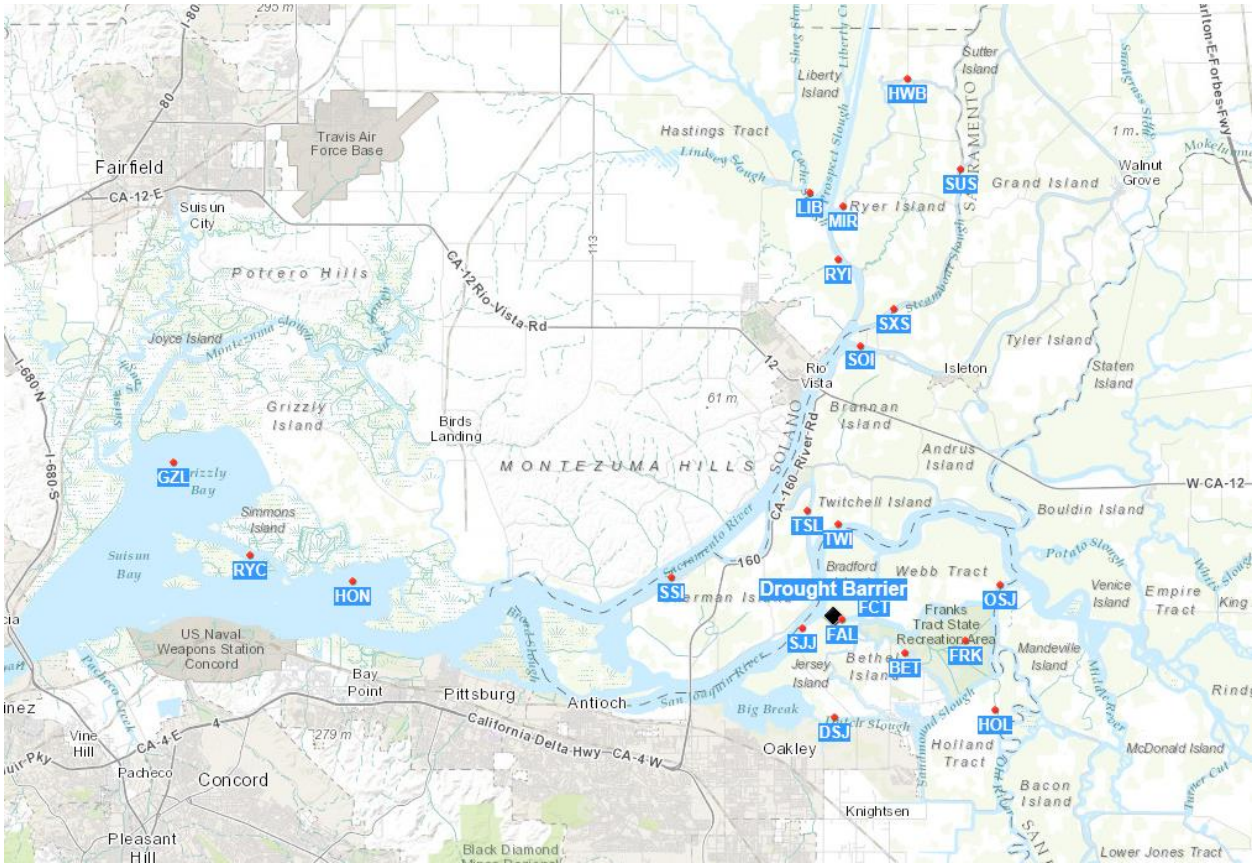
Emergency Drought Barrier Water Quality Monitoring Summary [1]

Weekly Update for October 26 through November 1, 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 30, 2015, about 90% of the barrier has been removed. Work to remove the sheet pile abutments began on Monday, November 2, 2015. Full 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

