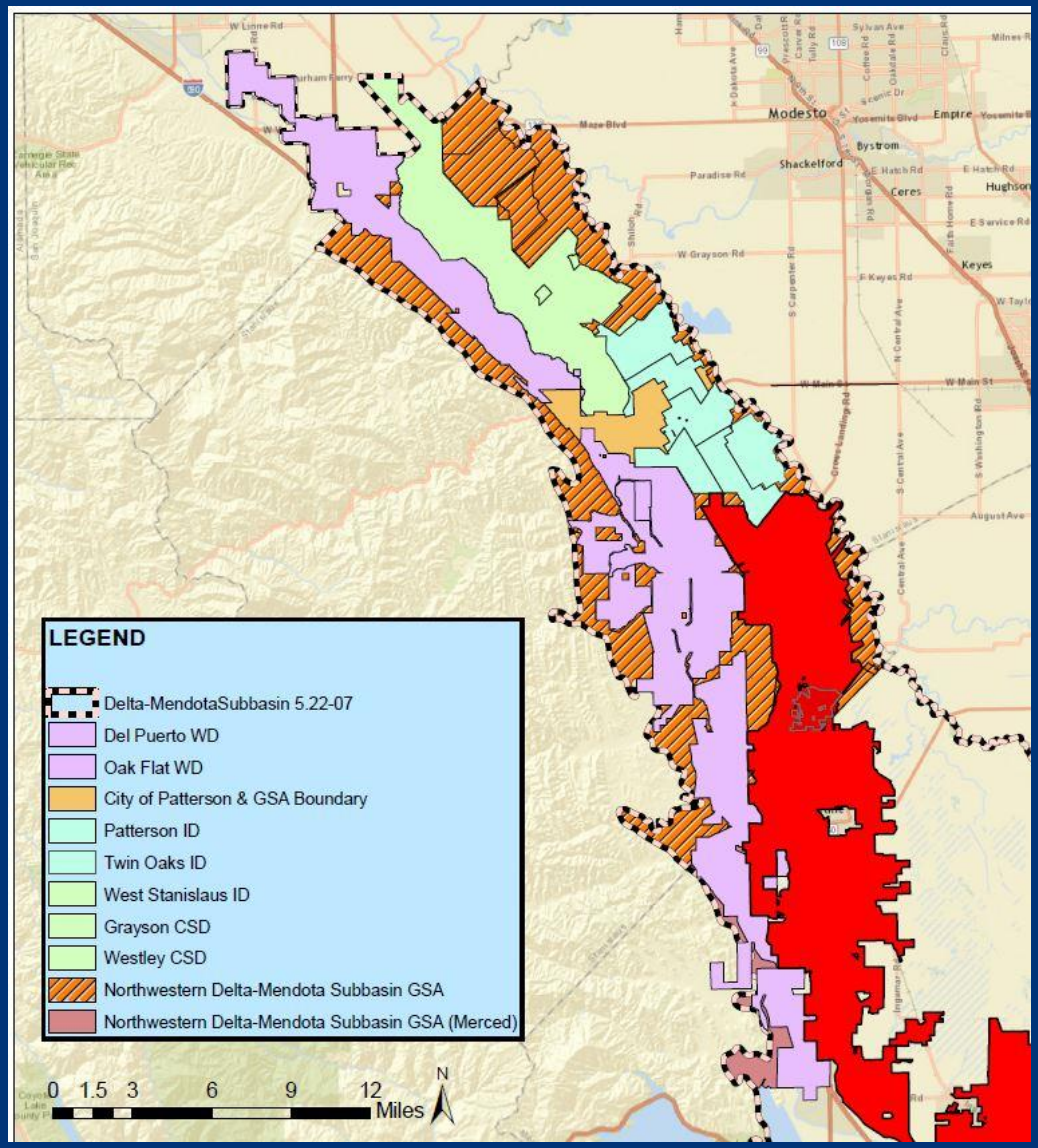
City of Turlock *

* Associate Member

Delta-Mendota Subbasin



Delta-Mendota Subbasin –Northern Group



Delta-Mendota Groundwater Basin – Northern Group GSAs

City of Patterson
Del Puerto WD
West Stanislaus ID
Patterson ID
Northwestern Delta-Mendota GSA

