Lake Okeechobee System Operating Manual

POST Iteration 2 Modeling Evaluation

Sanibel-Captiva Conservation Foundation

Conservancy of Southwest Florida

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Paul Julian PhD
pjulian@sccf.org

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Average annual regulatory flows (QFC flow tag; CRE: S77; SLE: S308) and stress and damaging events based on RECOVER salinity envelope 14-day event counts for Caloosatchee and St Lucie estuaries.

		Summarized Data					Percent Different from FWO				
Estuary	Alt	Regulatory Flows (kacft/yr)	Stress Events From LOK [3]	Stress Events From Basin [3]	Damaging Events From LOK [4]	Damaging Events From Basin [4]	Regulatory Flows (kacft/yr)	Stress Events From LOK [3]	Stress Events From Basin [3]	Damaging Events From LOK [4]	Damaging Events From Basin [4]
CRE [1]	NA25 [2]	528	183	118	186	173					
	ECBr	515	190	153	205	225	**-2.5**	**3.8**	**29.7**	**10.2**	**30.1**
	CC	578	289	89	156	174	**9.5**	**57.9**	**-24.6**	**-16.1**	**0.6**
SLE [1]	NA25 [2]	187	148	210	142	428					
	ECBr	231	162	186	160	432	**23.0**	**9.5**	**-11.4**	**12.7**	**0.9**
	CC	72	13	308	17	469	**-61.7**	**-91.2**	**46.7**	**-88.0**	**9.6**

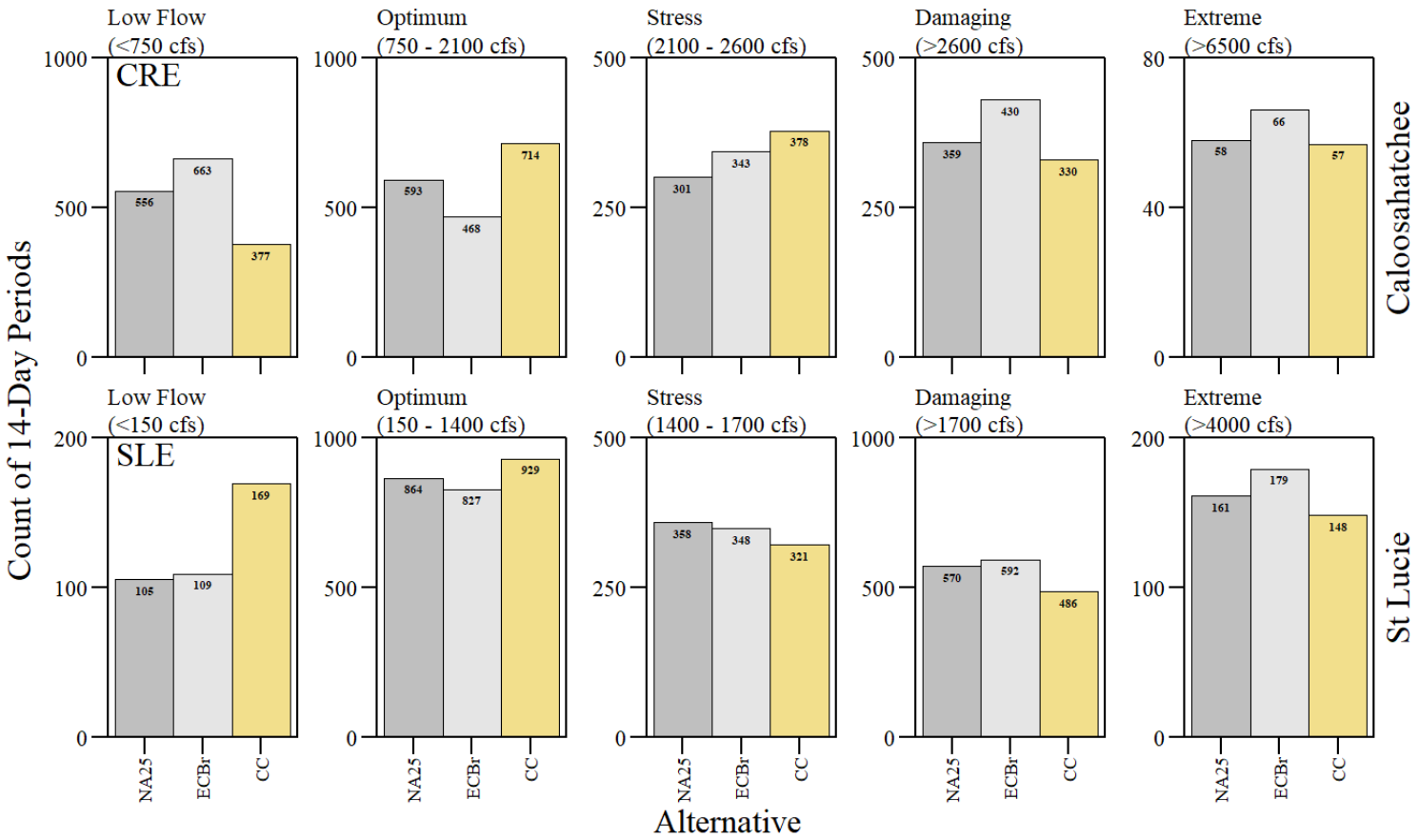
[1] CRE: Caloosahatchee Estuary; SLE: St Lucie Estuary; [2] NA25 = Future without project (FWO)

