



MEMORANDUM

TO: Nathan Pence
FROM: Ed Oborny (BIO-WEST)
DATE: **December 26, 2014**
SUBJECT: EA HCP Biological Monitoring – **Week 37**

BIOLOGICAL MONITORING UPDATES

COMAL SYSTEM:

The total system discharge at Comal Springs/River was 136 cfs this morning following another stable week (Figure 1). This week marks the 37th 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: 136 12-26-2014 08:45 CST

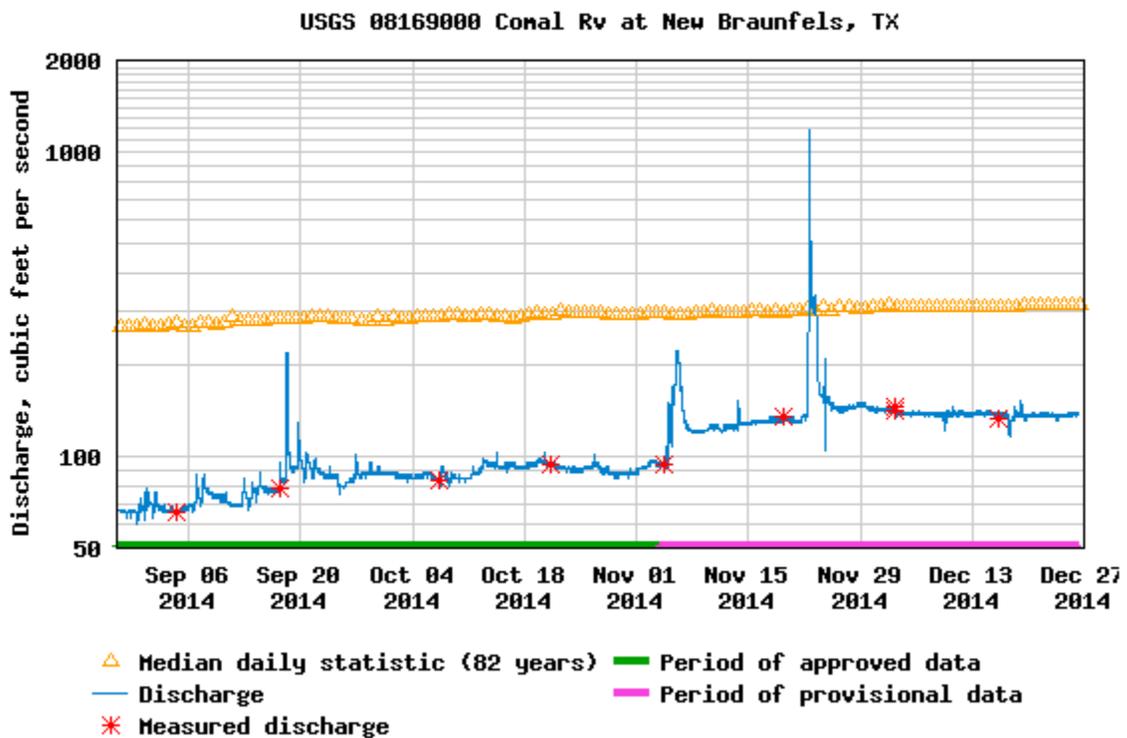


Figure 1: Screen shot of USGS webpage for the *COMAL* gage (08169000) showing total system discharge over the past four months.

SAN MARCOS SYSTEM:

The total system discharge for San Marcos Springs/River is approximately 116 cfs this morning. No Critical period sampling activities were conducted this week or are anticipated for next week.

COMAL SPRINGS/RIVER - WEEK 37 CONDITIONS:

Weekly habitat observations and photo documentation associated with HCP biological monitoring were conducted on Wednesday, December 24th. Day and night snorkel surveys were the only sampling activities performed this week. These surveys were conducted to test if fountain darters were still present in the Upper Spring Run reach. HCP species specific low-flow monitoring activities continue to be controlled by the <150 cfs level, which will trigger aquatic vegetation mapping of the four study reaches and fountain darter presence/absence dip netting in January 2015, should total system discharge persist in this range.

OBSERVATIONS AND ACTIVITIES: Total system discharge was consistent again this week with the overall increase since late August, followed by stable conditions the past month illustrated in Figure 1. Wetted surface area in each of the spring runs, western shoreline, and Spring Island areas remain similar to last week's observations. Figure 2 shows the wetted surface area currently present in Spring Run 1. 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. However, day and night snorkel surveys conducted this week documented that fountain darters are still occupying this reach. Surface habitat near Spring Island (Figure 3) remains similar to conditions observed over the past month with exposed substrate still evident. 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 in excellent shape. Additionally, New Channel fountain darter habitat remains abundant at this time.



