

## CV-SALTS Executive Committee Meeting

Thursday, November 10, 2016 – 9:00 AM to 3:00 PM Valley Oak Room  
Sacramento Regional Sanitation District Offices  
10060 Goethe Rd, Sacramento 95827

Teleconference (641) 715-3580 Code: 279295#

Go-To-Meeting Link: <https://global.gotomeeting.com/join/473942189>

Posted 11.01.16 – Revised 11.09.16

- 1) **Welcome and Introductions** – Chair (15 mins)
    - a) Committee Roll Call and [Membership Roster](#)
    - b) Approve [October Meeting Notes](#)
  
  - 2) **Central Valley Salt and Nutrient Management Plan (SNMP)** – Richard Meyerhoff, Tess Dunham (2 hrs. 15)
    - Review Revised SNMP (based on comments received on September 12)
      - Available SNMP Sections and Attachments can be found on the following web page:  
[DRAFT SNMP](#)
    - Resolve key outstanding issues, in particular, (a) finalize [prioritization for implementation of SNMP](#); (b) identification of an appropriate trigger based on trend data (see SNMP Table 4-3); and (c) applicability of Exceptions Policy to boron
- 11:30 am to 1:00 pm - Lunch on Your Own**
- 3) **Continuation of Morning Discussion** – Richard Meyerhoff, Tess Dunham, Tim Moore (1 hr. 45 min)
    - Updated [SNMP Glossary](#)
    - Discuss process to finalize SNMP before the end of the year
  
  - 4) **Proposed 2017 Meeting Schedule** – Daniel Cozad (15 min)
  
  - 5) **Review Next Meetings - Schedule/Location**
    - December 2<sup>nd</sup> – Admin Meeting – 1:00-2:30
    - January 12<sup>th</sup> – Admin Meeting – 1:00-2:30
    - February 1 & 2 - Executive Committee Policy Session -Location TBD

CV-SALTS meetings are held in compliance with the Bagley-Keene Open Meeting Act set forth in Government Code sections 11120-11132 (§ 11121(d)). The public is entitled to have access to the records of the body which are posted at <http://www.cvsalinity.org>

*One or more Central Valley Regional Water Quality Board members may attend.*

**CV-SALTS Committee Rosters**

Executive Committee Membership			CV-SALTS Executive Committee Meetings - 2016																
Voters	Category/Stakeholder Group	Name	6-May	11-May	12-May	10-Jun	15-Jun	16-Jun	8-Jul	1-Aug	5-Aug	10-Aug	11-Aug	14-Sep	15-Sep	16-Sep	14-Oct	20-Oct	10-Nov
1	Central Valley Water Board	Pamela Creedon		✓	✓		✓	✓		✓		✓	✓	✓	✓			✓	
Alt	Central Valley Water Board	Jeanne Chilcott		✓	✓	✓	✓	✓		✓		✓	✓	✓	✓			✓	
2	State Water Resources Control Bd.	Darrin Polhemus		✓	✓		✓	✓		✓					✓			✓	
3	Department of Water Resources	Jose Faria																	
Alt	Department of Water Resources																		
4	US Bureau of Reclamation	Kirk Nelson		✓	✓		✓	✓	✓			✓	✓	✓	✓			✓	
5	Environmental Justice	Laurel Firestone		✓	✓		✓	✓					✓	✓	✓				
6	Environmental Water Quality	TBD																	
<b>CV Salinity Coalition</b>																			
1	So. San Joaquin WQC	Casey Creamer			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2	City of Stockton	Robert Granberg										✓	✓	✓	✓				
3	California Cotton Growers	Chris McGlothlin			✓					✓		✓	✓		✓				
4	City of Fresno	Rosa Lau-Staggs										✓	✓		✓				
5	CA League of Food Processors	Trudi Hughes																	
Alt	CA League of Food Processors	Rob Neenan		✓	✓		✓	✓		✓		✓	✓						
6	NCWA/SVWQC	Bruce Houdesheldt			✓	✓	✓	✓					✓	✓		✓		✓	
7	City of Tracy	Erich Delmas					✓	✓											
Alt	City of Tracy	Dale Klever																	
8	Sacramento Regional CSD	Lysa Voight		✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Alt	Sacramento Regional CSD	Sam Safi																	
9	San Joaquin Tributaries Authority	Dennis Westcot		✓								✓							
10	Valley Water Management	Jim Waldron		✓	✓	✓			✓	✓	✓								✓
Alt	Valley Water Management	Melissa Thorme				✓	✓	✓				✓	✓	✓	✓	✓	✓	✓	✓
11	California Rice Commission	Tim Johnson			✓		✓	✓		✓		✓	✓	✓	✓				✓
12	City of Davis	Josie Tellers		✓	✓		✓	✓		✓	✓	✓	✓	✓	✓		✓	✓	✓
13	Tulare Lake Drainage/Storage District	Mike Nordstrom		✓	✓		✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
14	Western Plant Health Assoc.	Renee Pinel							✓	✓			✓						✓
15	City of Vacaville	Steve Sawyer									✓								
Alt	City of Vacaville	Tony Pirondini		✓	✓	✓	✓				✓	✓	✓	✓					✓
16	Dairy Cares	J.P. Cativiela		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	✓
Alt	Dairy Cares	Paul Sousa		✓	✓		✓	✓		✓									✓
17	Westlands Water District	Jose Guterrez										✓	✓						
Alt	Westlands Water District	Charlotte Gallock	✓	✓	✓		✓	✓				✓	✓	✓	✓				✓
<b>Comm. Chairs/Co-chairs</b>																			
1	Chair Executive Committee	Parry Klassen, ESJWQC	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2	Vice Chair Executive Committee	Debbie Webster CVCWA	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3	Technical Advisory Committee	Roger Reynolds, S Engr.	✓			✓			✓		✓					✓	✓	✓	✓
	Technical Advisory Committee	Nigel Quinn, LBL								✓	✓						✓		
4	Public Education and Outreach							✓	✓	✓	✓	✓	✓						
5	Economic and Social Cost Committee	David Cory, SJVDA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
6	Lower San Joaquin River Committee	Karna Harrigfeld, SEWD	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

