

**PUBLIC WORKSHOP ON
SUMMER & FALL DROUGHT-RELATED SWP/CVP
OPERATIONS IN THE BAY-DELTA WATERSHED**



Water Boards

STATE WATER RESOURCES CONTROL BOARD
REGIONAL WATER QUALITY CONTROL BOARDS

JUNE 24, 2015

2015 Temporary Urgency Change Petition (TUCP) Actions

- TUCP submitted January 23, Order February 3, modified Order March 5
 - Workshop February 18
- TUCP modification request March 24, Order April 6
 - Workshop May 20
- May 21 TUCP renewal request
 - Delta outflow in July: 3,000 cubic-feet per second (cfs)
 - Rio Vista flows: 2,500 cfs through November
 - West Delta salinity compliance move from Emmaton to Three-Mile Slough through August 15

Comments on TUCPs

- Nearly 500 objections, petitions for reconsideration and comments received
 - ~100 comments on Sacramento temperature issue
 - All comments posted and considered
- Commenters include:
 - Public, elected representatives, water agencies, state and local agencies, non-governmental organizations

Order 90-5 - Sacramento River Temperature Requirements

- Requires temperature of 56°Fahrenheit (F) at Red Bluff Dam when needed for fisheries protection
- Allows temperature control point to be moved upstream upon concurrence of fisheries agencies and State Water Board

TUCP Order - Sacramento River Temperature Requirements

- 2014 Hindcast
 - Difficulty predicting temperatures with low storage; temperatures in late summer/fall of 2014 were approximately 4 degrees F higher than modeled
- 2015 Temperature Management Plan (TMP)
 - Draft TMP mid-April, updated May 4, final was due June 1; Plan elements:
 - Starts with more storage than 2014
 - End-of-September Shasta storage levels similar to 2014
 - Reclamation indicated that TMP would meet 56°F at Clear Creek during temperature control season

2015 Sacramento River Temperature Actions

- May 14: Executive Director provisionally approved TMP, directed U.S. Bureau of Reclamation (Reclamation) to meet 56° at Clear Creek and to provide immediate notification if temperature compliance could not be achieved
- May 20 workshop: Reclamation stated that temperatures could be maintained throughout season
- May 29: Reclamation provided notice that temperatures could not be met
- May 29: Executive Director suspended the TMP

2015 Sacramento River Temperature Revised Plan

- May 29 – June 16: Reclamation developed new TMP in consultation with Department of Water Resources, fisheries agencies, and State Water Board
- Consistent with agreed upon elements of revised plan, June 16 letter from Executive Director:
 - Provisional approval of April/May TMP remains suspended
 - Optimize temperatures using real-time decision making
 - Maintain Keswick releases of 7,250 cfs
 - Target 57° F at Clear Creek, not to exceed 58°
 - Conduct all necessary monitoring and reporting requested

Example of Raw Profile Data Provided by Reclamation

Department of the Interior Bureau of Reclamation NCAO		
Shasta Lake Profile		
Date: <u>3/10/2015</u>	Time: <u>11:10</u>	Observer: <u>Gotham & Martin</u>
Precipitation Last 48 Hours: <u>0</u>	Weather: <u>Clear & breezy</u>	
Thermometer ID: <u>YSI6600A</u>	Air Temperature (Degrees F): <u>59</u>	Storet Code: <u>SH21</u>
Lake Surface Elevation: <u>991.19</u>	Temperature	Turbidity
<small>All Elevations in M.S.L. (Mean Sea Level)</small>	400 Feet Upstream of Dam	400 Feet Upstream of Dam
	Surface: <u>54.9</u>	Surface: <u>4.8</u>
	Elevation 1050': _____	Elevation 1050': _____
	1025': _____	1025': _____
	1000': _____	1000': _____
	975': <u>53.7</u>	975': <u>4.8</u>
	950': <u>51.0</u>	950': <u>5.3</u>
	925': <u>50.3</u>	925': <u>5.4</u>
	900': <u>49.0</u>	900': <u>6.3</u>
	875': <u>48.2</u>	875': <u>5.5</u>
	850': <u>48.0</u>	850': <u>5.0</u>
	825': <u>47.7</u>	825': <u>4.4</u>
	800': <u>47.2</u>	800': <u>4.2</u>
Spillway Outlet (Elevation = 942'): <u>0</u>	775': <u>46.8</u>	775': <u>3.9</u>
Spillway Outlet (Elevation = 842'): <u>0</u>	750': <u>46.5</u>	750': <u>3.9</u>
Spillway Outlet (Elevation = 742'): <u>0</u>	725': <u>46.3</u>	725': <u>4.0</u>
Power (Elevation = 815'): <u>3600</u>	700': <u>46.1</u>	700': <u>4.1</u>
Tailbay Water Surface Elevation: <u>580.17</u>	675': <u>46.1</u>	675': <u>4.0</u>
Tailbay Water Temperature: <u>49.9</u>	650': <u>46.0</u>	650': <u>4.2</u>
Tailbay Water Turbidity: <u>6</u>	625': <u>46.0</u>	625': <u>4.5</u>
Remarks: TCD upper & mid open, lower & side clsd. Secchi = 4'. Centimudi boat ramp log jam, had to launch across dam in the dirt.		