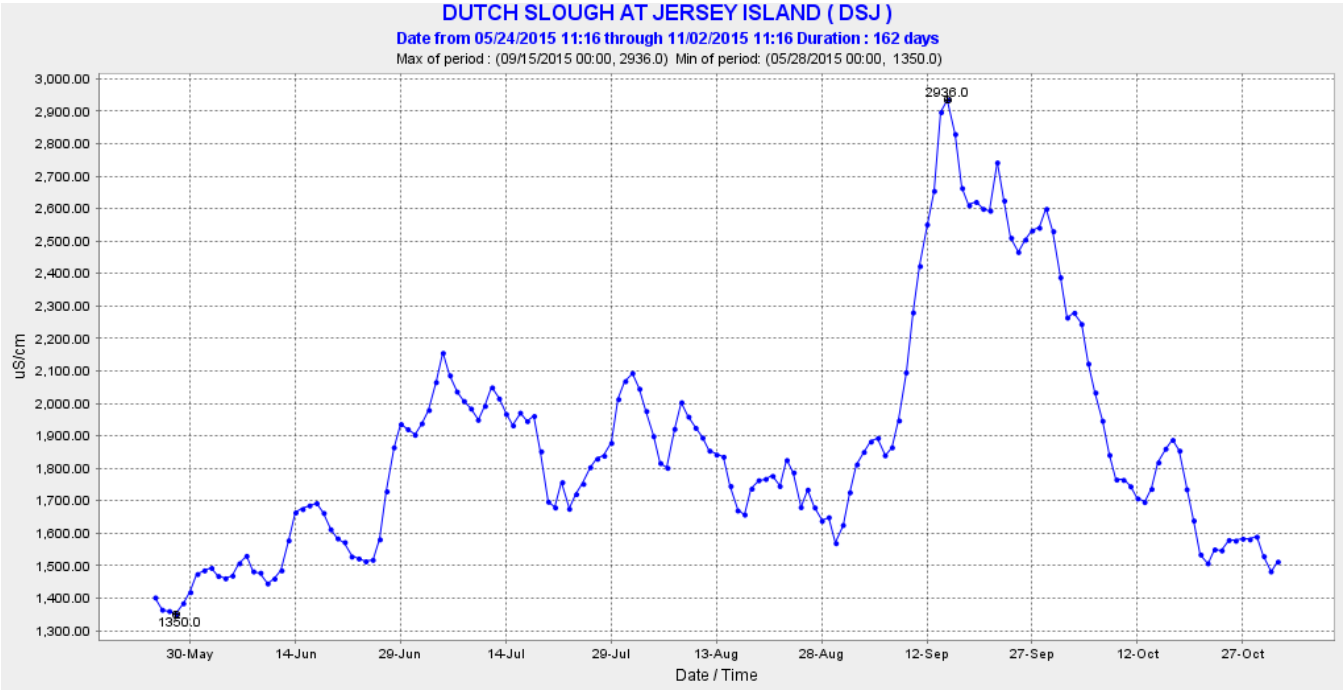


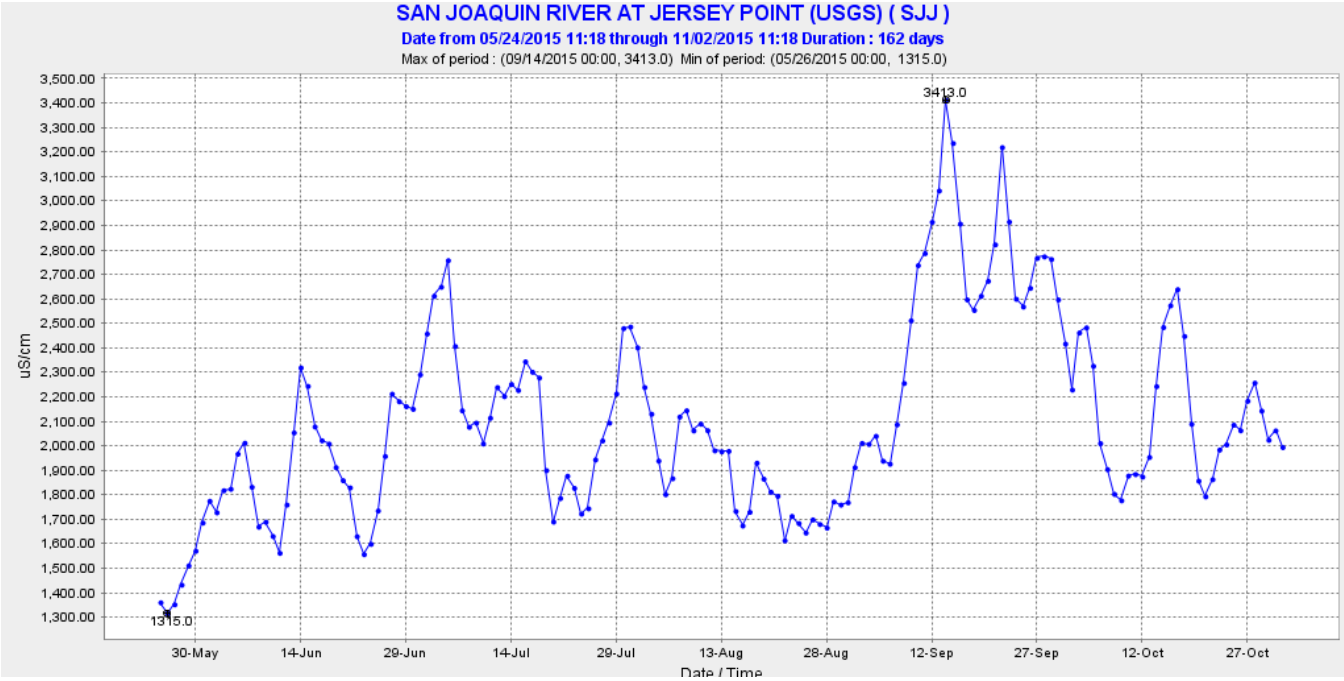
[1] All data in this report and subsequent weekly reports posted to California Data Exchange Network (CDEC) are preliminary and have not yet been validated.

