

APPENDIX N

RECREATION MODEL SENSITIVITY ANALYSIS RESULTS

Appendix N
Recreation Model Sensitivity Analysis Results

Table N-1 Percentage of Days Boat Ramps are Unusable on Lake Jocassee and Lake Keowee under Current Water Withdrawals and Historical Hydrology (1939 – 2011)

Development	Access Area Name	County	Not useable below elevation * (ft AMSL)	Percentage of days when ramp is not useable																			
				Jan - Mar (6,588 days)				Apr - Jun (6,643 days)				Jul - Sep (6,716 days)				Oct - Dec (6,715 days)				Total POR (26,662 days)			
				NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4
Jocassee	Devil's Fork State Park	Oconee	1080.0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Keowee	Warpath	Pickens	789.0	0.14%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.01%	0.00%	0.00%	0.00%	0.97%	0.00%	0.00%	0.00%	0.28%	0.00%	0.00%	0.00%
	Cane Creek	Oconee	789.0	0.14%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.01%	0.00%	0.00%	0.00%	0.97%	0.00%	0.00%	0.00%	0.28%	0.00%	0.00%	0.00%
	Stamp Creek	Oconee	788.0	0.05%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.97%	0.00%	0.00%	0.00%	0.26%	0.00%	0.00%	0.00%
	Keowee Town	Oconee	790.0	0.47%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.19%	0.00%	0.00%	0.00%	0.73%	0.00%	0.00%	0.00%	0.35%	0.00%	0.00%	0.00%
	Fall Creek	Oconee	790.0	0.47%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.19%	0.00%	0.00%	0.00%	1.31%	0.00%	0.00%	0.00%	0.50%	0.00%	0.00%	0.00%
	Crow Creek	Pickens	788.0	0.05%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.31%	0.00%	0.00%	0.00%	0.34%	0.00%	0.00%	0.00%
	South Cove Park	Oconee	787.0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.73%	0.00%	0.00%	0.00%	0.18%	0.00%	0.00%	0.00%
	High Falls Park	Oconee	791.0	0.88%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.27%	0.00%	0.00%	0.00%	0.15%	0.00%	0.00%	0.00%	0.32%	0.00%	0.00%	0.00%
	Mile Creek Park	Pickens	790.0	0.47%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.19%	0.00%	0.00%	0.00%	1.37%	0.00%	0.00%	0.13%	0.51%	0.00%	0.00%	0.03%

* The elevation below which ramps may not be usable for most boats is presented as three feet above the top of the concrete ramp end elevation.

Appendix N
Recreation Model Sensitivity Analysis Results

Table N-2 Number of Days Boat Ramps are Unusable on Lake Jocassee and Lake Keowee under Current Water Withdrawals and Historical Hydrology (1939 – 2011)

Development	Access Area Name	County	Not useable below elevation* (ft AMSL)	Number of days when ramp is not useable																			
				Jan - Mar (6,588 days)				Apr - Jun (6,643 days)				Jul - Sep (6,716 days)				Oct - Dec (6,715 days)				Total POR (26,662 days)			
				NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4
Jocassee	Devil's Fork State Park	Oconee	1080.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Keowee	Warpath	Pickens	789.0	9	0	0	0	0	0	0	0	1	0	0	0	65	0	0	0	75	0	0	0
	Cane Creek	Oconee	789.0	9	0	0	0	0	0	0	0	1	0	0	0	65	0	0	0	75	0	0	0
	Stamp Creek	Oconee	788.0	3	0	0	0	0	0	0	0	0	0	0	0	65	0	0	0	68	0	0	0
	Keowee Town	Oconee	790.0	31	0	0	0	0	0	0	0	13	0	0	0	49	0	0	0	93	0	0	0
	Fall Creek	Oconee	790.0	31	0	0	0	0	0	0	0	13	0	0	0	88	0	0	0	132	0	0	0
	Crow Creek	Pickens	788.0	3	0	0	0	0	0	0	0	0	0	0	0	88	0	0	0	91	0	0	0
	South Cove Park	Oconee	787.0	0	0	0	0	0	0	0	0	0	0	0	0	49	0	0	0	49	0	0	0
	High Falls Park	Oconee	791.0	58	0	0	0	0	0	0	0	18	0	0	0	10	0	0	0	86	0	0	0
	Mile Creek Park	Pickens	790.0	31	0	0	0	0	0	0	0	13	0	0	0	92	0	0	9	136	0	0	9

* The elevation below which ramps may not be usable for most boats is presented as three feet above the top of the concrete ramp end elevation.

Appendix N
Recreation Model Sensitivity Analysis Results

Table N-3 Percentage of Days Boat Ramps are Unusable on Lake Jocassee and Lake Keowee under Future Water Withdrawals and Climate change Hydrology (1939 – 2011)

Development	Access Area Name	County	Not useable below elevation* (ft AMSL)	Percentage of days when ramp is not useable																			
				Jan - Mar (6,588 days)				Apr - Jun (6,643 days)				Jul - Sep (6,716 days)				Oct - Dec (6,715 days)				Total POR (26,662 days)			
				NAA/A 1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4
Jocassee	Devil’s Fork State Park	Oconee	1080.0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.07%	0.00%	0.00%	0.00%	0.02%	0.00%	0.00%	0.00%
Keowee	Warpath	Pickens	789.0	1.35%	0.00%	0.00%	0.00%	0.02%	0.00%	0.00%	0.00%	0.97%	0.00%	0.00%	0.00%	1.37%	0.00%	0.00%	0.00%	0.93%	0.00%	0.00%	0.00%
	Cane Creek	Oconee	789.0	1.35%	0.00%	0.00%	0.00%	0.02%	0.00%	0.00%	0.00%	0.97%	0.00%	0.00%	0.00%	1.37%	0.00%	0.00%	0.00%	0.93%	0.00%	0.00%	0.00%
	Stamp Creek	Oconee	788.0	1.28%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.79%	0.00%	0.00%	0.00%	1.37%	0.00%	0.00%	0.00%	0.86%	0.00%	0.00%	0.00%
	Keowee Town	Oconee	790.0	1.37%	0.00%	0.00%	0.00%	0.66%	0.00%	0.00%	0.00%	1.49%	0.00%	0.00%	0.00%	1.94%	0.00%	0.00%	0.00%	1.37%	0.00%	0.00%	0.00%
	Fall Creek	Oconee	790.0	1.37%	0.00%	0.00%	0.00%	0.66%	0.00%	0.00%	0.00%	1.49%	0.00%	0.00%	0.00%	1.94%	0.00%	0.00%	0.00%	1.37%	0.00%	0.00%	0.00%
	Crow Creek	Pickens	788.0	1.28%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.79%	0.00%	0.00%	0.00%	1.37%	0.00%	0.00%	0.00%	0.86%	0.00%	0.00%	0.00%
	South Cove Park	Oconee	787.0	1.14%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.46%	0.00%	0.00%	0.00%	1.37%	0.00%	0.00%	0.00%	0.74%	0.00%	0.00%	0.00%
	High Falls Park	Oconee	791.0	1.49%	0.00%	0.44%	0.30%	0.81%	0.00%	0.00%	0.00%	1.77%	0.00%	0.18%	0.22%	2.41%	0.00%	0.21%	1.06%	1.62%	0.00%	0.21%	0.40%
	Mile Creek Park	Pickens	790.0	1.37%	0.00%	0.00%	0.00%	0.66%	0.00%	0.00%	0.00%	1.49%	0.00%	0.00%	0.00%	1.94%	0.00%	0.00%	0.00%	1.37%	0.00%	0.00%	0.00%

* The elevation below which ramps may not be usable for most boats is presented as three feet above the top of the concrete ramp end elevation.

