



August 27, 2020

Toni Edwards
Senior Scientist
Coastal Ecosystems Section
(comments submitted by email)

Dear Ms. Edwards:

Thank you for the opportunity to review the draft Everglades Agricultural Area (EAA) Reservoir reservations rule dated August 05, 2020. The comments in this letter clarify and expand on the previously submitted comments dated June 26, 2020. In summary, The Everglades Foundation makes the following two recommendations:

- Because the water identified both for the EAA Reservoir reservation and the amount specifically excluded from the reservation clearly depend on identification of the inflows from Lake Okeechobee and the local basin, the reservoir inflows need to be quantified and reserved.
- The Technical supporting documentation should include operational rules that result in the reservation quantified in Figure 3-7.

The following discussion more specifically addresses these two recommendations.

One of the comments in our letter of June 26, 2020 focused the importance of the inflows to the reservoir in ensuring that the reserved water is delivered. The draft Kissimmee River water reservation proposes to reserve water not only in the Kissimmee River and floodplain, but also the Upper Chain of Lakes, the Headwaters Revitalization Lakes, and the surface and groundwater system contributing to those waterbodies. The accompanying technical document explains the rationale: *“The surface water inflows from these contributing waterbodies are integral to maintaining the hydrologic regime of the reservation waterbodies to ensure the*

*protection of fish and wildlife.”*¹ The proposed reservation is, therefore, incomplete without recognizing and accounting for the reservoirs inflows, as those inflows are integral to maintaining the flows that were demonstrated to protect fish and wildlife in the July 28, 2020 draft technical document.

The sources of water for the EAA Reservoir of water are (a) Lake Okeechobee (b) local basin run-off, both quantified by the Regional Simulation Model-Basin (RSMBN). One can get an idea of the importance of each by looking at the direct source of inflows to the reservoir, shown in Figure 1. The average value of flow from Lake Okeechobee into the reservoir is about 250,000 acre-ft per year, a substantial fraction of the total flow into the reservoir. If one examines flows from Lake Okeechobee southward into the EAA (shown in Figure 2), there are important environmental deliveries made from the Lake, including regulatory releases from Lake Okeechobee and environmental water supply to the Everglades. In the RSMBN model, some of these flows went directly to the STAs, but in the DMSTA model, the EAA Reservoir was incorporated into the treatment train. Therefore, both types of deliveries are included in the proposed reservation, and each of these is integral to maintaining the hydrologic regime of the reservoir, thereby ensuring the protection of fish and wildlife.

The 40E-10.061(3)(d) reference to the EAA Reservoir releases through S-628 also relies on Lake Okeechobee deliveries. A simple numerical experiment whereby these agricultural water supply deliveries are turned off will show a corresponding increase in Lake deliveries for agricultural water supply (Figure 3) and a corresponding decrease in releases for environmental deliveries (Figure 4 a & b) from Lake Okeechobee. Moreover, as shown in Table 1, there is no change in deliveries from the EAA reservoir to the Everglades. This suggests that the water identified as not reserved in 40E-10.061(3)(d) also relies on Lake Okeechobee deliveries. That is, the total water from Lake Okeechobee does not change but merely shifts in allocation. Therefore, if Lake Okeechobee and local basin inflows are not accounted for in the reservation, there exists the real possibility that water currently going to the Everglades will be reduced by diversions for agricultural water supply.

The specific amounts of water from the Lake to the EAA reservoir are complicated by the fact that, in the RSMBN model the sources and purpose (e.g., flood control, environmental water supply, urban water supply, agricultural water supply, etc.) are explicitly tracked, the reservation in the proposed rule is modified by the Dynamic Model for Stormwater Treatment Areas (DMSTA). Water sent directly from the Lake to the STAs in the RSMBN model is routed differently in the DMSTA model. The proposed rule fairly and accurately accounts for the flows that DMSTA sends from the STAs to the EAA Reservoir because DMSTA includes the reservoir in the treatment train. This includes local basin run-off and Lake water, as DMSTA does not keep track of the source of the inflows. Therefore, water from Lake Okeechobee sent south directly to the STAs for the environment is included in the Figure 3-7 of the draft rule. Moreover, it is also true that some, but not all, of the local basin run-off is also included in Figure 3-7.

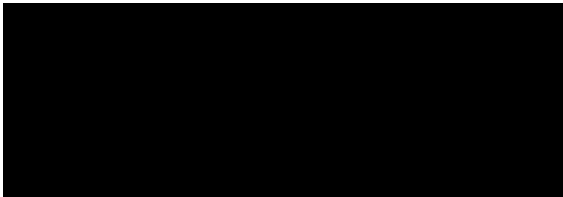
¹ South Florida Water Management District, *Technical Documentation to Support Water Reservations for the Kissimmee River and Chain of Lakes*, Draft Report dated April 2020, lines 548-549.

