



April 24, 2002

U.S. Environmental Protection Agency, Region 4
Water Management Division
61 Forsyth Street, S.W.
Atlanta, Georgia 30303
ATTENTION: Ms. Sibyl Cole, Standards, Monitoring and TMDL Branch

Re: December 2001 Proposed Myakka River Total Maximum Daily Loads Rule

Dear Ms. Cole:

This letter is to provide comment on the December 2001 proposed Myakka River Total Maximum Daily Loads Rule. The Charlotte Harbor National Estuary Program (NEP) Management Conference supports the basic tenet of the TMDL of no increase in loadings of nitrogen and TMDLs that prohibit an increase in other pollutant loadings also. However, there are several components of the proposed TMDL that conflict with the NEP *Comprehensive Conservation and Management Plan (CCMP)* and need to be improved or clarified. Therefore, the Conference has found that the proposed rule is *inconsistent* with the CCMP adopted by the Management Conference in February 2000.

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. The Myakka River is a major tributary to and key component of the Charlotte Harbor estuary, and much of the river itself has been designated an Outstanding Florida Water and Florida Wild and Scenic River, affording it special protection within the State. 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, and policy makers. Our partnership includes, among others, Manatee, Sarasota and Charlotte Counties; the U.S. Environmental Protection Agency; U.S. Army Corps of Engineers; U.S. Fish and Wildlife Service; the Florida Department of Environmental Protection; and both the Southwest and the South 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 December 2001 proposed Myakka River Total Maximum Daily Loads rule states that "Section 303(d) of the Clean Water Act (CWA) as amended by the Water Quality Act of 1987, public law 100-4, and the United States Environmental Protection Agency's (USEPA/EPA) Water Quality Planning and Management Regulations (40 CFR Part 130) require each State to identify those waters within its boundaries not meeting water quality standards applicable to the water's designated use(s). Total Maximum Daily Loads (TMDLs) for all pollutants violating or causing violation of applicable water quality standards are required and established for each identified water that are not meeting

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designated uses..." The development of the TMDL rule by the U.S. Environmental Protection Agency addresses three Quantifiable Objectives of the CCMP:

- **WQ-1:** *Identify those waterbodies that do not meet their designated water quality standards, and develop a plan during the year 2000 to meet those standards;*
- **WQ-2:** *Develop Total Maximum Daily Loads (TMDLs), except for mercury, for high priority 303(d) listed water segments by 2004 and for all remaining 303(d) waters in the Charlotte Harbor NEP study area by 2009 and*
- **WQ-6:** *Meet or exceed designated water quality standards throughout basins of the Charlotte Harbor NEP study area by the year 2015 with possible exceptions for natural and/or site-specific conditions.*

The Conference has reviewed the proposed TMDL rule and finds it inconsistent with the Charlotte Harbor CCMP. The Conference finds that the Agency used the 1998 303(d) list alone in its determination of impairments for the Myakka River and this 303(d) list did not include all contaminants in the basin that are causing a failure to meet designated uses. Therefore, this is inconsistent with WQ-1. The conference finds that the Agency has not adequately developed TMDLs for the contaminants of concern and does not adequately develop a methodology for implementation. This is, therefore, inconsistent with WQ-2. Finally, by not addressing all contaminants of concern and not adequately developing TMDLs, the rule is inconsistent with meeting the water quality goals found in WQ-6.

The Charlotte Harbor NEP Management Conference acknowledges that the Agency has developed the proposed TMDL pursuant to the 1998 Florida 303(d) list and the Consent Decree and settlement agreement in the Florida TMDL lawsuit that requires TMDLs be developed for waters on the State's 303(d) list according to certain conditions outlined in the agreement, including the time constraint of December 31, 2001. The Conference also recognizes and is grateful to the Agency for having held numerous meetings with the Charlotte Harbor NEP, Southwest Florida Water Management District (SWFWMD), FDEP, Sarasota, and Manatee Counties, and others to obtain local input into the development process and for considering this input in the proposed TMDL rule.

The Charlotte Harbor NEP Management Conference suggests the following actions to bring the TMDL process and rule into consistency with the *Comprehensive Conservation and Management Plan*:

1. EPA and the State of Florida should consider additional contaminants as causing impairment of uses in the Myakka system and include this information in the 303(d) list and proposed TMDL rule. We understand that the Agency may be limited to developing limits for contaminants determined to cause impairment through the 303(d) listing process; however, the current 303(d) list, accepted by the Agency, is inadequate. We understand that the State of Florida is developing a revision to the 303(d) listing which is due Fall 2002. We strongly urge that the

Agency and State consider information beyond the 1998 Florida 303(d) list and current Florida water quality standards in developing the upcoming revision. A major concern of the public and scientific community for the Myakka River is the large tree die-off in the upper basin due to hydrologic stress. This tree mortality has been directly linked to anthropogenic influences through significant trends of increasing conductivity and mineral content in the water column in this area resulting from increased groundwater pumping. The consequence has been an increase in seasonal river flows that has caused a major biological impairment in the upper watershed that is not being addressed through this TMDL process. The Program therefore finds these efforts inconsistent with WQ-1 and WQ-6.

2. The Agency should incorporate additional relevant research, such as studies documenting the aforementioned biological impairments and numerous appropriate empirical loading models, into the development of the proposed TMDL rule. The Agency should incorporate locally derived data and pollutant yield rates into the TMDL and should field calibrate any models used to assess pollutant loadings to ensure the rule is conservative and protective of the resource. Currently, the rule falls short of this goal and is inconsistent with WQ-2.
3. The Agency should clarify the language in the TMDL rule. Since the actual quantitative poundage of pollutants introduced into the river is in question, the TMDL should make clearer that the actual limit is "no additional pollutant loading" in lieu of a current loading estimate calculated by a mechanistic model. The Conference supports a TMDL for contaminants, such as nitrogen and phosphorus, that specifies "no additional load." For these reasons, the Conference finds that the TMDL rule is inconsistent with WQ-2.
4. Finally, the above deficiencies in the TMDL place into question the overall goal of attainment of water quality standards and designated uses for the Myakka River. Therefore, the rule is inconsistent with WQ-6.

The Conference requests the Agency cooperate with the State to refine the Myakka River TMDL to include the biological impairments of the upper watershed, specifically the Flatford Swamp area, and more appropriate targets than that of the current Florida water quality standards. In addition, the Management Conference recommends the following changes to help ensure consistency with the NEP plan:

1. In addition to the 1998 Florida 303(d) list, local water quality data and research, including the following, should be considered to determine impairments, and information stemming from these sources should be incorporated into the TMDL rule and future 303(d) list:
 - a) US Geological Survey (USGS), County, Environmental Quality Laboratory, and SWFWMD data not currently held in STORET;
 - b) Previous dissolved oxygen, suspended solids, nitrogen and phosphorous trends analyses by USGS, Charlotte Harbor NEP, Southwest Florida Water Management District, and the Charlotte Harbor Environmental Center (see reference section below for more information); and

- c) Documentation of significant biological impairments by USGS, the SWFWMD and others due to elevated mineral content and flow levels through the increasing reliance of groundwater in the upper watershed (see reference section below for further information);
2. Research into other physical, biological, and chemical perturbations that may influence biological and estuarine resources within the water body should be undertaken and incorporated into the determination of impairments for the proposed TMDL rule and in additional 303(d) listing processes. This research should include, at a minimum, sediment oxygen demand in freshwater segments, impacts of increasing conductivity and seasonal flow, and light limitation. For instance, while it has been documented that nitrogen is the limiting nutrient within Charlotte Harbor (McPherson et al, 1990 and Montgomery et al, 1991), there is ample evidence that dissolved and suspended matter within the water column limits primary productivity in the lower salinity segments of this system (McPherson and Miller, 1987) and is the major source of light attenuation within the estuarine segments and upper Charlotte Harbor (McPherson and Miller, 1987, Dixon and Kirkpatrick, 1999 and Tomasko and Hall, 1999) See also McPherson and Miller (1990) and McPherson et al. (1990);
3. Current pollutant loadings should be compared to the loadings in the late 1980s, or at minimal, a review of appropriate trend analyses should be undertaken to ensure that the water quality of the river has not degraded subsequent to its designation as a Florida Wild and Scenic River in 1986 and as Outstanding Florida Waters in 1988 and 1990. These designations afford the river non-degradation status, and thus, if it is found that water quality has been degrading since these designations, the TMDL rule and 303(d) listing should consider a representative year of the water quality in the late 1980s as the performance target;
4. The assimilative capacity of the waters for important impaired analytes should be determined to ensure that water quality would not be harmed with the proposed TMDLs. For example, it is entirely possible that current loads for some analytes, such as conductivity in the upper basin, have already exceeded the assimilative capacity of the waters, and a TMDL that does not propose to reduce the loadings of these pollutants will not help protect the resource. This information should also be incorporated into upcoming 303(d) listings to ensure that all contaminants necessary to attain designated uses are addressed by the TMDL process;
5. Appropriate tracking mechanisms and targets for water quality, such as *E. coli* and *Enterococci* in lieu of total coliforms, based upon strong scientific evidence should be developed for the impairments. This may entail using targets that differ from that of Florida standards, as current Florida standards may not be appropriate for this system. The Conference further urges the Agency to work

with the State of Florida to effect changes in the State Water Quality Standards to better reflect recent research and the needs of a wide array of ecosystems within the State;


