



December 12, 2002

Mr. E.D. Vergara
Executive Director
Southwest Florida Water Management District
2379 Broad Street
Brooksville, FL 34604-6899

Re: Draft Upper Peace River Minimum Flows and Levels Rules

Dear Mr. Vergara;

This letter is to comment on the draft Upper Peace River Minimum Flows and Levels Rules. The Charlotte Harbor National Estuary Program (NEP) Management Conference strongly supports the Southwest Florida Water Management District's efforts to develop Minimum Flow and Levels rules for the Upper Peace River, the District's technical methodology and the basic tenet of a flow regime to reflect natural seasonal variations in streamflow. Herein we provide our recommendations and our analysis of how the draft rule supports our *Comprehensive Conservation and Management Plan (CCMP)*.

The Charlotte Harbor NEP is a partnership program, created by Section 320 of the Clean Water Act, to protect and preserve the Charlotte Harbor estuary, recognized as an estuary of national significance and one of the most productive estuaries in the State. The Peace River is a major tributary to and key component of the Charlotte Harbor estuary; protecting the natural flow regime and ecological integrity of this river is of great importance to the Charlotte Harbor NEP. Since 1996, the Charlotte Harbor NEP has developed and completed a CCMP for the estuary and its watershed. This plan was developed utilizing four committees of citizens, scientists, resource managers, industry representatives and policy makers. Our partnership includes, among others, Polk, Hardee, DeSoto, and Charlotte Counties; the U.S. Environmental Protection Agency; U.S. Army Corps of Engineers; U.S. Fish and Wildlife Service; the Florida Fish and Wildlife Conservation Commission; the Florida Department of Environmental Protection; and both the South and the Southwest Florida Water Management Districts. A part of the implementation of this CCMP is determining the consistency of proposed actions in the Charlotte Harbor watershed with the CCMP.

The effort to develop Minimum Flows and Levels for the Upper Peace River by the District addresses three Quantifiable Objectives of the CCMP:

- **HA-1:** Establish values for minimum seasonal flows and levels beginning with the Myakka River at State Road 72 and for Big Slough; the Peace River at Bartow, Zolfo Springs, and Arcadia; and for the tributaries Horse Creek, Joshua Creek, Shell Creek, and the lower Peace River/ upper estuary by the year 2005. Achieve these minimum seasonal flows by the year 2020.

- **HA-2:** Identify, establish, and maintain a more natural seasonal variation (annual hydrograph) in freshwater flows by the year 2010 for... Upper Peace River and its tributaries from Tenoroc to Zolfo Springs;... and
- **FW-2:** Meet the stated objectives for the target extent, location, and quality of the following habitats in the Charlotte Harbor NEP study area: ...e) restore, maintain, and manage freshwater wetland systems in current extents and to a quality capable of maintaining all natural functions within the range or natural variability;

As reported in the August 25, 2002 Draft SWFWMD document *Upper Peace River: An Analysis of Minimum Flows and Levels*, the proposed rule is:

“An annual 95% Exceedance Flows of 17cfs as measured at the USGS Bartow Gage; an annual 95% Exceedance Flows of 27cfs as measured at the USGS Ft. Meade Gage; and an annual 95% Exceedance Flows of 45 cfs as measured at the USGS Zolfo Springs Gage.”

The Management Conference has reviewed this draft MFL rule and finds that the rule is largely consistent with our CCMP and in fact serves to implement it. There are, however, some aspects of the rule as currently written that are inconsistent with the CCMP. It is our understanding from earlier coordination with your staff that many of these inconsistencies will be resolved in the future. Nonetheless, at this time the Conference believes that the District has not adequately developed MFLs for the resources of concern in the Upper Peace River basin. This draft rule currently will not allow adequate instream flows to meet critical fish requirements, protection from the pooling of water in deeper areas of the channel and the associated water quality problems, and the maintenance of instream channel functions and streambanks. This will have direct influence on the Conference's ability to meet the goals of Objectives HA-1, FW-2 and those pertaining to the Conference's ability to meet or exceed designated water quality standards throughout the study area. The Conference also finds that the District is currently not proposing a flow regime for the Upper Peace River from Bartow to Zolfo Springs but instead a single value. The single, absolute minimum flow is not protective of riparian and floodplain habitats, does not consider the transport of sediments, and will not sustain important macroinvertebrate, amphibian and other aquatic life cycles. This, therefore, hinders the Conference's ability to meet the goals within HA-2 and FW-2.

