City of New Braunfels

MEMO

TO: **Nathan Pence**
FROM: **Robert Camareno and Steve Ramsey**
DATE: **May 2, 2014**
RE: **EAHCP Project Procedures during Flows<130 cfs Variance Request**

Section M of the Incidental Take Permit for the Edwards Aquifer Habitat Conservation Plan (EAHCP) states that the City of New Braunfels (CONB) will suspend activities that may result in disturbance of the substrate, water quality, plants, animals and invertebrates of the Comal Springs Landa Lake and the Old Channel when flows decline to 130 cubic feet per second (cfs) or lower.

Flows in the Comal Springs, according to the USGS statistics for May 2, were 129 cfs.

However, litter collection and floating vegetation management (EAHCP § 5.2.10) have continued. The HCP identifies this as an important measure in response to drought.
"To minimize and mitigate the impacts of recreation and pumping during low flow periods, the City of New Braunfels will clean litter and debris from and manage floating vegetation in the Comal Springs, Landa Lake, and Old and New Channels of the Comal River. Litter and debris collection both flood-related and routine, will utilize self-contained underwater breathing apparatus (SCUBA). Debris removal also includes the removal of litter from floating vegetation mats before dislodging the vegetation mat and allowing it to continue downstream. Vegetation mats shade out native vegetation and create die off of vegetation if the mats are allowed to collect and grow in size. By dislodging the floating vegetation mats, fountain darter habitat is maintained and protected" - **(EAHCP 5.2.10)**

In January 2013, the Implementing Committee requested that a group of resident experts and contractors (Ed Oborny (Bio-West), Dr. Thom Hardy (Texas State University), TPWD, etc...) be convened specifically to address the question of which activities permitted under the EAHCP might need to be suspended under drought conditions and at what flow rates any actions would be stopped. The unanimous consensus of the experts for the New Braunfels system was that, given the nature, work location, small areas, and approved techniques of the EAHCP projects, they should be able to continue over spring flow rates as low as ~90cfs without significant impact.

The CONB is not requesting a variance on the HCP projects listed below due to no direct interaction with the water and/or associated endangered species habitat.

5.2.3 Management of Public Recreation
Performance Measure: Inform local business/outfitters of the benefits to their businesses from participating in the Certificate of Inclusion (COI) program and initiation of the program. Continue to recruit any Outfitters that are associated with the City of New Braunfels and the Comal River.

5.2.7 Prohibition of Hazardous Materials Transport Across the Comal River and Its Tributaries
Performance Measure: Expanding the existing process of identification of smaller roadways and alternate routes that cross the Comal River and its tributaries. These routes pose an eventual threat to the endangered species and the need for refinement to the existing Hazardous Material prohibition transport plan, will provide safer transport across the Comal River and its tributaries.

5.2.11 Golf Course Management and Planning
Performance Measure: Continue to implement the existing Integrated Pest Management Plan (IPMP) using continual Public Input process.

5.7.5 Management of Household Hazardous Wastes
Performance Measure: Continued implementation of increased public outreach and education in addition to drop off events.

5.7.6 Impervious Cover/Water Quality Protection/LID
Performance Measure: Implementation of the program and strategy in conjunction with current MS4 process underway in the City of New Braunfels to incorporate a funded LID and impervious rebate/incentive and education program.

Flows in the Comal Springs, according to the USGS statistics for May 2, were 129 cfs. As of May 2, all of the below listed activities were suspended.

The CONB does request a variance from the requirement for cessation of activities as stated in Section M of the ITP for the following:

5.2.1 Flow split management

Culvert and Gate Repair:

This project is very important to overall system water management, especially during drought. This project is recommended to continue as it is a priority tool in maintaining the Old Channel habitat to stay in good condition. To achieve this, the **culvert and** gate repairs should continue to proceed with all due haste, to ensure that minimal flow in the Old Channel is maintained to protect the habitat.

Flow-split management is intended to compliment the ecological restoration of native aquatic vegetation in the Old Channel, by reducing long-duration high flows, meeting flow split management targets

specified in the HCP –Table 5.3; and by allowing for more seasonal variability in the flow regime that mimics a more natural flow pattern. Presently, the culverts governing flow from Landa Lake into the Old Channel are inoperable, but currently under repair. When construction is allowed to proceed and infrastructure is fully installed and operational, a flow regime in the Old Channel will be implemented consistent with Table 5.3, to provide maximum benefit to the newly established Fountain Darter habitat. CONB requests that a variance be issued until the project is completed. Approximately 4 more weeks of is needed for final completion.

TABLE 5-3
FLOW-SPLIT MANAGEMENT FOR OLD AND NEW CHANNELS

Total Comal Springflow (cfs)	Old Channel (cfs)		New Channel (cfs)	
	Fall, Winter	Spring, Summer	Fall, Winter	Spring, Summer
350+	80	60	270+	290+
300	80	60	220	240
250	80	60	170	190
200	70	60	130	140
150	60		90	
100	60		40	
80	50		30	
70	50		20	
60	40		20	
50	40		10	
40	30		10	
30	20		10	

5.2.2.1 Old Channel Restoration / 5.2.2.2/5.2.2.3 Comal River Aquatic Vegetation Restoration

These activities by design are to be non-intrusive in that only small sections adjacent to native vegetation will have non-native plant removal. This activity does not dislodge undue amounts of sediment given the small areas involved. These activities do not result in disturbance of native vegetation or of endangered species and/or habitat. The protocol also ensures that fountain darters and other organisms are removed from the vegetation being targeted for removal.