Table N-4 Number of Days Boat Ramps are Unusable on Lake Jocassee and Lake Keowee under Future Water Withdrawals and Climate change Hydrology (1939 – 2011)

Development	Access Area Name	County	Not useable below elevation* (ft AMSL)	Number of days when ramp is not useable																			
				Jan - Mar (6,588 days)				Apr - Jun (6,643 days)				Jul - Sep (6,716 days)				Oct - Dec (6,715 days)				Total POR (26,662 days)			
				NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4
Jocassee	Devil’s Fork State Park	Oconee	1080.0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	5	0	0	0
Keowee	Warpath	Pickens	789.0	89	0	0	0	1	0	0	0	65	0	0	0	92	0	0	0	247	0	0	0
	Cane Creek	Oconee	789.0	89	0	0	0	1	0	0	0	65	0	0	0	92	0	0	0	247	0	0	0
	Stamp Creek	Oconee	788.0	84	0	0	0	0	0	0	0	53	0	0	0	92	0	0	0	229	0	0	0
	Keowee Town	Oconee	790.0	90	0	0	0	44	0	0	0	100	0	0	0	130	0	0	0	364	0	0	0
	Fall Creek	Oconee	790.0	90	0	0	0	44	0	0	0	100	0	0	0	130	0	0	0	364	0	0	0
	Crow Creek	Pickens	788.0	84	0	0	0	0	0	0	0	53	0	0	0	92	0	0	0	229	0	0	0
	South Cove Park	Oconee	787.0	75	0	0	0	0	0	0	0	31	0	0	0	92	0	0	0	198	0	0	0
	High Falls Park	Oconee	791.0	98	0	29	20	54	0	0	0	119	0	12	15	162	0	14	71	433	0	55	106
	Mile Creek Park	Pickens	790.0	90	0	0	0	44	0	0	0	100	0	0	0	130	0	0	0	364	0	0	0

Appendix N
Recreation Model Sensitivity Analysis Results

Table N-5 Percentage of Days Boat Ramps are Unusable on Hartwell Lake under Current Water Withdrawals and Historical Hydrology (1939 – 2011)

Boat Ramp Name	State	No. of Lanes	Not useable below elevation* (ft AMSL)	Percentage of days when ramp is not useable																			
				Jan - Mar (6,588 days)				Apr - Jun (6,643 days)				Jul - Sep (6,716 days)				Oct - Dec (6,715 days)				Total POR (26,662 days)			
				NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4
Sadler’s Creek State Park	SC	1	658.0	55.12%	55.15%	55.27%	55.37%	16.15%	16.15%	15.90%	15.99%	42.08%	41.96%	43.46%	43.27%	77.84%	77.84%	78.35%	78.35%	47.85%	47.82%	48.30%	48.30%
Tugaloo State Park	GA	2	658.0	55.12%	55.15%	55.27%	55.37%	16.15%	16.15%	15.90%	15.99%	42.08%	41.96%	43.46%	43.27%	77.84%	77.84%	78.35%	78.35%	47.85%	47.82%	48.30%	48.30%
Jack’s Landing	SC	1	658.0	55.12%	55.15%	55.27%	55.37%	16.15%	16.15%	15.90%	15.99%	42.08%	41.96%	43.46%	43.27%	77.84%	77.84%	78.35%	78.35%	47.85%	47.82%	48.30%	48.30%
Holder’s Access	SC	1	658.0	55.12%	55.15%	55.27%	55.37%	16.15%	16.15%	15.90%	15.99%	42.08%	41.96%	43.46%	43.27%	77.84%	77.84%	78.35%	78.35%	47.85%	47.82%	48.30%	48.30%
Lakeshore	SC	1	658.0	55.12%	55.15%	55.27%	55.37%	16.15%	16.15%	15.90%	15.99%	42.08%	41.96%	43.46%	43.27%	77.84%	77.84%	78.35%	78.35%	47.85%	47.82%	48.30%	48.30%
Mountain Bay	SC	1	658.0	55.12%	55.15%	55.27%	55.37%	16.15%	16.15%	15.90%	15.99%	42.08%	41.96%	43.46%	43.27%	77.84%	77.84%	78.35%	78.35%	47.85%	47.82%	48.30%	48.30%
Reed Creek	GA	1	657.5	47.65%	47.63%	48.51%	48.48%	13.05%	13.04%	12.87%	13.25%	32.31%	32.25%	35.11%	34.98%	71.15%	71.15%	72.73%	72.76%	41.08%	41.06%	42.36%	42.42%
Rocky Ford	GA	1	657.5	47.65%	47.63%	48.51%	48.48%	13.05%	13.04%	12.87%	13.25%	32.31%	32.25%	35.11%	34.98%	71.15%	71.15%	72.73%	72.76%	41.08%	41.06%	42.36%	42.42%