2014 Shasta Isothermobaths

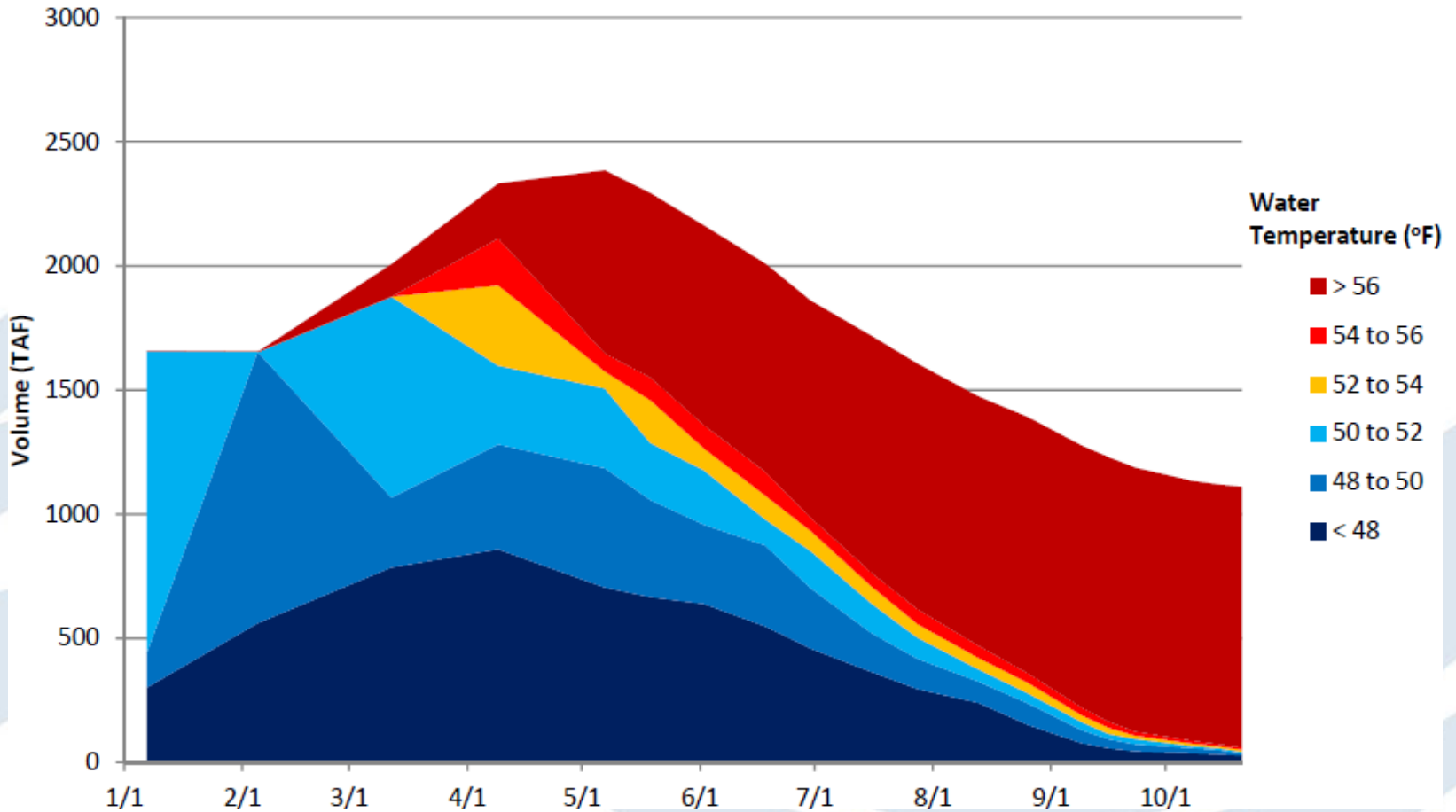


Figure produced by SWRCB staff on 6/16/2015 using Shasta Lake temperature profile data and volume-temperature relationships provided by Reclamation and Walter Bourez