Groundwater Sustainability Plans

50 Year Planning Horizon

- Land Use & Water Demand Nexus

Basins in Critical Condition of Overdraft

- January 31, 2020
- 20 Year Implementation Period (January 2040)

High & Medium Priority Basins

- January 31, 2022
- 20 Year Implementation Period (January 2042)

Critically Overdrafted Basins

Basin Number	Basin/Subbasin Name
North Central Region	
5-22.01	Eastern San Joaquin
South Central Region	
3-01	Soquel Valley
3-02	Pajaro Valley
3-04.01	180/400 Foot Aquifer
3-04.06	Paso Robles Area
3-08	Los Osos Valley
3-13	Cuyama Valley
5-22.04	Merced
5-22.05	Chowchilla
5-22.06	Madera
5-22.07	Delta-Mendota
5-22.08	Kings
5-22.09	Westside
5-22.11	Kaweah
5-22.12	Tulare Lake
5-22.13	Tule
5-22.14	Kern County
Total number of Basins/subbasins: 17	

January 1, 2016

Groundwater Sustainability Plans – Grant Funding

Basins in Critical Condition of Overdraft ($1.5 M cap)

High & Medium Priority Basins ($1 M cap)

Require up to 50% Local Cost Share

- Cost offsets may include Disadvantaged Communities
- Local relevant SGMA activities (since January 1, 2015)

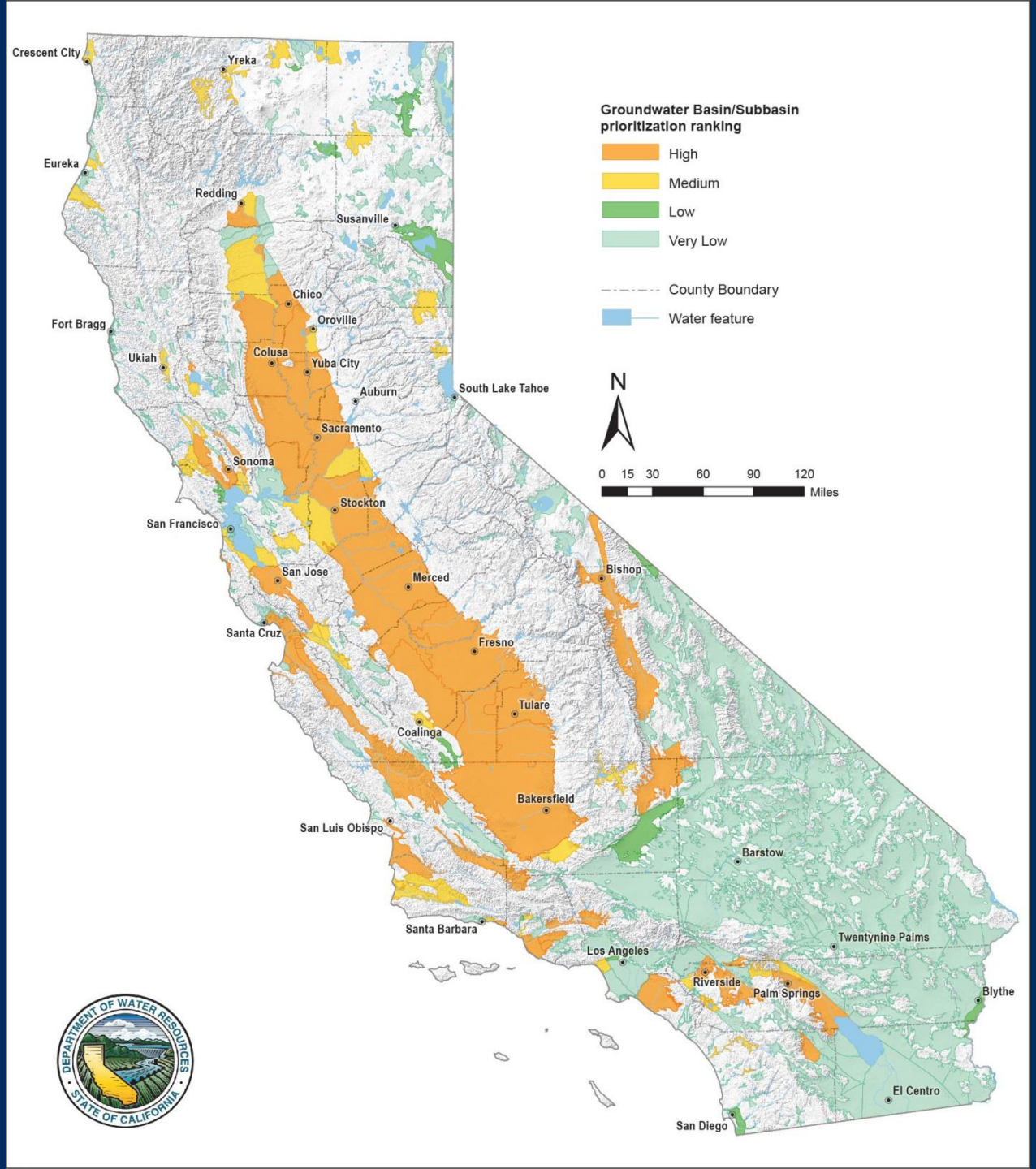
78 applications (Category 1 & 2)

