

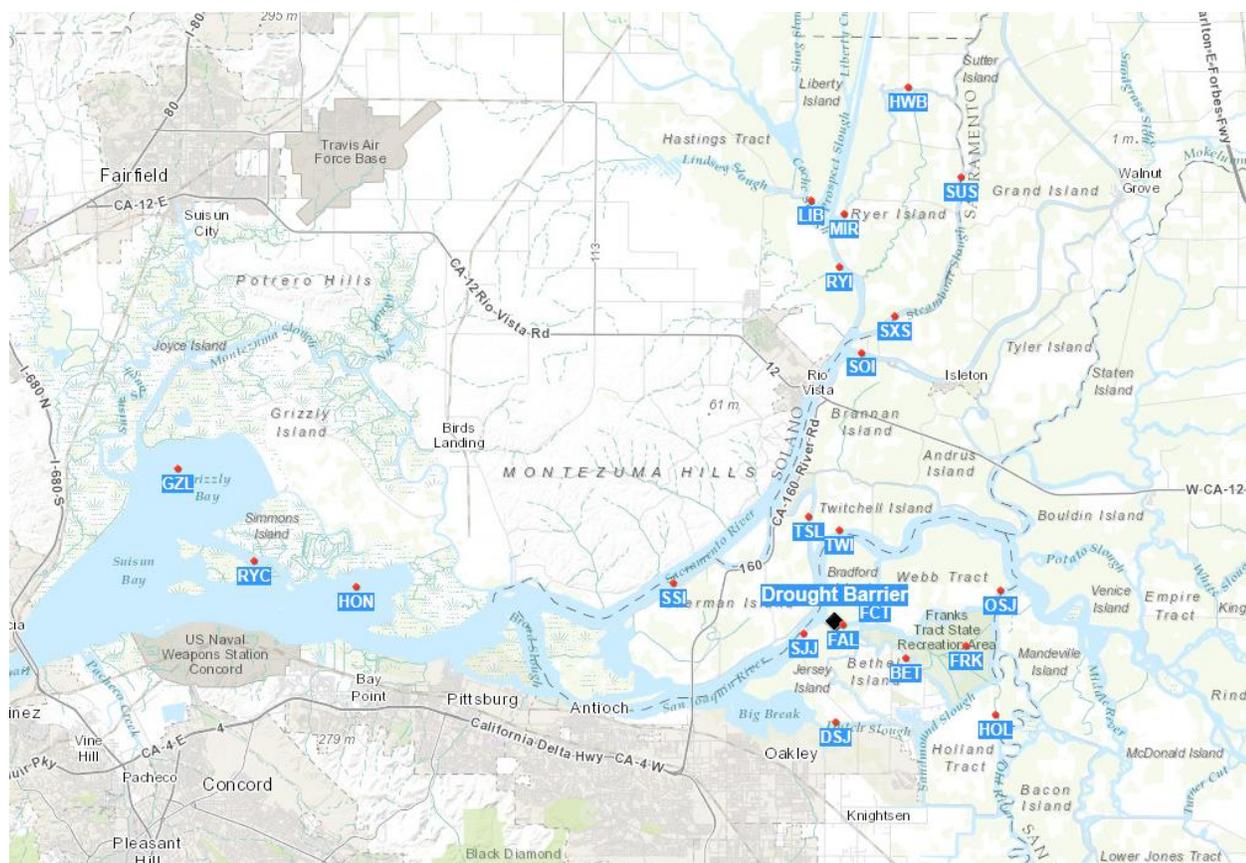
Emergency Drought Barrier Water Quality Monitoring Summary¹

Weekly Update for October 19 through October 25, 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. On October 1, 2015, the contractor began breaching the EDB, allowing tidal flows to resume passing through the False River channel. As of October 23, 2015, about 64% of the barrier has been removed. The removal will be completed by November 15, 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>