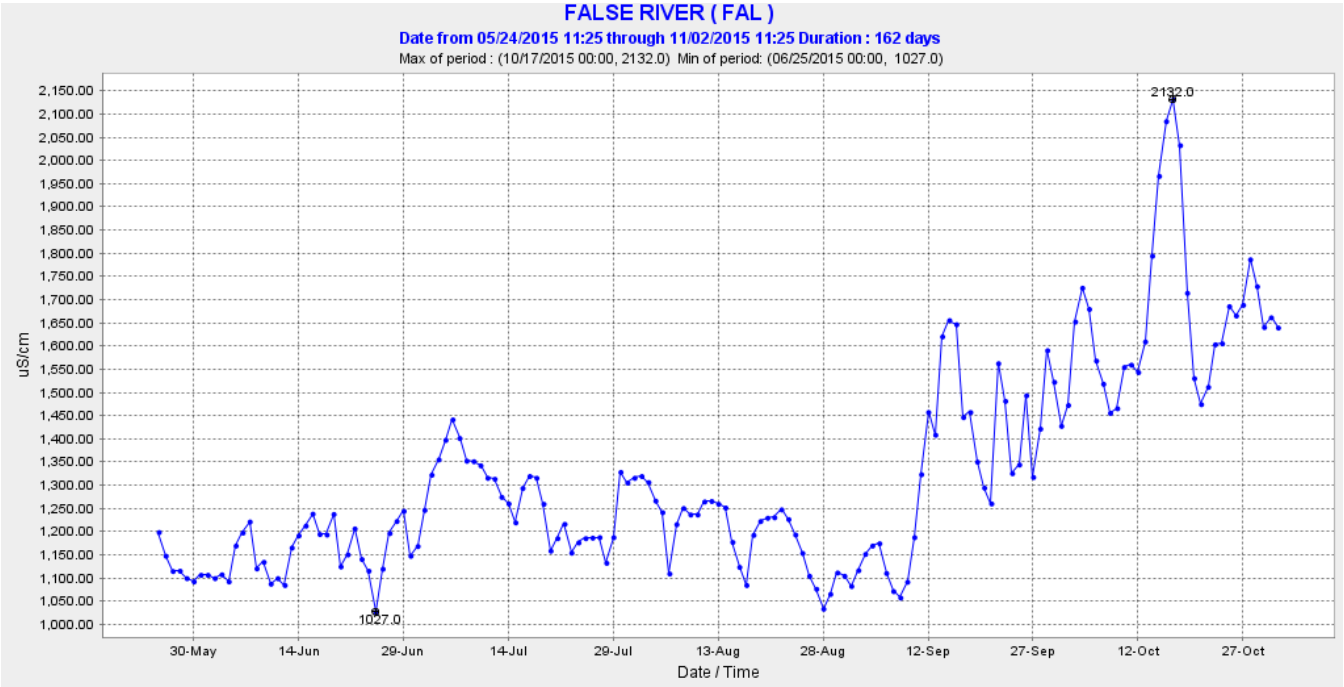
Specific Conductivity

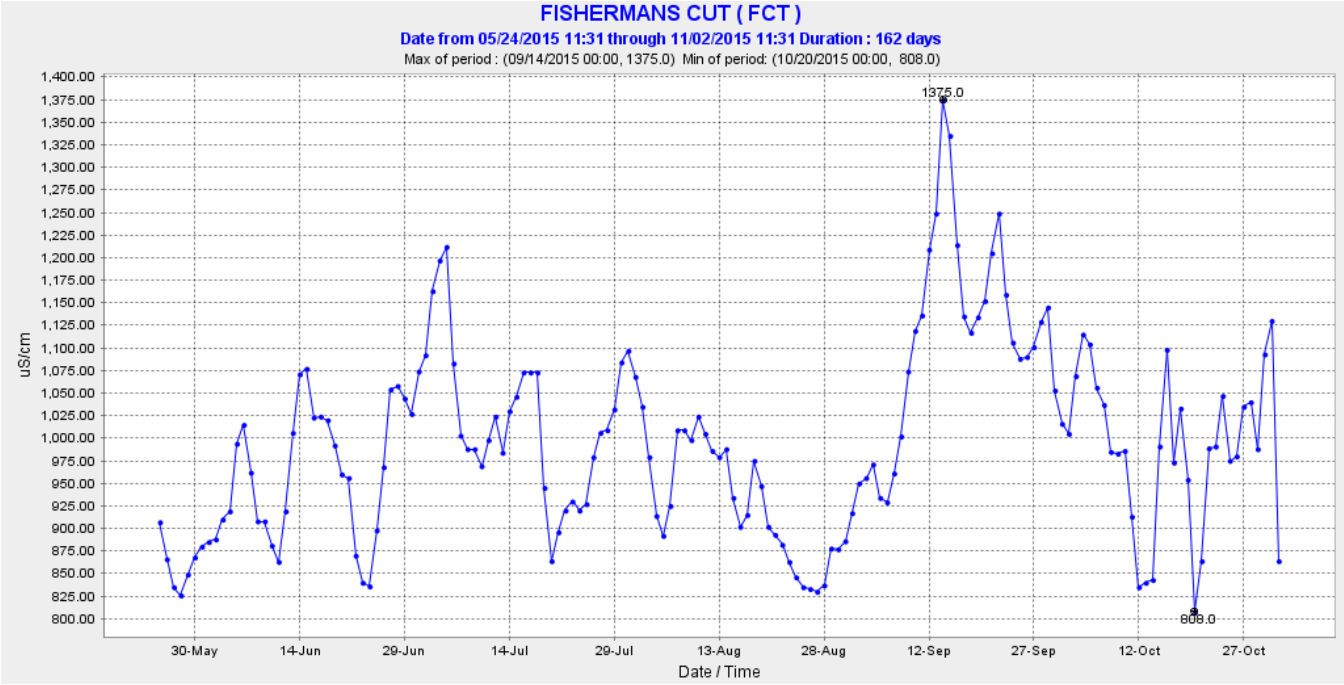
During the past week, average daily specific conductivity (EC) levels have remained relatively stable at Dutch Slough at Jersey Island (DSJ), San Joaquin River at Jersey Point (SJJ), and False River (FAL). EC at Fisherman's Cut (FCT) dropped sharply from 1130 µS/cm on October 31, 2015 to 864µS/cm on November 1. EC at Holland Cut, which has increased steadily since mid-September, levelled off the past week and dropped slightly. On November 1, 2015, average EC at HOL was 920 µS/cm.

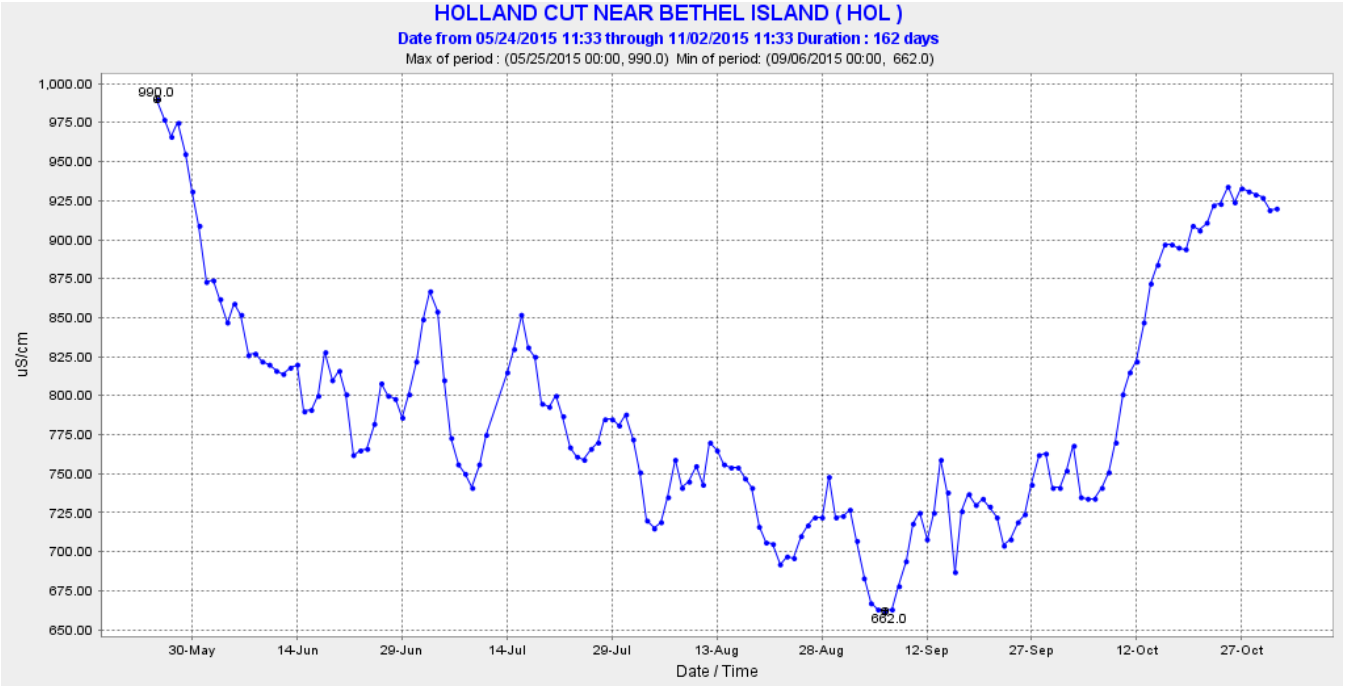
Daily average EC values for five stations in the vicinity of the EDB:






FALSE RIVER (FAL)
Date from 05/24/2015 11:25 through 11/02/2015 11:25 Duration : 162 days
Max of period : (10/17/2015 00:00, 2132.0) Min of period: (06/25/2015 00:00, 1027.0)
uS/cm
2,150.00
2,100.00
2,050.00
2,000.00
1,950.00
1,900.00
1,850.00
1,800.00
1,750.00
1,700.00
1,650.00
1,600.00
1,550.00
1,500.00
1,450.00
1,400.00
1,350.00
1,300.00
1,250.00
1,200.00
1,150.00
1,100.00
1,050.00
1,000.00
2132.0
1027.0
30-May
14-Jun
29-Jun
14-Jul
29-Jul
13-Aug
28-Aug
12-Sep
27-Sep
12-Oct
27-Oct
Date / Time

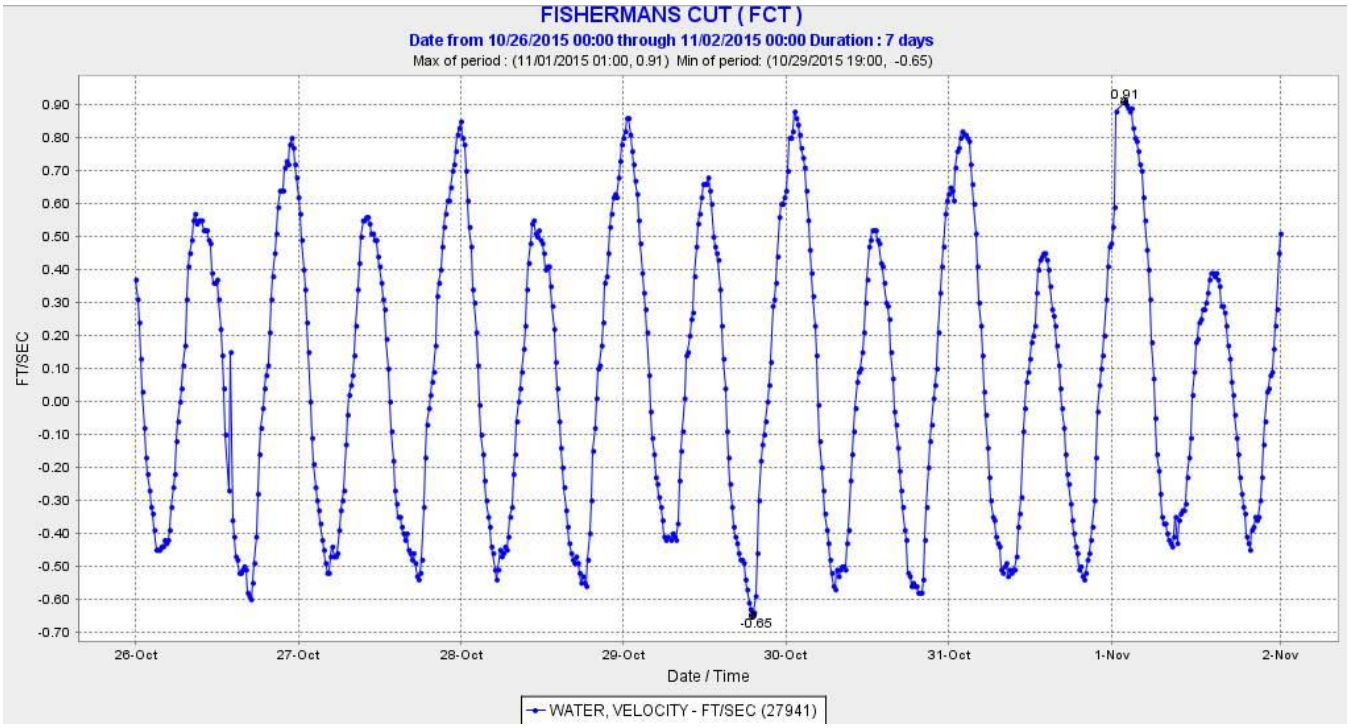

FISHERMANS CUT (FCT)
Date from 05/24/2015 11:31 through 11/02/2015 11:31 Duration : 162 days
Max of period : (09/14/2015 00:00, 1375.0) Min of period: (10/20/2015 00:00, 808.0)
uS/cm
1,400.00
1,375.00
1,350.00
1,325.00
1,300.00
1,275.00
1,250.00
1,225.00
1,200.00
1,175.00
1,150.00
1,125.00
1,100.00
1,075.00
1,050.00
1,025.00
1,000.00
975.00
950.00
925.00
900.00
875.00
850.00
825.00
800.00
1375.0
808.0
30-May
14-Jun
29-Jun
14-Jul
29-Jul
13-Aug
28-Aug
12-Sep
27-Sep
12-Oct
27-Oct
Date / Time



