



October 10, 2006

**EFAC Chairman and Members**

c/o Barney N. Austin  
Texas Water Development Board  
1700 North Congress Ave.  
Austin, TX 78711  
Sent via: barney.austin@twdb.state.tx.us

**Re: "Groundwater flows"  
"Interim" adaptive management**

Dear Chairman Pittman and Committee Members:

As the work of the committee is coming to completion there are two topics that I would like to see considered.

1. The first relates to clarification of terms – Are environmental flows from aquifers into rivers and streams by way of springs, seeps and other flows (known in hydrology as “lateral” and “vertical flows”) adequately specified as being included in “environmental flows” or should they be separately indicated as “groundwater flows”? It does not seem appropriate that these flows are contemplated as a part of “instream flows” since they are flows between groundwaters and surface waters. As such, should the definition of “Environmental flow analysis” include a term such as “groundwater flows”? Should the definition of “Environmental flow” include “... watershed or aquifer, ...”? I am especially concerned the impact that over pumping and/or mining of aquifers might have on flows into river basins. These are natural flows that need to be protected along with other environmental flows yet they seem not to be clearly contemplated.

Though these are concepts that are recognized in such documents as Texas Instream Flow Studies: Technical Overview, May 22, 2006 Draft, it is not clear that they have been adequately recognized in the legislation that is being crafted. For example the following proposed amendments to Texas Water Code: Article 1, Section 1.04 (15) and (16) might be revised as follows:

(15) "Environmental flow analysis" means the application of a scientifically derived process for predicting the response of an ecosystem to changes in **groundwater flows**, instream flows or freshwater inflows.

(16) "Environmental flow regime" means a schedule of flow quantities that reflects seasonal and yearly fluctuations that typically would vary geographically, by specific location in a watershed **or aquifer**, and that are shown to be adequate to support a sound ecological environment and to maintain the productivity, extent, and persistence of key aquatic habitats in and along the affected water bodies.

2. My second concern is that “interim” adaptive management be encouraged prior to deadlines set by this proposed legislation; 2010, 2016 and later. Though recommendation 20 contemplates adaptive management in the future (mostly after the above dates are effective) it should be extended to address the interim period.

The state of Texas, through its agencies, has been conducting sound scientific studies on many aspects of our basins, bays, and estuaries that need to be incorporated into management practices before damage is done or while it can be mitigated. An example in my region is the “Matagorda Bay Freshwater Inflow Needs Study” (MBFINS) completed by the LCRA, TPWD, TCEQ and TWDB in July 2006.

**STEVE.BOX@ATT.NET**  
414-A LINDEN STREET  
BASTROP, TX 78602  
512-300-6609

To quote the study: “The primary purpose of this study is to reassess the freshwater inflow needs for Matagorda Bay based on more than eight years of new data collected since the completion of the 1997 Freshwater Inflow Needs Study. The earlier study was based on five years of data collected after the U.S. Army Corps of Engineers (USACE) opened a diversion channel in 1991 from the Colorado River into Matagorda Bay to increase freshwater inflows entering into the bay. The current study also reviews and modifies some of the 1997 study methodologies and assumptions. **The results of this study indicate that higher freshwater inflows are needed to achieve the Target and Critical inflow needs than indicated in the 1997 study. This is largely due to the availability of additional, more variable data collected over a longer period of time**” “Based on additional data and analysis, Critical inflow needs for the Colorado River increase from 14,260 acre-feet of water per month to 36,000 acre-feet of water per month over those calculated in the 1997 study” (MBFINS - emphasis added).

The LCRA Water Management Plan provides that: “Bays and estuary needs will be met by releasing monthly storable inflows otherwise available for storage in Lakes Buchanan and Travis to meet target inflow needs of 1.03 million acre-feet per year if January 1 storage level in Lakes Buchanan and Travis combined is greater than 1.7 million acre-feet. Critical inflow needs of 171,120 acre-feet per year will be met in all years with releases of monthly storable inflows otherwise available for storage in Lakes Buchanan and Travis” (LCRA 2003 Water Management Plan).

The latest recommendation of three agencies and the river authority indicate that **an additional 260, 880 acre-feet per year is need to meet CRITICAL freshwater inflow needs of Matagorda Bay** (432,000 acre-feet per year – 171,200 acre-feet per year = 260,880 acre-feet per year).

This situation is made more urgent by the fact that the above cited LCRA 2003 Water Management Plan has not yet been accepted by TCEQ. If the 2003 is adopted without incorporating the new flow requirements recommended by these Texas State agencies it will be many more years before the bay gets the freshwater inflows needed to maintain a sound ecological environment. **The latest recommended freshwater inflows need to be immediately incorporated into the LCRA Water Management Plan and approved by TCEQ in order to mitigate further damage to Matagorda Bay.**

As such, I strongly encourage the members of this committee to pass a recommendation that would encourage or direct agencies and river authorities to take such “interim” adaptive management as are necessary to preserve, protect, and enhance environmental flows. In this way the good work of the committee and the legislature can immediately start making a positive difference in protecting and managing our valuable water resources to the mutual benefit of the citizens of this state and the environment that sustains them.

Sincerely,



Steve Box  
Environmental Steward  
Bastrop, Texas