**CV-SALTS Committee Rosters**

Participant Names			CV-SALTS Executive Committee Meetings -2016																
Last	First	Organization	6-May	11-May	12-May	10-Jun	15-Jun	16-Jun	8-Jul	1-Aug	5-Aug	10-Aug	11-Aug	14-Sep	15-Sep	16-Sep	14-Oct	20-Oct	10-Nov
Archibald	Elaine	CUWA				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓		
Ashby	Karen	LWA	✓		✓		✓	✓	✓		✓	✓	✓	✓	✓		✓		
Barclay	Diane	SWRCB		✓	✓		✓	✓		✓		✓	✓	✓	✓			✓	
Bell	Nicole	KRWCA		✓	✓		✓	✓		✓		✓	✓	✓	✓			✓	
Brown	Michelle	RBI							✓									✓	
Bryant	Mike	RBI							✓									✓	
Buford	Pam	CVRWQCB	✓	✓	✓	✓			✓		✓	✓		✓		✓	✓	✓	
Carlo	Penny	Carollo Engineers			✓								✓						
Cady	Mark	CDFA			✓		✓	✓		✓				✓	✓			✓	
Cehrs	David	KRCD																	
Clary	Jennifer	CWA					✓												
D'Adamo	Dee Dee	SWRCB			✓														
Deeringer	Andrew	SWRCB					✓												
Delehant	Gail																		
Dickey	John	Plantierra		✓	✓		✓	✓		✓			✓	✓	✓			✓	
Doduc	Tam	SWRCB			✓			✓											
Dunham	Tess	Somach Simmons		✓	✓		✓	✓	✓	✓		✓	✓	✓	✓			✓	
Escobar	Juan	DWR		✓	✓		✓	✓		✓				✓	✓			✓	
Fink	Cody	LANDIQ												✓	✓				
Fuentes	Robert	Leadership Counsel		✓	✓														
Garcia	Rick	CRC																	
Gonzalez	Armando	Occidental Oil & Gas																	
Gosling	Doug																		
Grovhoug	Tom	LWA			✓		✓	✓			✓	✓	✓	✓	✓			✓	
Jensen	Ryan	CWC																	
Johnson	Alex	Freshwater Trust																	
Johnson	Michael	LSJRC	✓			✓			✓							✓	✓		
Kihara	Annalisa	SWRCB																	
Kimmelshue	Joel	LANDIQ																	
Kretsinger Grabert	Vicki	LSCE	✓	✓	✓	✓			✓		✓						✓	✓	
Kubiak	Rachel	Western Plant Health Assoc.		✓	✓										✓				
Kuzelka	Timothy	CWC																	

**ADDITIONAL PARTICIPANTS:**

Participant Names			CV-SALTS Executive Committee Meetings -2016																
Last	First	Organization	6-May	11-May	12-May	10-Jun	15-Jun	16-Jun	8-Jul	1-Aug	5-Aug	10-Aug	11-Aug	14-Sep	15-Sep	16-Sep	14-Oct	20-Oct	10-Nov
Laputz	Adam	CVRWQCB												✓	✓				
Larson	Bobbi	CASA					✓	✓						✓					
LeClaire	Joe	CDM Smith	✓				✓		✓	✓	✓		✓			✓	✓	✓	
Lilien	Jonathan	Chevron											✓						
Link	Adam	CASA							✓										
Longley	Karl	CVRWQCB		✓	✓		✓	✓		✓			✓					✓	
McGahan	Joe	SJVDA							✓							✓			
McLellan	Laura	SWRCB			✓														
Meeks	Glenn	CVRWQCB		✓	✓	✓	✓	✓			✓						✓	✓	
Meyerhoff	Richard	CDM Smith	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Moore	Tim	Risk-Sciences		✓	✓	✓	✓	✓		✓		✓	✓		✓			✓	
Nasaei	Elnaz	SWRCB			✓														
Okita	David	CWC		✓	✓														
Ores	Debi	CWC			✓		✓	✓							✓				
Peschel	Paul	KRCD											✓						
Pritchett	Gregory	Chevron																	
Pulupa	Patrick	CVRWQCB		✓	✓		✓	✓		✓		✓	✓	✓	✓			✓	
Pitcher	Jennifer	West. States Petroleum																	
Rempel	Jenny	CWC																	
Rodgers	Clay	CVRWQCB		✓	✓		✓	✓						✓	✓			✓	
Savage	Chris	Gallo																	
Schultz	Paul	CDM Smith	✓					✓	✓	✓						✓			
Seaton	Phoebe	CRLA					✓	✓											
Segal	Daniel	Chevron																	
Stamps	Alicia	Kennedy/Jenks																	
Thomas	Bill	KRCD				✓		✓				✓	✓	✓	✓			✓	
Tillman	Stephanie	LANDIQ		✓	✓		✓	✓		✓		✓	✓	✓	✓			✓	
Tristao	Dennis	J.G. Boswell																	
Trouchon	Mike	LWA							✓										
Wackman	Mike			✓								✓	✓						
Zimmerman	Christie			✓	✓	✓			✓	✓	✓						✓		

ADDITIONAL PARTICIPANTS:

# CV-SALTS Executive Committee Meeting - Summary Action Notes

For October 20, 2016 – 9:00 AM to 4:00 PM

Attendees are listed on the Membership Roster

## AGENDA

### 1) Welcome and Introductions

- a) Executive Committee Chair Parry Klassen brought the meeting to order, and roll call was completed.
- b) Mike Nordstrom moved, and Tim Johnson seconded, and by general acclamation the August and September meeting notes were approved with the following edit:
  - Revise item #3 of August 11 meeting notes to reflect the correct policies (Exceptions, Offsets, Nitrate Permitting Strategy, Management Zone, and Salinity Management Strategy).

