

Dunn, David

From: Melissa Mullins [Melissa.Mullins@tpwd.state.tx.us]
Sent: Monday, November 29, 2004 10:12 AM
To: Dunn, David
Cc: 'teclark@Brazos.org'
Subject: suggestions for WQ parameters

Hi David and Teresa

Hopefully this is what David was after. It is highly likely that TPWD will not have representation at the December 8th meeting. Feel free to share this information with the RWPG as you see fit; it is my understanding that Teresa left an agenda item where it would be possible to do so.

TPWD water quality staff have reviewed the information regarding proposed key water quality parameters presented by HDR at the October Brazos G RWPG meeting and offer the following comments for your consideration.

The list covers many basic water quality parameters that could be of concern in the Brazos for designated uses. The only other parameters that staff suggest you consider adding are: Total Suspended Solids (TSS) and additional nutrient parameters such as Orthophosphorous (OP) or Chlorophyll a (Chl a). We also suggest that you consider not limiting collection of nutrient parameters to only the North Bosque watershed.

Rationale for these suggestions is as follows. Although there is currently no numeric surface water standard for TSS, there are narrative criteria which encompass it. Probably most applicable for the RWPG is "Surface waters shall be essentially free of settleable solids conducive to changes in flow characteristics of stream channels or the untimely filling of reservoirs, lakes, and bays." Total Dissolved Solids (TDS) ("filterable residue") is appropriately included in the list of key parameters. TSS (non-filterable residue) might be additional "free" or very economical data since the water has to be filtered to determine TDS, and the TSS is what is left behind.

Like TSS, there are currently no numeric standards for nutrients, although narrative criteria exist. Total phosphorous, Total nitrogen, and others listed are appropriate parameters to look at. OP can also be a valuable measurement because it more accurately accounts for phosphorous directly used by algae. The TCEQ is in the process of developing numeric criteria for nutrients as required by the EPA, and it is highly likely that a "biological response variable", most likely Chl a, will be part of the criteria. Elevated levels of Chl a can be one indicator of excessive algal growth, which can be caused by nutrient enrichment.

The TCEQ's draft 2004 water quality inventory lists numerous water bodies around the state, including many in the Brazos basin, for concerns due to nutrient enrichment or excessive algal growth. This indicates that this issue is not limited to the North Bosque watershed. It might be a good idea to identify such concerns relative to recommended water management plans for other sites as well.

Please contact me with any questions or concerns.

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