2014 & 2015 through February 3rd Shasta Isothermobaths

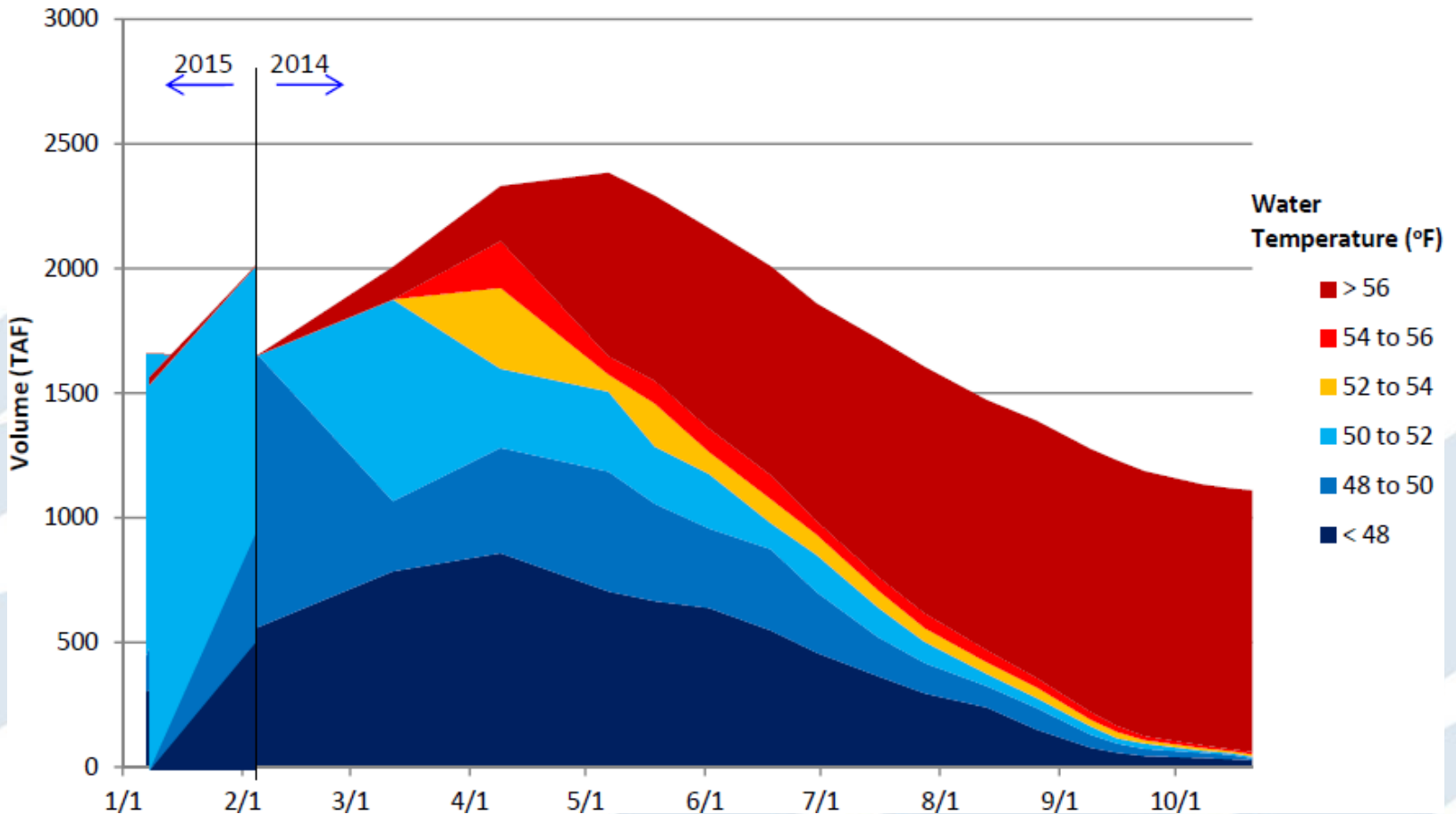


Figure produced by SWRCB staff on 6/16/2015 using Shasta Lake temperature profile data and volume-temperature relationships provided by Reclamation and Walter Bourez

