

MEETING SUMMARY
NATURAL RESOURCES ADVISORY COMMITTEE
May 6, 2010

The May 6th meeting of the Natural Resources Advisory Committee was held in the Houston-Galveston Area Council Conference Room A at 3555 Timmons Lane, Houston, Texas. The meeting began at 1:39 PM. Chairman Dennis Caputo presided.

NRAC voting members present (19):

Glenda Callaway	Jim Kachtick	Brian Shmaefsky
Dennis Caputo	Brett Kolaja	Mike Talbott
Marilyn Christian	Sarah Metzger	Lori Traweek
Leroy Dettling	Jack Miller	Kerry Whelan
Ron Drachenberg	John O'Connell	Pudge Willcox
Nicole Hausler	Ronald Schultz	
David Hubenak	Linda Shead	

NRAC voting members not present (15):

Bill Bandiga (resigned)	Jim Dannenbaum	Carole Lamont
Patrick Buzbee	Reed Eichelberger	Cathy McCoy
Jeff Brennan	Andy Icken	Tom Northrup
Jamie Brewster	Andrew Isbell	Ellis Pickett
Kathy Burris	Jim Joyce	Orval Rhoads

Patrick Buzbee delegated Mike Lindsay. James Dannenbaum delegated Larry Marr. Carole Lamont delegated Alisa Max. Delegated representatives can vote on Committee business; non-delegated representatives count toward quorum but cannot vote.

Current Vacancies:

Environmental Groups (1)

NRAC advisory member (0)

H-GAC Staff Present (7):

Carl Masterson, Jeff Taebel, Rachel Powers, Erin Livingston, Todd Running, Aubin Phillips, Justin Bower

Others Present:

Kay Willcox (citizen, Chambers County); Ruben Martinez (Montgomery County)

Welcome and Introductions

Dennis Caputo welcomed those present and initiated self-introductions.

Certify Quorum

Carl Masterson confirmed a quorum via roll call.

Approve Meeting Report

On a motion from Linda Shead and a second from David Hubenak, the February 4 meeting notes, with typographical corrections, were approved.

Membership

Carl explained that the entire committee is up for review in June. He requested that members confirm that they are to remain the representatives of their agencies.

Bill Bandiga of Galveston County has resigned.

Subcommittees

Parks & Natural Areas

Linda Shead reported that attendance has been excellent, in part due to excellent speaker topics. She distributed copies of and reviewed the annual plan that the subcommittee approved at its April meeting. The award program is being continued. She highlighted an action item to identify best practices contained in the award applications that H-GAC has received. The subcommittee plans to continue collecting and maintaining GIS data for parks in the region, for the purpose of supporting park planning efforts of local governments.

Q: Do other COGs provide lists of best practices?

A: Not that anyone was aware.

Q: Could parks master plans be included on the GIS?

A: Master plans approved by TPWD will be posted on the Parks and Natural Areas page of the H-GAC website, even if the master plans are not included in the GIS.

On a motion from Sarah Metzger and a second from Ron Drachenberg, the motion to approve the annual plan of the subcommittee was passed.

Topics of the Day

Dennis Caputo introduced the speakers.

Ms. Kathy Jones, general manager from the Lone Star Groundwater Conservation District.

Kathy Jones explained that her presentation would first describe groundwater districts in general, and then Lone Star Groundwater Conservation District and what is going on in Montgomery County.

Groundwater Conservation Districts 101

Communities have identified a need to play an active role in managing groundwater resources. The rights of property owners must be balanced with the management of groundwater resources. For this reason, they have formed groundwater conservation districts, or GCDs.

Groundwater rights in Texas are regulated by the rule of capture. Texas allows several exceptions to the rule of capture. The Texas legislature, through Chapter 36, established GCDs to manage the rule of capture and the exceptions to the rule within a district. Many districts, including Lone Star, are for a single county. For the most part, districts are created by legislation. They are located throughout Texas. In the 13-county H-GAC region, six GCDs and two subsidence districts (which are similar to GCDs in many ways) manage groundwater for all but two counties (Liberty and Chambers).

Each GCD is governed by a board of directors. In Montgomery County, the board of the district is appointed. It generates funds through ad valorem taxes, well production fees, and administrative fees, grants, and bonds.

GCDs engage in a number of activities to manage groundwater, some of which are required by Chapter 36, including the following:

- Develop and implement comprehensive management plan and rules
- Well Registration and Permitting
- Well Construction Standards
- Spacing Regulations
- Reporting and Record Keeping
- Production Limits
- Groundwater monitoring
- Enforcement through civil penalties & injunctive relief

Lone Star GCD and Montgomery County

The 77th Legislature authorized LSGCD in 2001 by HB 2362. It is responsible for managing groundwater in all of Montgomery County. It is also responsible for controlling land subsidence.

