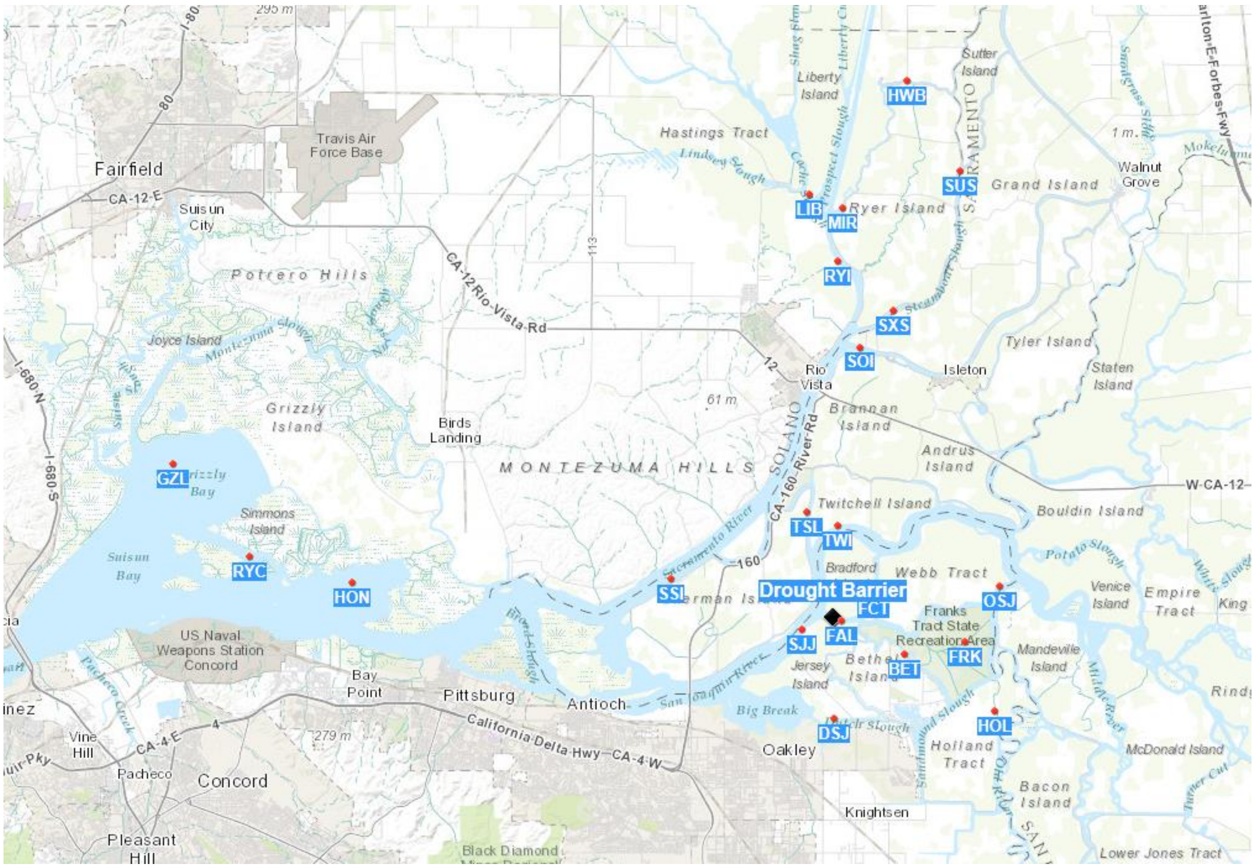
Emergency Drought Barrier Water Quality Monitoring Summary [1]

Update for 45-day period from barrier closure through July 5, 2015[2]

Below is a summary of water quality, flow, and velocity since the hydraulic closure of the Emergency Drought Barrier (EDB) at West False River on May 28, 2015. 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