Brown Road	SC	1	657.0	40.26%	40.33%	41.00%	41.06%	10.84%	10.84%	11.11%	11.06%	23.26%	23.20%	26.92%	26.91%	63.84%	63.84%	66.22%	65.87%	34.58%	34.59%	36.36%	36.27%
Hurricane Creek	SC	1	657.0	40.26%	40.33%	41.00%	41.06%	10.84%	10.84%	11.11%	11.06%	23.26%	23.20%	26.92%	26.91%	63.84%	63.84%	66.22%	65.87%	34.58%	34.59%	36.36%	36.27%
Seneca Creek	SC	1	657.0	40.26%	40.33%	41.00%	41.06%	10.84%	10.84%	11.11%	11.06%	23.26%	23.20%	26.92%	26.91%	63.84%	63.84%	66.22%	65.87%	34.58%	34.59%	36.36%	36.27%
Walker Creek	GA	1	657.0	40.26%	40.33%	41.00%	41.06%	10.84%	10.84%	11.11%	11.06%	23.26%	23.20%	26.92%	26.91%	63.84%	63.84%	66.22%	65.87%	34.58%	34.59%	36.36%	36.27%
Cove Inlet	SC	1	656.5	32.35%	32.36%	33.41%	33.58%	9.48%	9.54%	9.95%	9.92%	19.03%	19.01%	22.29%	22.23%	54.50%	54.52%	58.60%	58.53%	28.88%	28.90%	31.11%	31.11%
Durham	SC	1	655.7	21.40%	21.42%	22.15%	22.15%	8.76%	8.78%	8.72%	8.72%	16.16%	16.11%	17.82%	17.87%	34.01%	34.01%	38.47%	38.33%	20.11%	20.10%	21.82%	21.80%
South Union	SC	1	655.5	19.46%	19.46%	20.95%	20.87%	8.66%	8.66%	8.52%	8.49%	15.53%	15.52%	17.26%	17.26%	32.66%	32.66%	36.55%	36.52%	19.10%	19.10%	20.85%	20.82%
Bradberry	GA	1	655.0	14.97%	14.53%	17.94%	17.90%	7.24%	7.42%	7.18%	7.20%	14.64%	14.68%	15.93%	15.92%	28.94%	28.95%	33.94%	33.85%	16.48%	16.43%	18.78%	18.75%
Timberland	SC	1	654.0	11.96%	11.95%	13.55%	13.66%	3.49%	3.43%	3.66%	3.67%	10.38%	10.44%	11.75%	11.38%	22.95%	22.81%	27.12%	27.04%	12.22%	12.18%	14.05%	13.97%
Darvin Wright City Park	SC	1	653.0	9.21%	9.26%	10.14%	10.09%	2.36%	2.30%	2.59%	2.59%	7.16%	7.28%	7.62%	7.49%	17.16%	16.96%	18.67%	18.66%	8.99%	8.97%	9.77%	9.73%
Tillies	SC	1	653.0	9.21%	9.26%	10.14%	10.09%	2.36%	2.30%	2.59%	2.59%	7.16%	7.28%	7.62%	7.49%	17.16%	16.96%	18.67%	18.66%	8.99%	8.97%	9.77%	9.73%
White City	SC	1	653.0	9.21%	9.26%	10.14%	10.09%	2.36%	2.30%	2.59%	2.59%	7.16%	7.28%	7.62%	7.49%	17.16%	16.96%	18.67%	18.66%	8.99%	8.97%	9.77%	9.73%
Barton Mill	SC	1	653.0	9.21%	9.26%	10.14%	10.09%	2.36%	2.30%	2.59%	2.59%	7.16%	7.28%	7.62%	7.49%	17.16%	16.96%	18.67%	18.66%	8.99%	8.97%	9.77%	9.73%
Port Bass	SC	1	653.0	9.21%	9.26%	10.14%	10.09%	2.36%	2.30%	2.59%	2.59%	7.16%	7.28%	7.62%	7.49%	17.16%	16.96%	18.67%	18.66%	8.99%	8.97%	9.77%	9.73%
Seymour	GA	1	653.0	9.21%	9.26%	10.14%	10.09%	2.36%	2.30%	2.59%	2.59%	7.16%	7.28%	7.62%	7.49%	17.16%	16.96%	18.67%	18.66%	8.99%	8.97%	9.77%	9.73%
Payne’s Creek (inner right)	GA	1	652.6	7.86%	7.88%	8.42%	8.39%	2.18%	2.11%	2.35%	2.36%	6.21%	6.13%	6.60%	6.58%	14.24%	14.10%	15.80%	16.20%	7.64%	7.57%	8.31%	8.40%
Payne’s Creek (left)	GA	1	652.6	7.86%	7.88%	8.42%	8.39%	2.18%	2.11%	2.35%	2.36%	6.21%	6.13%	6.60%	6.58%	14.24%	14.10%	15.80%	16.20%	7.64%	7.57%	8.31%	8.40%
Big Oak (left lane)	GA	1	652.5	7.51%	7.38%	7.92%	8.00%	2.11%	2.08%	2.32%	2.33%	5.91%	5.85%	6.33%	6.33%	13.61%	13.52%	15.23%	15.49%	7.30%	7.22%	7.97%	8.05%
Tabor	SC	1	652.5	7.51%	7.38%	7.92%	8.00%	2.11%	2.08%	2.32%	2.33%	5.91%	5.85%	6.33%	6.33%	13.61%	13.52%	15.23%	15.49%	7.30%	7.22%	7.97%	8.05%
Townville	SC	1	652.3	6.71%	6.60%	7.13%	7.23%	2.08%	2.05%	2.26%	2.26%	5.51%	5.54%	5.88%	5.84%	12.51%	12.49%	14.33%	14.40%	6.71%	6.68%	7.42%	7.45%
Apple Island	SC	1	651.5	5.30%	5.18%	5.92%	6.03%	1.49%	1.55%	1.97%	1.97%	4.20%	4.14%	4.47%	4.50%	9.69%	9.59%	10.59%	10.60%	5.18%	5.12%	5.75%	5.78%

