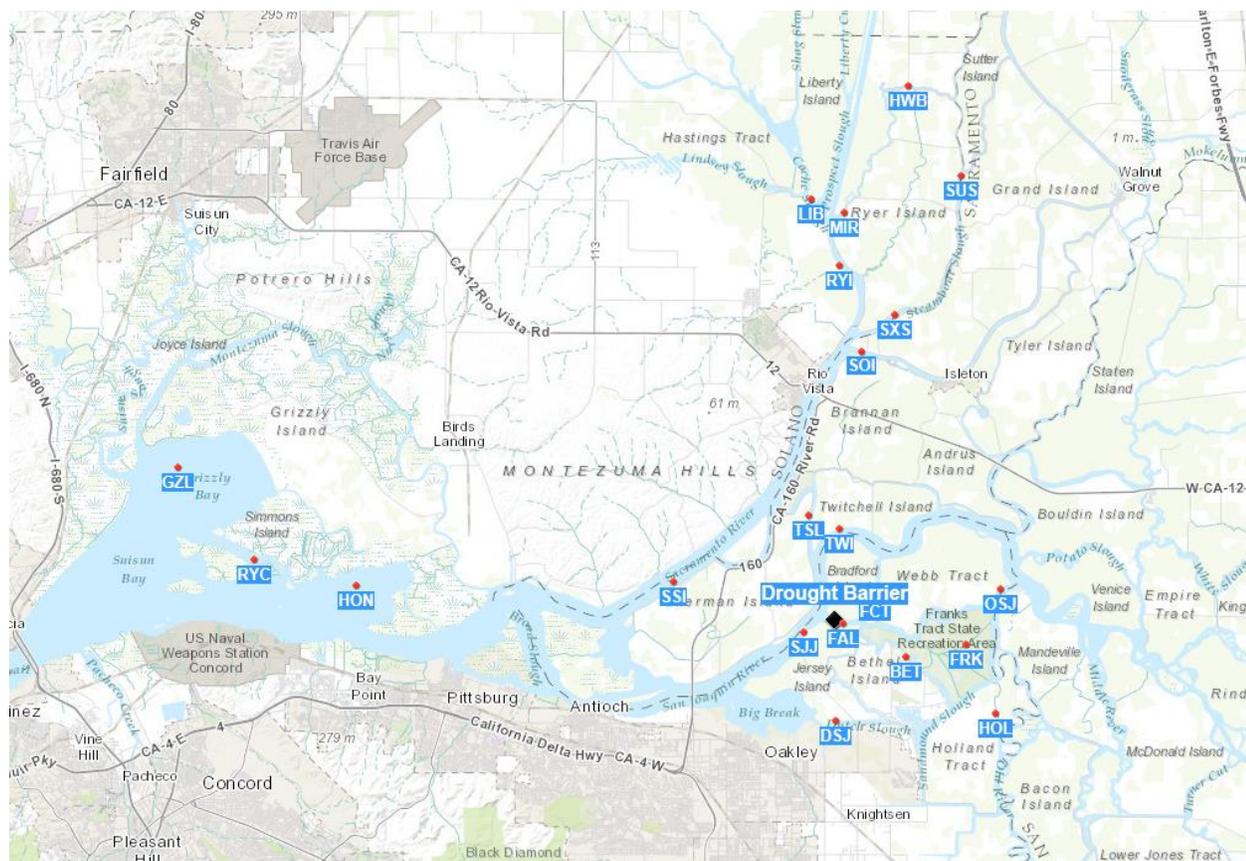


# Emergency Drought Barrier Water Quality Monitoring Summary <sup>1</sup>

## Weekly Update for September 21 through September 27, 2015

Below is a summary of water quality, flow, and velocity data since the hydraulic closure of the Emergency Drought Barrier (EDB) at West False River on May 28, 2015, with emphasis on trends observed during the past week. The EDB rock placement was completed on June 12, 2015. For additional water quality monitoring data, access the network of CDEC stations at the following link:

<http://dwr.maps.arcgis.com/apps/Viewer/index.html?appid=3be5e0bbe0994b76883b0567f4f6b9e3>