For these reasons, the water identified both for the reservation, and the amount specifically excluded from the reservation, clearly depend on identification of the inflows from Lake Okeechobee and the local basin. The reservoir inflows need to be quantified and included.

The use of DMSTA in the quantification of the water to be reserved does introduce a complication that potentially complicates compliance. In past reservations, there is an assumption that operation of the water control features in a manner consistent with the quantification of the reservation is sufficient to assure compliance, which is entirely reasonable. However, DMSTA and the RSMBN model operate the EAA reservoir differently. Since Figure 3-7 is a hybrid calculation using results from both models, it is not clear what operations of the EAA Reservoir result in the quantities identified in the reservation. Therefore, the technical supporting documentation should include operational rules that result in the reservation quantified in Figure 3-7.

Thank you for the opportunity to comment on the EAA reservoir water reservations process. The transparency of your analyses and clarity of the documentation and presentations are noted and deeply appreciated.

Sincerely,



Thomas Van Lent, Ph.D.
The Everglades Foundation

Cc: Dr. Melodie Naja
Eric Eikenberg
Shannon Estenoz
Anna Upton

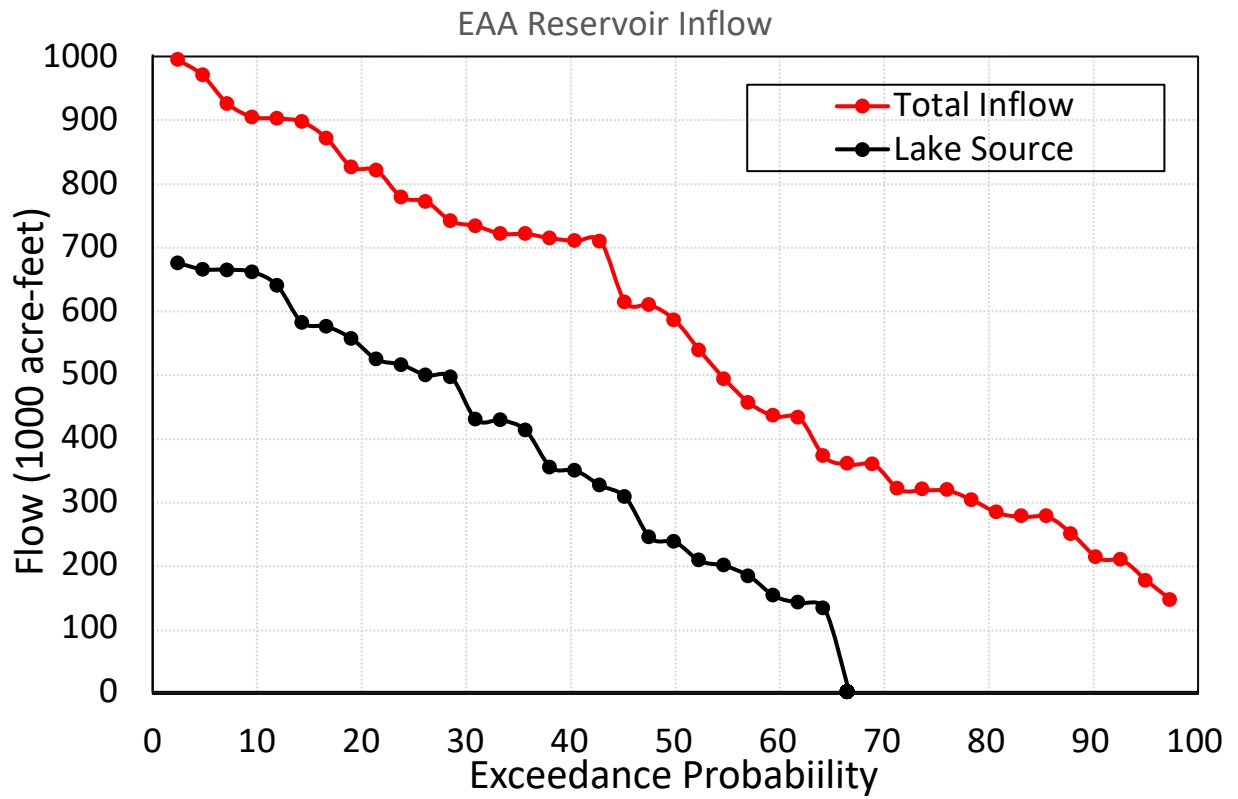


Figure 1. Annual volume probabilities for inflows to the EAA reservoir and from Lake Okeechobee.

