

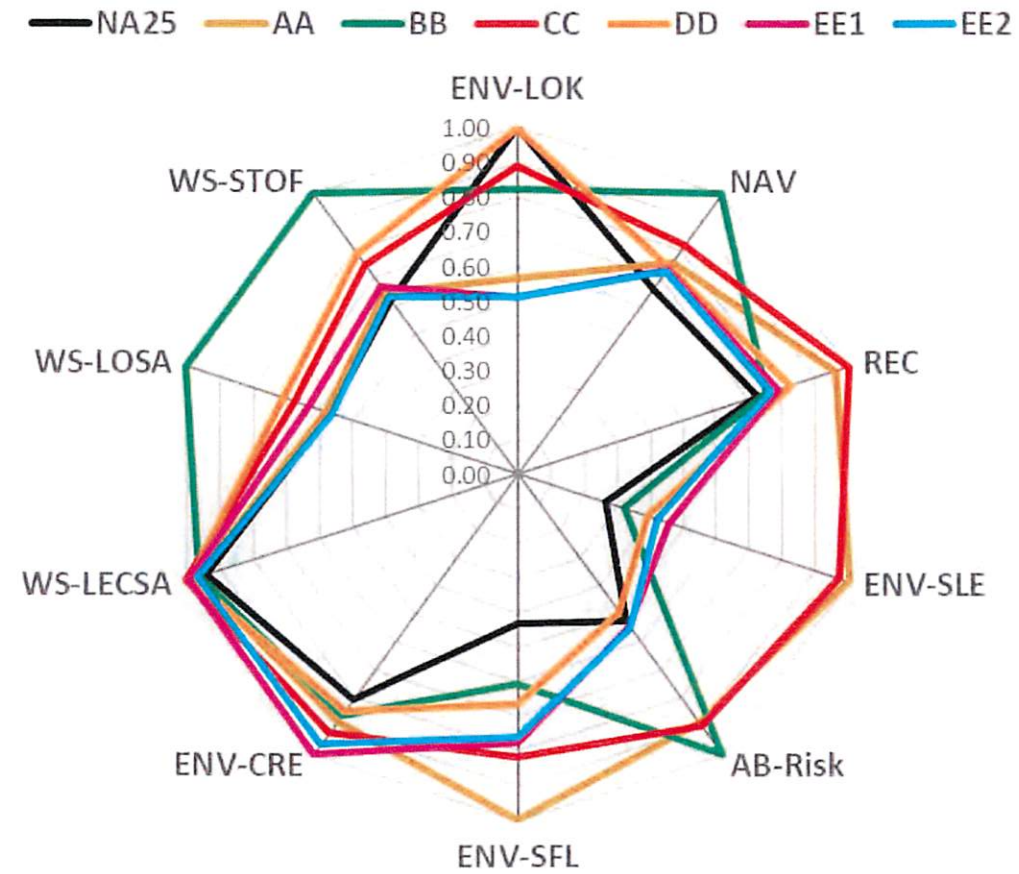


ITERATION 2 PERFORMANCE COMPARISON

MULTICRITERIA DECISION ANALYSIS (MCDA)



DRAFT MCDA Performance Comparison
Iteration 2 Alternatives



- ENV-LOK
Lake Okeechobee Ecology
- NAV
Navigation
- REC
Recreation
- ENV-SLE
St. Lucie Estuary Ecology
- AB-Risk
Northern Estuaries Algal Bloom Risk
- ENV-SFL
South Florida Ecology
- ENV-CRE
Caloosahatchee Estuary Ecology
- WS-LECSA
Water Supply Lower East Coast Service Area
- WS-LOSA
Water Supply Lake Okeechobee Service Area
- WS-STOF
Water Supply Seminole Tribe of Florida

FILED FOR RECORD
COMMISSION RECORDS
MARTIN COUNTY, FL
Date 6/22/21 Time _____
CAROLYN TIMMANN
CLERK OF CIRCUIT COURT
By [Signature] D.C.