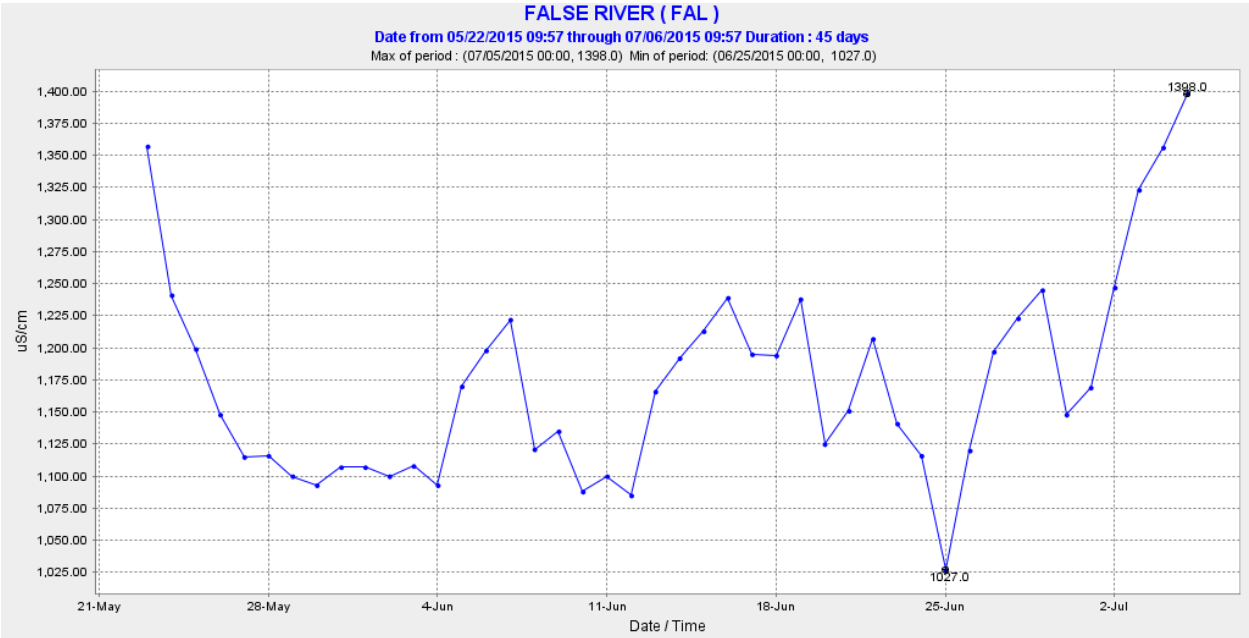
Specific Conductivity

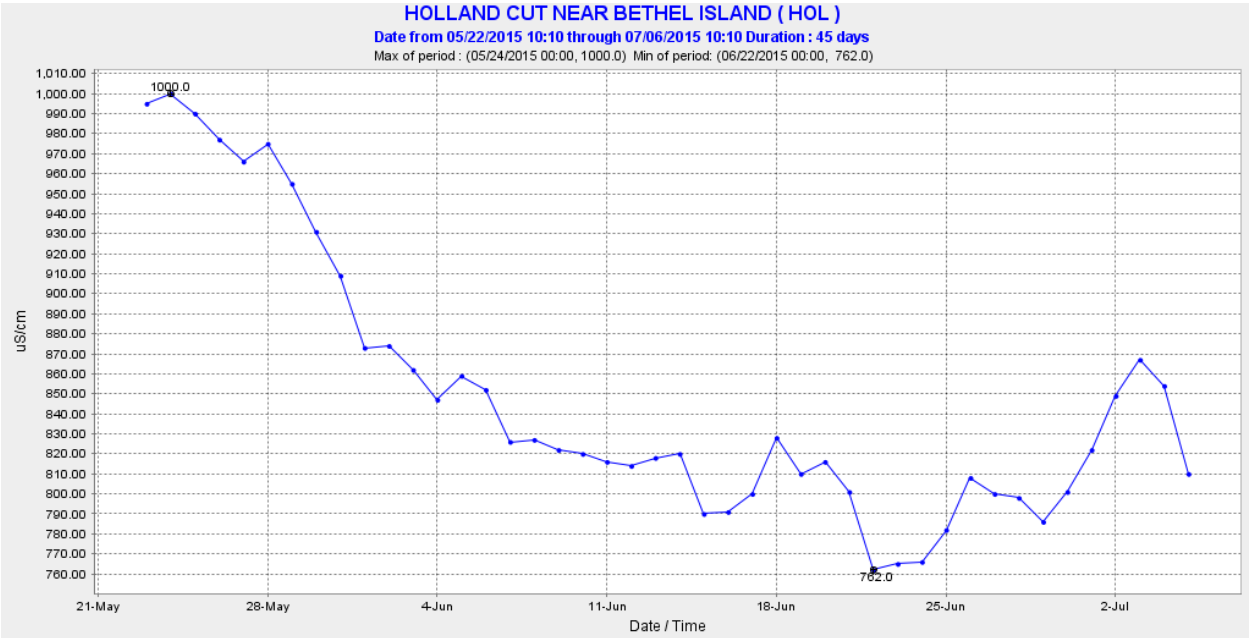
During the period since the hydraulic closure of the EDB on May 28, 2015, average daily specific conductivity (EC) levels dropped during late May at False River (FAL) immediately up-river of the barrier from about 1350 to about 1,100 µS/cm, then fluctuated up and down several times before trending mostly upward during the past 10 days to about 1,400 µS/cm. The FAL station is immediately upstream from the EDB. South of Franks Tract along Old River at the Holland Cut station (HOL), EC steadily declined from 970 to 762 µS/cm on June 22, and has since cycled up and down twice through July 5 and is now trending downward.