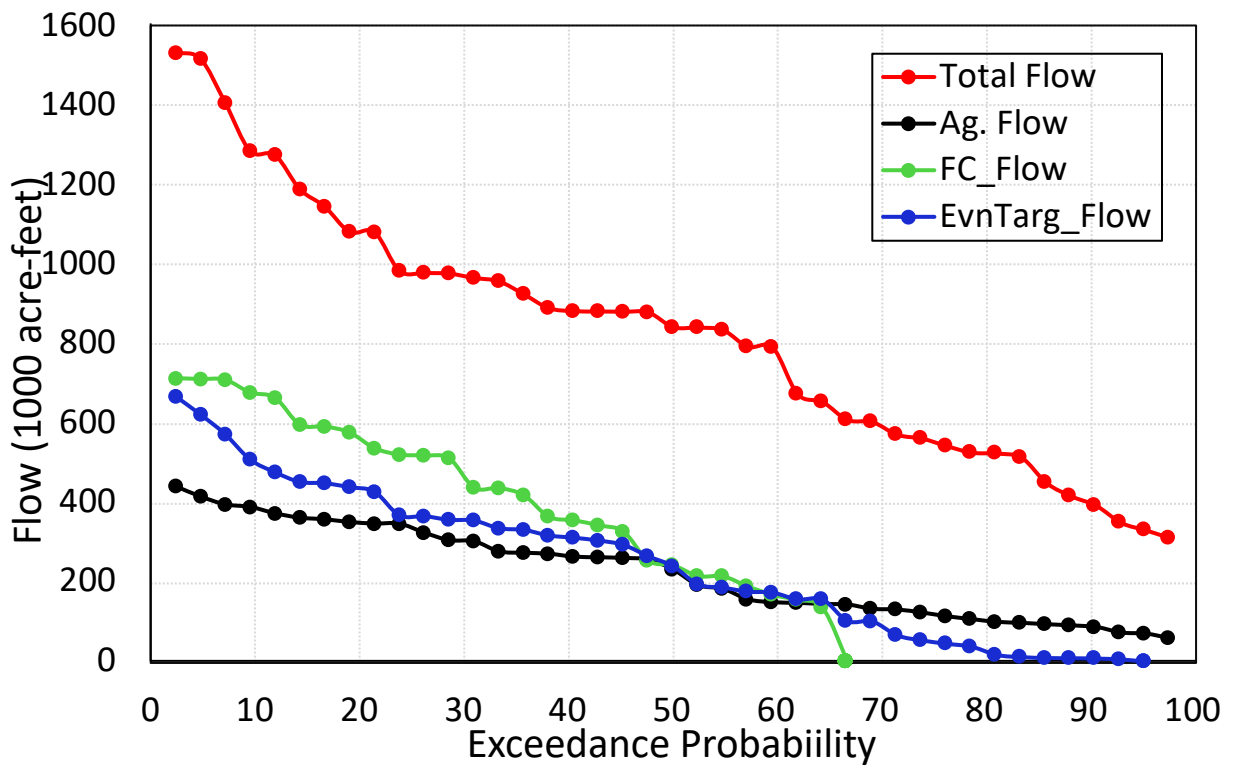


Figure 2. Annual flow volumes from Lake Okeechobee through from S-351, S-352, and S-354 by purpose.

