

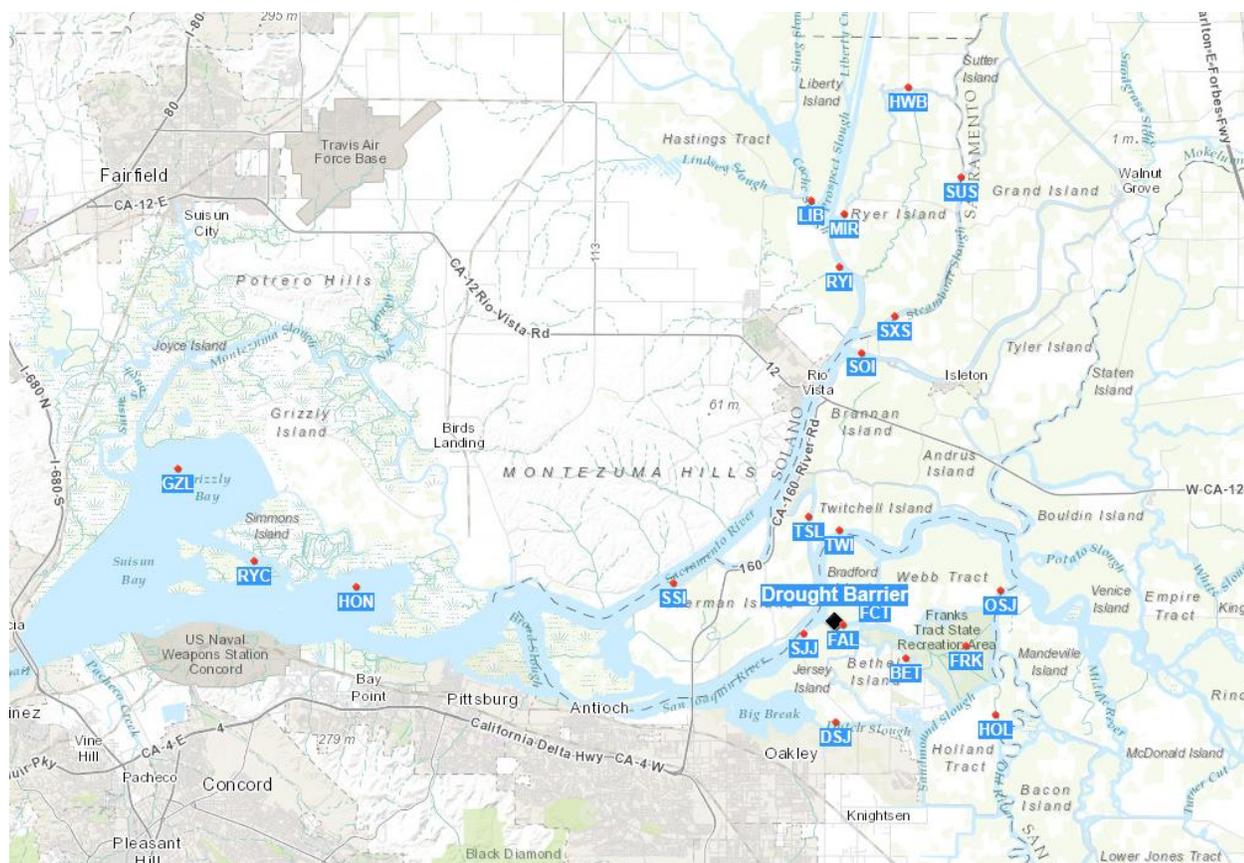
Emergency Drought Barrier Water Quality Monitoring Summary¹

Weekly Update for November 9 through November 15, 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. The EDB was fully removed and all work completed on 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>

