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SENT VIA ELECTRONIC MAIL TO tedwards@sfwmd.gov

Dear Toni:

South Florida Wildlands Association (SFWA) appreciates the opportunity to submit these comments on Water Reservations for the EAA Reservoir. SFWA recently attended the Rule Development for Water Reservations Workshop on July 14th, 2020 as well as the Public Peer Review Session on May 29th, 2020. We also attended several meetings of the C-43 WBSR Water Quality Feasibility Study (the most recent one on July 16th, 2020 – and very relevant to the sister EAA Reservoir project), public workshops on the EAA Reservoir held by the Army Corps of Engineers, and various scoping meetings and public workshops held at SFWMD District Headquarters in the fall of 2017.

As we do not have complete information on various aspects of the EAA Reservoir and its functioning as of this date, and time is short to make this deadline, the following comments will be in the form of notes, observations, and questions.

First of all, SFWMD has stated that the project was never evaluated as part of broad “range of reasonable alternatives.” That is the usual requirement for a review under the National Environmental Policy Act (NEPA) where “a proposed major federal action is determined to significantly affect the quality of the human environment.” The 10,500-acre EAA Reservoir certainly fits that bill. A list of requirements under the NEPA can be found at this website:

<https://www.epa.gov/nepa/national-environmental-policy-act-review-process>

“Alternatives: Consideration of a reasonable range of alternatives that can accomplish the purpose and need of the proposed action.”

When the question about alternatives was asked at the July 14th meeting, SFWMD stated that it simply accepted the parameters of the SB10 bill which created the reservoir and then worked to design something that would fit within the “sandbox” that was provided for in the bill. Or something to that effect. It was clearly stated that no more land was going to be available nor would any land be acquired by the process of eminent domain regardless of the comparative value of a differently designed project.

However, given the far-reaching impacts this project will have on the future of the Everglades and our region, we strongly believe a range of alternatives should have been compared to the current design of the EAA Reservoir in the Draft EIS and other documents prepared for this project. Those alternatives would have been compared on the basis of meeting the stated goals of the reservoir and the various impacts deemed likely to occur. Even in the SFWMD’s press release where the district announced that an independent review of the proposed reservoir found it to be “technically sound” – there is no mention of how the plan stacks up against other reasonable alternatives in terms of effectiveness, impacts and other factors.

https://www.sfwmd.gov/news/nr_2018_0315_eaa_res_independent_review

We believe there are alternatives which could do a far better job cleaning large quantities of water and moving sufficient water south to meet the hydrological needs of the remaining natural ecosystem. And that should have been considered and analyzed. Among those alternatives would have been a reservoir/STA system with a much larger STA – e.g. the C-44 project for the Southern Indian River Lagoon is summarized by the Army Corps of Engineers in this way:

“The C-44 project includes the construction of a 3,400-acre reservoir, a pump station with a capacity to pump 1,100 cubic feet per second (cfs) of water, and 6,300 acres of STAs.”

The size of the C-44’s STA is roughly the same as the one that will be added to the 10,500-acre, 23-foot deep EAA Reservoir. Yet in proportion to the size of the reservoir, the C-44’s STA is much, much larger. We believe the EAA Reservoir’s 6,500-acre STA will be woefully inadequate to handle the demand for clean fresh water that is currently missing from the rest of the Everglades and from Florida Bay – and could have produced much more clean water had it been designed with a significantly larger size. It seems that only politics played a role in deciding the outcome between the two systems – and the decision was not based on science. We also believe that shunting water during the dry season to other existing STAs in the vicinity as envisioned will not make up for this shortfall.

We should add here that Florida Bay is experiencing hypersaline conditions and every visit to Everglades National Park reveals that the march of red mangroves from the shoreline of Florida Bay north into the sawgrass marshes of the park is expanding year by year. Both of those conditions are explained by the park receiving only a small fraction of the water it received under historic pre-drainage conditions. And that lack of fresh water is an open invitation for saltwater to move inland through the porous limestone which underlies the park – as well as the rest of the Florida peninsula. With sea level rise increasing, South Florida’s future water supply in the porous limestone of the Biscayne Aquifer is in a precarious

situation. It is absolutely at risk from the same saltwater intrusion now impacting the park so visibly. Much more freshwater in the underground system throughout the Everglades would help immensely.