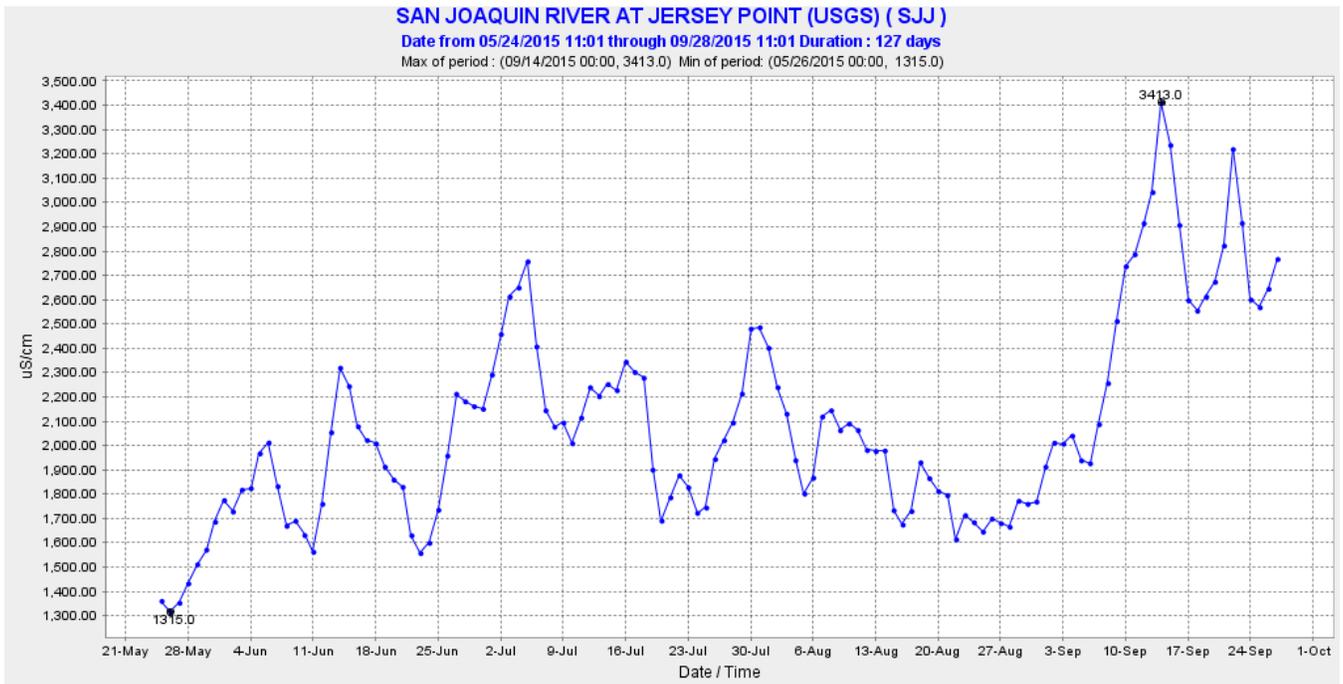
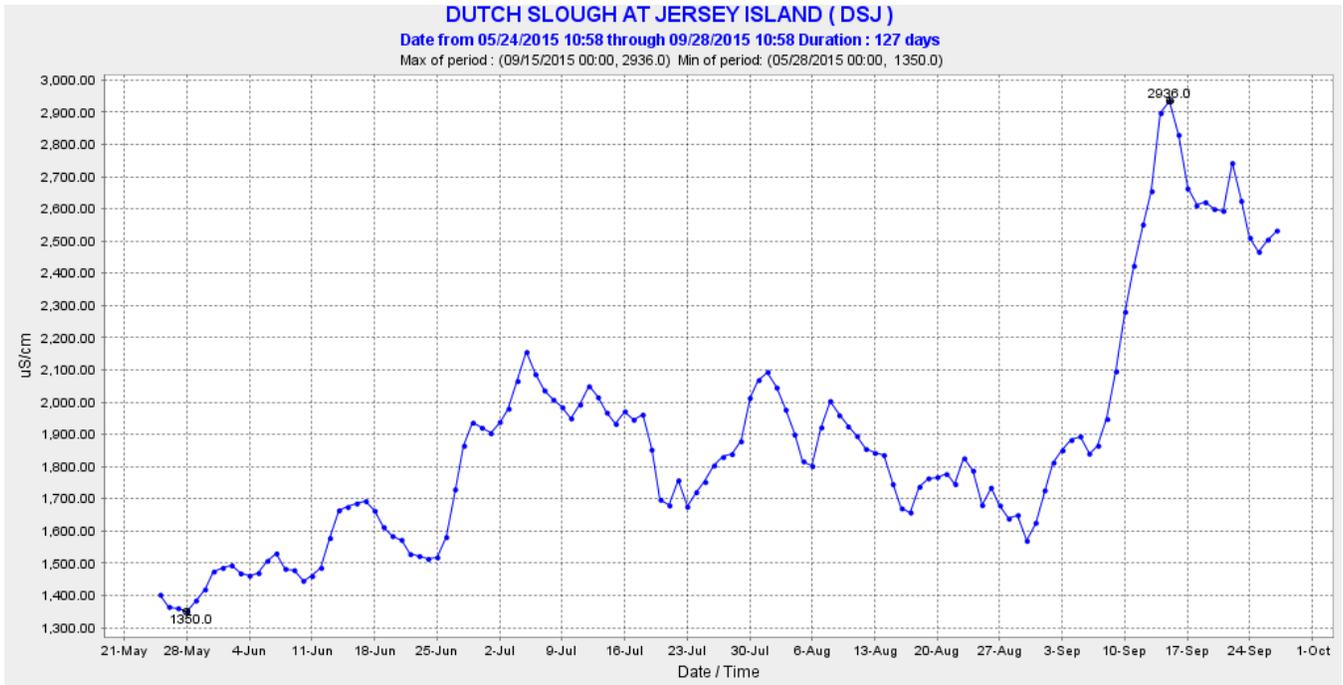


### Specific Conductivity

During the past week, average daily specific conductivity (EC) levels have fluctuated day to day but have not changed much from values recorded at the beginning of the week. EC decreased at San Dutch Slough at Jersey Island (DSL), and at Fisherman's Cut (FCT), but increased at San Joaquin River at Jersey Point (SJJ), False River (FAL), and Holland Cut (HOL). At Holland Cut (HOL) average daily EC increased from 729  $\mu\text{S}/\text{cm}$  on September 21 to 743  $\mu\text{S}/\text{cm}$  on September 27.

<sup>1</sup> All data in this report and subsequent weekly reports posted to California Data Exchange Network (CDEC) are preliminary and have not yet been validated.