WATER SUPPLY PERFORMANCE

ITERATION 2 KEY METRICS – LAKE OKEECHOBEE SERVICE AREA

	Water Supply- LOSA Sub-Objective			Water Supply- LOSA Sub-Objective		
ALT	LOSA Worst Droughts Weighted Avg % Cutback	LOSA 4 In 1 Demands Not Met EAA	LOSA duration count (# of months)	LOSA worst cutback events % not met	LOSA 4 In 1 Demands Not Met EAA	LOSA duration count (# of months)
NA25	31%	10%	60	Percent Change from NA25		
AA	28%	10%	64	7%	-2%	-7%
BB	18%	5%	31	41%	47%	48%
CC	27%	9%	55	12%	12%	8%
DD	26%	9%	52	15%	14%	13%
EE1	28%	9%	60	9%	6%	0%
EE2	30%	10%	65	3%	-2%	-8%

Better Performance
Worse Performance





WATER SUPPLY PERFORMANCE

ITERATION 2 KEY METRICS – SEMINOLE TRIBE OF FLORIDA

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ALT	Water Supply- STOF Sub-Objective		Water Supply- STOF Sub-Objective	
	STOF Big Cypress Reservation % Demands Not Met	STOF Brighton Reservation % Demands Not Met	STOF Big Cypress Reservation % Demands Not Met	STOF Brighton Reservation % Demands Not Met
NA25	2.5%	4.1%	Percent Change from NA25	
AA	2.5%	4.0%	3%	3%
BB	1.7%	2.3%	33%	43%
CC	2.3%	3.5%	11%	14%
DD	2.2%	3.3%	13%	20%
EE1	2.4%	3.9%	5%	6%
EE2	2.5%	4.0%	0%	2%

Better Performance
Worse Performance





WATER SUPPLY PERFORMANCE

ITERATION 2 KEY METRICS – LOWER EAST COAST SERVICE AREA

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ALT	Water Supply- LECSA Sub-Objective			Water Supply- LECSA Sub-Objective		
	Water Supply Deliveries to LEC from LOK (kaf/yr)	LECSA Severity Score (months WS phase-LECSA 1, 2, 3 combo/3)	Biscayne Aquifer MFL % of time below minimum stage	Water Supply Deliveries to LEC from LOK (kaf/yr)	Number of years with LEC Phase 1-4 shortages (Max Frequency of LECSA 1-3)	Biscayne Aquifer MFL % of time below minimum stage
NA25	166.4	9.0	0.27	Percent Change from NA25		
AA	179.6	9.0	0.28	8%	0%	-4%
BB	177.0	9.0	0.28	6%	0%	-4%
CC	180.6	8.0	0.28	9%	11%	-4%
DD	176.0	8.0	0.28	6%	11%	-4%
EE1	178.1	8.0	0.28	7%	11%	-4%
EE2	178.0	9.0	0.28	7%	0%	-4%

Better Performance
Worse Performance





LAKE OKEECHOBEE PERFORMANCE

ITERATION 2 KEY METRICS

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	Environmental- Lake Okeechobee Sub-Objective				Environmental- Lake Okeechobee Sub-Objective			
ALT	Lake O Stage Envelope- Upper Penalty	Lake O MFL Exceedances	% of time Lake O > 17 ft	% within lake stage envelope	Lake O Stage Envelope- Upper Penalty	Lake O MFL Exceedances	% of time Lake O > 17 ft	% within lake stage envelope
NA25	13,954	10	0.24%	26%	Percent Change from NA25			
AA	23,756	10	2.83%	21%	-70%	0%	-1067%	-18%
BB	25,235	5	1.12%	23%	-81%	50%	-361%	-11%
CC	20,585	8	1.04%	24%	-48%	20%	-328%	-8%
DD	14,897	9	0.47%	29%	-7%	10%	-93%	13%
EE1	23,095	10	3.33%	20%	-66%	0%	-1276%	-20%
EE2	20,608	11	3.49%	21%	-48%	-10%	-1341%	-16%

Better Performance
Worse Performance





CALOOSAHATCHEE ESTUARY PERFORMANCE

ITERATION 2 KEY METRICS



ALT	Environmental- Caloosahatchee Estuary Sub-Objective					Environmental- Caloosahatchee Estuary Sub-Objective				
	≤457 cfs	≥6500 cfs	RECOVER Optimal Events	4500-6500 cfs	2600-4500 cfs	≤457 cfs	≥6500 cfs	RECOVER Optimal Events	4500-6500 cfs	2600-4500 cfs
NA25	76	58	593	101	280	Percent Change from NA25				
AA	56	50	600	117	336	26%	14%	1%	-16%	-20%
BB	69	61	654	87	237	9%	-5%	10%	14%	15%
CC	69	57	714	86	271	9%	2%	20%	15%	3%
DD	63	57	605	118	316	17%	2%	2%	-17%	-13%
EE1	85	29	742	85	299	-12%	50%	25%	16%	-7%
EE2	86	30	705	87	307	-13%	48%	19%	14%	-10%

