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United States District Court, S.D. Florida,
Miami Division.

UNITED STATES of America, Plaintiff,

v.

SOUTH FLORIDA WATER MANAGEMENT
DISTRICT et al., Defendants.

No. 88–1886–CIV–MORENO. | Aug. 30, 2010.

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REPORT OF THE SPECIAL MASTER (AUGUST 30, 2010)

JOHN M. BARKETT, Special Master.

*1 By its “Order Granting Motion to Adopt the Special Master's Report, Motion Seeking Declaration of Violations, and Motion for Declaration of Breach of Commitments” dated March 31, 2010 (“March 31 Order”), the Court referred a number of issues to the Special Master. This Report addresses one of those issues: the construction of the Everglades Agricultural Area (EAA) A–1 Reservoir. In the March 31 Order, the Court ordered the A–1 Reservoir to be constructed in the absence of an amendment to the Consent Decree “to deal with changed circumstances and opportunities” (March 31 Order, p. 19–20).¹

As the Court anticipated when it issued its March 31 Order, the State of Florida and the South Florida Water Management District (“District”) (jointly, “State Parties”) filed on April 28, 2010 their Consolidated Rule 60(b)(5) Motion for Relief from Order on Remedies, Motion for Leave to Present Evidence on Alternative Remedial Measures in Lieu of Building the EAASR, and Rule 59(e) Motion for Modification (“Motion to Amend”). [DE 2139]. The other parties and interveners responded to the State Parties' Motion to Amend.² The Court issued an order dated May 14, 2010 referring the Motion to Amend to me for a Report and Recommendation by August 31, 2010. [DE 2150].

I conducted a hearing on the motion during the week of July 26, 2010.³ The parties made written post-hearing submissions on August 11, 2010. I heard oral argument by counsel for the parties on August 13. Having considered at length the Motion to Amend, the responses of the parties and interveners to the motion, the evidence, and arguments of all

counsel, I now make this Report and Recommendation to the Court.

This Report and Recommendation is organized as follows:

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Hearing Procedure

At the Evidentiary Hearing, I heard the testimony of the following expert witnesses.

Date	Witness	Position	For
July 26	Jeff Kivett, P.E. ⁴	Director, Everglades Restoration Capital Projects Engineering Department, SFWMD	District
July 26	Paul V. McCormick, Ph.D.	Chief Scientist, Restoration Sciences Department, SFWMD	District
July 26	Michael Smykowski	Budget Director, SFWMD	District
July 26	Garth Redfield, Ph.D.	Chief Scientist, Restoration Sciences Department, SFWMD	District

July 26	Kenneth G. Ammon, P.E.	Deputy Executive Director, Everglades Restoration and Capital Projects, SFWMD	District
July 26	Greg Knecht	Director, Office of Ecosystem Projects, Florida Department of Environmental Protection (FDEP)	State
July 26	Gail D. Mitchell	Deputy Director, Water Protection Division, Region 4, Environmental Protection Agency (EPA)	United States
July 27	Robert J. Fennema, Ph.D.	Hydrologist, Everglades National Park	United States
July 27	Mathew C. Harwell, Ph.D.	Senior Ecologist, Arthur R. Marshall Loxahatchee National Wildlife Refuge ("Refuge")	United States
July 27	Tori K. White	Regulatory Chief, Army Corps of Engineers ("Corps"), Jacksonville District	United States
July 27	G. Melodie Naja, Ph.D.	Environmental Scientist—Water Quality Specialist, Everglades Foundation; Affiliated Professor, Florida International University;	Audubon Society
July 27	Thomas Van Lent, Ph.D.	Sr. Scientist, Everglades Foundation	Audubon Society
July 27	William Wise, Ph.D., P.E	Associate Professor, Department of Environmental Engineering Sciences, University of Florida	Sierra Club
July 28	Antonio L. Argiz, CPA/ABV/CFF, CFE, ASA, CVA	Managing Partner, Morrison, Brown, Argiz & Farra, LLP	Farm Interests
July 28	Ronald Dean Jones, Ph.D.	Professor of Biology, Portland State University	Tribe
July 28	Terry L. Rice, Colonel (Retired), Ph.D.	President, T.L. Rice, LLC	Tribe
July 30	David Moore	Managing Director, Public Financial Management, Inc.	State

*2 United States Sugar Corporation (U.S.Sugar) did not present any witnesses.

Before the hearing, each expert submitted a declaration containing his or her expert testimony and was permitted to submit a rebuttal report. At the hearing, each witness was sworn, introduced, and then tendered for cross examination.⁵

The hearing participants premarked and exchanged their exhibits and then identified exhibits to which they had objections. Counsel conferred and resolved most of the objections. I addressed the remaining objections in a prehearing conference held on July 23, 2010.

The parties submitted post-hearing memoranda on August 11, 2010. I heard oral argument from counsel for the parties on August 13, 2010.

Procedural and Evidentiary Rulings

Preliminarily, there are three matters I must address. One is procedural and two are evidentiary.

Motion to Limit Farm Interests' Participation in the Hearing

The procedural matter relates to Audubon Society's July 16 "Motion to Limit Farm Interests' Participation at Hearings."⁶ The Audubon Society argued that the original order permitting the Farm Interests to intervene limited their involvement to matters directly affecting the translation of a narrative water quality standard to a numeric standard. The Audubon Society referred me to the Eleventh Circuit's 1991 decision which identified the limited scope of the intervention of the Farm Interests:

We hold that the Farm Interests have the right to intervene in this case. This right results solely by reason of the issues raised in Count I of the United States' Amended Complaint, which asks the District Court to translate narrative water quality standards into numeric criteria. The Farm Interests derive no right to intervene, however, by reason of the issues raised in Counts II, III, and IV, which assert that the Water District is violating state permitting requirements and has breached two contracts with the United States. On remand, the District Court may, if appropriate, restrict the Farm Interests' participation in this case to the issues relating to Count I, or may bifurcate the proceedings

between Count I and the other counts to promote judicial efficiency.

United States v. South Florida Water Management District, 922 F.2d 704, 706 (11th Cir.1991).

It also referred me to the Eleventh Circuit opinion that followed this Court's approval and adoption of the Settlement Agreement as a Consent Decree, where the Court of Appeals chided the Farm Interests for exceeding their limited right of intervention:

The [Farm Interests] Intervenors have raised issues on this appeal that exceed the scope of their limited right to intervene granted by this Court in *United States v. S. Flo. Water Management Dist.*, 922 F.2d 704, 706 (11th Cir.) cert. denied 502 U.S. 953 (1991). In both their briefs and at oral argument the [Farm Interests] Intervenors evidenced no appreciation for the limited extent of their participation in this litigation. The [Farm Interests] Intervenors' sole right is to raise jurisdiction as an issue with respect to Count I of the complaint. The grant of intervention was premised on the Court's concern that the United States sought in Count I to have the district court translate narrative water quality standards into numeric limits ... Thus, our prior opinion clearly limits the [Farm Interests] Intervenors' right to intervene solely to the extent that the district court's resolution of this case might actually set a numeric standard. But the district court did not set such limits in resolving the case. Instead, the United States and the State defendants settled their differences by agreeing to return the setting of numeric limits to the State administrative forum. By arguing many of the issues in which the [Farm Interests] Intervenors lack standing, they have required this Court to expend much time and effort which was entirely unnecessary.

*3 *United States v. S. Fla. Water Management Dist.*, 28 F.3d 1563, 1567 (11th Cir.1994). Since the matter referred by the Court did not involve the numeric phosphorus criterion, the Audubon Society argued that the Farm Interests would be exceeding their limited intervention right by participating in a hearing involving the State Parties' Motion to Amend.

The Farm Interests responded to the Audubon Society's motion on July 19,⁷ arguing that construction of the A-1 Reservoir "could provide timely and cost-effective water quality improvements that might obviate the need [] for future STA expansions or more stringent BMP [Best Management Practices] regulation," and therefore, they should have a "seat at the table." They argued that if the State Parties seek to impose more stringent BMPs as a remedy for a failure to satisfy limits set forth in the Consent Decree, a State process must occur in which the Farm Interests have participation rights under Florida's Administrative Procedure Act. They conclude by writing: "Thus, the development of alternative or expanded remedial programs clearly falls within the scope of the Farm Interests' legally protectable interests to participate in the State administrative process."

In my June 9, 2010 prehearing conference, I told the Farm Interests that it did appear to me that the Audubon Society was right and that their memorandum was not responsive to the point raised by the Audubon Society. None of the technical work on the A-1 Reservoir has ever suggested that this project would provide timely or cost-effective water quality benefits that "might obviate the need" for future STA expansion. The hearing on the State's Motion to Amend also would not affect the Farm Interests' participation in any future State administrative process. It is true that BMPs that reduce to a larger extent the amount of phosphorus leaving sugar farms may well become an area of contention, but one would hope that regulations would not be necessary for Farm Interests to want to minimize to the maximum extent possible phosphorus runoff from farm fields. In any event, nothing about this hearing process is going to foreclose the Farm Interests from seeking to enforce their legally enforceable interests in a State administrative process.

Nonetheless, I decided to permit the Farm Interests to participate in the hearing for several reasons. First, I wanted to allow them to make a record so that the Court could address the Audubon Society's motion, should the motion be pursued as an objection to this Report. Second, the Farm Interests were presenting only two witnesses, and, as the hearing progressed,

ended up presenting only one witness⁸ for a very limited purpose. Third, the Tribe was sponsoring the same exhibits as those presented by the Farm Interests. Fourth, I did not want to take up a lot of time deciding a procedural issue that might end up before the Court on an emergency basis and then delay the hearing. Fifth, no other party moved to preclude the Farm Interests from participating in the hearing based on the limited nature of their intervention right.⁹ Finally, in response to concerns about a prolonged hearing by virtue of the Farm Interests' participation, I cautioned all of the participants that I would not permit duplicative cross examination and given the alignment of the Tribe and the Farm Interests for purposes of this hearing, that I expected the Tribe to take the lead on cross examination.

*4 Runoff from the farms of Farm Interests and U.S. Sugar are a source of the phosphorus that the State of Florida is spending hundreds of millions of dollars to address. The Farm Interests' position at the hearing was that the A-1 Reservoir should be built. The construction of the A-1 Reservoir would require the District to expend more than \$540 million. If the District had to spend this money, it would not have the funds to make the "River of Grass" purchase of lands from U.S. Sugar (a topic I discuss further below). The Farm Interests oppose the River of Grass purchase. Hence, I also felt that there was at least the potential that someone at the hearing might address the Farm Interests' phosphorus-generating role in the environmental drama being tortuously played out in Everglades restoration and, if that occurred, their participation would give them an opportunity to be heard and, if their objection to the A-1 Reservoir was based on an interest in the best plan for Everglades restoration instead of pursuing whatever steps they could to stop the River of Grass purchase, to so demonstrate.¹⁰

Objections to Certain Portions of Tribe's Expert Reports

As for the first evidentiary issue, on July 27, 2010, during the second day of the hearing, the Audubon Society served an 8-page "Memorandum of Law Regarding Objections" to portions of the expert reports of Drs. Rice and Jones submitted by the Tribe. It would have been unfair to require the Tribe to respond then to the Audubon Society's memorandum and it would have delayed the hearing if I postponed it to review a response before allowing these witnesses to testify.¹¹ Hence, I decided that I would hear from these witnesses, receive a response from the Tribe after the hearing, and then address the Audubon Society's objections as part of this Report.

The Audubon Society focused on two categories of statements in the reports of Drs. Jones and Rice. One category involved statements that amount to legal conclusions or that represented fact testimony, not expert opinion.¹² The other category of statements was characterized by the Audubon Society as “commentary” in rebuttal reports by Drs. Jones and Rice on the expert reports of other witnesses. The Audubon Society also objected to reliance on hearsay statements in the reports of the Tribe's experts.

The Tribe's response memorandum¹³ focused primarily on the ultimate opinions that the Tribe's experts were offering instead of—sentence-by-sentence—responding to each argument of the Audubon Society.

I, too, am not going to take the time to address line-by-line the Audubon Society's objections. In this Report, I have not considered the testimony of any expert, including the Tribe's experts, which could be characterized as a legal conclusion. Legal conclusions are for me, and, ultimately, the Court, to draw. Nor have I relied on any opinions in an expert report, including those in the Tribe's experts' reports, which represent no more than a restatement of otherwise nonadmissible hearsay cast as an opinion of a testifying expert. Finally, I have considered from the rebuttal reports of all of the experts only those opinions that relate to the factual issues presented for resolution and I have fairly considered the expertise of each witness in evaluating the weight to which any opinion expressed in their reports should be given.

Tribe's Motion to Exclude a PowerPoint Presentation and Related Materials

*5 On Friday, August 27, 2010, at 5:05 pm, the Tribe filed with the Special Master by email a motion to exclude PowerPoint presentations filed by the District on August 12, 2010 and related documents that were filed on August 18, 2010. The Tribe argued that this information should have been presented at the hearing and not after the hearing and that the District is trying to use one of its witnesses as a conduit to have entered into evidence what would otherwise be inadmissible evidence. The Tribe concluded, “If the Special Master intends to rely on the post-hearing so called new science evidence provided by the State Parties, then the Tribe should be provided the opportunity to both provide expert rebuttal evidence and to cross-examine the State Parties' witnesses regarding the alleged new science.”

Today, the District filed with the Special Master its response arguing that the Tribe's objections are untimely.

I discussed the August 12 materials at length with counsel for the District at the August 13 oral argument and no objection was made then about their submittal. The Tribe then delayed for two more weeks to make its filing knowing of the Court's August 31, 2010 deadline for submission of this Report. Rather than take the time to study the Tribe's motion and the District's response, for purposes of this Report, I have not considered the August 12 submission and I have chosen not to review the August 18 materials so there is no need to reopen the hearing. If it becomes material, I will address the merits of the motion in a separate Report.

I now turn to my findings and conclusions.

How We Got To Where We Are

In the Report of the Special Master (July 5, 2006) (“2006 Report”), I addressed remedies for violations of the Consent Decree's Interim Levels in the Refuge. Appendix A to that Report contained the recommended remedies.

The construction of the A–1 Reservoir was *not* one of the Appendix A remedies. I explained in the 2006 Report that the construction of the A–1 Reservoir and improvements to the Bolles and Cross Canals were a Comprehensive Everglades Restoration Plan (“CERP”) project¹⁴ that the State of Florida was “accelerating” as part of what became known as “Acceler8,” eight CERP projects that were identified in the 2000 Water Resources Development Act (“WRDA”) but whose implementation was delayed for reasons known only to political leaders or government officials who presumably did not have the Everglades high on the priority list for funding, or did but could not figure out a way to convert WRDA into work.

Concerned about the delay and the slow pace of Everglades restoration, the State of Florida decided to implement the Acceler8 projects in a manner that, it hoped, would not jeopardize the 50% share by the United States of CERP costs that was promised in WRDA if WRDA's terms were satisfied.

As a result of the decision to implement Acceler8 projects, when the Special Master was conducting hearings in response to the Appendix B violations of the Consent Decree that occurred in the Refuge, the State explained that in addition to the Appendix A remedies which were required in the

2006 Report, separately the State would be creating a water storage capability—the A-1 Reservoir—and increased canal conveyance capacity as a way, in part, to relieve the stress on STA-1W and STA-1E, the two stormwater treatment areas where water from the S-5A basin is routed before it is introduced into the Refuge.¹⁵

*6 The effect of this relief was modeled in the EAA Feasibility Study (FS) which attempted to identify at the time the best configuration of water storage and water conveyance to give water managers greater operational flexibility to manage water volumes in relation to STA capacities and design criteria. The benefit to the Refuge from the A-1 Reservoir was *not* material. In my July 6 report (p. 68), I explained:

The answers appear to be that the Refuge will not materially benefit from the additional treatment capacity in the period 2006–2009 but could benefit in the period 2010–14, after the L-8 basin diversion structures are

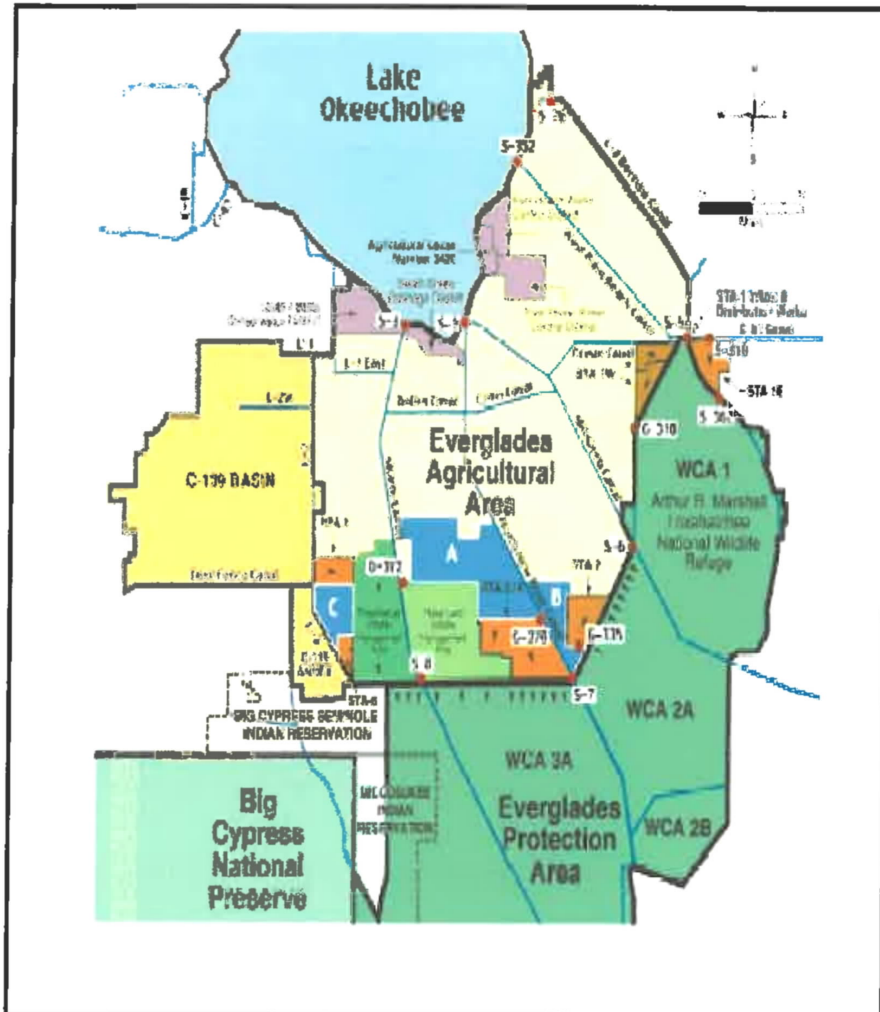
in place, the EAA Storage Reservoir is constructed, the Bolles and Cross Canals have increased conveyance capacity, and Compartments B and C are built out as STAs.