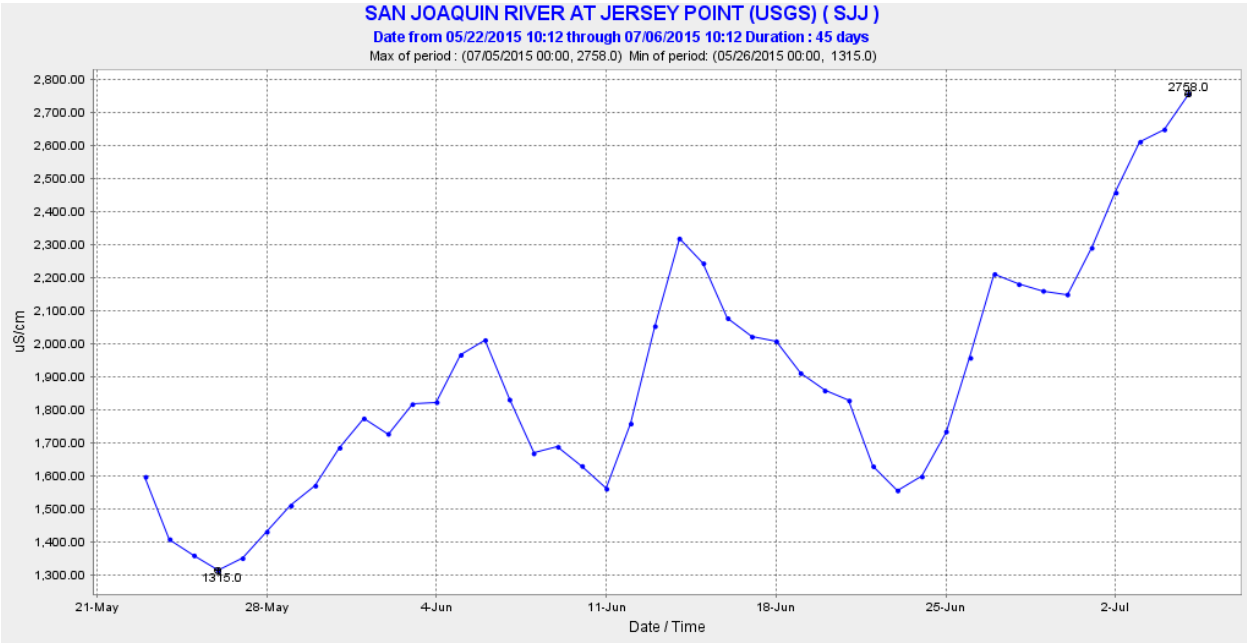
[1] All data in this report and subsequent weekly reports are posted to California Data Exchange Network (CDEC) are preliminary and have not yet been validated.
[2] Subsequent reports will cover weekly monitoring intervals.

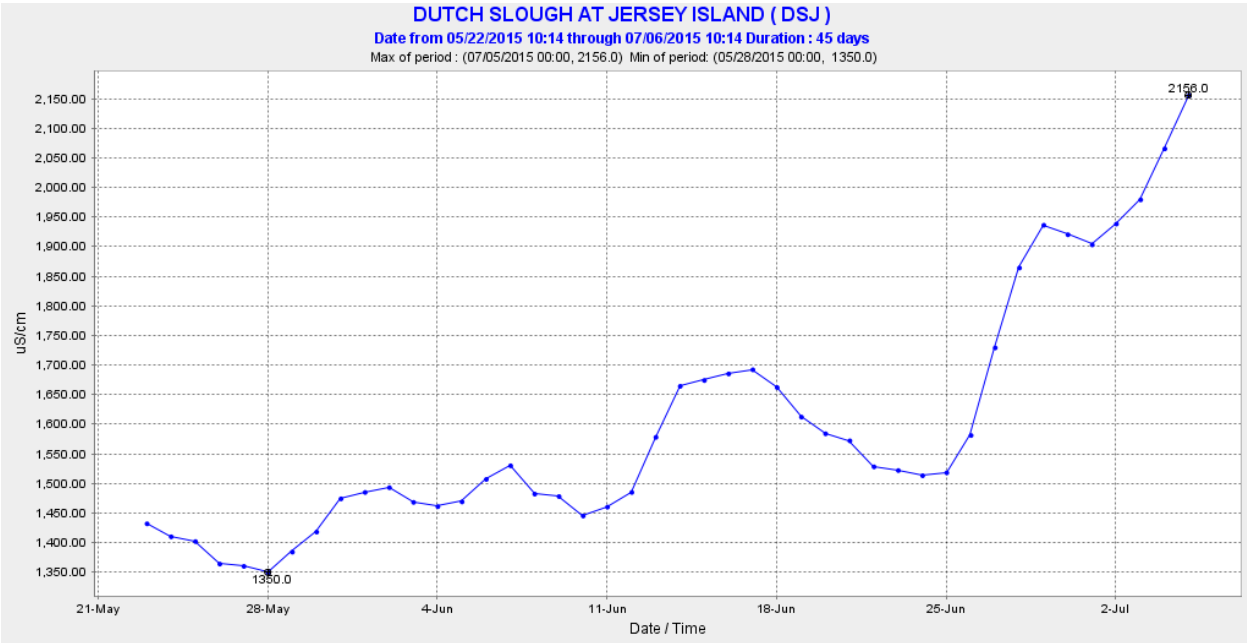
Along the San Joaquin River, EC increased in the vicinity of the barrier from 1420 to 2758 µS/cm at San Joaquin River at Jersey Point (SJJ), from 1,350 to 2,156 µS/cm at Dutch Slough at Jersey Island (DSJ), and from 826 to 1,212 µS/cm at Fisherman's Cut (FCT).