Another alternative that clearly should have been given thorough analysis alongside the reservoir is the “shallow flowway” concept that is embraced by “Plan 6.” In spite of being rejected for further consideration at an early stage of this process, that project had enormous benefits which the current reservoir/STA combination does not. Among them is restoration of enormous swaths of wetlands and habitat in the northern part of the system south of Lake Okeechobee. Equally important, the flowway does not have the capacity problems the current configuration has. In wet years, there would be no limit to how much water could flow south – and that could truly address the problem of massive wet season discharges to the St. Lucie and Caloosahatchee Estuaries. Combined with increased flow throughout the system (e.g. the bridging over Tamiami Trail), Plan 6 also has enormous potential for bringing back the high flows of fresh water that will be needed to bring ecological recovery to Florida Bay and the sawgrass marshes of the Everglades. It could also help with restoration of the tree islands (hammocks) which are necessary to wildlife in the traditional Everglades and which have largely been lost as a result of drainage and artificial water management. That impact from a loss of flow in the system was also noted and discussed in the Peer Review Workshop.

And if the reason other reasonable alternatives were not examined was the removal of the option to use “eminent domain” for land acquisition according to the language of SB10, that simply makes no sense. The entire concept of eminent domain is for governments to acquire private land for an important public use. The lack of use of that tool in this case appears to be no more than a quirk of the final SB10 legislation and could still be easily rectified by a new or amended bill. See:

“Eminent domain refers to the power of the government to take private property and convert it into public use. The Fifth Amendment provides that the government may only exercise this power if they provide just compensation to the property owners.”

https://www.law.cornell.edu/wex/eminent_domain

Private sugar lands in the project footprint should not be the determining factor in not coming up with a reasonable range of alternatives and their analysis. And should not be the determining factor in the final outcome. We note that NEPA allows for the write-up of the “environmentally preferred alternative” alongside the agency’s “preferred alternative.” There is no requirement under NEPA that they be one in the same. But even that process, normally done for any EIS prepared in our region, and designed to create full transparency in the decision-making process so that the public fully understands a project and its anticipated benefits and impacts, was not done in this case.

Aside from configurations which were not examined, here are some other flaws and shortcomings we believe are part of the design of the EAA Reservoir. First of all, the height of this reservoir for this natural and agricultural area – 37-feet tall – is gigantic. The DEIS identifies this as only an “aesthetic” problem – an impaired view of the landscape looking south from the Lake Okeechobee dike. The document also points out the design of the reservoir will not allow its use by birds or other wildlife. And as a regular hiker and bird and animal watcher in the Holeyland and Rotenberger Wildlife Management

Areas adjacent to the reservoir, it's difficult to imagine how looking out on a landscape permanently altered by this enormous and dominating artificial structure will impact my use and enjoyment of the current area. Believe that will apply to other users as well. See the relevant section of the DEIS:

“The EAA Storage Reservoir levee heights (37.1 feet) would result in a long-term adverse effect, as the view from Lake Okeechobee would be blocked. In comparison to the No Action Alternative of a FEB, wading birds and other wildlife will likely not use the area to forage and roost as a reservoir, thereby decreasing the aesthetic value of the area.”

But there is a far more serious impact of constructing two 37-foot walls directly in the floodplain of the original flow path of the Everglades. It will end once and for all the dream of a truly restored Everglades – the gentle but massive flow of clean fresh water from Lake Okeechobee to Florida Bay. And what we once called the “River of Grass” will be permanently relegated to history books.

For years, a major vision of Everglades restoration was the reconnection of the natural hydrological flow between Lake Okeechobee and Florida Bay. We imagine the public still believes that is what Everglades Restoration is supposed to be about. In reality, the impediments to restoring a more natural flow path are not that great – a flowway could use spreader canals and openings of the type the district and the Army Corps designed for the Picayune Strand Restoration Project. Openings and spillways along the Miami and New River canals south of Lake Okeechobee could bring water into a central flowway (lands currently occupied by sugar farmers south of Lake Okeechobee) – and then brought to STAs or even the Everglades itself. Even the subsidence of the EAA is not an insurmountable engineering problem – the basin would fill with water (as well as natural, long-hydroperiod wetlands) and could then be pumped into a spreader canal at the southern end of the project to move to the Water Conservation Areas or expanded STAs. Acquiring more land north of Lake Okeechobee for additional wetlands restoration would greatly complement the flowway project by increasing water quality of water flowing south out of the lake and into the Miami and New River canals. See this website and graphics explaining the benefits of the Plan 6 Flowway over other solutions from the Rivers Coalition:

<https://riverscoalition.org/the-solution/>

We should also point out that it has been simply agonizing to know that the price tag of this reservoir is roughly the same as the price tag of the original 187,000-acre U.S. Sugar lands buyout negotiated by former Governor Crist in 2008 – and which would have provided much of the land for that central flowway. And parts of the 187,000 acres of U.S. Sugar lands outside the flowway could have been used to swap out sugar lands in the flowway. Rock mines and other infrastructure in the flowway could have been purchased from a willing seller or via eminent domain. See article referencing the original U.S. Sugar purchase here:

<https://www.nytimes.com/2008/06/25/us/25everglades.html>

However, both the district and the Army Corps had little appetite for that negotiated buyout. In conversations with both agencies, we were told that “we have no projects earmarked for that land.” And by projects they clarified that to mean projects such as reservoirs and STAs – not restored wetlands.

