MEMORANDUM

TO:	Nathan Pence
FROM:	Ed Oborny (BIO-WEST)
DATE:	**January 16, 2015**
SUBJECT:	EA HCP Biological Monitoring – **Week 40**

BIOLOGICAL MONITORING UPDATES

COMAL SYSTEM:

The total system discharge at Comal Springs/River was 141 cfs this morning following a slow steady increase this week (Figure 1). This week marks the 40th 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.

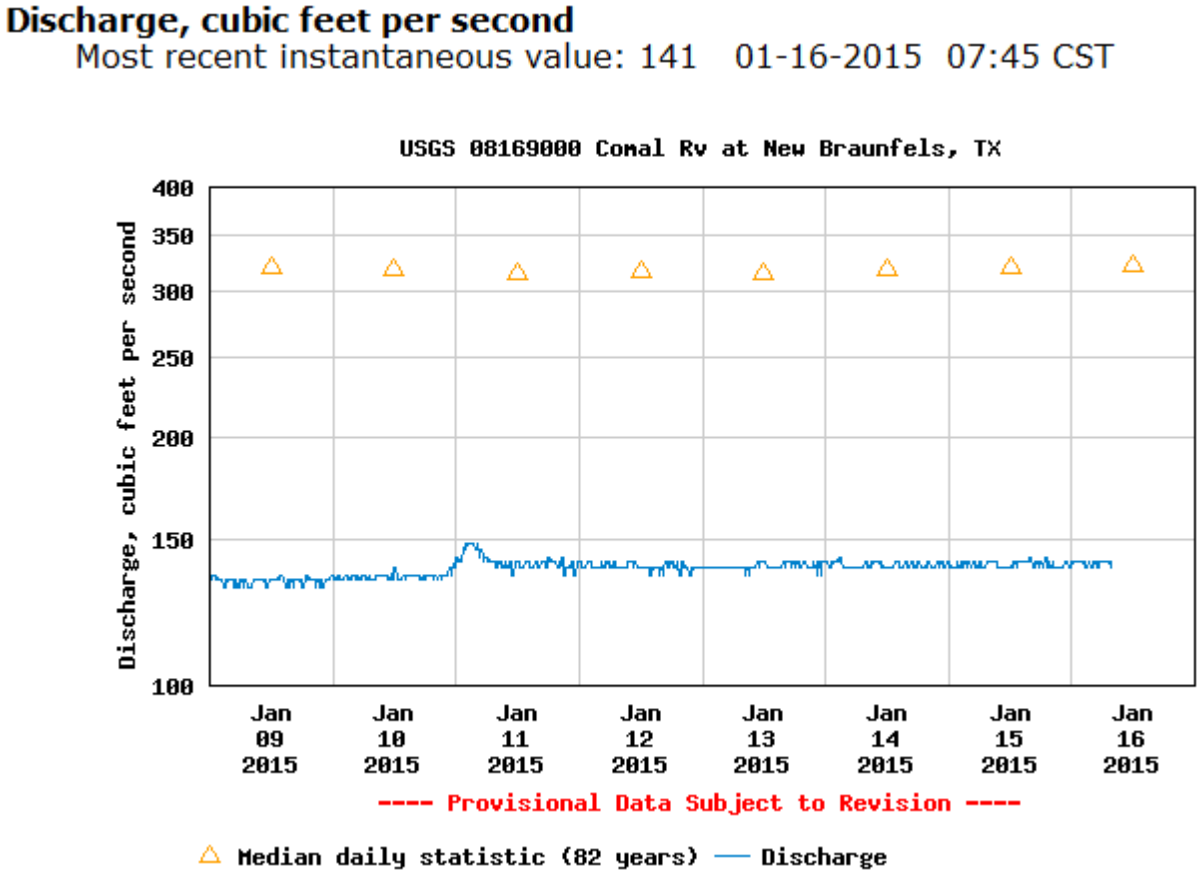

Figure 1: Screen shot of USGS webpage for the ***COMAL*** gage (08169000) showing total system discharge this past week.

SAN MARCOS SYSTEM:

The total system discharge for San Marcos Springs/River is approximately 120 cfs this morning. No Critical period sampling activities were conducted this week or are anticipated for next week.

COMAL SPRINGS/RIVER - WEEK 40 CONDITIONS:
Weekly habitat observations and photo documentation associated with HCP biological monitoring were conducted on Thursday, January 15th. HCP species specific low-flow monitoring activities continue to be controlled by the <150 cfs level, which has triggered aquatic vegetation mapping of the four study reaches and fountain darter presence/absence dip netting.

