Hi Doug,

Thanks for your well written letter. I have already sent a copy to Priscilla. In support of fairness and, hopefully, substantially satisfying the objectives of your request, we will:

- *Post your letter on our web site*
- *Have copies of your letter on the entry table at our next two meetings and announce their availability.*
- *We will put a notice in our June newsletter (sorry May already went to press) advising of your letter, advising that it is on our web site and offering to send it out by e-mail or snail mail.*
- *We will absorb all costs.*

Best Regards,

Al Grubman, President
TOOFAR

Dear Mr. Grubman:

I recently read the March 2011 edition of the TOO FAR News and would like to offer some thoughts on a few issues and comments that were included in Ms. Priscilla Watkins' article concerning development of minimum flows for the Homosassa River system.

First, there appears to be a misunderstanding concerning the format in which proposed minimum flows have been and will likely continue to be expressed for the river system. In her article titled "We Say No, The Homosassa River System is Too Sensitive for Any Further Reduction by SWFWMD or Regional Wellfields", Ms. Watkins writes that District staff recommends establishing a minimum flow for the river system at 144.4 cubic feet per second (cfs), a flow rate corresponding to a five percent decrease from the 152 cfs flow identified as the "estimated average" flow for the system. The District's currently proposed minimum flows for the Homosassa River system are actually not a static or single rate of flow, but instead are expressed as a percentage-of-flow reduction (or retention) for the full range of flows that would be expected for the system in the absence of water withdrawals. To aid in the understanding of the percentage-of-flow concept for minimum flows development, consider a proposed minimum flow that allows for up to a five percent reduction in flows in the Homosassa River system. Flows from the headwaters area of the system are currently measured at sites near the Homosassa Main Springs pool and in the Southeast Fork of the Homosassa River, and the combination of these flows provides a means for describing flows in the system. So, for periods of relatively high rainfall when combined flows at the two sites may be on the order of 200 cfs, the hypothetical minimum flows would be met if flows actually equaled or exceeded 95% of 200 cfs, or 190 cfs. Similarly, during drought periods, the combined flows could be expected to total 70 cfs in the absence of withdrawals, and flows of 66.5 cfs (95% of 70 cfs) would be sufficient for compliance with the hypothetical minimum flows. In practice, compliance with minimum flows would be determined based on evaluation of potential withdrawal-related flow reductions using a computer model of the regional aquifer system (the Northern District model). Withdrawals that would result in more than a five percent flow reduction (for a hypothetical minimum flows represented by an allowable five percentage-of-flow reduction) would be considered to cause violation of the minimum flows and would not be permitted.

The District has received substantial criticism regarding the draft report outlining proposed minimum flows for the Homosassa system. However, in addition to support that has been expressed by the Director of Water Resources for Citrus County, the panel of independent scientists that reviewed the District's draft report on proposed minimum flows for the system note that information presented in the report "…is adequate to conclude that the proposed maximum 5% reduction in Minimum Flow satisfies the language and intent of the Statute and will result in "no significant harm" to the flora and fauna of the Homosassa River System." In addition, the Florida Fish and Wildlife Conservation Commission in their review of the proposed minimum flows, note that the District "has done a commendable job of developing the conservative MFL [minimum flows and levels] for the Homosassa River system", although the Commission does recommend that the District consider some additional information prior to finalization of any minimum flows for the system.

A number of issues related to technical aspects of the minimum flows development process that were identified in Ms. Watkins' article also require additional discussion or consideration. These issues are: 1) a perceived lack of thoroughness regarding the District's efforts; 2) the characterization of existing withdrawal impacts; and 3) the measurement and use of discharge records for developing minimum flow recommendations.