2014 & 2015 through March 10th Shasta Isothermobaths

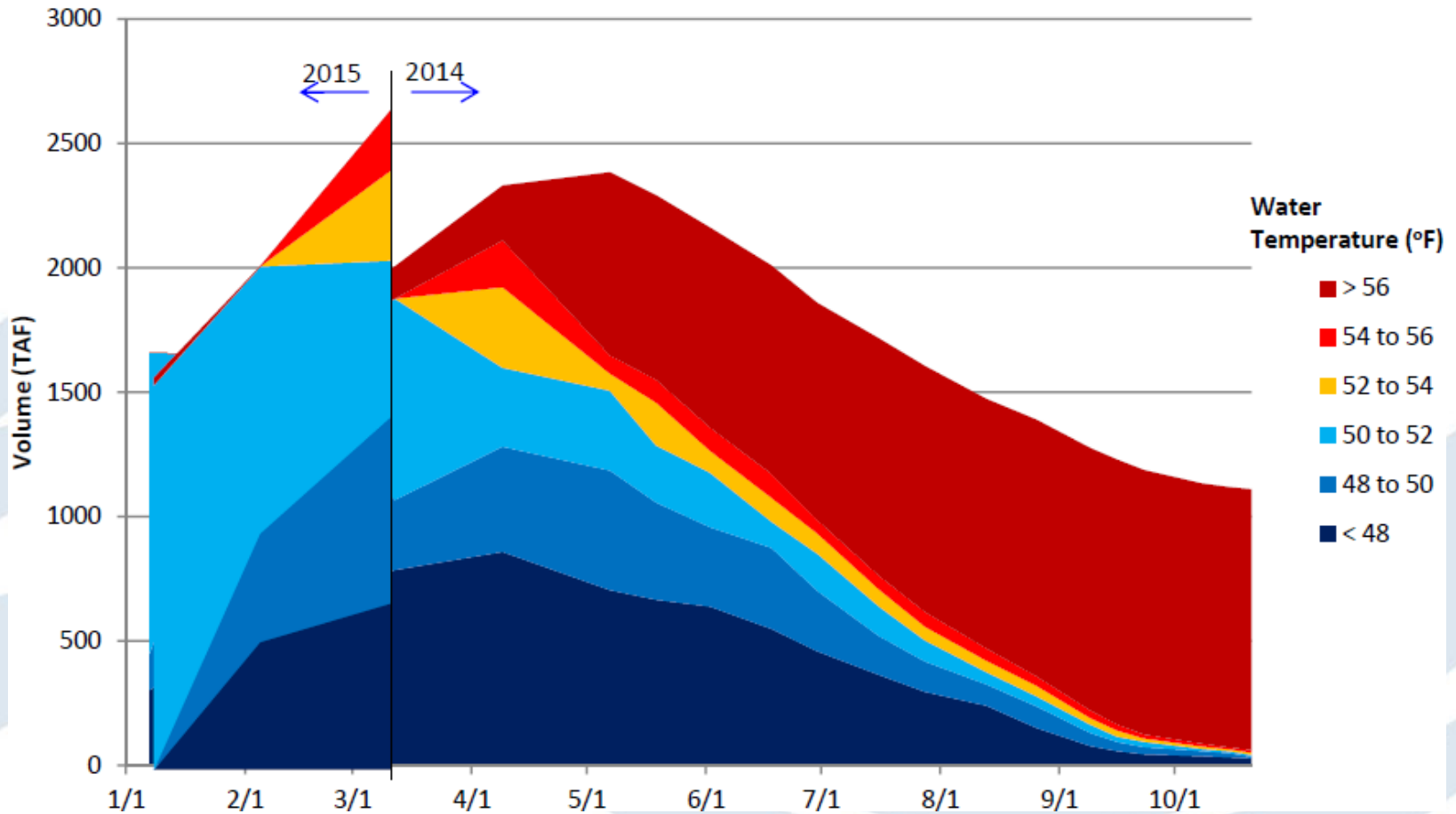


Figure produced by SWRCB staff on 6/16/2015 using Shasta Lake temperature profile data and volume-temperature relationships provided by Reclamation and Walter Bourez

2014 & 2015 through April 8th Shasta Isothermobaths

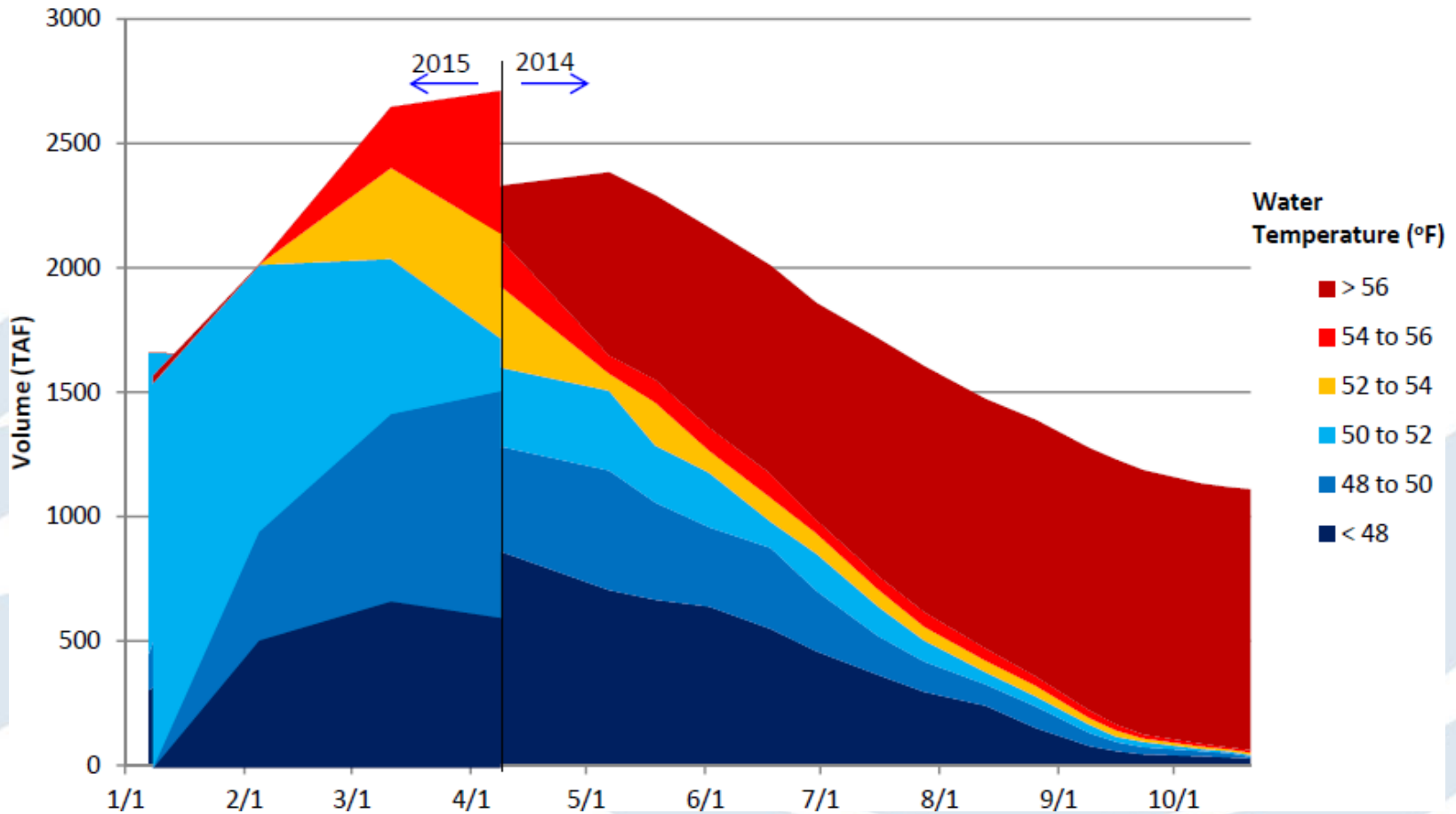


Figure produced by SWRCB staff on 6/16/2015 using Shasta Lake temperature profile data and volume-temperature relationships provided by Reclamation and Walter Bourez