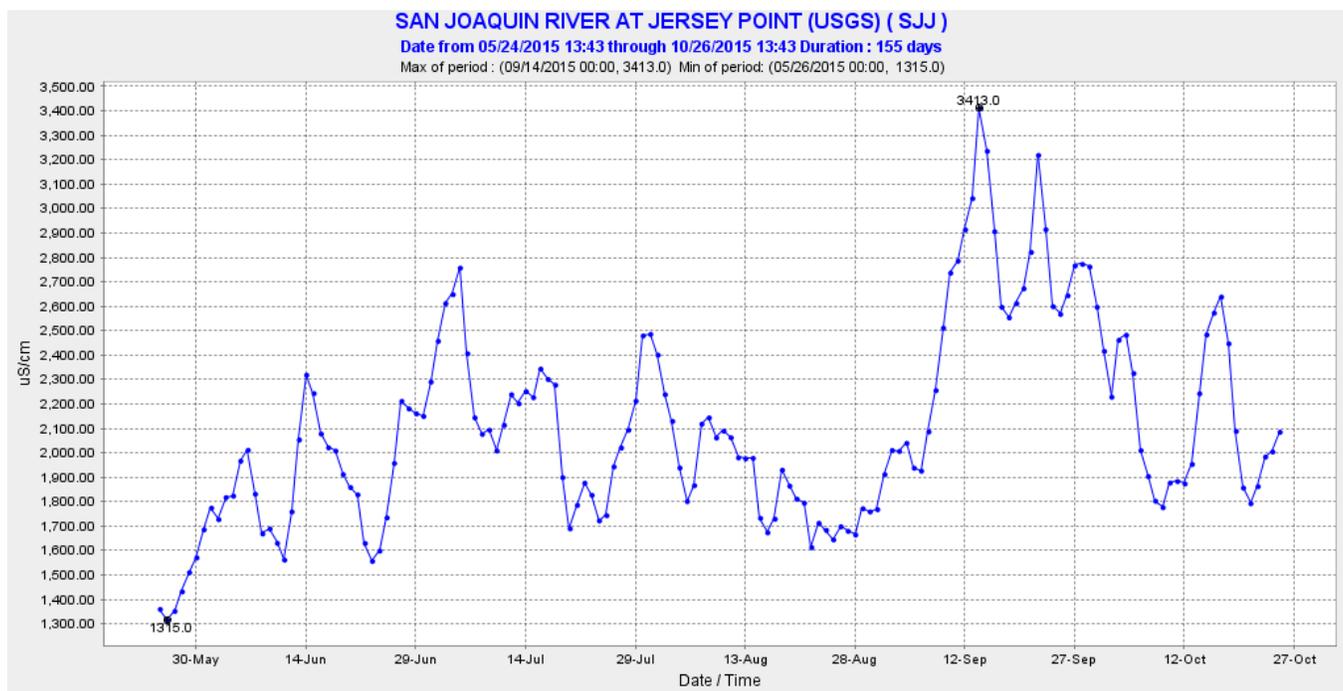
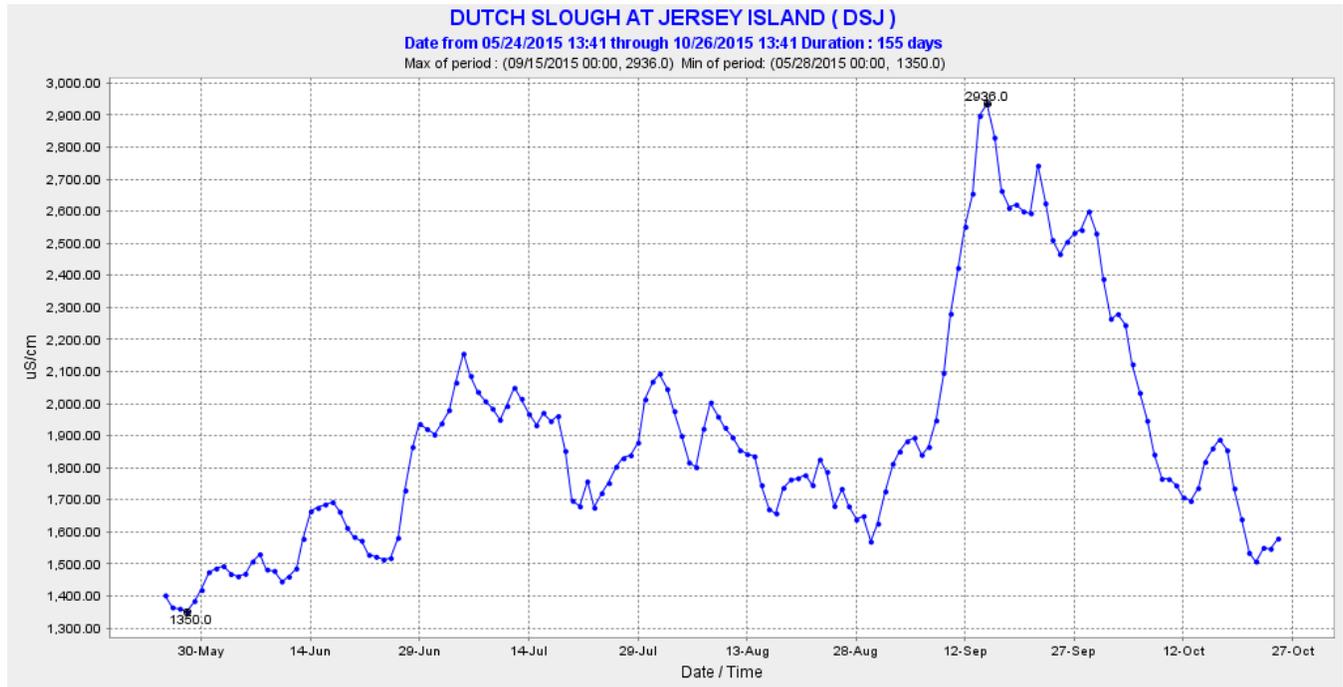


¹ All data in this report and subsequent weekly reports posted to California Data Exchange Network (CDEC) are preliminary and have not yet been validated.

Specific Conductivity

During the past week, average daily specific conductivity (EC) levels at Dutch Slough at Jersey Island (DSJ), San Joaquin River at Jersey Point (SJJ), and False River (FAL) have started to rise after decreasing more sharply during the first half of the week, while EC at Fisherman’s Cut (FCT) rose slightly over the week. EC at Holland Cut has continued to increase, reaching 934 $\mu\text{S}/\text{cm}$ on October 25, 2015. This is the greatest daily value observed since shortly after the barrier was installed in late May.