6. If a mechanistic model, such as WAMView, is used to determine pollutant loadings and assess loading sources, the model should be based upon the most accurate assumptions and use appropriate locally derived data. The following is a list of concerns with the current WAMView model:
 - a) It should exclude peach and pecan orchards, of which there are none in this watershed. It further needs to incorporate citrus as a landuse;
 - b) It should include lower estimates of nitrogen yields from row crops. The current modeled yields are derived from studies perhaps not appropriate to this region and likely too high (currently at 94.08 kg/ha/yr for attenuated soluble and sediment nitrogen). For example, SWFWMD estimates a dry season nitrogen yield rate, with a run-off coefficient of 0.2, as 14.85 kg TN/ha/yr, and during the wet season with a run-off coefficient of 0.45, the yield will be 33.41 Kg TN/ha/yr;
 - c) The modelers should carefully evaluate whether the nitrogen yields for low, medium, and high density residential land use categories reflect actual loadings in the basin based upon locally derived data, especially as they relate to nitrogen yields from undeveloped land cover categories. It seems unlikely that some of these undeveloped land uses could be contributing higher nitrogen yields than those of developed land uses;
 - d) It should entail accurate atmospheric deposition rates using rates determined at the Verna well field National Atmospheric Deposition Program site. Currently, it uses a fixed deposition rate multiplied by rainfall data;
 - e) It should include pollutant loadings from sludge application in Manatee and Sarasota Counties;
 - f) It should incorporate the numerous point sources in the watershed;
 - g) It should encompass the effects of Blackburn canal;
 - h) It should entail the periodic treatment for invasive exotics species within the watershed, such as hydrilla and water hyacinth in the Myakka River State Park, and loadings associated with these treatments;
 - i) It should integrate the potentially significant loadings from nitrogen-fixing blue-green algae. There is ample documentation of *Cylindrospermopsis* spp. (St. Johns River Water Management District, 2001) and *Anabaena* spp. in the Peace River and the latter within upper Charlotte Harbor (cited in McPherson, 1996). The WAMView model does not attempt to incorporate this potential nutrient source; and
 - j) It should incorporate the well documented trends of increasing mineral content and reliance on groundwater in the upper basin;

7. Any mechanistic model, such as WAMView, that is utilized in the determination of pollutant loadings, should be well calibrated with locally collected field data and should be consistent with previous empirical pollutant loading models, including Hammett (1990), Coastal Environmental (1995), Pribble et al.(1997) and PBS & J (1999); and
8. Research and monitoring should be conducted to assure negative impacts do not occur to important biological and estuarine resources. In addition, the rule should recommend follow-up research and monitoring to predict and document causes of loading increases and thereby identify necessary actions to correct deficiencies.

To help protect and conserve the Myakka River and Charlotte Harbor ecosystem, appropriate impairments, targets, and pollutant sources need to be identified in the TMDL process. The Program recognizes that this effort requires an iterative process that will necessitate further resources to help strengthen and refine the TMDL. Degradation of these resources due to lack of appropriate science and time is a potential outcome of concern. We believe that the rapid inclusion of the recommended changes would allow consistency with the Charlotte Harbor *Comprehensive Conservation and Management Plan* and would provide significantly increased protection for the resources of this nationally significant estuary.

We appreciate the opportunity to provide comments regarding the consistency of the proposed Myakka River TMDL rule with the Charlotte Harbor CCMP. If you have any questions, please contact Catherine A. Corbett at the Charlotte Harbor National Estuary Program office at (941) 995-1777.

Sincerely,



Lisa B. Beaver, PhD, AICP
Director
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CC: Kim Pierce, U.S. Environmental Protection Agency
Eric Livingston, Florida Department of Environmental Protection
Jan Mandrup-Poulson, Florida Department of Environmental Protection

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