Daily average EC values for five stations in the vicinity of the emergency drought barrier:






SAN JOAQUIN RIVER AT JERSEY POINT (USGS) (SJJ)
Date from 05/22/2015 10:12 through 07/06/2015 10:12 Duration : 45 days
Max of period : (07/05/2015 00:00, 2758.0) Min of period: (05/26/2015 00:00, 1315.0)
uS/cm
2,800.00
2,700.00
2,600.00
2,500.00
2,400.00
2,300.00
2,200.00
2,100.00
2,000.00
1,900.00
1,800.00
1,700.00
1,600.00
1,500.00
1,400.00
1,300.00
2758.0
1315.0
21-May
28-May
4-Jun
11-Jun
18-Jun
25-Jun
2-Jul
Date / Time


DUTCH SLOUGH AT JERSEY ISLAND (DSJ)
Date from 05/22/2015 10:14 through 07/06/2015 10:14 Duration : 45 days
Max of period : (07/05/2015 00:00, 2156.0) Min of period: (05/28/2015 00:00, 1350.0)
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
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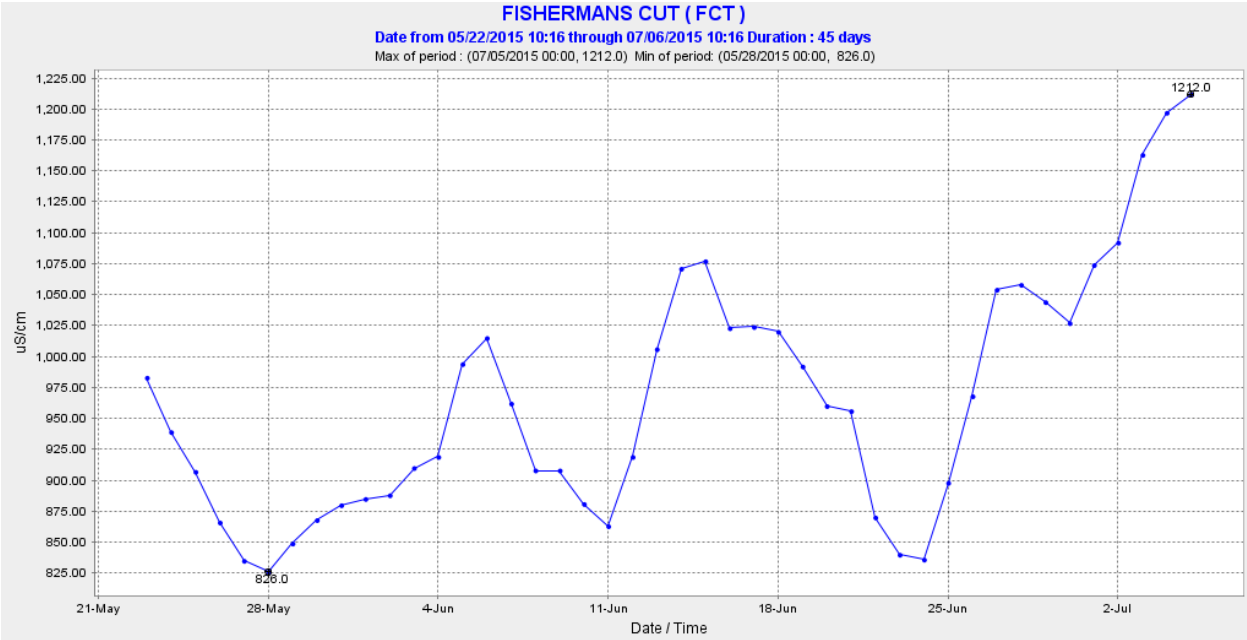
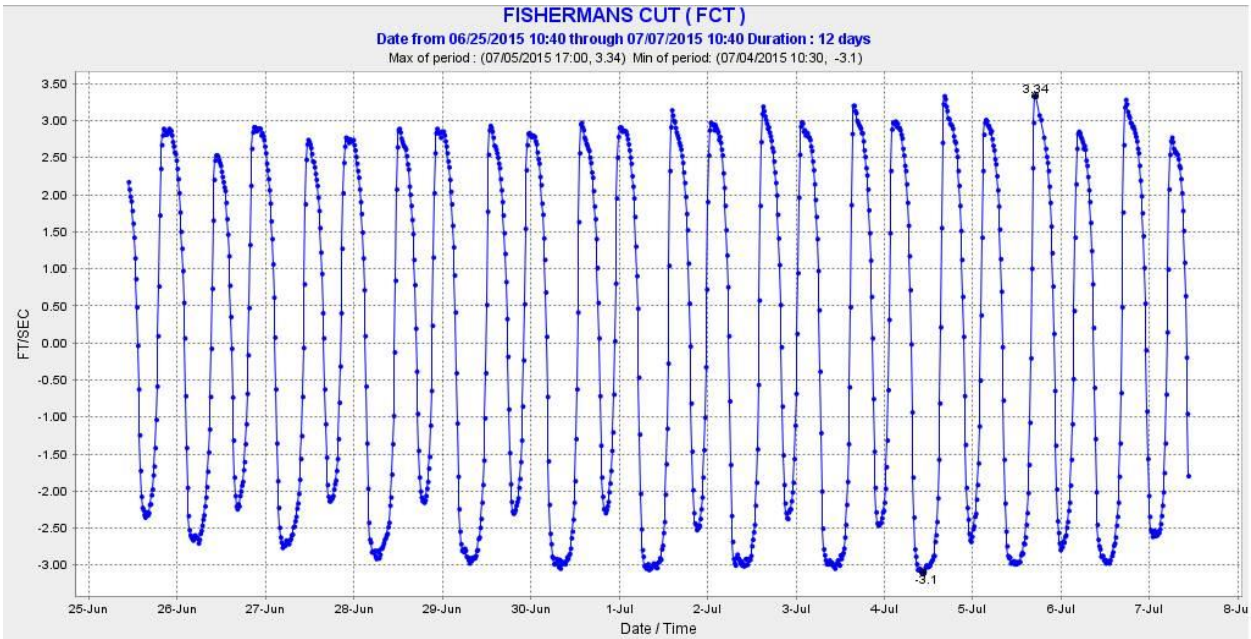
1350.0
21-May
28-May
4-Jun
11-Jun
18-Jun
25-Jun
2-Jul
Date / Time



