



CHARLOTTE HARBOR NATIONAL ESTUARY PROGRAM

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Michael S. (Sid) Flannery
Chief Environmental Scientist
Southwest Florida Water Management District
Brooksville, FL 34609-6899
Via email: sid.flannery@swfwmd.state.fl.us

Re: Draft Minimum Flows and Levels for the Lower Myakka River

Dear Mr. Flannery:

Thank you for presenting the August 24, 2010 Peer Review Draft of *The Determination of Minimum Flows for the Lower Myakka River* to the Charlotte Harbor National Estuary Program (CHNEP) Management Conference committees. On September 7, 2010, we received the report and appendices. We compliment you and the other authors on this very thorough and technically interesting minimum flow and level analysis. We appreciate your efforts to improve each Minimum Flow and Level (MFL) document. Though we are eager to read the comments from the peer review, we wanted to provide you with some initial comments.

As you know, the CHNEP is guided by our *Comprehensive Conservation and Management Plan* (CCMP), pursuant to Section 320 of the Clean Water Act. Our CCMP calls for:

- **HA-1:** By 2015, identify, establish and maintain a more natural seasonal variation (annual hydrograph) in freshwater flows for [...] Myakka River...
 - **HA-A:** Develop a historic and current estuarine mixing model, focusing on salinity and indicator species that are sensitive to salinity changes, and better evaluate proposed capital and operations projects.
 - **HA-E:** Establish minimum flows and levels (MFLs).
- **HA-2:** By 2020, restore, enhance and improve where practical historic watershed boundaries and natural hydrology for watersheds within the CHNEP study area, with special attention to Outstanding Florida Waters and Class I water bodies.
 - **HA-G:** Reestablish hydrologic watersheds to contribute flows to their historic receiving water bodies.

The act of developing an MFL for the Lower Myakka River before 2015 helps to implement our CCMP. We endorse the development of the historic and current estuarine mixing model, focusing on salinity and indicator species that are sensitive to salinity changes. We are also interested in restoring the historic basin boundaries of the Myakka River watershed, with special reference to Cowpen Slough and the Blackburn Canal. In addition, development of an appropriate Lower Myakka River MFL could help compliment the Lower Peace River/Shell Creek MFLs, resulting in more comprehensive water resource management within the CHNEP, supporting the long term sustainability of both Charlotte Harbor and Dona/Roberts Bays.

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 Myakka River*:

- Evaluate hydrologic restoration evident within the last 5-7 years of flow data and the availability of “excess flows.”
- Reduce Proposed Block 1 Allowable Withdrawals to the 15% habitat reduction threshold.
- Account for watershed diversions which counteract “excess flows.”
- Incorporate management strategies within the proposed rule.

Evaluate hydrologic restoration evident within the last 5-7 years of flow data.

We understand that a document such as *The Determination of Minimum Flows for the Lower Myakka River* requires a great deal of time to complete. Because of this most of the data sets used for evaluation concluded in 2006, out of necessity. Phase 1 of the Falkner Farms and Pacific Tomato Growers (PTG) surface water exchange projects was operational by early 2003 and phase II was operational by 2008. The conclusion that the Lower Myakka has “excess flows” is a basic assumption throughout the MFL document, based on 1999-2006 analysis and needs to be re-evaluated in light of restoration and apparent reduced flows after 2003. This is especially true in context of reduced watershed size associated with Cow Pen Slough modification and Blackburn Canal construction.

Reduce Proposed Block 1 Allowable Withdrawals to the 15% habitat reduction threshold.

The District has used 15% habitat reduction as the threshold to define “significant harm.” Tables 8-12, 8-17, 8-19, 8-20, 8-24 and 8-27 all demonstrate habitat reductions greater than 15% for the block 1 period, typically for withdrawals beyond those permitted by the City of North Port. Delivery of water to the estuary during the low flow period is critical for the productivity of fish and invertebrates, as demonstrated in Table 8-27.

Account for Watershed Diversions which counteract “Excess Flow.”

As reported in the document, the construction of the Blackburn Canal and the modification of Cowpen Slough drainage basin diverted approximately ten percent of the historic watershed of the Lower Myakka River toward Dona and Roberts Bays. The District used the low flow regime of the reduced watershed as the baseline to measure the effects of withdrawals, which was an excellent approach. However, the supplementation of flows in the upper river sub-basin and these historic modifications in the lower river sub-basin has counteracted each other to some extent. Though the excess flows have been featured prominently in the proposed MFL, estimates of the historic fluctuations and reductions needs to be incorporated, as well as a minimum flow threshold necessary to support aquatic life in the river, as well as Charlotte Harbor. These additions would create an elegant relationship between water supply and reestablishing hydrologic watersheds to contribute flows to their historic receiving water bodies and assure natural variability and minimum flows are maintained.

Establish a Link between Removal of Excess Flows and Management Options for the Lower River

By accounting for watershed diversions within the MFL calculations, restoration of these historic flows could similarly be part of the calculation. Currently, the document proposes no benefit for water supply when management strategies are implemented nor would “the removal of the excess flows and compliance with the minimum flow rule for the lower river would not be contingent upon the implementation of such management plans.” Providing specific mechanisms to allow incorporation of the effects of hydrologic restoration projects into the Lower Myakka River MFL implementation and calculations would assure that "adaptive management" is achieved.

Summary and Conclusions

The District’s work toward setting MFLs for the Lower Myakka River helps to implement our CCMP and compliments sustainable management of the CHNEP estuaries. Furthermore, this is the most technically complete (and interesting) MFL document to date. Clearly, the technical work supporting MFL continually improves. We are pleased with the use of an integrated surface water/groundwater hydrologic model coupled with a hydrodynamic model. The District’s success in hydrologic restoration (reviewing data post the model validation period of 1999-2006) suggested that excess flow may not be available from the Myakka River. We would appreciate an evaluation of 2006-2010 data which may show depressed flows, probably resulting from drainage projects of the past. We would also appreciate Block 1 allowable withdrawals to be lowered so that the 15% habitat loss threshold is maintained by rule. We would also like the calculation of “excess flows” to take into account historic watershed diversions. This would, in effect, create a water supply incentive to reestablish hydrologic watersheds to contribute flows to their historic receiving water bodies. Finally, we would like to see specific mechanisms included in the MFL to require adaptive management to assure maintenance of natural variability in flow and a minimum threshold of water in the river and delivered to Charlotte Harbor.

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