



CHARLOTTE HARBOR NATIONAL ESTUARY PROGRAM

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November 16, 2009

Governing Board
Southwest Florida Water Management District
2379 Broad Street
Brooksville, FL 34604-6899

Re: Minimum Flows and Levels for the Lower Peace River and Shell Creek, 2009 Rule-making

Dear Governing Board members:

Thank you for delaying rule-making regarding the *Proposed Minimum Flows and Levels (MFLs) for the Lower Peace River and Shell Creek* until the Charlotte Harbor National Estuary Program (CHNEP) had the ability to review the April 9, 2009 draft proposal. Your staff has been very responsive to CHNEP concerns outlined in our June 19, 2009 written comments. Since that date, we received written responses to our letter from the District. In addition, your staff participated in a CHNEP subcommittee meeting on September 21, 2009 to allow a more in depth discussion of the technical aspects of the proposal, clarify several points, discuss remaining concerns, and develop some level of consensus among scientists and citizens that participate in resource management activities within our study area.

Continuing with our review of the *Proposed MFLs for the Lower Peace River*, we are providing the recommendations below, using our CHNEP "Advocacy and Review Procedures" which aim:

- To implement the quantitative objectives and priority actions of the adopted *Comprehensive Conservation and Management Plan (CCMP)*,
- To provide policy-makers with a source of review and comment from an organization which represents considered opinions of diverse interests from throughout the CHNEP study area, and
- To provide a voice for the natural systems within the study area watersheds based on the best scientific information available.

Based on our understanding of the technical information provided, the CHNEP recommends that the following conditions be incorporated into the *Proposed MFLs for the Lower Peace River*:

- Implement as part of the rule a 130 cfs low flow threshold for the Lower Peace River.
- Establish a maximum diversion rate of 400 cfs for the Lower Peace River.
- Establish a trigger of 625 cfs flow in the Lower Peace River before switching from the percentage withdrawal rate for Block 1 into the higher percentage withdrawal rates for Blocks 2 and 3.
- Schedule and conduct a formal reevaluation of the Lower Peace River MFL, including additional relevant research results, to be completed within 5 years. We further recommend incorporating consideration of future concerns, especially anticipated sea level rise and associated higher salinities; discussions of reserving adequate water supply for natural systems;

and discussions of developing “optimal” flows vs. “minimum” flows, recognizing that MFLs potentially cause some level of harm to the natural systems.

Implement as part of the rule a 130 cfs low flow threshold for the Lower Peace River.

The consideration of the 90 cfs low flow threshold was established as part of the original MFL analysis and was subsequently implemented during an emergency declaration period. We recommend that 90 cfs continue to be only available upon an emergency declaration and not as a standard policy. Maintaining the 130 cfs threshold based on the sum of flows measured at USGS gages in the Peace River at Arcadia, Joshua Creek at Nocatee and Horse Creek near Arcadia will increase assurances that adequate water will remain in the river during low flows to protect water quality for existing legal users and sustain biological connectivity.

Establish a maximum diversion rate of 400 cfs in the Lower Peace River.

The SWFWMD Regional Water Supply Plan suggests that the total need for water in the region will not exceed a diversion of 400 cfs until after the year 2025. In addition, there are limitations to the number, size and expansions of water plants, as well as physical limitations to the quantities that water plants can withdraw. For these reasons, we recommend that the maximum diversion rate of 400 cfs be included in the MFLs. SWFWMD is currently developing models and other tools to better evaluate the cumulative impacts of water diversions on biotic and abiotic systems. Components of these tools are currently being developed through CHNEP partnerships, including with SWFWMD, with significant investment of resources. An example of a critical component nearing completion is the pre-settlement habitat map for the Peace and Myakka Rivers watersheds. Establishing a maximum diversion rate of 400 cfs protects the downstream estuary in the interim, until these tools may be fully developed and employed during future modifications of the MFL as part of requests for additional Water Use Permits (WUPs) beyond the 400 cfs maximum diversion. The maximum diversion rate of 400 cfs translates to an average 13-15% withdrawal compared to an average 33% in the current proposed rule. Instituting a maximum diversion rate of 400 cfs is significant for CHNEP and is consistent with SWFWMD projections as presented in the Regional Water Supply Plan. By including a 400 cfs maximum diversion rate, expectations can be better communicated to agencies considering water supply expansions and the public who may not fully recognize the physical limitations of water supply infrastructure.

Establish a trigger of 625 cfs flow in the Lower Peace River before switching from the percentage withdrawal rate for Block 1 into the higher percentage withdrawal rates for Blocks 2 or 3.

The definitions of the seasonal blocks are based on median flow conditions. A continuing concern of CHNEP scientists is related to drought years. If a drought extends past June 25 or begins before April 20, expanding withdrawals to 38% or continuing withdrawals at 29% may not be warranted simply because a particular date is met. Applied to data from 1985 to 2004, the trigger of 625 cfs would create an overall difference of only about 1-7%; however this change would provide assurance that significant withdrawals would not take place when drought conditions overlap the defined blocks.

Schedule and conduct a reevaluation of the Lower Peace River MFL, including additional relevant research results, to be completed within 5 years.

We applaud the efforts of SWFWMD to select the most sensitive salinity ranges (<2 ppt) to be used in the modeling. However, during discussions at our recent Lower Peace River MFL subcommittee and TAC meetings, several concerns were expressed regarding the technical modeling, primarily relating to the use of salinity as a proxy for the complexity of the natural systems. Additional analyses need to be

incorporated along with the modeling efforts to more accurately evaluate potential impacts of the MFLs on freshwater, estuarine and wetland resources. Critical supplemental assessments and discussions include:

- relationships between salinity, physiology and additional habitat factors,
- locations and timing of chlorophyll and zooplankton maxima, hypoxia and sedimentation; and
- fisheries and other biological data from current and pending studies, including data from FWRI Fisheries Independent Monitoring and University of South Florida College of Marine Science results from the Peace River and Charlotte Harbor; and
- processes that guide biotic and abiotic interactions.

The suggested low flow threshold, maximum diversion rate and flow trigger would bring the estimated hydrograph under the proposed Lower Peace River MFL more into better alignment with the natural hydrograph. However, reevaluation of the modeling efforts to incorporate the above considerations could result in a more representative characterization of the potential effects of the MFL on natural the systems in the watershed. A timely, accurate reassessment of allowable withdrawals would benefit both water management agencies and potential users in planning future water needs and requests more accurately. Therefore, we recommend scheduling a formal reevaluation of the Lower Peace River MFL within the approved MFL priority list next year, to be completed within 5 years. We further recommend incorporating consideration of future concerns, especially anticipated sea level rise and associated higher salinities; discussions of reserving adequate water supply for natural systems; and discussions of developing “optimal” flows vs. “minimum” flows, recognizing that MFLs potentially cause some level of harm to the natural systems.

Summary and Conclusions

The addition of the 130 cfs low flow threshold, maximum diversion rate of 400 cfs, and a trigger of 625 cfs flow between blocks to the proposed rule will better ensure that appropriate flows are maintained throughout the river and delivered to Charlotte Harbor and its nationally significant ecosystem. We further recommend additional formal reevaluation of the Lower Peace River MFL be scheduled in the approved MFL priority list and completed within 5 years. We believe that the policies of SWFWMD and needs of potential water users will be better served and more accurately communicated through these actions.

Thank you for the opportunity to comment, your responsiveness, and the efforts of your staff to develop MFLs which are reasonable and science-based.

If you have any questions or need additional information, please do not hesitate to contact me.

Sincerely,



Lisa B. Beever, PhD, AICP
Director