I used the word “could” because the EAA FS was based on a large number of assumptions that produced model results that might not be accurate, and, in fact, have turned out not to be accurate, a topic I discuss further below.

The A-1 Reservoir is *not* the CERP reservoir project. The CERP reservoir was going to be about 32,000 acres in size and would fill Compartment A (in other words both Compartment A-1 and Compartment A-2) of the tract of land just north of STA-3/4 as depicted in Figure 1. It would also involve improvements to the Bolles and Cross Canals.

Figure 1

Figure 1



In contrast, the A-1 Reservoir area consists of about 16,000 acres.¹⁶ It is depicted on Figure 2 as the “EAA Reservoir Phase I.” The nomenclature “A-1” is designed to distinguish the southeast portion of Compartment A from the northwest portion which is shown on Figure 1; the latter is referred to by the parties as “Cell” or “Compartment” A-2. What

will be done with the area comprising A-2 has not yet been decided.¹⁷

Figure 2

Figure 2



The A-1 Reservoir was permitted by the ACOE but the history of the permitting process is complicated. It was described by Ms. White. The District's original plans called for enlargements to the Bolles and Cross Canals at the same time as the construction of the A-1 Reservoir.¹⁸ A fact sheet on the project explained that the Reservoir would “improve operational flexibility to move water within the EAA, including flow equalization and optimization of stormwater treatment area performance to further reduce phosphorus inflows to the Everglades.” Ex. 218. Bolles and Cross Canal improvements were also presented as an Acceler8 project at the First Annual Conference on Restoring the Everglades in May 2005 and during the Acceler8 Construction Symposium in October 2006. Ex. 219; Ex. 214 (White Amended Declaration, p. 5).

The District originally planned to start construction of the A-1 Reservoir when the Corps completed its planning process for the larger CERP Reservoir. To complete that planning process, the Corps had to issue a Project Implementation Report (“PIR”) as well as an Environmental Impact Statement (“EIS”). The District had planned to rely on the Corps' PIR and EIS to satisfy statutory obligations under the National Environmental Policy Act (“NEPA”), consistent with a regulatory guidance letter (88-9) that had been issued by the Corps. Hence, both the Acceler8 A-1 Reservoir project and the CERP Reservoir project were addressed in the PIR

and EIS for the EAA Storage Reservoir which was issued in September 2005. Ex. 214 (White Amended Declaration, p. 7).

*7 The Corps' PIR/EIS process experienced continued delays, however, Ms. White explained. As a result, as explained above in the discussion of the Acceler8 projects, the District “decided to proceed with the EAA A-1 project as a state-only project outside the WRDA 2000 process, prior to completion of the PIR/EIS.” That decision caused a divergence of the NEPA processes for the CERP Reservoir and the smaller Acceler8 A-1 Reservoir. Ex. 214 (White Amended Declaration, p. 7).

In February 2006, the Corps released a Draft Supplemental EIS for the EAA A-1 Reservoir project “that incorporated the analysis in the CERP EAASR draft PIR/EIS and recognized that there were two separate and independent federal actions—the CERP EAASR project (under the supervision of the Corps' Civil Works Planning Division) and the EAA A-1 Reservoir project (processed separately by the Corps' Regulatory Division).” Ex. 214 (White Amended Declaration, p. 7). The Corps released a revised draft PIR for the CERP Reservoir project in February 2006. This document stated “that increasing the conveyance capacity of the Bolles and Cross Canals between the Miami and North New River Canals would provide conveyance of reservoir agricultural water deliveries and allow inter-basin transfers to capture EAA basin runoff.”¹⁹ Model outputs on the impacts of the CERP Reservoir “showed slightly less inflow volumes

available to the Refuge with the CERP EAASR project online over current condition; however, this change was so minor that the report did not describe it as an effect.” Ex. 221 (Annex G at 43–49); Ex. 214 (White Amended Declaration, p. 7–8). As of today, the NEPA process for the CERP Reservoir “is still pending.” Ex. 214 (White Amended Declaration, p. 8).

In the meantime, in May 2006, the Corps released the final EIS for the A–1 Reservoir and signed a Record of Decision to issue a Clean Water Act (“CWA”) § 404 permit to the District for construction of this Acceler8 project. Ex. 214 (White Amended Declaration, p. 8).

The CWA requires mitigation if a project will result in a loss of wetlands. Ms. White described the Corps' evaluation of the A–1 Reservoir's impacts and required mitigation. The Corps developed a system-wide approach to the mitigation requirements associated with permitting for all of the Acceler8 projects. The Corps looked at both adverse impacts and environment lift from the Acceler8 projects operating as a system, since, Ms. White testified, the State had demonstrated that it then could secure the financing to implement all of the Acceler8 projects. “The Acceler8 projects were anticipated to provide watershed functions to the south Florida ecosystem consistent with the goals and objectives of CERP by providing the quantity, quality, timing, and distribution of water necessary to achieve and sustain those essential hydrological and biological characteristics that define the undisturbed south Florida ecosystem.” Ex. 214 (White Amended Declaration, p. 9).

*8 The EAA A–1 Reservoir's water quantity benefits to the Refuge were measured through the application of the South Florida Water Management Model (“SFWMM”). How much water quantity benefit did the Reservoir contribute to the Refuge? Ms. White answered that question by reference to modeling that simulated the system with the Acceler8 projects in place:

The Acceler8 system-wide modeling showed minor effects to inundation patterns, timing and distribution of flows in WCA–1. While the quantity (count) of extreme high water events in the southern Refuge decreased, the actual periods of extreme high water slightly increased, accompanied by a slight increase in deep conditions in

the central part of the Refuge. See U.S. Exhibit 223.²⁰

Ex. 214 (White Amended Declaration, p. 10).

Using the State's Uniform Mitigation Assessment Method,²¹ the Corps also assessed the ecological function and value of the areas that would be impacted by the Acceler8 projects. The mitigation ledger presented in the EAA A–1 Final EIS identified 1,006.4 functional capacity units or “mitigation credits” for improvements in the Refuge. These credits amounted to about 13 percent of the improvements in ecological conditions in the Refuge, not from the construction of the EAA A–1 Reservoir, but from all of the Acceler8 projects operating as a whole, “particularly the Site 1 Impoundment and the Acme Basin B Impoundment project, which are both adjacent to the Refuge.”²² Ex. 214 (White Amended Declaration, p. 11).

The impacts of the EAA–1 Reservoir standing alone were also modeled. Modeling results showed “minor additional low water events in the northern Refuge, minor additional high water events and inundation in the central Refuge, and a slight decrease in extreme deep water conditions in the southern Refuge.” White Amended Declaration, p. 11–12.²³

Ms. White identified the benefits that the Corps projected from the EAA A–1 reservoir; noticeably absent is any material benefit to the Refuge:

- “reduction of freshwater pulse releases from Lake Okeechobee and stabilization of salinities such that oyster reefs and submerged aquatic vegetation in the Caloosahatchee and St. Lucie Estuaries would benefit”;
- “reduction of extreme high and low stage levels in Lake Okeechobee such that the amount and quality of submerged aquatic vegetation and emergent plant communities within the littoral zone of the Lake would increase (thereby improving foraging and habitat for wading birds and native fish)”;
- “improvements to Lake water quality through reduction of back pumping of agricultural runoff into Lake Okeechobee”;
- “reducing pollution loading into downstream receiving water bodies (south of the Reservoir and west of the Refuge) through the attenuation of surface flows

and reduction of associated pollutant loads prior to discharge”; and

- moving hydrologic conditions toward the natural system model “depth targets and anticipated corresponding ecological benefits identified for the Lake, the northern estuaries, and the south, although the EAA A–1 project on its own without the synergistic effects of the other Acceler8 projects was not expected to achieve all targets.”

*9 Ex. 214 (White Amended Declaration, p. 12).

Relying on the May 2006 Final EIS for the EAA A–1 Reservoir, Ex. 229, Ms. White set forth the goals and objectives of the EAA A–1 Reservoir:

- Capture, move and store regulatory releases from Lake Okeechobee, reducing the number/volume of harmful discharges to coastal estuaries.
- Capture, move and store agricultural stormwater runoff, reducing the need for emergency flood control (back pumping) into Lake Okeechobee.
- Provide additional water to meet Everglades and agricultural water demands, improving the timing of environmental deliveries of water to the WCAs and lessening water supply dependency on Lake Okeechobee.
- Improve operational flexibility to move water within the EAA, including flow equalization and optimization of STA performance to further reduce phosphorus inflows to the Everglades.

Ex. 214 (White Amended Declaration, p. 12–13).

From an operational standpoint, the A–1 Reservoir would:

- Capture and store Lake Okeechobee Regulatory Releases (281,000 acre-feet of water annually was the average generated by model results).
- Capture and store EAA basin runoff (227,000 acre-feet of water annually was the average generated by model results).
- Deliver water to downstream areas via STA–3/4 at times of need (estimated at 332,000 acre-feet annually as an average).

- Release water to meet local agricultural water supply demands that would otherwise be met by deliveries from Lake Okeechobee (estimated at 171,000 acre-feet of water annually as an average).²⁴

Ex. 214 (White Amended Declaration, p. 13 citing to the Executive Summary from the May 2006 EAA A–1 EIS, Ex. 230).

Inflows to the EAA A–1 Reservoir would include water from the S–2, S–6, and S–7 basins through the North New River Canal. Water leaving the Reservoir had to be treated in STA–3/4 first before it could enter WCA–3. Ex. 214 (White Amended Declaration, p. 13–14); Ex. 231.

The A–1 Reservoir permit was issued on July 11, 2006. It contained a five-year “construction window that expires on July 11, 2011.” Ex. 214 (White Amended Declaration, p. 8).

The Corps and the District then focused on permitting improvements and expansions of several canals including the Bolles and Cross Canals and on construction of the STAs at Compartment B and C. Ex. 214 (White Amended Declaration, p. 14).

As discussed briefly earlier, Mr. Kivett explained that the STA to be built on Compartment B was intended to be the recipient of excess stormwater runoff from the S–5A basin, thereby relieving STA–1W and, to a lesser extent, STA–1E, from receiving more water than each was designed to treat. Ex. 31 (Kivett Declaration, p. 2).

To get S–5A basin runoff to the STA to be built on Compartment B, however, “substantial modifications to existing canals and water control structures were needed to handle the diverted flows.” This project, he explains, “is referred to as the EAA Conveyance and Regional Treatment project or ECART.” Ex. 31 (Kivett Declaration, p. 2).

*10 ECART and the Bolles/Cross Canal CERP project overlapped because both included the expansion of the Cross Canal and a large portion of the North New River. ECART, however, was a broader project that included “enlargement of a small reach of the Hillsboro Canal as well as enlargement of the entire length of the Ocean Canal (between Hillsboro Canal and S–5A pump station).” Ex. 31 (Kivett Declaration, p. 2–3).

Taking all of these projects together, the District's vision at the time was to complete the A-1 Reservoir, and the ECART and Bolles/Cross Canal improvements, thereby relieving STA-1W when needed by allowing S-5A basin runoff to be conveyed "to practically anywhere in the EAA, including Compartment B, the EAASR or to STA-3/4 for treatment prior to discharge into the Everglades. Such flexibility in operations could benefit STA-1W performance if runoff in the S-5A basin was in excess of STA-1W's capacity, and there was instead available capacity in STA-2, Compartment B, or STA3/4." Ex. 31 (Kivett Declaration, p. 3).

On October 30, 2006, the Corps advised the District that the application to build Compartments B and C, and implement ECART and the Bolles/Cross Canal improvements would require issuance of an EIS. Ex. 214 (White Amended Declaration, p. 14).

On the District's side, in December 2006, the District contracted the initial design of the ECART project and in January 2007 the ECART project was added to the Long Term Plan. Ex. 31 (Kivett Declaration, p. 4).

Also in January 2007, the Corps had planned to publish a Notice of Intent (NOI) to prepare an EIS but needed the names and addresses of stakeholders to whom to send the notice. The District asked the Corps to delay publication of the NOI until it could itself notify stakeholders. A planned scoping meeting scheduled for April 2007 was delayed because the District had not yet provided notice to stakeholders. Then in June 2007, the District asked the Corps to withdraw ECART from the EIS. According to Ms. White,

The SFWMD informed the Corps that the ECART canal improvements would impact some of the most fertile farmland in the EAA and therefore the SFWMD's proposal to use those lands would likely be controversial and generate high public interest. The SFWMD explained to the Corps that it did not want a possible controversy surrounding ECART to hold up construction on Compartments B and C because, according to SFWMD, it needed to have Compartments B and C flow capable by December 2010.²⁵

Ex. 214 (White Amended Declaration, p. 14-15).²⁶

While ECART was removed from the EIS for Compartments B and C, preliminary survey work, geotechnical investigations, and the Basis of Design report had begun by November 2007. Ex. 31 (Kivett Declaration, p. 4). However, the work was stopped in January 2008 "due to shifting agency priorities." *Id.*

Returning to the A-1 Reservoir, as noted earlier, the Corps issued the construction permit in July 2006 and construction began. So did litigation. In 2007, two intervenors here, Sierra Club and the National Wildlife Federation, joined with a third environmental conservation group, and brought an action alleging, among other claims, that the A-1 Reservoir project was, in fact, a CERP project, that required compliance with WRDA's procedural requirements. *NRDC v. Van Antwerp*, Case No. 07-80444 (S.D.Fla.). That suit fell before Judge Middlebrooks and was vigorously contested by the United States and the District in 2007 and at least through February 1, 2008.

*11 Then the U.S. Sugar purchase came into being. By at least March 2008, the District became aware of the potential acquisition of U.S. Sugar lands. Tr. 231. By June or July 2008, the District was reevaluating the best location for water storage given the potential acquisition of U.S. Sugar acreage. By this time, construction on the A-1 Reservoir also was stopped. Ex. 30 (Ammon Declaration, p. 8).

The Corps stopped work on the draft PIR for the CERP Reservoir "on or about" November 1, 2008 and decided not to undertake additional work on the PIR through September 30, 2009. Ex. 29, p. 14.

By "probably" the September to November 2008 time frame, the Governing Board of the District was informed about alternatives to the A-1 Reservoir location that might produce better water quality benefits while also meeting the water quantity needs of the Everglades. Ex. 30 (Ammon Declaration, p. 8).

Because the District had stopped construction on the A-1 Reservoir, on June 26, 2009, Judge Middlebrooks dismissed the suit before him as moot, without prejudice to its refiling should construction on the A-1 Reservoir restart. Ex. 29, p. 25-26.

Six months earlier, in December 2008, following months of negotiations, the District had signed a purchase agreement with U.S. Sugar to purchase 187,000 acres of land for \$1.34 billion. The District's revenues took a drastic turn for the worse as economic conditions deteriorated in 2008 and 2009 and property values fell. On May 13, 2009, the purchase agreement was renegotiated. The District then was going to purchase 72,500 acres for approximately \$530 million.²⁷ Ex. 30 (Ammon Declaration, p. 3).

To finance the U.S. Sugar land purchase, the District had to issue Certificates of Participation (COPs), which are financial instruments that are sold like bonds to investors and would be paid back over 30 years from the District's *ad valorem* tax revenues. COPs require judicial approval. In October 2008, the District filed an action in Palm Beach County Circuit Court to obtain validation of the authority to issue the COPs. *South Florida Water Management District v. State of Florida et al.*, Case No. 50–2008–CA–031975.Ex. 30 (Ammon Declaration, p. 5–6). The Tribe, New Hope Sugar Company, and Okeelanta Corporation²⁸ opposed the validation. The circuit court held a trial over nine days before entering judgment for the District on August 26, 2009 validating the issue of COPs to fund the purchase of 73,000 acres of land from U.S. Sugar. Ex. 28. The three objectors appealed the judgment and through the exercise of an extraordinary writ, the Florida Supreme Court decided to hear the case. Ex. 30 (Ammon Declaration, p. 6). The Court heard argument on the appeal in April 2010. As of the date of this Report, the Supreme Court has not ruled on the appeal.

Even as the litigation before Judge Middlebrooks to challenge the permits for the construction of the A–1 Reservoir was progressing, on July 11, 2008, the Tribe filed a Motion to Compel Completion of Construction of EAA Reservoir. [DE 2028]. After a hearing on this motion on August 12, 2008, the Court denied the motion with leave to refile it. [DE 2049].

*12 On March 26, 2009, the Court issued an order that, *inter alia*, required supplemental filings on “updated information on the progress of construction projects, the land acquisition deal, and a schedule of deadlines for them.” [DE 2057 at 2]. The State Parties responded to this order providing an update on the “River of Grass” acquisition. [DE 2062].

On October 15, 2009, the Tribe filed a “Motion Seeking Declaration of Violations” [DE 2087] and a “Motion for Declaration of Breach of Commitments Made to the Special Master and Renewed Motion to Compel Completion of the

EAA Reservoir.” [DE 2088]. After responses were made to these motions, the Court held a hearing on December 1, 2009 at which the Court was apprised of discussions between the United States and the State Parties aimed at resolving a number of issues under the Consent Decree. The parties sought at least until February 1, 2010 to allow their discussions to reach fruition.

Also at the December 1, 2009 hearing, the District's counsel explained what would happen if the U.S. Sugar land could not be acquired:

MR. BURNS: Okay. Fine. You asked what happens if the deal falls through. If there is no U.S. Sugar purchase, like we said last August, we go back to our original commitments and we begin building the EAA reservoir and the canal conveyance.

THE COURT: So you concede that you did commit to build the reservoir?

MR. BURNS: We have agreed to commit to that. We made representations, and they're in the Special Master's report. We disagree with counsel's characterization that we called it essential to the STAs, to water quality as we explained a year ago and as the Special Master has noted in his report.

December 1, 2009 Hearing Transcript, p. 69–70.

On February 1, 2010 and again on March 15, 2010, the State Parties filed status reports with the Court. The Court then held a hearing on March 16, 2010 at which the parties presented their arguments on the A–1 Reservoir, among other matters. Following this hearing, the Court entered its March 31, 2010 Order.

Obviously unhappy with the pace of the parties' settlement discussions and no resolution of those discussions by February 1, 2010, the Court explained in the March 31 Order that it could not deal with issues in a vacuum and needed a structure to determine whether the A–1 Reservoir should be built as contemplated in 2006 or whether some other remedy or remedies should be implemented. Referring to the U.S. Sugar lands, the Court explained that it was “uncertain as to what role the downsized land purchase will play in Everglades restoration,” while “the projects devised years ago to remedy Consent Decree violations are waiting in a standstill.” March 31, Order, p. 2. The Court then adopted the Special Master's July 5, 2006 Report, and with reference to the initial suite of remedies described in that Report, the Court added: “The

Special Master may reconsider his original remedial scheme as set forth in his July 5, 2006 Report and Recommendation as he develops realistic deadlines for the remedies that have not been completed.” In ordering the construction of the A–1 Reservoir, the Court also said that, “Nothing in this Order precludes the parties from pursuing amendments to the Consent Decree, which the Court will consider, as is legally permissible, at a future date.” *Id.*, p. 3. The Court recognized that its decision might reactivate the case before Judge Middlebrooks. It also invited me to recommend realistic deadlines for work on the A–1 Reservoir, “if he deems them appropriate, and taking into consideration any litigation regarding the permit.” *Id.*, p. 19. The Court concluded: “Of course, the parties remain free to employ [Rule 60\(b\)\(5\)](#) and seek amendment of the Consent Decree to deal with changed circumstances and opportunities.”

*13 The State Parties motion to amend the Consent Decree followed on April 28, 2010 and, as noted at the outset the Court’s May 14, 2010 Order referred the motion to the Special Master for this Report and Recommendation.

Just What Does the Court’s Order Embrace?

There is a preliminary substantive issue that became apparent as the prefiled testimony was circulated among the parties. It involves the scope of the Court’s March 31 Order. The Court ordered the construction of the A–1 Reservoir. The March 31 Order said nothing about improvements to the Bolles/Cross Canal or ECART.

The A–1 Reservoir described in my 2006 Report cannot be built in isolation. To provide even a marginal benefit to the Refuge, increased canal conveyance also is required. At the time of the 2006 Report, the CERP Reservoir project also called for improvements in the Bolles and Cross Canals, as I discuss at page 62 of the 2006 Report. It is reasonable to conclude that in adopting the Special Master’s July 5, 2006 Report and in deciding to order construction of the A–1 Reservoir, the Court was also including the corresponding improvements in the Bolles and Cross Canals referenced in the 2006 Report.

As more engineering studies were done in relation to the original CERP vision of canal improvements, however, it became clear that significant improvements in other canals would be required to create meaningful operational flexibility for water managers. And, in fact, the EAA FS modeled an alternative (“Alternative 1”) that included these kinds of improvements.

As discussed above, in 2007, several months after my 2006 report was issued, ECART—the plan to improve the Hillsboro and Ocean canals in addition to improvements in the Bolles and Cross canals—came into being.

There is no dispute that the benefit provided to the Refuge by construction of the A–1 Reservoir is one of water diversion. See, e.g., Tr. 38, 67, 176, 276, 359, 493, 556, 715, 767–68. In other words, water that might overload the capacity of STA–1W or 1E would be diverted south for treatment in Compartment B, or for storage and then for agricultural irrigation or for Everglades hydropattern restoration after treatment in another STA.²⁹

However, there is also no dispute that diversion cannot be accomplished without ECART. See e.g., Tr. 45, 53–54, 175, 215, 604, 621, 697. Does the March 31 Order encompass ECART? The Tribe insists that, even though ECART did not come into being until after my 2006 Report, the March 31 Order does embrace it because the EAA FS was premised on a variety of canal improvements, it was understood that the A–1 Reservoir without all of these canal improvements would provide no benefit for the Refuge, and I discussed the EAA FS at length in my 2006 Report.

I did give a lot of attention to the EAA FS in my 2006 Report, but I did not endorse the EAA FS. Rather, I viewed the EAA FS then as I view it now: a modeling effort that contained a large number of assumptions that were not necessarily reliable. Indeed, in arguments in 2006, the Tribe was critical of the EAA FS in part because it assumed that L–8 runoff would not be treated by STA–1W or 1E and instead would flow through the S–155A structure to tide. 2006 Report, p. 68–69. This was a significant assumption. As I pointed out in the 2006 Report, the EAA FS had concluded that the volumes and total phosphorus loads discharged to the Refuge “are materially influenced by the assumption that volumes associated with L–8 Basin runoff will bypass both STA–1W and STA–1E,” but that this assumption may be invalid, as admitted by the authors of the EAA FS: “It is not apparent that sufficient hydraulic capacity presently exists in the water control structures to effect that assumption.” 2006 Report, p. 68–69.³⁰

*14 I was also skeptical of the projections in the EAA FS. I pointed out (2006 Report, p. 69, n. 76) that for calendar years 2006–09 the EAA FS projected a phosphorus flow-weighted mean outflow concentration in a range of 16.7

to 25.2 ppb. However as of February 2006, the STA-1W outflow concentration was 112 ppb through nine months of water year 2006.³¹

There was another major concern I expressed regarding the EAA FS. It never measured water quantity impacts on the Refuge. I explained (2006 Report, p. 70) that “Alternative 1” that was modeled in the EAA FS, did not include an evaluation of the effects on water levels in the Refuge, and “Alternative 2” showed that flows to the Refuge might be reduced. I wrote: “Hence, water levels in the Refuge would need to be more closely evaluated as part of the consideration of either of these alternatives.” In n. 77, I then quoted from the EAA FS in which the authors acknowledged that a separate analysis of water quantity impacts on the Refuge was going to occur:

The EAA FS explains that additional analysis was going to be performed to determine the effects of EAA FS alternatives on the Refuge. “District staff and management are currently coordinating to have these additional analyses completed using the SFWMM (South Florida Water Management Model) following the completion of the EAA Regional Feasibility Study.” District Exh. 141, p. 3–12. During the hearing, there was no information presented by any party on the results of this additional analysis.

As I explained at page 71 of my 2006 Report, I regarded the 2010–14 projections contained in the EAA FS as virtually meaningless in the context of the Court’s June 1, 2005 referral which focused on remedies for the Refuge and a schedule for completion of Compartments B and C:

The 2010–14 discussion in the EAA FS contains a number of projections of water flow volumes and phosphorus loads that represent the output of modeling designed to attempt to determine the best configuration of flows and loads to each STA. *Id.* p. 5–7, 5–23. However, the projections for the years 2010–14 have little utility for purposes of this referral. What gives them value is that they are premised on the completion of Compartment B and C by 2010 which demonstrates a commitment by the State parties to complete these projects in the next four years.³²

In 2006, the Tribe and the United States were critical of the EAA FS viewing it either as flawed or inadequate and both expressed the need for additional, more comprehensive studies that would identify the proper amount of treatment capacity within the STA system managed by the District. I quote at length from my 2006 Report:

The Tribe argued that the EAA FS makes “false assumptions that some other study or project will take care of the problem (i.e., L–8 diversion, Lake Okeechobee water). Such false assumptions are not only improper, but particularly threatening to the Everglades, now that the coastal communities have made it a serious political objective to challenge the disposal of large quantities of water to tide that harm the estuaries.” Tribe’s Closing Memorandum p. 3, 5.

*15 The United States argues that increasing phosphorus levels in Lake Okeechobee were not properly accounted for in the EAA FS because the Lake phosphorus concentrations used were those pre-dating the 2004 hurricanes after which Lake phosphorus concentrations nearly doubled. United States’ Post-Hearing Memorandum, p. 39 (citing U.S. Exh. 106). It also questioned the reliability of the EAA FS’s assumptions about diversion of L–8 basin water and elimination of Lake releases to STA-1W or 1E.

The Special Master shares the concerns raised by the Tribe and the United States regarding the ability of the District to satisfy environmental concerns to the west, to the east, and to the south. The Lake’s regulation schedule is intended to protect those who could be impacted by the failure of flood protection. If wisely crafted, coordinated, and implemented, it is a part of the solution to these concerns even though the District does not have the final say over the release of water. Whoever is responsible for giving the Lake’s TMDL life—and, in a broad sense, that may be all Floridians and not just the users of the Lake and those that regulate them—are a part of the solution. Completing the L–8 diversion project sooner rather than later is a part of the solution.

...

While the Tribe and the United States may turn out to be correct in their concerns, the Special Master does not believe that judgments should be made today on predicted outcomes that may not materialize. Other than adding PSTA technology now, the only other viable alternative

identified by any party is the expansion of STA-1W. The District has apparently decided to try to take advantage of increased conveyance and storage capacity and the availability of Compartment B, STA-2, cell 4, and the enhanced STA-3/4 instead, to reduce the flows and loads to STA-1W. Whether the District has chosen prudently remains to be seen³³ but it has made a choice and, in the context of this referral, the Special Master does not see a reason to disturb that choice. While the Special Master believes that additional feasibility study analysis makes sense, it may be premature to engage in it until the benchmark against which compliance is going to be measured is decided, and the parties better understand the Refuge's water quantity needs, a topic deferred in the EAA FS to others to evaluate.

...

The Tribe argued that the EAA FS "in its present form is not an adequate analysis to even determine if the proposed remedies are sufficient." *Id.* at 10. The Tribe cited the views of Dr. Rice who has been involved in Everglades restoration issues for over a decade. Tribe Exh. 336, p. 1.

Dr. Rice believes that a comprehensive analysis of water volume, phosphorus loads, and treatment capacity needs to be undertaken so that adequate treatment capacity can then be designed. In his view, there does not exist

"an accounting for all the water that we're going to have to deal with, all the phosphorus that we're going to have to deal with. You know, normal design, you're going to start and decide how much water you're going to have to deal with, during what design period you're going to have to deal with that water.

*16 And in this case we haven't done that. We still don't know if we're dealing for 2 year flows, 35 year flows, 100 year flows. We just don't know that. Therefore, we can't make a decision if that's acceptable or not."

Tr. 1624-25. Dr. Rice also believes that there should be a "phase 2" design of the STAs whereby the phosphorus outflow concentration of an STA is set at 10 ppb, rather than 50 ppb, and then a design process would follow to determine what would be needed to achieve this outflow phosphorus concentration. Tr. 1625-26. He is particularly interested in the number of days that water

is retained in an STA, or "residence time," saying that the STAs were initially designed for a 20-day residence time, but there has been a need on occasion to push the water through with four-day residence time and he believes that this issue ought to be studied further as part of the phase 2 design process that he believes is necessary. Tr. 1626.

Dr. Rice also opined that a "global accounting" of the "entire issue of water surrounding the EAA, the Caloosahatchee and the St. Lucie" would be "very helpful" so that design decisions could be made in a "proper context." Tr. 1625.

This led the Tribe to propose that a "new feasibility study should be undertaken based on comprehensive assumptions for the entire system and all projects, evaluating all sources of water and phosphorus, and appropriate treatment," and it "should be completed by June 20, 2007." The Tribe added that the study "should explore the options relating to implementation of additional or revision to the existing Best Management Practices." Tribe's Closing Memorandum, p. 11.

Dr. Walker also recommended additional planning studies. Dr. Walker's expert opinion discusses the relationship between phosphorus loading and phosphorus removal performance of each STA. Using the measure of grams per square meter of STA surface area per year as the comparison tool, he explains that the design of the STAs contemplated a load of 1.0 to 1.1 g/m²-yr based on the 2003 Long-Term Plan. Where an STA has been operated within this load factor, it has had average discharge concentrations of 17 to 21 ppb phosphorus. U.S. Exh. 73. STA-1W and STA-5 have been operated at more than twice their design and "have had average discharge concentrations of 60 to 100 ppb, respectively." U.S. Exh. 57, p. 31. Dr. Walker concludes: "Efforts to 'optimize' the STAs will not achieve the goal of preserving and restoring the unique flora and fauna of the Refuge until inflow volumes and loads are reduced to design ranges or additional treatment capacity is installed to accommodate the excess loads." U.S. Exh. 57, p. 32.

In light of this and his other conclusions, Dr. Walker was asked what else he would like to see done. His answer focused not on more construction than is already planned, but, initially, on a second phase to the feasibility study:

“SPECIAL MASTER: Is there anything that you would be doing today, Dr. Walker, differently from what's being done? You've heard, you've read all the things that are being done. Is there something else that you would like to see done?”

*17 THE WITNESS: Yes, I would like to see a second phase of the feasibility study. As I said, the first phase that we've been looking at basically balanced the flows and loads across the existing and the expanded STA's on lands that had already been acquired. And as I testified yesterday, I don't believe that's going to be sufficient to meet the class 3 criterion in the discharges.

So additional measures are needed. I can't specifically say what those options are. But I think there's a need for a second phase of the feasibility study to go out and look, are there other pieces of land available somewhere, notwithstanding eminent domain or whatever, to basically create a more ambitious plan to provide greater assurance that it will work, that you'll meet the goal.

* * *

SPECIAL MASTER: But rather than jump to what more needs to be done, you'd like to see a very intensive study of options that are available to improve treatment capacity or to make other steps in order to address your concerns about what's going to happen by year end?

THE WITNESS: Yes, and it was my understanding there was originally planned to be a second phase of the feasibility study that was going to do that and that hasn't been done. I don't know if it was just because of time or what. But I mean that's sort of what I'm recommending.

The United States also pointed out that the EAA FS did not take into account the possible need to take STA cells offline for maintenance, United States' Post-Hearing Memorandum, p. 41, which seems to fall into the category of a design issue relative to future water volumes and phosphorus concentrations.

As noted above, the Consent Decree contains a provision for addressing STA outflow concentration under certain circumstances if the lower of the Class III or Long Term level is not met. Consent Decree, p. B-4. This provision does not apply until after December 31, 2006 at the earliest. Dr. Rice and Walker's opinions have an intuitive resonance, and they may one day be in the position to say, “I told you so.” Hence, while it might be prudent to consider these views now, their recommendations may more appropriately relate to a date after the TOC determines how to apply the Consent Decree's invitation to adopt the lower of the Class III or Long Term level (and what that means), a task which the TOC has just begun to undertake.³⁴

2006 Report, p. 81–86 (footnotes omitted).³⁵

It was for all of these reasons that in 2006 I was not comfortable endorsing the EAA FS. And because I could not endorse the EAA FS then, and I know today that its 2006–09 assumptions on phosphorus outflow levels have turned out to be incorrect, I cannot conclude here that I should rely on the EAA FS as justification to conclude that the March 31 Order included an obligation to construct ECART. Indeed, in hindsight, I think it is fair to say that the Tribe and the United States were right in 2005–06 when they questioned the validity of the EAA FS and said that the District should undertake a more comprehensive evaluation of the hydraulics of Everglades restoration and water treatment capabilities in the STAs to determine how best to configure the system of water treatment, water storage, and canal conveyance to achieve applicable discharge levels under state law.

*18 ECART is a \$180–\$260 million project. Tr. 24–25. Vis-à-vis the Refuge, building the A-1 Reservoir without ECART makes no engineering or environmental sense. No one explained to the Court during the arguments on the motion to require construction of the A-1 Reservoir the importance of ECART to the ability of the A-1 Reservoir to receive diverted water from the S-5A basin. In fact, ECART did not exist at the time of my 2006 Report and, obviously, was not considered in my July 2006 Report. It could not, therefore, have been a component of the Court's March 31 Order approving the 2006 Report. As a result, whether framed in terms of [Rules 59 or 60 of the Federal Rules of Civil Procedure](#), or of reconsideration of the original order *sua sponte*, or of due process, I should recommend that the Court refrain from ordering construction of the A-1 Reservoir as a remedy for the former Consent Decree violations in the

Refuge and instead that the timing and location of water storage and water conveyance be first considered as part of the evidence on remedies at the remedies hearing that I will be holding later in 2010. At that time, ECART can then be properly taken into account³⁶ and all stakeholders will have an opportunity to be heard.

Nonetheless, for the sake of thoroughness and in the event that the Court concludes that its March 31 Order embraced not just the A-1 Reservoir and Bolles and Cross Canal improvements identified in the 2006 Report but also the later-established ECART, I will assume that ECART is also a part of the Court's March 31 obligation.³⁷ As will be shown, making this assumption does not affect, and, in fact, reinforces, the outcome of this Report and Recommendation.

Modification of Consent Decrees Under F.R.Civ.P. 60(b)

The Court and the Parties have identified Rule 60(b) as the source of the legal standard applicable to the Motion to Amend.³⁸ I do the same. Two Supreme Court decisions establish the analytic framework for applying Rule 60(b)(5).

Rufo v. Inmates of Suffolk County Jail, 502 U.S. 367 (1992) was invoked by Judge Hoevler in modifying the Consent Decree on April 27, 2001. Omnibus Order, p. 17–18. *Rufo* involved a motion to modify a consent decree to permit double bunking of inmates in a prison. To remedy unconstitutional conditions in the jail, the decree had required single bunking. In denying the motion, the district court employed the “grievous wrong” standard articulated in *United States v. Swift*, 286 U.S. 106 (1932). It held that Suffolk County had not demonstrated a “grievous wrong” due to “new and unforeseen conditions” and therefore was not entitled to relief from the consent decree. The court of appeals affirmed.

The Supreme Court reversed. It held that the lower courts had applied the wrong standard. Explaining that *Swift*'s “grievous language” was “not intended to take on a talismanic quality, warding off all efforts to modify consent decrees,” the Supreme Court instead emphasized the need “for flexibility in administering consent decrees.” 502 U.S. at 380. To make its point, the Court quoted from *Railway Employees v. Wright*, 364 U.S. 642, 647 (1961): “There is ... no dispute but that a sound judicial discretion may call for the modification of the terms of an injunctive decree if the circumstances, whether of law or fact, obtaining at the time of its issuance

have changed, or new ones have since arisen.” Justice White's majority opinion made these additional points:

*19 •Rule 60(b) permits a less stringent, more flexible standard in providing that, on such terms as are just, a party may be relieved from a final judgment or decree where it is no longer equitable that the judgment have prospective application. 502 U.S. at 380.

- “Institutional reform” consent decrees can remain in place “for extended periods of time,” hence there is a higher likelihood of significant changes occurring during the life of the decree requiring a “flexible approach” to achieve the goals of the reform litigation. *Id.* at 380–81.
- The public's interest in the sound and efficient operation of public institutions supports a “flexible modification standard” in institutional reform litigation. *Id.* at 381.
- “[A] party seeking modification of a consent decree bears the burden of establishing that a significant change in” either factual conditions or in law “warrants revision of the decree. If the moving party meets this standard, the court should consider whether the proposed modification is suitably tailored to the changed circumstance.” *Id.* at 383–384.
- “The standard we set forth applies when a party seeks modification of a term of a consent decree that arguably relates to the vindication of a constitutional right. Such a showing is not necessary to implement minor changes in extraneous details that may have been included in a decree ... but are unrelated to remedying the underlying constitutional violation.” *Id.* at 383, n. 7.

In applying this standard to the facts in *Rufo*, the Court established these additional principles where a constitutional violation was the original subject of a consent decree:

1. “Modification of a consent decree may be warranted when changed factual conditions make compliance with the decree substantially more onerous.” *Id.* at 385.
2. Modification is also appropriate “when a decree proves to be unworkable because of unforeseen obstacles ... or when enforcement of the decree without modification would be detrimental to the public interest.” *Id.*
3. “Once a court has determined that changed circumstances warrant a modification in a consent decree, the focus should be on whether the proposed

modification is tailored to resolve the problems created by the change in circumstances. A court should do no more, for a consent decree is a final judgment that may be reopened only to the extent that equity requires.”*Id.* at 391.

4. “Within these constraints, the public interest and ‘[c]onsiderations based on the allocation of powers within our federal system,’ require that the district court defer to local government administrators, who have the ‘primary responsibility for elucidating, assessing, and solving’ the problems of institutional reform, to resolve the intricacies of implementing a decree modification. Although state and local officers in charge of institutional litigation may agree to do more than that which is minimally required by the Constitution to settle a case and avoid further litigation, a court should surely keep the public interest in mind in ruling on a request to modify based on a change in conditions making it substantially more onerous to abide by the decree. To refuse modification of a decree is to bind all future officers of the State, regardless of their view of the necessity of relief from one or more provisions of a decree that might not have been entered had the matter been litigated to its conclusion. The District Court seemed to be of the view that the problems of the fiscal officers of the State were only marginally relevant to the request for modification in this case. Financial constraints may not be used to justify the creation or perpetuation of constitutional violations, but they are a legitimate concern of government defendants in institutional reform litigation and therefore are appropriately considered in tailoring a consent decree modification.”*Id.* at 392–93 (citations and footnote omitted).

*20 In *Horne v. Flores*, 129 S.Ct. 2579 (2009), the Supreme Court revisited *Rufo*. The facts are complicated.

English Language–Learner (ELL) students in the Nogales Unified School District (Nogales) in Arizona and their parents brought suit in 1992 claiming that Arizona was violating the Equal Educational Opportunities Act of 1974 (EEOA). Section 204(f) of the EEOA, 20 U.S.C. § 1703(f), requires a state to take “appropriate action to overcome barriers that impede equal participation” by students “in its instructional programs.”

The EEOA leaves to the states how to satisfy their obligations to provide adequate ELL instruction:

By simply requiring a State “to take appropriate action to overcome language barriers” without specifying particular actions that a State must take, “Congress intended to leave state and local educational authorities a substantial amount of latitude in choosing the programs and techniques they would use to meet their obligations under the EEOA.”

Id. at 2589 (citation omitted).

Plaintiffs claimed that Nogales and the State of Arizona were not providing adequate ELL instruction. Eight years later, in January 2000, the district court agreed, concluding that the amount of funding the State allocated for the special needs of ELL students was arbitrary and not related to the actual funding needed to cover the costs of ELL instruction in Nogales. *Id.* at 2589. The district court entered a declaratory judgment in favor of the plaintiffs with respect to Nogales. The judgment was not appealed.

Thereafter, the district court entered a number of additional orders and injunctions. In October 2000, the State was ordered to prepare a cost study to determine the amount of funding required to “effectively implement” ELL programs. In June 2001, the district court extended its judgment and injunction statewide³⁹ and set a deadline of January 31, 2002 for the State to provide funding that was rationally related to the actual funding needed to satisfy the statute. *Id.* at 2590. In January 2005, the district court gave the State 90 days to fund the State’s ELL programs at an appropriate level. When the State failed to do so, in December 2005, the State was held in contempt and the Arizona legislature, a nonparty, was given 15 calendar days after the beginning of the 2006 legislative session to comply with the January 2005 order or the State would be fined.⁴⁰ In March 2006, after accruing over \$20 million in fines, the Arizona legislature adopted HB 2064 to implement a permanent funding solution for the ELL programs in Arizona. The bill became law without the signature of the Governor, who opposed the bill.

In the meantime, the Speaker of the State House of Representatives and the President of the Arizona Senate successfully moved to intervene in the action. They and the Nogales superintendent—the petitioners before the Supreme Court—then moved to purge the district court’s contempt order in light of HB 2064. In the alternative, they moved for relief under Rule 60(b)(5) based on changed circumstances. *Id.* at 2591.

*21 In April 2006, the district court denied the motion for three reasons: (1) HB 2064 increased ELL incremental funding by \$80 per student, but this increase “was not rationally related to effective ELL programming”; (2) HB 2064 imposed a 2-year limit on funding for each ELL student and this limit was “irrational”; (3) HB 2064 used federal funds to supplant rather than supplement state funds in violation of federal law. *Id.* at 2591. The district court did not, however, address petitioners’ argument under Rule 60(b)(5) that changed circumstances “rendered continued enforcement of the original declaratory judgment order inequitable.” *Id.*

The Ninth Circuit vacated the district court’s order and remanded to determine whether relief under Rule 60(b)(5) argument was warranted. On remand, the district court held that HB 2064 did not establish “ ‘a funding system that rationally relates funding available to the actual costs of all elements of ELL instruction.’ ” In rejecting the Rule 60(b)(5) argument, it again held the State in contempt. This time, the court of appeals affirmed. It held that Rule 60(b)(5) would provide relief only if the petitioners could show “ ‘either that there are no longer incremental costs associated with ELL programs in Arizona’ ” or that Arizona had altered its funding model. *Id.* at 2591–92.

The Supreme Court reversed. The Court first focused on the role that Rule 60(b)(5) plays in institutional reform litigation. It explained that injunctions in these types of cases “remain in force for many years, and the passage of time frequently brings about changed circumstances—changes in the nature of the underlying problem, changes in governing law or its interpretation by the courts, and new policy insights—that warrant reexamination of the original judgment.” *Id.* at 2593.

Injunctions in this arena also raise “sensitive federalism concerns” which are heightened when a federal court decree “has the effect of dictating state or local budget priorities. States and local governments have limited funds. When a federal court orders that money be appropriated for one program, the effect is often to take funds away from other important programs.” *Id.* at 2593–94.

Finally, injunctions “of this sort” can bind future state and local officials who inherit “overbroad or outdated consent decrees” that “limit their ability to respond to the priorities and concerns of their constituents,” thereby constraining their ability to fulfill their duties as democratically-elected officials. *Id.* at 2594.

Repeating the “flexible approach” emphasized in *Rufo*, the Court explained:

A flexible approach allows courts to ensure that “responsibility for discharging the State’s obligations is returned promptly to the State and its officials” when the circumstances warrant. In applying this flexible approach, courts must remain attentive to the fact that “federal-court decrees exceed appropriate limits if they are aimed at eliminating a condition that does not violate [federal law] or does not flow from such a violation.” “If [a federal consent decree is] not limited to reasonable and necessary implementations of federal law,” it may “improperly deprive future officials of their designated legislative and executive powers.”

*22 *Id.* at 2595 (citations omitted).

The Court of Appeals did not apply this analysis.

Rather than applying a flexible standard that seeks to return control to state and local officials as soon as a violation of federal law has been remedied, the Court of Appeals used a heightened standard that paid insufficient attention to federalism concerns. And rather than inquiring broadly into whether changed conditions in Nogales provided evidence of an ELL program that complied with the EEOA, the Court of Appeals concerned itself only with determining whether increased ELL funding complied with the original declaratory judgment order. The court erred on both counts.

Id. The Court later explained that “by requiring petitioners to demonstrate ‘appropriate action’ through a particular funding mechanism, the Court of Appeals improperly substituted its own educational and budgetary policy judgments for those of the state and local officials to whom such decisions are properly entrusted.” *Id.* at 2597.

The Court then remanded for evaluation in the context of Rule 60(b)(5) of four changed circumstances. First, at the time of the original declaratory judgment, ELL instruction was based primarily on bilingual education where students were taught core courses in their native language and separately

received English-learning instruction. Thereafter, Arizona voters adopted a proposition requiring “structured English immersion” (SEI) where all courses are taught in English but with a modified curriculum to accommodate children who are trying to learn English at the same time. There “is documented, academic support for the view that SEI is significantly more effective than bilingual education.”*Id.* at 2601. Hence, the Court held, a proper analysis of the [Rule 60\(b\) \(5\)](#) motion required consideration of this fact as a potential changed circumstance warranting relief.

Second, the manner in which Arizona complied with the No Child Left Behind Act should have been taken into account in the [Rule 60\(b\)\(5\)](#) analysis. *Id.* at 2603–04.

Third, structural and management reforms, such as reduced class size, improved student teacher ratios, elimination of the shortage of instructional materials, may have represented “appropriate action” under the EEOA to address language barriers without any additional incremental funding. Under the EEOA, the “ultimate focus is on the quality of educational programming and services provided to students, not the amount of money spent on them.”*Id.* at 2604.

The EEOA’s “appropriate action” requirement grants States broad latitude to design, fund, and implement ELL programs that suit local needs and account for local conditions. A proper [Rule 60\(b\) \(5\)](#) inquiry should recognize this and should ask whether, as a result of structural and managerial improvements, Nogales is now providing equal educational opportunities to ELL students.

Id. at 2605.

Finally, the State of Arizona had increased overall educational funding in Nogales. The Court of Appeals had rejected this fact as material in the [Rule 60\(b\)\(5\)](#) analysis because diversion of funds from base-level education was not an “appropriate action” under the EEOA. This was clear error, the Supreme Court held, explaining:

*23 [T]he EEOA’s “appropriate action” requirement does not necessarily require any particular level of funding, and to the extent that funding is relevant, the EEOA

certainly does not require that the money come from any particular source. In addition, the EEOA plainly does not give the federal courts the authority to judge whether a State or a school district is providing “appropriate” instruction in other subjects. That remains the province of the States and the local schools. It is unfortunate if a school, in order to fund ELL programs, must divert money from other worthwhile programs, but such decisions fall outside the scope of the EEOA. Accordingly, the analysis of petitioners’ [Rule 60\(b\)\(5\)](#) motion should evaluate whether the State’s budget for general education funding, in addition to any local revenues, is currently supporting EEOA-compliant ELL programming in Nogales.

Id. at 2605–06 (footnote omitted).⁴¹

After one slight tangent to address the application of *Rufo* by Judge Hoeveler, I will apply these principles to the changed circumstances raised by the Motion to Amend.

Judge Hoeveler’s Modification of the Consent Decree

In his Omnibus Order dated April 27, 2001, Judge Hoeveler addressed *Rufo* in deciding to modify the Consent Decree.⁴² He explained that he would apply *Rufo* where the legal rights of a person objecting to the modification are being affected. Where there is agreement on a change, or an objector does not have a protected interest, he held that he would follow an equitable standard, determining whether a proposed change was fair, not the product of collusion, and in the public interest. He wrote:

Therefore, this Court must approach the task of reviewing the proposed modifications guardedly so as to ensure the adequate protection of the intervening parties’ legitimate rights and expectations, while simultaneously recognizing the limited role of the intervention and not handling things in such a way as to discourage future parties from adopting settlement agreements in lieu of litigation. It should also be pointed out that even the *Rufo* standard recognized that when the changes were minor, and did not affect constitutional rights, “[o]rdinarily, the parties should

consent to modify a decree to allow such a change.” *Rufo*, 502 U.S. at 383 n. 7.

This suggests what may be the key to resolving some of the confusion surrounding the proposed modification standards in this case. When the proposed modifications to a “provisional and tentative” consent decree are legitimately opposed, *Rufo* applies. When the proposed modifications are not opposed, the Court may exercise a more liberal, equitable review to ensure that the agreement, as modified, remains “fair, adequate, and reasonable,” and is not the product of collusion between the parties, or in conflict with the statute upon which the complaint was based, or otherwise against the public interest. (Citations omitted).

*24 For all of (the) reasons set forth above, this Court shall apply the *Rufo* standard of review urged by the objectors if it appears that the challenged modification affects their legal rights. In those instances, where a proposed modification fails to warrant such a stringent review, either because the parties agree, or the parties who do not have a protected interest, the Settling Parties may assume that this Court is exercising the broader equitable powers appropriate when all of the affected parties agree.

Omnibus Order, p. 17–18.

U.S. Sugar's Written Closing Argument suggests that this is the law of the case. Even if I could ignore *Horne* and accepted this argument, I would have to determine if the objecting parties' legal rights were being affected by the proposal by the State Parties to relieve them of the obligation to construct the A–1 Reservoir. Since I determine below that the State Parties' Motion to Amend satisfies the more stringent review standards of *Rufo* and *Horne*, I see no need to address the less stringent standard.

Changed Circumstances

As Judge Hoeveler recognized in his Omnibus Order (p. 11), this Consent Decree is a “rare avis.” Among the reasons why this Decree is unique are these:

- It involves enforcement of state law, not federal law.
- It sets performance standards but beyond prohibiting more intensive management of STAs as a solution, gives the State Parties flexibility in how to meet them.

- It has a Technical Oversight Committee consisting of three federal members and two state members but requires four votes to adopt technical-based recommendations.
- And it is trying to reverse the flow of phosphorus into the Everglades from agricultural and other upstream users over which the Consent Decree has no direct control.

As unique a document as it may be, the Consent Decree has a rhyme and a reason to it. Its authors understood what they did not know and what they needed to know. As I wrote in 2006, the 1992 Settlement Agreement that became the Consent Decree envisioned the development of models of phosphorus dynamics in the Everglades Protection Area, in part to develop a good understanding of the relationship between phosphorus input and water quality at the 14 interior sampling stations in the Refuge. Consent Decree, Paragraph 11B. Research was to be a collaborative effort with the primary responsibility assigned to the State Parties with support from the National Park Service, the U.S. Fish and Wildlife Service, the United States Environmental Protection Agency, and the Corps, and all directed by the TOC. Consent Decree, p. 17, D–1. Moreover, the TOC was to designate a panel of scientists to “track and evaluate compliance with all aspects of state quality standards including the phosphorus limits, concentration levels and criteria” while the “represented agencies” could “request technical assistance from others.” Consent Decree, p. B–4–5.

*25 Unfortunately, unless I have missed it, there is not yet an accepted model of phosphorus hydrodynamics in the Refuge.⁴³ There is a lot of research going on, but, insofar as I can discern, it is not all directed by the TOC. And if there has been a panel of scientists designated by the TOC, they are no less visible to me in 2010 than they were in 2006 when I reported that I was not aware of the existence of such a panel. 2006 Report, p. 25. Tools designed to promote scientific consensus and minimize judicial involvement remain unused, underutilized, or undeveloped. As a result, we have scientific debate within a courtroom instead of a technical forum. When the executive branches of the state and federal government fail to implement the terms of their own agreement designed to achieve scientific consensus, or eliminate scientific uncertainty, they force the judicial branch to decide technical issues, a role for which it is ill-suited.

Not only must the judicial branch sort out the science of Everglades restoration, it must also deal with conflicting

positions. When I found a violation of the Consent Decree four years ago y virtue of exceedances in the Refuge, the A-1 Reservoir was touted then as a limited part of the solution. As late as February 1, 2008, the District was telling Judge Middlebrooks that the A-1 Reservoir was significantly in the public interest. By the fall of 2008, the Governing Board of the District was being advised of other uses of Compartment A-1 and the testimony before me in 2010 from State Parties' experts is that the A-1 Reservoir should never be built and the land instead should be used as an STA. Tr. 226-28, 290-91.

In 2006, the Tribe was highly critical of the EAA FS and preferred expansion of STA-1W over diversion of water. Its counsel argued then:

Again, because of the gaps in the feasibility study even based on that, it's hard for the Tribe to say right now whether STA-1 West needs to be expanded or not because it's unclear how L-8 water is going to be treated, how Lake Okeechobee water is going to be treated.

If the choice is between diverting that water and expanding 1 West, of course we say you need to expand 1 West now and figure out how to do it. But I think the more prudent course of action is study it in the big picture, not leave gaps in your data and come up with a complete picture of what the loads are, what are the phosphorous volumes, what are the water volumes; and then look at STA-1 West as one of your options.

...

The feasibility study ... the District published contains false assumptions....

...

I'm saying there's no guarantee in what they proposed given the problems with the feasibility study.

April 25, 2006 Transcript of Hearing before the Special Master, p. 2330, 2335-36. Today, the Tribe embraces the EAA FS and supports diversion.

The Farm Interests used to include U.S. Sugar, but a plan by U.S. Sugar to sell its land to the District has now aligned the Tribe with the Farm Interests,⁴⁴ while U.S. Sugar now quietly supports the State Parties who want to take farmland out of production.

***26** In several tries, the United States Environmental Protection Agency kept figuring out ways to support the State's permits for discharges from STAs into the EAA until Judge Gold finally said, "Enough!" Now it has promised by September 3, 2010, an "Amended Determination" that will identify the manner and time frame for the State to satisfy the Clean Water Act and intimated not so subtly at the hearing that it is going to require considerable additional STA capacity throughout the EAA, including very likely Compartment A-1.

And while not a conflicting position, it is a major change from 2006 and a reality that cannot be ignored: plunging revenues now severely limit the remedial choices of the District.

Rufo and *Horne* teach that [Rule 60\(b\)](#) employs a flexible standard especially for decrees that remain in place for extended periods of time. Modification may be warranted when changed factual conditions make compliance with a decree "substantially more onerous" or when a decree becomes unworkable due to unforeseen obstacles or when it would be detrimental to the public interest. Within certain constraints, under the separation of powers doctrine, courts have to be mindful to defer to local government administrators who have the "primary responsibility" for solving problems in an institutional reform setting. Courts also have to account for the risk of binding future officers of a State that limit their ability to respond to the priorities and concerns of their constituents. "Sensitive federalism concerns" exist when a decree dictates state or local budget priorities in the face of limited funds and courts have to be mindful not to substitute their judgments for those of state and local officials "to whom such decisions are properly entrusted." Changes in the law because of legislative or judicial action need to be taken into account.

The Consent Decree, like the EEOA discussed in *Horne*, gives the State Parties "broad latitude" in making remedial decisions, and is focused on achieving water quality standards for water entering the Everglades as well as satisfying water quantity needs of the Everglades. Within this context, the question presented is whether the District is allowed to change its mind on a remedial approach. The answer may not be the same on every issue. However, on the issue of construction of the A-1 Reservoir and associated canal conveyance improvements, under *Rufo* and *Horne*, the answer is a qualified "yes" and that is my recommendation to the Court. I make it for several reasons.

Judge Gold's Order

On April 14, 2010, Judge Gold issued his opinion in *Miccosukee Tribe of Indians of Florida v. United States of America*, 2010 WL 1506267 (S.D.Fla.) requiring the United States Environmental Protection Agency to issue, no later than September 3, 2010, an Amended Determination providing “clear, specific and comprehensive instructions to the State of Florida on the manner and method to obtain enforceable” Water Quality Based Effluent Limitations⁴⁵ “within a time certain, consistent with the Clean Water Act and its implementing regulations” with respect to Florida's Phosphorus Rule and the Everglades Forever Act. *Id.* at *21.⁴⁶ Judge Gold also ordered EPA to direct the State of Florida to conform all National Pollution Discharge Elimination System⁴⁷ permits for STAs 1, 2, 3, 4, 5, and 6,

*27 to the Clean Water Act, the Summary Judgment Order⁴⁸ and this Order so as to eliminate all reference to the nonconforming elements of the Long Term Plan,⁴⁹ the moderating provisions and the extended compliance schedule through 2016, and to require compliance with the phosphorus narrative and numeric criterion in a manner consistent with the Clean Water Act and the forthcoming Amended Determination. All such permits shall be conformed not later than sixty (60) days of the date of the Amended Determination and shall be promptly filed with this Court.

Id. The EPA Administrator, through the Amended Determination, was also ordered to notify the State of Florida that it is “out-of-compliance with the narrative and nutrient standards for the Everglades Protection Area.”*Id.*

In essence, Judge Gold said that the United States should require the State of Florida to figure out a way to have waters entering the Everglades satisfy Florida's phosphorus numeric criterion of 10 ppb. It was very clear from the evidence I heard that to attempt to achieve this goal will require many more acres of additional stormwater treatment area—at least as many as 40,000 *more* acres. Compartment A–1 represents over 16,000 acres that will very likely be needed as an STA to attempt to achieve compliance with State water quality standards as approved by EPA under the Clean Water Act. Tr. 209–210.⁵⁰

The United States advised the Special Master that it will meet the September 3, 2010 deadline. Based on the testimony of Gail Mitchell, who is leading the team that is preparing the Amended Determination, EPA is looking at utilizing Compartment A–1 as part of its proposed structure for satisfying Judge Gold's Older: “The EAA–A1 reservoir lands are situated in the landscape within the STA–3/4 flow path so that it may be highly beneficial to be able to use those existing Florida state lands, in whole or in part, as a location for STAs to improve water quality.” Ex. 201 (Mitchell Declaration, p. 2).

If the District is required to build a reservoir on Compartment A–1, the ability of the State Parties to expand STA–3/4 by utilizing adjoining land (see Figure 1 above) will be eliminated and the cost to the District of having to build the A–1 Reservoir, make the Bolles and Cross Canal improvements, and build ECART, will significantly foreclose its financial ability to develop additional STAs to satisfy water quality standards, as I next explain.

Falling District Revenues

With the downturn in property values throughout the District's *ad valorem* tax base, the District's financial circumstances are also very different from 2006.

Michael Smykowski is the budget director of the District. His amended declaration explained that the District presently has cash reserves of \$250 million and has the potential to receive \$71 million in Everglades Forever Act funding from the State of Florida, “the use of which requires an amendment to the Long–Term plan.”⁵¹ Unless the District's Board raises millage rates, based on July 1, 2010 property values, the District's *ad valorem* tax revenues are expected to be \$399 million in the 2010–11 fiscal year⁵² that began July 1, 2010. The District's budget for the 2010–11 fiscal year is \$331 million. The difference of \$68 million is available for capital projects and contracts.⁵³

*28 Translated, when contract obligations are subtracted, the District would have something under \$68 million to pay back principal and interest on borrowed money that might be used to build the A–1 Reservoir and associated canal improvements. Depending upon the interest rate, the term, and market conditions, mathematically, the District might be able to support carrying costs on something in the range of \$800 million to perhaps slightly more than \$1.1 billion in borrowings. Ex. 33 (Smykowski Declaration, p. 2); Ex. 38

(Moore Declaration, p. 2).⁵⁴ The estimates provided to the Special Master are that something between \$724 and \$815 million would be required to build A-1 Reservoir and related canal improvement projects.⁵⁵ It is not at all clear that the District would be able to raise this amount of money in light of Judge Gold's order.⁵⁶ If it could, the District would have little additional borrowing power to implement projects that will likely be required to satisfy Judge Gold's order. That order is directed at improving water quality—to meet a WQBEL of 10 ppb—discharged not only to the Refuge but also to the rest of the Everglades from all of the STAs. As I next explain, using Compartment A-1 for a deep water reservoir even with associated canal improvements, including all of ECART, will not meet this goal.

The A-1 Reservoir's Role Was Primarily One of Water Storage

The A-1 Reservoir was envisioned as a water storage project, not a water quality project. Ex. 14.01, p. 1-1; Ex. 30 (Ammon Declaration, p. 2); Ex. 626 (Wise Declaration, p. 2). It would not treat any water. About one-half of its projected annual projected input would be used for agricultural irrigation. The rest of it would be routed to STA-3/4 for treatment. Ex. 14.01, p. 5-9.⁵⁷ For water quality purposes, as explained above, the A-1 Reservoir's main role would have been to receive diverted water from other parts of the EAA whenever the canal conveyance capacity was increased to allow water managers this flexibility. Diversion does not improve water quality. Phosphorus-laden water still has to be treated before it can be discharged to the EAA.⁵⁸

Here we are focused on remedies to improve the quality of water being discharged to the Refuge. Vis-à-vis the Refuge, the A-1 Reservoir's role was one solely of diversion of water to relieve the stress on STA-1W which otherwise might be overloaded by phosphorus-laden water from the S-5A basin. Tr. 176; 359; 430. If the EAA FS is to be believed, the benefit to the Refuge would be negligible. Ex. 30 (Ammon Declaration, p. 2). But as I have already explained above, the EAA FS's contains too many assumptions to give it any credence as a meaningful predictive tool.

Even if the EAA FS inspired predictive confidence, and if the A-1 Reservoir were built and associated canal conveyance improvements were made as was modeled in "Alternative 1" of the EAA FS, the predicted flow-weighted mean concentration of phosphorus leaving the

STAs would still exceed 10 ppb for the 2010-14 time period when the EAA FS assumed that the construction works embodied in its modeling would be operational. The following table summarizes those predicted post-construction outflow concentrations for the 2010-14 time period:⁵⁹

*29 In other words, after spending in the area of \$800 million, the EAA FS predicted that through 2014, the STAs would be discharging water 130 to 190 percent higher than 10 ppb. Moreover, apart from the questionable assumptions discussed earlier in this Report, these predicted outflow concentrations assumed Compartment B would be online in 2010 to receive the water diverted from the S-5A basin, and it will not be because of a regulatory issue that has arisen.⁶⁰ The EAA FS also assumed that STA-1E would be fully functional by 2010, and it is not.⁶¹

The Tribe and the Farm Interests pin their water quality improvement argument on two tables in the EAA FS. They compare the EAA FS's predicted 2006-09 projections of phosphorus loads in metric tons entering the Refuge to the 2010-14 projections of phosphorus loads in metric tons entering the Refuge after the A-1 Reservoir was scheduled to be constructed and all of the other improvements that were modeled in "Alternative 1" in the EAA FS were in place. Ex. 14.01, p. 4-1 and 5-7. When the comparison is made of the two modeled outputs, the projection shows that there would be a 51% reduction of phosphorus loading in metric tons to the Refuge with the A-1 Reservoir and all associated canal improvements in place, and Compartments B and C in operation. This reduction results from the diversion of water from STA-1W that then has to be treated elsewhere if it is to be discharged into the Everglades.

The Tribe did not conduct modeling based on current information to show the effect of the A-1 Reservoir and associated canal improvements on reducing the amount of water that currently has to be treated in STA-1W. Instead, the Tribe relied on an October 2005 EAA FS to predict what might happen some years hence if the A-1 Reservoir and all associated canal improvements were made and if a number of other assumptions turned out to be true. I do not find this argument persuasive. As the Tribe and the United States argued in criticizing the EAA FS in the hearings I held in 2006, with all of its assumptions, the 2005 EAA FS is not a reliable predictor. As I explained above, that's why I did not embrace the EAA FS in 2006. There is even more of a reason not to do so in 2010. The 2006-09 projections in the EAA FS, in fact, have turned out not to be accurate. STA-1E

is not functioning without problems as the EAA FS assumed and there is no indication of when it will be. The diversion of water from STA-1W contemplated that Compartment B would be online by 2010 and that is not the case.⁶²

Nor is the A-1 Reservoir capable of providing a diversion benefit to STA-1W in any reasonable time frame. The ability of the District to construct it and ECART is severely hampered by a number of factors:

- Two of the plaintiffs in the matter before Judge Middlebrooks are intervenors in this action. Their expert testified forcefully that putting a reservoir in Compartment A-1 is ill-advised. Ex. 626 (Wise Declaration, p. 2-5). In addition, their lawyers advised the Special Master that they would be back before Judge Middlebrooks challenging the continued construction of the A-1 Reservoir, should construction be ordered by this Court. Tr. 937-38.

***30** • The permit to construct the A-1 Reservoir expires in July 2011. In light of the scientific testimony presented to the Special Master, there is no guarantee that the Corps would reissue the permit.⁶³ At a minimum, I would expect the issue to be one of significant contention.

- The A-1 Reservoir can receive diverted waters from the S-5A basin only if ECART is completed. ECART has yet to go through the EIS process.⁶⁴ The lands needed to implement ECART still have to be acquired.⁶⁵ ECART is not funded. These are major hurdles to overcome.
- The testimony at the hearing was that the A-1 Reservoir could be built in four years in pure construction terms, Tr. 257, but, apart from finding the funds to build the Reservoir, that timeline does not account for resolution of the case before Judge Middlebrooks or the possibility of a contentious fight over permit renewal or challenges to the EIS for ECART or litigation over permits for ECART projects or a permit renewal for the A-1 Reservoir.⁶⁶

Based on (a) nearly seven years of service as the Special Master and all that I have learned in this time period about permitting and construction delays and (b) the evidence I heard in connection with this Report, if the A-1 Reservoir was required to be constructed along with the Bolles and Cross Canal improvements and ECART, and assuming

- all of this work would be permitted,
- the case before Judge Middlebrooks, in fact, was contested by the United States and the District, and that they prevailed,
- the District could obtain the \$800 million or more in financing to do all of this work whenever all of this work might be permitted,
- there would not be any serious litigation clouds hanging over any permits that will be required, and
- the case before Judge Gold did not require any additional construction projects, then

I would not expect the A-1 Reservoir, Bolles and Cross Canal improvements, and ECART, to be implemented and in operation until six to ten years or longer from today. To put it more bluntly, even if there was a compelling reason to get the A-1 Reservoir in place to provide a water diversion benefit to STA-1W, there is no likelihood that the A-1 Reservoir could be built to provide any immediate or short-term relief to STA-1W. And even if one accepts the EAA FS's long-term projections, the A-1 Reservoir provides very little relief to the Refuge in contrast with other steps that might be taken to reduce phosphorus levels in discharges entering the Refuge, now that the acquisition of some property from U.S. Sugar is going to be consummated.

Opportunities Presented by the River of Grass Acquisition

The A-1 Reservoir was placed where it was placed "because there was no other major land available that (was) in public ownership at that time." Tr. 185. The availability of U.S. Sugar land is another changed circumstance that cannot be ignored in seeking to achieve Everglades restoration.

***31** The District has signed an agreement with U.S. Sugar to purchase over 8,000 acres in the S-5A basin and another roughly 17,000 acres of land in the C139 basin. Both parcels are available for use as an STA and there is no dispute that there is a need to relieve the stress on STA-1W and STA-6 respectively, the two STAs that serve these basins.

Other U.S. Sugar lands fall within an option that the District has to purchase over the next ten years. The District's finances will dictate how quickly any more U.S. Sugar land will be purchased, and I acknowledge that financial picture is not a bright one given the competing obligations facing the

District. But given the evidence that I received on Everglades hydropattern restoration that would be feasible as more U.S. Sugar lands were acquired, it would be both disappointing and surprising if the State and the United States did not figure out a way to assist the District in truly recreating the River of Grass. *Ever glades? Or Never glades?* At some point, political and business leaders have to implement their commitment to save this Florida and United States ecological treasure; promises just won't do anymore.

The Tribe's experts opined that the Everglades would be better served by doing something already permitted and in which the District has invested some \$250 million.⁶⁷ I did not find either Dr. Jones or Dr. Rice persuasive on this score. They did not take into account the long length of time it will take to actually construct the A-1 Reservoir or ECART, assuming that both projects survive through the permitting process and promised or potential litigation. Instead of stepping back and saying, "Can we do things in a better, smarter way given the current circumstances?" they embraced the results of the 2005 EAA FS that the Tribe, and in particular Dr. Rice, were critical of in the 2006 hearings.

A number of other scientists have been studying varying configurations of water treatment, water storage, and canal conveyance in light of the U.S. Sugar land acquisition possibilities. They uniformly have identified Compartment A-1 for usage other than as a deep water reservoir. Ex 30 (Ammon Declaration, p. 9); Ex. 614 (Naja Declaration, p. 6-8). Indeed, in 2006, even the Tribe had a different view of the A-1 Reservoir. Then, in written comments to the Corps on the Final EIS for the A-1 Reservoir, the Tribe said it favored a shallow reservoir, not a deep water reservoir, on Compartment A-1.⁶⁸

Drs. Fennema (Tr. 356-57), Harwell (Tr. 376-77), Naja (Tr. 470-71), Redfield (Tr. 170-71; Ex. 32, p. 2), Van Lent (Tr. 504), and Wise (Ex. 626, p. 5-6)—all respected Everglades scientists—offered thoughtful opinions that a deep water reservoir is under the circumstances presented today not the smartest, best use of Compartment A-1 to assist the Refuge, or more broadly, to treat water for Everglades restoration. I find their testimony to be persuasive.

They were not alone in agreeing on how to proceed.

Consensus Among the Parties to the Consent Decree

*32 None of the cases cited by the opponents of the State Parties' motion involve a situation like we have here where the parties to the Consent Decree—the United States, the State of Florida, and the District—agree that now is not the time to decide to use Compartment A-1 as a reservoir for water storage. It would seem sensible to allow the parties who made the agreement to agree to modify the agreement as long as the modification does not disserve the public interest or compromise the Court's responsibility to enforce its Decree.

The public interest is served by doing the best we can to ensure that precious Everglades restoration dollars are spent as wisely as we can spend them given current environmental and economic circumstances.

To be sure, water storage is an important component of Everglades restoration and in the public interest. Ex. 30 (Ammon Declaration, p. 4); Tr. 477. However, where that storage should be located and how storage fits into spending priorities, especially in light of Judge Gold's order and the upcoming hearing the Special Master will be holding on the interpretation of the Consent Decree and remedies for the latest violation in the Refuge, is a decision that should be made by the parties with the expertise to do so and in light of existing, very changed circumstances, and not those that existed five years ago.

I am quick to acknowledge that a scientific consensus still has to be reached and that finances will affect the District's ability to convert that consensus into construction works. I am very comfortable recommending that the District should be allowed to change its mind when changed circumstances warrant doing so and there is so much scientific support for the District's decision. I am not prepared to recommend that the State Parties can wait a long time to formalize remedial plans arising out of current circumstances. But that is the subject for a separate Report and Recommendation the Court, in its March 31 Order, directed I prepare after I hear evidence on how the State Parties' plan to satisfy their Consent Decree obligations for the latest violation in the Refuge.

Addressing Other Arguments Raised by the Tribe or Farm Interests

In opposing the State Parties' Motion, the Tribe and the Farm Interests made a number of other arguments that I have not yet addressed directly. I do so below.

The Tribe argues that the District does not contemplate any construction on U.S. Sugar lands for at least the next ten years, citing Ex. 16 at 19. It cites Mr. Argiz's testimony that if the District were to purchase the U.S. Sugar land, it would be unlikely that the District could build any project until at least 2018. Ex. 677 (Argiz Declaration, p. 4). The Tribe adds that "vague" conceptual plans identified by different working groups of scientists for use of the U.S. Sugar land would result in an expenditure of \$4 billion to \$25 billion in construction projects, money that the District will not have for many years. Tribe's Closing Brief, p. 8–9.

*33 Exhibit 16 is entitled "Strategic Plan 2010–2020" published by the District and updated every year. Tr. 242. The referenced page contains "deliverables and milestones" in table format. The fourth row in the table is entitled "River of Grass." The milestones that appear in succeeding columns representing the years 2011, 2012, 2013, 2014, 2015, and then 2016–2020 show acquisition and design but no construction in connection with the "River of Grass." Mr. Ammon acknowledged this fact but explained that the strategic plan would be modified if the U.S. Sugar land is purchased. Tr. 242. Since this testimony was given, the District has publicly announced that it has entered into a contract to purchase 26,400 acres of land from U.S. Sugar using reserves as the funding mechanism. Of this amount, 8,900 acres are located just east of Lake Okeechobee and will be used to increase STA acreage to treat water from the S–5A basin, thereby directly benefiting the Refuge. Tr. 201–02. The remaining 17,900 acres will be used to benefit Water Conservation Area 3A by relieving STAs–5 and 6, Tr. 204–05, which have not been able to keep up with the phosphorus flow from sources of this nutrient in the C–139 basin.⁶⁹

More importantly, the second row of the table on this same page provides that the District will:

- Achieve water quality standards in the Everglades Protection Area and maintain compliance with the federal Everglades Settlement Agreement.
- Operate and manage the STAs to ensure compliance with water quality standards including the permit effluent limits,
- Maintain compliance with all state and federal Stormwater Treatment Area permit requirements.

It is the implementation of these obligations that will be the topic of the Amended Determination and remedy hearings

to be held by the Special Master as already directed by the Court.⁷⁰

Mr. Argiz did no more than parrot the District's testimony on the current state of its finances. In effect he was saying that if the District spent money on project A, it would not have the money to spend on project B for quite some time. To apply Mr. Argiz's principle in a more dramatic way: if the District is forced to spend money to build the A–1 Reservoir and ECART, it faces a much more significant dilemma: being unable to meet its remedial obligations under the Consent Decree, the Amended Determination, and Judge Gold's Order.

The conceptual plans referred to were discussed earlier and were developed by various working groups of scientists who have been evaluating how U.S. Sugar land might be best used to achieve Everglades restoration. They are, by their very nature, conceptual. And apparently they will be costly, if adopted. They nonetheless have value here because they represent a vision of what might be based on current circumstances as opposed to the EAA FS which was constricted by the land holdings then in the public domain and was forced to make a number of assumptions to produce a work product designed to accelerate the slow pace of implementation of then-contemplated CERP projects. If nearly \$1 billion is going to be borrowed by the District to do something, it is my recommendation that the decisions on what to do be based on circumstances that exist in 2010 and not those based on a 2005 study that I did not endorse in the 2006 Report even before I knew that many of its assumptions would turn out to be wrong.

*34 The Tribe also argues that the District can afford to build the A–1 Reservoir and ECART because it has \$250 million in reserves, has received validation for \$1.8 billion in bonds for the Acceler8 projects (and has borrowed only \$572 million of this amount), and has the cash flow to finance up to \$1 billion in additional borrowings. Tribe's Closing Brief, p. 9–10. Affordability is not the question to ask. The right question is this: Is the construction of the A–1 Reservoir the right thing to do today? Is ECART the right thing to do today? That the District may be able to afford to build both does not answer the question of whether the Refuge will be better off than if the District implemented a different configuration of water quality, water storage, and canal conveyance projects. Nor does it answer the question of compliance with the Amended Determination and Judge Gold's order.

It also does not answer the question identified in the 2006 hearing of whether the Refuge would be better off by expanding STA-1W or engaging in a massive replumbing job represented by the A-1 Reservoir and canal improvements. Then, the Tribe and the United States were arguing that the District had chosen unwisely. Now that the District appears to have changed its mind, the Tribe is arguing that the District should go back to the decision that the Tribe originally criticized. I said then that compliance with the Consent Decree would be the test of the District's prudence. There has been another violation of the Decree. The District should not be hamstrung by spending all of its available dollars on a project that will not materially assist the Refuge and does not come close to satisfying a 10 ppb WQBEL for all of the STAs.

The Tribe next argues that use of Compartment A-1 as an STA is not the subject of a funded design or a feasibility study. It argues that placing an STA in Compartment A-1 would not provide any water quality benefit to the Refuge. Tribe's Closing Brief, p. 10. As I have already discussed above, I do not accept the assumptions of the 2005 EAA FS as reliable to predict future water diversion benefits. The A-1 Reservoir and associated canal improvements, if they survive permit, litigation, and land acquisition issues, have not been shown to provide any material benefit to the Refuge based on current conditions and would not permit any STA to come close to achieving a WQBEL of 10 ppb. The question is whether changed circumstances should relieve the District of the March 31, 2010 Court-imposed obligation to build the A-1 Reservoir in response to the pre-2005 violations in the Refuge. The answer to that question is a qualified "yes."

The Tribe then argues that Judge Gold's order does not conflict with the March 31 Order because Judge Gold wrote that it was his intention to work in conjunction with, and complement, the goals in the Consent Decree. Tribe's Closing Brief, p. 10-11. Judge Gold was not commenting on whether the A-1 Reservoir should be built. He could not have been reflecting on whether Bolles and Cross Canal improvements or ECART should be built because there is no mention of either in the March 31 Order. Nor was he prejudging the outcome of Judge Moreno's referral to the Special Master to evaluate "changed circumstances and opportunities." There is compatibility between the obligation of Judge Moreno to enforce the Consent Decree and Judge Gold's Order directing EPA to issue an Amended Determination. That compatibility does not lead to the conclusion that the A-1 Reservoir should be built; here it leads to the opposite conclusion for all of the reasons set forth above.

*35 The Tribe quotes from the District's memorandum of law submitted to Judge Middlebrooks on February 1, 2008 lauding the benefits of the A-1 Reservoir:

The State's Acceler8 program, and particularly its EAA A-1 Reservoir Project, is a vitally important Everglades restoration initiative. In a time of continually rising costs, and significant delays, the necessity for timely and effective environmental restoration remains as the only constant. Acceler8 in general and this project in particular, represent an appropriately phased, adaptive response, intended to attain the most environmental benefits at the earliest opportunity.

The EAA reservoir has been exhaustively studied and designed to operate fully consistent with the larger overall restoration effort, including CERP.

Tribe's Closing Brief, p. 11-12 (citing Ex. 441, p. 1). The District was just as strong a proponent of the A-1 Reservoir in 2006 as the Tribe was a critic of the EAA FS. I wrote then that time would determine whether the District had made a good choice in trying to replumb the canal and water storage system or, instead, expand STA-1W. As it turns out, the availability of land made possible by U.S. Sugar's willingness to sell land, another violation of the Consent Decree in the Refuge, Judge Gold's order, and the economic fallout have radically altered the Everglades landscape and the District's view on how best to proceed. The District is entitled to decide how to best spend taxpayer dollars in light of these changed circumstances.

The Tribe concludes by stating that the A-1 Reservoir, "if constructed, will provide significant benefits to the Refuge within the next few years and that is exactly what the Everglades need and the Court ordered." Tribe's Closing Brief, p. 12. My findings are just the opposite. I am unable to conclude based on the record presented to me that the A-1 Reservoir could be constructed, would be constructed "within the next few years," or would provide "significant benefits" to the Refuge. Nor based on the record do I agree that the A-1 Reservoir "is exactly what the Everglades need." I do agree that remedial delay represents continuing damage to the River of Grass, but I don't agree that a 2005 modeling effort which the Tribe in 2006 described as containing "false assumptions" should dictate what remedies should be implemented based on the very different circumstances presented in 2010.

With respect to the Farm Interests' post-hearing brief, they first argue that the U.S. Sugar "deal" is not a change in

circumstances because the Court was told about it before the Court issued its March 31 Order, no specific projects have been identified that would be constructed on U.S. Sugar land, and the Court has demonstrated a “clear desire” to “improve the quality of Refuge inflows.” Farm Interests' Post-Hearing Brief, p. 7–8. The A–1 Reservoir grew out of a CERP project that focused on land that was available to be used. Its feasibility was the subject of a 2005 study that contained a number of assumptions, acknowledged that it did not account for water quantity concerns of the Refuge, and, through improved canal conveyance, would allow phosphorus-laden water from the S–5A basin to be diverted for treatment somewhere else. Getting STA–1W's discharges to the Refuge down to 18.9 ppb after spending just under \$1 billion—what the EAA FS projected if its assumptions had proven correct—is not the solution to improving the quality of the water entering the Refuge.

***36** The District has now entered into a contract to purchase 8,900 acres in the S–5A basin to add treatment capacity in this basin using reserve funds that it has on hand rather than relying on issuing COPs. The land is not adjacent to STA–1W and canal conveyance issues will have to be addressed to move treated water in this location. The District described the hope that a land swap might be possible to obtain land adjoining STA–1W. Ex. 30 (Ammon Declaration, p. 5). At the August 13, 2010 oral argument, counsel for Farm Interests preannounced that his client would not consider a land swap.

MR. PERKO: The other potential alternative that was thrown out by Mr. Burns were land swaps for that property adjacent to STA–1W, and I can represent to the Special Master that is one of my client[]s which owns the land immediately adjacent to STA–1W is ...

THE SPECIAL MASTER: You are not doing any land swaps, that's what I'm going to hear?

MR. PERKO: Yes.

Tr. 983–84.

Some might argue that such an attitude from a Farm Interest is not consistent with a genuine interest in Everglades restoration. If land is being fanned in the location being acquired as well as the location closest to STA–1W, one might conclude that the second landowner should want, on reasonable terms, to engage in a swap to support the public's interest in improving the quality of the water entering the Refuge from farms in the S–5A basin at the lowest

cost to the District and the taxpayers who provide the District its revenues. Nonetheless, accepting the finality of counsel's declaration, even without a land swap, given the District's need to develop remedial options to address the latest violation of the Consent Decree in the Refuge as well as to deal with the likely terms of the Amended Determination, and the other changed circumstances discussed above, and given the Refuge's concern over water quantities, the District is entitled to develop revised plans on how best to spend its revenues in light of existing circumstances.

The Farm Interests also argue that the A–1 Reservoir and ECART are “real projects” for which “realistic deadlines can be established.” Farm Interests' Post-Hearing Brief, p. 9. The A–1 Reservoir's permit expires in July 2011 and will be the subject of continued litigation. ECART has yet to be subjected to the EIS process. If I had to set a realistic deadline for either project, it would have to be one 6–10 years or more from now with the qualification that there is no guarantee that regulatory approvals will be issued to continue the reservoir project or permit ECART in light of alternatives that might make more sense given changed circumstances, and litigation may dictate whether either project could be built.

The Farm Interests also argue that the District can abide by Judge Gold's Order by “submitting a use attainability analysis (UAA) to obtain temporary relief so long as they show, among other things reasonable progress toward attaining the phosphorus criterion. The EAASR and canal improvements would provide such progress.” Farm Interests' Post-Hearing Brief, p. 11. Even if all of the flaws of the EAA FS are ignored, I fail to see how spending nearly \$1 billion on the A–1 Reservoir and canal improvements to achieve the predicted STA total phosphorus annual outflow concentration of 17.1 ppb, Ex. 14.01, p. 5–9, will allow the District to abide by Judge Gold's Order which emphasized the need to reach 10 ppb.

Conclusion

***37** My 2006 Report was directed at a violation of Interim Levels in the Refuge. As I explained in my 2006 Report, I did not have confidence in the October 2005 EAA FS and “Alternative 1” in that Report, if implemented, was not going to provide any meaningful benefit to the Refuge. Hence, I did not recommend that the Court require the construction of the A–1 Reservoir or the Bolles and Cross Canal improvements. In fact, I said then that the District was entitled to choose how it wished to proceed and only if another violation of the

Consent Decree in the Refuge occurred would we be able to say whether the District made a good choice or a bad choice.

For reasons discussed exhaustively above, the A-1 Reservoir was started but not completed and then ceased, and canal improvements were never started. At this juncture there is no guarantee that these projects would survive regulatory or litigation review, and even if they could, they are 6 to 10 years or more away from completion.

The River of Grass acquisition has presented itself and the District is in the process of acquiring 26,400 acres of land from U.S. Sugar out of reserve funds held by the District with an option to buy several tens of thousands of additional acres. From an Everglades restoration perspective, having a willing seller of this much land in the Everglades Agricultural Area presents opportunities that did not exist in 2006 and cannot be ignored in 2010.

Without question, the District's reduced revenues and more limited borrowing capacity will hamstring its ability to realize the full potential of the U.S. Sugar lands, for many and perhaps many, many years. Even recognizing that the District needs significant financial help to take full advantage of the benefits to Everglades restoration provided by the acquisition of this much farmland, that is not a justification to implement a 2005 alternative that was based on incomplete assumptions and what have also turned out to be inaccurate assumptions and would not, at the end of the decade, achieve a WQBEL of 10 ppb.

There was a violation of the Long Term Level in the Refuge when a June 2009 sample result above the Long Term Level occurred within 12 sampling periods of a similar excursion in November 2008. The State Parties have acknowledged the violation. As I wrote in 2006, the Consent Decree was framed not to punish, but to succeed and contains a self-executing remedial clause at page C-4 with considerable flexibility built into it:

if the Park or Refuge phosphorus
limits or concentration levels are

violated, then additional remedies will be taken, such as expansion of STAs, more intensive management of STAs, a more stringent EAA Regulatory Program, or a combination of the above. The State Parties shall not implement more intensive management of the STAs as the sole additional remedy.

Consent Decree, Appendix C, p. C-4. The Court has directed me to hold remedial hearings to hear what the State Parties intend to do to honor this Consent Decree obligation. The Court has already stated that whatever remedies are identified, the State Parties must be required to act in a definite manner.

***38** The Tribe, the United States, and the State Parties have unresolved differences of opinion on the proper interpretation of other provisions in the Consent Decree which will be the subject of hearings that I will have beginning October 25, 2010. The Court directed me to hold remedial hearings as appropriate following a determination of the issues raised by these differences.

Judge Gold's Order will result in an Amended Determination that will be issued by September 3, 2010. The obligations imposed by that document will affect the upcoming hearings which the Court has directed me to hold.

For all of the reasons summarized in this Conclusion and stated in this Report, under the principles set forth in *Rufo* and *Horne*, I recommend that the Court (a) relieve the District of the obligation to construct the A-1 Reservoir and associated canal improvements based on the changed circumstances outlined above and (b) await the results of the planned hearings before evaluating whether the State Parties have met their Consent Decree obligations by the additional remedies they will propose to address the needs of the Refuge.

All Citations

Not Reported in F.Supp.2d, 2010 WL 6268442

Footnotes

- 1** The remaining tasks are (1) to recommend realistic mutually-agreeable deadlines, as necessary, for the projects listed on Appendix A to the Special Master's July 5, 2006 Report to the Court and, if appropriate, to evaluate the effectiveness of past projects that may no longer be effective remedies; (2) to hold an evidentiary hearing to address these five questions (a) compliance with the Consent Decree's Load Reduction Requirements; (b) whether the phosphorus exceedances in the EPA constitute a violation of Appendix A of the Consent Decree; (c) whether the State Parties are violating the

Consent Decree by not employing PSTA technology as a viable tool to prevent future violations; (d) whether discharges into the Western Basin constitute a violation of the Consent Decree; and (e) whether the Consent Decree requires that phosphorus discharges be limited “to 10 ppb Everglades-wide,” “as opposed to the 17 ppb goal”; and (3) to hold a remedial hearing to address an admitted violation of the Consent Decree. March 31 Order, p. 17. These matters will be addressed by the Special Master in hearings that begin October 25, 2010.

2 The United States filed its Response to State Parties' Motion for Relief Under [Fed.R.Civ.P. 59\(e\)](#) and [60\(b\)](#) From Court's March 31, 2010 Order on Remedies and For Leave to Present Additional Evidence on Alternative Remedial Measures in Lieu of Constructing the EAA A–1 Reservoir on May 24, 2010 [DE 2157]. The Miccosukee Tribe of Indians of Florida (“the Tribe”) filed its Response in Opposition to State Parties' Consolidated [Rule 60\(b\)\(5\)](#) Motion for Relief from Order on Remedies, Motion for Leave to Present Evidence on Alternative Remedial Measures in Lieu of Building the EAASR, and [Rule 59\(e\)](#) Motion for Modification on June 7, 2010 [DE 2163]. Intervenor Sierra Club filed its Response in Support of FDEP and the District's Consolidated [Rule 60\(b\)\(5\)](#) Motion for Relief from Order on Remedies; Motion for Leave to Present Evidence on Alternative Remedial Measures in Lieu of Building the EAASR; and [Rule 59\(e\)](#) Motion for Modification on May 17, 2010 [DE 2155]. Intervenor Florida Audubon Society filed its Response in Support of State Parties Consolidated [Rule 60\(b\)\(5\)](#) Motion for Relief from Order on Remedies; Motion for Leave to Present Evidence on Alternative Remedial Measures in Lieu of Building the EAASR; and [Rule 59\(e\)](#) Motion for Modification on May 17, 2010 [DE 2153]. Intervenors West Palm Beach County Farm Bureau, K.W.B. Farms and Roth Farms, Inc., (“Farm Interests”) filed its Response to the State Parties' Consolidated [Rule 60\(b\)\(5\)](#) Motion for Relief on Remedies; Motion for Leave to Present Evidence on Alternative Remedial Measures in Lieu of Building the EAASR; and [Rule 59\(e\)](#) Motion for Modification on May 12, 2010 [DE 2140]. United States Sugar Corporation did not file a response to the State Parties' motion, but supported it in a written closing argument. In this Report, the “Farm Interests” refer to sugar interests other than U.S. Sugar.

3 In a motion submitted to the Special Master on June 9, 2010, the Farm Interests sought to postpone the hearing suggesting I could rule on the merits of the Motion to Amend without taking evidence. I denied the request as explained in my summary of the June 9, 2010 hearing. The Tribe then fded with the Court a Motion to Stay the July 26 hearing and to vacate the Special Master's Summary of Prehearing Conference of June 9, 2010 and a Motion for Expedited Review [DE 2171] asking the Court to postpone the hearing on similar grounds. Judge Moreno denied the motion to stay in his Order dated July 7, 2010. [DE 2176.]

4 Mr. Kivett also testified as a fact witness.

5 One additional witness of the District, David Gilpin–Hudson, submitted a records custodian declaration and by agreement of all counsel was excused from appearing in person.

6 U.S. Sugar was not covered by the Audubon Society's motion but, presumably, would have been had it chosen to present any witnesses or exhibits. As noted earher, U.S. Sugar supported the State Parties' motion; the Farm Interests opposed it.

7 Response of Western Palm Beach County Farm Bureau, K.W.B. Farms, and Roth Farms, Inc. in Opposition to Motion to Limit Farm Interests' Participation at Hearings, and Incorporated Memorandum of Law.

8 One of the witnesses later elected not to testify and the Farm Interests withdrew his declaration and rebuttal declaration.

9 In response to a question from the Special Master at the June 9 prehearing conference, the United States restated its view that the Farm Interests should not be allowed to participate and the State Parties said that they did not believe that, other than the Tribe, the intervenors were permitted to participate in the hearing, but none of the parties elected to press the issue formally.

10 As it turned out, there were only references by some witnesses to the need to reduce phosphorus outflows from the farm fields through improvement in the management practices employed by Farm Interests or references to improved “source controls.” Transcript (“Tr.”) 214–15, 276, 281, 296, 317. And to the ears and eyes of the Special Master, the Farm Interests' focus during the hearing was to stop the U.S. Sugar sale.

11 They were scheduled to testify later that day or the next morning.

12 The Audubon Society gave these examples: “Nor have the State Parties identified any specific funded project(s) with fixed completion dates that will be built on this land to replace the EAA Reservoir that has been committed to the Special Master and the Court as part of a suite of remedies to help prevent future violations of the Consent Decree.”Ex. 479 (Rice Initial Report, p. 4, ¶ 7).“Unless Mr. Amnion's definition of consensus does not include the Tribe, and its scientist, there is no consensus.”Ex. 479 (Rice Initial Report, p. 6, ¶ 9).“SFWMD has provided no proof that this land acquisition alone will be a remedy for violations of the Consent Decree or benefit the Comprehensive Everglades Restoration Plan (CERP). Nor has the SFWMD provided any concrete plan for a project that would replace the EAA A–1 Reservoir and associated Bolles and Cross Canal Improvements.”Ex. 480 (Jones Initial Report, p. 2 ¶ 7).“The State Parties should not be allowed to abandon the commitments to a project, which could be completed in 2 to 3 years, for an amorphous land

- purchase that has not been shown will provide any remedy for violations of the Consent Decree."Ex. 480 (Jones Initial Report, p. 6, ¶ 16.)
- 13 Miccosukee Tribe of Indians of Florida's Response in Opposition to Florida Audubon Society's Memorandum of Law Regard Objections to Expert Reports Submitted by the Tribe (August 4, 2010)
- 14 The concept of a storage reservoir as part of Everglades restoration dates back to the late 1990s. Between 1996 and 1999, the Corps "developed a plan to modify the Central and Southern Florida ("C & SF") Project in an effort to restore the natural environment. That process culminated in the Central and Southern Florida Project Comprehensive Review Study Final Integrated Feasibility Report and Program, also known as the "Yellow Book." A copy of the Yellow Book can be found at http://www.evergladesplan.org/pub/restudy_eis.aspx. The 2000 Water Resources Development Act authorized the Yellow Book "as the framework for modifications to the C & SF Project."The authorized plan became known as the "Comprehensive Everglades Restoration Plan," or "CERP." A reservoir was one of the CERP projects initially authorized by WRDA 2000. White Amended Declaration, p. 4. The governmental stakeholders outlining projects for what became known as the Comprehensive Everglades Restoration Plan, or "CERP," included a reservoir on lands known as the "Talisman" property. This property was geographically configured with names: A-1 and A-2 and Compartments B and C. See Figure 1 below.
- 15 The Compartment B STA, not the A-1 Reservoir, was intended to be the primary recipient of excess water from the S-5A basin to relieve STA-1W. Ex. 31 (Kivett Declaration, p. 1-2). To get water to Compartment B, increased canal conveyance would be required, as I discuss below. If the A-1 Reservoir and all associated canal improvements were made, then S-5A basin runoff could be conveyed "to practically anywhere in the EAA," including the A-1 Reservoir. *Id.* (p. 3).
- 16 Ms. White explained that the District was concerned about delays in the Corps' completion of planning for the CERP Reservoir project and that waiting for the Corps to act on the CERP Reservoir would "frustrate a proposed construction schedule adopted" by the District to fund its portion of the CERP Reservoir. As a result, the District designed a smaller project "to be as consistent as possible with the Corps' plans for the larger CERP EAASR project, so that, upon specific authorization of Congress, the State's Acceler8 EAA Reservoir project could maintain eligibility for a state credit toward its 50% share of the cost of CERP EAASR project, as required by WRDA 2000."Ex. 214 (White Amended Declaration, p. 4-5).
- 17 Dr. Fennema suggests that this land might be best used as an STA depending upon the acquisition of U.S. Sugar lands upstream of Compartments A-1 and A-2. Tr. 361. In response to a suggestion made by the Tribe that Compartment A-1 be used for a reservoir and Compartment A-2 be used for an STA, Dr. Naja pointed out that A-1 is adjacent to STA-3/4, that STA-3/4 requires an expansion, and that it would make more economic and engineering sense to expand STA-3/4 by using the A-1 adjoining property. Tr. 476.
- 18 Ex. 217 and 218.
- 19 According to the document, other areas that would be affected by the EAA CERP Reservoir included: "littoral and marsh areas of Lake Okeechobee; the northern estuaries of the St. Lucie Canal (C-44) and the Caloosahatchee River (C-43); the WCAs, including WCA-3A north of I-75, WCA-2A; and the Arthur R. Marshall Loxahatchee National Wildlife Refuge (WCA-1)." U.S. Exhibit 220, at 1-17; White Amended Declaration, p. 7.
- 20 See also Ms. White's explanation of how to read Ex. 223 and its companion, Ex. 227, at Tr. 381-385.
- 21 Chapter 62-435, F.A.C.
- 22 "Specifically, Acme Basin B project was anticipated to reduce nutrient loading to the Refuge which was a key factor in the UMAM analysis and generated mitigation credits."Ex. 214 (White Amended Declaration, p. 11).
- 23 Exhibit 227, pp. D-106, D-113, D-127, D-131, D-141, and D-151 support this statement. See Tr. 381-385.
- 24 Without the EAA A-1 Reservoir, the 227,000 acre-feet of water referenced above would be "back-pumped into Lake Okeechobee or pushed through the STAs at sub-optimal flow rates," and the 281,000 acre-feet referenced above from Lake regulatory releases would be discharged to tide or to the Everglades. Ex. 214 (White Amended Declaration, p. 13, citing to the Executive Summary from the May 2006 EAA A-1 EIS, Ex. 230).
- 25 That was the Appendix A deadline contained in my 2006 Report which was then pending before Judge Moreno for approval.
- 26 Because ECART was not evaluated by the Corps, the Corps has not yet made its own determination how ECART would affect water quality and quantity in the Refuge. Ex. 214 (White Amended Declaration, p. 18).
- 27 Of this total acreage, 32,000 acres would have been available within one year after closing on the purchase, and the remaining 40,500 acres would have been leased back to U.S. Sugar for seven years for agricultural use. Of this leased-back land, 10,000 acres would become available to the District upon two years' notice to U.S. Sugar. The District also

obtained an option to acquire an additional 107,500 acres from U.S. Sugar within ten years after closing. Ex. 30 (Ammon Declaration, p. 5).

28 New Hope Sugar and Okeelanta Corp. are not formal intervenors in this matter, but based on transcripts offered as exhibits here and the comments of Farm Interests' counsel, at least some of the counsel for Farm Interests in this matter also appeared as counsel for New Hope Sugar and Okeelanta Corp. in the challenge to the validation of the COPs.

29 Of course, even a diversion plan assumes that Mother Nature did not overload the storage and treatment capacities of hydraulic network managed by the District such that water, depending upon where it fell from the sky or drained to, had to be moved south, east, or west bypassing both storage and treatment.

30 I then explained: "As noted above, the District has prepared an operations plan for STA-IE that will not keep L-8 basin water out of STA-IE but is intended to move an 'equivalent' volume of water east through the C-51 to the S-155A structure and out to 'tide or elsewhere if the water volumes in the system as a whole allow water managers to effect this plan successfully. U.S. Exh. 109, p. 4, 7. How big an 'if this is depends upon the amount of rain and where the rain falls. When flood avoidance receives a higher priority, the EAA FS's assumption about L-8 water bypassing STA-IE may not be achievable." 2006 Report, p. 68.

31 For the entire water year 2006 (through April 30, 2006), the outflow concentration was 113 ppb. 2007 South Florida Environmental Report ("SFER"), p. 5-9 available at http://my.sfwmd.gov/portal/page/portal/pg_grp_sfwmd_sfer/portlet_prevreport/volumel/chapters/v1_ch_5.pdf. For water year 2007, the phosphorus flow-weighted mean outflow concentration of STA-1W was even higher, 119 ppb. 2008 SFER, p. 5-6 available at http://my.sfwmd.gov/portal/page/portal/pg_grp_sfwmd_sfer/portlet_sfer/tab2236041/volumel/chapters/v1_ch_5.pdf. For water year 2008, the figure was 53 ppb. 2009 SFER, p. 5-9 available at http://my.sfwmd.gov/portal/page/portal/pg_grp_sfwmd_sfer/portlet_sfer/tab2236041/2009report/report/v1/chapters/v1_ch5.pdf. For water year 2009, the comparable figure was 36 ppb. Ex. 15 (2010 SFER, p. 5-13). In other words, the EAA FS projections for STA-1W's phosphorus outflow concentration for the period 2006-09 were significantly underestimated.

32 For reasons I will be addressing in a separate report, Compartments B and C will not be completed by the end of 2010.

33 As will be discussed below, given the violation of the Long Term Level in the Refuge which will be the subject of a remedies' hearing before the Special Master later in 2010, the District's choice may also not have been a prudent one in 2006.

34 The interpretation of the Decree on this topic remains a subject of contention. See "Motion of Plaintiff United States of America for Resolution of Liability Issues, and Memorandum of Points and Authorities in Support," filed July 15, 2010. [DE 2179]. It will be addressed in the Special Master's hearing planned to begin October 25, 2010.

35 I also reported on plans to update the EAA FS which were not fully fleshed out in the 2005-06 hearings held by the Special Master: "On July 18, 2005, Mr. Strowd testified for the District and suggested that there would be consideration of additional STA acreage: "Q. Does the feasibility study with the deliverables due in October presently consider requiring additional STA acreage? A. That's currently being evaluated. The way that it was originally established was the feasibility study would look at this hydraulic optimization of flow, and then at the end of that would be a determination whether additional acreage would be required. We are currently evaluating the possibility of as an alternative looking at additional STA acreage in addition to the flow optimization that I mentioned earlier."Tr. 179-80."Dr. Goforth suggested that the EAA FS would be updated utilizing current STA nutrient removal characteristics. District Exh. 135, p. 16. However, there was no further testimony on either subject." 2006 Report, p. 86, n. 91.

