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DRAFT – June 3, 2003

To: Superintendent, Everglades National Park
Manager, A.R.M. Loxahatchee National Wildlife Refuge
District Engineer, Jacksonville District, Army Corps of Engineers
Secretary, Florida Department of Environmental Protection
Executive Director, South Florida Water Management District

From: TOC representative, Everglades National Park
TOC representative, Loxahatchee National Wildlife Refuge
TOC representative, Jacksonville District, Army Corps of Engineers

Re: Exceedences of the Interim Phosphorus Levels for A.R.M. Loxahatchee National Wildlife Refuge under the Consent Decree in United States v. South Florida Water Management District, No. 88-1886-Civ (S.D. Fla)

This provides the "opinions and recommendations" of the federal representatives to the Technical Oversight Committee ("TOC") concerning exceedences of the interim levels for A.R.M. Loxahatchee National Wildlife Refuge. We are also including recommendations on how we might improve the TOC process so that we are able to achieve consensus based solutions to address issues as we move closer to the Consent Decree's compliance deadline of December 31, 2006.

1) Under Appendix B of the consent decree, "[a]n exceedance [of Loxahatchee's interim levels occurs if the 14 station mean concentration is greater than the computed concentration level two or more times in any 12 consecutive sample collections." This condition has occurred one or more times in each year since the interim levels went into effect in February 1999, most recently between July and October 2002, as a consequence of the fact that monthly marsh concentrations were above interim levels in October 2001 and July 2002. Compliance was not measured in May 2002 because of low water levels.

2) Appendix B of the decree further provides that "[a]n exceedance will constitute a violation of this Agreement and relevant water quality criteria unless the TOC determines there is substantial evidence that it is due to error or extraordinary natural phenomena."

To date, we have not received substantial evidence that the most recent exceedance is due to error or extraordinary natural phenomena. One scenario is that the most recent Refuge exceedance is due to external phosphorus loads to the Refuge from discharges through the S6, S5A, STA-1 West, and/or the Acme Improvement District structures. If so, then the exceedance constitutes a violation of the consent decree and the relevant water quality criteria.

3) Where an exceedance occurs, Appendix B of the consent decree provides that "[b]ased upon review of monthly trends for the 14 station mean and other relevant information, the TOC members will forward their opinions and recommendations to their respective agencies for relevant action."

4) There has been a history of exceedances of the Refuge interim levels. Monthly P concentrations have been above interim levels in 7 out of 50 months and the exceedance condition has occurred in each year since the interim levels went into effect. The exceedance condition did not recur as of March 2003 because marsh phosphorus concentrations were above interim levels in only one out of the previous 12 monthly sample collections. However, in assessing the significance of the most recent drop in phosphorus concentrations, it is significant that concentrations have generally been below interim levels in the relatively dry, winter months of previous years, when exterior phosphorus loads are relatively low and hydraulic conditions are not conducive to transporting phosphorus from the exterior rim canal into the marsh. Compliance test results vary from month to month because of the expected variability in the marsh and monitoring procedures. Consequently, the cumulative record of compliance, trends, and performance of load-reduction measures should be reviewed as part of our analysis of data.

5) Exceedances of interim levels in the Refuge may be symptoms of excessive phosphorus loads that cause additional imbalances of natural flora and fauna within the Refuge and retard the recovery of previously impacted areas.

6) Additionally, recent data indicates an increase in STA-1W outflow concentrations and loads. This may be based upon the diversion of large volumes of water and phosphorus loads from Lake Okeechobee into the treatment area. This could increase the risk that exceedances will recur in

the future and this is an area that needs to be monitored closely by the TOC and the principals to the consent decree. For example, in the 12-month period ending March 2003, the phosphorus load to STA-1W was three times its average design load and twice its 31-year maximum design load. During this same period, the average phosphorus load to the Refuge was about twice the levels required to achieve an 85% reduction in loads relative to 1979-1988, as required under the Consent Decree.

7) Consequently, we recommend the following in an effort to improve and further deliberations by the TOC to develop consensus based approaches to review and analysis of data:

- a. more timely review and analysis of current data, including more frequent meetings of the TOC, as appropriate;
- b. more intensive monitoring, including spatial sampling in areas close to the discharge points within the Refuge;
- c. refinement of modeling of the effects of concentrations and loads in Refuge discharges; and
- d. further evaluation of potential causal factors for Refuge exceedances and recent uptrends in data from STA 1-W outflows.