Appendix N
Recreation Model Sensitivity Analysis Results

Boat Ramp Name	State	No. of Lanes	Not useable below elevation* (ft AMSL)	Percentage of days when ramp is not useable																			
				Jan - Mar (6,588 days)				Apr - Jun (6,643 days)				Jul - Sep (6,716 days)				Oct - Dec (6,715 days)				Total POR (26,662 days)			
				NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4
Poplar Spring (left ramp)	GA	1	651.5	5.30%	5.18%	5.92%	6.03%	1.49%	1.55%	1.97%	1.97%	4.20%	4.14%	4.47%	4.50%	9.69%	9.59%	10.59%	10.60%	5.18%	5.12%	5.75%	5.78%
Stephens Co.	GA	1	651.5	5.30%	5.18%	5.92%	6.03%	1.49%	1.55%	1.97%	1.97%	4.20%	4.14%	4.47%	4.50%	9.69%	9.59%	10.59%	10.60%	5.18%	5.12%	5.75%	5.78%
Broyles (East ramp)	SC	1	651.3	5.18%	5.04%	5.69%	5.83%	1.19%	1.37%	1.64%	1.64%	3.84%	3.84%	4.14%	4.20%	9.14%	9.08%	10.26%	10.20%	4.85%	4.84%	5.44%	5.48%
Friendship (left lane)	SC	1	651.0	4.83%	4.74%	5.18%	5.18%	0.57%	0.75%	1.22%	1.20%	3.51%	3.53%	3.69%	3.72%	8.28%	8.25%	9.55%	9.53%	4.31%	4.32%	4.92%	4.92%
Lawrence Bridge	SC	1	651.0	4.83%	4.74%	5.18%	5.18%	0.57%	0.75%	1.22%	1.20%	3.51%	3.53%	3.69%	3.72%	8.28%	8.25%	9.55%	9.53%	4.31%	4.32%	4.92%	4.92%
River Fork (right ramp)	SC	1	651.0	4.83%	4.74%	5.18%	5.18%	0.57%	0.75%	1.22%	1.20%	3.51%	3.53%	3.69%	3.72%	8.28%	8.25%	9.55%	9.53%	4.31%	4.32%	4.92%	4.92%
Broyles (West ramp)	SC	1	650.5	3.83%	3.63%	4.84%	4.83%	0.33%	0.42%	0.86%	0.86%	2.99%	2.92%	3.22%	3.22%	6.45%	6.37%	8.44%	8.41%	3.41%	3.34%	4.35%	4.34%
Jarrett	SC	1	650.0	3.26%	3.20%	3.81%	3.81%	0.21%	0.26%	0.29%	0.29%	2.29%	2.19%	2.64%	2.67%	5.20%	5.06%	7.19%	7.13%	2.75%	2.68%	3.49%	3.48%
Holcomb	GA	1	650.0	3.26%	3.20%	3.81%	3.81%	0.21%	0.26%	0.29%	0.29%	2.29%	2.19%	2.64%	2.67%	5.20%	5.06%	7.19%	7.13%	2.75%	2.68%	3.49%	3.48%
Cleveland	GA	1	649.5	3.14%	2.99%	3.25%	3.25%	0.11%	0.14%	0.17%	0.17%	1.71%	1.61%	1.97%	2.00%	4.04%	3.86%	5.99%	5.94%	2.25%	2.15%	2.85%	2.84%
Spring Branch	GA	1	649.0	2.79%	2.58%	3.14%	3.14%	0.02%	0.02%	0.06%	0.06%	1.44%	1.40%	1.52%	1.52%	3.47%	3.47%	4.26%	4.21%	1.93%	1.87%	2.25%	2.24%
Honea Path	SC	1	648.5	2.37%	2.26%	2.91%	2.90%	0.00%	0.00%	0.00%	0.00%	1.21%	1.28%	1.34%	1.34%	2.93%	2.93%	3.44%	3.44%	1.63%	1.62%	1.92%	1.92%
Twin Lakes (right ramp)	SC	1	648.0	1.28%	1.12%	2.49%	2.49%	0.00%	0.00%	0.00%	0.00%	1.12%	1.16%	1.18%	1.18%	2.35%	2.19%	3.05%	3.05%	1.19%	1.12%	1.68%	1.68%
Twin Lakes (left ramp)	SC	1	648.0	1.28%	1.12%	2.49%	2.49%	0.00%	0.00%	0.00%	0.00%	1.12%	1.16%	1.18%	1.18%	2.35%	2.19%	3.05%	3.05%	1.19%	1.12%	1.68%	1.68%
Fairplay (left lane)	SC	1	647.0	0.91%	0.90%	1.24%	1.24%	0.00%	0.00%	0.00%	0.00%	0.86%	0.86%	0.95%	0.95%	1.37%	1.37%	2.19%	2.19%	0.79%	0.78%	1.10%	1.10%
Twelve Mile (left lane)	SC	1	647.0	0.91%	0.90%	1.24%	1.24%	0.00%	0.00%	0.00%	0.00%	0.86%	0.86%	0.95%	0.95%	1.37%	1.37%	2.19%	2.19%	0.79%	0.78%	1.10%	1.10%
Twelve Mile (right lane)	SC	1	647.0	0.91%	0.90%	1.24%	1.24%	0.00%	0.00%	0.00%	0.00%	0.86%	0.86%	0.95%	0.95%	1.37%	1.37%	2.19%	2.19%	0.79%	0.78%	1.10%	1.10%
Clemson	SC	1	645.5	0.83%	0.67%	0.90%	0.90%	0.00%	0.00%	0.00%	0.00%	0.21%	0.22%	0.48%	0.48%	1.37%	1.37%	1.37%	1.37%	0.60%	0.57%	0.69%	0.69%
Milltown	GA	1	645.4	0.74%	0.61%	0.88%	0.88%	0.00%	0.00%	0.00%	0.00%	0.19%	0.16%	0.39%	0.42%	1.37%	1.37%	1.37%	1.37%	0.58%	0.54%	0.66%	0.67%
Carters Ferry	GA	1	645.0	0.55%	0.29%	0.88%	0.88%	0.00%	0.00%	0.00%	0.00%	0.12%	0.12%	0.21%	0.21%	1.37%	1.37%	1.37%	1.37%	0.51%	0.45%	0.62%	0.62%
Watsadler	GA	1	645.0	0.55%	0.29%	0.88%	0.88%	0.00%	0.00%	0.00%	0.00%	0.12%	0.12%	0.21%	0.21%	1.37%	1.37%	1.37%	1.37%	0.51%	0.45%	0.62%	0.62%
Big Oaks (right lane)	GA	1	644.0	0.26%	0.08%	0.47%	0.55%	0.00%	0.00%	0.00%	0.00%	0.00%	0.09%	0.12%	0.12%	1.33%	1.37%	1.37%	1.37%	0.40%	0.39%	0.49%	0.51%
Camp Creek	GA	1	644.0	0.26%	0.08%	0.47%	0.55%	0.00%	0.00%	0.00%	0.00%	0.00%	0.09%	0.12%	0.12%	1.33%	1.37%	1.37%	1.37%	0.40%	0.39%	0.49%	0.51%
Choestoea	SC	1	644.0	0.26%	0.08%	0.47%	0.55%	0.00%	0.00%	0.00%	0.00%	0.00%	0.09%	0.12%	0.12%	1.33%	1.37%	1.37%	1.37%	0.40%	0.39%	0.49%	0.51%
Coneross	SC	1	644.0	0.26%	0.08%	0.47%	0.55%	0.00%	0.00%	0.00%	0.00%	0.00%	0.09%	0.12%	0.12%	1.33%	1.37%	1.37%	1.37%	0.40%	0.39%	0.49%	0.51%
Double Spring	SC	1	644.0	0.26%	0.08%	0.47%	0.55%	0.00%	0.00%	0.00%	0.00%	0.00%	0.09%	0.12%	0.12%	1.33%	1.37%	1.37%	1.37%	0.40%	0.39%	0.49%	0.51%
Duncan Branch	GA	1	644.0	0.26%	0.08%	0.47%	0.55%	0.00%	0.00%	0.00%	0.00%	0.00%	0.09%	0.12%	0.12%	1.33%	1.37%	1.37%	1.37%	0.40%	0.39%	0.49%	0.51%
Fairplay (right lane)	SC	1	644.0	0.26%	0.08%	0.47%	0.55%	0.00%	0.00%	0.00%	0.00%	0.00%	0.09%	0.12%	0.12%	1.33%	1.37%	1.37%	1.37%	0.40%	0.39%	0.49%	0.51%
Friendship (right lane)	SC	1	644.0	0.26%	0.08%	0.47%	0.55%	0.00%	0.00%	0.00%	0.00%	0.00%	0.09%	0.12%	0.12%	1.33%	1.37%	1.37%	1.37%	0.40%	0.39%	0.49%	0.51%