With regard to perceived thoroughness of the District's technical analyses, Ms. Watkins suggests that consequences of salinity changes in the Homosassa River system that may result from water withdrawals have been "brushed aside" by District staff. To the contrary, evaluation of changes to salinity-based habitats that could occur as a result of water withdrawals is an integral component of the development of minimum flows for tidally influenced systems, and these types of analyses were specifically used to develop minimum flow recommendations for the Homosassa system. It was also suggested that the District has not seriously considered withdrawal impacts on the Homosassa River estuary and all protected areas in the vicinity of the river, noting that impacts to these systems "was barely mentioned", perhaps in reference to staff discussion of the subject at public workshops or in reference to summary information contained within the draft report on proposed minimum flows for the system. District staff endeavored to evaluate withdrawal related impacts to the entire Homosassa River system and believe that the approach that has been implemented will be protective of the greater ecosystem.

In her summarization of District findings regarding impacts of existing withdrawals, Ms. Watkins is correct in noting that current withdrawals in the northern portion of the District have resulted in about a one percent decrease in discharge from springs of the Homosassa system. This finding is not, however, based on flow records for the period from 1995 through 2009, as was suggested. The withdrawal impact is, rather, based on evaluation of the difference in the potentiometric surface (i.e., the elevation to which groundwater would rise in a tightly sealed well) of the Upper Floridan Aquifer system and spring discharge for model scenarios that include water withdrawals corresponding to regional water use in 2005 and a pre-development scenario that excludes all withdrawals. With regard to the modeling of withdrawal impacts in the Homosassa area and throughout the northern portion of the District, the pre-development scenario used for these evaluations was developed based on targeting pre-development potentiometric surface information published by the United States Geological Survey. The model used for evaluating impacts was calibrated (i.e., simulated spring flows and aquifer water levels were closely matched to observed data) for steady-state 1995 calendar year conditions and transient conditions from 1996 through 2002.

In her discussion of area water use, Ms. Watkins asks "what aquifer amount has SWFWMD based its water availability on?" Water availability for the region is determined based on up-to-date understanding of regional water sources, including both surface and ground waters, and comparison of model-predicted effects of withdrawals with constraints determined by minimum flows and other regulatory criteria established for area water bodies. In other words, the availability of water for reasonable and beneficial human use as well as natural system protection and persistence will be determined based on the best available current information and compliance with District regulations. With respect to the Homosassa River system, existing withdrawal impacts are estimated to reduce spring discharge about one percent, and impacts based on projected water demand for 2030 are predicted to result in a two to four percent reduction in flows. This information suggests that groundwater availability is not currently, and during the next 20 years is not expected to be limited by minimum flow constraints, assuming that the estimated flow reductions do not exceed allowable percentage-of-flow reductions associated with established minimum flows.

Ms. Watkins is correct in noting that discharge records for the period from 1995 through 2009 were used for analyses supporting development of minimum flow recommendations. This period represents the time-span for which we have relatively detailed and complete discharge records that are appropriate for developing daily mean values that may be used for modeling environmental responses to flow reductions. Historical records pre-dating this period are available for the Homosassa Springs and Southeast Fork gage sites in the river system, but the discontinuous and instantaneous nature of these data limits their usefulness for modeling purposes. For example, the records typically correspond with discrete measurement of discharge associated with an instantaneous tidal stage, and do not represent daily mean values. Because it is well documented that discharge from the Homosassa Main Springs and other springs of the system is affected by tides, instantaneous discharge measurements can vary considerably throughout any given day, depending on the tide stage at the time of measurement. This differences in how discharge records were derived, i.e., as instantaneous or daily mean values, and the lack of continuity in the historical records led staff to use the discharge record from the 1995 through 2009 period for minimum flows and levels modeling purposes. Incidentally, inclusion of available historic discharge records with the more recent records does not substantially affect statistics (e.g., mean and median values) associated with the daily means discharge record. Also, variation that is evident in the composited historical and recent daily means record is consistent with rainfall patterns suggesting that temporal differences in reported discharge can be attributed primarily to rainfall variability. Finally, the issue of "historical" vs. "recent" discharge records for sites in the river system was discussed at the minimum flows and levels public workshop held in Lecanto this past January, and will be summarized in an updated version of the report on proposed minimum flows for the Homosassa River system.