### 2) CEQA/Economics/Antidegradation Analyses

- Tess Dunham led the discussion on the most recent revision of Section 6.1 Antideg. Some of the comments/concerns from the committee:
  - The committee again discussed the use of Upper vs. Production Zone, a trigger/threshold of 75%, and volume weighted averaging vs traditional. A more robust analysis should be required above 75%.
  - The document will undergo another revision, targeted for completion the middle of November. Committee members with outstanding comments should forward to Tess and the LWA team as soon as possible for incorporation into the next version.
  - Jeanne Chilcott gave a tentative project schedule: release full bundle of documents for public comment in January, with a public workshop in March.
- Mike Bryan and Michelle Brown, RBI, presented the SED Overview to the committee. Some of the feedback from the committee:
  - Revisit the “No Impact” determinations considering the completion of the project; could be potential impacts depending on how things are implemented.
  - Do not use the term Groundwater Management *Areas*. The term ‘area’ has a different meaning.
  - For the Groundwater Management Zone the SED needs to be adjusted to conform with the earlier Antideg discussion.
  - Salinity Management Strategy impact determination should include Phase 2.
  - Consider withdrawing AGR Policy from CEQA since it is “not intended for implementation at this time.”
  - For Drought & Conservation Policy split the drought evaluation from the conservation evaluation.
  - Richard Meyerhoff requested any additional comments be forwarded no later than 10/31.
- Vicki Kretsinger gave an overview of the Aggressive Restoration Scenario, and Tom Grovhoug presented the overview of the Economics Analysis.

### 3) Prioritization for Implementation of Nitrate Permitting Strategy

- Richard Meyerhoff presented a strawman approach for the prioritization. The prioritization approach will be revised based on discussion and brought back for final resolution at the November meeting.

### 4) SNMP Glossary

- Tim Moore presented the glossary and requested committee members submit any comments, or additional terms/concepts for inclusion, in track changes no later than 10/27.

5) Antidegradation Report Finalization

- After discussion, Bruce Houdesheldt moved, and David Cory seconded, and the committee voted to authorize Cleanup and Abatement funding for additional work by LWA to finalize the Antidegradation Report with direction for legal counsels. The authorization was conditional on approval from Pam Buford, Contract Manager.

6) Review Meeting Schedule/Location

- Next Admin Meeting is 11/04
- Policy Meeting: November 10<sup>th</sup>, from 9:00-3:00

### Prioritization for Implementation of Nitrate Permitting Strategy (NPS) Revisited

- Slide 2 – Reminder of purpose and factors defined by NPS
- Slides 3 – 5: Recap of October 20 Policy Meeting approach
- Slides 6 – 9: Summarize the methodology used including how priorities are assigned. Key Change from Oct. 20 Version:
  - CA EnviroScreen now only considers 4 of the original 20 factors– only the 4 Socioeconomic factors – factors associated with air quality or water quality are removed (latter because water quality already accounted for in other factors)
  - Divided Kern County (5-22.14) into three parts consistent with Basin Plan
- Slides 10 – 18: Provide the results, but showing effect of adding factors and weighting
- Slides 19-20: Things to consider moving forward...

1

### General Framework

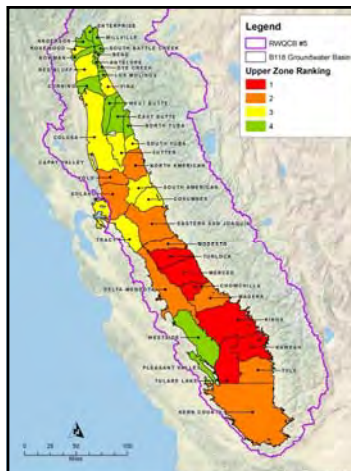
- Objective is to determine a prioritization approach for implementing the Nitrate Permitting Strategy for Central Valley floor groundwater basins
- Priority factors in the Nitrate Permitting Strategy:
  1. Current ambient groundwater quality (nitrate-N)
  2. Trends in nitrate concentrations in groundwater
  3. Number of individuals or community systems that are being impacted by groundwater that exceeds nitrate drinking water standards

2

### Recap of October 20 Approach

- Three initial factors to link up with Nitrate Permitting Strategy
  - Factor 1 – Current ambient nitrate in groundwater in Upper Zone (volume-weighted data); 20% weight.
  - Factor 2 - Predicted nitrate water quality groundwater in the Upper Zone in 50 Years (volume-weighted data); 20% weight.
  - Factor 3 – Looked at different potential surrogate data to be represent “impacted users”; relied on CalEnviro Screen (CES) 3.0 and used all 20 factors in CES; 20% weight.
- Added Factor 4 (average well nitrate concentration – 40% weight) – use of factor emphasizes areas we know have nitrate concerns that may be masked to some degree because of volume weighting in Factors 1 and 2.

3



### October 20 Priority Ranking GW Basins (% = Weight)

- $N_{\text{ambient}}$  (20%) +
- $N_{\text{projected}}$  (20%)+
- CES (20%, all CES factors) +
- $N_{\text{well}}$  arithmetic average (40%)

4

### October 20 - Priority 1 & 2

Priority Ranking	Basin Number	Basin Name	Score
Priority 1	5-22.11	Kaweah	4.65
	5-22.03	Turlock	4.32
	5-22.08	Kings	4.24
	5-22.04	Merced	4.10
	5-22.05	Chowchilla	4.02
	5-22.12	Tulare Lake	4.01
Priority 2	5-22.07	Delta-Mendota	3.99
	5-22.13	Tule	3.96
	5-22.14	Kern County	3.77
	5-22.01	Eastern San Joaquin	3.75
	5-22.02	Modesto	3.69
	5-21.67	Yolo	3.69
	5-21.66	Solano	3.62
	5-22.06	Madera	3.56
	2-4	Pittsburg Plain	3.54
	5-21.64	North American	3.17

### Prioritization Revisited

- Overview of data sources, analysis methods and how groundwater basins are prioritized
- Series of figures illustrating effect of adding factors
- Final outcome using previously assigned weights (figure and table)
- Example of effect of varying weight for well average factor
- Things to consider moving forward

### Data Analysis Methods

- Data
  - High resolution ambient nitrate-N (1 square mile grid)
  - High resolution projected nitrate-N (1 square mile grid)
  - Average nitrate-N concentration in groundwater basin wells (groundwater basin)
  - CES3.0 Draft Socioeconomic Factors (Census tract data only) - education, linguistic isolation, poverty, unemployment
- Convert census tract CES3.0 draft data to 1 square mile grids
  - Assign each grid an area weighted average for each overlying socioeconomic factor
  - Averaged the four socioeconomic factors for each grid
- Convert groundwater basin data to 1 square mile grids
  - Assign each grid an area-weighted average well average

### Data Analysis Methods (Continued)

- Assigned a ranking from least to greatest impacted for each category: (Ambient, Projected, Well Average, & Socioeconomic Factor)
- Calculated weighted averages from the rankings given to each 1 square mile grid
- Aggregated 1 square mile grid calculated values to the groundwater basin level as an average of the 1 square mile grid values in each groundwater basin
- Assigned priority based on Equal Intervals Method
  - This method sets the value ranges in each category equal in size. The entire range of data values (max - min) is divided equally into however many categories have been chosen (see next slide for example).