$86.4 M requested out of $86.3 M available ($100,000)

Notice of Award in February

Bulletin 118 Update -

Basin Boundary Adjustment



Groundwater Sustainability Plans – Next Steps

Data Compilation

Database Review & Selection

Public Outreach Workshops

Coordination Agreements

Cost-Share Agreements

Developing Local Funding Mechanisms

Technical Assistance – Monitor well installation

Facilitation Assistance

Questions & Discussion

State Water Board Instream Flow Proposal as an Element of the San Joaquin Basin Plan Amendment (SED)

Questions & Discussion

Programmatic Environmental Impact Report Pertaining to the Stanislaus County Groundwater Ordinance

Purpose of PEIR

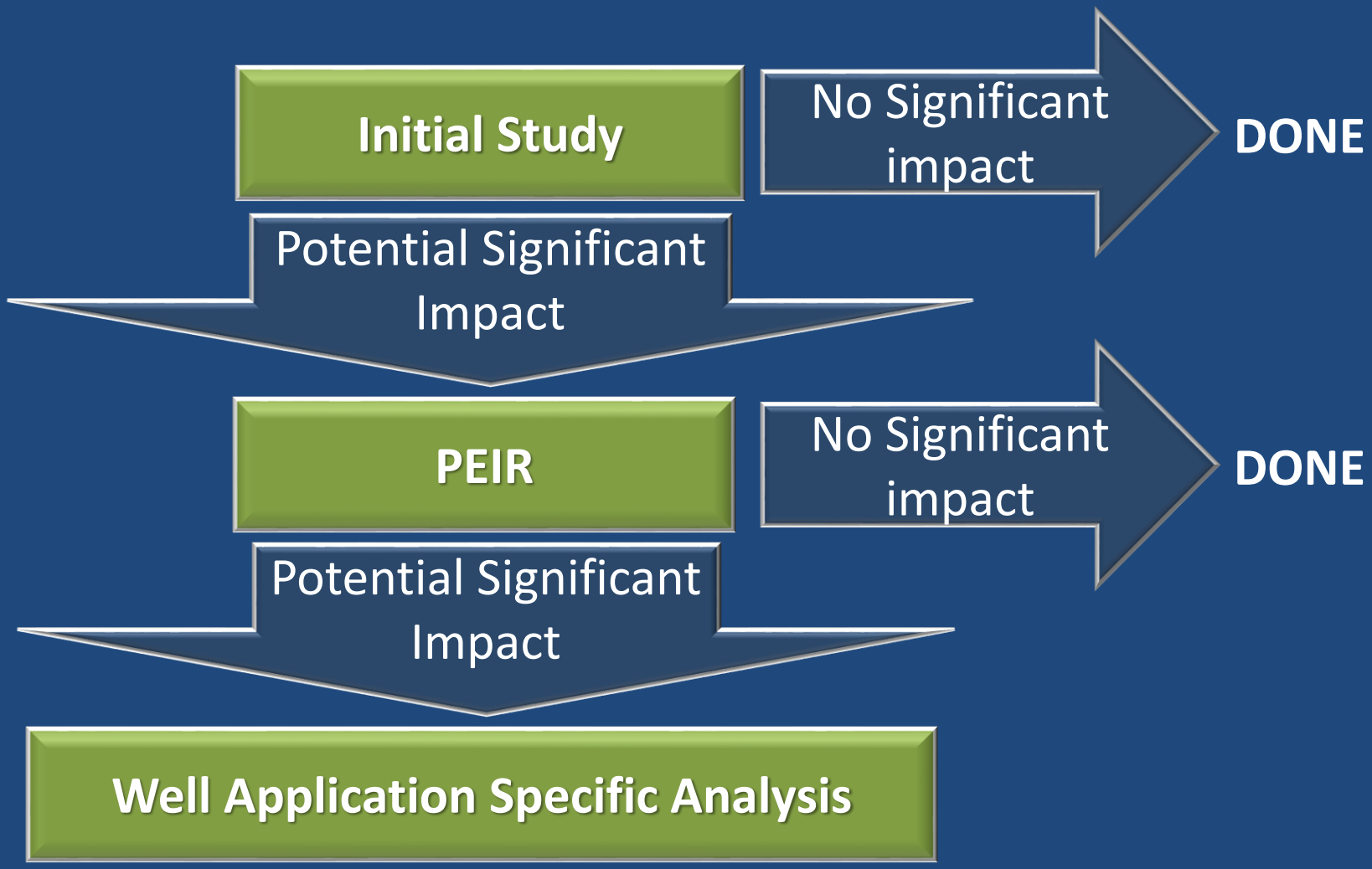
- ✓ Streamline the Well Permit Application Process
- ✓ Provide a robust technical basis for Groundwater Ordinance implementation
- ✓ Provide data to help facilitate future groundwater sustainability planning (SGMA)