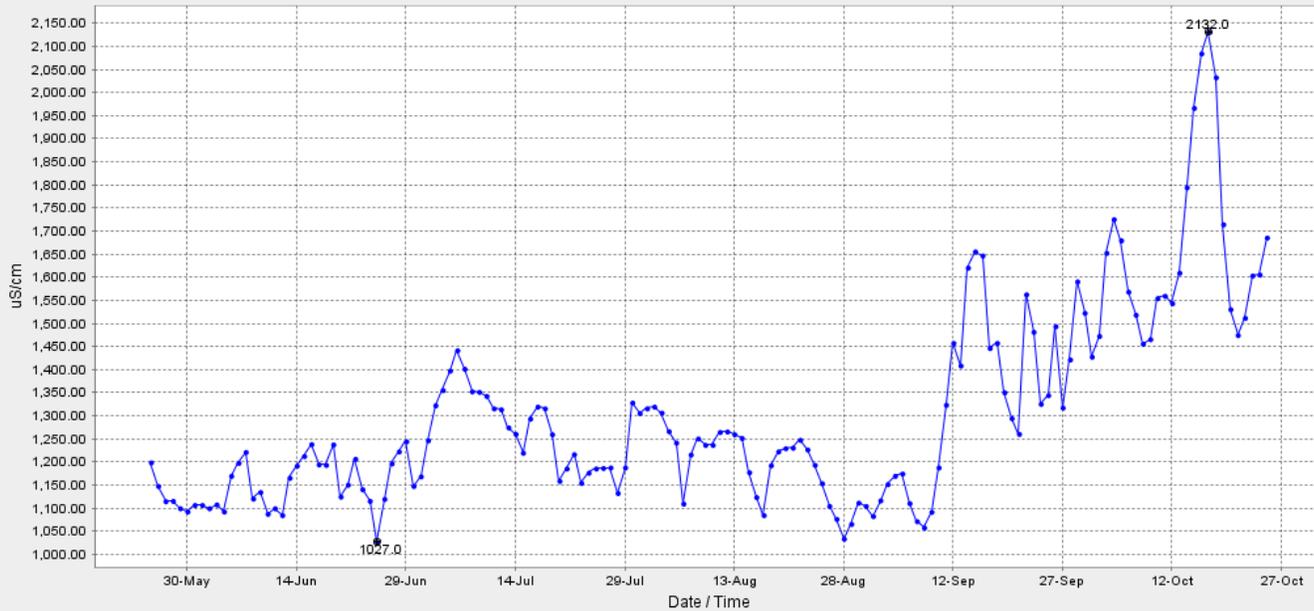
Daily average EC values for five stations in the vicinity of the EDB:



FALSE RIVER (FAL)

Date from 05/24/2015 13:55 through 10/26/2015 13:55 Duration : 155 days

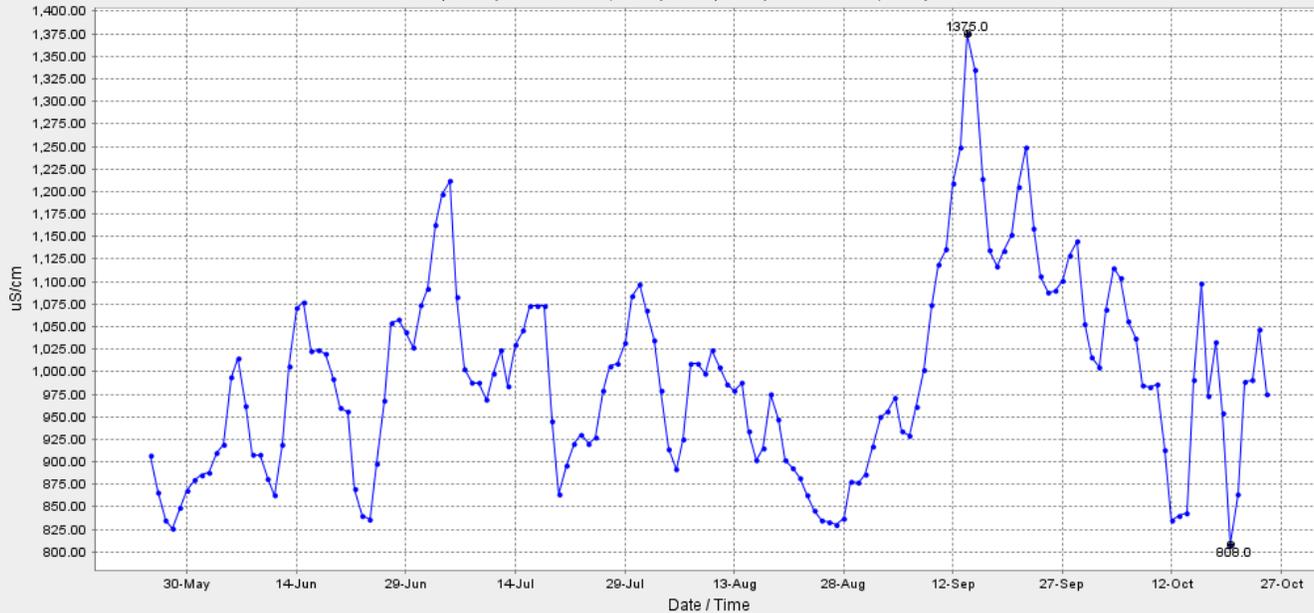
Max of period : (10/17/2015 00:00, 2132.0) Min of period: (06/25/2015 00:00, 1027.0)