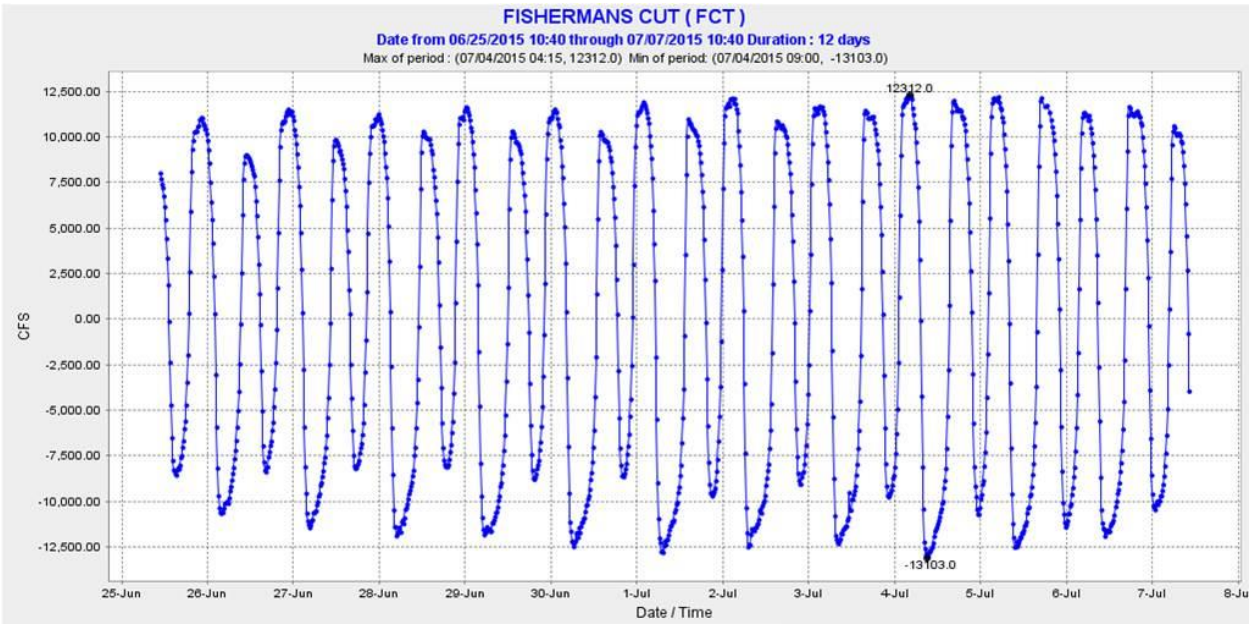
Flow and Velocity

Fisherman's Cut experienced a spring tide the week of June 29 through July 5. Peak water velocities at the FCT flow station varied between +3.344 ft/s (7/5/15 at 15:45) and – 3.103 ft/s (7/4/15 at 09:30). Negative water velocities, while the barrier is in place, means water is ebbing out of Fisherman's Cut northward into the San Joaquin River. Thus, last week's peak mean water velocity occurred during a flood tide. However, flows varied between +12,311 cfs (7/4/15 at 03:15) and – 13,103 (7/4/15 at 08:00) indicating a higher peak flow during an ebb tide. Due to the spring tide, peak velocities in Fisherman's Cut increased in magnitude through July 4 and are now decreasing as the Delta is now entering a neap tide.