Better Performance
Worse Performance





ST. LUCIE ESTUARY PERFORMANCE

ITERATION 2 KEY METRICS



	Environmental- St. Lucie Estuary Sub-Objective			Environmental- St. Lucie Estuary Sub-Objective		
ALT	S308 flows (kaf/yr)	RECOVER Damaging Events from LOK	RECOVER Stress Events from LOK	S308 flows (kaf/yr)	RECOVER Damaging Events from LOK	RECOVER Stress Events from LOK
NA25	187	142	148	Percent Change from NA25		
AA	49	20	23	74%	86%	84%
BB	226	118	83	-21%	17%	44%
CC	72	17	13	62%	88%	91%
DD	144	135	137	23%	5%	7%
EE1	187	114	52	0%	20%	65%
EE2	166	109	120	11%	23%	19%

Better Performance
Worse Performance





SOUTH FLORIDA ECOLOGY PERFORMANCE

ITERATION 2 KEY METRICS



	Environmental- S. Florida Ecology Sub-Objective				Environmental- S. Florida Ecology Sub-Objective			
ALT	Early Dry Season (NOV-FEB) Lake O flows south in kaf/yr via S351 S354	Late Dry Season (MAR-MAY) Lake O flows south in kaf/yr via S351 S354	Wet Season (JUN-OCT) Lake O flows south in kaf/yr via S351 S354	Yearly Drought Index Scores for RECOVER Soil Oxidation PM	Early Dry Season (NOV-FEB) Lake O flows south in kaf/yr via S351 S354	Late Dry Season (MAR-MAY) Lake O flows south in kaf/yr via S351 S354	Wet Season (JUN-OCT) Lake O flows south in kaf/yr via S351 S354	Yearly Drought Index Scores for RECOVER Soil Oxidation PM
NA25	36	12	13	-0.08	Percent Change from NA25			
AA	78	71	92	-0.09	118%	517%	604%	19%
BB	37	35	67	-0.08	2%	204%	411%	10%
CC	65	52	77	-0.09	82%	348%	492%	17%
DD	44	41	66	-0.08	23%	258%	403%	13%
EE1	54	52	78	-0.09	51%	350%	498%	13%
EE2	47	52	82	-0.08	32%	351%	529%	0%

Better Performance
Worse Performance





NAVIGATION PERFORMANCE

ITERATION 2 METRIC

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	Navigation	Navigation
ALT	% over POR lake stage < 12.56 ft	% over POR lake stage < 12.56 ft
NA25	35%	Percent Change from NA25
AA	32%	9%
BB	23%	34%
CC	30%	15%
DD	32%	7%
EE1	33%	7%
EE2	33%	6%

Better Performance
Worse Performance





RECREATION PERFORMANCE

ITERATION 2 METRIC



	Recreation				Recreation			
ALT	Lake Okeechobee Eco Score	CRE Eco Score	SLE Eco Score	S. Florida Eco Score	Lake Okeechobee Eco Score	CRE Eco Score	SLE Eco Score	S. Florida Eco Score
NA25	0.56	0.88	1.00	1.00	Percent Change from NA25			
AA	0.82	0.86	0.32	0.61	45%	-3%	-68%	-39%
BB	0.89	0.92	0.97	0.82	57%	4%	-3%	-18%
CC	0.99	0.85	0.39	0.66	76%	-4%	-61%	-34%
DD	0.51	1.00	0.46	0.78	-9%	13%	-54%	-22%
EE1	0.51	0.96	0.42	0.76	-9%	9%	-58%	-24%
EE2	1.00	1.00	1.00	1.00	77%	13%	0%	0%