[3] Stressful Flows:
CRE: ≥ 2100 cfs & < 2600 cfs
SLE: ≥ 1400 cfs & < 1700 cfs

[4] Damaging Flows:
CRE: > 2600 cfs
SLE:> 1700 cfs

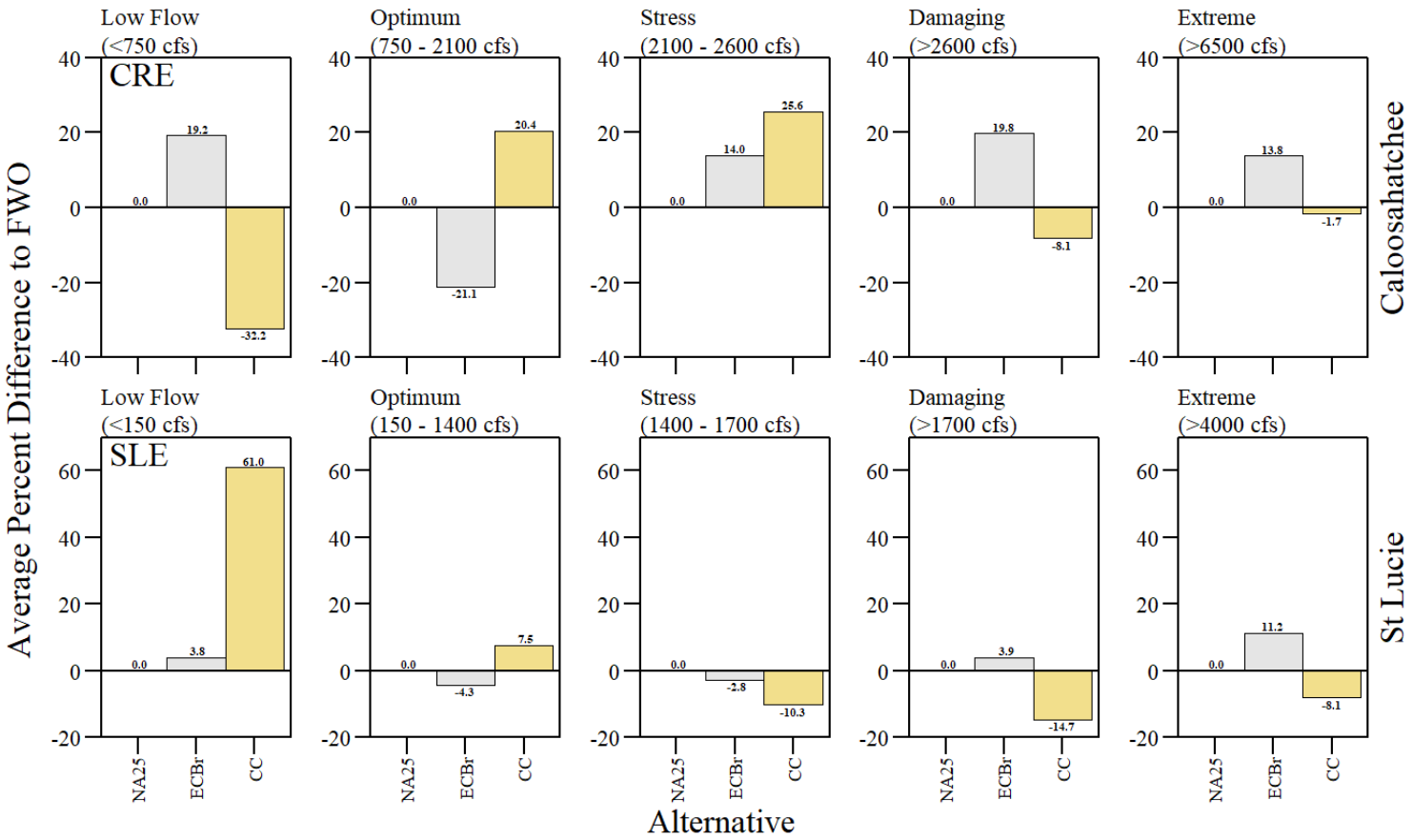
Data Source: USACE and SFWMD Interagency Modeling Center