The Charlotte Harbor NEP Management Conference applauds the strong technical methodology that the District followed in developing the draft rules. The Management Conference also recognizes and is grateful to the District for having held numerous meetings with Conference members, its partners and others to obtain local input into the development process and for considering this input in the proposed MFL rule. The Charlotte Harbor NEP Management Conference appreciates the opportunity to provide comments on the proposed Upper Peace River MFL rule and recommends the following actions to address the Conference's concerns with the MFL rule:

1. Develop Minimum Flows and Levels rules to protect medium and high flows in addition to the low minimum flows and levels currently proposed. A single, absolute minimum flow will not ensure the periodic inundation of riparian and

floodplain areas of the channels. Therefore, it is not protective of root and snag habitats, often considered to be the most biologically diverse habitats within a low gradient channel, such as the Peace River, and one of the most important for an aquatic food chain. Likewise the failure to ensure periodic inundation of these areas does not allow the deposition of sediments as part of the floodplain formation process and is not protective of floodplain habitats, such as cypress and mixed swamps, that provide for the exchange of nutrients and organic matter and habitat for wetland biota.

Florida Statutes 373.042(1)(b) allows that MFLs be “calculated to reflect seasonal variations.” The State Water Resources Implementation Rule (Chapter 62-40.473, FAC) states that:

“(1) In establishing minimum flows and levels pursuant to Section 373.042, consideration shall be given to the protection of water resources, *natural seasonal fluctuations in water flows or levels*, and environmental values associated with coastal, estuarine, aquatic, and wetlands ecology, including:

- a) Recreation in and on the water;
- b) Fish and Wildlife habitats and the passage of fish;
- c) Estuarine resources;
- d) Transfer of detrital material;
- e) Maintenance of freshwater storage and supply;
- f) Aesthetic and scenic attributes;
- g) Filtration and absorption of nutrients and other pollutants;
- h) Sediment loads;
- i) Water quality; and
- j) Navigation.”

The need to establish a rule that ensures a flow regime is documented numerous times in Chapter 1 of the August 25, 2002 Draft SWFWMD document *Upper Peace River: An Analysis of Minimum Flows and Levels*. For example, page 1-3 states that “any minimum flows methodology involves more than the consideration of immediate fish needs..., but should take into consideration ‘how streamflows affect channels, transport sediments, and influence vegetation.’”

The Management Conference applauds the District’s plan to propose rules for higher seasonal flows at the Zolfo Springs gage site during the rule development for the Middle Peace River in 2003. The Management Conference requests that the District undertake the same activity for the Bartow and Ft. Meade gages as well and urges the District to add the rule development for these higher flows regimes to the District’s Priority Schedule or the rule itself.

2. Clarify and modify the Fish Passage Criteria target of a “maximum of 0.6 feet” to a minimum of 0.6 feet for a specific width of the stream channel. The Management Conference strongly supports the District’s use of the higher flow

needed to meet the two target flow levels for these rules —Fish Passage and Wetted Perimeter Inflection Point. However, the Fish Passage Criteria of a *maximum* of 0.6 feet (7.2 inches) may not be sufficient to allow habitat use for the river's larger fish species. For example, snook, sunfish and bowfin that can comprise a large part of the river's ichthyofauna biomass during the dry season may have too large a "depth" for this target to be sufficient. Also, the flow needed to provide the 0.6 feet of water above the minimum channel depths was derived from a model using data from 160 cross-sectional transects. There may well be areas higher in elevation in the actual streambed that were not incorporated into the model and thusly omitted from the estimation of these flows (Figures 6-2, 6-4 and 6-5 from the above document demonstrate examples of transects with possible higher streambed elevations incorporated into the model but not incorporated into the flow estimation). The 0.6 feet over the minimum channel depths may not be adequate to allow fish passage in those areas with higher streambed elevations, and river water may still pool in areas, causing problems in turn with dissolved oxygen and phytoplankton levels.