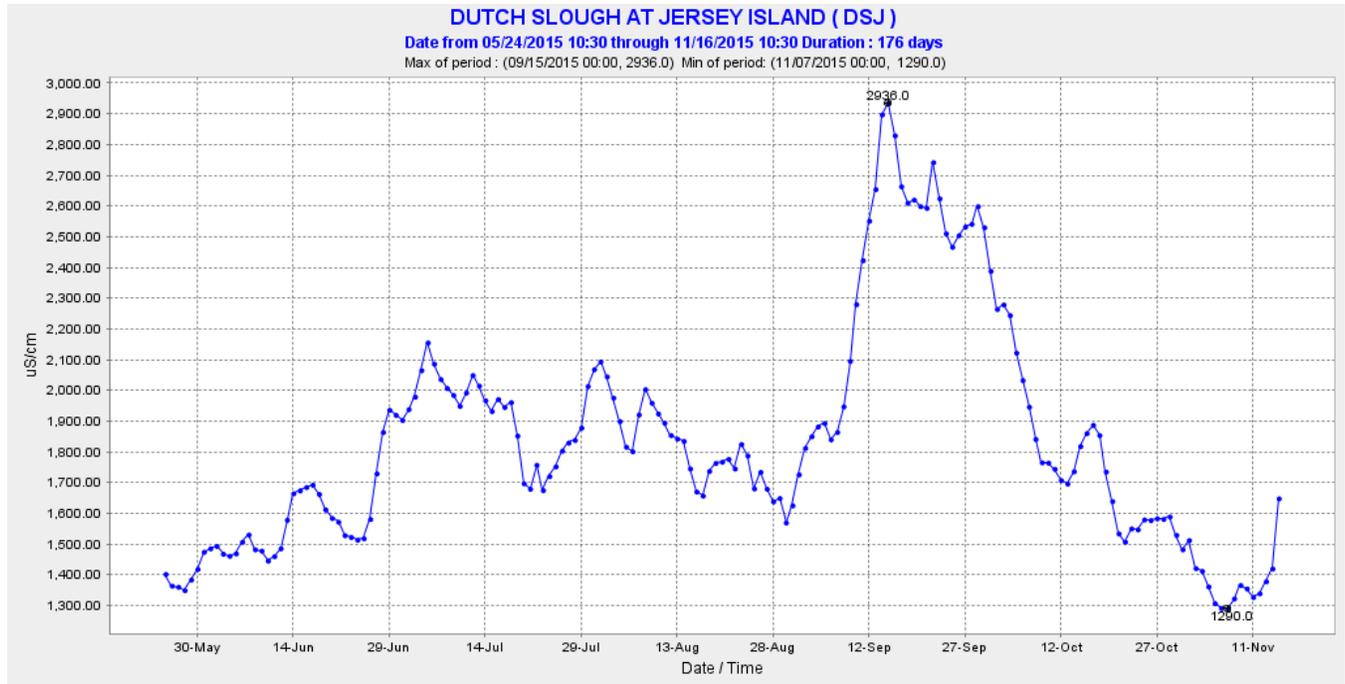


¹ All data in this report and subsequent weekly reports posted to California Data Exchange Network (CDEC) are preliminary and have not yet been validated.

Specific Conductivity

During the past week, average daily specific conductivity (EC) levels increased at most stations. EC at Dutch Slough at Jersey Island (DSJ) and Fisherman’s Cut (FCT) both increased by over 300 $\mu\text{S}/\text{cm}$, while at San Joaquin River at Jersey Point (SJJ) and False River (FAL) EC levels nearly doubled since the end of last week. The EC levels the past week at SJJ and FAL are the highest recorded at both stations since monitoring began in Spring. EC at Holland Cut (HOL) continued to decline for the first half of the week and then returned to the same levels seen at the end of last week.

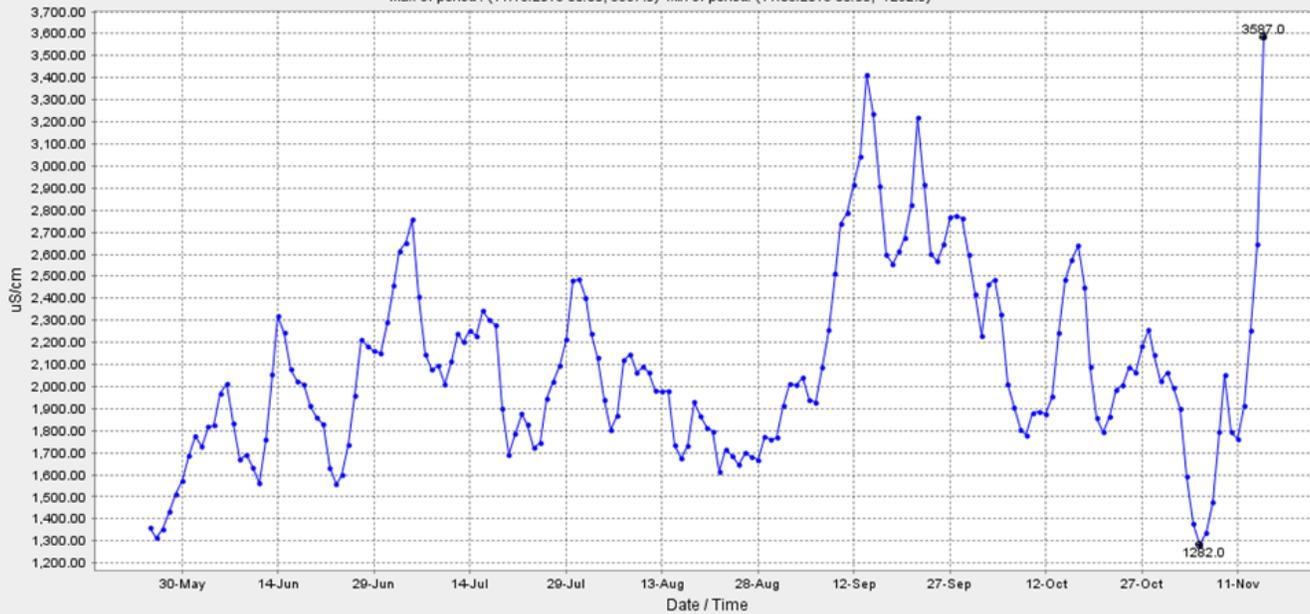
Daily average EC values for five stations in the vicinity of the EDB:



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

Date from 05/24/2015 10:33 through 11/16/2015 10:33 Duration : 176 days

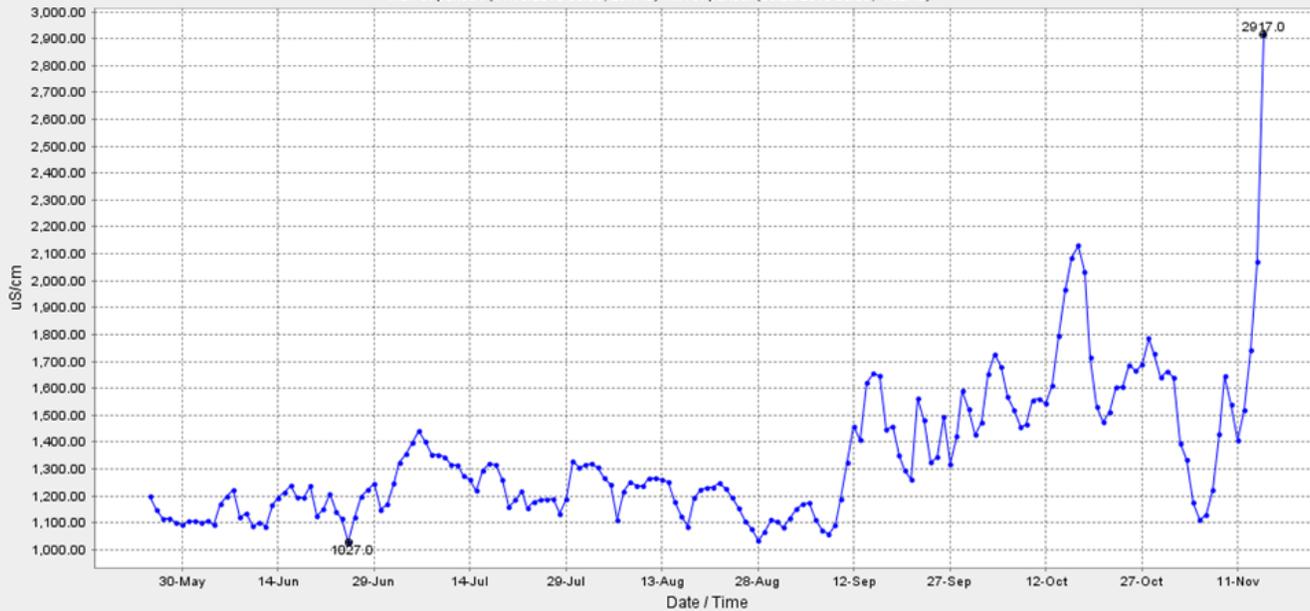
Max of period : (11/15/2015 00:00, 3587.0) Min of period : (11/05/2015 00:00, 1282.0)