Figure 2: Spring Run 1 wetted area with some charismatic megafauna guests on Christmas eve.

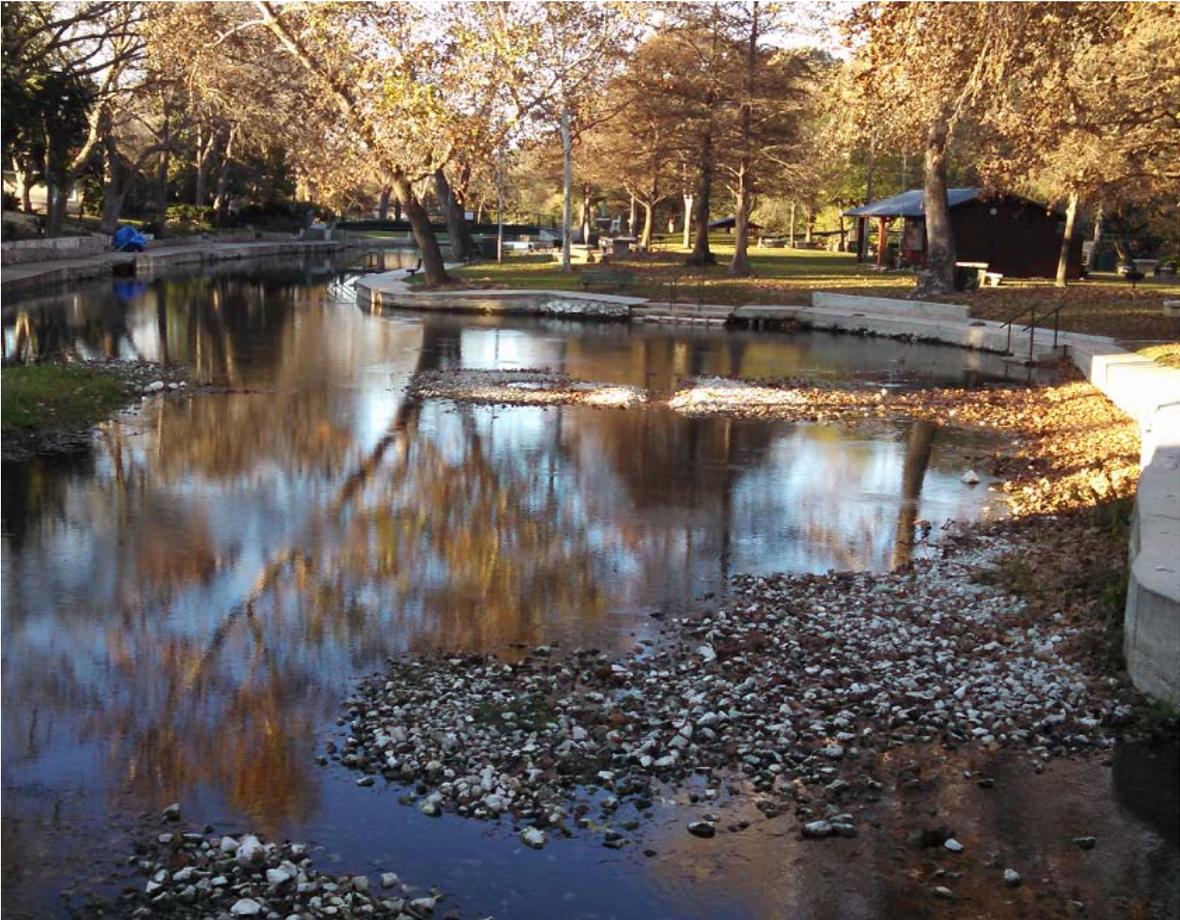


Figure 3: Eastern outfall of Spring Island



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

In summary, total system discharge and water level conditions were consistent with those reported last week. 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. It was cool to observe fountain darters still utilizing the Upper Spring Run reach after nearly 9 months of reach-specific discharge of <5cfs. Although encouraging, extended drought conditions into next summer with the accompanying declines in springflow continue to provide cause for concern as we embark upon 2015.

Have a blessed Christmas Season and Happy New Year!

Ed



Inflatable charismatic megafauna wishing you and yours a blessed Christmas season and Happy New Year!