### Equal Interval Calculation Example

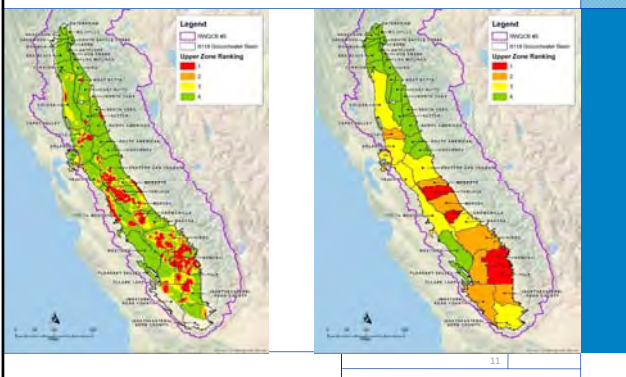
- The rank scores range from 1.2759 to 4.4742 for the case where:
  - Well Arithmetic Mean = 40%;
  - Ambient Volume-weighted Concentration = 20%;
  - Projected Ambient Volume-weighted Concentration = 20%;
  - CES Socioeconomic Factors = 20%
- The class interval  $(\text{Max}-\text{Min})/(4 \text{ categories}) = (4.4742 - 1.2759)/(4) = 0.7996$ . The interval for each class is then used to calculate equal intervals for each Priority Rank

Priority Rank	Upper Class Limit	Class Interval	Lower Class Limit
1	4.4742	0.7996	3.67471
2	3.6747	0.7996	2.87511
3	2.8751	0.7996	2.07551
4	2.0755	0.7996	1.2759

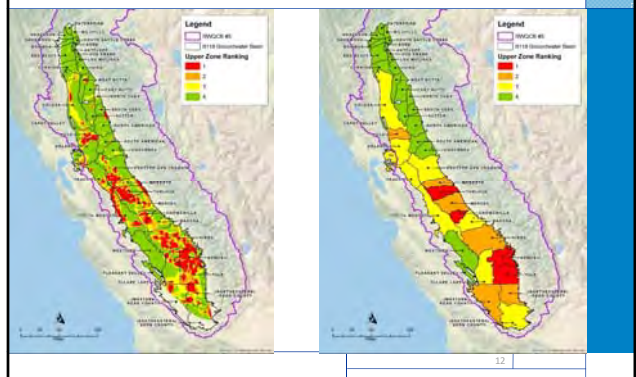
### Data Build-up

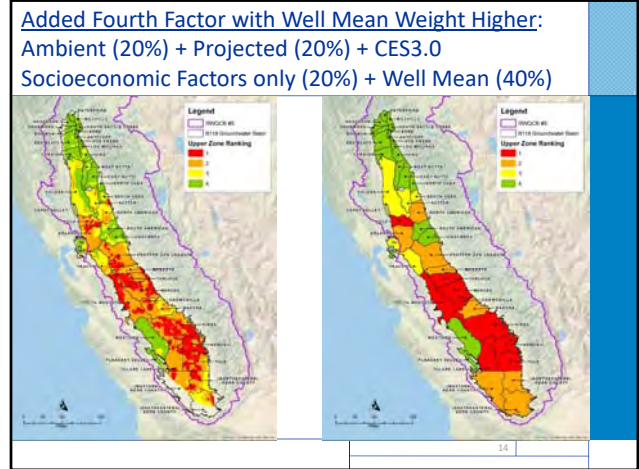
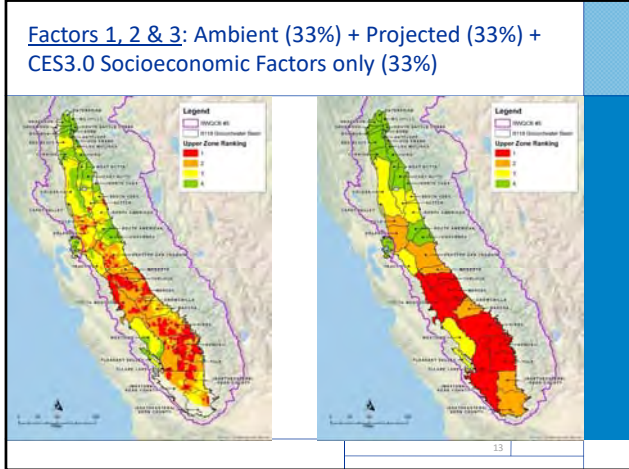
- Series of slides to illustrate effect of adding each factor
- Weights are equally distributed until final factor is added (well average)

### Factor 1 Only: Ambient (100%)



### Factors 1 & 2: Ambient (50%) + Projected (50%)





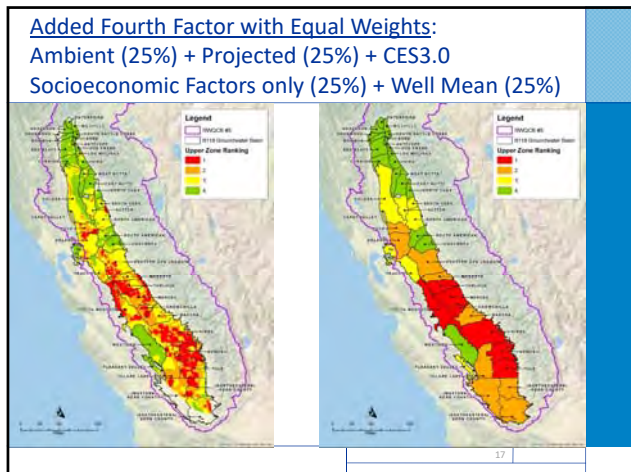
**Ambient (20%) + Projected (20%) + Well Mean (40%) + CES3.0 Socioeconomic Factors only (20%)**