Better Performance
Worse Performance





NORTHERN ESTUARIES ALGAL BLOOM RISK

ITERATION 2 METRIC

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	Northern Estuaries Algal Bloom Risk		Northern Estuaries Algal Bloom Risk	
ALT	Lake O releases to SLE over POR during high algal bloom risk months (MAY-AUG) (kacft)	Lake O releases to CRE over POR during high algal bloom risk months (JUN-AUG) (kacft)	Lake O releases to SLE over POR during high algal bloom risk months (MAY-AUG)	Lake O releases to CRE over POR during high algal bloom risk months (JUN-AUG)
NA25	2392	4034	Percent Change from NA25	
AA	304	4298	87%	-7%
BB	1706	1021	29%	75%
CC	359	4122	85%	-2%
DD	2359	4369	1%	-8%
EE1	2652	3447	-11%	15%
EE2	2071	4342	13%	-8%

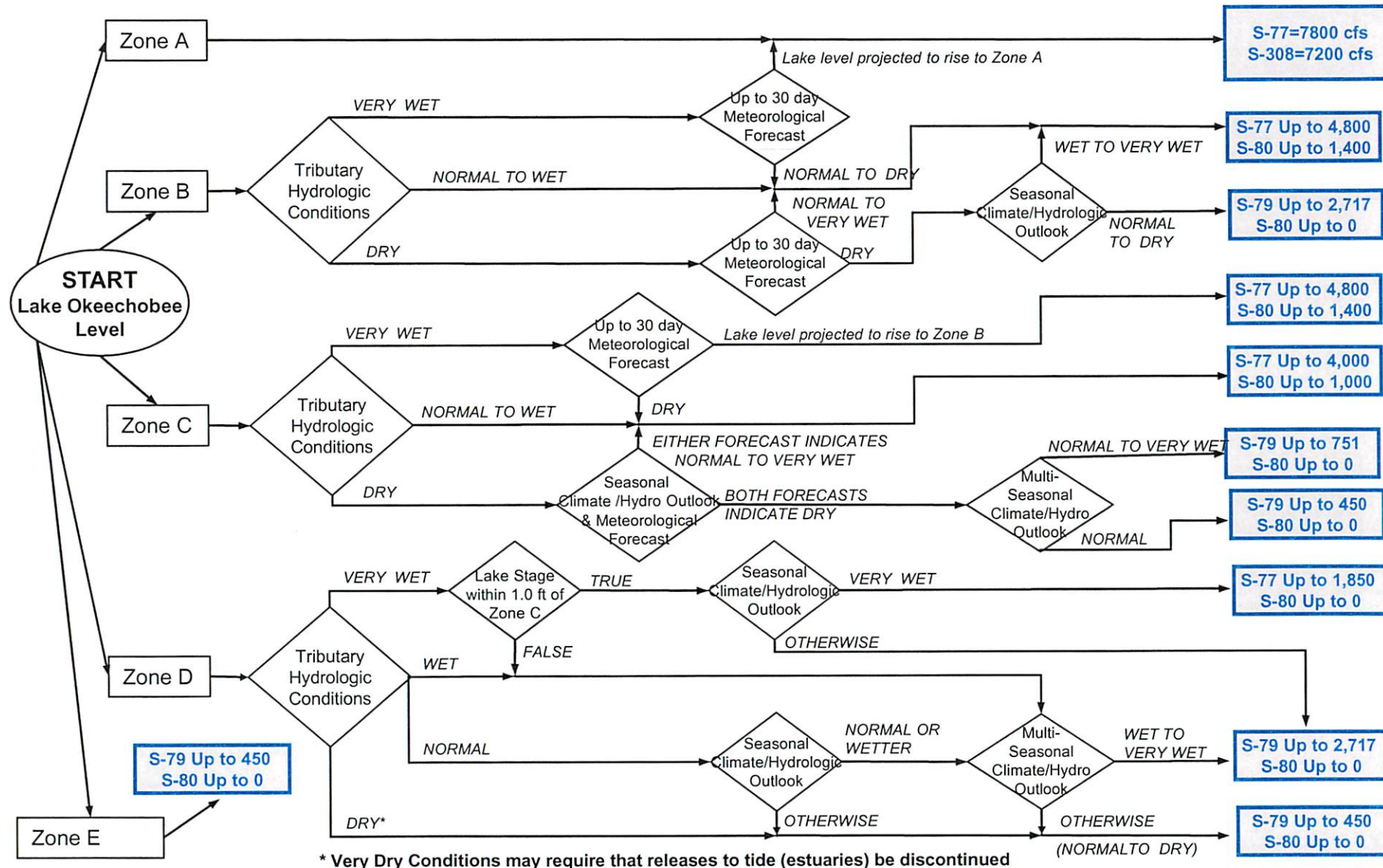
Better Performance
Worse Performance





“ALTERNATIVE AA”