Our experience in 2013 & 2014 indicated that plant removal was more effective and less intrusive during low flows due to reduced velocity and water depth. Additionally, non-native plant growth will continue during drought thus jeopardizing gains made thus far in 2013 & 2014. However, as a result of decreasing river depth, more areas of the river are accessible than during average flows.

In 2013, this activity was continued down to flows levels of 90 cfs and monitoring indicated no quantitative or qualitative impacts on any listed species, thus no increased take resulting from this activity during flows down to 90 cfs.

We propose to continue through December 31, 2014 unless monitoring of field conditions indicates negative impacts on listed species and their habitat.

In the event that CONB or the professional biologists performing the HCP work or the BioMonitoring that is being performed (Edwards Aquifer Authority) determine that undue or unusual stress is being placed on the habitat or the species, the HCP work will stop and will not resume until flows again reach ≤130 cfs for the Comal system.

5.2.4 Decaying Vegetation Removal and Dissolved Oxygen Management

These activities by design are to be non-intrusive in that only small sections adjacent to native vegetation will have non-native plant removal. This activity does not dislodge undue amounts of sediment given the small areas involved. These activities do not result in disturbance of native vegetation or of endangered species and/or habitat. The protocol also ensures that fountain darters and other organisms are removed from the vegetation being targeted for removal.

To minimize and mitigate the impact of incidental take from low-flow events, based on real time monitoring of dissolved oxygen (DO) levels in Landa Lake indicating a water quality concern created by decaying vegetation, the City of New Braunfels would like to continue to manage the DO management program. The program will be focused on ensuring adequate DO levels for the ecosystem especially during times of low flows.

We propose to continue through December 31, 2014 unless monitoring of field conditions indicates negative impacts on listed species and their habitat.

In the event that CONB or the professional biologists performing the HCP work or the BioMonitoring that is being performed (Edwards Aquifer Authority) determine that undue or unusual stress is being placed on the habitat or the species, the HCP work will stop and will not resume until flows again reach ≤130 cfs for the Comal system.

5.2.6/6.3.6 Monitoring and Reduction of Gill Parasites

This activity does not dislodge undue amounts of sediment given the small areas involved. These activities do not result in disturbance of native vegetation or of endangered species and/or habitat.

It is anticipated that the only water interaction during low flows are the Water column cercarial concentration sampling. A total of 10 samples will be targeted at each cross section unless complex hydraulics suggests a higher spatial sampling. Sampling will proceed from downstream to upstream reaches. Samples will be collected between 9 and 11 am on sunny days to minimize temporal variance in the sampling.

Cercarial concentrations will be monitored more frequently when spring flow declines below 100 cfs or other springflow triggers that are developed

We propose to continue through December 31, 2014 unless monitoring of field conditions indicates negative impacts on listed species and their habitat.

In the event that CONB or the professional biologists performing the HCP work or the BioMonitoring that is being performed (Edwards Aquifer Authority) determine that undue or unusual stress is being placed on the habitat or the species, the HCP work will stop and will not resume until flows again reach ≤130 cfs for the Comal system.

5.2.8 Native Riparian Habitat Restoration (Comal Springs Riffle Beetle)

This activity does not dislodge undue amounts of sediment given the small areas involved. These activities do not result in disturbance of native vegetation or of endangered species and/or habitat in the water.

CONB would like to continue restoration of native riparian zones, where appropriate, to benefit the Comal Springs riffle beetle by increasing the amount of usable habitat and food sources (i.e., root structures and associated biofilms). The method of riparian zone establishment will include the removal of non-native vegetation and replanting of native vegetation representative of a healthy, functioning riparian zone. At no time will any work be done within the water / spring run 3 region.

We propose to continue through December 31, 2014 unless monitoring of field conditions indicates negative impacts on listed species and their habitat.

In the event that CONB or the professional biologists performing the HCP work or the BioMonitoring that is being performed (Edwards Aquifer Authority) determine that undue or unusual stress is being placed on the habitat or the species, the HCP work will stop and will not resume until flows again reach ≤130 cfs for the Comal system.

5.7.1 Native Riparian Habitat Restoration

The City of New Braunfels will continue on final design of this project, as it is in it's final phase of design. However, all work / activities will be suspended until Spring flows are above 130 cfs . A riparian restoration program to enhance the riparian zone along the Old Channel and the perimeter of the golf course is being developed currently but will not be implemented until Spring flows rise above 130 cfs.

5.3.9/5.4.13 Non-native Species Control

This activity does not dislodge undue amounts of sediment given the small areas involved. These activities do not result in disturbance of native vegetation or of endangered species and/or habitat. The protocol also ensures that fountain darters and other organisms that are native to the Comal system are removed from the netting and/or any vegetation that are removed for this HCP activity.

This activity primarily utilizes spearing and netting targeted at non-native species, and does not result in significant suspension of sediment, disturbance to aquatic vegetation or other animals within the river. However, this activity will be modified during drought (flows less than 130 cfs) to occur only in small sections of Landa Lake which is not impacted by current flow conditions.

We propose to continue through December 31, 2014 unless monitoring of field conditions indicates negative impacts on listed species and their habitat.

In the event that CONB or the professional biologists performing the HCP work or the BioMonitoring that is being performed (Edwards Aquifer Authority) determine that undue or unusual stress is being placed on the habitat or the species, the HCP work will stop and will not resume until flows again reach ≤130 cfs for the Comal system.

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