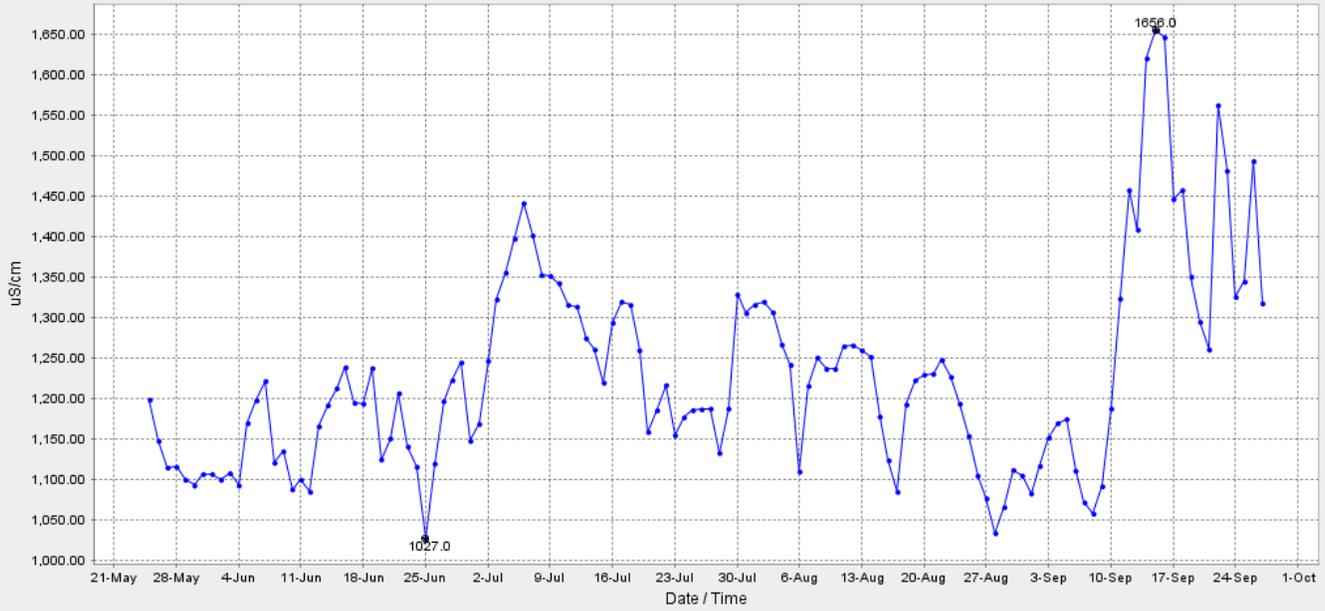
Daily average EC values for five stations in the vicinity of the EDB:



### FALSE RIVER ( FAL )

Date from 05/24/2015 11:11 through 09/28/2015 11:11 Duration : 127 days

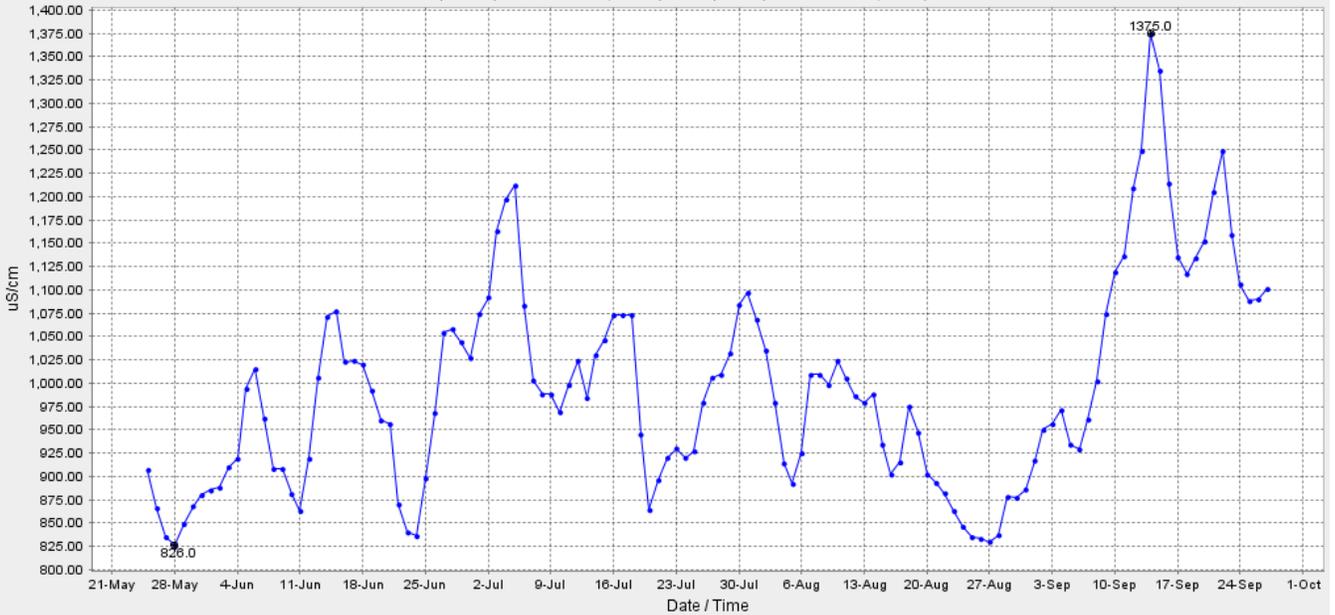
Max of period : (09/15/2015 00:00, 1656.0) Min of period : (06/25/2015 00:00, 1027.0)