Appendix N
Recreation Model Sensitivity Analysis Results

Boat Ramp Name	State	No. of Lanes	Not useable below elevation* (ft AMSL)	Percentage of days when ramp is not useable																			
				Jan - Mar (6,588 days)				Apr - Jun (6,643 days)				Jul - Sep (6,716 days)				Oct - Dec (6,715 days)				Total POR (26,662 days)			
				NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4
Glenn Ferry	GA	1	644.0	0.26%	0.08%	0.47%	0.55%	0.00%	0.00%	0.00%	0.00%	0.00%	0.09%	0.12%	0.12%	1.33%	1.37%	1.37%	1.37%	0.40%	0.39%	0.49%	0.51%
Green Pond	SC	1	644.0	0.26%	0.08%	0.47%	0.55%	0.00%	0.00%	0.00%	0.00%	0.00%	0.09%	0.12%	0.12%	1.33%	1.37%	1.37%	1.37%	0.40%	0.39%	0.49%	0.51%
Hatton's Ford	SC	1	644.0	0.26%	0.08%	0.47%	0.55%	0.00%	0.00%	0.00%	0.00%	0.00%	0.09%	0.12%	0.12%	1.33%	1.37%	1.37%	1.37%	0.40%	0.39%	0.49%	0.51%
Long Point	GA	1	644.0	0.26%	0.08%	0.47%	0.55%	0.00%	0.00%	0.00%	0.00%	0.00%	0.09%	0.12%	0.12%	1.33%	1.37%	1.37%	1.37%	0.40%	0.39%	0.49%	0.51%
New Prospect	GA	1	644.0	0.26%	0.08%	0.47%	0.55%	0.00%	0.00%	0.00%	0.00%	0.00%	0.09%	0.12%	0.12%	1.33%	1.37%	1.37%	1.37%	0.40%	0.39%	0.49%	0.51%
Rock Spring	GA	1	644.0	0.26%	0.08%	0.47%	0.55%	0.00%	0.00%	0.00%	0.00%	0.00%	0.09%	0.12%	0.12%	1.33%	1.37%	1.37%	1.37%	0.40%	0.39%	0.49%	0.51%
Gum Branch	GA	6	644.0	0.26%	0.08%	0.47%	0.55%	0.00%	0.00%	0.00%	0.00%	0.00%	0.09%	0.12%	0.12%	1.33%	1.37%	1.37%	1.37%	0.40%	0.39%	0.49%	0.51%
Poplar Spring (right ramp)	GA	1	643.6	0.18%	0.06%	0.38%	0.39%	0.00%	0.00%	0.00%	0.00%	0.00%	0.09%	0.07%	0.07%	1.19%	1.37%	1.37%	1.37%	0.35%	0.38%	0.46%	0.46%
Springfield	SC	1	643.6	0.18%	0.06%	0.38%	0.39%	0.00%	0.00%	0.00%	0.00%	0.00%	0.09%	0.07%	0.07%	1.19%	1.37%	1.37%	1.37%	0.35%	0.38%	0.46%	0.46%
Crawford Ferry	GA	1	643.3	0.12%	0.06%	0.29%	0.32%	0.00%	0.00%	0.00%	0.00%	0.00%	0.09%	0.03%	0.03%	1.18%	1.36%	1.37%	1.37%	0.33%	0.38%	0.42%	0.43%
Asbury (camping)	SC	1	643.0	0.09%	0.06%	0.23%	0.23%	0.00%	0.00%	0.00%	0.00%	0.00%	0.09%	0.01%	0.01%	1.15%	1.31%	1.37%	1.37%	0.31%	0.37%	0.41%	0.41%
Denver	SC	1	643.0	0.09%	0.06%	0.23%	0.23%	0.00%	0.00%	0.00%	0.00%	0.00%	0.09%	0.01%	0.01%	1.15%	1.31%	1.37%	1.37%	0.31%	0.37%	0.41%	0.41%
Eighteen Mile Creek	SC	1	643.0	0.09%	0.06%	0.23%	0.23%	0.00%	0.00%	0.00%	0.00%	0.00%	0.09%	0.01%	0.01%	1.15%	1.31%	1.37%	1.37%	0.31%	0.37%	0.41%	0.41%
Elrod Ferry	GA	1	643.0	0.09%	0.06%	0.23%	0.23%	0.00%	0.00%	0.00%	0.00%	0.00%	0.09%	0.01%	0.01%	1.15%	1.31%	1.37%	1.37%	0.31%	0.37%	0.41%	0.41%
Jenkins Ferry	GA	1	643.0	0.09%	0.06%	0.23%	0.23%	0.00%	0.00%	0.00%	0.00%	0.00%	0.09%	0.01%	0.01%	1.15%	1.31%	1.37%	1.37%	0.31%	0.37%	0.41%	0.41%
Martin Creek	SC	1	643.0	0.09%	0.06%	0.23%	0.23%	0.00%	0.00%	0.00%	0.00%	0.00%	0.09%	0.01%	0.01%	1.15%	1.31%	1.37%	1.37%	0.31%	0.37%	0.41%	0.41%
Mary Ann Branch	GA	1	643.0	0.09%	0.06%	0.23%	0.23%	0.00%	0.00%	0.00%	0.00%	0.00%	0.09%	0.01%	0.01%	1.15%	1.31%	1.37%	1.37%	0.31%	0.37%	0.41%	0.41%
Oconee Point	SC	1	643.0	0.09%	0.06%	0.23%	0.23%	0.00%	0.00%	0.00%	0.00%	0.00%	0.09%	0.01%	0.01%	1.15%	1.31%	1.37%	1.37%	0.31%	0.37%	0.41%	0.41%
Paynes Creek (outer)	GA	1	643.0	0.09%	0.06%	0.23%	0.23%	0.00%	0.00%	0.00%	0.00%	0.00%	0.09%	0.01%	0.01%	1.15%	1.31%	1.37%	1.37%	0.31%	0.37%	0.41%	0.41%
Powder Bag Creek N	GA	1	643.0	0.09%	0.06%	0.23%	0.23%	0.00%	0.00%	0.00%	0.00%	0.00%	0.09%	0.01%	0.01%	1.15%	1.31%	1.37%	1.37%	0.31%	0.37%	0.41%	0.41%
Richland Creek	SC	1	643.0	0.09%	0.06%	0.23%	0.23%	0.00%	0.00%	0.00%	0.00%	0.00%	0.09%	0.01%	0.01%	1.15%	1.31%	1.37%	1.37%	0.31%	0.37%	0.41%	0.41%
River Forks (left ramp)	SC	1	643.0	0.09%	0.06%	0.23%	0.23%	0.00%	0.00%	0.00%	0.00%	0.00%	0.09%	0.01%	0.01%	1.15%	1.31%	1.37%	1.37%	0.31%	0.37%	0.41%	0.41%
Singing Pines	SC	1	643.0	0.09%	0.06%	0.23%	0.23%	0.00%	0.00%	0.00%	0.00%	0.00%	0.09%	0.01%	0.01%	1.15%	1.31%	1.37%	1.37%	0.31%	0.37%	0.41%	0.41%
Weldon Island	SC	1	643.0	0.09%	0.06%	0.23%	0.23%	0.00%	0.00%	0.00%	0.00%	0.00%	0.09%	0.01%	0.01%	1.15%	1.31%	1.37%	1.37%	0.31%	0.37%	0.41%	0.41%
Harbor Light Marina	GA	2	643.0	0.09%	0.06%	0.23%	0.23%	0.00%	0.00%	0.00%	0.00%	0.00%	0.09%	0.01%	0.01%	1.15%	1.31%	1.37%	1.37%	0.31%	0.37%	0.41%	0.41%
Hartwell Marina	GA	1	643.0	0.09%	0.06%	0.23%	0.23%	0.00%	0.00%	0.00%	0.00%	0.00%	0.09%	0.01%	0.01%	1.15%	1.31%	1.37%	1.37%	0.31%	0.37%	0.41%	0.41%
Hart State Park	GA	2	643.0	0.09%	0.06%	0.23%	0.23%	0.00%	0.00%	0.00%	0.00%	0.00%	0.09%	0.01%	0.01%	1.15%	1.31%	1.37%	1.37%	0.31%	0.37%	0.41%	0.41%

