



## MEMORANDUM

TO: Nathan Pence  
FROM: Ed Oborny (BIO-WEST)  
DATE: **December 12, 2014**  
SUBJECT: EA HCP Biological Monitoring – **Week 35**

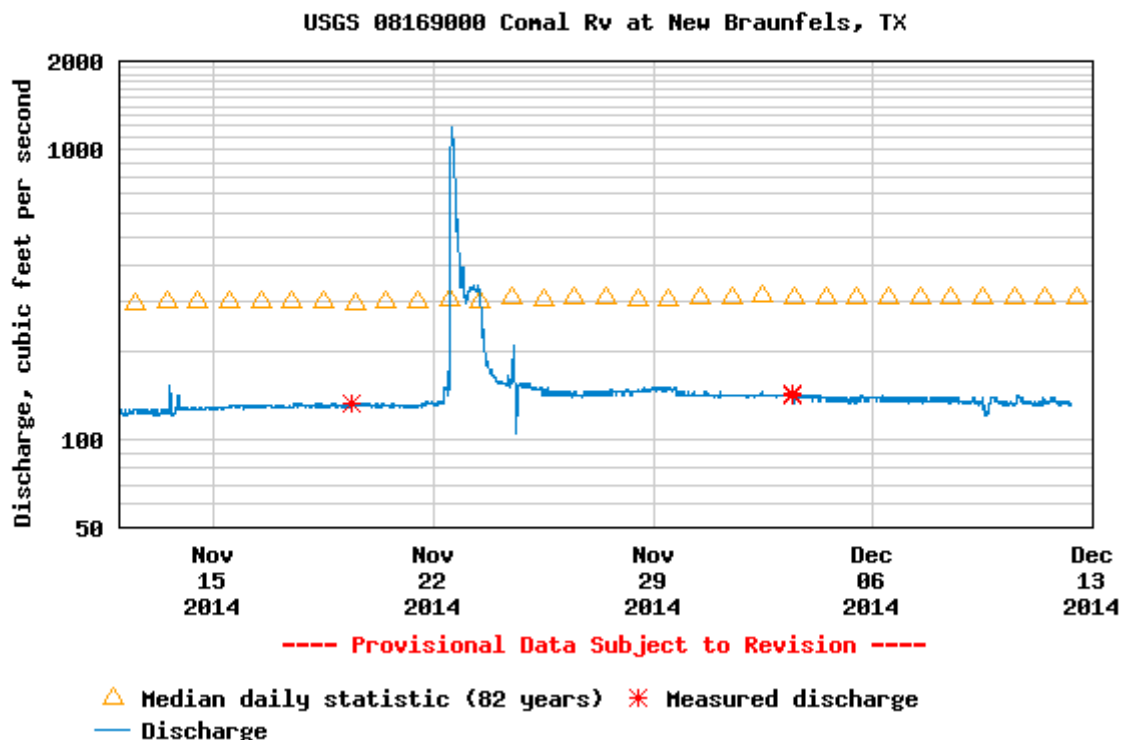
### BIOLOGICAL MONITORING UPDATES

#### COMAL SYSTEM:

The total system discharge at Comal Springs/River was 134 cfs this morning following another stable week (Figure 1). This week marks the 35<sup>th</sup> consecutive week for habitat evaluations and memorandums which will continue to occur until total system discharge at Comal Springs/River increases and consistently stays above 150 cfs.

#### Discharge, cubic feet per second

Most recent instantaneous value: 134 12-12-2014 06:45 CST



**Figure 1:** Screen shot of USGS webpage for the *COMAL* gage (08169000) showing total system discharge over the past 30 days.

#### SAN MARCOS SYSTEM:

The total system discharge for San Marcos Springs/River is approximately 123 cfs this morning. No Critical period sampling activities were conducted this week or are anticipated for next week.

### **COMAL SPRINGS/RIVER - WEEK 35 CONDITIONS:**

Weekly habitat observations and photo documentation associated with HCP biological monitoring were conducted on Thursday, December 11<sup>th</sup>. There were no sampling activities conducted this week as HCP species specific low-flow monitoring activities continue to be controlled by the <150 cfs trigger. Should conditions remain between 120 and 150 cfs, the next scheduled sampling activity will be aquatic vegetation mapping of the four study reaches and fountain darter presence/absence dip netting in January 2015.

**OBSERVATIONS AND ACTIVITIES:** Total system discharge was consistent this week (Figure 1) with an overall slight decline. Wetted surface area in each of the spring runs, western shoreline, and Spring Island areas remain similar to conditions experienced the past 30 days. Figure 2 shows a layer of sediment along the edge of Spring Run 3 that has persisted since the heavy rainfall event two weeks ago. However, as evident in Figure 2, the spring run is self cleaning with surface flow as you move outward from the bank at this particular location. The Upper Spring Run continues to be devoid of any bryophytes resulting in some of the most marginalized fountain darter habitat in the system at this time (Figure 3). Quality fountain darter habitat continues to persist in Landa Lake and the floating aquatic vegetation mats remain under control (Figure 4). As in all previous memos, the Old Channel continues to support high quality fountain darter habitat with restored native aquatic vegetation excelling (Figure 5) with New Channel fountain darter habitat remaining abundant as well.



**Figure 2:** Spring Run 3 sedimentation in headwaters area.





**Figure 3:** Upper Spring Run Reach – small patch of *Cabomba* is the only vegetation in the photo.



**Figure 4:** Floating aquatic vegetation mat condition in Landa Lake.



**Figure 5:** Old Channel restored native aquatic vegetation.

In summary, total system discharge and water level conditions were consistent with a very slow decline over the past week. Overall, endangered species habitat continues to be impacted for surface dwelling invertebrates in the spring runs, western shoreline and spring island areas while impacts to fountain darter habitat continue to be mostly restricted to areas in the upper system at this time.

Have a great weekend!

Ed