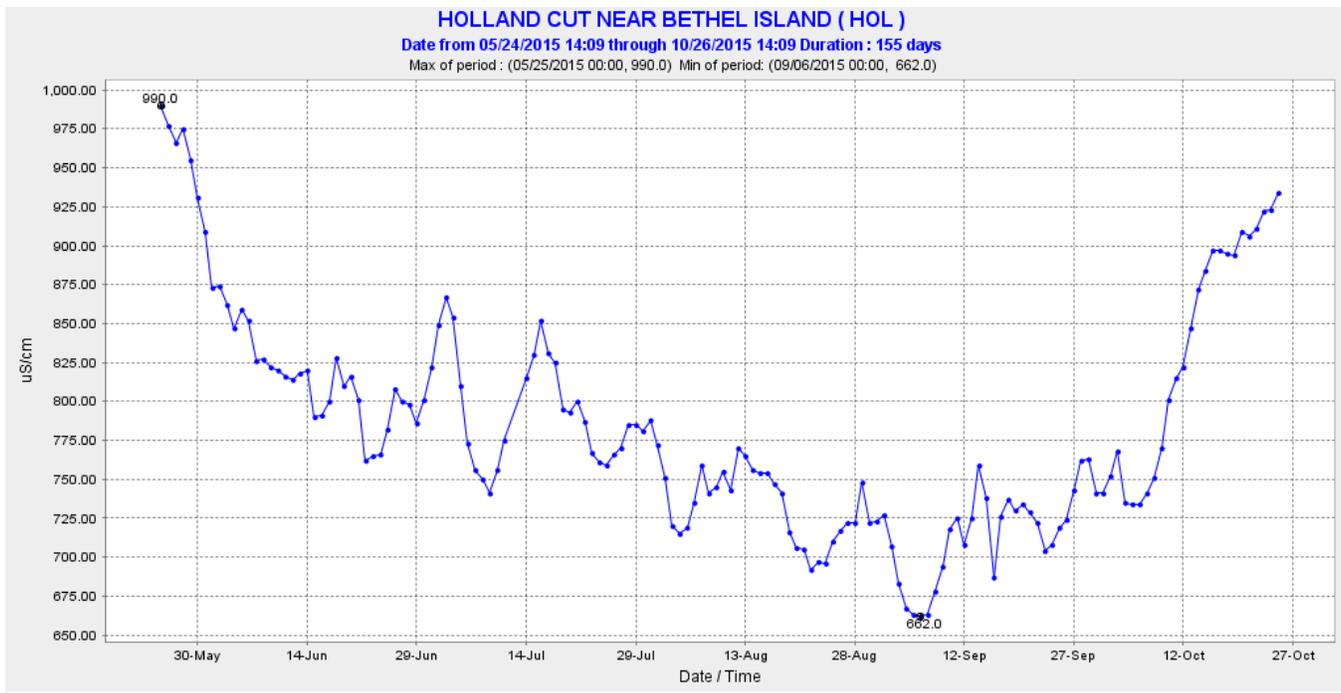


FISHERMANS CUT (FCT)

Date from 05/24/2015 14:07 through 10/26/2015 14:07 Duration : 155 days

Max of period : (09/14/2015 00:00, 1375.0) Min of period: (10/20/2015 00:00, 808.0)