2014 & 2015 through April 28th Shasta Isothermobaths

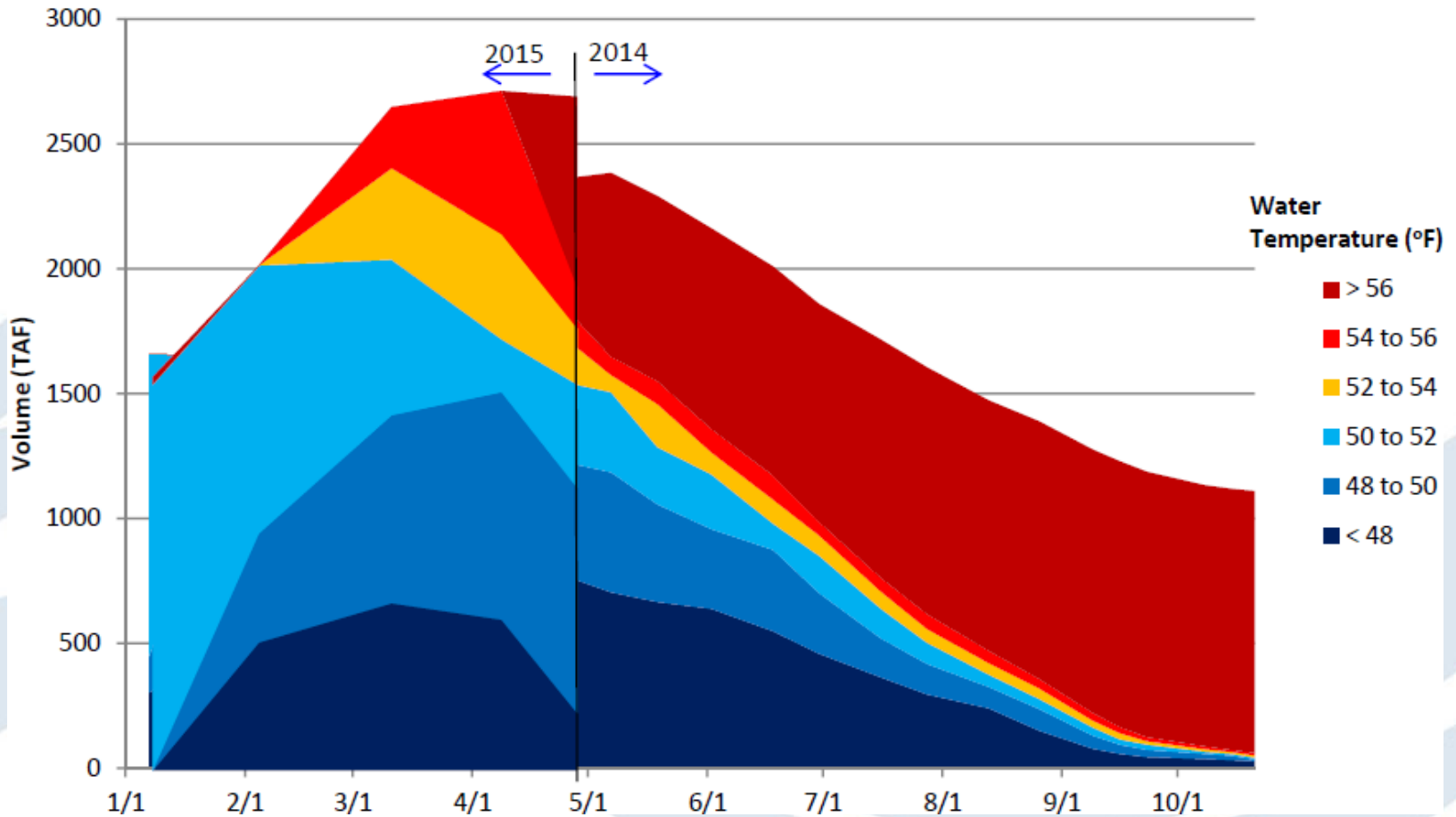


Figure produced by SWRCB staff on 6/16/2015 using Shasta Lake temperature profile data and volume-temperature relationships provided by Reclamation and Walter Bourez