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



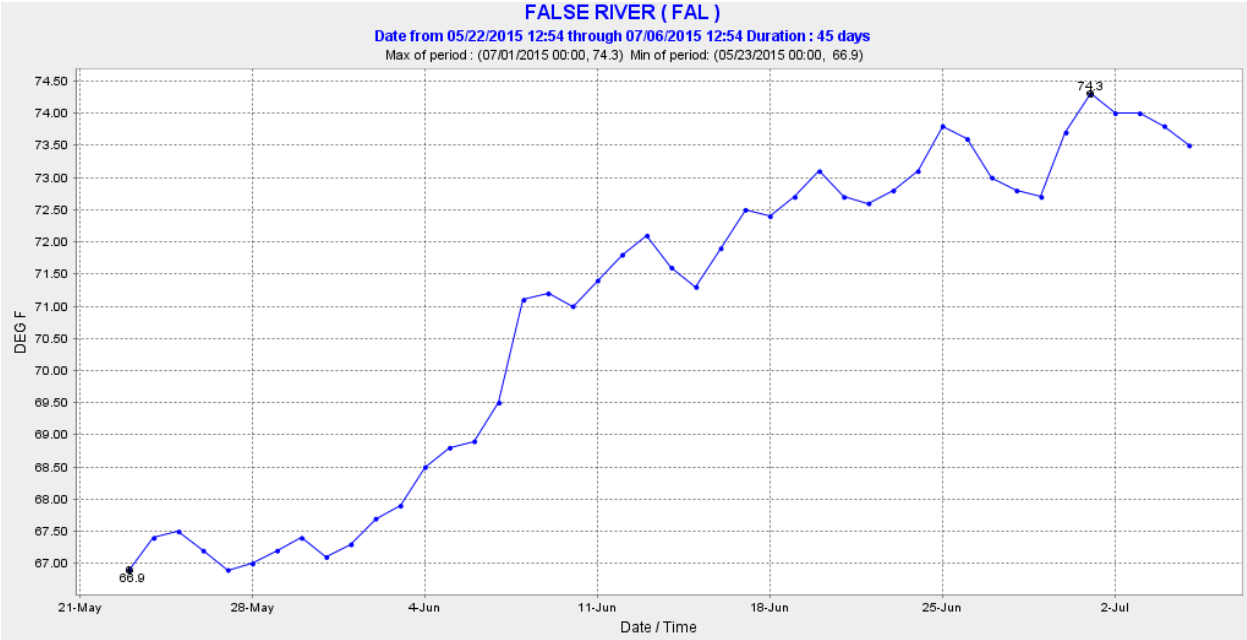
15-Minute flows for FCT in the vicinity of the emergency drought barrier:

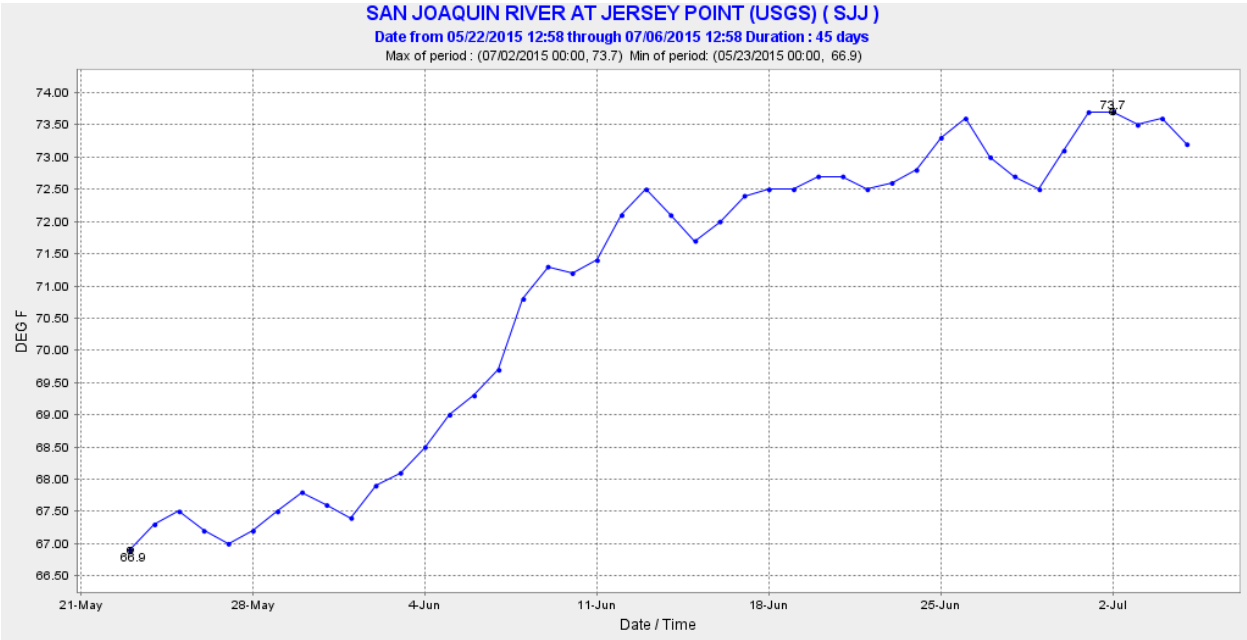


Water Temperatures

Mean daily water temperatures increased for the FAL station immediately upstream of the EDB from 67 deg. F to 74.3 deg. F. on June 30, and increased at SJJ downstream of the EDB by a similar amount, from 67.2 deg. to 73.7 deg. F. Temperatures are now trending downward since June 30 at both stations.