Appendix N
Recreation Model Sensitivity Analysis Results

Boat Ramp Name	State	No. of Lanes	Not useable below elevation* (ft AMSL)	Percentage of days when ramp is not useable																			
				Jan - Mar (6,588 days)				Apr - Jun (6,643 days)				Jul - Sep (6,716 days)				Oct - Dec (6,715 days)				Total POR (26,662 days)			
				NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4
Portman Shoals	GA	1	643.0	0.09%	0.06%	0.23%	0.23%	0.00%	0.00%	0.00%	0.00%	0.00%	0.09%	0.01%	0.01%	1.15%	1.31%	1.37%	1.37%	0.31%	0.37%	0.41%	0.41%
Broyles (middle ramp)	SC	1	642.0	0.06%	0.00%	0.09%	0.08%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.04%	1.18%	1.19%	1.16%	0.28%	0.30%	0.32%	0.31%
Tugaloo State Park (mega)	GA	6	642.0	0.06%	0.00%	0.09%	0.08%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.04%	1.18%	1.19%	1.16%	0.28%	0.30%	0.32%	0.31%
Mullins Ford	SC	1	638.0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.31%	0.37%	0.30%	0.00%	0.08%	0.09%	0.08%
Big Water	SC	1	638.0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.31%	0.37%	0.30%	0.00%	0.08%	0.09%	0.08%
Bruce Creek	GA	1	638.0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.31%	0.37%	0.30%	0.00%	0.08%	0.09%	0.08%
Lake Hartwell State Park	SC	2	638.0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.31%	0.37%	0.30%	0.00%	0.08%	0.09%	0.08%
Lightwood Log Creek	GA	1	638.0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.31%	0.37%	0.30%	0.00%	0.08%	0.09%	0.08%
Sadlers Creek State Park #1	SC	2	638.0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.31%	0.37%	0.30%	0.00%	0.08%	0.09%	0.08%

* The elevation below which ramps may not be usable for most boats is presented as three feet above the top of the concrete ramp end elevation.

Appendix N
Recreation Model Sensitivity Analysis Results

Table N-6 Number of Days Boat Ramps are Unusable on Hartwell Lake under Current Water Withdrawals and Historical Hydrology (1939 – 2011)

Boat Ramp Name	State	No. of Lanes	Not useable below elevation* (ft AMSL)	Number of days when ramp is not useable																			
				Jan - Mar (6,588 days)				Apr - Jun (6,643 days)				Jul - Sep (6,716 days)				Oct - Dec (6,715 days)				Total POR (26,662 days)			
				NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4
Sadler’s Creek State Park	SC	1	658.0	3,631	3,633	3,641	3,648	1,073	1,073	1,056	1,062	2,826	2,818	2,919	2,906	5,227	5,227	5,261	5,261	12,757	12,751	12,877	12,877
Tugaloo State Park	GA	2	658.0	3,631	3,633	3,641	3,648	1,073	1,073	1,056	1,062	2,826	2,818	2,919	2,906	5,227	5,227	5,261	5,261	12,757	12,751	12,877	12,877
Jack’s Landing	SC	1	658.0	3,631	3,633	3,641	3,648	1,073	1,073	1,056	1,062	2,826	2,818	2,919	2,906	5,227	5,227	5,261	5,261	12,757	12,751	12,877	12,877
Holder’s Access	SC	1	658.0	3,631	3,633	3,641	3,648	1,073	1,073	1,056	1,062	2,826	2,818	2,919	2,906	5,227	5,227	5,261	5,261	12,757	12,751	12,877	12,877
Lakeshore	SC	1	658.0	3,631	3,633	3,641	3,648	1,073	1,073	1,056	1,062	2,826	2,818	2,919	2,906	5,227	5,227	5,261	5,261	12,757	12,751	12,877	12,877
Mountain Bay	SC	1	658.0	3,631	3,633	3,641	3,648	1,073	1,073	1,056	1,062	2,826	2,818	2,919	2,906	5,227	5,227	5,261	5,261	12,757	12,751	12,877	12,877
Reed Creek	GA	1	657.5	3,139	3,138	3,196	3,194	867	866	855	880	2,170	2,166	2,358	2,349	4,778	4,778	4,884	4,886	10,954	10,948	11,293	11,309
Rocky Ford	GA	1	657.5	3,139	3,138	3,196	3,194	867	866	855	880	2,170	2,166	2,358	2,349	4,778	4,778	4,884	4,886	10,954	10,948	11,293	11,309
Brown Road	SC	1	657.0	2,652	2,657	2,701	2,705	720	720	738	735	1,562	1,558	1,808	1,807	4,287	4,287	4,447	4,423	9,221	9,222	9,694	9,670
Hurricane Creek	SC	1	657.0	2,652	2,657	2,701	2,705	720	720	738	735	1,562	1,558	1,808	1,807	4,287	4,287	4,447	4,423	9,221	9,222	9,694	9,670
Seneca Creek	SC	1	657.0	2,652	2,657	2,701	2,705	720	720	738	735	1,562	1,558	1,808	1,807	4,287	4,287	4,447	4,423	9,221	9,222	9,694	9,670
Walker Creek	GA	1	657.0	2,652	2,657	2,701	2,705	720	720	738	735	1,562	1,558	1,808	1,807	4,287	4,287	4,447	4,423	9,221	9,222	9,694	9,670
Cove Inlet	SC	1	656.5	2,131	2,132	2,201	2,212	630	634	661	659	1,278	1,277	1,497	1,493	3,660	3,661	3,935	3,930	7,699	7,704	8,294	8,294
Durham	SC	1	655.7	1,410	1,411	1,459	1,459	582	583	579	579	1,085	1,082	1,197	1,200	2,284	2,284	2,583	2,574	5,361	5,360	5,818	5,812
South Union	SC	1	655.5	1,282	1,282	1,380	1,375	575	575	566	564	1,043	1,042	1,159	1,159	2,193	2,193	2,454	2,452	5,093	5,092	5,559	5,550
Bradberry	GA	1	655.0	986	957	1,182	1,179	481	493	477	478	983	986	1,070	1,069	1,943	1,944	2,279	2,273	4,393	4,380	5,008	4,999
Timberland	SC	1	654.0	788	787	893	900	232	228	243	244	697	701	789	764	1,541	1,532	1,821	1,816	3,258	3,248	3,746	3,724
Darvin Wright City Park	SC	1	653.0	607	610	668	665	157	153	172	172	481	489	512	503	1,152	1,139	1,254	1,253	2,397	2,391	2,606	2,593
Tillies	SC	1	653.0	607	610	668	665	157	153	172	172	481	489	512	503	1,152	1,139	1,254	1,253	2,397	2,391	2,606	2,593
White City	SC	1	653.0	607	610	668	665	157	153	172	172	481	489	512	503	1,152	1,139	1,254	1,253	2,397	2,391	2,606	2,593
Barton Mill	SC	1	653.0	607	610	668	665	157	153	172	172	481	489	512	503	1,152	1,139	1,254	1,253	2,397	2,391	2,606	2,593
Port Bass	SC	1	653.0	607	610	668	665	157	153	172	172	481	489	512	503	1,152	1,139	1,254	1,253	2,397	2,391	2,606	2,593
Seymour	GA	1	653.0	607	610	668	665	157	153	172	172	481	489	512	503	1,152	1,139	1,254	1,253	2,397	2,391	2,606	2,593
Payne’s Creek (inner right)	GA	1	652.6	518	519	555	553	145	140	156	157	417	412	443	442	956	947	1,061	1,088	2,036	2,018	2,215	2,240
Payne’s Creek (left)	GA	1	652.6	518	519	555	553	145	140	156	157	417	412	443	442	956	947	1,061	1,088	2,036	2,018	2,215	2,240
Big Oak (left lane)	GA	1	652.5	495	486	522	527	140	138	154	155	397	393	425	425	914	908	1,023	1,040	1,946	1,925	2,124	2,147
Tabor	SC	1	652.5	495	486	522	527	140	138	154	155	397	393	425	425	914	908	1,023	1,040	1,946	1,925	2,124	2,147
Townville	SC	1	652.3	442	435	470	476	138	136	150	150	370	372	395	392	840	839	962	967	1,790	1,782	1,977	1,985
Apple Island	SC	1	651.5	349	341	390	397	99	103	131	131	282	278	300	302	651	644	711	712	1,381	1,366	1,532	1,542
Poplar Spring (left ramp)	GA	1	651.5	349	341	390	397	99	103	131	131	282	278	300	302	651	644	711	712	1,381	1,366	1,532	1,542
Stephens Co.	GA	1	651.5	349	341	390	397	99	103	131	131	282	278	300	302	651	644	711	712	1,381	1,366	1,532	1,542
Broyles (East ramp)	SC	1	651.3	341	332	375	384	79	91	109	109	258	258	278	282	614	610	689	685	1,292	1,291	1,451	1,460