2014 & 2015 through May 13th Shasta Isothermobaths

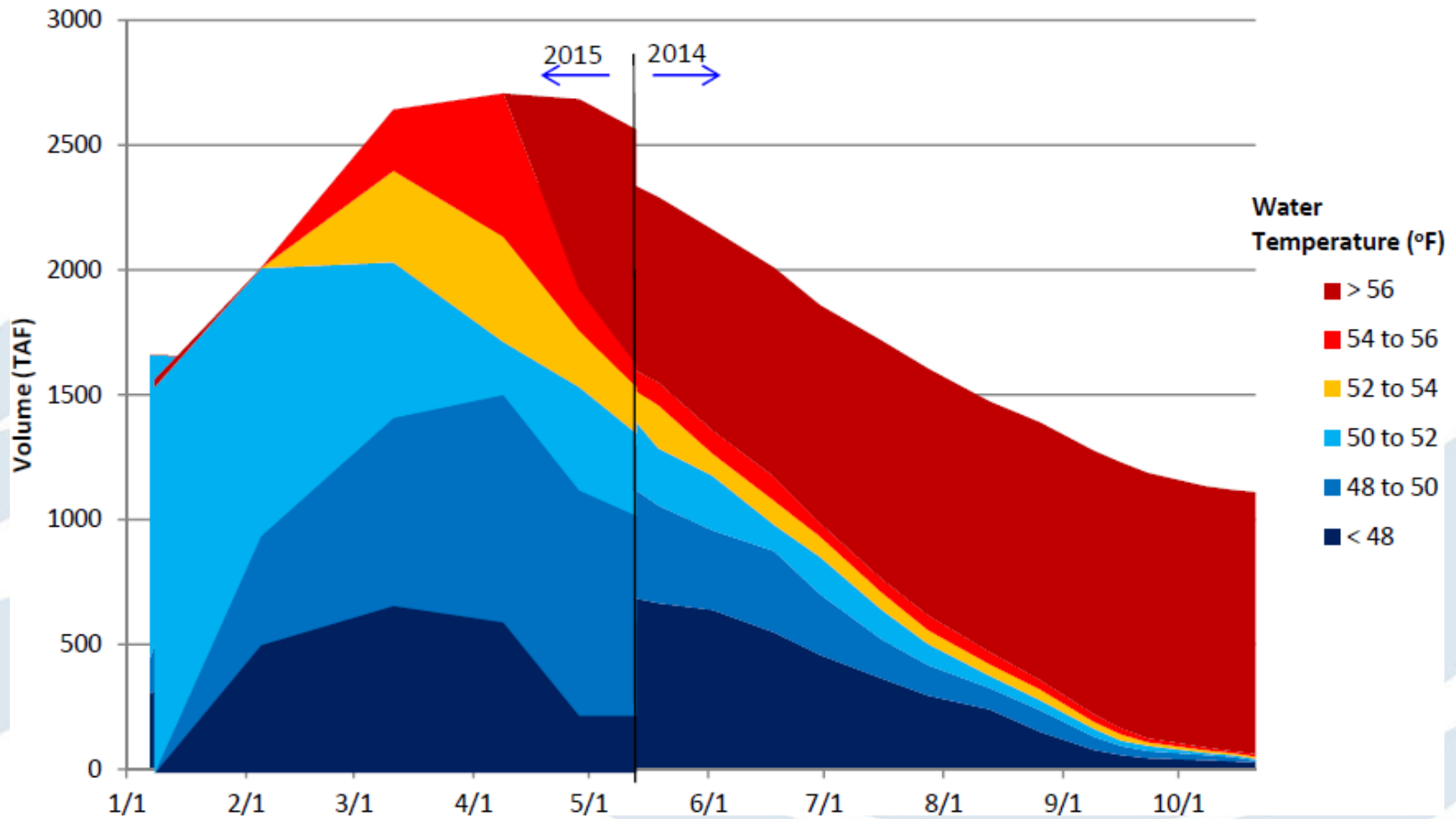


Figure produced by SWRCB staff on 6/16/2015 using Shasta Lake temperature profile data and volume-temperature relationships provided by Reclamation and Walter Bourez