Finally, there is no indication of the width of the stream channel that the 0.6 feet criteria would be met. As the Fish Passage Criteria requires the higher flows to meet the two low flow criteria at the Ft. Meade and Zolfo Springs gage sites—2 out of 3 sites for the 37.4-mile length of the channel from Bartow to Zolfo Springs, this 0.6 feet maximum level is of particular concern. A possible method to address this issue would be to have the target of a *minimum* of 0.6 feet of flow for x feet in width over the streambed for the Fish Passage Criteria for the Upper Peace River from Bartow to Zolfo Springs.

3. Incorporate the loss of flow to subsidence features or reference the Fish Passage and Wetted Perimeter Inflection Point Criteria within the rule. At this time, the proposed MFL rule requires specific flows at the 3 gage locations for 95 percent of the year. Written as such without reference to the Fish Passage and Wetted Perimeter Inflection Point Criteria themselves, the rule in effect does not ensure the Fish Passage and Wetted Perimeter Inflection Point Criteria will be met. For example, a flow of 17cfs at the Bartow gage may not be sufficient to ensure the target flow level to meet the Fish Passage and Wetted Perimeter Inflection Point Criteria the entire route to the Ft. Meade and Zolfo Springs gages, especially with subsidence features in the upper region. The HEC-RAS model used to determine flows at the Bartow gage necessary to meet the Fish Passage and Wetted Perimeter Inflection Point Criteria did not consider flows lost to sinkholes. A possible method to address this issue would be to determine the loss of flow due to subsidence features in the Upper Peace River between Bartow and Zolfo Springs and augment the minimum flow rule at the appropriate gages to offset this quantity. Alternatively, the District could choose to reference the Fish Passage Criteria of the 0.6 feet flow level for a specific channel width and Wetted Perimeter Inflection Point Criteria within the rule.

4. In addition, the Management Conference endorses a rule that provides for the periodic inundation of instream woody habitats, such as snags and roots. However, the period of inundation for the Instream Woody Habitats Criteria should be consistent with the Department of Environmental Protection's recommendations for the Stream Condition Index and Bioassessments. FDEP recommends that a river or stream have flowing water for a minimum of 60 consecutive days before staff are permitted to undertake a biological assessment of the system. A period of 60 consecutive days of inundation of woody habitats is more conservative and should be considered in lieu of the 45 consecutive days that the District may use for a target in future rule development for these higher seasonal flows.
5. Finally, while the Management Conference recognizes the District's wishes to initiate rule development for the more impacted sections of the Peace River first as a sound decision, there is a concern that the result of this process may not provide ample protection for the lower Peace River and Charlotte Harbor estuary. Thus, the Management Conference requests that the Southwest Florida Water Management District revisit the established MFL rules for the Upper and Middle Peace Rivers soon after it has completed rule development for the lower/tidal portion of the river system to ensure consistency and that the established flows and levels are adequate to protect the ecological integrity of the entire system.

Adoption of a rule that incorporates the above recommendations will serve to help implement our plan. The Management Conference applauds the technical methodology the District followed in developing the proposed MFLs and the work done to date.

Thank you for the opportunity to provide comments regarding the proposed Upper Peace River MFL rule. If we can be of assistance in furthering these efforts or if you have any questions, please contact Catherine A. Corbett, Senior Scientist, at the Charlotte Harbor National Estuary Program office at (239) 995-1777 extension 241.

Sincerely,



Lisa B. Beever, PhD, AICP
Director
LBB/CAC/cac

CC: Ronnie E. Duncan, Chair, Southwest Florida Water Management District
Governing Board Members, Southwest Florida Water Management District
Marty Kelly, PhD, Southwest Florida Water Management District