Priority Ranking	Basin Number	Basin Name	Score
Priority 1	5-22.11	Kaweeh	4.47
	5-22.03	Turlock	4.17
	5-22.08	Kings	4.03
	5-22.04	Merced	3.99
	5-22.13	Tule	3.96
	5-22.07	Delta-Mendota	3.90
	5-22.05	Chowchilla	3.83
	5-22.12	Tulare Lake	3.74
	5-21.67	Yolo	3.69
	Priority 2	5-22.02	Modesto
5-22.14		Kern County (Western)	3.64
5-22.01		Eastern San Joaquin	3.57
5-22.14		Kern County (Northeastern)	3.50
5-21.66		Solano	3.32
5-22.06		Madera	3.31
5-22.14		Kern County (Southeastern)	3.17
5-21.64		North American	3.02

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**Ambient (20%) + Projected (20%) + Well Mean (40%) + CES3.0 Socioeconomic Factors only (20%)**

Priority Ranking	Basin Number	Basin Name	Score
Priority 3	5-22.35	Tracy	2.75
	5-21.62	Sutter	2.71
	5-21.68	Capay Valley	2.62
	2-4	Pittsburg Plain	2.63
	5-21.52	Colusa	2.28
	5-21.61	South Yuba	2.20
	2-3	Suisun-Fairfield Valley	2.14
	5-21.65	South American	2.07
	5-22.16	Cosumnes	1.99
	2-5	Clayton Valley	1.98
Priority 4	5-21.50	Red Bluff	1.93
	5-22.10	Pleasant Valley	1.92
	5-22.09	Westside	1.90
	5-21.57	Vina	1.90
	5-21.58	West Butte	1.88
	2-6	Ygnacio Valley	1.83
	5-21.56	Los Molinos	1.78
	5-21.51	Corning	1.76
	5-21.55	Dye Creek	1.74
	5-21.54	Antelope	1.74
	5-6.02	Rosewood	1.71
	5-21.53	Bend	1.70
	5-21.59	East Butte	1.65
	5-21.60	North Yuba	1.59
	5-6.01	Bowman	1.46
5-6.03	Anderson	1.43	
5-6.06	South Battle Creek	1.39	
5-6.04	Enterprise	1.29	
5-6.05	Millville	1.28	



**Ambient (25%) + Projected (25%) + Well Mean (25%) + CES3.0 Socioeconomic Factors only (25%)**

Priority Ranking	Basin Number	Basin Name	Score
Priority 1	5-21.11	Kaweah	4.34
	5-22.03	Turlock	3.96
	5-22.13	Tule	3.93
	5-22.08	Kings	3.81
	5-22.04	Merced	3.75
	5-22.05	Chowchilla	3.75
	5-22.07	Delta-Mendota	3.66
Priority 2	5-22.14	Kern County (western)	3.54
	5-22.02	Modesto	3.52
	5-22.12	Tulare Lake	3.46
	5-21.67	Yolo	3.38
	5-22.14	Kern County (Northeastern)	3.38
	5-22.01	Eastern San Joaquin	3.22
	5-22.06	Madera	3.12
	5-22.14	Kern County (Southeastern)	2.97
	5-21.66	Solano	2.94
	Tulare Lake & Yolo change to Priority 2 North American changes to Priority 3		

- Things to Consider...**
- The effect of adding a fourth factor and varying the weights can be seen by clicking back and forth among Slides 13-15.
  - Weights can be adjusted any way desired, but in the end assigned weights are somewhat arbitrary and there will be no perfect "expected" outcome.
    - Primary effects of equal weighting (25% each) vs. non-equal weighting (average well concentration = 40%) are on Tulare Lake and Yolo (1 vs. 2) and North American (2 vs. 3)
  - The ranking (Priority 1 -4) is based on use of equal intervals. This is just a statistical construct with no inherent meaning.
    - Impacts/differences tend to be around the cusp of the statistical boundary between two equal intervals

- Things to Consider...**
- The outcome of this prioritization analysis does not need to be the basis for the final prioritization:
    - It can be used to provide a general order of priority so that there is a technical foundation; but
    - Discretion can be applied to decide a final priority, especially to take into account local knowledge/priorities/water quality concerns and available resources. If something is in Priority 2 it could be moved to Priority 1 or vice versa, especially if it is close to the statistical dividing line between the two groups
    - Is it necessary to prioritize all basins in this first round? Most important priorities are No. 1 & No. 2. Could consider only identifying these two groups for now.

## Attachment C-4

# SNMP Glossary of Terms

**ALTERNATIVE COMPLIANCE PROGRAM (ACP):** Project(s) designed to provide the same or higher level of intended protection to water users that may be adversely affected by the discharge. For example, where a discharge is unable to comply with water quality objectives for nitrate, the discharger may seek an exception and offer to provide a safe and reliable alternative water supply for nearby drinking water wells that exceed or threaten to exceed the primary MCL for nitrate. This approach is considered a form of Alternative Compliance because it assures protection of the beneficial use, where that use actually occurs, by other means. Alternative Compliance Programs may be used in conjunction with other non-traditional regulatory options (including, variances, exceptions, offsets, management zones and assimilative capacity allocations) to mitigate the adverse effects from a discharge until a feasible, practicable and reasonable means for meeting water quality objectives becomes available for certain regulated discharges.

**AQUIFER:** A body of rock or sediment that is sufficiently porous and permeable to store, transmit and yield significant or economic quantities of groundwater to wells or springs. (DWR 2003)

**ASSIMILATIVE CAPACITY (Groundwater):** The difference between the current volume-weighted average concentration of a chemical constituent in a given groundwater basin or subbasin (or a specific portion of the groundwater system) and the relevant water quality objective for the same chemical constituent. For the purpose of calculating available assimilative capacity, and in accordance with §9(c)(1) of the Recycled Water Policy (Resolution No. 2009-0011, as amended by Resolution No. 2013-0003), the most recent 5 years of available data should be used unless a different data set is approved by the Central Valley Water Board's Executive Officer. (See also State Water Board's WQ Order No. 73-04).