2014 & 2015 through May 26th Shasta Isothermobaths

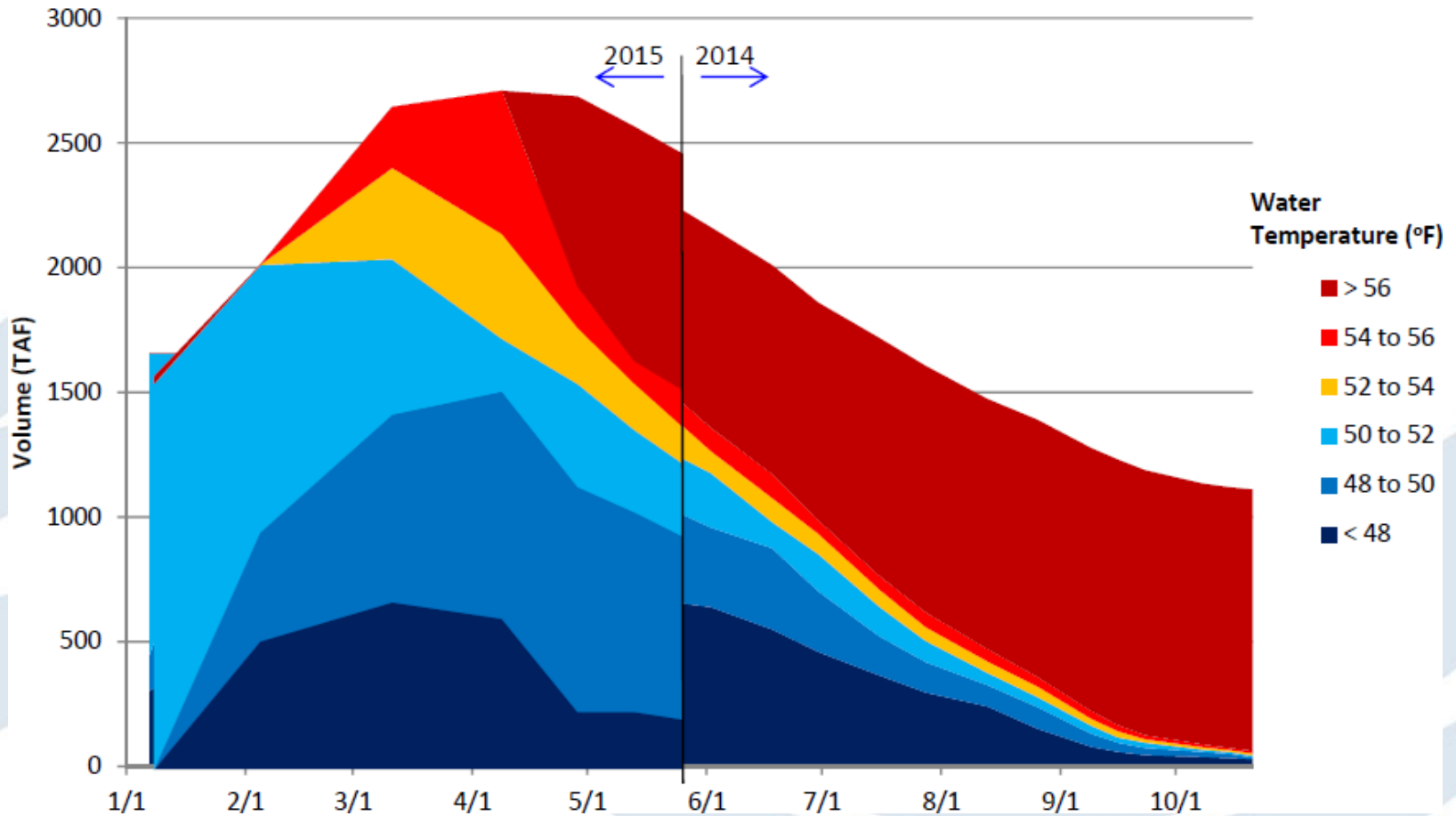


Figure produced by SWRCB staff on 6/16/2015 using Shasta Lake temperature profile data and volume-temperature relationships provided by Reclamation and Walter Bourez

2014 & 2015 through June 3rd Shasta Isothermobaths

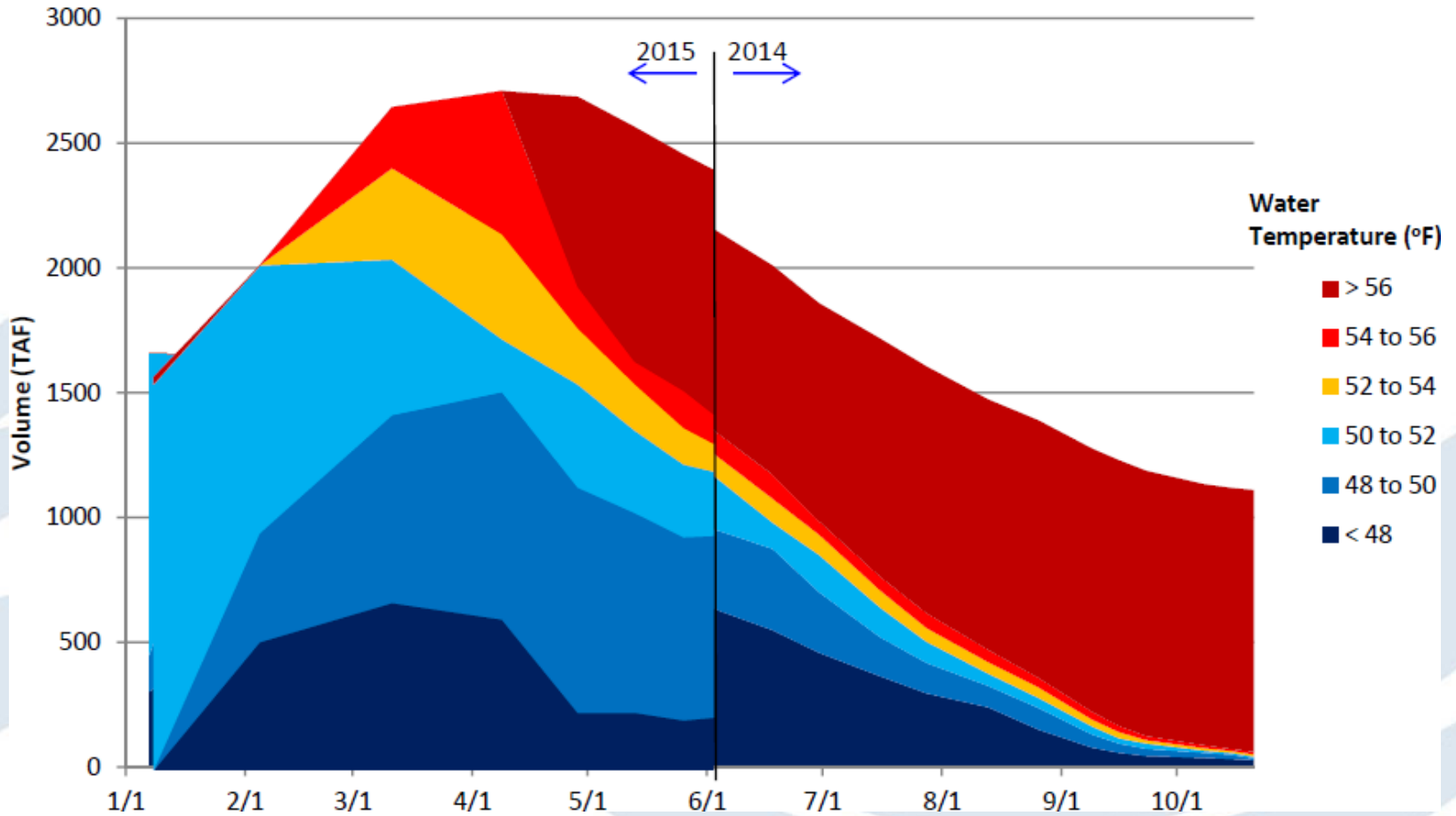


Figure produced by SWRCB staff on 6/16/2015 using Shasta Lake temperature profile data and volume-temperature relationships provided by Reclamation and Walter Bourez