RECOVER Metric



RECOVER salinity envelope evaluation during the simulation period of record for Caloosahatchee (top) and St Lucie (bottom) estuaries.

RECOVER Metric



RECOVER salinity envelope evaluation relative to FWO (NA25) during the simulation period of record for Caloosahatchee (top) and St Lucie (bottom) estuaries.

Daily count of low, optimum, stress and damaging flow events for Caloosatchee and St Lucie estuaries.

		Summarized Data						Percent Different from FWO					
Estuary	Alt	Low Events	Optimum Events	Stress Events From LOK	Stress Events From Basin	Damaging Events From LOK	Damaging Events From Basin	Low Events	Optimum Events	Stress Events From LOK	Stress Events From Basin	Damaging Events From LOK	Damaging Events From Basin
CRE [1]	NA25 [2]	7743	6344	261	488	2411	1558	---	---	---	---	---	---
	ECBr	9354	3769	246	706	2664	2109	20.8	-40.6	-5.7	44.7	10.5	35.4
	CC	5058	8420	450	519	1856	1783	-34.7	32.7	72.4	6.4	-23.0	14.4
SLE [1]	NA25 [2]	1943	10112	388	593	1444	4513	---	---	---	---	---	---
	ECBr	2045	9725	405	516	1567	4735	5.2	-3.8	4.4	-13.0	8.5	4.9
	CC	3110	10433	0	759	201	4490	60.1	3.2	-100.0	28.0	-86.1	-0.5

[1] CRE: Caloosahatchee Estuary; SLE: St Lucie Estuary; [2] NA25 = Future without project (FWO)