Part D: Establish Allowable Lake Okeechobee Releases to Tide (Estuaries)



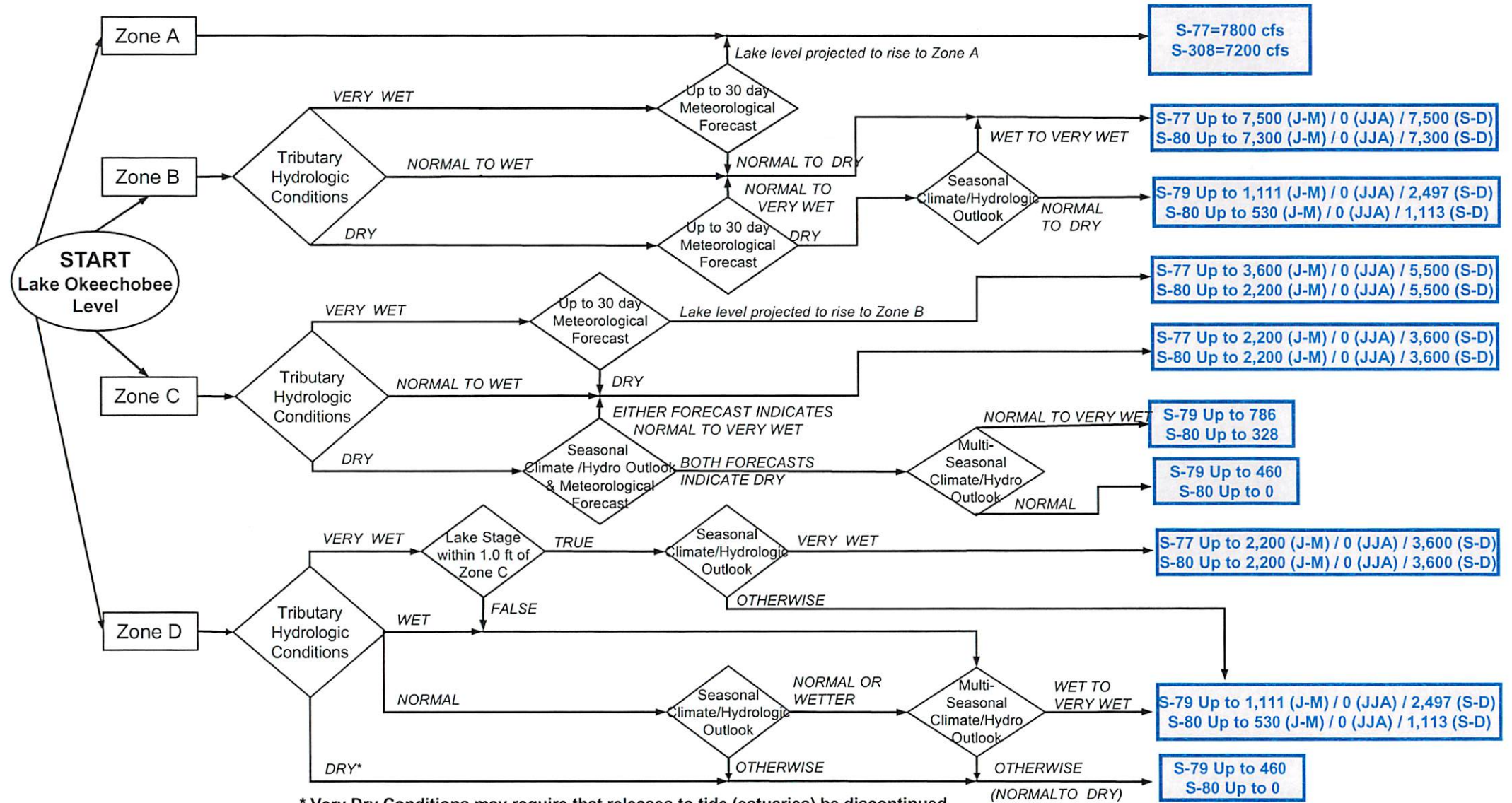


"ALTERNATIVE BB"