Primary concerns are overpumping and depleting of aquifers, particularly the Gulf Coast Aquifer System. The Gulf Coast Aquifer consists of three sand levels: Chicot Aquifer, Evangeline Aquifer, and Jasper Aquifer. The Chicot and Evangeline aquifer have some of their recharge

areas in Montgomery County. Most water is withdrawn from the Evangeline and Jasper aquifers. Five main areas account for 80% of water that is withdrawn by wells from the aquifer.

Currently, all water (about 64,000 acre feet per year) is supplied by groundwater. Water demand is expected to exceed water availability by 2035, with an expected shortage of 90,000 acre feet per year in 2040. Based on recharge requirements, the GCD is already overdrawing the aquifers by about 16,000 acre feet in year 2008. That number may be even larger in 2010.

Since its creation in 2001, the District has invested almost \$2M in studies to understand the nature and resources of the Gulf Coast Aquifer system. Based on these studies, the District developed Phase I of its "Regulatory Plan to Conserve Groundwater." This 2006 report put well permittees on notice that the district will put a limit on groundwater pumpage in the future. These limitations will begin in 2015. The focus of the regulation is targeted to public water supply entities and industrial and commercial water suppliers who represent some 80% of water pumped in the county.

In response to an apparent lack of attention and planning by permit holders, the District developed its "Phase II (a) Regulatory Plan." This document specifies documentation requirements and penalties for noncompliance. Furthermore, the plan looks more closely at individual wells, particularly wells which pump over 10 million gallons per year. Each large volume user must show how it will limit its future water use to no more than 70% of overall water supply. It includes neither single-family residences nor agricultural users. Potential strategies include reuse and conservation.

Phase II (b) was adopted to achieve sustainability of the Gulf Coast Aquifer by reducing groundwater dependency within the county. Phase II (b) delays the conversion from 2015 to 2016. The plan requires each large water user to reduce its production by 2016 to 70% of its Total Qualifying Demand, which is the volume it was authorized by permit to withdraw in 2009.

To meet this requirement, each large volume groundwater user (LVGU) must develop a Groundwater Reduction Plan (GRP). An intent to submit a GRP must be submitted by August 2, 2010. To make requirements more practical, multiple LVGUs may partner to develop a joint GRP. A civil penalty of up to \$10,000 per day may be assessed for each violation. A disincentive fee of four dollars per 1,000 gallons will also be charged for production of excess groundwater. The District encourages conservation as a means to meet new limits.

Q: How are recharge areas protected from contamination? For example, the Bell Road Superfund Site in Harris County was contaminating drinking water supplies.

A: The District has not focused its efforts on this issue. There is no indication that this should be a concern at this time.

Q: What surface water options are available to replace groundwater?

A: Lake Conroe was developed as a water source. San Jacinto River Authority manages the lake. Water from the lake may be purchased.

Q: You mentioned a shortage of 16,000 acre feet of groundwater. Will the limits alleviate that shortage?

A: Over a short time, the aquifer is able to sustain excess withdrawals. Overpumping is occurring now, but it is short-term.

Q: Is there sufficient surface water to make up for restrictions?

A: At this time, yes.

Q: What is the difference between GCDs and subsidence districts?

A: Carl introduced Tom Michel to explain.

Mr. Tom Michel, Harris-Galveston Subsidence District and the Fort Bend Subsidence District

Tom highlighted the fact there are adequate sources of water right now, including water reuse. We have not yet gotten serious about conservation—and he will challenge us. He explained that he has developed the presentation to address a list of questions that Carl provided.

Tom has been with the Harris-Galveston Subsidence District for 22 years. The HGSD was started in 1975, and the Fort Bend Subsidence District was started in 1989. The district permits over 7,000 wells, down from 10,000. It does not permit residential wells, which are exempt. Funding for the district comes from user fees for water. Three acre-feet is about equivalent to one million gallons.

What is subsidence? Groundwater pumped unsustainably from sand layers of the aquifers. When too much is pulled, the clay layer is compacted. Once compacted, it can never expand. Tom described the story of the Brownwood subdivision as an example of subsidence. In some parts of the District, land has subsided more than ten feet since 1906. The Subsidence District has significantly changed the nature of withdrawal and subsidence, decreasing and shifting subsidence to northwest Harris County.