Low Flows CRE: < 750 cfs; SLE: < 150 cfs

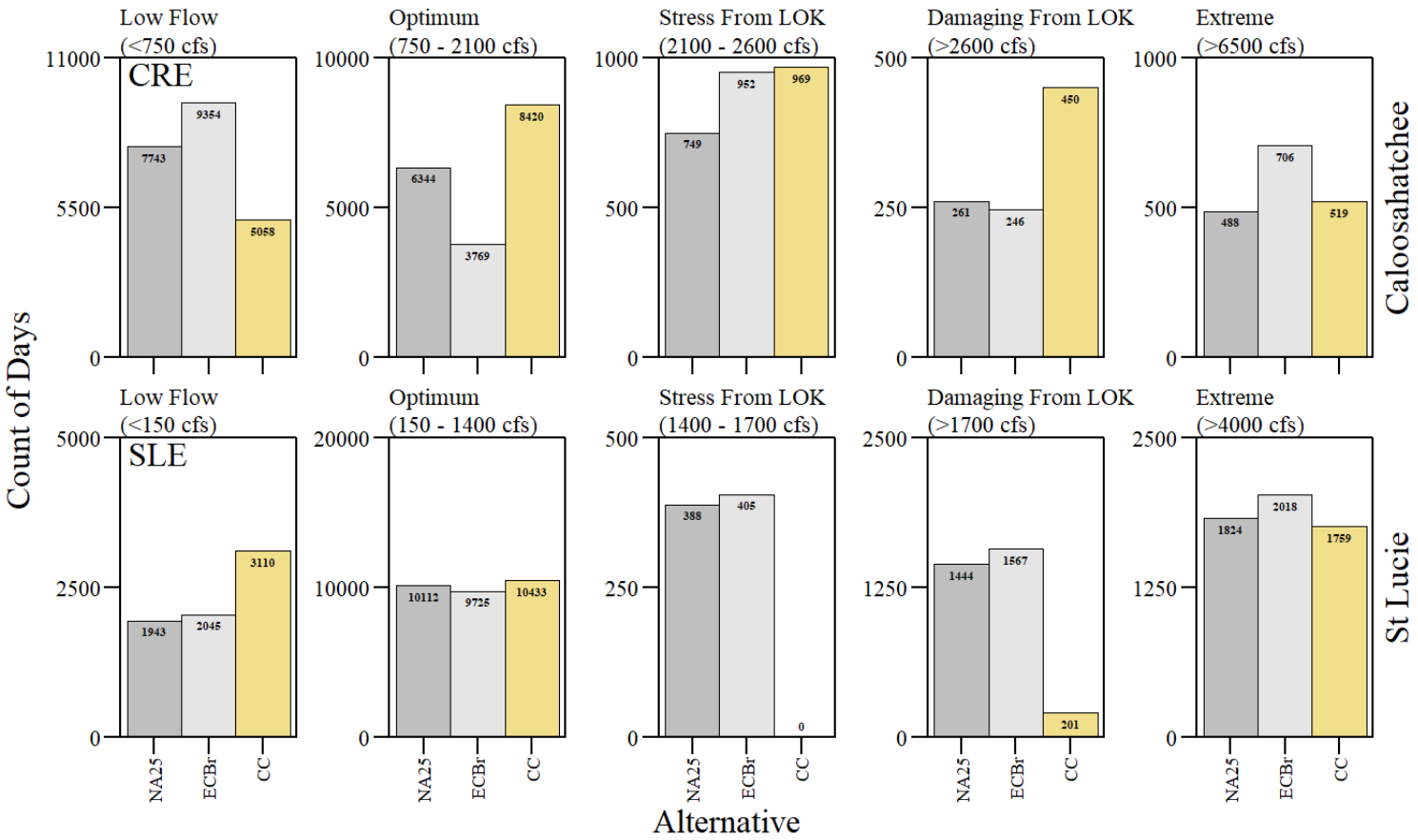
Optimum Flows CRE: ≥ 750 cfs & < 2100 cfs; SLE: ≥ 150 cfs & < 1400 cfs cfs