FALSE RIVER (FAL)

Date from 05/24/2015 10:35 through 11/16/2015 10:35 Duration : 176 days

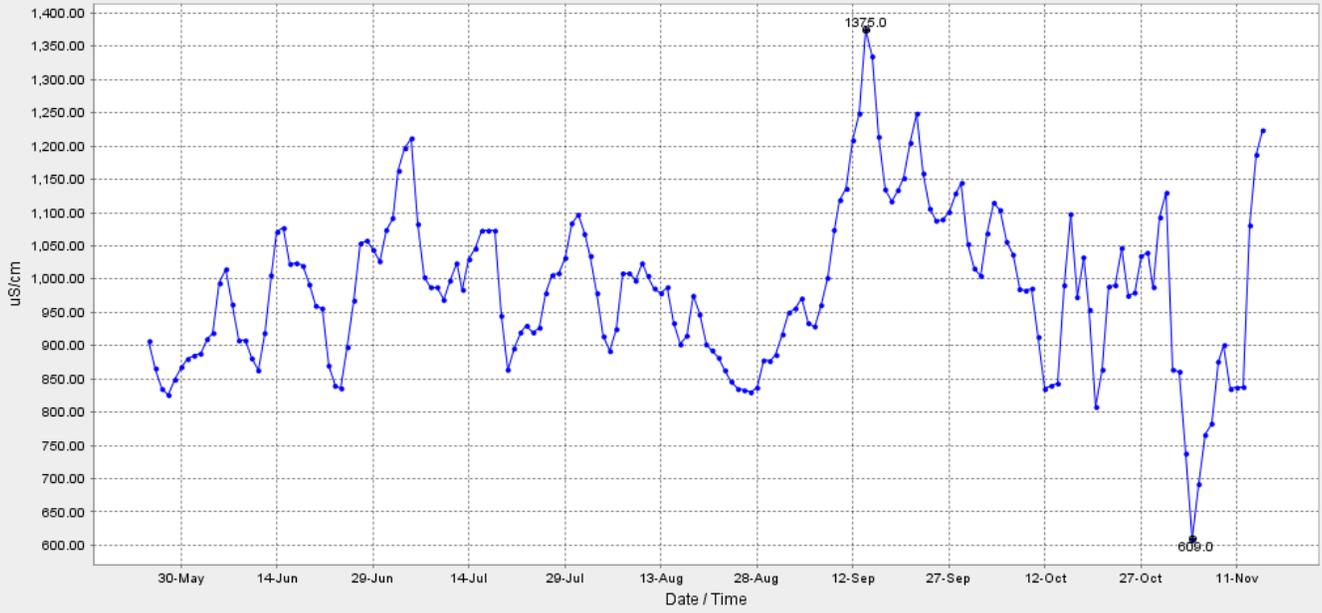
Max of period : (11/15/2015 00:00, 2917.0) Min of period : (06/25/2015 00:00, 1027.0)



FISHERMANS CUT (FCT)

Date from 05/24/2015 10:36 through 11/16/2015 10:36 Duration : 176 days

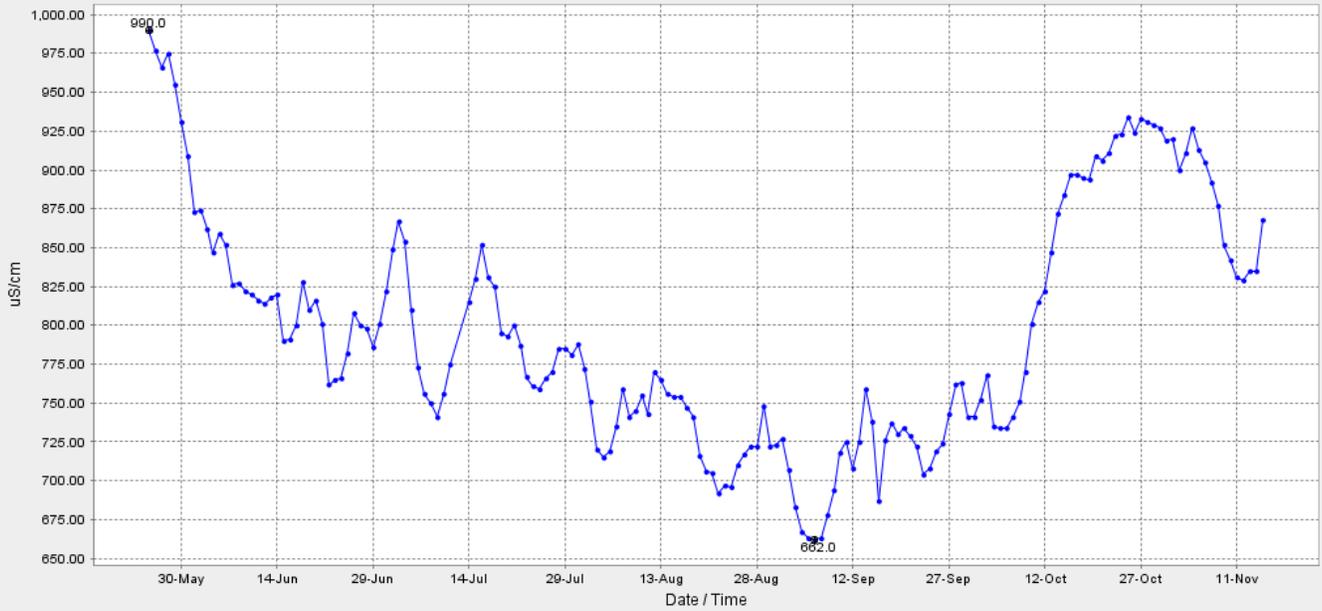
Max of period : (09/14/2015 00:00, 1375.0) Min of period : (11/04/2015 00:00, 609.0)