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



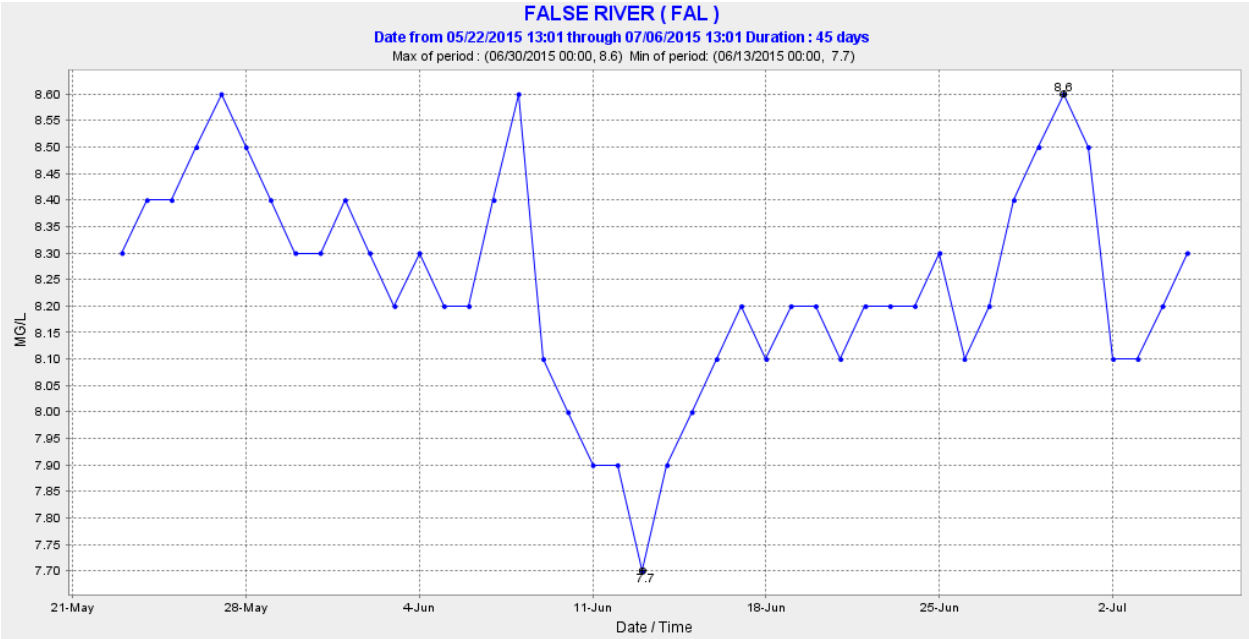


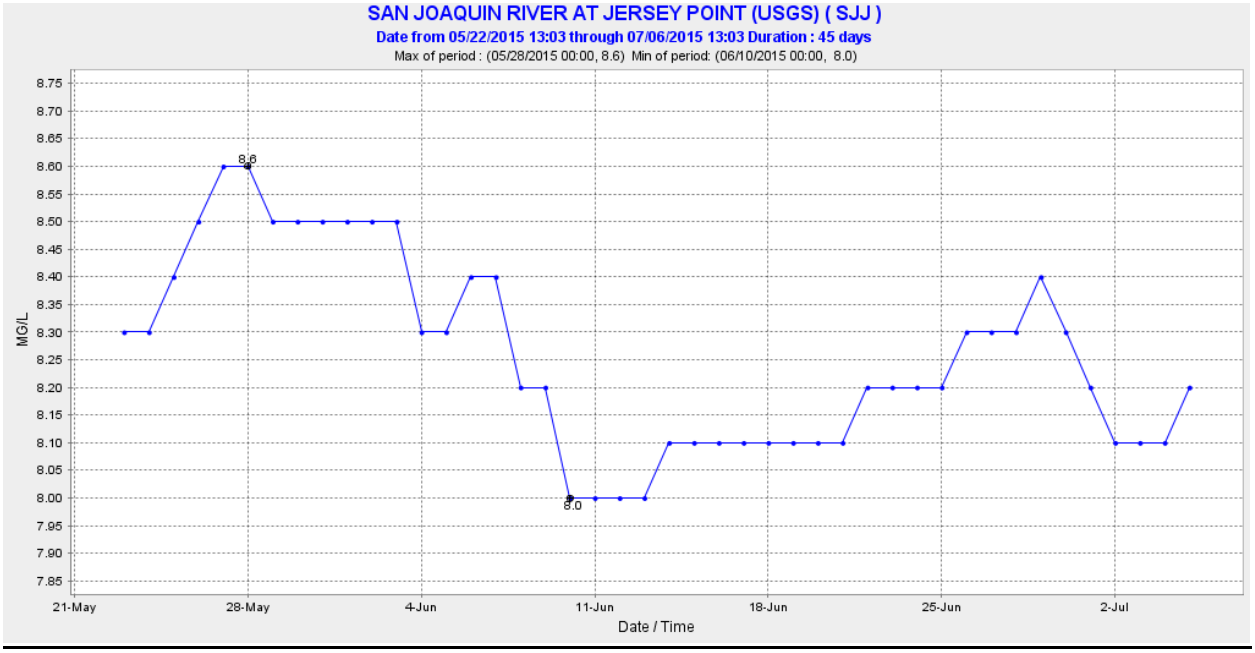
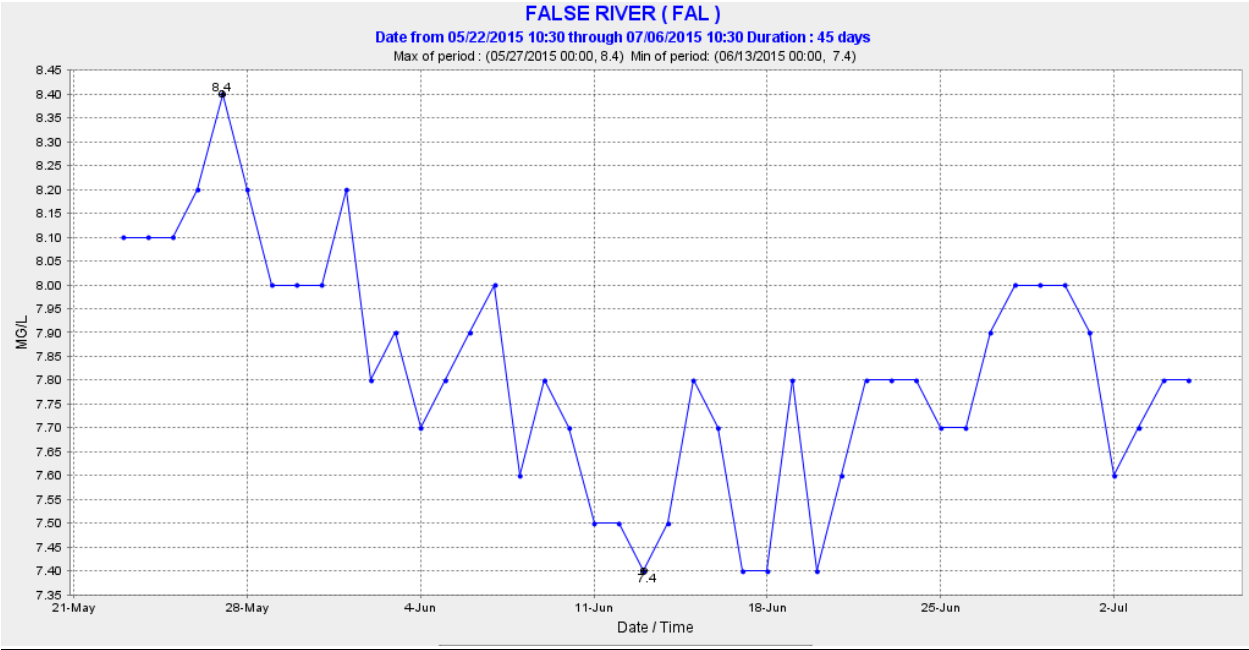
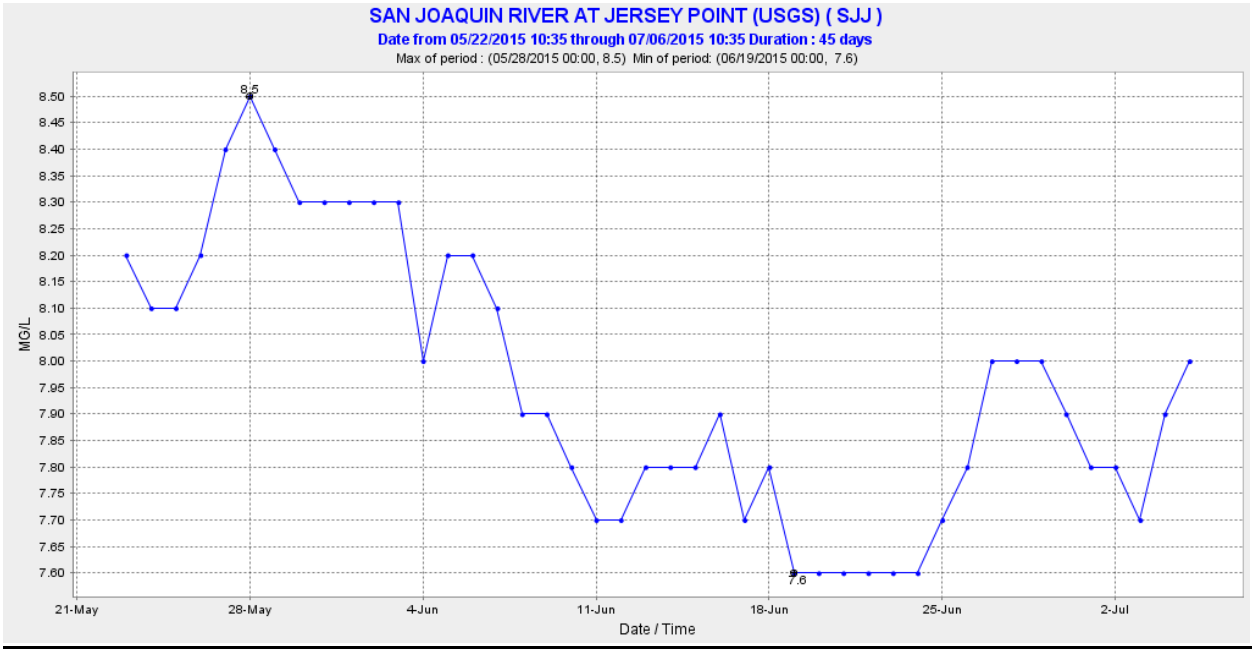
Dissolved Oxygen

Average daily dissolved oxygen (DO) dropped slightly at FAL from a high of about 8.6 mg/L to a low of about 7.7 mg/l on June 13, but increased since to about 8.4 mg/L on June 30. The SJJ station downstream of the barrier showed a similar pattern with DO starting at 8.5 mg/L and decreasing to 7.7 mg/L on June 13, and then

increasing to 8.6 mg/L on June 30. Minimum DO levels for the two stations were 7.4 and 7.6 mg/L at FAL and SJJ respectively.

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





Daily minimum DO for stations immediately upriver and downriver of the EDB: