EPT comments on Goforth June 14, 2006 document, “Five-year summary of operations affecting WCA-1”

October 3, 2006

General comments

While it is true that triggering conditions under the temporary deviation did not materialize, significant attention was paid by water managers to keep track of, and respond to if needed, the rate of recession outlined in the temporary deviation. There were extensive and ongoing discussions between staff of the Refuge, the Corps, the SFWMD, and the Lake Worth Drainage District (LWDD) outside of and in addition to their regular water coordination meetings. For example, LWDD decisions on the timing of pulling water out of the Refuge was based, in part, on what the recession rate was at that time. These discussions and the resulting water management decisions indeed affected Refuge water management, and do constitute an impact with respect to the temporary deviation.

Also, we have comments regarding the 1-8C gauge issues. However, because a workgroup was convened to address these issues, we will withhold specific comments pending a successful outcome of that process. The statement that "A reference elevation discrepancy was identified at the canal gage 1-8C..." overstates the certainty of the finding. It would be more appropriate to simply say that apparent discrepancies in the data suggest that there may be a measurable error in some gauge reference elevations.

Specific comments

p. 1: It would be helpful to include an explanation here and in the Summary of why the focus of the report is on the last five years, and a brief, general characterization of those five years (wet, dry, unusual events, etc.).

p. 1: What are the possible reasons of WY2006 inflows being less than one-half the long-term average? Impaired condition of STA-1W? Management decision to divert water away from the Refuge?

p. 1: Although a formal "follow-up feasibility analyses" on item #1 has not been performed, coordination has improved since the TOC recommendation was made. The Corps has been regularly alerting the Refuge about changes in S-10 gate settings, and asking us for our opinion on alternatives. As alluded later in the report, the Corps has been making adjustments in somewhat more of an anticipatory way. Although there is certainly room for improvement, and we are still limited by the need to manually adjust the gates, the improvement in coordination should not go unmentioned.

p. 2, line 7: The phrase “…due to the reduced potential for penetration…” conflicts with data depicted in Fig. 22 illustrating periods when canal stages were greater than marsh

stages. Also, analysis of data from the expanded monitoring program demonstrates intrusion of canal water even when marsh stages are higher than canal stages.

p. 2, last 4 lines: We disagree strongly that there is limited interaction between the interior marsh and the perimeter canals.

p. 4, first paragraph: Was the SFWMD ever able to implement 24-hour pumping regimes to minimize spikes?

p. 4, last 3 sentences of second paragraph: Recent data analysis indicates that intrusion can occur even when there are very low canal inflows.

p. 5, Section 2.2.1: The Corps operates the S-10 structures in close cooperation with the SFWMD.

p. 6, Section 2.2.4: How was the correction factor of 0.8 derived?

p. 7, line 5: Are there data to support the assumption that seepage carries phosphorus away from WCA-1? Is it possible that some of this phosphorus is adsorbed below surface? In fact, the detention ponds in the Frog Pond adjacent to ENP are operated with the assumption that phosphorus adsorption occurs beneath the surface.

p. 7, third paragraph: Again, we disagree strongly about the phrase, "…limited interaction."

p. 8, second paragraph: In contrast to what is stated in the second sentence, we believe that interior marsh phosphorus dynamics are strongly tied to external dynamics, particularly intrusion of canal water into the marsh interior. Figure 22 illustrates periods when the canal stage is higher than the marsh stage, and recent analyses show intrusion occurring even under other conditions. In addition to the effects of relative stages, we have discussed the possibility at TOC that changes in sampling techniques beginning in the Fall of 2005 may have resulted in lower phosphorus concentrations at some stations.

p. 8, next-to-last paragraph: While there is very little discussion in the report regarding the multiple panels of Figure 26, it is a basic ecological tenet that there would be a poor relationship between phosphorus concentrations in source water (canals) and phosphorus concentrations in the surface water of a downstream aquatic ecosystem characterized by phosphorus limitation (interior marsh). Phosphorus is a very reactive constituent in phosphorus-limited wetlands, and one would expect rapid removal of phosphorus from the water column via biological uptake.

p. 12, Figure 3 legend: Our analysis of the expanded monitoring program data demonstrate intrusion into the marsh even when the marsh stage is higher than the canal stage. The additional hydrologic influence is from the amount of water being pumped into the canals.