HOLLAND CUT NEAR BETHEL ISLAND (HOL)

Date from 05/24/2015 10:37 through 11/16/2015 10:37 Duration : 176 days

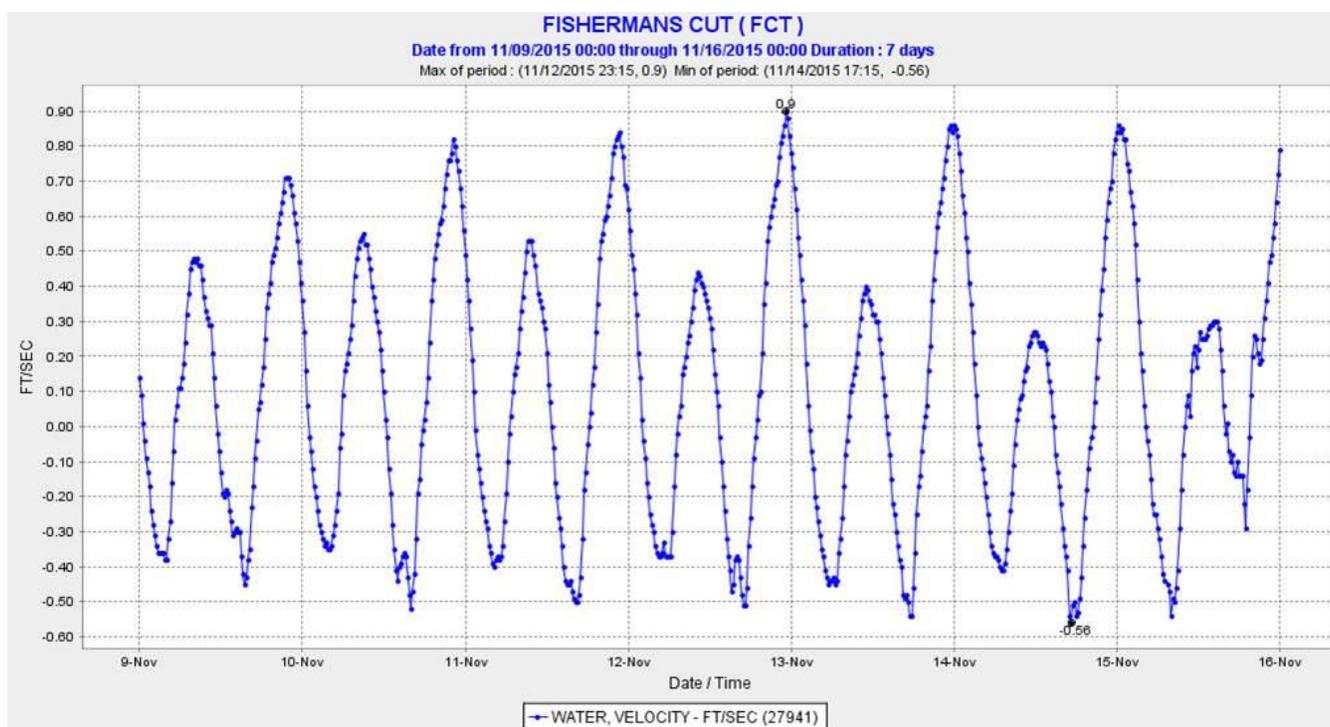
Max of period : (05/25/2015 00:00, 990.0) Min of period : (09/06/2015 00:00, 662.0)