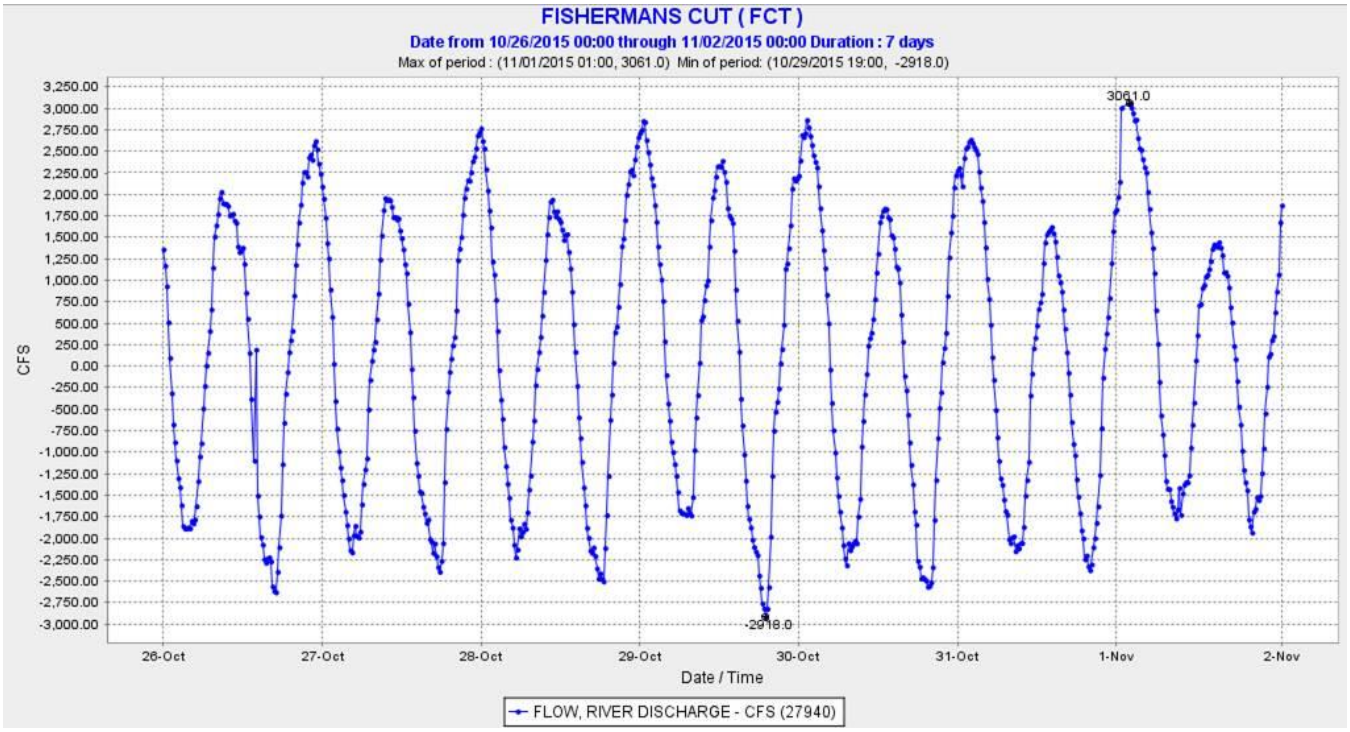
Flow and Velocity

Last week was a spring tide and thus water velocities and flows were elevated compared to the week of 10/19 – 10/25, which was a neap tide. Peak water velocities at the FCT flow station for the week of October 26, 2015 – November 2, 2015 varied between +0.91 ft/s (11/1/15 at 01:00) and – 0.65 ft/s (10/29/15 at 19:00). Flows are back to normal within Fisherman's Cut as the barrier is nearly completely removed. Note that 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. Thus, last week's peak water velocity of +0.91 ft/s occurred during an ebb tide. Flows varied between +3,061 cfs 11/1/15 at 01:00) and –2,918 cfs (10/29/15 at 19:00). The peak flow occurred on an ebb tide. All FCT data will be validated and reported to the Water Data Library.

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



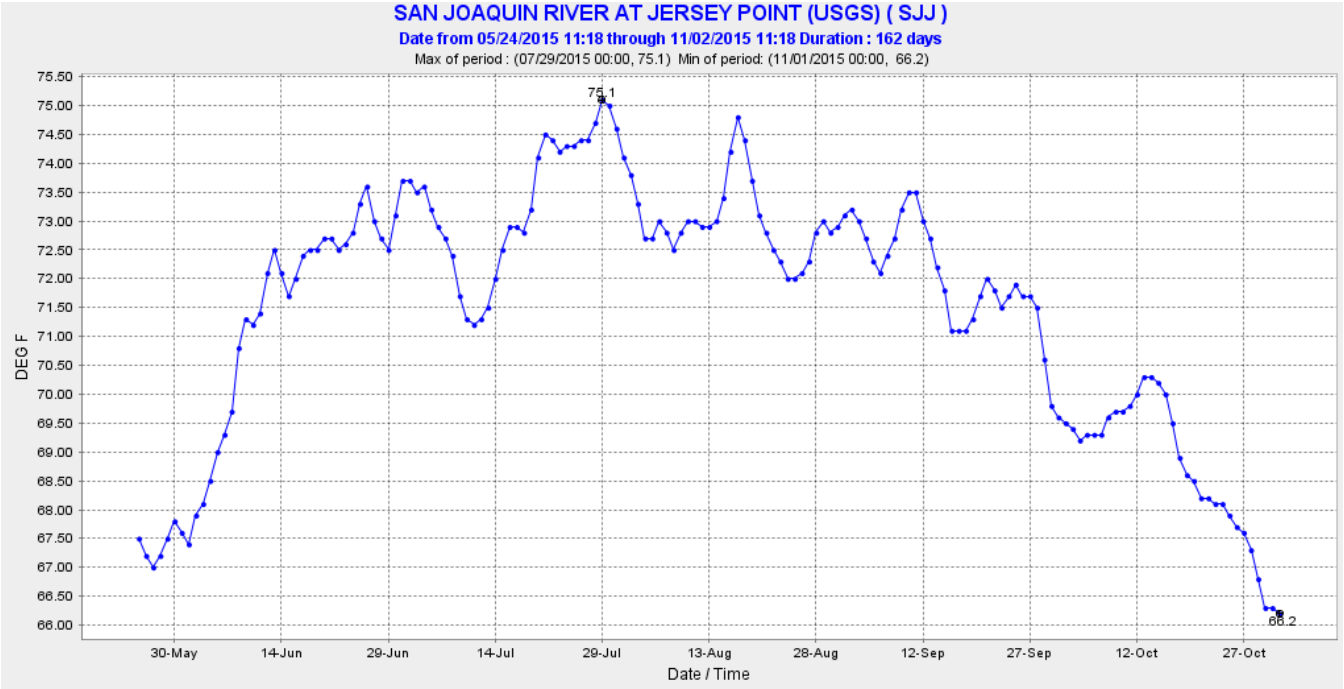
15-Minute flows for FCT in the vicinity of the emergency drought barrier:

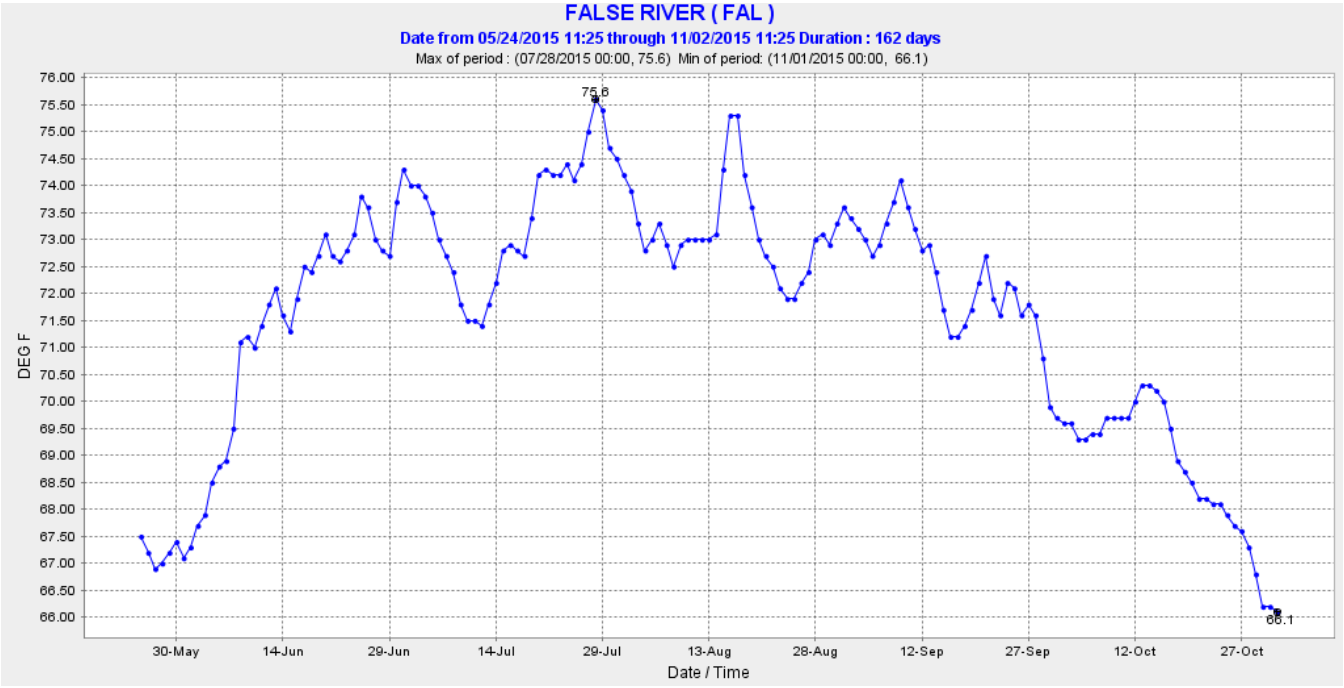


Water Temperatures

With fall progressing, average daily water temperatures continue to decrease, and has dropped more than 1.5 °F at SJJ and FAL during the past week.