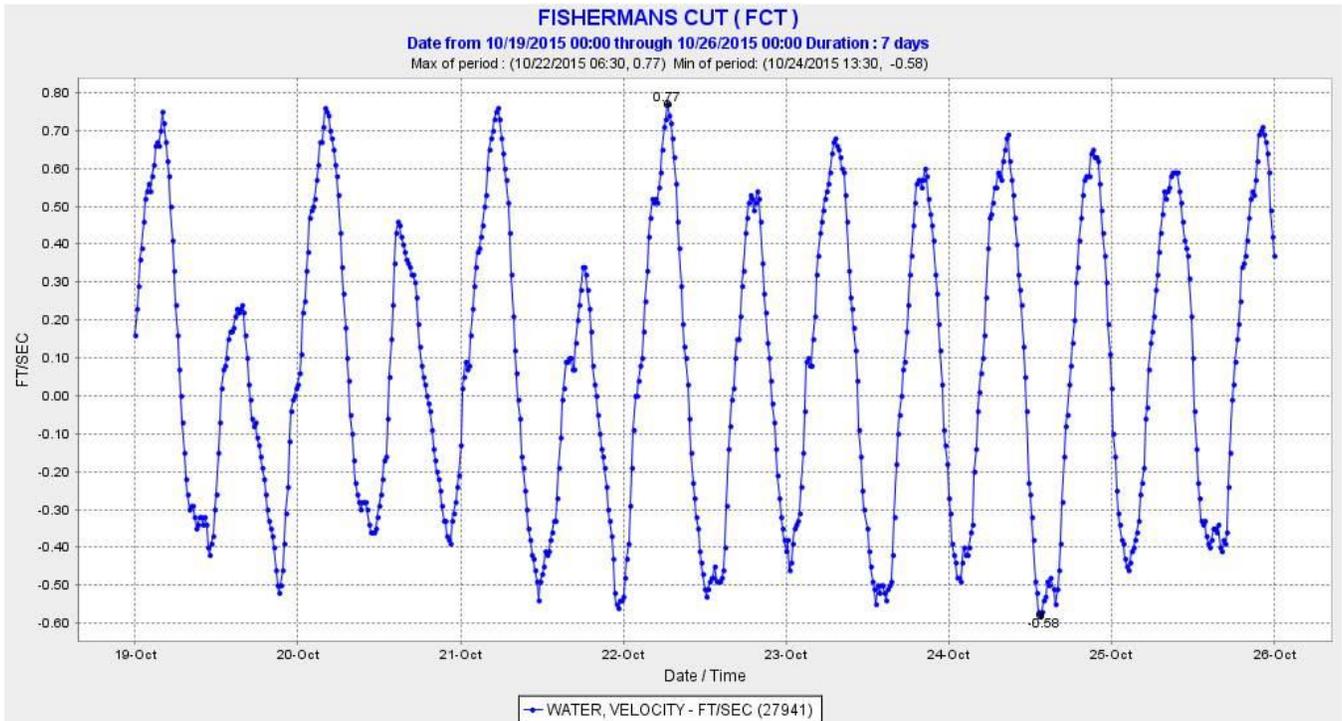




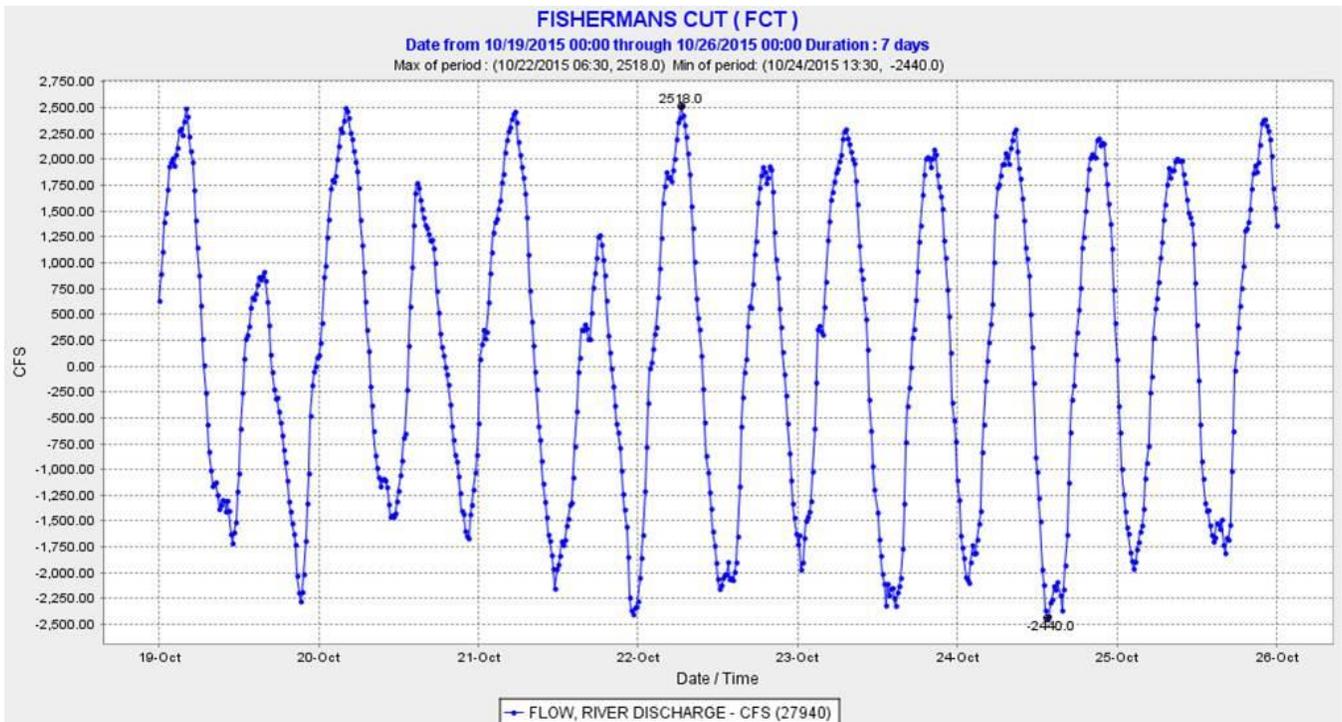
Flow and Velocity

Peak water velocities at the FCT flow station for the week of October 19 – 25, 2015 varied between +0.77 ft/s (10/22/15 at 06:30) and – 0.58 ft/s (10/24/15 at 13:30). Now that the barrier has been breached and flows are nearly back to normal conditions, positive water velocities measured at this station refer to water ebbing southward from Fisherman’s Cut into West False River and then flowing westward into the San Joaquin River. Last week’s peak water velocity of +0.77 ft/s occurred during an ebb tide. Flows varied between +2,518 cfs 10/22/15 at 06:30) and –2,440 cfs (10/24/15 at 13:30) indicating a higher peak flow during an ebb tide. The False River barrier was breached on October 1 resulting in a significant drop in water velocities and flow rates. Although barrier removal is still ongoing, it appears velocities and flows in Fisherman’s Cut have, for the most part, returned back to pre-barrier conditions. All FCT 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:



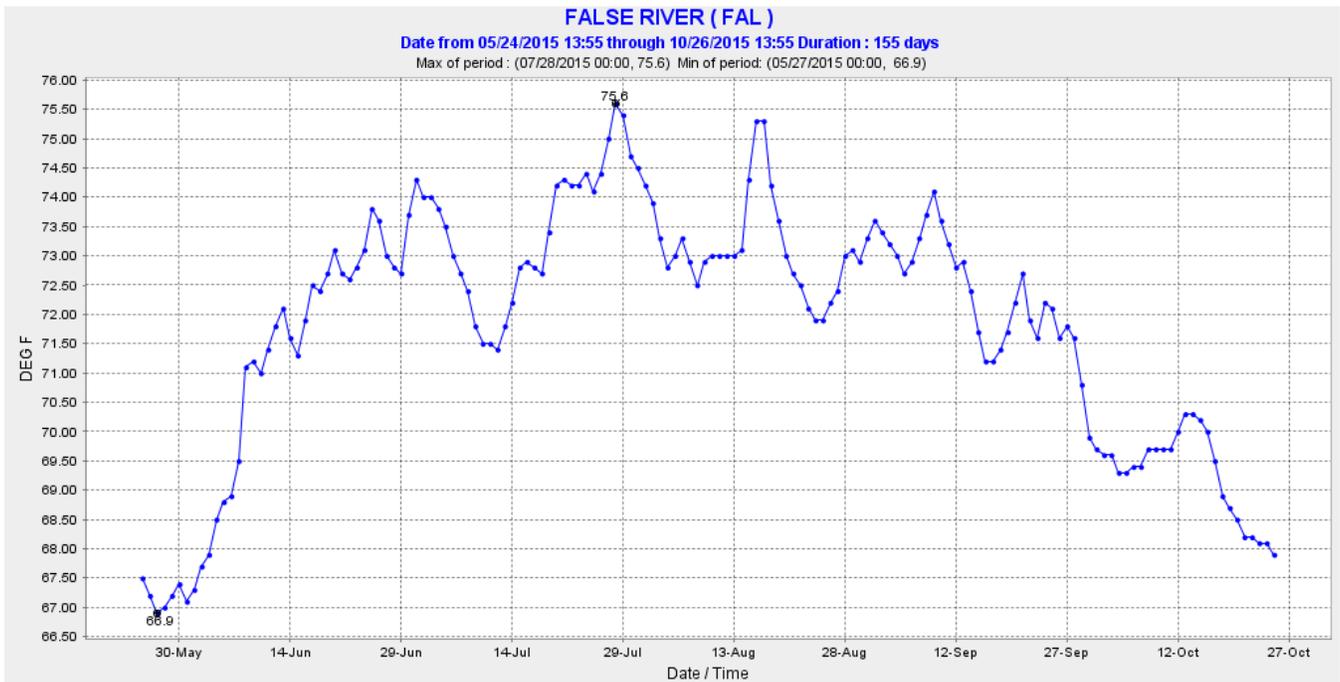
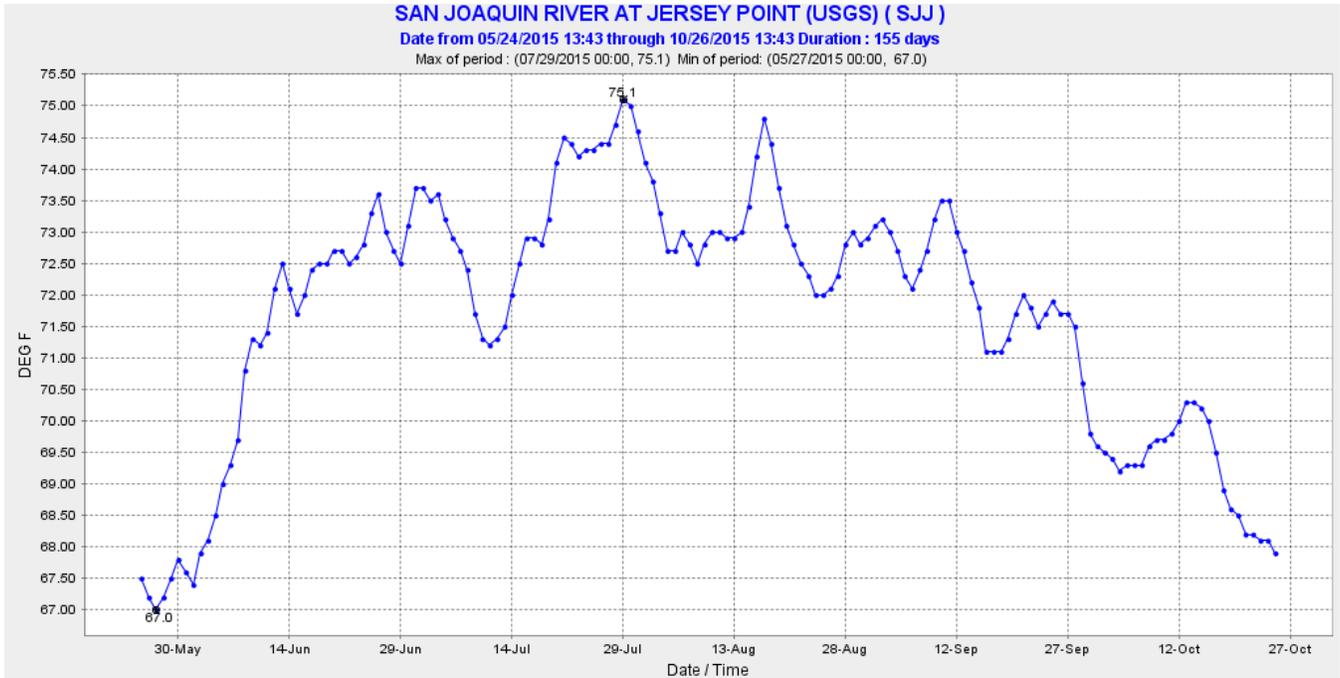
15-Minute flows for FCT in the vicinity of the emergency drought barrier:



Water Temperatures

With fall progressing, average daily water temperature dropped slightly over 0.5 °F. at SJJ and FAL during the week.