36 The testimony at the hearing was that the U.S. Sugar land acquisition may provide "better cost-effective long-term opportunities" to address S-5A basin runoff and thereby render unnecessary "the entire ECART project," and "this could potentially save hundreds of millions of tax-payers (sic) dollars."Ex. 30 (Ammon Declaration, p. 8).

37 Among other documents discussing ECART, the Tribe identified a 2008 District slide presentation that listed ECART under a heading which read: "Projects with commitments to the Special Master for construction."(Ex. 434, p. 2). There is no doubt that until the possibility that other lands in the EAA became available to the District, ECART remained part of the construction vision to attempt to provide some relief to STA-1W by diverting water from the S-5A basin. There is also no doubt that the TOC understood that STA-1W was being overloaded and without the possibility of land to expand STA-1W, diversion was one way to relieve the stress on STA-1W and increased canal conveyance was needed to achieve this goal. Ex. 442 (Feb. 24, 2005 Memorandum to Principals of the Consent Decree from TOC Representatives Re Progress Report on Remedial Measures to Control Phosphorus Loads to the A.R.M. Loxahatchee National Wildlife Refuge).

38 The State Parties also invoked [Rule 59\(e\)](#) but did not argue the application of [Rule 59\(e\)](#) in their Closing Memorandum. The Audubon Society argued that the March 31 Order did not expressly amend the Consent Decree to incorporate the construction of the A-1 Reservoir. It reasoned that since this was the case, the order was "interlocutory in nature" and may be reconsidered at any time without meeting the standards set forth in [Rules 59\(e\)](#) or [60\(b\)](#). Florida Audubon Society's

Closing Memorandum, p. 2, n. 1. Nonetheless, it argued that [Rule 60\(b\)](#)'s requirements were still satisfied. I do not have the luxury of interpreting the March 31 Order in the same manner as the Audubon Society has interpreted it and I take the Court's references to [Rule 60\(b\)](#) in the March 31 Order as establishing the framework for this analysis.

39 "The court took this step even though the certified class included only Nogales students and parents and even though the court did not find that any districts other than Nogales were in violation of the EEOA." *Id.* at 2590.

40 No appeal was taken from any of these orders. *Id.* at 2590.

41 The Supreme Court also directed the district court to vacate the injunction insofar as it extended the district court's order to the entire State of Arizona if the petitioners seek such relief on remand. The Court held that the district court had no federal basis to extend relief statewide. "It is a question of state law, to be determined by state authorities, whether the equal funding provision of the Arizona Constitution would require a statewide funding increase to match Nogales' ELL funding, or would leave Nogales as a federally compelled exception. By failing to recognize this, and by entering a statewide injunction that intruded deeply into the State's budgetary processes based solely on the attorney general's interpretation of state law, the District Court obscured accountability for the drastic remedy that it entered." [129 S.Ct. at 2607](#).

42 I discuss the Omnibus Order at length in my May 4, 2005 Report of the Special Master.

43 Scientists for the Refuge continue to work on a model, but it remains in development. See also 2006 Report, p. 24–25.

44 As noted above, in 2006, the Tribe was urging the District to explore implementation of additional, or revision to the existing, BMPs, as part of the remedy for the violations of the Interim Levels in the Refuge. The Tribe said nothing about BMPs in this hearing.

45 Water Quality Based Effluent Limitations, or WQBELs, are limits that must be satisfied to avoid a violation of a water quality standard. [2010 WL 1506267 at *1, n. 5](#).

46 Judge Gold emphasized his holding: "I underscore that the EPA must establish **specific milestones** to ensure that the State of Florida does not continue to ignore, and improperly extend, the compliance deadline for meeting the phosphorus narrative and numeric criterion in the [Everglades Protection Area](#)." [2010 WL 1506267 at *21](#) (emphasis in original).

47 In broad terms, NPDES permits are issued under the Clean Water Act to set limits on discharges of regulated pollutants into certain water bodies.

48 [Micosukee Tribe of Indians of Florida v. United States et al.](#), [2008 WL 2967654 \(S.D.Fla. July 29, 2008\)](#). As he explained in his 2010 order, in the 2008 decision, Judge Gold determined that "the effect of the state law was to postpone the enforcement of WQBELs until the year 2016. I unequivocally concluded that this was unacceptable and contrary to the federal Clean Water Act." [2010 WL 1506267 at *3](#).

49 The Long Term Plan formally is entitled, "Final Report, Everglades Protection Area Tributary Basins, Long Term Plan for Achieving Water Quality Goals." It is dated October 27, 2003 and is updated periodically. It updates a March 17, 2003 document entitled, "Everglades Protection Area Tributary Basins, Conceptual Plan for Achieving Long-Term Water Quality Goals." The Long Term Plan was written into the 2003 amendments to the Everglades Forever Act. Section 373.4592(3)(b).

50 Mr. Ammon testified: "We have been working since January—our technical staff has been working with the Department of Justice, Department of Interior and others in order to get a better handle on the implications of the Judge Gold order. Originally, it was Judge Moreno's order. We were looking at just STA–1E and 1W, to try to improve that performance through STA expansion to meet our water quality obligations in that location. When Judge Gold then brought in the rest of the Stormwater Treatment Areas and we realized a proposal on the table might be diversion, we felt we needed to look at all the Stormwater Treatment Areas as one big analysis, if you will, and figure out what improvements needed to be made in order to meet the ten parts per billion obligation. Our preliminary numbers for that obligation are a total of about 40,000 acres of expansion. That's just to treat existing water. It doesn't talk about CERP water in the future, but just to treat existing water, we are just in the neighborhood of 40,000 additional acres. Interestingly, STA–3/4, our largest Stormwater Treatment Area, based on our preliminary numbers, needs about a 15,000 acre expansion, which is very close to the 16,000 acres that is available in A–1." Tr. 210.

51 As I discuss below, some of these dollars have now been spent to acquire U.S. Sugar land.

52 This compares to revenues of \$550 million "at the peak of the economic bubble." Ex. 33 (Smykowski Declaration, p. 2).

53 Projections for fiscal year 2011–12 are that the District's revenues will drop by \$5 million (based on declining property values), again assuming that there is not a millage increase. Ex. 33 (Smykowski Declaration, p. 2).

54 These witnesses assumed a 5.5% interest rate and a 30–year term.

55 Ex. 31 (Kivett Declaration, p. 5); Tr. 24–25.

56 Footnote 34 of Judge Gold's order provides: "I leave for another day, as may be necessary, to address the Court's power to impose coercive fines, including attorney's fees, to enforce its orders, and to determine if, and when, it is necessary to

bring the South Florida Water Management District into these proceedings through the All Writs Act, 28 U.S.C. § 1651. Such action may be necessary in the event the South Florida Water Management District takes actions in redistributing resources which preclude the construction of necessary facilities to meet phosphorus criterion, or, following the issuance of this Order, continues to govern itself by the extended 2016 compliance schedule and the invalidated provisions of the Phosphorus Rule in requesting NPDES permits.”2010 WL 1506267 at *18, n. 34. David Moore, the Managing Director of Public Financial Management, Inc., which is a financial advisory firm that assists the District by providing advice on capital planning and access to capital markets, explained that to comply with Judge Gold’s order may cost \$2 to \$6 billion and thus the District had “zero dollars in financing capacity.” Phrased another way, the District would not have the ability to fund the construction of the EAA A–1 Reservoir and associated canal projects. He explains: “The Judge’s reference to taking action against the District in the event the District reallocated resources to fund anything other than the phosphorus solutions would create uncertainty in the eyes of investors and rating agencies. Also, the magnitude of the potential judgment would have to be refined to a level that the District could afford, while maintaining other mission critical functions. It is worth noting that the District may be able to access the market for some nominal amount of funding, but the District would not be able to complete financings of the magnitude necessary to complete the various projects until the court action is resolved.”Ex. 38 (Moore Amended Declaration, p. 3–4).

57 Mr. Ammon testified that preliminary estimates are that to get to an outflow concentration of 10 ppb for water treated by STA–3/4, something in the range of 15,000 acres might be needed, about the size of Compartment A–1. Tr. 210. Dr. Naja suggested that the figure might be closer to 6,000 to 10,000 acres but agreed that STA–3/4 would have to be expanded. Tr. 474–75. I acknowledge Dr. Rice’s opinion that no amount of additional acreage will allow the STAs to achieve an outflow concentration of 10 ppb without “phase two” treatment, Tr. 755–58, but that is a topic for later hearings. For the purposes here, if Dr. Rice is correct, it reinforces the need to prioritize land acquisition and construction projects based on current actual circumstances and not on assumed and outdated ones. Dr. Jones testified that a reservoir would allow the District to collect water when there is too much of it so that it can be metered into an STA and avoid the “big pulse through the system” that occurs when farmers pump water to drain their fields and all of it goes immediately into an STA. Tr. 545–46. Accepting for purposes of discussion that this is accurate and that the EAA FS is entitled to predictive confidence, the EAA FS predicted that STA–3/4 would not get down to 10 ppb if Alternative 1 was implemented. Nor would any other STA that might be able to receive water from the A–1 Reservoir. Ex. 14.01, p. 5–7.

58 Moving phosphorus-laden water away from the Refuge STAs south would not eliminate the phosphorus; it would move the phosphorus treatment burden to another STA. Tr. 485, 502–03, 583; Ex. 626 (Wise Declaration, p. 4–5). Illustratively, Dr. Naja explained: “This water will be shipped from the Refuge to STA–3/4, but it will impact WCA–3, so you are shifting the problem from the Refuge and dumping it in WCA–3.”Tr. 485.

59 These are annual flow-weighted mean concentrations. The mean total phosphorus outflow concentration projected for the period 2010–14 based on all of the assumptions made in the EAA FS was 17.1 ppb. Ex. 14.01, p. 5–9 I make the comparison to 10 ppb in light of Judge Gold’s order and in anticipation of EPA’s Amended Determination, but I do not mean to imply that I have formed, and I have not formed, any judgments with respect to the issues raised by the United States’ Motion for Resolution of Liability Issues or the analogous motion of the Tribe.

STA	Projected Outflow Flow-weighted Mean Concentration of Phosphorus (ppb)
1W	18.9
1E	13.3
2	16.9
3/4	18.6
5	15.3
6	17.1

60 As will be described in a separate report to the Court, because Compartment B improvements will result in a modification to a federally-constructed levee, the Corps must complete a review under Section 14 of the Rivers and Harbors Act, 33 U.S.C. § 408. This review may not be completed until the fall of 2011.

61 There are ongoing discussions between the District and the Corps over STA–1E, which was built by the Corps for the District. These parties are in agreement that STA–1E needs to be improved but there is a dispute over who is responsible for the deficiencies in STA–1E. Tr. 929–932.

62 The Tribe also argued there would be a 28% reduction in total phosphorus loads to the Everglades Protection Area citing the same two tables in the EAA FS. The EAA FS projected that by 2010 with all of “Alternative 1” in place, and making assumptions about likely water volumes (in effect predicting how much it would rain) along with all of the assumptions made to do the modeling, the EAA FS predicted that phosphorus loading coming out of all of the STAs would be 32.48

metric tons per year for the period 2010–14. The Tribe compared this to predicted loads of 44.82 metric tons per year in 2006–09 to derive a reduction of 28% by virtue of implementing Alternative 1. The figure of 32.48 metric tons per year included an entry for phosphorus loads coming out of Compartment B (5.89 metric tons). Compartment B has not yet been completed. The EAA FS assumed Compartment B, if built, would have a phosphorus outflow concentration of 18.5 ppb, a figure higher than 10 ppb, but also one that is not verifiable until the actual performance of the vegetation in Compartment B is measured. The EAA FS assumed that in 2009 STA–5 would be releasing water with a flow weighted mean phosphorus concentration of 39.7 ppb. The comparable projection for STA–6 was 14.3 ppb. In water year 2009, STA–5's actual performance was 56 ppb and STA–6's performance was 94 ppb, both much higher than 39.7 ppb and 14.3 ppb. Without a current defensible model that takes into account actual conditions in 2010 and makes reasonable assumptions about likely future conditions, I give no weight to the EAA FS projection. I also note that the EAA FS's projections assumed that the A–1 Reservoir would hold 23.33 metric tons of phosphorus in the water it was storing and there was no information presented at the hearing to suggest that this figure is reliable based on current conditions.

63 The lead scientist who testified for the United States at the hearing that Compartment A–1 is in a prime location for an STA. Ex. 203 (Fennema Declaration, p. 17–18); Tr. 356. If EPA decides in the Amended Determination that Compartment A–1 should be used as an STA, the Corps would have to take that decision into account in evaluating a permit renewal that the District would be forced to make should this Court order that the A–1 Reservoir be built.

64 Ex. 214 (White Amended Declaration, p. 18). This is significant for a number of reasons not the least of which is the point that Dr. Fennema made about the Refuge's water quantity needs (needs that were never studied in the EAA FS and are a focal point of the Consent Decree). He pointed out that if canal conveyance is increased, during periods of excess rainfall, diversion from the S–5A basin may not be possible because canal conveyance may be taken up by landowners adjoining the canals trying to get water off their land and in periods of little rainfall, the Refuge would need the water and canal conveyance would not be utilized. Tr. 359–60. (“If the ECART was built, there is concern that, you know, as you go along that canal conveyance that the agricultural runoff into those canals will actually increase because we are—you know, the literature already says—the Corp of Engineers' conveyance and EAA features in the Bolles/Cross Canal reports already state that currently there are problems with retaining water on the farmlands adjacent to those canals. So, as soon as you open up the conveyance you now also increase your irrigation run off along the way, along the Bolles/Cross Canal and Ocean Canal. So, it is—there is a possibility that even with that conveyance that you may not be able to divert a lot of the water when you most need to do that during the wet season because everybody else wants to get rid of the water, too. So, during that conveyance as the wet season slacks down, then perhaps you have conveyance capacity. At that particular time, the Refuge needs the water as well, so we would not want to divert the water away from the Refuge. So, it would affect the water quantity.”)

65 Something between 100 and 1,000 acres of land would have to be acquired. Tr. 44.

66 The Corps is not under any obligation under WRDA or CERP to put a reservoir in Compartment A–1. Tr. 196, 440.

67 The monies already spent on Compartment A have value whether Compartment A becomes a deep water reservoir or an STA. Tr. 69. Dr. Van Lent explained: “Q. Now, you hear a lot about that, the waste of that money, et cetera, et cetera. Could you tell us whether or not, in your expert opinion, whether the construction to date ipso facto is a waste of money or time?”“A. I would say no, primarily because my recommendation would be to convert it into an STA, and the primary effort so far has been in the construction of the seepage control canals and the setting up of structures, all of which are very directly convertible into an STA. There is no real-none of the features that have been constructed so far would have to be retrofitted in a very significant way to be converted into an STA.”Tr. 503.

68 Ex. 638, p. 2 (“Both EAA Storage Reservoirs (Cells A–1 and A–2) will be constructed to hold water to a depth of 12 feet. The Tribe would prefer a more shallow reservoir (due to better water quality treatment), but this depth will allow a combined storage of 360,000 acre-feet of water. We cannot restore the hydrology of the Everglades unless we get more storage in the headwaters of the system.”) Echoing a similar theme, Mr. Ammon testified that land immediately south of Lake Okeechobee apparently available in the U.S. Sugar transaction would be better suited for storage for hydro pattern restoration of the Everglades. Tr. 200–01 (“That is roughly, if I recall, 25,000 acres maybe. That was to be the main storage reservoir, in other words, moving storage to the north adjacent to the lake where water would come from, store it in that reservoir and use the existing canal system. It might need some improvements to the canal system to move that water south and treat it in the A1 Reservoir, which is a Stormwater Treatment Area at that point so it would not be a reservoir. But, again, that is in the historic drainage pattern. Prior to an agricultural operation being in the Everglades Agricultural Area, that was a historic drainage. When the lake overflowed it would come down to that area, which is why we believe it is very important and in the appropriate flow path for that storage.”)

- 69 https://my.sfwmd.gov/portal/page/portal/pg_grp_sfwmd_koe/pg_sfwmd_koe_riverofgrass. Both STA-1W and STAs-5 and 6 can use the help as phosphorus levels from phosphorus sources in both basins have sorely challenged the ability of these STAs to remove phosphorus. Based on the South Florida Environmental Report, in water year 2009, the phosphorus inflow levels into STAs-1W (246 ppb), 5 (254 ppb) and 6 (198 ppb) were the highest of all the basin inflows into the STAs. Not surprisingly, STA-5 and 6's flow weighted mean phosphorus outflow concentrations were 56 ppb and 94 ppb respectively, while STA-1W's comparable figure was 36 ppb. Ex. 15, p. 5-12. In each case, these STAs failed to meet "permit interim effluent limits." *Id.*, p. 5-21.
- 70 In addition, as I stated above, there are sufficient permit, funding, land acquisition, and litigation uncertainties with respect to A-1 Reservoir, Bolles and Cross Canal improvements, and ECART that, even if ordered today, and if all of these uncertainties could be overcome, they would not likely be completed for 6-10 years or longer.