

Monitored Resource:

Assumption Creek at Seminary Fen and US Hwy 212

Purpose: The purpose of this monitoring project was to determine and document stream flows at three locations in Assumption Creek, a Minnesota DNR designated trout stream, between the abandoned rail bed/regional trail and US Hwy 212, near Seminary Fen.

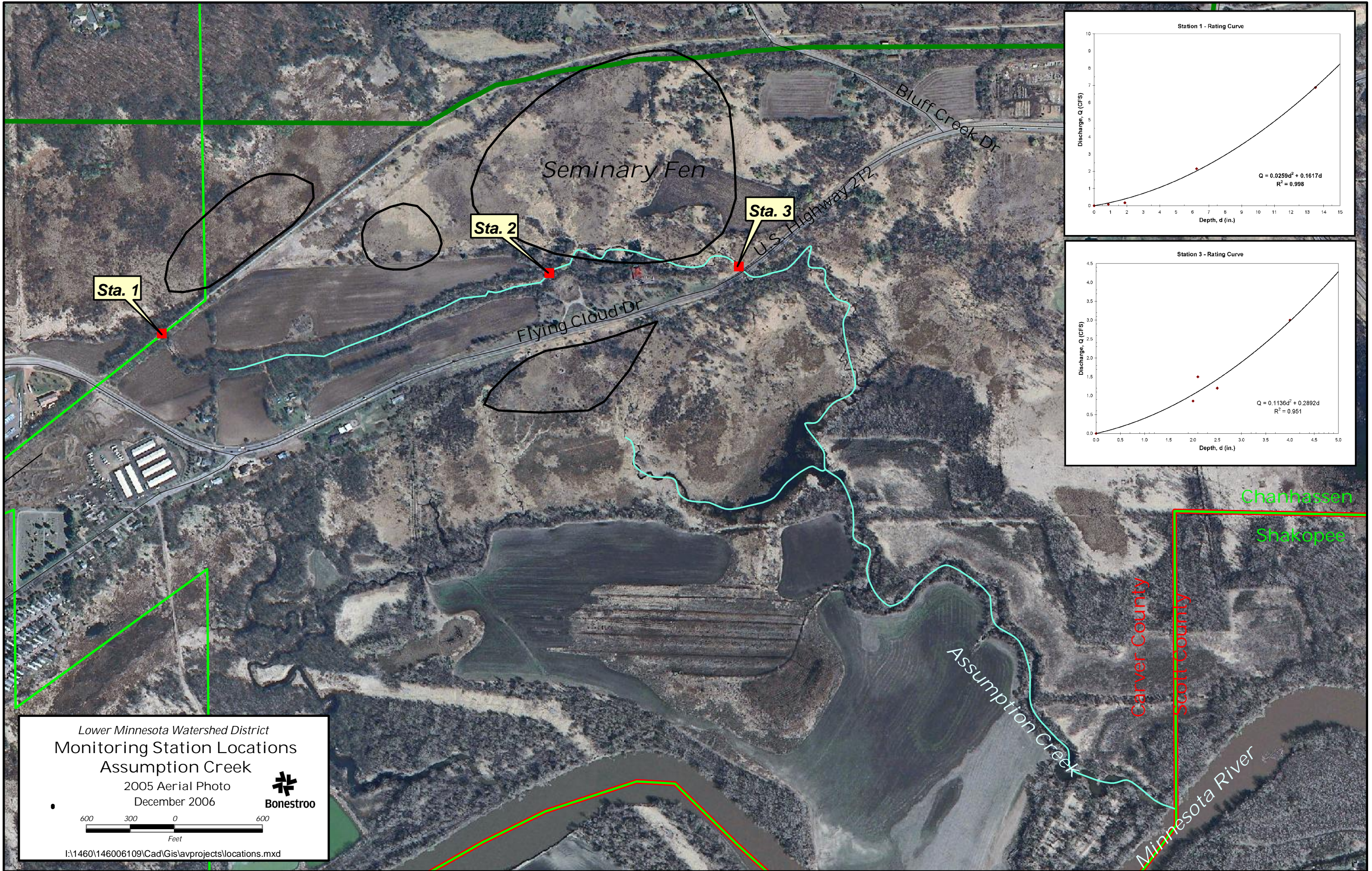
Monitoring Description:

Three data loggers (Hobo® Water Level Data Logger, U20-001-04) were installed at sites designated: Station 1, Station 2 and Station 3 to record continuous water level within the Creek. See the project map and “Photo Tour” for locations of the monitoring stations. Rating curves were established at the sites which were used to convert calibrated water depth measurements to discharge.