Stressful Flows CRE: ≥ 2100 cfs & < 2600 cfs; SLE: ≥ 1400 cfs & < 1700 cfs

Damaging Flows CRE: > 2600 cfs; SLE:> 1700 cfs

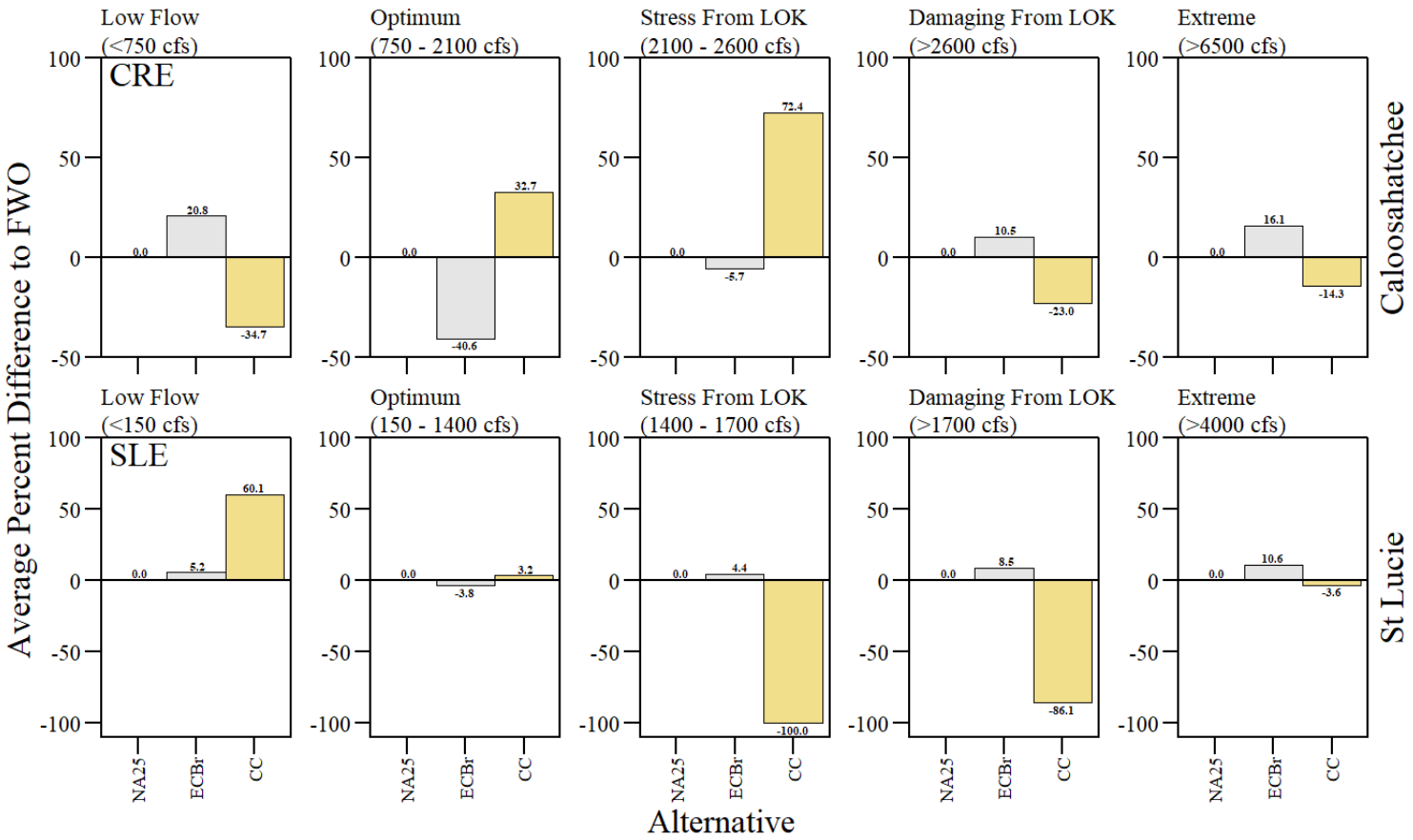
Data Source: USACE and SFWMD Interagency Modeling Center