With respect to development of minimum flows for the Homosassa River system, Ms. Watkins writes that "[i]t appears the goal of the flow plans is to tap the aquifer for all it is worth for state uses but not to benefit the residents and businesses now in Citrus County nor to the ecosystems that our rivers support." The District is, in fact, developing minimum flows for the Homosassa River system in response to statutory mandates that require establishment of minimum flows and levels for the prevention of significant harm to priority water bodies that may be associated with water withdrawals, and which also require identification of the system as a priority water body based on its classification as a first-magnitude spring system. Establishment of minimum flows for the Homosassa River system is expected to benefit residents and businesses of Citrus County and the state of Florida, visitors to the region, and the non-human components of the greater ecosystem.

Ms. Watkins notes that the Weeki Wachee system has been "severely degraded with a 16% decline in flows since 1961" and "had a further 10% reduction proposed in 2008." The minimum flows established for the

Weeki Wachee River system in 2008 require maintenance of 90% of the natural flows of the system. This minimum flow, like all established minimum flows or levels does not represent a proposed reduction in flows or levels, but rather identifies a threshold or criterion that is intended to serve as a limit to further withdrawals that could result in significant harm to the resource. Analyses supporting development of minimum flows for the Weeki Wachee River system indicate that water withdrawals have reduced natural flows in the system by nine percent.

As you know, the District is committed to developing the best, scientifically defensible minimum flows for protection of the Homosassa River system. With regard to this position, the District has committed to hosting a series of public workshops for discussion of technical issues concerning minimum flows development for the Homosassa system and other spring-dominated tidal rivers of the Springs Coast. This forum will provide an appropriate avenue for addressing a number of observations and suggestions made by interested stakeholders concerned with protecting our valuable coastal resources. As envisioned, the public workshops will focus on:

existing data, minimum flow methodologies, and opportunities for alternative analyses supporting minimum flows development for Springs Coast systems; new studies and/or other data collection/analysis efforts that could be implemented to enhance minimum flows development or reevaluations; and development of monitoring/analytical strategies and time-lines for minimum flows compliance evaluations and environmental protection.

The major systems to be discussed during the workshops will include the Weeki Wachee, Chassahowitzka, Crystal and Homosassa rivers and associated springs and tributaries. The focus for the Weeki Wachee system will be on establishing the appropriate period and techniques for reevaluation of the minimum flows that have been established for the system. For the Chassahowitzka, Crystal and Homosassa systems, it is anticipated that the venue will provide the opportunity to identify the steps and processes necessary to move forward in establishing scientifically defensible minimum flows for these important coastal systems.

I look forward to continuing to work with you and other members of TOOFAR on the development of minimum flows for the Homosassa River system and other area water bodies. If you are of the opinion that the comments and thoughts I've outlined here may be of use to other TOOFAR members, I would urge you to consider including the body of this e-mail in a future edition of the TOO FAR News.

Sincerely,

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Fax: 352-754-6885
E-Mail: doug.leeper@watermatters.org
Web Site: watermatters.org

WE SAY NO!
THE HOMOSASSA RIVER SYSTEM IS TOO SENSITIVE FOR ANY FURTHER REDUCTION
BY
SWFWMD OR REGIONAL WELLFIELDS
by Priscilla Watkins for the
Homosassa River Alliance

The huge, negative public response to Southwest Florida Water Management District's (SWFWMD) staff recommendations to set the flow level for the Homosassa River at 5% of its "estimated average" flow of 152 cubic feet per second (cfs) or 144.4 cfs has, so far, delayed the scheduled Board vote of approval.

Questions and criticisms of the findings, omissions and methodology have come from experts in water management and commercial fishermen, state regulators, public park managers, engineers, boaters, HRA's volunteer reviewers and other of our members, and even from SWFWMD's hand-selected peer review team. It was a huge response to a technical manual over a very short time span.

So far on the supporting side, there is the lone voice of the county director of Water Resources who appears to have only read the two-page executive summary and asked for clarification on the parameters and salinity terminology before sending in a letter of approval.