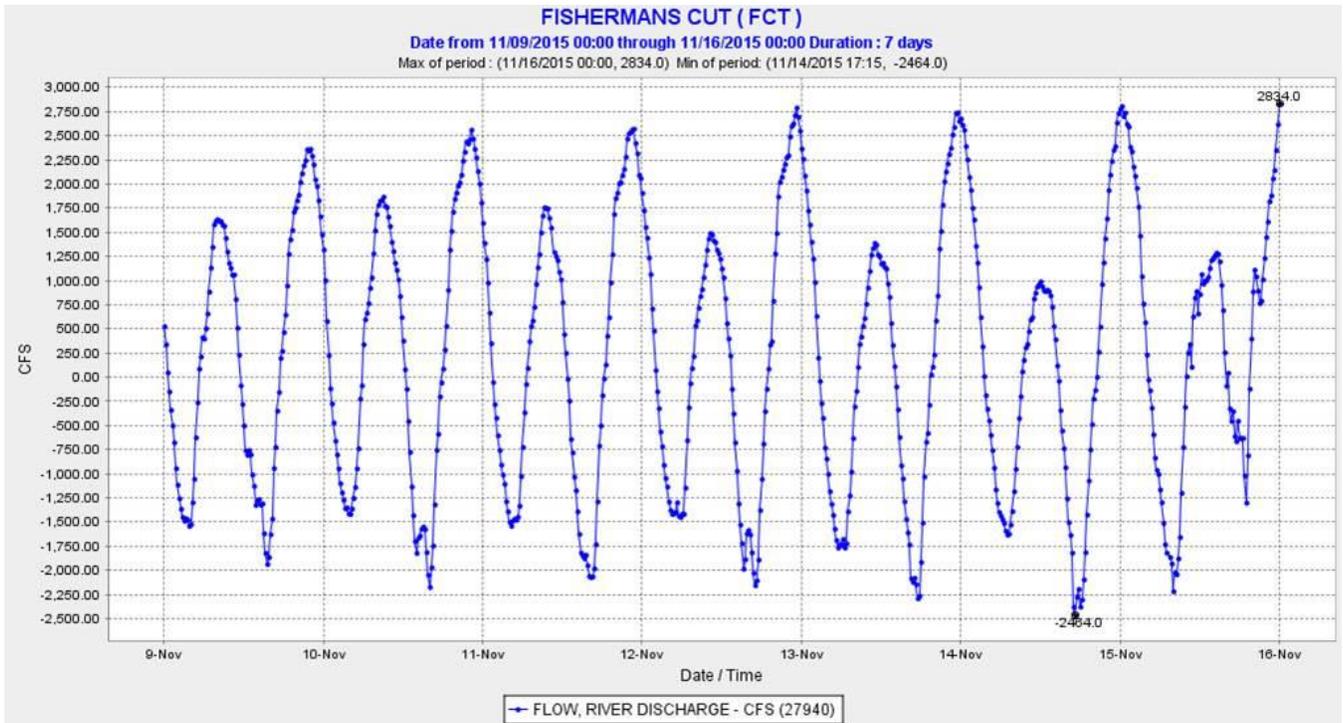
Flow and Velocity

Water velocities and flows were increased the week of 11/9 – 11/15 due to a spring tide as compared to the week of 11/2 – 11/8 (neap tide). Peak water velocities at the Fisherman’s Cut flow station varied between +0.90 ft/s (11/12/15 at 23:15) and – 0.56 ft/s (11/14/15 at 17:15). 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. Now that the emergency drought barrier is completely removed, flows are back to normal within Fisherman’s Cut. From November 9, 2015 through November 15, 2015, flows varied between +2,834 cfs (11/16/15 at 00:00) and –2,464 cfs (11/14/15 at 17:15). The peak flow occurred on an ebb tide. 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:



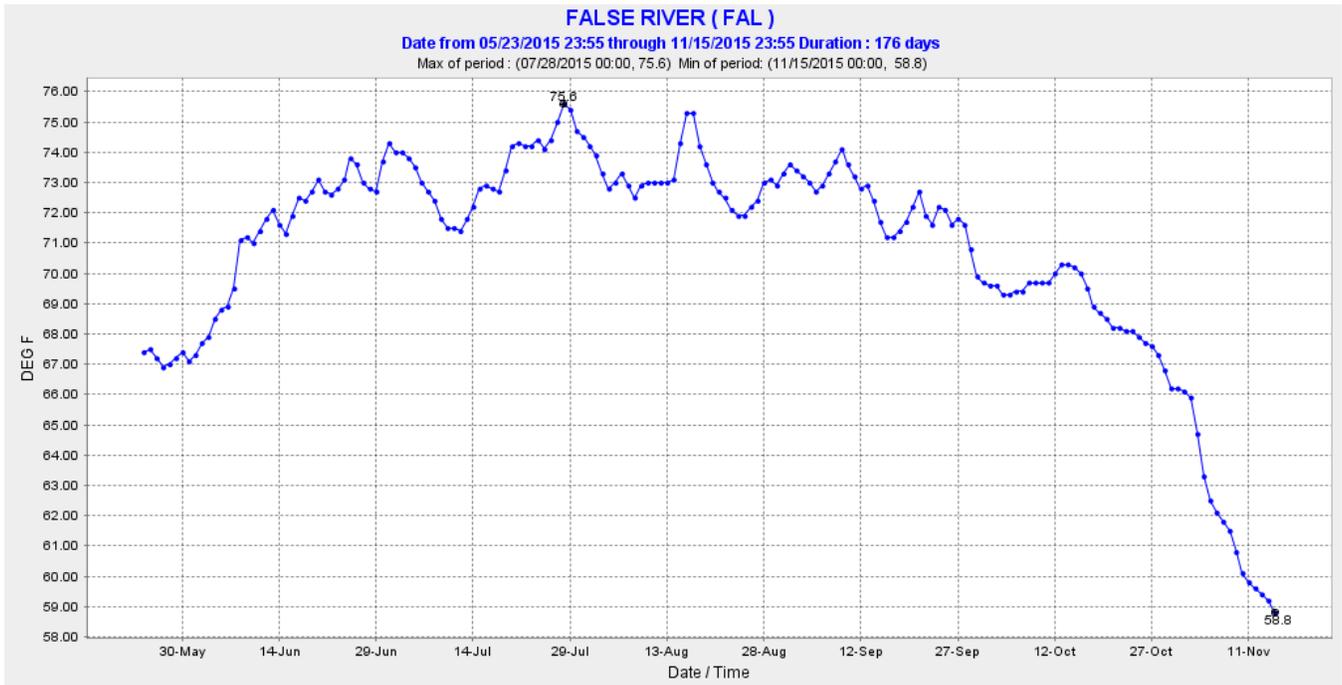
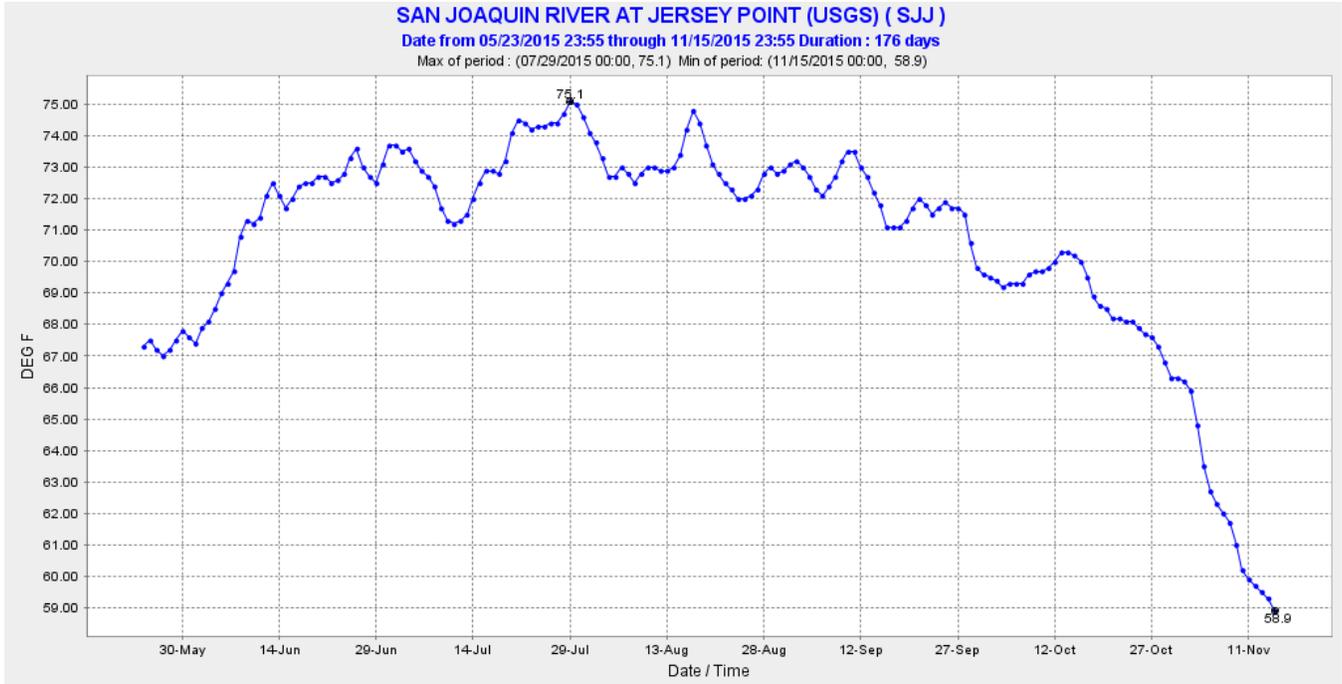
15-Minute flows for FCT in the vicinity of the emergency drought barrier:



Water Temperatures

Average daily water temperatures continue to decrease, dropping by about 2 °F at SJJ and FAL during the past week.

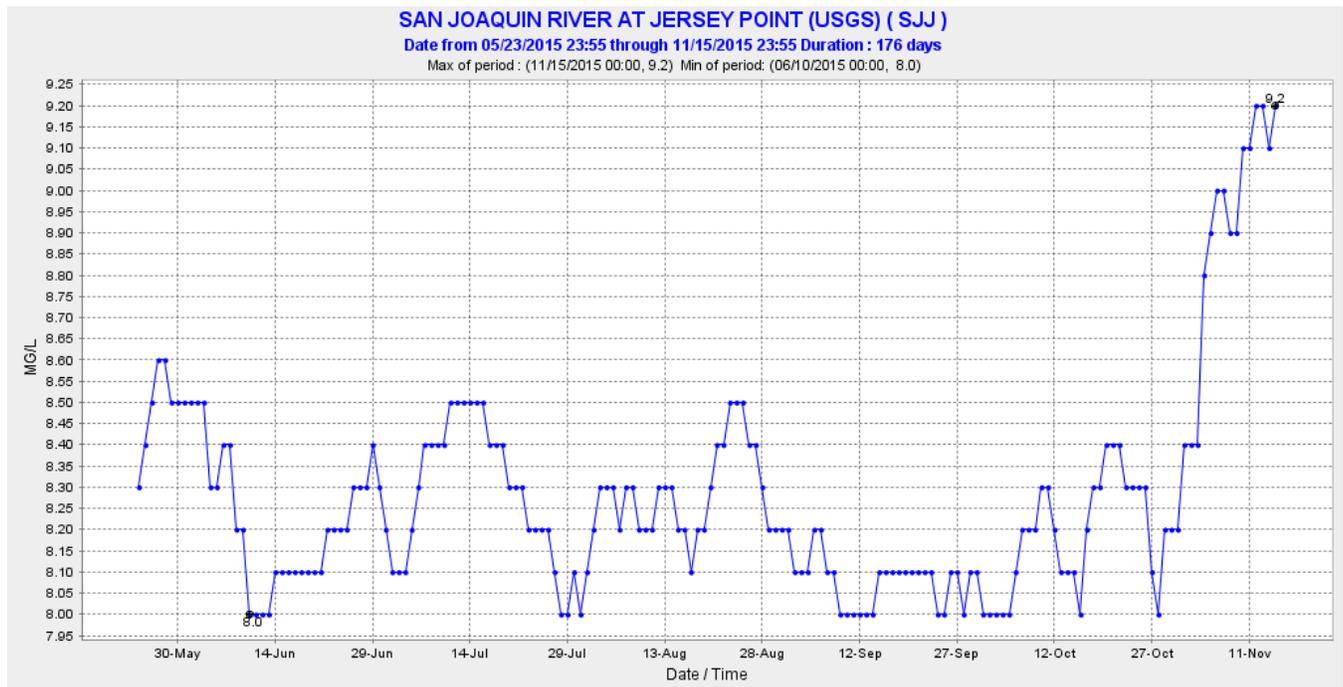
Daily average temperature for stations immediately upstream and downstream of the EDB:

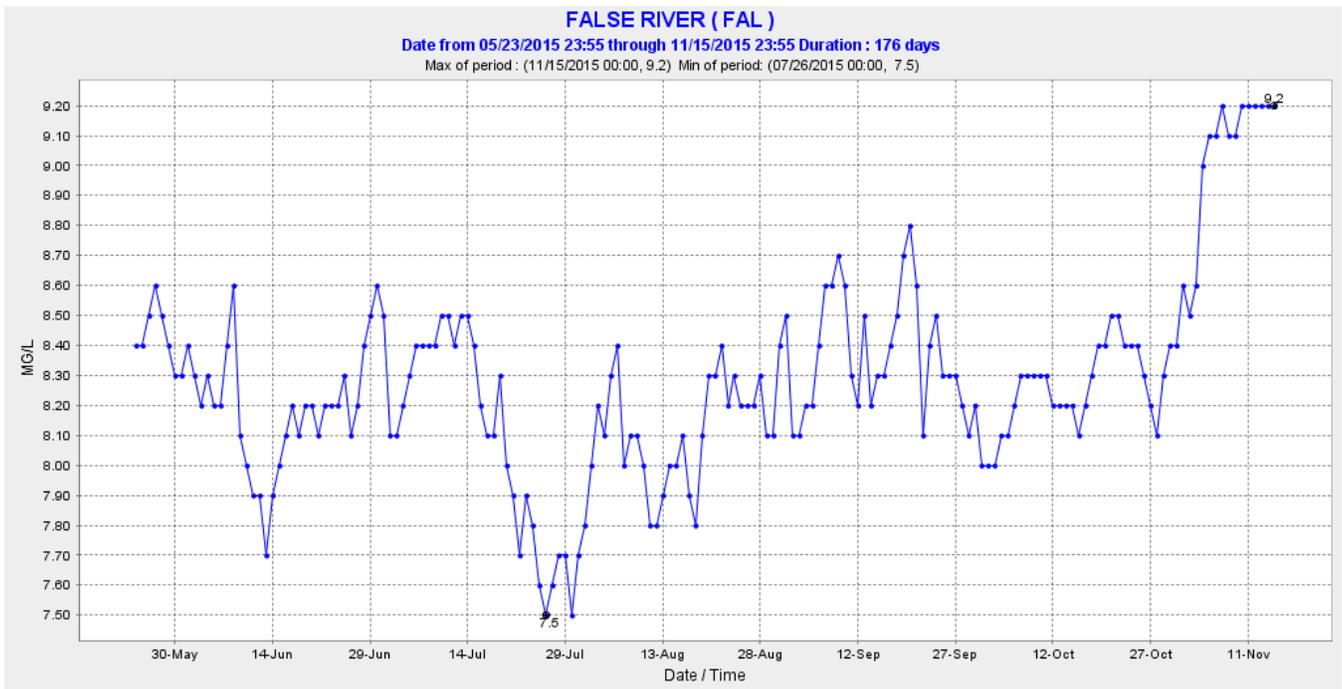


Dissolved Oxygen

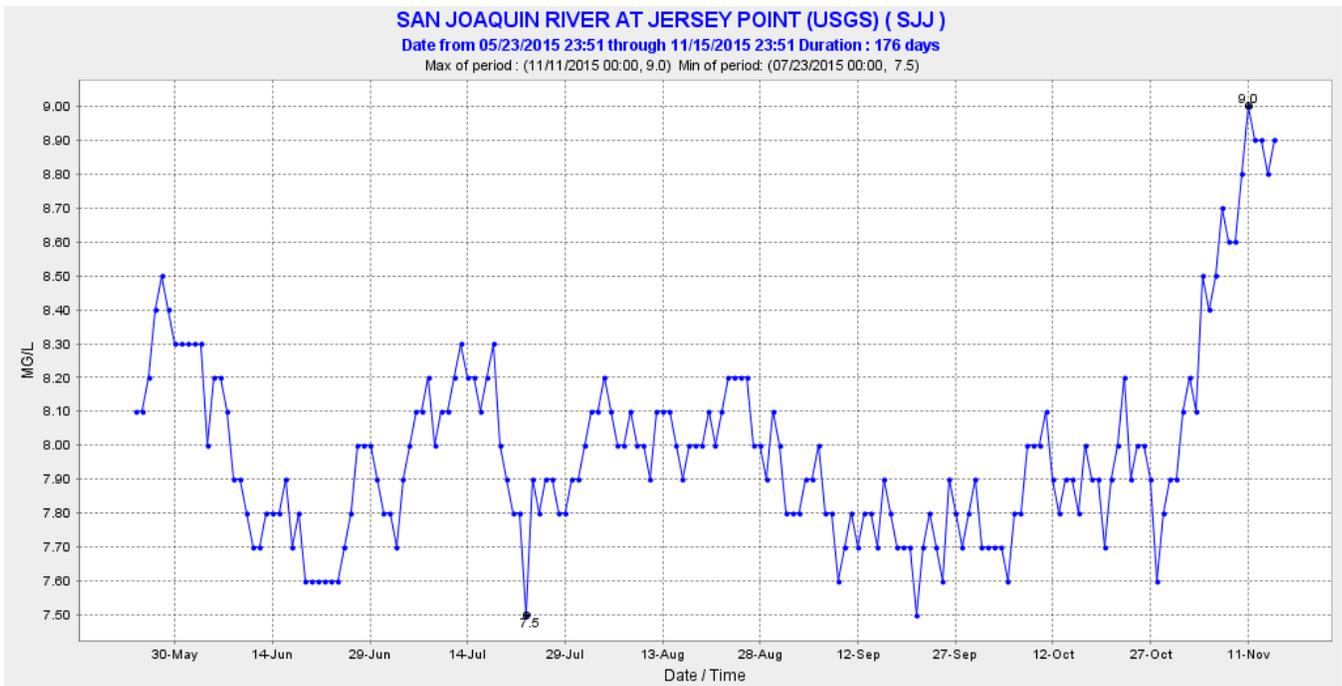
Average daily dissolved oxygen (DO) remained high at SJJ and FAL during the past week, maintaining the highest levels since the EDB installation in late May. For both stations, there was little difference between the daily average DO and the daily minimum DO. DO remains well above the 5.0 mg/l water 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:





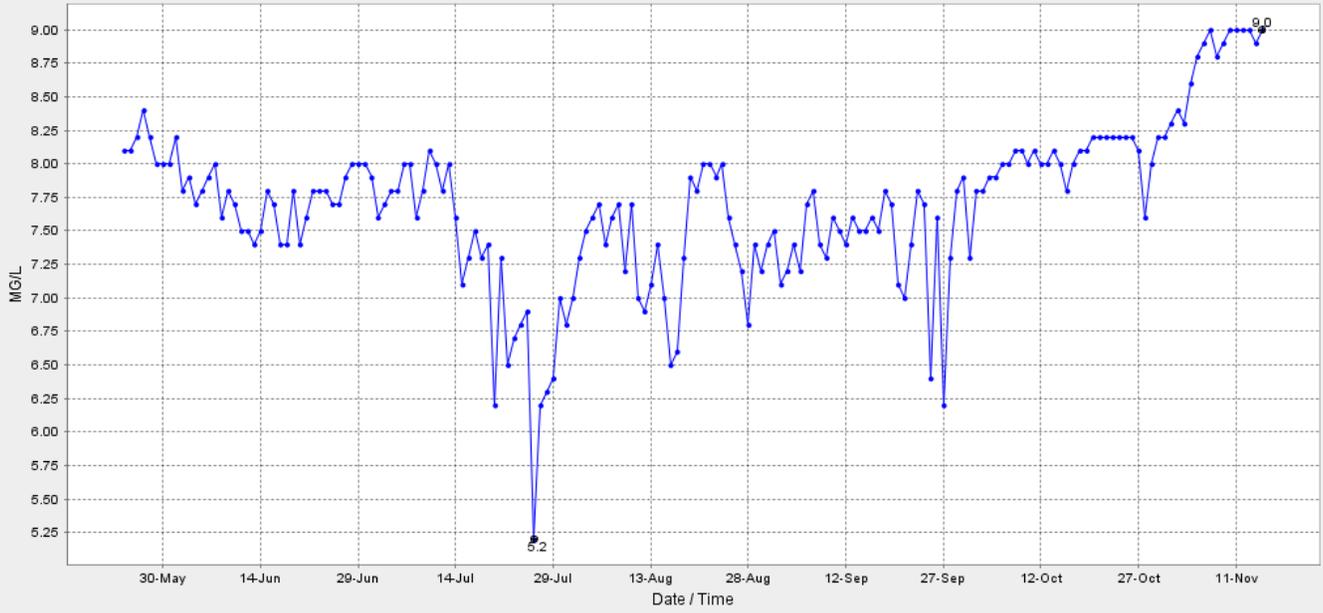
Daily minimum DO for stations immediately upstream and downstream of the EDB:



FALSE RIVER (FAL)

Date from 05/23/2015 23:55 through 11/15/2015 23:55 Duration : 176 days

Max of period : (11/15/2015 00:00, 9.0) 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 November 9, 2015 through November 15, 2015. **Note: TSL data stopped transmitting through CDEC from Nov. 6 to Nov. 10. Data from this station may be skewed.**

Station	Mean	Median	Minimum	Maximum	Area
Suisun Bay - Cutoff near Ryer (RYC)	20237	20416.5	16016	23962	Grizzly Bay to Lower Sac River
Grizzly Bay (GZL)	21122	20864	19252	25031	
Sacramento River near Sherman Island (SSI)	6019	5991	1286	12712	
Dutch Slough @ Jersey Island (DSJ)	1405	1380	1090	2200	Dutch Slough
San Joaquin River @ Jersey Point (SJJ)	2311	1870	876	7270	Vicinity of EDB
Three Mile Slough at San Joaquin River (TSL)	2045	1700	701	5080	
San Joaquin River @ Twitchell Island (TWI)	1238	1121.5	474	4065	
Fisherman's Cut (FCT)	991	934.5	629	2478	
False River (FAL)	1827	1480	758	6180	
Bethel Island near Piper Slough (BET)	1001	983	865	1518	Frank's Tract
Franks Tract Mid (FRK)	866	826	714	1460	
Old River near Frank's Tract near Terminous (OSJ)	587	549	440	757	
Holland Cut near Bethel Island (HOL)	843	832	780	1000	
Sacramento River downstream of Isleton (SOI)	373	288	170	1911	North Delta/Cache Slough
Steamboat Slough near Sacramento River (SXS)	216	190	169	569	
Cache Slough @ Ryer Island (RYI)	214	203	193	708	
Liberty Island @ Approx Cntr S End (LIB)	207	206	197	316	
Miner Slough (MIR)	186	181	165	286	
Steamboat Slough downstream of Sutter Slough (SUS)	169	169	163	176	
Miner Slough @ HWY 84 Bridge (HWB)	168	168	161	174	

Below is the mean specific conductance ($\mu\text{S}/\text{cm}$) for the period of November 9, 2015 through November 15, 2015. Means from RYC, GZL, and HON are much greater and thus are not shown due to scaling issues.