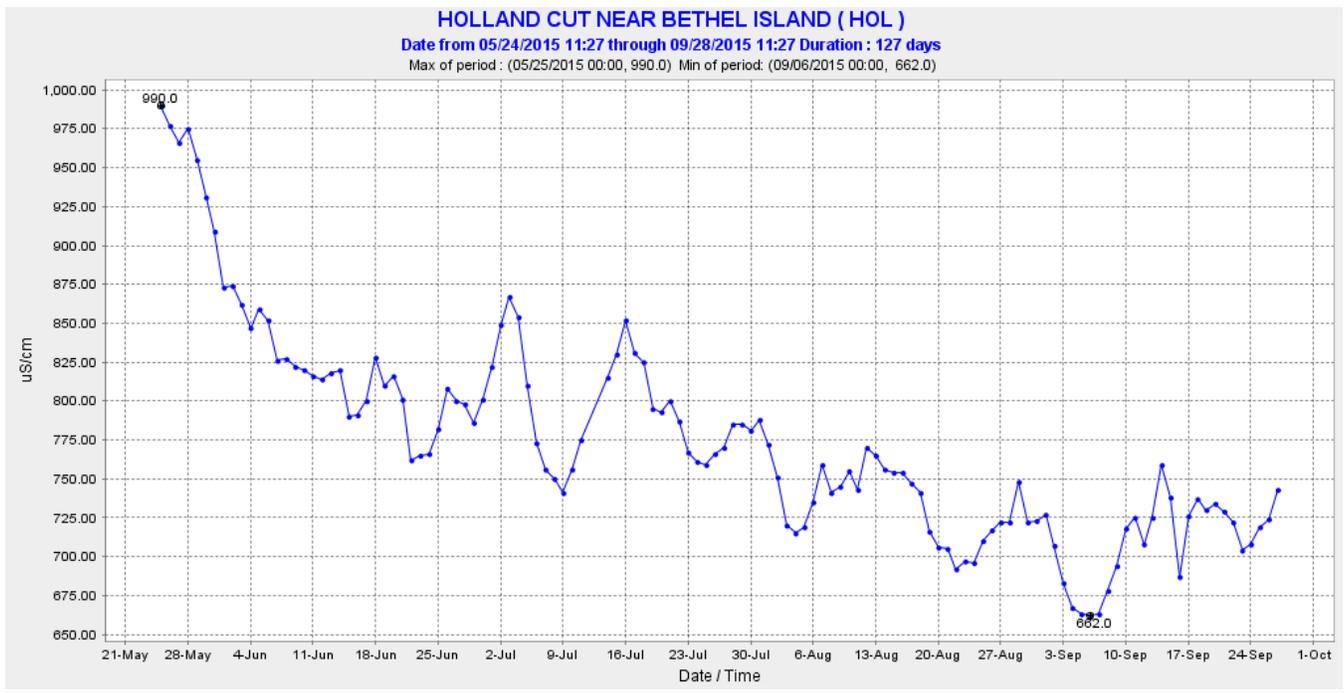


### FISHERMANS CUT ( FCT )

Date from 05/24/2015 11:24 through 09/28/2015 11:24 Duration : 127 days

Max of period : (09/14/2015 00:00, 1375.0) Min of period : (05/28/2015 00:00, 826.0)