Daily Metric



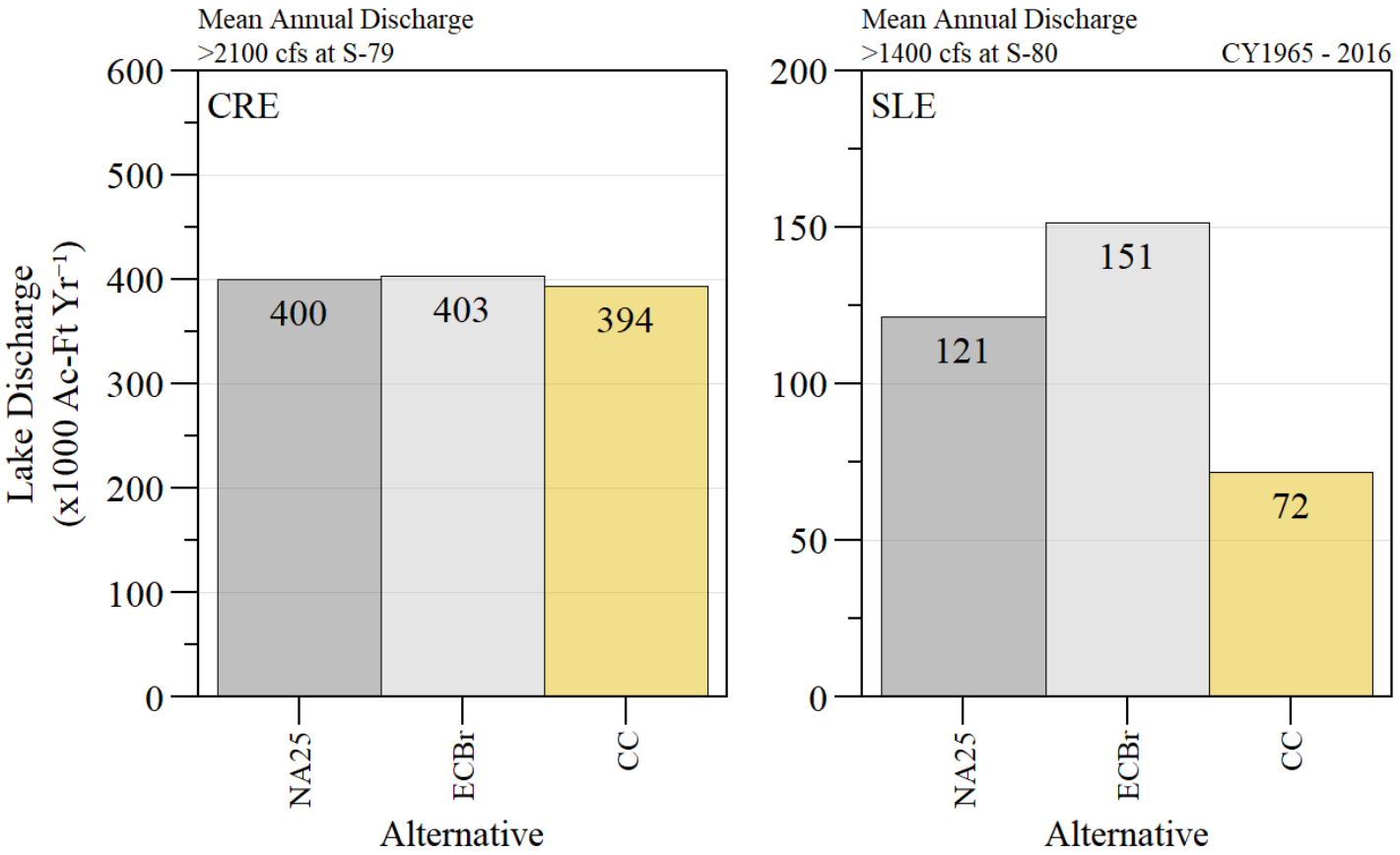
Daily salinity envelope evaluation during the simulation period of record for Caloosahatchee (top) and St Lucie (bottom) estuaries.

Daily Metric



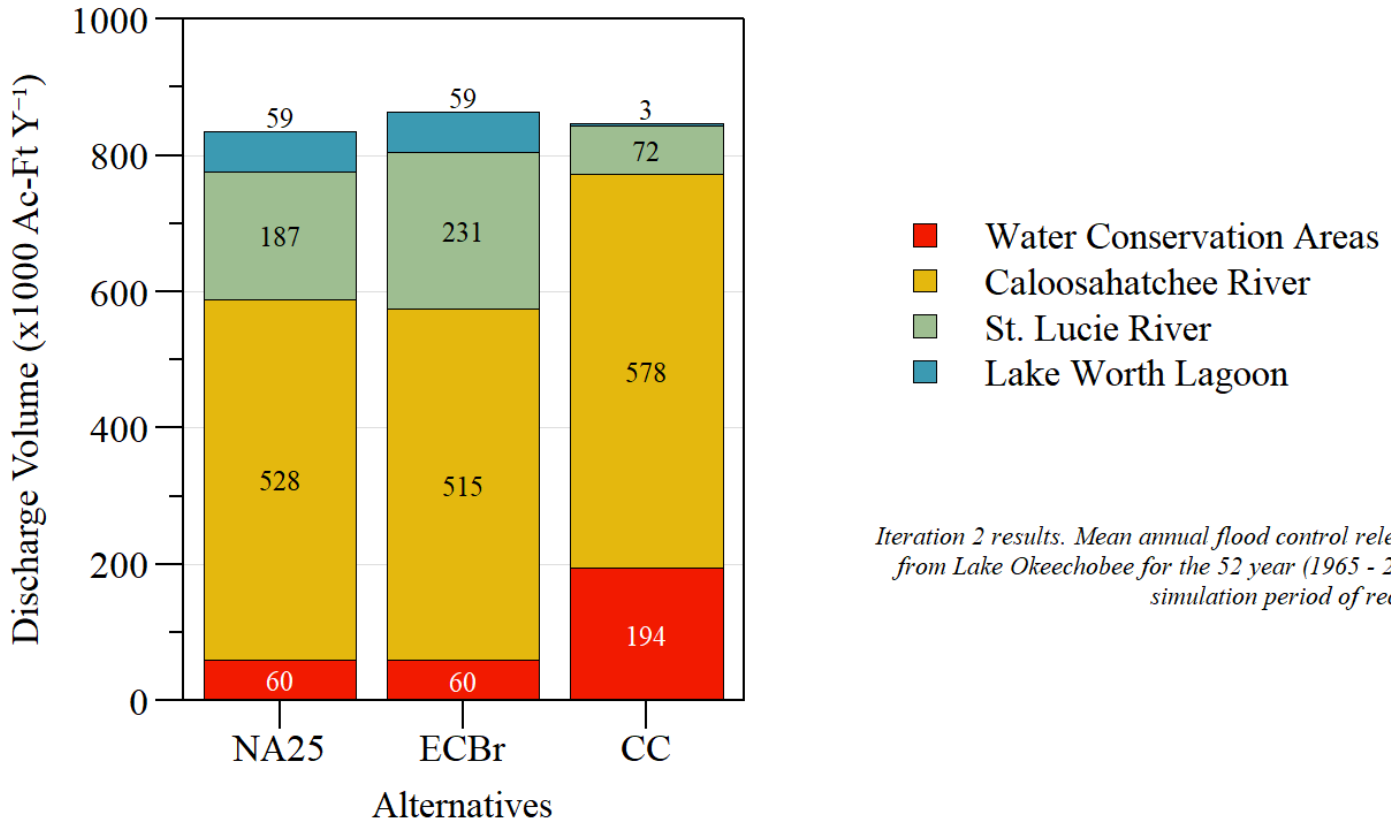
Daily salinity envelope evaluation relative to FWO (NA25) during the simulation period of record for Caloosahatchee (top) and St Lucie (bottom) estuaries.