Appendix N
Recreation Model Sensitivity Analysis Results

Boat Ramp Name	State	No. of Lanes	Not useable below elevation* (ft AMSL)	Number of days when ramp is not useable																			
				Jan - Mar (6,588 days)				Apr - Jun (6,643 days)				Jul - Sep (6,716 days)				Oct - Dec (6,715 days)				Total POR (26,662 days)			
				NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4
Friendship (left lane)	SC	1	651.0	318	312	341	341	38	50	81	80	236	237	248	250	556	554	641	640	1,148	1,153	1,311	1,311
Lawrence Bridge	SC	1	651.0	318	312	341	341	38	50	81	80	236	237	248	250	556	554	641	640	1,148	1,153	1,311	1,311
River Fork (right ramp)	SC	1	651.0	318	312	341	341	38	50	81	80	236	237	248	250	556	554	641	640	1,148	1,153	1,311	1,311
Broyles (West ramp)	SC	1	650.5	252	239	319	318	22	28	57	57	201	196	216	216	433	428	567	565	908	891	1,159	1,156
Jarrett	SC	1	650.0	215	211	251	251	14	17	19	19	154	147	177	179	349	340	483	479	732	715	930	928
Holcomb	GA	1	650.0	215	211	251	251	14	17	19	19	154	147	177	179	349	340	483	479	732	715	930	928
Cleveland	GA	1	649.5	207	197	214	214	7	9	11	11	115	108	132	134	271	259	402	399	600	573	759	758
Spring Branch	GA	1	649.0	184	170	207	207	1	1	4	4	97	94	102	102	233	233	286	283	515	498	599	596
Honea Path	SC	1	648.5	156	149	192	191	0	0	0	0	81	86	90	90	197	197	231	231	434	432	513	512
Twin Lakes (right ramp)	SC	1	648.0	84	74	164	164	0	0	0	0	75	78	79	79	158	147	205	205	317	299	448	448
Twin Lakes (left ramp)	SC	1	648.0	84	74	164	164	0	0	0	0	75	78	79	79	158	147	205	205	317	299	448	448
Fairplay (left lane)	SC	1	647.0	60	59	82	82	0	0	0	0	58	58	64	64	92	92	147	147	210	209	293	293
Twelve Mile (left lane)	SC	1	647.0	60	59	82	82	0	0	0	0	58	58	64	64	92	92	147	147	210	209	293	293
Twelve Mile (right lane)	SC	1	647.0	60	59	82	82	0	0	0	0	58	58	64	64	92	92	147	147	210	209	293	293
Clemson	SC	1	645.5	55	44	59	59	0	0	0	0	14	15	32	32	92	92	92	92	161	151	183	183
Milltown	GA	1	645.4	49	40	58	58	0	0	0	0	13	11	26	28	92	92	92	92	154	143	176	178
Carters Ferry	GA	1	645.0	36	19	58	58	0	0	0	0	8	8	14	14	92	92	92	92	136	119	164	164
Watsadler	GA	1	645.0	36	19	58	58	0	0	0	0	8	8	14	14	92	92	92	92	136	119	164	164
Big Oaks (right lane)	GA	1	644.0	17	5	31	36	0	0	0	0	0	6	8	8	89	92	92	92	106	103	131	136
Camp Creek	GA	1	644.0	17	5	31	36	0	0	0	0	0	6	8	8	89	92	92	92	106	103	131	136
Choestoea	SC	1	644.0	17	5	31	36	0	0	0	0	0	6	8	8	89	92	92	92	106	103	131	136
Coneross	SC	1	644.0	17	5	31	36	0	0	0	0	0	6	8	8	89	92	92	92	106	103	131	136
Double Spring	SC	1	644.0	17	5	31	36	0	0	0	0	0	6	8	8	89	92	92	92	106	103	131	136
Duncan Branch	GA	1	644.0	17	5	31	36	0	0	0	0	0	6	8	8	89	92	92	92	106	103	131	136
Fairplay (right lane)	SC	1	644.0	17	5	31	36	0	0	0	0	0	6	8	8	89	92	92	92	106	103	131	136
Friendship (right lane)	SC	1	644.0	17	5	31	36	0	0	0	0	0	6	8	8	89	92	92	92	106	103	131	136
Glenn Ferry	GA	1	644.0	17	5	31	36	0	0	0	0	0	6	8	8	89	92	92	92	106	103	131	136
Green Pond	SC	1	644.0	17	5	31	36	0	0	0	0	0	6	8	8	89	92	92	92	106	103	131	136
Hatton's Ford	SC	1	644.0	17	5	31	36	0	0	0	0	0	6	8	8	89	92	92	92	106	103	131	136
Long Point	GA	1	644.0	17	5	31	36	0	0	0	0	0	6	8	8	89	92	92	92	106	103	131	136
New Prospect	GA	1	644.0	17	5	31	36	0	0	0	0	0	6	8	8	89	92	92	92	106	103	131	136
Rock Spring	GA	1	644.0	17	5	31	36	0	0	0	0	0	6	8	8	89	92	92	92	106	103	131	136
Gum Branch	GA	6	644.0	17	5	31	36	0	0	0	0	0	6	8	8	89	92	92	92	106	103	131	136
Poplar Spring	GA	1	643.6	12	4	25	26	0	0	0	0	0	6	5	5	80	92	92	92	92	102	122	123