Status

- ✓ Public Draft PEIR Comment Period: 45 day period closed May 7, 2018
- ✓ No comments were received
- ✓ PEIR is being finalized and scheduled to be adopted and certified by the Board of Supervisors in late June

PEIR Findings

- Evaluated 17 resource areas as required by CEQA.
- For most resource areas, no significant impacts.
- Where significant impacts can’t be ruled out at program level, recommend mitigation measures


Initial Study
No Significant impact
DONE
Potential Significant Impact
PEIR
No Significant impact
DONE
Potential Significant Impact
Well Application Specific Analysis

Evaluations Included in PEIR

PEIR evaluated 11 resource areas, mitigation recommended for 4:

~~Aesthetics~~	~~Mineral Resources~~	~~Population & Housing~~	~~Public Services~~	~~Recreation~~
~~Transportation & Traffic~~	~~Greenhouse Gas Emissions~~	~~Air Quality~~	Biological Resources	Cultural Resources
~~Geology & Soils~~	~~Hazards & Hazardous Materials~~		Hydrology & Water Quality	~~Land Use & Planning~~
Noise	~~Utilities & Service Systems~~		~~Agriculture & Forestry Resources~~	

PEIR – Specific Findings

- Groundwater Drawdown and Storage Depletion
- Surface Water Resources
- Subsidence
- Biological Resources
- Cultural Resources
- Noise

Lessons Learned from the PEIR

- Significant impacts are NOT expected if permitting requirements and mitigation measures are adopted
- Well permitting program can be refined to ease burden on areas/wells with little potential for significant impacts
- Rate of groundwater demand growth in east foothills experienced from 2000 to 2015 is not sustainable in the future
- Reasonable groundwater demand growth can be met through integrated water management approach (conjunctive use)

Future Steps

- Streamline Permitting Program
  - Develop flowchart that identifies requirements for different well types and locations
  - Checklist to document compliance

- Establish “Groundwater Level Management Zones”
  - Evaluation methodology developed for Northern Triangle (“chronic lowering of groundwater levels” in Valley Home area)
    - Based on comparing total predicted drawdown over the SGMA implementation horizon, if current groundwater management trends continue, to drawdown significance thresholds (10% “impact” criterion)
    - Very few are expected to be at issue

Available Resources

- Model files compiled and available for use
- Reference library available for download
  - http://files.jacobsonjames.com

    Login: StanCoL

    Password: LibraryJJA9083!

Questions

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Discussion