Lake Discharges



Average annual lake discharge volume over the simulation period of record when stress and damaging discharge at S79 and S80, respectively.

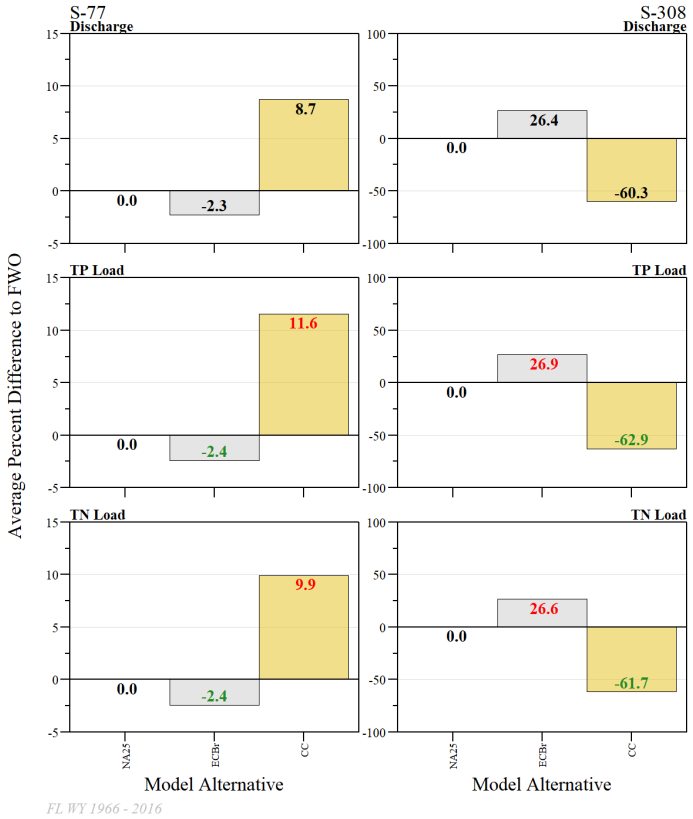
Flood control discharges



Iteration 2 results. Mean annual flood control releases from Lake Okeechobee for the 52 year (1965 - 2016) simulation period of record.

Average annual flood control discharges from Lake Okeechobee to Water Conservation Areas and Northern Estuaries over the simulation period of record.

Load



Average percent difference from FWO (NA25) for discharge and estimated nutrient loads over the May 1965 - April 2016 (FL WY 1966 - 2016) period of simulation.