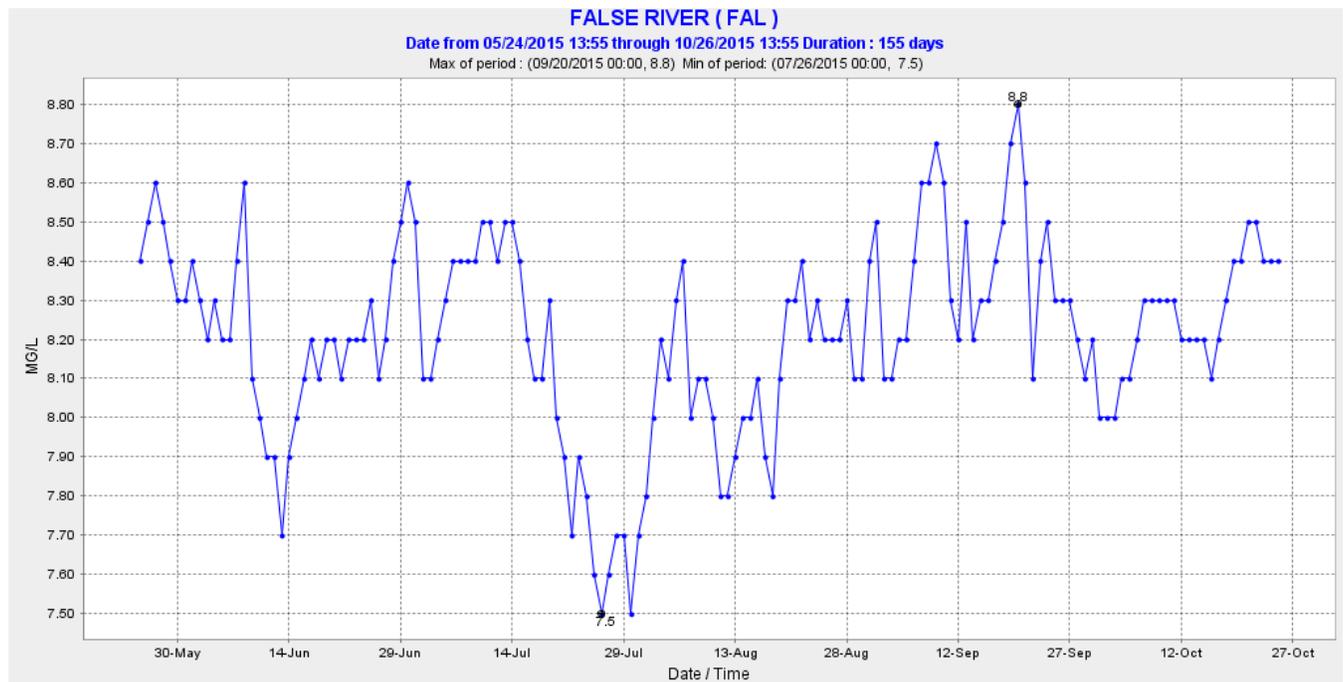
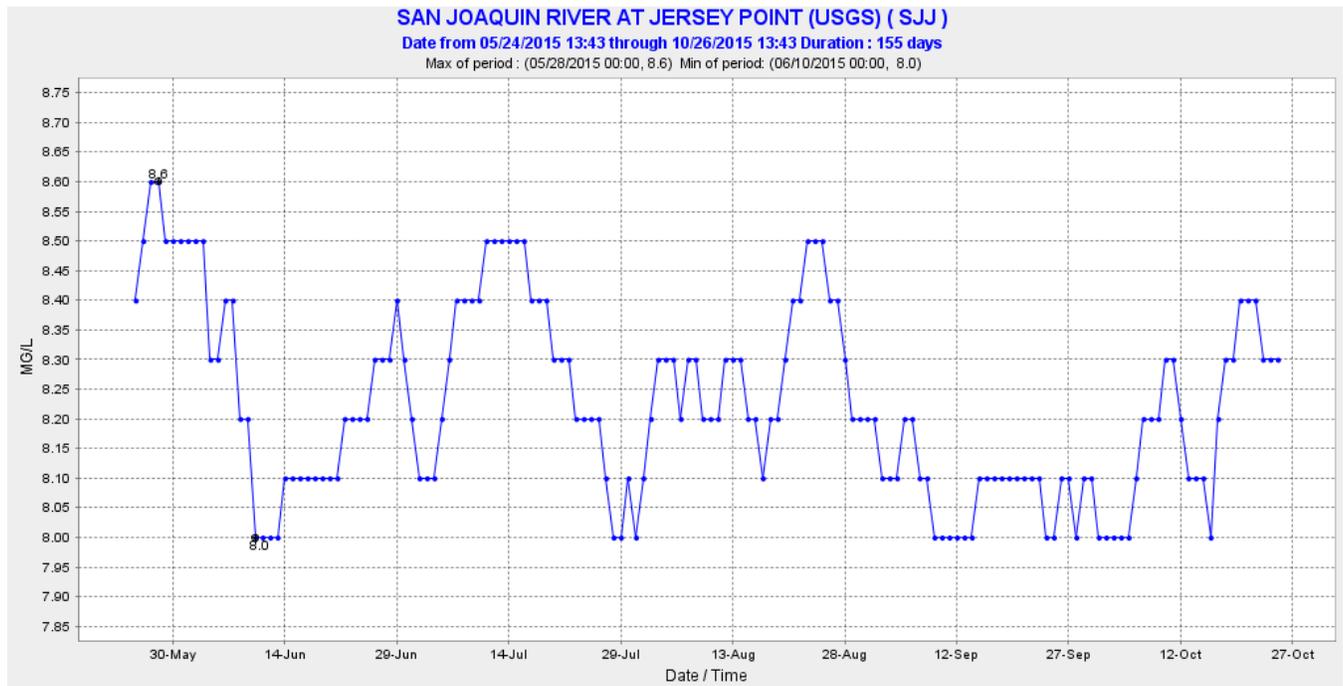
Daily average temperature for stations immediately upstream and downstream of the EDB:



Dissolved Oxygen

Average daily dissolved oxygen (DO) remained relatively stable at SJJ and FAL during the past week, remaining at or above 8.3 mg/L at both stations. Minimum DO levels have also remained stable. DO remains well 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:

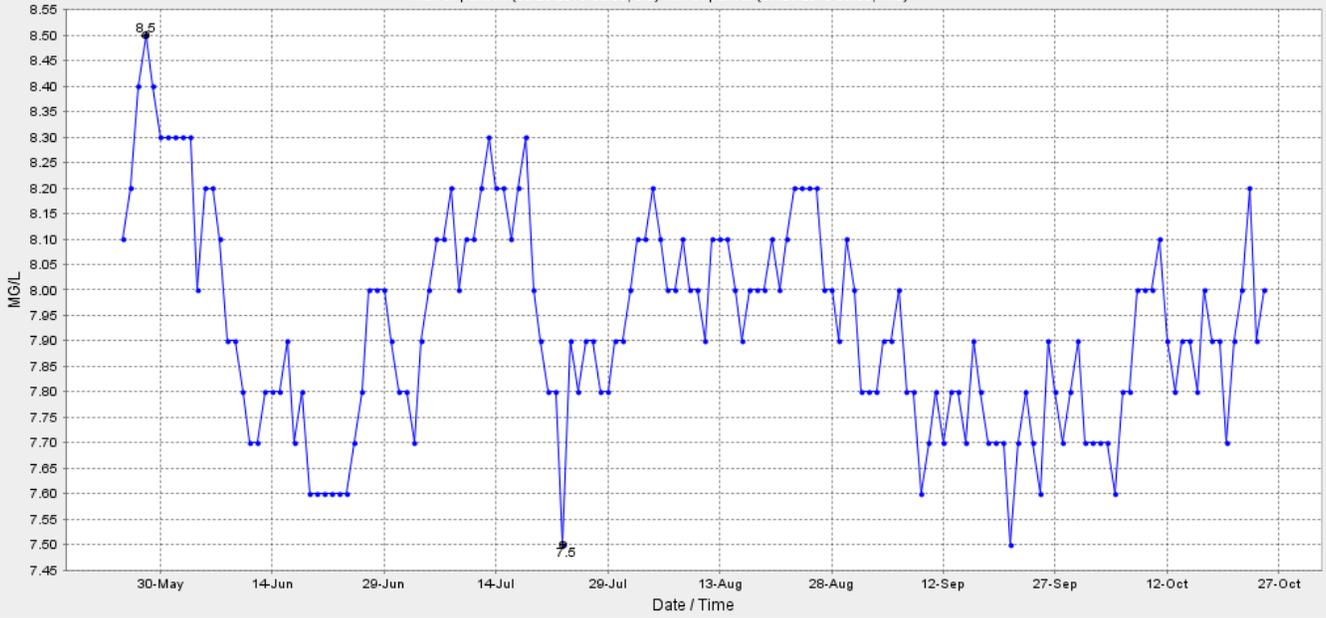


Daily minimum DO for stations immediately upstream and downstream of the EDB:

SAN JOAQUIN RIVER AT JERSEY POINT (USGS) (SJJ)

Date from 05/24/2015 13:43 through 10/26/2015 13:43 Duration : 155 days

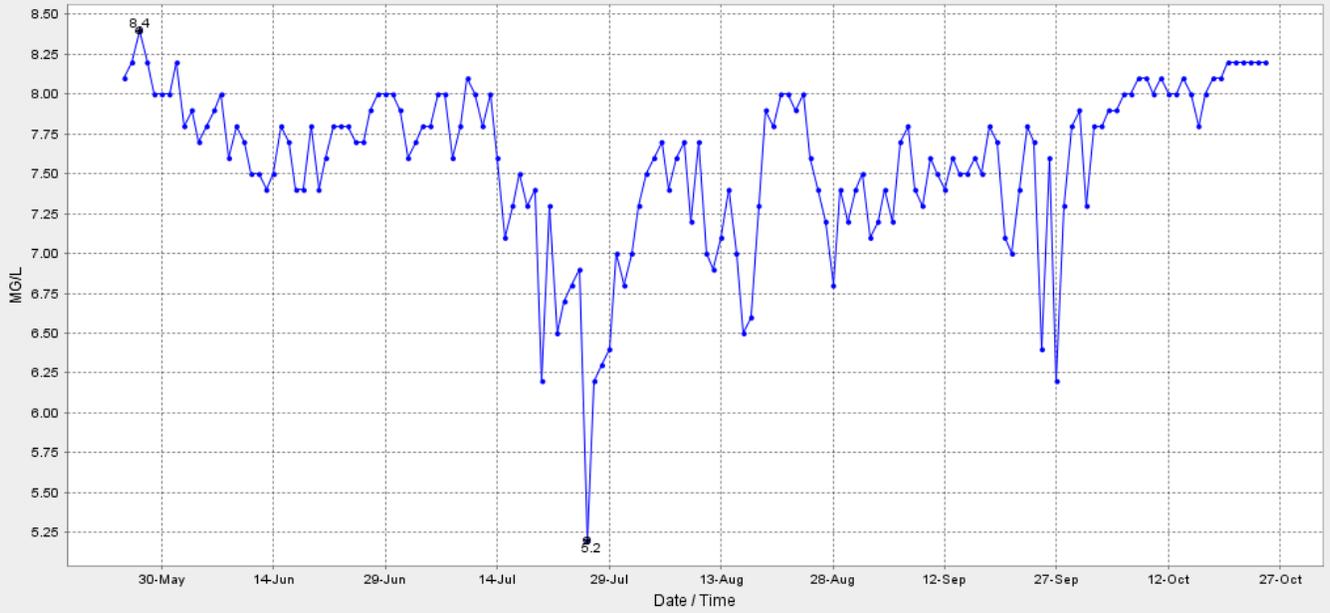
Max of period : (05/28/2015 00:00, 8.5) Min of period: (07/23/2015 00:00, 7.5)



FALSE RIVER (FAL)

Date from 05/24/2015 13:55 through 10/26/2015 13:55 Duration : 155 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 October 19, 2015 through October 25, 2015.
Note: MIR data is not recording properly though CDEC so data from this station is not currently available.

Station	Mean	Median	Minimum	Maximum	Area
Suisun Bay - Cutoff near Ryer (RYC)	20579	20827	15876	24007	Grizzly Bay to Lower Sac River
Grizzly Bay (GZL)	22235	22088.5	20433	23867	
Honker Bay (HON)	17581	17603.5	12723	20612	
Sacramento River near Sherman Island (SSI)	5480	5303	1379	9898	Dutch Slough
Dutch Slough @ Jersey Island (DSJ)	1584	1590	0	2070	
San Joaquin River @ Jersey Point (SJJ)	1959	1690	788	3960	Vicinity of EDB
Three Mile Slough at San Joaquin River (TSL)	1707	1590	651	3460	
San Joaquin River @ Twitchell Island (TWI)	1073	1067	455	2097	
Fisherman's Cut (FCT)	949	894.5	668	1697	
False River (FAL)	1592	1480	736	3070	
Bethel Island near Piper Slough (BET)	1078	1115.5	0	1204	Frank's Tract
Franks Tract Mid (FRK)	1158	1177	1010	1275	
Old River near Frank's Tract near Terminous (OSJ)	673	677	460	901	
Holland Cut near Bethel Island (HOL)	915	896	817	1080	
Sacramento River downstream of Isleton (SOI)	283	252	155	774	North Delta/Cache Slough
Steamboat Slough near Sacramento River (SXS)	187	170	157	322	
Cache Slough @ Ryer Island (RYI)	200	198	185	241	
Liberty Island @ Approx Cntr S End (LIB)	203	203	191	224	
Steamboat Slough downstream of Sutter Slough (SUS)	159	159	154	164	
Miner Slough @ HWY 84 Bridge (HWB)	159	159	153	163	

Below is the mean specific conductance ($\mu\text{S}/\text{cm}$) for the period of October 19, 2015 through October 25, 2015.
Means from RYC, GZL, and HON are much greater and thus are not shown due to scaling issues.