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

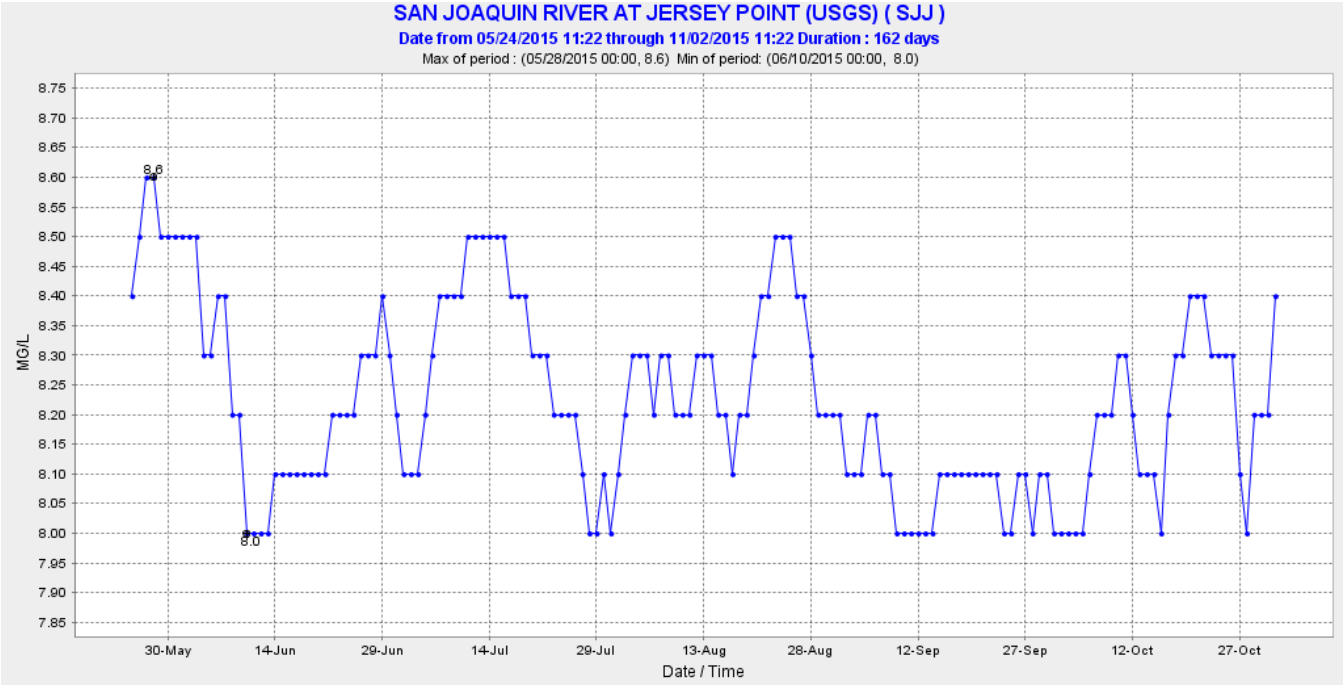


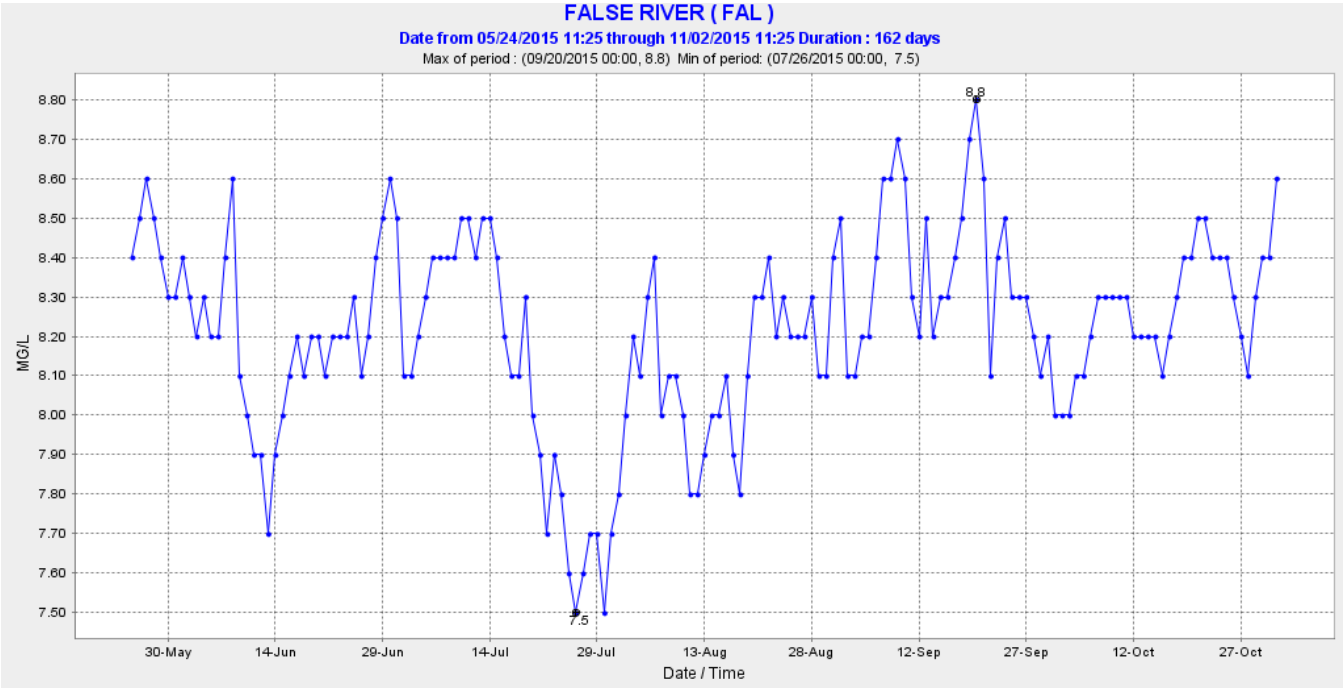


Dissolved Oxygen

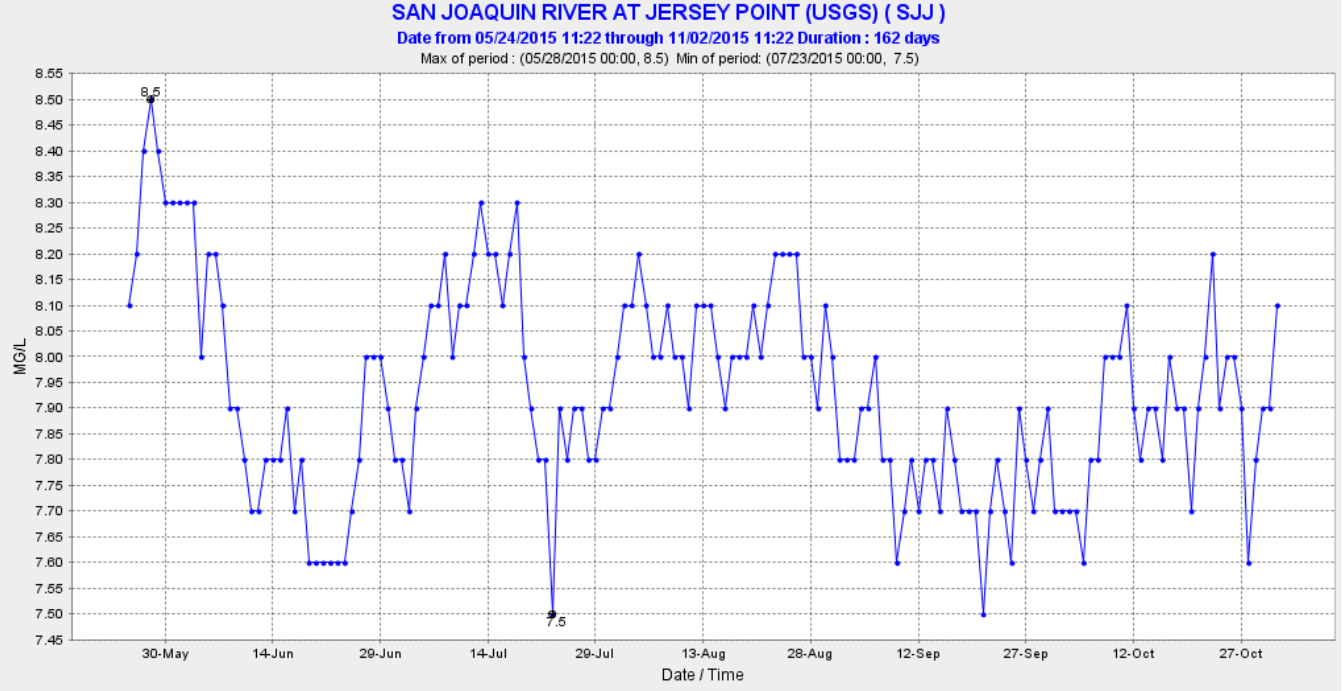
Average daily dissolved oxygen (DO) increased at SJJ and FAL during the past week, and on November 1, 2015, average daily DO was 8.4 and 8.6 mg/L at SJJ and FAL, respectively. Minimum DO levels ended the week slightly higher than levels at the start of the week. DO remains well above the 5.0 mg/l water quality criterion for aquatic life, as it has since the barrier was installed.