The district maintains 64 subsidence monitors and gathers data from an additional 15 monitors. Tom showed two graphs showing subsidence at two monitoring locations. In Kemah, in northwestern Galveston County, the monitor indicates almost no subsidence. In Jersey Village in northwest Harris County, the monitor indicates 1.75 feet of subsidence since 1996.

The Districts have a population of almost five million people. The economy is substantial, and industry has been impacted in the past, and could be threatened in the future.

Historically, until the 1980s, we got water from the Chicot and Evangeline (more reliable) Aquifers. Water levels dropped up to 200 feet in the Chicot Aquifer and 300 feet in the Evangeline Aquifer between 1943 and 1977.

Since 1977, southeast Harris County has switched to surface water, and water levels have risen dramatically. In other parts of the District water levels in the aquifers are still declining.

Once the District began requiring a conversion from surface to groundwater in the southeast part of the District, groundwater usage decreased significantly. In that area, no more than 10% of water could come from groundwater. Residents in that area knew they were at risk from tidal inundation. Similar reductions were seen in the central portion of the District, where no more than 20% of water can come from groundwater. Reductions were required by 1990, and in many areas, the conversion beat the deadlines. Permittees are doing better than projected conversion rate.

The 1999 Regulatory Plan covers Area 3 in the northwest part of the district. The conversion is scheduled in three stages. Fort Bend Subsidence District has a similar plan. To encourage conversion, the District has instituted a disincentive fee of \$5 per 1000 gallons. Normally, 1,000 gallons would cost \$0.17 per 1000 gallons. It isn't a fine, just a big bill. Because the District wanted to avoid charging the disincentive fee, the District required permittees to develop comprehensive groundwater reduction plans that go through 2030. Permittees with a groundwater protection plan do not have to pay the disincentive fee. They are on pace to meet requirements.

The District uses a groundwater availability model that covers three aquifers, 28 counties, two subsidence districts, and 13 GCDs. In that area, population is expected to increase from about 4.5 million people in 2000 to almost 9 million in 2030. Based on population projections, the model indicates significant subsidence of up to five feet in that time period if no further groundwater reductions were taken since 1994. The HGSD plan of 1999 would halve that subsidence, and results are already apparent.

What does the future hold? We have not studied the Jasper Aquifer much because it has been considered too deep and too salty, but it now seems more feasible.

Because HGSD and FBSD look so closely at subsidence and related pumpage and do not look at water quality or recharge zones, the districts were removed from regulation by Chapter 36 five years ago. At the time the two districts were formed, there were no groundwater districts. Now, there are several, and the District works with many other districts and counties.

The Districts recently let a contract to review the 1999 regulatory plan; update 2020, 2030, and longer term projections; and a variety of other technical issues. Tom briefly described topics which might be issues in the coming years.

Tom then challenged the attendees to reduce their water usage. His household uses 35 gallons per person per day. Can you beat that?

Q: Is Montgomery County subsidizing?

A: Subsidence monitors were installed a few years ago in northern Harris County, but the results are not available yet. Tom suspects that there is subsidence even if there is not yet definitive evidence. Water levels in Jasper Aquifer are down by 100 feet in the past 10 years. Kathy added that The Woodlands and Conroe areas might be, in part because Montgomery County's population has boomed in the past ten years.

Q: Has anyone elected to pay the disincentive fee?

A: Some. Only \$800,000 of fees has been collected, although potential fees amount to \$65 million. All violations had alternatives. Tom does not know why they went the noncompliance route. The disincentive fee works very well.

Dennis told a story about his neighborhood and three amenity ponds. The neighborhood was told that they would be charged to pump groundwater to maintain water in the ponds. They ended up working with other neighborhoods to capture water from the levee improvement district for much less money. Soon they will be purchasing tertiary treatment water from Missouri City.

Q: How does all of this play into future desalination and costs?

A: The general idea is that water sources that have been identified in water planning--the lakes etc.--are less expensive than desalination. Technology will probably be here in our lifetimes to make desalination feasible. Brackish aquifer water would cost much less than salty gulf water. Brackish water is not unlimited.

Q: Agricultural uses are included?

A: Yes. Agricultural uses are permitted and metered, but they are exempt from the GRP. No matter the purpose for pumping, the result in the aquifers is the same. Political pressures determine how rules are applied to different uses.

Q: Do you know why the Allen Creek Reservoir project was cancelled?

A: City of Houston and Brazos River Authority own the reservoir site. Houston does not need that water, since water supplies are adequate for decades. Someone else would need to pay for it. Lots of water is planned to come from Brazos River, but this may already be over allocated. The Allen Creek Reservoir may be needed eventually.