OBSERVATIONS AND ACTIVITIES: Total system discharge increased slightly over the course of the week which was evident in the reach specific flows and wetted surface area observed in the spring runs, western shoreline, and Spring Island areas. As of this week, Spring Run 1 supports a flowing channel for the entirety of the spring run within increased surface area from last week (Figure 2). In addition, the second main orifice in the Spring Run 1 headwaters was supporting surface flow this week (Figure 3). The Upper Spring Run continues to be devoid of any bryophytes while supporting reduced levels of aquatic macrophytes resulting in continued marginalized fountain darter habitat. However, fountain darters were collected in this reach by Texas State University researchers on Thursday, January 15th. Exposed surface habitat is still evident around Spring Island (Figure 4) but again improved this week. Quality fountain darter habitat continues to persist in Landa Lake and the floating aquatic vegetation mats remain under control. As in all previous memos, the Old Channel continues to support high quality fountain darter habitat via restored native aquatic vegetation (Figure 5). New Channel fountain darter habitat remains abundant again this week.

Figure 2: Spring Run 1 wetted channel extending downstream from headwaters area.

Figure 3: Spring Run 1 headwaters with surface flow from both main orifices.

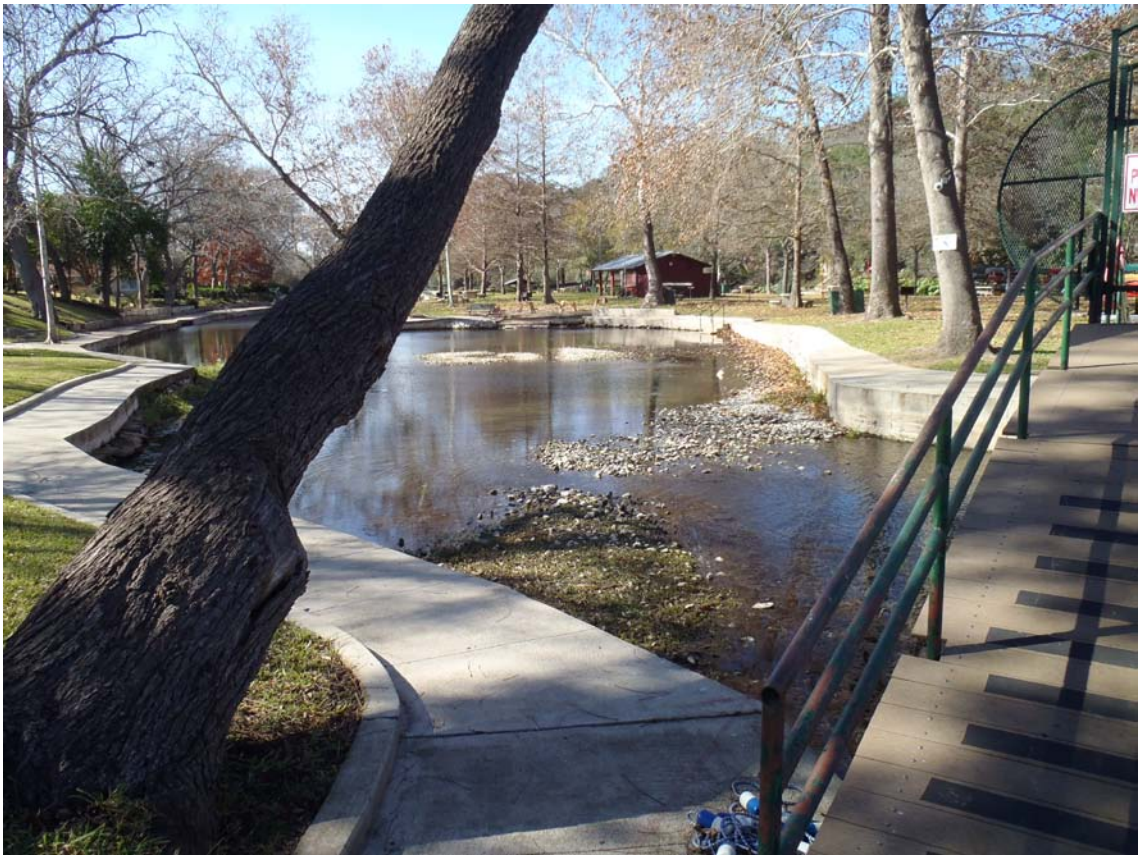

Figure 4: Exposed substrate and covered species habitat in the eastern outfall of Spring Island.

Figure 5: Restored native aquatic vegetation in former Sediment Island footprint in the Old Channel.

In summary, water level conditions and wetted surface habitat were slightly improved this week as total system discharge gradually increased. However, similar to the past 9 months, endangered species habitat continues to be impacted for surface dwelling invertebrates in the spring runs, western shoreline and spring island areas. Impacts to fountain darter habitat are mostly restricted to areas in the upper system but darters were verified this week as still inhabiting this reach. Floating aquatic vegetation mats in Landa Lake remain under control with quality fountain darter habitat in both Landa Lake and the New Channel. Restored areas in the Old Channel continue to provide the highest quality fountain darter habitat at this time.

Cheers!

Ed