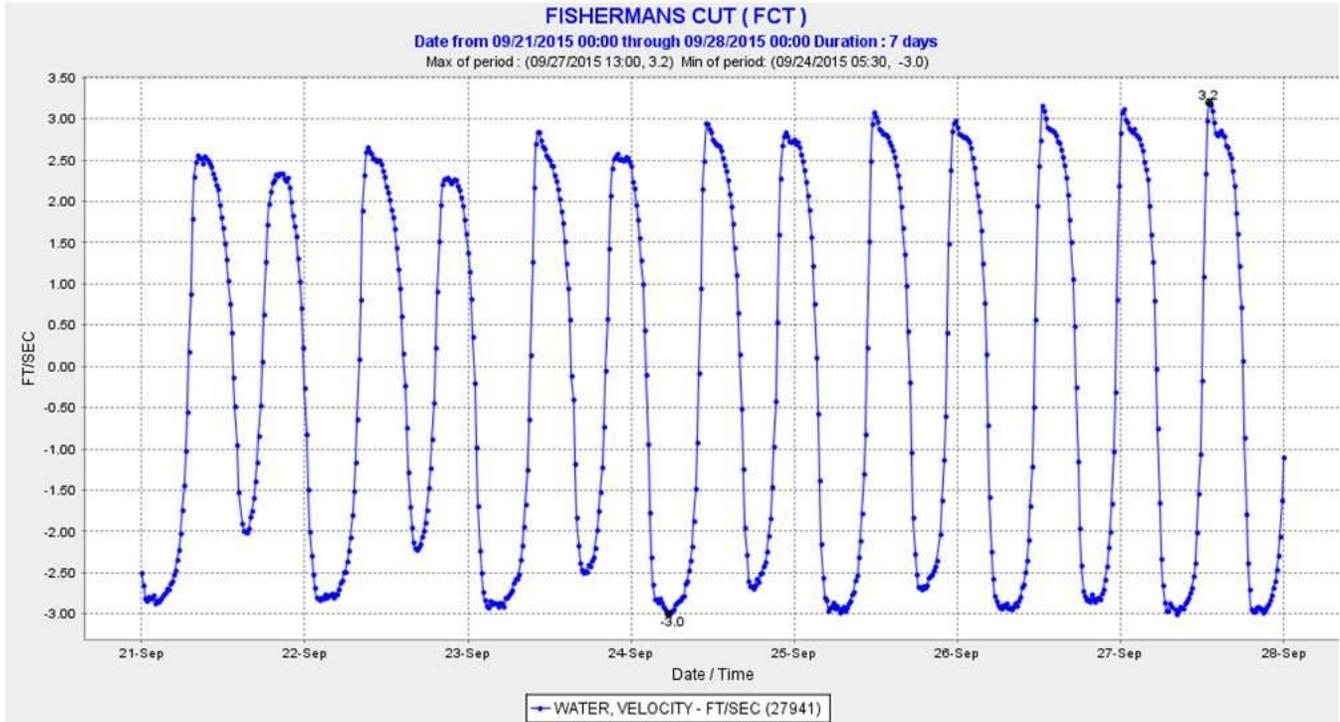




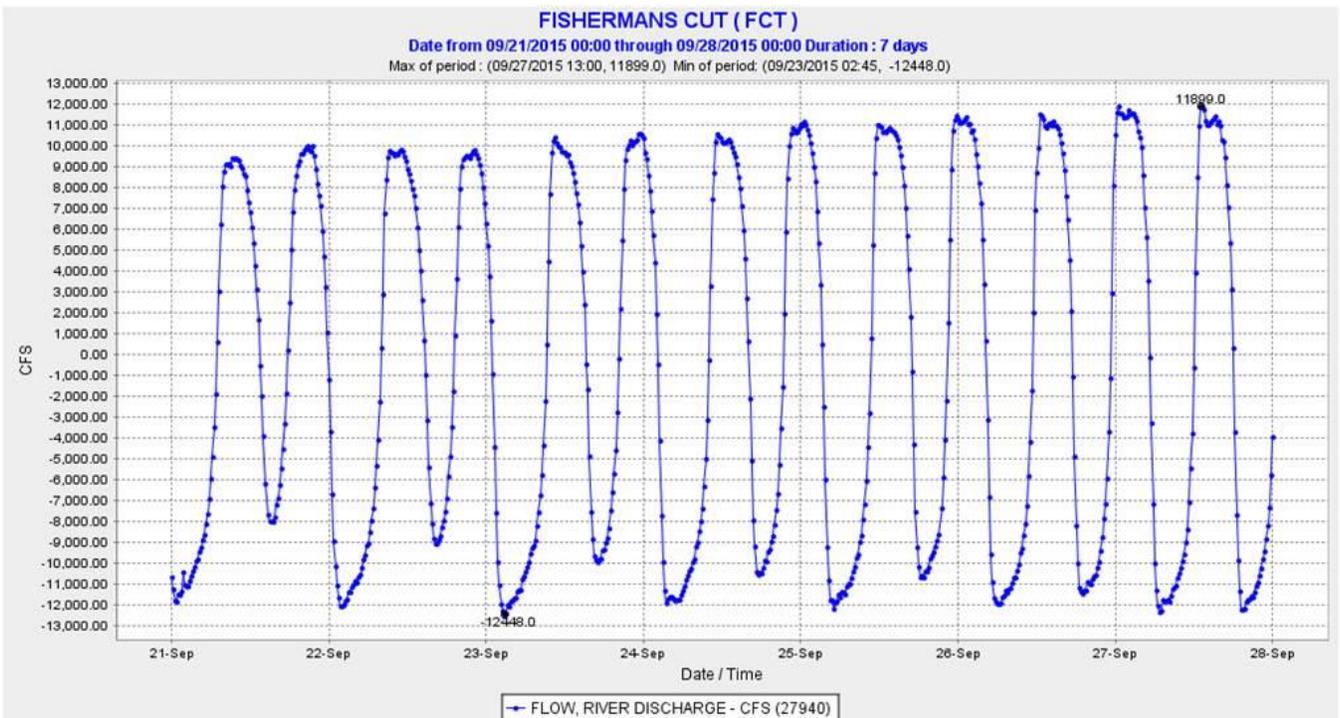
**Flow and Velocity**

Peak water velocities at the FCT flow station varied between +3.20 ft/s (9/27/15 at 13:00) and -3.00 ft/s (9/24/15 at 05:30). While the barrier is in place, positive water velocities measured at this station refer to water flowing into Fisherman’s Cut southward from the San Joaquin River. Thus, last week’s peak water velocity of +3.20 ft/s occurred during a flood tide. Flows varied between +11,899 cfs (9/27/15 at 13:00) and -12,448 cfs (9/23/15 at 02:45) indicating a higher peak flow during an ebb tide. All data will be validated and reported to the Water Data Library. Below are the velocity and flow plots for the last week of data.

15-Minute velocities for FCT in the vicinity of the emergency drought barrier:



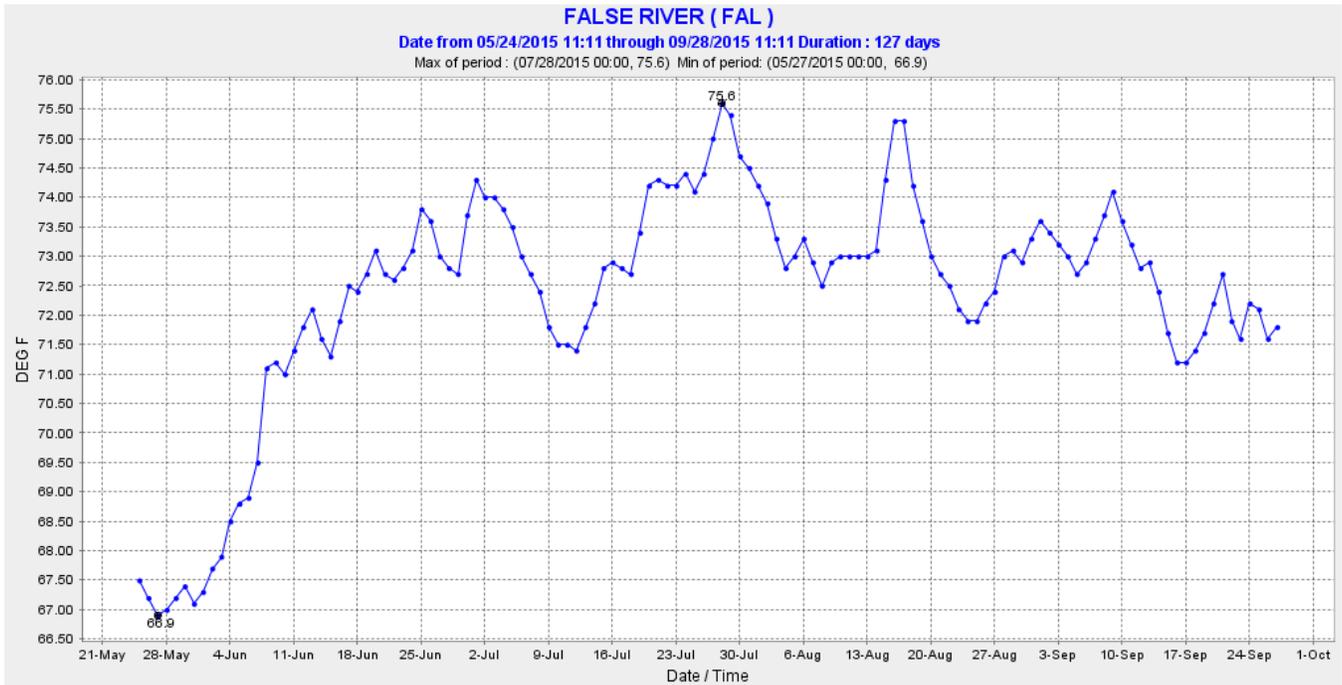
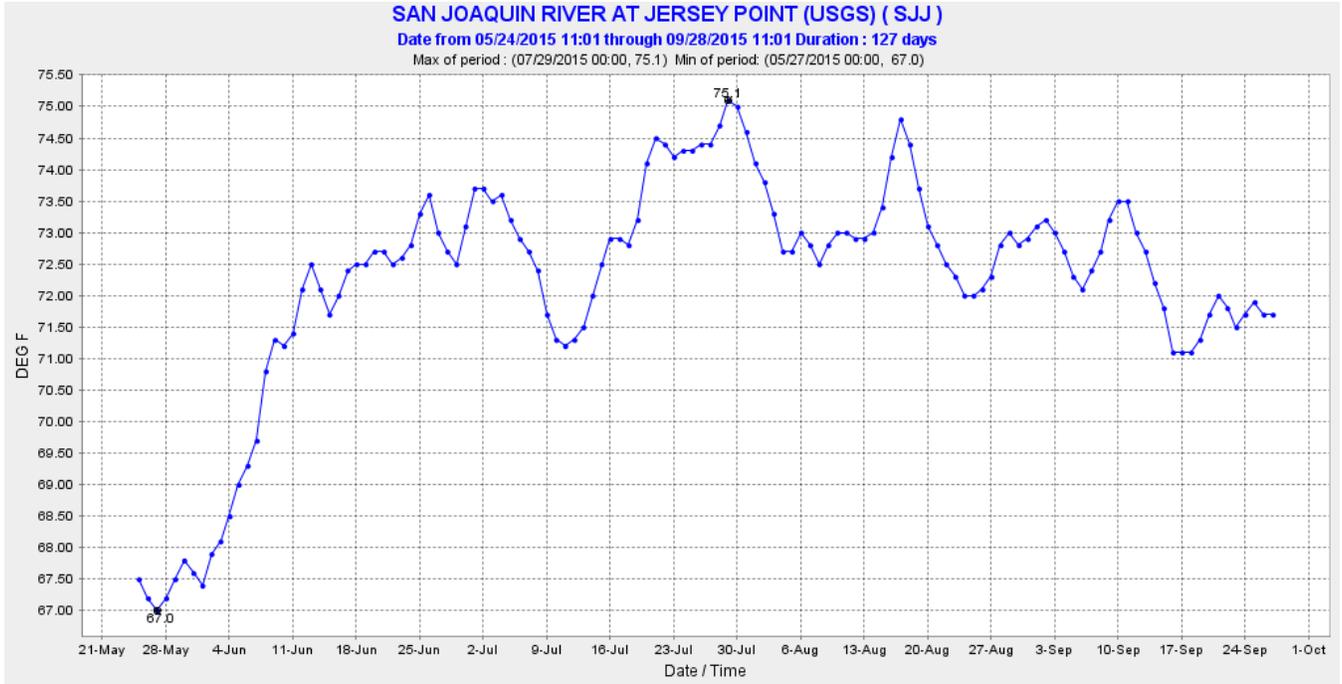
15-Minute flows for FCT in the vicinity of the emergency drought barrier:



## Water Temperatures

During the past 7 days, average daily water temperature at SJJ fluctuated slightly, ending the week at the same temperature, while at FAL average daily temperature decreased about 0.5 °F.

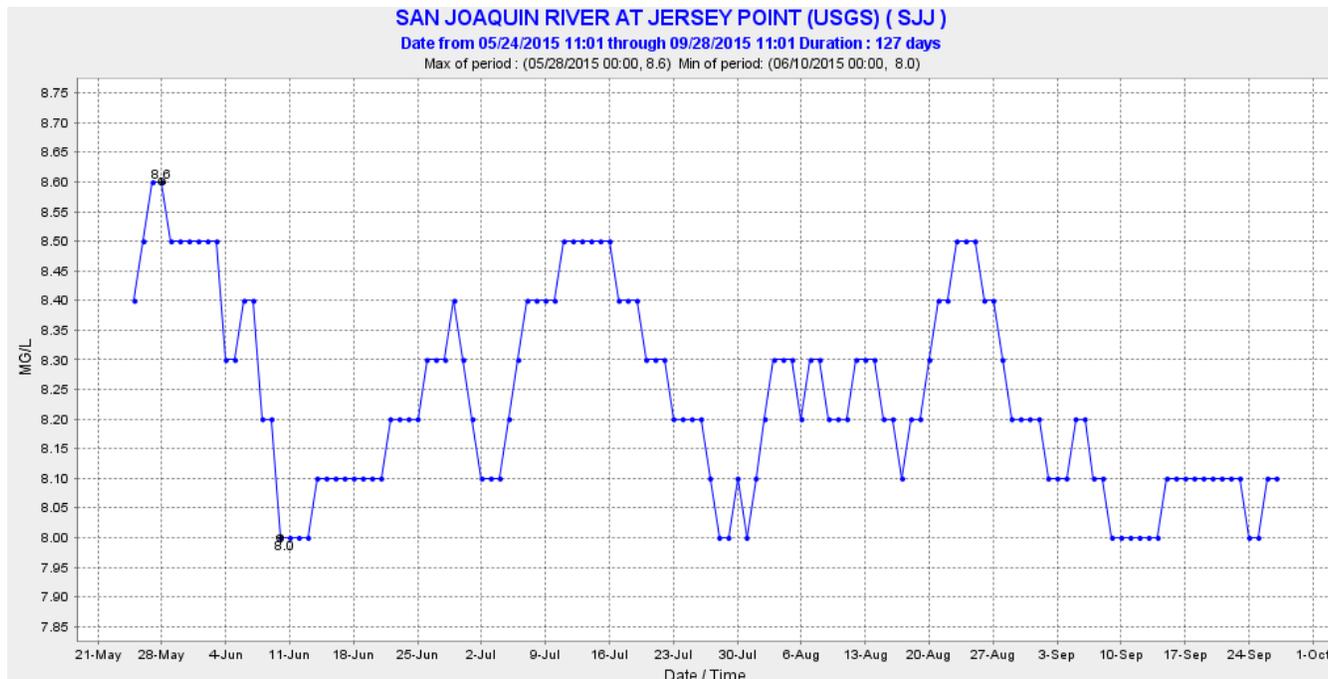
Daily average temperature for stations immediately upstream and downstream of the EDB:

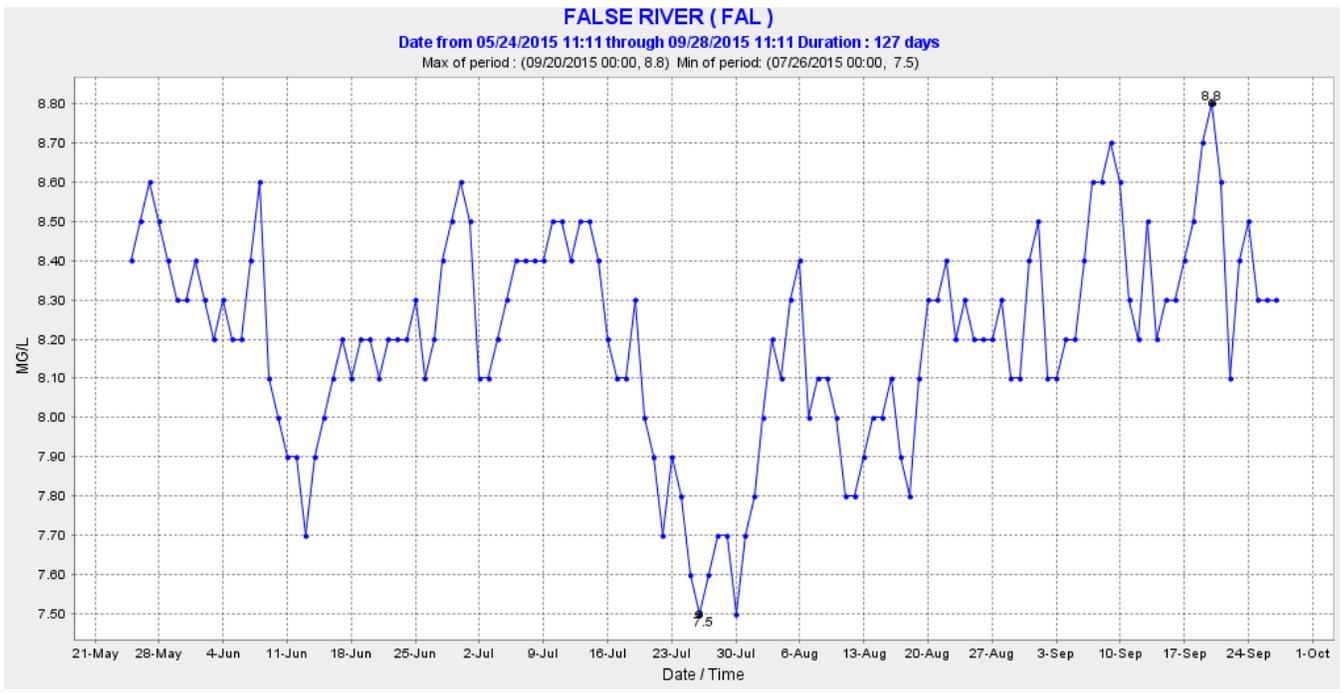


## Dissolved Oxygen

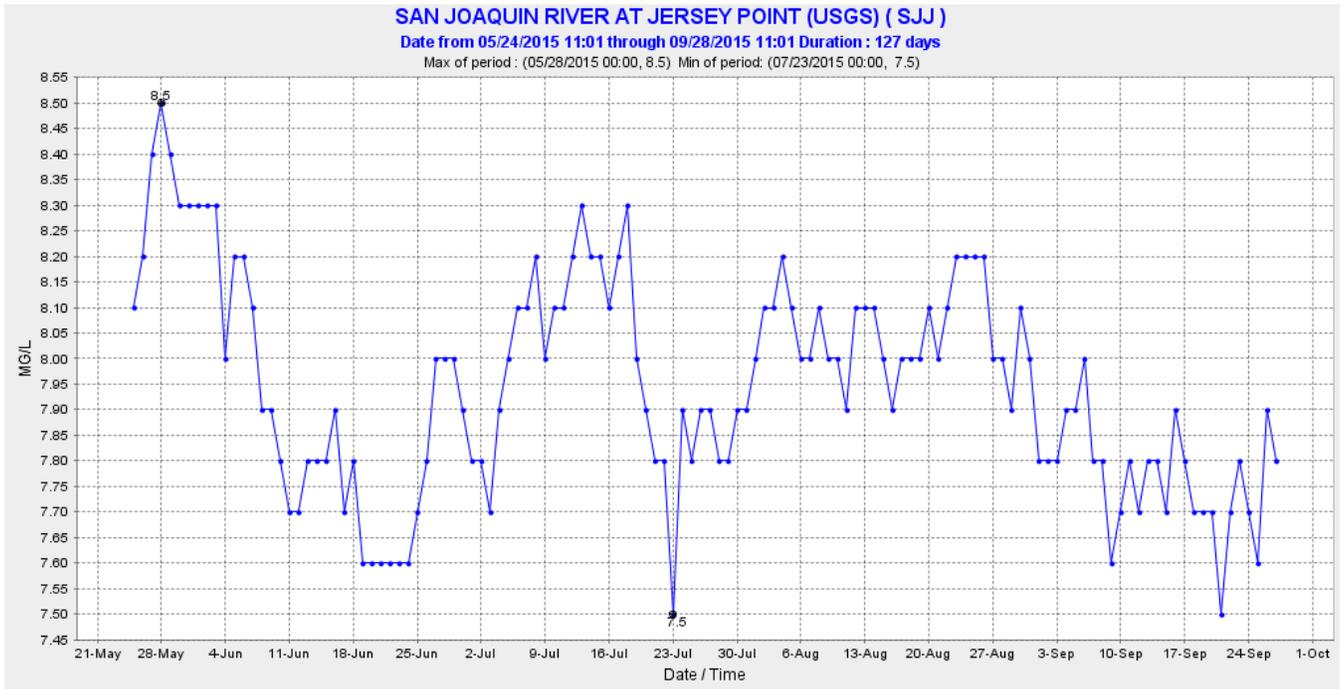
During the past 7 days, average daily dissolved oxygen (DO) fluctuated very little at SJJ and ended the week at the same level observed at the start (8.1 mg/L). In contrast, at FAL average DO levels decreased about 0.5 mg/L from the high 8.8 mg/l observed since EDB closure. Average daily DO remains at or above 8.0 mg/L for both stations. Minimum DO levels remained relatively stable at SJJ, but decreased at FAL. Minimum DO at FAL dropped below 6.5 mg/L during two separate days. However, at both stations DO remain above the 5.0 mg/l water quality criterion for aquatic life, as it has since the barrier was installed.

