

Mar 25 Meeting of the Union County Soil and Water Conservation District

Present:

Pete Cameron -- Deputy Chair, Secretary

Duke Emerson -- Treasurer

Jon Croci -- Computer Systems

Basil Bactawar -- IFAS Agent, Union County

Wiley Feagle -- (for Monica Jones) NRCS Representative

The Chairman, Delbert Smith, is currently in the hospital with complications from previous heart surgery.

The entire meeting was taken up by a presentation by board member Pete Cameron on the Suwannee River Water Management District's (SRWMD) recovery plan. He explained that since it had been determined by the WMD that there would be a serious water shortage in the Upper Santa Fe in the next twenty years, and that there was an on-going shortage in the Lower Santa Fe, it was a legislated requirement that the WMD devise a plan to remedy this situation. The presentation was a synopsis of the WMD's recovery plan document.

The presentation commenced with a description of the geology/water supply in the SRWMD area of responsibility. Cameron described how the I-75 corridor roughly marked the division between the "confined" Upper Santa Fe and the "unconfined" Lower Santa Fe. The layers of clay in the Upper Santa Fe "confine" storm water to the surface, preventing it from leaching down rapidly into the Floridan Aquifer, such that storm water largely feeds into the Santa Fe River, with only some of it slowly filtering down to the aquifer. The Lower Santa Fe, on the other hand, without such a clay layer, allows storm water to leach to the aquifer immediately. Here the Santa Fe is fed by the aquifer, mostly via the many springs flowing into the river. So, during drought conditions, while the Lower Santa Fe continues flowing due to the input from the springs, the Upper Santa Fe portion of the river, because there is no rain and no storm water flowing into the river, ceases to flow. Union County, being in the Upper Santa Fe, must find ways to trap storm water from flowing into the Santa Fe (and to the ocean) so that it can be used in times of drought.

Here, Chart 1 was presented showing the outlines of the two Santa Fe districts: the Upper Santa Fe, with Raiford, Starke, and Waldo roughly delimiting the boundaries; and the Lower Santa Fe, with Lake City, Bell, and High Springs roughly showing the outer boundary. Worthington Springs is located at the border between the two areas.

Chart 2 showed the breakdown of water use from 1965 to the present, with agriculture, public use, and domestic self-supply (home wells) being the major users (91 % today) of water pumped from the aquifer.

Minimum Flows and Levels (MFL) is central to the recovery plan as it provides the scientific support for WMD planning and regulation. In establishing a minimum flow in the Santa Fe, the WMD fixed upon the year 1990 as representative of a baseline. 1990 was chosen because in the years after 1990, permitted withdrawals from the aquifer have reduced the amount of water in the river. Thus, the baseline is said to be the condition of the river as it existed before significant pumping from the aquifer. The MFL is that amount of flow less than the baseline which will result in degradation to the fish population. More specifically, Chart 3 showed that at the Fort White gage, during 50 % of a fixed time period (say, five years) the baseline flow will exceed 1,320 cubic feet per second and during the other 50% it will be below it. Similarly, the MFL must exceed 1,214 cubic feet per second 50 % of the same time period. Stated simply, this means that over a five year period, should the flow noted at the Fort White gage drop below the MFL of 1,214 cfs more than 50 percent of the time, then damage to the fish population

can be expected. When full confidence in the MFL values is achieved, requests for withdrawals from the aquifer (consumptive use permits) can be evaluated for their potential effect on the MFL.

The SRWMD's recovery plan has several critical milestones. The first is the North Florida Regional Water Supply Plan due for completion in the summer of 2015. This will be the marching plan for the next 20 years. In monthly meetings, stakeholders (representatives from large volume water users) have been providing input to the plan as it is being formed by the WMD. A second milestone is completion of the North Florida Southeast Georgia Regional Groundwater Flow Model, a computer model encompassing all the geographic regions with significant influence on the Upper and Lower Santa Fe region water supply. This model is expected to allow the recalculation of MFLs for all major water bodies in the region by 2019, which will, in turn, allow the SRWMD to revisit/adjust all consumptive use permits so that there are no violations of the new and more accurate MFLs.

The recovery plan lists conditions for issuing permits to pump water from the aquifer. As originally stated, these conditions met with considerable opposition, and they have been modified; at this time they can still be thought of as moving targets. Essentially though, the WMD will require offsets for any request that threatens the MFL. In practice, any request for an amount of water to be pumped from the aquifer is fed into the computer model. If it is seen to violate the MFL (the computer shows that flow at the Fort White gage will go below the MFL more than 50% of a fixed time duration), then the entity making the request must submit a plan to put the same amount of water as requested back into the aquifer, thus maintaining the status quo and protecting the MFL. The plan cites methods of getting water back to the aquifer.

Methods of water conservation are various and include the WMD issuing water shortage orders during drought, which could put limitations on all users. In the Ag area, conservation is implemented via the Mobile Integration Labs, which will visit each agrarian consumptive use permittee every five years, with follow-up to enforce findings and recommendations. In addition, the Ag Team will continue to promote Best Management Practices (via benefits for those who enroll and penalties for those who don't) and will help farmers with large water offset requirements. To foster conservation in areas other than agriculture, the WMD will promote education, lawn and landscape irrigation rules, and further implementation of the practice of charging customers per the amount of water used.

Water supply development as it affects the Union County area includes encouraging water withdrawals from the intermediate aquifer rather than the Floridan aquifer (not drilling so deep). Also, when rivers are high enough, farmers will be encouraged to use the rivers for irrigation.

Methods of water resource development include aquifer recharge projects (direct pumping of excess storm water into the aquifer), off-stream storage of storm water, and re-establishment of wetlands. Lumbering operations in the past have filled in wetlands and created channels for storm water run-off. Some areas might be returned to wetland if landowners could be impressed with the benefits of so doing.

This presentation was given to provide Union County soil and water conservation board members with the broad picture of WMD actions in the district. Any actions that the board takes will be that much more feasible when they are compatible with the goals of the WMD. All present made meaningful commentary on the presentation as it progressed.

The meeting closed at 8 PM.