2014 & 2015 through June 16th Shasta Isothermobaths

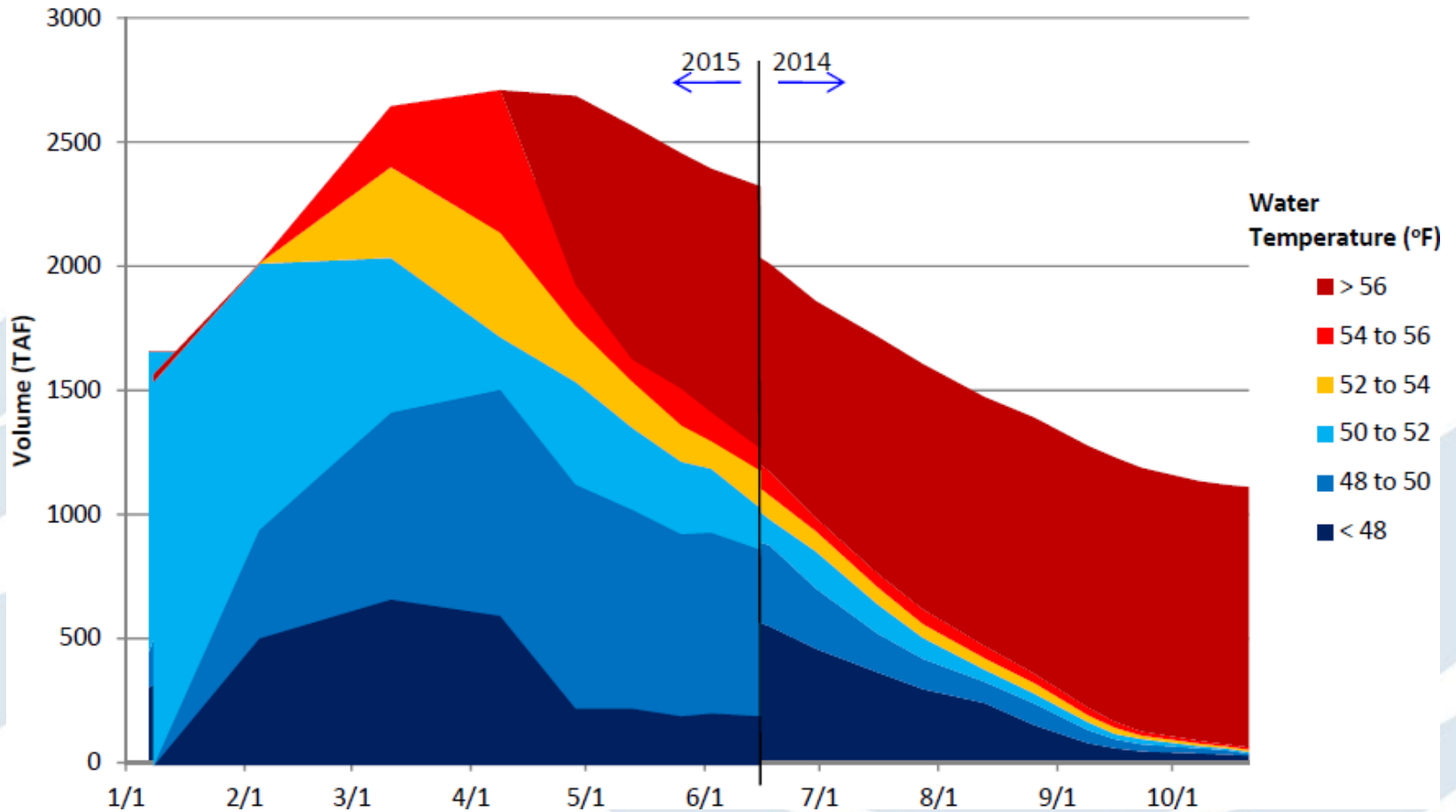


Figure produced by SWRCB staff on 6/16/2015 using Shasta Lake temperature profile data and volume-temperature relationships provided by Reclamation and Walter Bourez

Average Daily Water Temperatures
 Data from CDEC and USBR Temperature and Release Summary for
 Shasta and Trinity Report



Next Steps

- **TMP:** Fisheries agencies review/approve revised TMP, Executive Director approves final TMP, real-time operations
- **TUCP Renewal:** Fisheries agencies provide input on TUCP renewal request, Executive Director Order expected by July 1
- **TUCP Order on Reconsideration:** expected later this year

Additional Information

- State Water Board Drought Webpage:
http://www.waterboards.ca.gov/waterrights/water_issues/programs/drought/index.shtml
 - Covers State Water Board Drought Year Water Actions

Future Updates

- To receive future updates sign up to receive emails online at:

http://www.waterboards.ca.gov/resources/email_subscriptions/

- Select “State Water Resources Control Board”
- Enter email address and full name
- Under Categories, select “Water Rights”
- Select box for “Drought Updates”
- Click “Subscribe” button at top