Environmental Program Highlights

Rachel Powers presented information regarding the Bacteria Implementation Group. It was just about two years ago that this committee selected the members of the BIG. The BIG is in the process of reviewing the draft Implementation Plan to reduce bacteria in the region's waterways. Actions can be regulatory or voluntary. An example of a regulatory action is expanded monitoring requirements and effluent limits for wastewater treatment facilities. Voluntary actions may be encouraged by the possibility of future regulation if voluntary actions seem insufficient. For example, sanitary sewer system management measures will be voluntary unless

these are not undertaken within five years. The BIG will continue to provide oversight over the next 25 years, or thereabouts. Once the plan is approved by the BIG, we will be soliciting formal support from the plan from dozens of stakeholder representatives. To that end, we will probably present the plan to the NRAC at its August 5 meeting in hopes of developing a recommendation of support for the H-GAC board to consider.

Q: What are management measures for sanitary sewer systems?

A: The measures are modeled on EPA's Capacity, Management, Operations, and Maintenance program, which begins with a self-evaluation and leads to the development and execution of a common-sense, proactive plan.

Q: Is regionalization in the plan?

A: It is included. We are trying to balance diverse opinions about regionalization.

R: Alisa Max reported on a preliminary study by Harris County that did not show strong correlations between water quality and the size or age of plants. Very small plants (e.g., for a trailer park) seemed to have slightly more poor performance.

Q: Was there a difference between manned vs. unmanned plants?

A: Data can't be sorted based on manned and unmanned, although it seems it would make a difference.

Justin Bower presented information regarding the annual Water Quality Management Plan. Funded annually by the TCEQ, the project involves data collection and analysis for a variety of water and wastewater issues. Unlike in past years, we are not asking for formal approval from the NRAC. Instead, we are providing an internal report to TCEQ accompanied by a summary brochure.

One of the main items in the plan this year involves wastewater treatment plants. H-GAC collects, maintains, reviews, and analyzes data about local permits, facility age, population projections, infrastructure funding mechanisms, and other wastewater information as is available. This year, H-GAC converted the data from several spreadsheets into a database that links directly with our GIS. H-GAC also continued to closely watch certain water quality indicators in the Lake Houston watershed.

Funding for next year has been expanded. H-GAC plans to focus on supporting nonpoint sourcewater/stormwater planning in un-permitted coastal communities. This will also allow H-GAC to look at regionalization in depth. We will provide an update after the Project finishes in August.

Q: Are monitoring sites and data available online?

A: H-GAC now makes regional data available on the web through its Water Resources Information Map (WRIM): <http://webgis2.h-gac.com/CRPflex/>.

Todd Running provided a report on the Clean Rivers Program. At the coordinated monitoring meeting in March, the group decided to increase the total number of monitored sites by five to over 300 ambient sites collected by partners. The annual Basin Highlights Report will be available later in the month, and we are gearing up for the Basin Summary Report, which is produced every five years and should be available in May 2011.

Trash Bash was a great success with a record 5,566 volunteers, 17 sites, 117 miles of shoreline, 90 tons of trash, and 837 tires. Kristi Corse, the new Trash Bash coordinator, has already started working on next year.

Q: What is the cost to install a remote monitoring station? Particularly for flow?

A: It costs USGS about \$20K. Maintenance costs are not too bad unless the weather is really bad. Remote Water quality instrumentation requires a lot more maintenance.

Roundtable Discussion

- Carl Masterson announced that, here tomorrow at 10:00 am, there would be a listening session on sustainability, pursuant to a grant application. Transportation is involved.
- The Houston Land/Water Sustainability Forum will be here at 4:00 pm today to present information about their LID design competition.
- Glenda Callaway reported on Trinity and San Jacinto River Basin and Bays Area Stakeholder Committee (BBASC) stakeholder group meeting on environmental flows. After a long day of discussion, participants were not able to reach consensus and will be meeting again in two weeks, on May 19. One issue at question was how much water needed to be in the system to maintain aquatic life.

A hearing will be held the first week of July regarding the proposed Lake Millikan drinking water reservoir in Region H. The Madisonville public meeting last week had over 200 people in attendance. The vast majority of attendees own property around the lake.

- Linda Shead announced the Coastal Resilience Conference to be held on May 22. She provided flyers. Carl will e-mail information about the conference.
- Lori Traweek suggested the Basin and Bays Area Stakeholder Committee (BBASC) report as a possible topic for August. H-GAC will provide a link to the BBASC.

Next Meeting Date

The next regularly scheduled meeting date is Thursday, August 5, 2010, at 1:30 PM.

Adjourn

The meeting was adjourned at 3:36 PM.