The loggers sampled at a 15 minutes per measurement interval for the entire monitoring period. The monitoring was conducted from June – November 2006. However, due to debris in the culvert at Station 1 and a flow obstruction (beaver dam) at Station 3, data were only considered for June – August 2006

Monitoring Results Summary:

- Station 1 and Station 2 flows were intermittent correlating with precipitation events
- Stream flow at Station 2 was detected for only 8 hours, during the 3-month period. The flow was associated with a three-inch rain event
 - Discharge measured 8/2/06 at 12noon was approximately 1.7 cfs
- Below the dam (station 2) water reappeared in the channel from the groundwater system and apparently associated with the Seminary Fen
- Baseflows below the fen at Station 3 were approximately 3 cfs for the summer of 2006 with event based peaks that coincided with Station 1 records
- The accuracy of future monitoring will depend on the flow conditions of the control structures to ensure accurate rating curves



Lower Minnesota Watershed District
Monitoring Station Locations
Assumption Creek
2005 Aerial Photo
December 2006


Bonestroo

600 300 0 600
Feet

I:\1460\146006109\Cad\Gis\avprojects\locations.mxd

Assumption Creek Sta 1 (view DS)



Assumption Creek 150 ft below Sta 1 (view US)



Assumption Creek 300 ft below Sta 1 (view DS)



Assumption Creek 700 ft below Sta 1 (view DS)



Assumption Creek 900 ft below Sta 1



Assumption Creek 500 ft above Sta 2 (view DS)



Assumption Creek Sta 2 (view DS at weir)



Assumption Creek down stream of stilling basin



Assumption Creek 100 ft below Sta 2 (view US at structure)



Assumption Creek below Sta 2 along fen (view DS)



Assumption Creek 100 ft. below Sta 2 @ fen (view DS)



Assumption Creek 300 ft above Sta 3 (view DS)



Assumption Creek at Seminary Fen (View east from creek channel)



Assumption Creek iris in fen along Cr



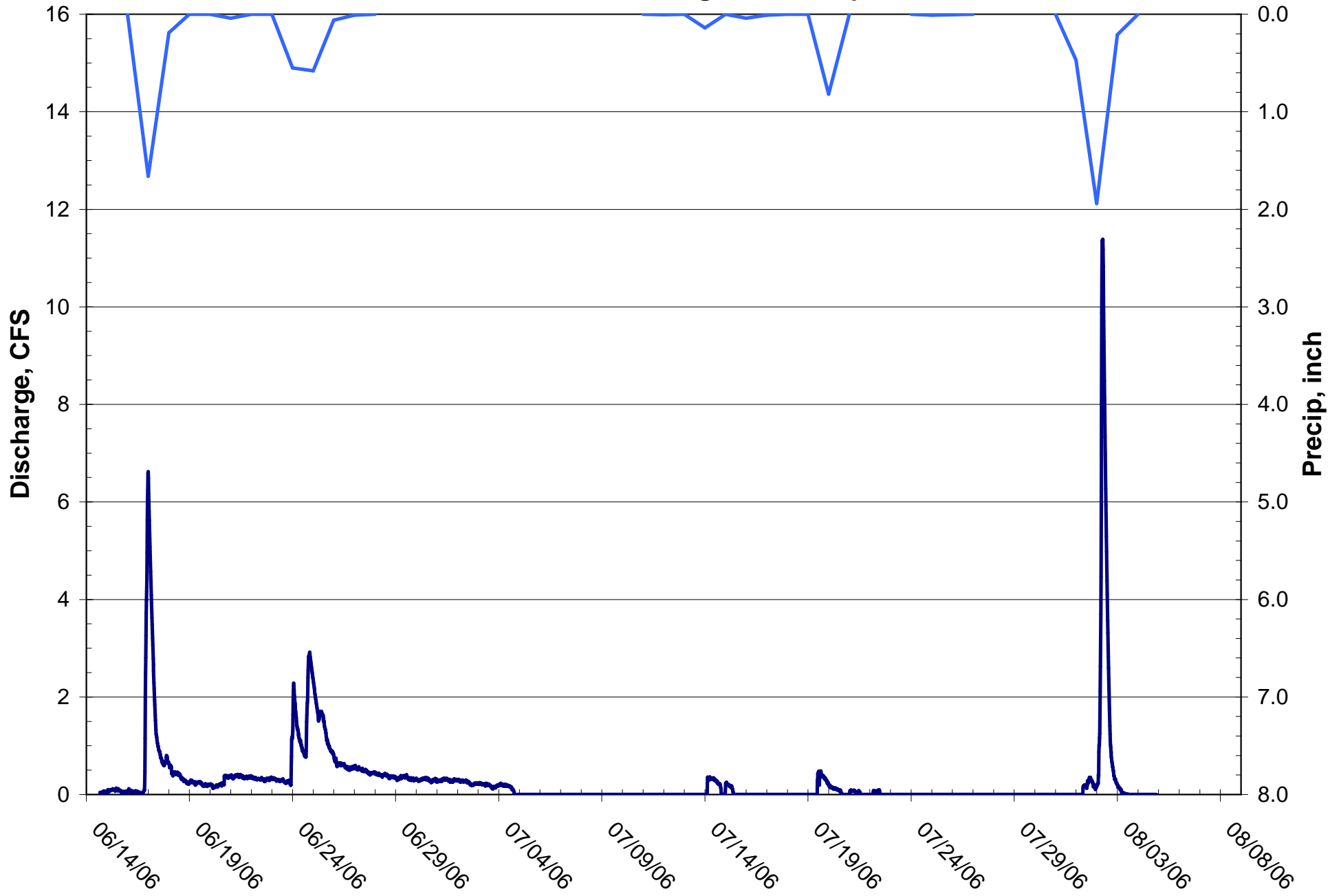
Assumption Creek Sta.3 Hwy 212 (view DS)