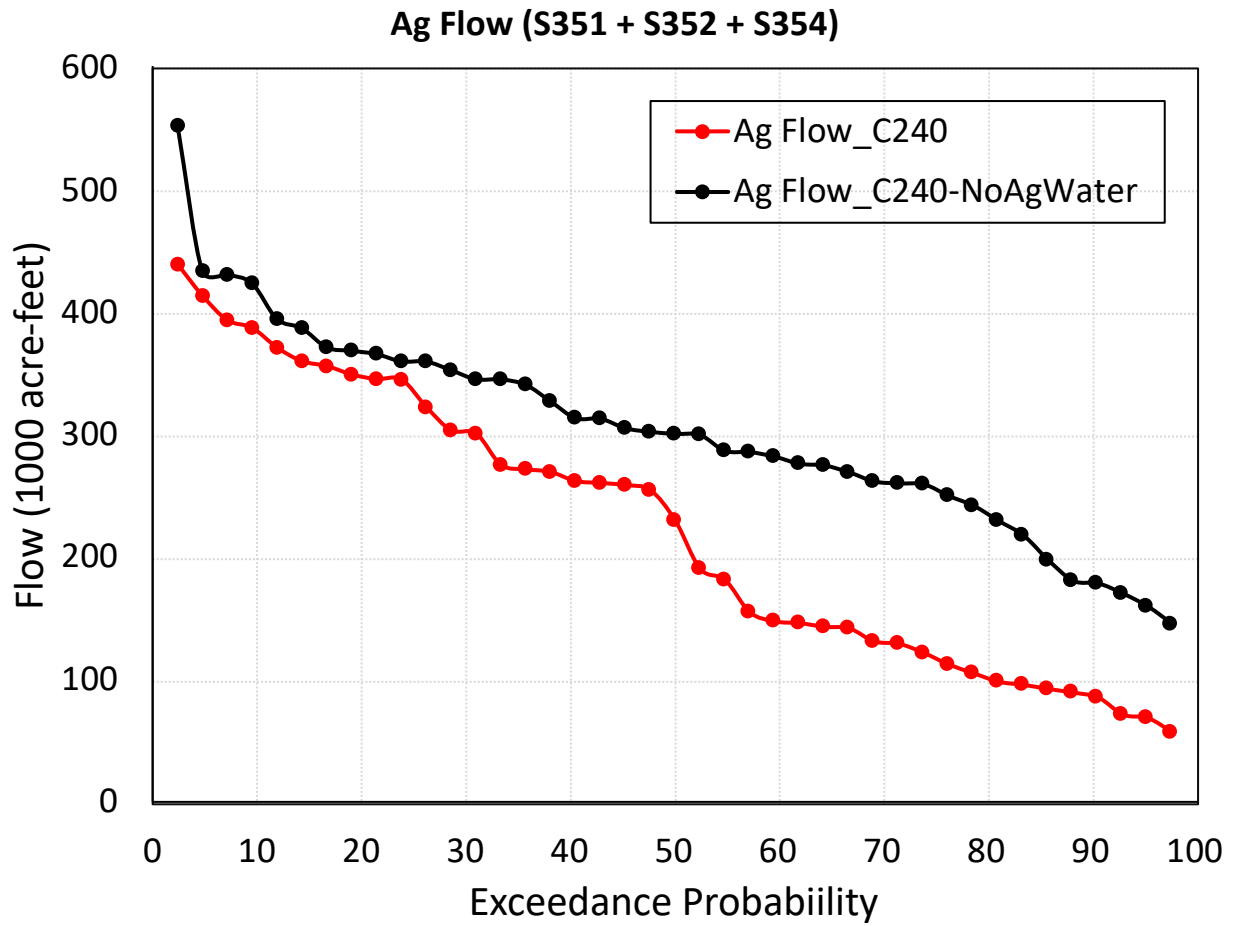


Figure 3. Lake Okeechobee deliveries through S-351+S-352+S-354 with and without S-628 agricultural water supply.