Concurrently, there has been an outpouring of opposition to the proposed flow rate being recommended for the Chassahowitzka River system, an 11% reduction. The Chassahowitzka is approximately five miles south of the Homosassa and it draws from the same aquifer whose water source is rainfall over the same 270-square-mile springshed.

Both the Homosassa and the Chassahowitzka are first-magnitude spring systems, two of four along a thirty-five mile span of our coastline, with only 27 first-magnitude springs in the entire state of Florida. Springs such as these are rare.

WHAT WE OBJECT TO, IN BRIEF

We believe the historical river flow has already been reduced to a critical point; any further reduction would contradict all the efforts and funds spent to date to protect this coastal area. Lower flow will destroy many species and the delicate ecology of our river and its estuary.

One point we noted particularly was the higher salinity rates now in place as compared to twenty, thirty and fifty years ago. Larger draw-downs from our aquifer will increase that salinity yet the consequences were brushed aside. The only thing they admitted was the extreme sensitivity of creatures in the river system to the slightest change in flow - any draw-down will trigger "significant harm."

We pointed out that the river has suffered a severe drop in flow rate already but the report attributes that to rainfall patterns only. We feel that rapidly increasing population rates since 1960 have made a major impact yet SWFWMD, using models, determined there is only a slightly less than one percent impact to the Homosassa flow from pumping. For that 1% impact we must look at the time span chosen.

The time span chosen to average spring flow at 152 cfs ignored historic records on three of the vents going back to 1931 and *based its data on flow rates from 1995 through 2009 only.* The Florida Almanac 2002-2003 edition put the average flow at 192 cfs; its 2007-2008 editions lowered that to 175 cfs (drops of 20 and 16%). The United States Geological Survey folks, who measure the flow, also recognize a 20-25% drop has already occurred over the past decade. Furthermore, it is impossible to measure the river flow accurately; USGS says that those flow meter measurements are only accurate within ten to fifteen percent, at best. Whose word will we have to take that only 5% is used – that of residents looking at the river daily or SWFWMD staff in Brooksville?

One more point about flow rate measures: SWFWMD's calculation for the South Fork spring is based on a flow measurement of the aquifer level in Weeki Wachee, twenty-five miles away with the Chassahowitzka system between them.

Another serious question that needs answering is this: what aquifer amount has SWFWMD based its water availability on? At one point in time we were thought to be water-rich but that was incorrect. As our vice-president, Ron Miller, reminded SWFWMD staff, their own man, John Parker, in 1998 said the earlier reports of 750 to 1,250 feet of potable water in Citrus and Marion counties was overestimated by a factor of three to six. For most of Citrus County the potable lens is generally 200 to 250 feet thick or less. If the allotments are based on that old faulty data we are in really serious trouble.

We also pressed for more serious consideration to the effect on the estuary and all of our protected areas, whether preserves or parks. This impact was barely mentioned.

SETTING LEVELS – WHO CARES?

It is a big deal. Florida may have twenty-seven first magnitude springs (at least 100 cfs flow) but on the Gulf side of the state five of the big ones are concentrated right here: three in Citrus County and one each in northern Hernando County and in Dunnellon, Marion County. They are a major attraction for visitors, retirees and wildlife. If the balance is upset and the "harm" spirals out of control, we won't be able to do a quick fix, if we can do any fix at all. SWFWMD has already issued reports for three first magnitude rivers in our immediate neighborhood - Weeki Wachee, Chassahowitzka, and the Homosassa. In process are reports on Crystal River, another first magnitude spring system, and three segments of the Withlacoochee River, which runs 86 miles and feeds the Tsala Apopka chain of lakes. Rainbow Springs in Dunnellon, a really massive first-magnitude system, feeds into the Withlacoochee. Incomplete documentation, minimalized impact, and incorrect measures matter greatly as all the water management districts prepare for a greater allocation of our water resources. We have to pay attention to this.

HOW DOES THIS AFFECT RESIDENTS AND BUSINESSES?

We require potable water to survive and most of our businesses require water in either their processes or at least in providing clean surroundings. While we have a law on the books that says each county must use its own water sources first, it doesn't say "uses them wisely or conservatively." Penalties are almost non-existent, there are no water police.