The Army Corps went a step further and said the Central and Southern Florida Flood Control Project mandated “productive” use of that land. “We don’t take productive agricultural land and turn it into wetlands.” (Personal communication with the ACOE, Stuart, Florida, 2013). Again – something that can be easily changed in legislation if it is indeed the case that EAA land cannot currently be converted to restored wetlands. The construction of the flowway would have been a wonderful use for that land – and a very cost-effective solution for a restored Everglades ecosystem. Even at this date, with the EAA Reservoir awaiting new funding authorization by congress, that solution is still possible.

Other problems. The EAA Reservoir is supposed to get its water from Lake Okeechobee. Currently, and during almost every warm, wet season of late, the lake is subject to massive algae blooms. One is currently in progress. See description below from the Florida DEP:

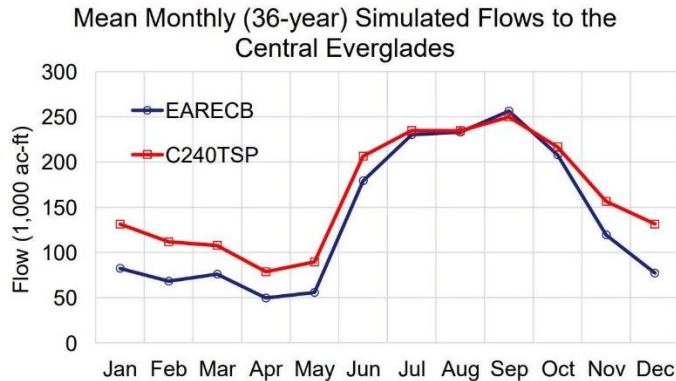
“Satellite imagery for Lake Okeechobee and the Caloosahatchee and St. Lucie estuaries and rivers has been unavailable for the past week due to overcast conditions. The most recent image available for Lake Okeechobee and the St. Lucie River and Estuary is for 7/14 which showed approximately 85% coverage of low to high algal bloom potential on the lake and no bloom activity on the visible portions of the St. Lucie River or estuary. “

<https://floridadep.gov/AlgalBloomWeeklyUpdate>

At the July 16th workshop to discuss water quality in the C-43 Reservoir, it was discussed that water quality leaving the reservoir had to be “the same or better” than water entering it from the Caloosahatchee. When asked what factors could make it worse (simply as a result of entering a reservoir) – algae blooms were noted by district staff. In the current configuration for the EAA Reservoir, we are going to be pouring nutrient-rich water already loaded with blue-green algae from Lake Okeechobee approximately 20 miles south into the EAA Reservoir. There is a very high likelihood that the existing blooms, already present in the water, will “blow up” once that water reaches and sits in this massive stagnant reservoir during the warm and wet season. How the STAs that will be used in conjunction with the EAA Reservoir will be impacted by this massive and expected influx of algae (once water starts flowing into them again during the dry season) has not been addressed. It is an extremely important question for the future of this project.

Although we raised this several times in the C-43 workshops, we still find it surprising that the SFWMD is only now addressing the question of how to clean up water leaving the C-43 Reservoir – now that the entire project has been designed and the project is actually under construction. Hard to believe it was not thought about at the same time that the volume of flows was considered. How the Everglades STAs will handle the massive algae blooms coming their way from the EAA Reservoir should be addressed now – or the district and the Army Corps should switch to a better solution that won’t have the problem of the current configuration of the EAA Reservoir.

In the district’s own modeling for the EAA reservoir and STA, they produced the graph below:



Timing of treated flows south into the Central Everglades with CEPP (C240TSP) compared to existing conditions (EARECB).

There is clearly an increase in freshwater flows during the dry season – but during the wet season, there appears to be no difference in treated water flows south with or without the reservoir. The district explained that as a function of seasonal variability in rainfall – changes in rainfall from one year to the next canceling each other out to produce no net increase during the wettest months from mid-July to mid-October. But with those same year to year changes in rainfall, dry season flows increase. The district explained that result this way – “The increase in dry season flows is from the water stored in the reservoir that is carried over and released during the dry season.”

The conclusion we draw is that there is no increased capacity in the STAs to move treated water south during the wet season – and therefore water cannot be cleaned and sent south at that time. And that was also brought up in the 2017 workshops when the function of the existing 57,000 acres of STA in the EAA was discussed. The district acknowledged that the existing STAs are currently only cleaning EAA basin water and sending it south. The STAs clean little to no water from the lake during the wet season when discharges to the estuaries are taking place. That was also acknowledged during one of the 2017 reservoir workshops where it was noted that “you can’t push water through water.” During the dry season, there will no doubt be unused capacity in the STAs to move water from the EAA Reservoir to the STAs and to move additional water south. But that will not be the case during the wet season.