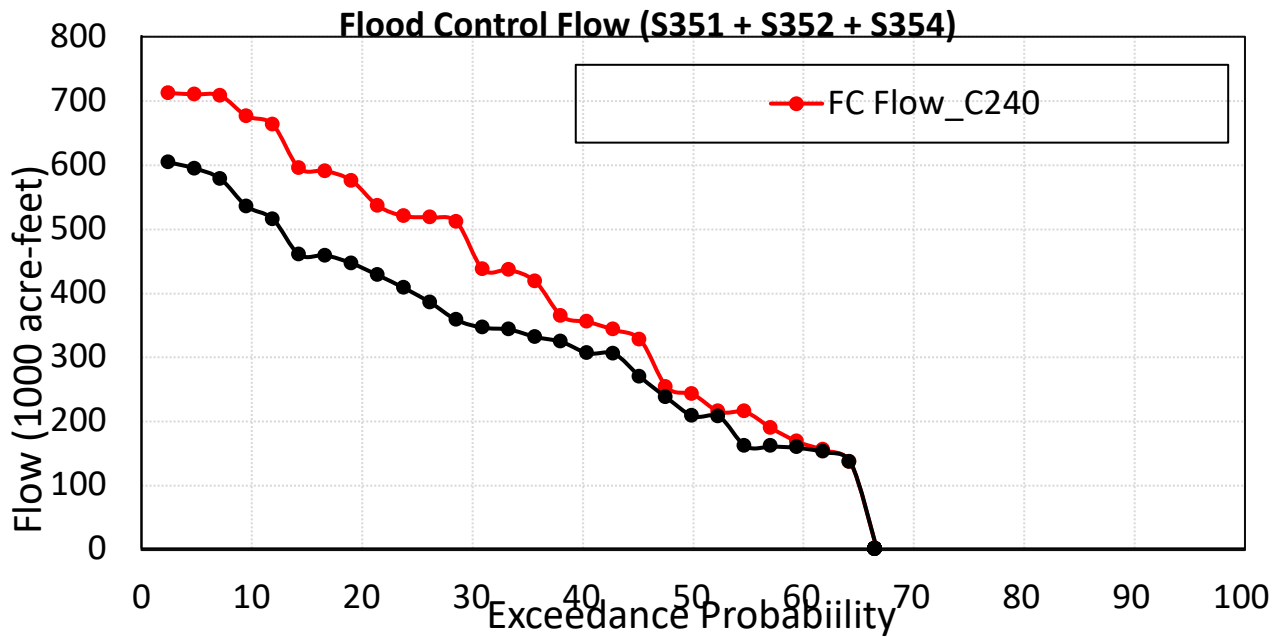
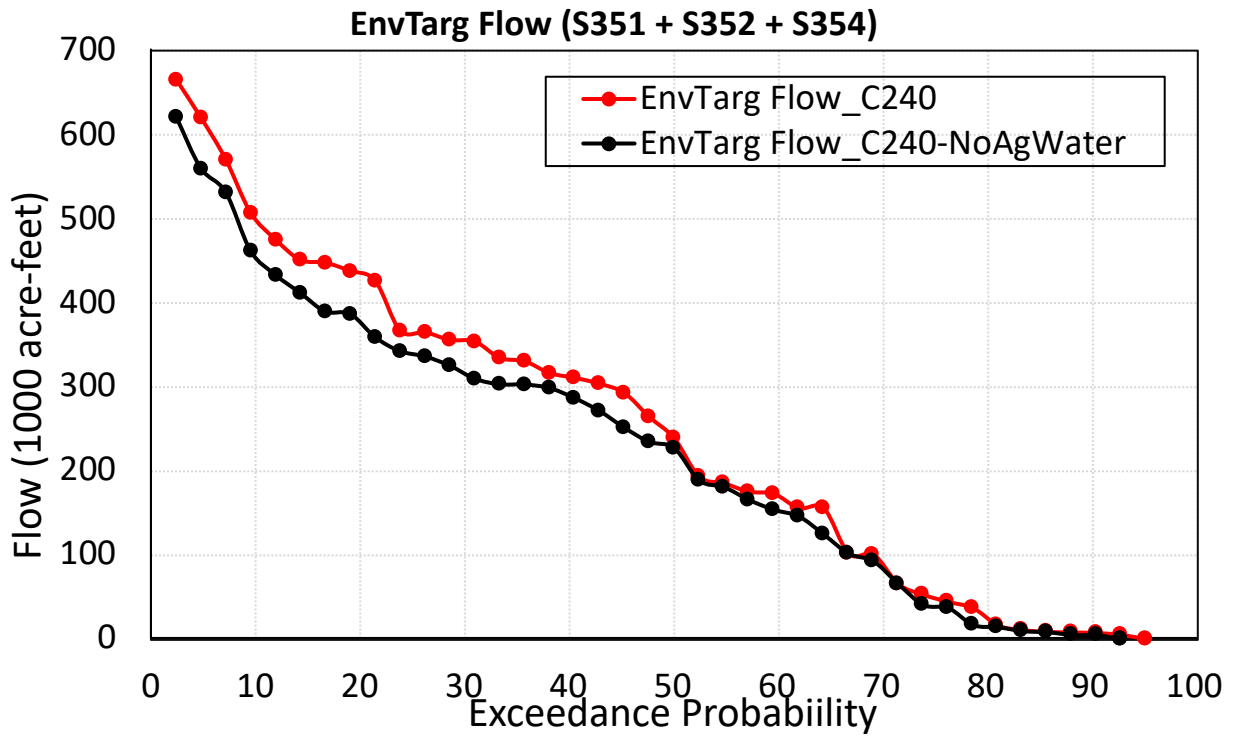


Figure 4. Annual Volumes from S351+S352+S354 to Environmental Water Supply and Lake regulatory releases to the Everglades.

Table 1. Average Annual Flows with and Without S-628 deliveries, in 1000 acre-ft per year

Structure	C240 with S-628 Flows	C240 without S-628 Flows
S351	303.0	312.9
S352	88.4	88.3
S354	435.3	427.7
Total	826.7	829.0
Redline Flows	1819.4	1822.5