Daily average DO for stations immediately upstream and downstream of the EDB:





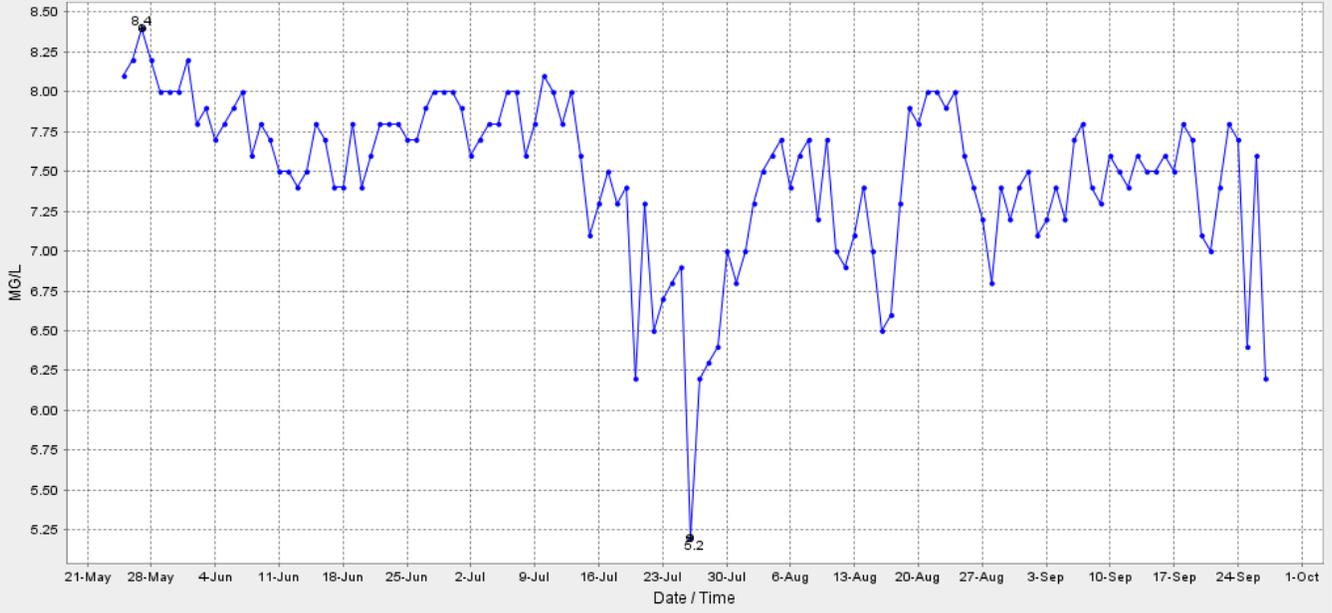
Daily minimum DO for stations immediately upstream and downstream of the EDB:



### FALSE RIVER (FAL)

Date from 05/24/2015 11:11 through 09/28/2015 11:11 Duration : 127 days

Max of period : (05/27/2015 00:00, 8.4) Min of period : (07/26/2015 00:00, 5.2)



Below is a summary of EC data ( $\mu\text{S}/\text{cm}$ ) by station for the period of September 21 through September 27. **Note: SSI data not shown as only about half the data has transmitted through CDEC during the past week, and thus data available are likely not representative of the period.**

Station	Mean	Median	Minimum	Maximum	Area
Suisun Bay - Cutoff near Ryer (RYC)	21940	22173	17380	25518	Grizzly Bay to Lower Sac River
Grizzly Bay (GZL)	23115	22830	21434	26123	
Dutch Slough @ Jersey Island (DSJ)	2573	2550	1850	3820	Dutch Slough
San Joaquin River @ Jersey Point (SJJ)	2811	2680	1200	5780	Vicinity of EDB
Three Mile Slough at San Joaquin River (TSL)	2688	2500	1160	5540	
San Joaquin River @ Twitchell Island (TWI)	1751	1688	716	3924	
Fisherman's Cut (FCT)	1145	1066	683	2188	
False River (FAL)	1398	1355	1210	1840	
Bethel Island near Piper Slough (BET)	936	935	908	966	Frank's Tract
Franks Tract Mid (FRK)	912	914	885	933	
Old River near Frank's Tract near Terminous (OSJ)	653	637	575	974	
Holland Cut near Bethel Island (HOL)	720	705	651	882	
Sacramento River downstream of Isleton (SOI)	497	412	169	2397	North Delta/Cache Slough
Steamboat Slough near Sacramento River (SXS)	249	212	159	610	
Cache Slough @ Ryer Island (RYI)	264	252	217	528	
Liberty Island @ Approx Cntr S End (LIB)	248	246	218	332	
Miner Slough (MIR)	204	193.5	159	307	
Steamboat Slough downstream of Sutter Slough (SUS)	167	168	157	178	
Miner Slough @ HWY 84 Bridge (HWB)	167	167	154	179	

Below is the mean specific conductance ( $\mu\text{S}/\text{cm}$ ) for the period of September 21 through September 27. Means from RYC and GZL are much greater and thus are not shown due to scaling issues.