101



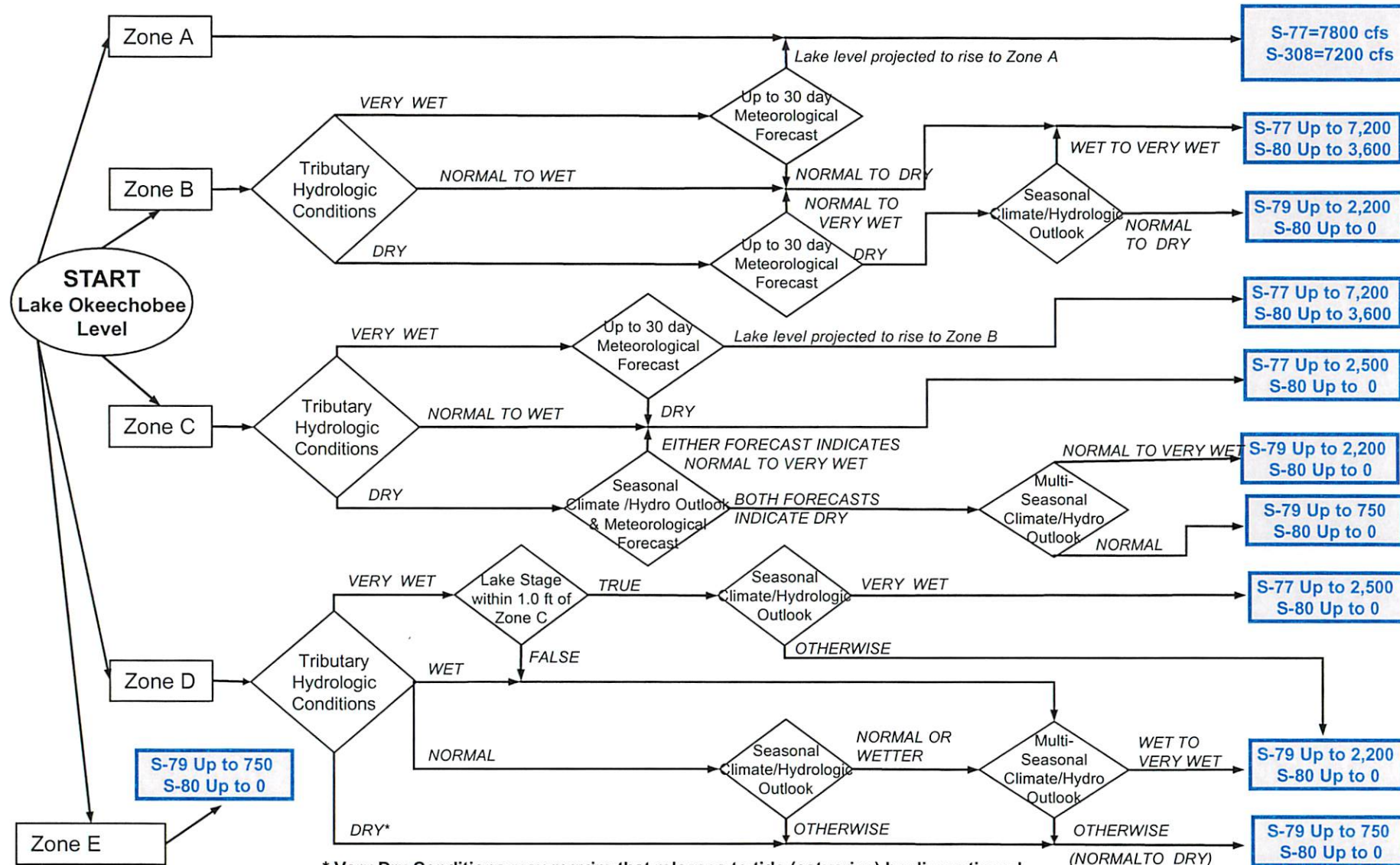
Part D: Establish Allowable Lake Okeechobee Releases to Tide (Estuaries)





"ALTERNATIVE CC"

Part D: Establish Allowable Lake Okeechobee Releases to Tide (Estuaries)





“ALTERNATIVE DD”

Part D: Establish Allowable Lake Okeechobee Releases to Tide (Estuaries)