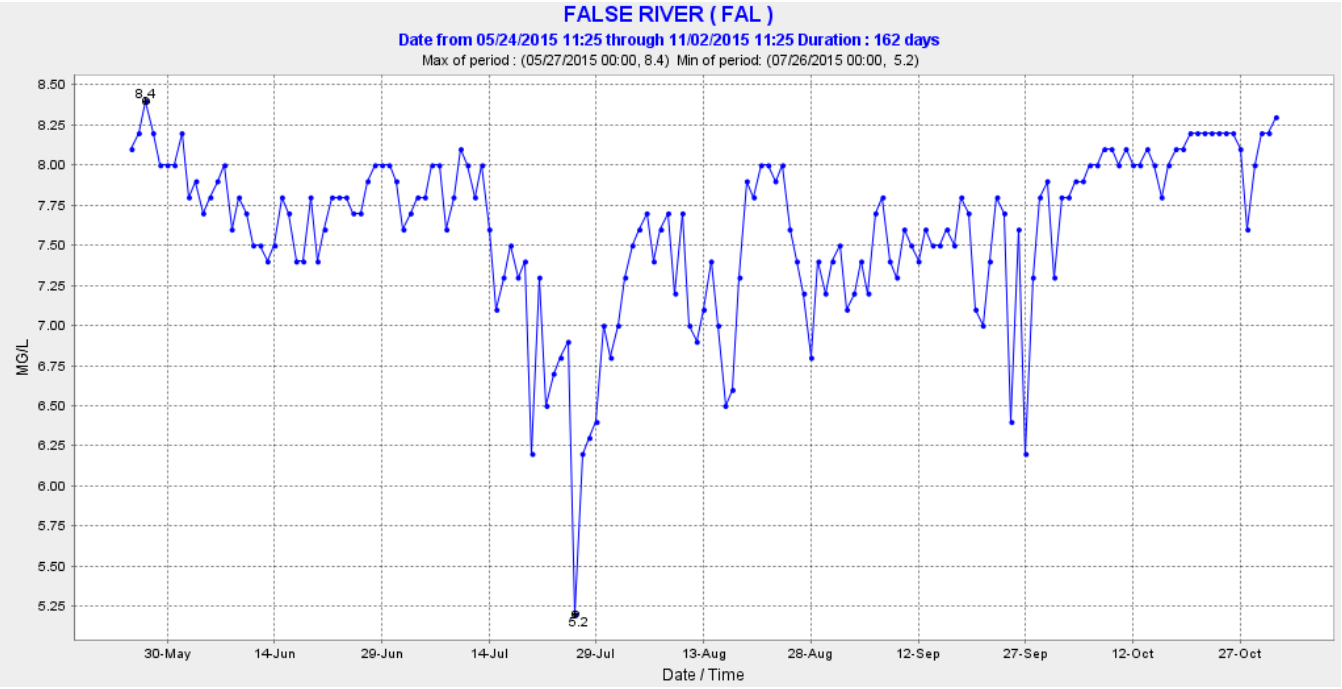
Daily average DO for stations immediately upstream and downstream of the EDB:





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





Below is a summary of EC data (µS/cm) by station for the period of October 26, 2015 through November 1, 2015. **Note: Although MIR data has resumed transmission through CDEC, statistics are not fully representative since not all the data is available.**

Station	Mean SpCond	Median SpCond	Minimum SpCond	Maximum SpCond	AREA
Suisun Bay - Cutoff near Ryer (RYC)	20547	20754	16337	24138	Grizzly Bay to Lower Sac River
Grizzly Bay (GZL)	21801	21719	20031	23431	
Honker Bay (HON)	17454	17222	14279	20678	
Sacramento River near Sherman Island (SSI)	6172	6314	1527	10816	
Dutch Slough @ Jersey Island (DSJ)	1550	1550	1180	1900	Dutch Slough
San Joaquin River @ Jersey Point (SJJ)	2100	1770	880	4730	Vicinity of EDB
Three Mile Slough at San Joaquin River (TSL)	1865	1670	751	4040	
San Joaquin River @ Twitchell Island (TWI)	1133	1068	504	2490	
Fisherman's Cut (FCT)	1021	958	651	2290	
False River (FAL)	1686	1490	814	3770	
Bethel Island near Piper Slough (BET)	1088	1094	0	1182	Frank's Tract
Franks Tract Mid (FRK)	1027	1026	1001	1058	
Old River near Frank's Tract near Terminous (OSJ)	670	660	8	855	
Holland Cut near Bethel Island (HOL)	927	907	856	1080	
Sacramento River downstream of Isleton (SOI)	375	348	0	1284	North Delta/Cache Slough
Steamboat Slough near Sacramento River (SXS)	217	190	159	418	
Cache Slough @ Ryer Island (RYI)	216	209	192	299	
Liberty Island @ Approx Cntr S End (LIB)	209	207	195	258	
Miner Slough (MIR)	182	171	155	244	
Steamboat Slough downstream of Sutter Slough (SUS)	159	159	153	168	
Miner Slough @ HWY 84 Bridge (HWB)	159	158	153	172	

Below is the mean specific conductance (µS/cm) for the period of October 26, 2015 through November 1, 2015. Means from RYC, GZL, and HON are much greater and thus are not shown due to scaling issues.