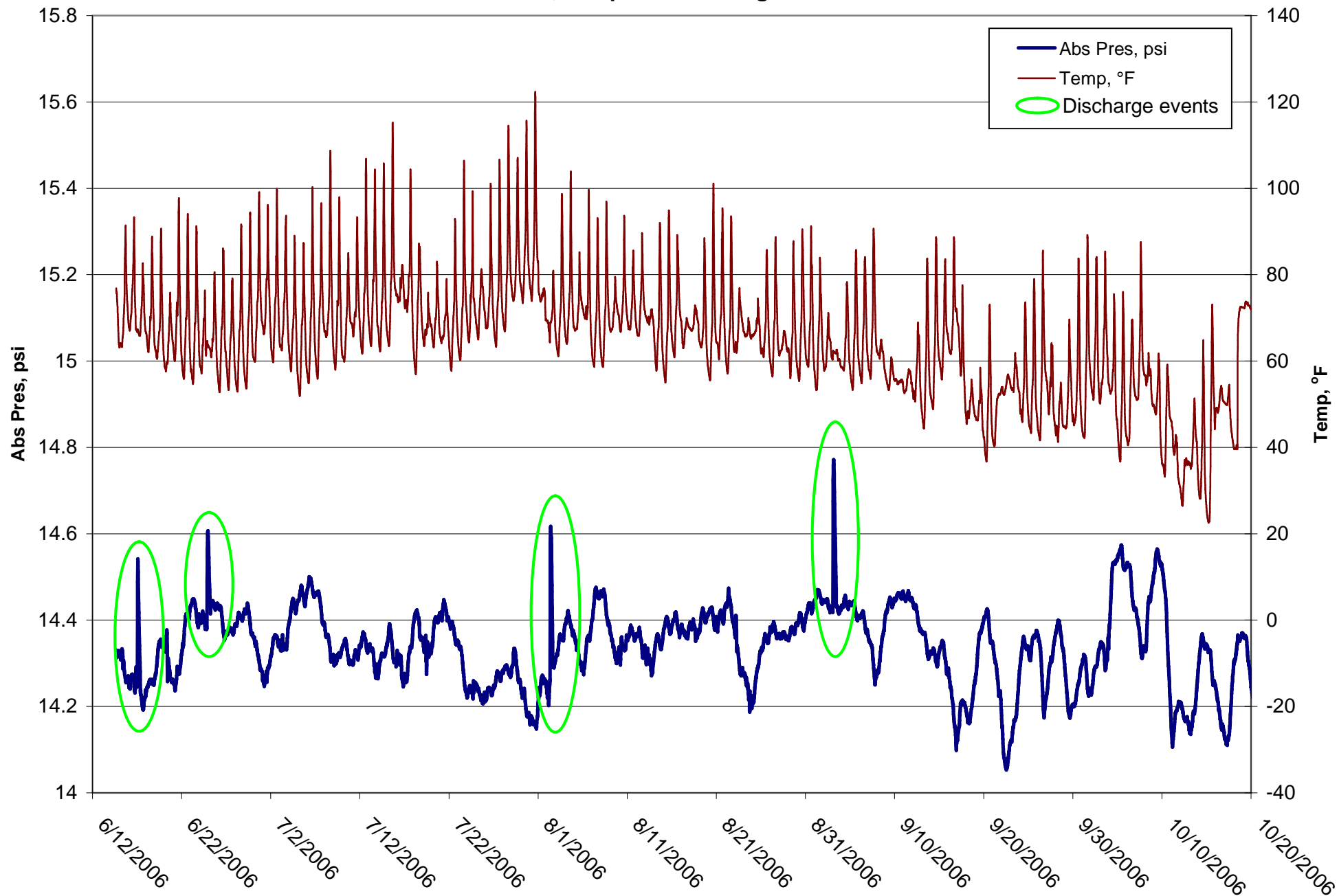
Assumption Creek Sta.3 Hwy 212



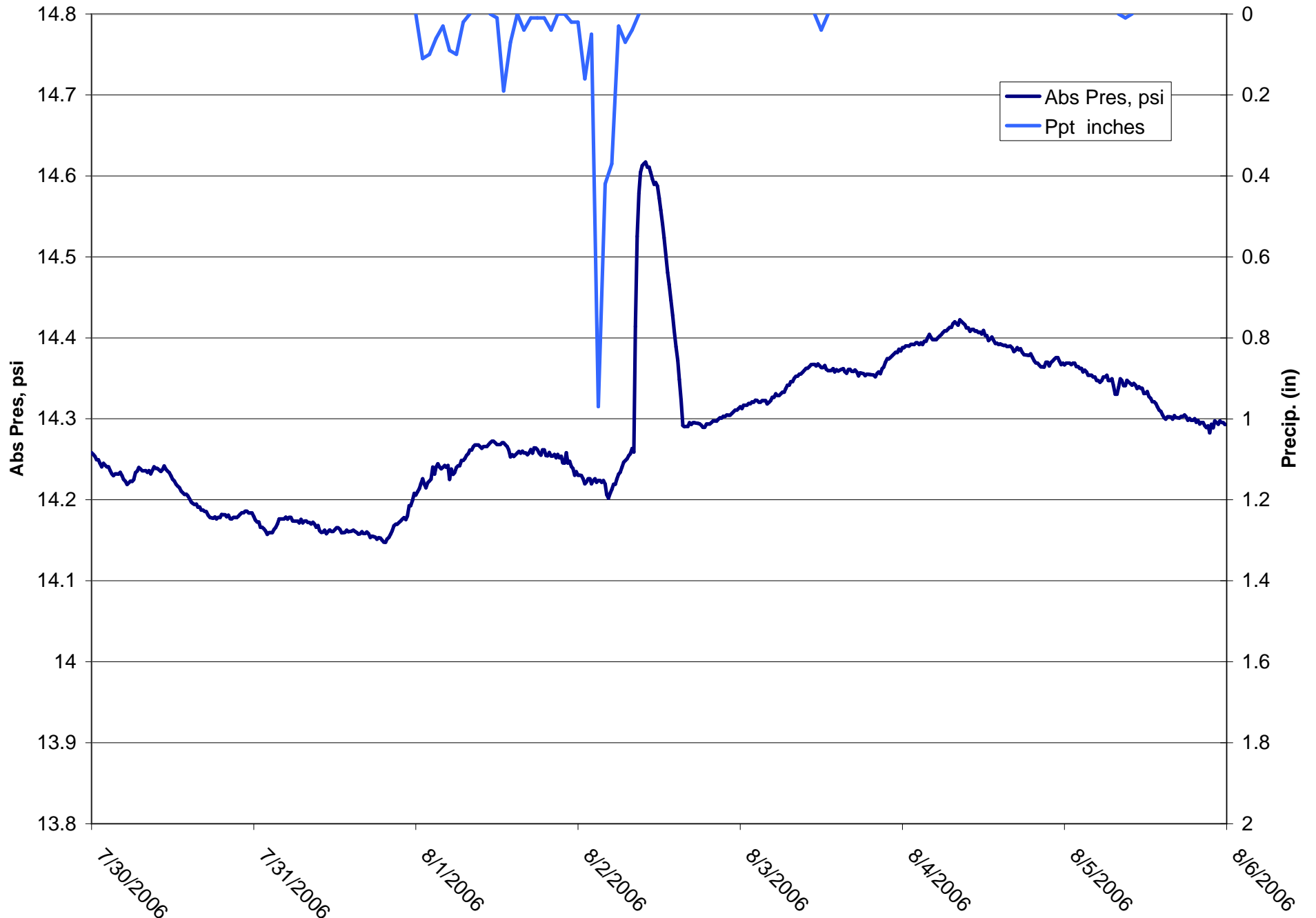
Assumption Creek
Station 1
Calibrated Discharge and Precip



Assumption Creek
Station 2
Press, Temp and Discharge Events



Assumption Creek
Station 2
Pressure and Precip



**Assumption Creek
Station 3
Calibrated Discharge and Precip**