It appears the goal of the flow plans is to tap the aquifer for all it is worth for state uses but not to benefit the residents and businesses now in Citrus County nor to the ecosystems that our rivers support. The Withlacoochee Regional Water Supply Authority has site plans in print for regional distribution well fields running down the county east of US19. We believe this water will go south to serve over-developed counties and perhaps destined to be bottled by a for-profit company with little or no monetary gain and much potential damage for our county.

Remember that for the past two decades we have been beating off attempts by one area or another trying to grab our water? Well, setting low flow levels will give the state WMD data to show "there's plenty there" and we are only doing 15% harm! Drought is a regular occurrence in Florida, taking all that you can is poor long-term planning when our rivers are already stressed from a long stretch of droughts.

WHAT IS HRA'S STAKE IN THIS?

Our focus is on The Homosassa River system (four rivers and at least 19 springs), which is under severe stress. We, the county, plus state and federal governments have been working together to identify contributors to the river stress and protect the 270 square mile spring shed from further or

new contaminants. To that end, certain areas around the Homosassa River system (and our other local first magnitude spring systems) have been identified, studied and placed under protection. We have St. Martin's Marsh Preserve, Chassahowitzka National Wildlife Refuge, Crystal River State Archeological Site, Homosassa Springs State Wildlife Park, and the entire Big Bend Preserve, which protects the estuarine systems from Apalachicola to the Levy/Citrus border. We have been working for years to control pollutants statewide. If a local, state or national legislative or agency proposal will harm the system or its spring shed, we are going to be heard on the subject.

ARE WE ALONE IN THIS CONCERN?

No. The Chassahowitzka report came out at the same time as ours - SWFWMD proposed an 11% reduction rate on that system. The Chassahowitzka River Restoration Committee, other organizations and individuals are united in vociferous opposition and have forced SWFWMD to delay its presentation to the Board for a vote as well.

Weeki Wachee, already severely degraded with a 16% decline in flow since 1961, had a further 10% reduction proposed in 2008. The report did not include anticipated fish kill rate at a 10% reduction, but said the river could still be home to the entire gulf population of manatees. That side of Hernando County is sparsely populated, and the river is owned by SWFWMD; we missed hearing objections there.

WHAT IS NEXT?

We are asking each of you to call your County Commissioners and the Citrus County Director of Water Resources and urge them to access the Report at www.watermatters.org and all of the public comments that are available online. We hope you will tell them that, after reading the report, they need to let SWFWMD staff know it should be recommending zero percent (0%) reduction in flow on the Homosassa and a complete review of the Chassahowitzka report with a view towards addressing citizens' concerns.

Commissioners, 352-341-6560: Winn Webb, Joe Meek, John Kenney, Dennis Damato, Rebecca Bays. Water Resources, 352-527-7646: Robert Knight.

We ask you to immediately email SWFWMD with your objection to the rate for Homosassa, telling them 0% should be the level. SWFWMD, Resource Projects Department, doug.leeper@swfwmd.state.fl.us

We will continue to talk with SWFWMD until our concerns are addressed or the vote is taken. If data is not included or corrected, we will have to move upward in the chain of command. The time is now for our governing bodies of the water distributors and of the county to educate themselves about flow issues and get involved. It will not be long before the state Legislators will be forced to take a public stand.

Sidebars

BACKGROUND

Simply put, SWFWMD is required by state law to set flow rates on all rivers, wetlands and lakes so they can issue water permits or water transfer rights based on what "should" be available in the aquifer. They were to study the systems, measure the flow, research all available data from its own and other agencies, make projections and suggest a level that would, in their own words, *harm no more than 15% of the ecosystem*.

Once flow rates and water levels are approved, SWFWMD (and the other districts in Florida) will use those levels to determine how much more can be pumped from the aquifer and allocated to residents, businesses and industries, above and beyond what is already on the books.

POPULATION GROWTH
Citrus County
1960 9,268
1970 19,196
1980 54,703
1990 93,515
2000 118,085
2009 140,357 estimated