So, the plan is to hold the water in the reservoir during the wet season – where algae concentrations and deoxygenation (from bacteria feeding on the dead algae) are expected to increase. And then release that water to adjacent STAs during the dry season when there is capacity for additional water. As stated above, we believe that will have a very small impact on the wet season discharges to the estuaries during the seasons and years that the major discharges actually take place. And that has consistently been one of the big selling points of this reservoir. If the discharges to the STAs during the dry season from the EAA Reservoir area are loaded with toxic algae, that can also have a major negative impact on the treatment marshes or STAs and their effectiveness in sending clean, treated water south.

In addition, just as with water sitting in South Florida’s numerous limestone mines, there is a very strong likelihood that water stored in the EAA Reservoir and picking up minerals from the walls and floor of the

reservoir will have an altered pH – making it more alkaline than the natural, slightly acidic, water of the Everglades. The impact of that situation – raised alkalinity - is discussed in this document from the U.S. EPA:

“The water in the interior marsh of the Refuge is soft, slightly acidic, and strongly influenced by rainfall. The limestone (calcium carbonate) substrate underlying the Refuge is overlain by several feet of peat so surface water is not in contact with the limestone. In contrast, the rest of the Everglades marsh has hard water with a neutral pH. In the shorter hydroperiod portions of the Park there is little soil, so surface water is subject to greater influence by the limestone substrate. Conductivity of water is closely related to its hardness, because calcium, the major contributor to hardness in the Everglades, also aids in conductance. Conductivity is of ecological interest in that it is a determinant of periphyton community composition in the Everglades. Periphyton communities in the Refuge are dominated by desmid and diatom species, while the extensive periphyton mats (Figures 1 and 56) in hard water portions of the Everglades are dominated by calcium-precipitating cyanobacteria with a high calcium carbonate content.

See page 34: <https://www.epa.gov/sites/production/files/2014-03/documents/epa904r07001.pdf>

Related to the above point about the reservoir and discharges to the estuaries, we have requested from the Army Corps and recently from the SFWMD data on yearly discharges from Lake Okeechobee to the St. Lucie and Caloosahatchee Rivers. Looking at volumes of discharges to the estuaries in comparison to expected discharges from the EAA Reservoir to the STAs will obviously be of value here for the public to easily understand an important aspect of this project. And how it will cut down on the flow of nutrient-rich water into the estuaries. To date, we have not received anything.

We also expressed our disappointment to the district that, at the recent water reservation workshop, no data was actually presented as to how water in the EAA Reservoir was to be divided between the public water supply, water for EAA growers, and the needs of the Everglades ecosystem,. The Army Corps DEIS specifically notes that a major purpose of the EAA Reservoir is “increasing water supply for municipal, industrial and agricultural users to a greater extent than would be accomplished in the authorized Central Everglades Planning Project.”

See: <https://www.saj.usace.army.mil/SFWMDEAAReservoir/>

But in reality, we still have no idea how those different uses and users will be prioritized. Especially during dry seasons – and even more especially during droughts when all users will want to draw from this new source of water. During the wet season, there is adequate water for growers and the municipal wellfields are, in normal rain years, easily replenished. But this reservoir has received public support from sugar growers who are clearly expecting to tap this additional source of water when needed. Similarly, the SFWMD’s “Basis of Review” document gives the SFWMD governing board the authority to use CERP projects for the public supply. See below:

“6. Consistent with Subsection 3.2.1.E.5 above, the applicant may obtain an allocation for additional water from the Waterbodies over the applicant’s base condition water use, as identified below:
“a. Certified project water - Water certified by the Governing Board as available for consumptive use through operation of a water resource development project, as provided in Section 3.2.1.E.5.a;”

See page 60: https://www.sfwmd.gov/sites/default/files/documents/wu_applicants_handbook.pdf

It was not explained how the above rule dovetails with water reservations for the Everglades – or even the details of what those reservations for the EAA Reservoir are expected to be.

Given what we have presented above, we believe that the EAA Reservoir may in fact deliver most of its benefits to EAA agricultural growers as well as expanding the public water supply available to the lower east coast developers (while helping to remove a major impediment to further development in Southeast Florida – a lack of fresh water). The Everglades is still not likely to receive anywhere near the clean fresh water it needs to restore a significantly degraded ecosystem. And that system will, once again, be short-changed in a public process which favors agricultural and development interests over wildlife and the natural environment.

Sincerely,

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CC Don Medellin