**AVERAGE GROUNDWATER CONCENTRATION:** The mean concentration of a chemical constituent computed using the reasonably available, representative and reliable well data collected in a given basin or subbasin during the most recent 10-year period. The Central Valley Water Board may authorize longer or shorter averaging periods where necessary and appropriate. Statistical tools and transformations or other quality assurance/quality control data may be used to identify and disqualify outliers, to normalize data, or to spatially and temporally de-cluster well data to reduce the potential for sampling bias when estimating a mean concentration. When computing the average groundwater concentration for a basin or subbasin, the computation is the volume-weighted average concentration for a specified volume of water representative of a specific portion of the aquifer system. See SNMP Attachment B, Section B.2.1.5 for links to documents for a more detailed description and examples of some technical methods previously accepted for use in estimating average chemical concentrations in groundwater.

**BASELINE GROUNDWATER QUALITY:** The lowest volume-weighted average (mean) concentration of a chemical constituent consistently attained in a given groundwater basin or subbasin since the relevant water quality objective for that same constituent was established or since October 28, 1968, whichever is later, unless the Central Valley Water Board has subsequently authorized a

different water quality baseline consistent with the State Antidegradation Policy (Resolution No. 68-16). The phrase "baseline groundwater quality" is synonymous with the phrase "existing quality" as the latter term is used in Res. No. 68-16.

**BASIN:** An alluvial aquifer or a stacked series of alluvial aquifers with reasonably well-defined boundaries in a lateral direction and having a definable bottom.  
[http://www.water.ca.gov/pubs/groundwater/bulletin\\_118/california's\\_groundwater\\_bulletin\\_118\\_-\\_update\\_2003\\_/bulletin118-glossaryrefs.pdf](http://www.water.ca.gov/pubs/groundwater/bulletin_118/california's_groundwater_bulletin_118_-_update_2003_/bulletin118-glossaryrefs.pdf). **Note:** The term "basin" should only be used in the context of DWR-defined basins. See SNMP Section 2.4 for discussion of groundwater basins/subbasins in the Central Valley Region.

**BEST EFFORTS:** The highest level of water quality that can be reasonably achieved using the most effective and affordable methods generally available to reduce the discharge of pollutants or mitigate potential adverse effects of such discharges on the receiving waters. Best Efforts is conceptually comparable (but not legally synonymous) with other similar phrases commonly used to proscribe the most effective, efficient and affordable means for minimizing pollution, such as: Best Available Technology Economically Achievable (BATEA), Best Practicable Control Technology (BPT), Best Conventional Pollution Control Technology (BCT), and Best Management Practices (BMP). However, unlike the phrase BPTC, use of the term Best Efforts is not restricted to situations where receiving water quality is better than relevant water quality objectives. (See also State Water Board WQ Order No. 81-5; State Water Board WQ Order NO. 2000-07; State Water Board WQ Order No. 2000-11).

**BEST MANAGEMENT PRACTICES (BMP):** Structural or non-structural (operational) control techniques designed to reduce the discharge of pollutants into receiving waters, especially for non-point sources where conventional wastewater treatment technologies are not a feasible or practicable compliance option.

**BEST PRACTICABLE TREATMENT OR CONTROL (BPTC):** Proven, cost-effective and reliable methods for reducing the mass or concentration of potential pollutants discharged to the receiving water to assure that pollution or nuisance will not occur, and the highest water quality consistent with the maximum benefit to the people of the State will be maintained. The phrase BPTC applies exclusively to situations where receiving water quality is better than relevant water quality objectives and an Antidegradation Analysis is being performed as required by Res. No. 68-16. (See also Questions and Answers About State Water Board Resolution No. 68-16 Feb. 16, 1995).

**CONTAMINATION:** Per CWC §13050(k), an impairment of the quality of the waters of the state by waste to a degree which creates a hazard to public health through poisoning or through the spread of disease. Contamination includes any equivalent effect resulting from the disposal of waste, whether or not waters of the state are affected.

**CURRENT GROUNDWATER QUALITY:** The volume-weighted Average Concentration of a chemical constituent in a given basin or subbasin. Current water quality can be computed separately for the upper zone, lower zone, shallow zone, or management zone; the production zone water quality is based on the volume-weighted average of the upper zone and lower zone water quality. (See also State Water Board WQ Order No. 73-4 and Res. No. 2009-0011).

**EARLY ACTION PLAN (EAP):** A plan that identifies specific activities, and a schedule for implementing those activities, that will be undertaken to assure immediate access to safe drinking water for those who are dependent on groundwater from wells that exceed the Primary MCL for nitrate. (See also the SNMP Nitrate Permitting Strategy, Attachment A-2).

**EXCEPTION TO WATER QUALITY STANDARD:** A special authorization, adopted by the Central Valley Water Board through the normal public review and approval process, that allows a discharge or group of discharges to groundwater, subject to various conditions, without an obligation to comply with certain water quality objectives that would normally apply to the given discharge for the period of the exception. Exceptions are limited to a specific term that is determined by the Central Valley Water Board. (See also the SNMP Exceptions Policy, Attachment A-4).

**FEASIBLE, PRACTICABLE AND REASONABLE:** capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social and technological factors. "In a successful manner" means avoiding significant and unacceptable adverse impacts.

**IMPERCEPTIBLE IMPROVEMENT IN WATER QUALITY:** A calculable but relatively insignificant reduction in pollutant concentration in a waterbody that does not materially alter a typical person's willingness or ability to make beneficial use of the receiving water or substantially change the risk of doing so. (See also Resolution No. R5-2014-0074).

**INFEASIBLE, IMPRACTICABLE OR UNREASONABLE:** Not capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social and technological factors. "In a successful manner" means avoiding significant and unacceptable adverse impacts.

**LOWER GROUNDWATER ZONE** (see **Figure C4-1**): The remaining portion of a groundwater basin or subbasin's production zone excluding the upper zone. Wells constructed in the lower zone are generally used for municipal supply and/or crop irrigation purposes. The upper boundary of the lower zone varies based on well construction information for a given basin or subbasin (see reference citation in the definition of upper zone). Where the Corcoran Clay layer exists, and a significant proportion of domestic wells rely on water above the Corcoran Clay layer, the Corcoran Clay layer may define the lower boundary of the upper zone or the lower zone, pending the available well construction and groundwater use information. The groundwater beneath the Corcoran Clay is referred to as the lower aquifer system. (See also SNMP Section 3.3.1.1).

**MANAGEMENT ZONE:** A discrete and generally hydrologically contiguous area for which permitted discharger(s) participating in the management zone collectively work to meet the goals of the SNMP and for which compliance with water quality standards is regulated and evaluated as a subdivision of a larger groundwater basin(s) or subbasin(s). Where management zones cross groundwater basin or subbasin boundaries, water quality conditions and compliance with water quality standards are assessed separately for each basin or subbasin. Management zones must be approved by the Central Valley Water Board. (See also SNMP Groundwater Management Zone Policy, Attachment A-1).

**NATURALLY-OCCURRING BACKGROUND CONCENTRATION:** The average concentration of a chemical constituent that is likely to be present a given groundwater basin or subbasin without the influence of anthropogenic activities that may have occurred over time, accounting for temporal and spatial variability. Acceptable methods for estimating the naturally-occurring background concentration are described in [INSERT SNMP CITATION HERE]. Other scientifically-defensible methods for estimating the naturally occurring background concentration may also be approved by the Central Valley Water Board’s Executive Officer.

**NUISANCE:** Per CWC §13050(m), anything which meets all of the following requirements: 1] Is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property; 2] Affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individual may be unequal; 3] Occurs during, or as the result of, the treatment or disposal of wastes.

**OFFSET PROGRAM:** Project(s) implemented in conjunction with, but separately from, a discharge that are designed to demonstrate that the collective net impact of both on the receiving water quality is better than what is expected to occur if the discharge complied with the WDRs that would normally be imposed in the absence of any Offset Program. (See also the SNMP Offsets Policy, Attachment A-7).

**PERCHED GROUNDWATER** (see Figure C4-1): Groundwater that is supported by a zone of material of low permeability located above an underlying main body of groundwater with little or no hydrologic connectivity to the underlying main aquifer. In most cases, perched groundwater is excluded when characterizing the production zone, upper zone or shallow zone of the main aquifer which makes up a given DWR-designated groundwater basin or subbasin (see DWR 2003).

**POLLUTION:** Per CWC §13050(l), an alteration of the quality of the waters of the state by waste to a degree which unreasonably affects the waters for beneficial uses or the facilities which serve these beneficial uses. Pollution may include contamination. Naturally-occurring background concentrations are not considered a pollution.

**PRODUCTION ZONE FOR GROUNDWATER** (see Figure C4-1): The portion of a basin or subbasin from which the vast majority (≈90%) of groundwater is being pumped and utilized. The production zone includes the upper zone and the lower zone. (See also SNMP Section 3.3.1.1).

**RECEIVING WATER(S):** A surface waterbody (lake or stream) or a groundwater basin or subbasin into which pollutants are discharged.

**SATURATED ZONE** (see Figure C4-1): The area, below the land surface, in which all pore space between soil, sand and rock particles is filled with water. The saturated zone is below the unsaturated zone and excludes areas of soil moisture where water is held by capillary action in the upper unsaturated soil or rock.

**SHALLOW GROUNDWATER ZONE** (see Figure C4-1): The uppermost portion of the upper zone that generally encompasses the shallowest 10% of the domestic water supply wells in a given basin or subbasin. For regulatory purposes, the term “shallow zone” should be used in lieu of the phrase “first-encountered groundwater.”

**SUBBASIN:** A subdivision of a groundwater basin created by dividing the basin using geologic and hydrologic or institutional boundaries. The California DWR has identified the groundwater basins or subbasins in the Central Valley Region. (See also DWR 2003 and SNMP Section 2.4).

**TRIGGER(s):** A concentration or level for a specific constituent (e.g., TDS) or parameter (e.g., electrical conductivity) which, when equaled or exceeded, may require some dischargers to initiate certain actions or implement certain measures.

**UNSATURATED ZONE** (see Figure C4-1): The area, below the land surface, in which the pore space between soil, sand and rock particles contains varying degrees of both air and water in ratios that inhibit extraction of significant or economic quantities of groundwater extraction. The term “unsaturated zone” is generally considered to be synonymous with the term “vadose zone.”

**UPPER GROUNDWATER ZONE** (see Figure C4-1): The portion of a groundwater basin or subbasin from which most domestic wells draw water. It generally extends from the top of the saturated zone to the depth to which domestic wells are generally constructed (screened). The lower boundary of the upper zone varies based on well construction information for a given basin or subbasin. The Corcoran Clay layer may define the lower boundary of the upper zone or the lower zone, pending the available well construction and groundwater use information. The groundwater beneath the Corcoran Clay is referred to as the lower aquifer system. (See also Luhdorff & Scalmanini and LWA 2016a and SNMP Section 3.3.1.1).

**VARIANCE TO WATER QUALITY STANDARD:** A special authorization, adopted by the Central Valley Water Board through the normal public review and approval process, that allows an NPDES-permitted discharge(s) to surface waters or a waterbody, subject to various conditions, without an obligation to comply with certain water quality standards that would normally apply to the given discharge(s) or waterbody. Variances are limited to specific terms governed by federal law and must also be approved by US EPA. Variances apply solely to surface waterbodies or discharges to those surface waters. (See also Resolution No. R5-2014-0074).

**ZONE OF INFLUENCE:** The portion(s) of a basin or subbasin where a discharge or discharges will co-mingle with the receiving water and where the presence of such discharge(s) would likely be detected and differentiated from other discharges or background conditions in a subsequent tracer study were such a study to be performed.



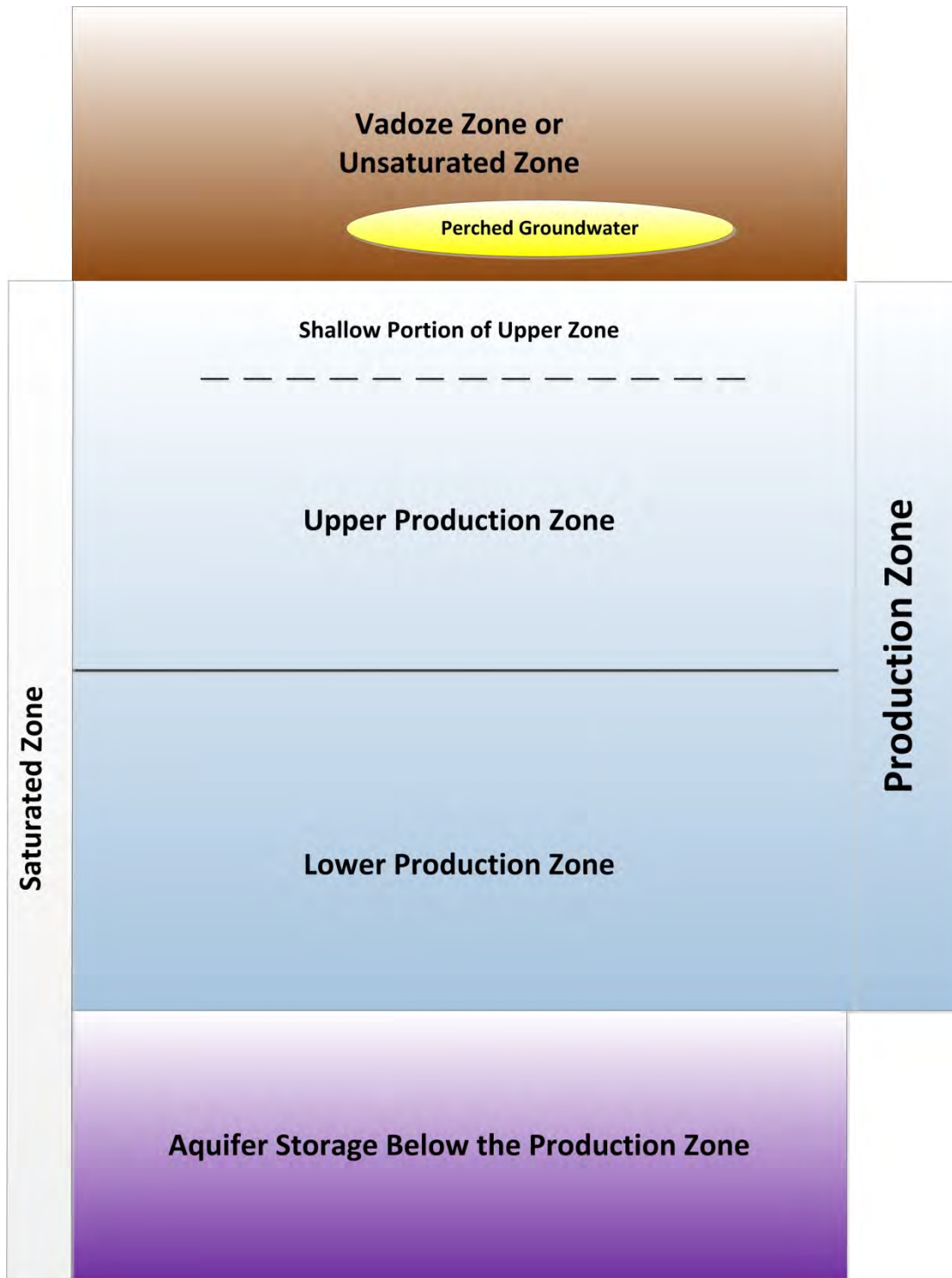


Figure C4-1. Subdivisions of a Groundwater Basin or Subbasin

# CV-SALTS Meeting Calendar

## 2017

**1 January**

Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

**2 February**

Sun	Mon	Tue	Wed	Thu	Fri	Sat
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28				

**3 March**

Sun	Mon	Tue	Wed	Thu	Fri	Sat
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

**4 April**

Sun	Mon	Tue	Wed	Thu	Fri	Sat
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30						

**5 May**

Sun	Mon	Tue	Wed	Thu	Fri	Sat
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

**6 June**

Sun	Mon	Tue	Wed	Thu	Fri	Sat
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

**7 July**

Sun	Mon	Tue	Wed	Thu	Fri	Sat
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

**8 August**

Sun	Mon	Tue	Wed	Thu	Fri	Sat
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

**9 September**

Sun	Mon	Tue	Wed	Thu	Fri	Sat
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

**10 October**

Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

**11 November**

Sun	Mon	Tue	Wed	Thu	Fri	Sat
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

**12 December**

Sun	Mon	Tue	Wed	Thu	Fri	Sat
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

### Notes/Key

- Light Red conflicts
- Policy Related Meetings
- Wed/Thurs 4th or 3rd
- Policy Related Meetings
- Policy or Admin Calls
- Yellow Salty 5
- Lower San Joaquin
- TAC Meeting
- Regional Board Presentation
- Wednesday Meetings are DRAFT
- May be held by Webinar or
- in person in Sacramento half day

# CV-SALTS Meeting Calendar

## 2016

**1 January**

Sun	Mon	Tue	Wed	Thu	Fri	Sat
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

**2 February**

Sun	Mon	Tue	Wed	Thu	Fri	Sat
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7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29					

**3 March**

Sun	Mon	Tue	Wed	Thu	Fri	Sat
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

**4 April**

Sun	Mon	Tue	Wed	Thu	Fri	Sat
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

**5 May**

Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

**6 June**

Sun	Mon	Tue	Wed	Thu	Fri	Sat
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

**7 July**

Sun	Mon	Tue	Wed	Thu	Fri	Sat
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

**8 August**

Sun	Mon	Tue	Wed	Thu	Fri	Sat
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

**9 September**

Sun	Mon	Tue	Wed	Thu	Fri	Sat
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

**10 October**

Sun	Mon	Tue	Wed	Thu	Fri	Sat
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

**11 November**

Sun	Mon	Tue	Wed	Thu	Fri	Sat
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

**12 December**

Sun	Mon	Tue	Wed	Thu	Fri	Sat
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

### Notes/Key

- Light Red conflicts
- January is a Thursday/Friday
- Wed/Thurs 4th or 3rd
- Dark Green Exec Comm Policy
- Fridays at 1:00 pm
- Lt. Green Hatch Exec Comm Admin
- or **State Board Presentation**
- Yellow Salty 5
- Lower SJ River Committee
- Regional Board Briefing 8/17**
- TAC Meeting**
- Regional Board Presentation 6/22**
- Wednesday Meetings are DRAFT
- May be held by Webinar or
- in person in Sacramento half day