Appendix N
Recreation Model Sensitivity Analysis Results

Boat Ramp Name	State	No. of Lanes	Not useable below elevation* (ft AMSL)	Number of days when ramp is not useable																			
				Jan - Mar (6,588 days)				Apr - Jun (6,643 days)				Jul - Sep (6,716 days)				Oct - Dec (6,715 days)				Total POR (26,662 days)			
				NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4
(right ramp)																							
Springfield	SC	1	643.6	12	4	25	26	0	0	0	0	0	6	5	5	80	92	92	92	92	102	122	123
Crawford Ferry	GA	1	643.3	8	4	19	21	0	0	0	0	0	6	2	2	79	91	92	92	87	101	113	115
Asbury (camping)	SC	1	643.0	6	4	15	15	0	0	0	0	0	6	1	1	77	88	92	92	83	98	108	108
Denver	SC	1	643.0	6	4	15	15	0	0	0	0	0	6	1	1	77	88	92	92	83	98	108	108
Eighteen Mile Creek	SC	1	643.0	6	4	15	15	0	0	0	0	0	6	1	1	77	88	92	92	83	98	108	108
Elrod Ferry	GA	1	643.0	6	4	15	15	0	0	0	0	0	6	1	1	77	88	92	92	83	98	108	108
Jenkins Ferry	GA	1	643.0	6	4	15	15	0	0	0	0	0	6	1	1	77	88	92	92	83	98	108	108
Martin Creek	SC	1	643.0	6	4	15	15	0	0	0	0	0	6	1	1	77	88	92	92	83	98	108	108
Mary Ann Branch	GA	1	643.0	6	4	15	15	0	0	0	0	0	6	1	1	77	88	92	92	83	98	108	108
Oconee Point	SC	1	643.0	6	4	15	15	0	0	0	0	0	6	1	1	77	88	92	92	83	98	108	108
Paynes Creek (outer)	GA	1	643.0	6	4	15	15	0	0	0	0	0	6	1	1	77	88	92	92	83	98	108	108
Powder Bag Creek N	GA	1	643.0	6	4	15	15	0	0	0	0	0	6	1	1	77	88	92	92	83	98	108	108
Richland Creek	SC	1	643.0	6	4	15	15	0	0	0	0	0	6	1	1	77	88	92	92	83	98	108	108
River Forks (left ramp)	SC	1	643.0	6	4	15	15	0	0	0	0	0	6	1	1	77	88	92	92	83	98	108	108
Singing Pines	SC	1	643.0	6	4	15	15	0	0	0	0	0	6	1	1	77	88	92	92	83	98	108	108
Weldon Island	SC	1	643.0	6	4	15	15	0	0	0	0	0	6	1	1	77	88	92	92	83	98	108	108
Harbor Light Marina	GA	2	643.0	6	4	15	15	0	0	0	0	0	6	1	1	77	88	92	92	83	98	108	108
Hartwell Marina	GA	1	643.0	6	4	15	15	0	0	0	0	0	6	1	1	77	88	92	92	83	98	108	108
Hart State Park	GA	2	643.0	6	4	15	15	0	0	0	0	0	6	1	1	77	88	92	92	83	98	108	108
Portman Shoals	GA	1	643.0	6	4	15	15	0	0	0	0	0	6	1	1	77	88	92	92	83	98	108	108
Broyles (middle ramp)	SC	1	642.0	4	0	6	5	0	0	0	0	0	0	0	0	70	79	80	78	74	79	86	83
Tugaloo State Park (mega)	GA	6	642.0	4	0	6	5	0	0	0	0	0	0	0	0	70	79	80	78	74	79	86	83
Mullins Ford	SC	1	638.0	0	0	0	0	0	0	0	0	0	0	0	0	0	21	25	20	0	21	25	20
Big Water	SC	1	638.0	0	0	0	0	0	0	0	0	0	0	0	0	0	21	25	20	0	21	25	20
Bruce Creek	GA	1	638.0	0	0	0	0	0	0	0	0	0	0	0	0	0	21	25	20	0	21	25	20
Lake Hartwell State Park	SC	2	638.0	0	0	0	0	0	0	0	0	0	0	0	0	0	21	25	20	0	21	25	20
Lightwood Log Creek	GA	1	638.0	0	0	0	0	0	0	0	0	0	0	0	0	0	21	25	20	0	21	25	20
Sadlers Creek State Park #1	SC	2	638.0	0	0	0	0	0	0	0	0	0	0	0	0	0	21	25	20	0	21	25	20

* The elevation below which ramps may not be usable for most boats is presented as three feet above the top of the concrete ramp end elevation.

Appendix N
Recreation Model Sensitivity Analysis Results

Table N-7 Percentage of Days Boat Ramps are Unusable on JST Lake under Current Water Withdrawals and Historical Hydrology (1939 – 2011)

Boat Ramp Name	Sta te	No. of Lanes	Not useable below elevation * (ft AMSL)	Percentage of days when ramp is not useable																			
				Jan - Mar (6,588 days)				Apr - Jun (6,643 days)				Jul - Sep (6,716 days)				Oct - Dec (6,715 days)				Total POR (26,662 days)			
				NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4
Hwy 28 Access Road	SC	1	326.0	22.86%	22.92%	19.37%	19.37%	8.26%	8.26%	8.02%	8.02%	16.74%	16.74%	18.31%	18.52%	42.68%	42.71%	41.67%	41.40%	22.67%	22.70%	21.89%	21.88%
Long Cane Creek Ramp	SC	1	325.7	18.87%	18.96%	15.57%	15.59%	7.33%	6.86%	6.86%	6.91%	14.32%	14.22%	14.46%	14.85%	33.86%	33.85%	32.60%	32.39%	18.63%	18.50%	17.41%	17.47%
Catfish Ramp	SC	1	325.5	16.55%	16.64%	13.80%	13.75%	6.56%	6.14%	5.99%	6.02%	12.48%	12.46%	12.67%	13.10%	28.74%	28.62%	27.71%	27.61%	16.11%	15.99%	15.07%	15.15%
Calhoun Falls Ramp	SC	1	325.0	11.35%	11.19%	10.43%	10.41%	4.85%	4.55%	4.68%	4.67%	10.44%	10.45%	10.99%	11.05%	21.46%	21.34%	23.22%	23.16%	12.05%	11.90%	12.36%	12.35%
Broad River Campground	GA	1	325.0	11.35%	11.19%	10.43%	10.41%	4.85%	4.55%	4.68%	4.67%	10.44%	10.45%	10.99%	11.05%	21.46%	21.34%	23.22%	23.16%	12.05%	11.90%	12.36%	12.35%
Cherokee Recreation Area	GA	5	324.7	9.30%	9.09%	9.03%	9.03%	3.78%	3.51%	3.79%	3.76%	9.89%	9.90%	10.47%	10.56%	19.63%	19.58%	21.65%	21.68%	10.67%	10.55%	11.27%	11.29%
Mistletoe State Park 1 & 2	GA	2	324.2	7.54%	7.57%	8.00%	8.11%	2.51%	2.36%	2.62%	2.62%	9.25%	9.37%	9.89%	9.86%	17.01%	16.98%	18.76%	19.09%	9.10%	9.10%	9.85%	9.95%
Soap Creek Park	GA	1	324.0	7.30%	7.36%	7.83%	7.83%	2.30%	2.23%	2.33%	2.33%	9.05%	9.13%	9.57%	9.57%	16.10%	16.08%	17.39%	17.86%	8.71%	8.72%	9.31%	9.43%
Little River Quarry Ramp	SC	1	324.0	7.30%	7.36%	7.83%	7.83%	2.30%	2.23%	2.33%	2.33%	9.05%	9.13%	9.57%	9.57%	16.10%	16.08%	17.39%	17.86%	8.71%	8.72%	9.31%	9.43%
Lakeside Subdivision Ramp	GA	1	324.0	7.30%	7.36%	7.83%	7.83%	2.30%	2.23%	2.33%	2.33%	9.05%	9.13%	9.57%	9.57%	16.10%	16.08%	17.39%	17.86%	8.71%	8.72%	9.31%	9.43%
Scotts Ferry (new ramp) 1 & 2	SC	2	323.8	7.18%	7.23%	7.57%	7.57%	2.15%	2.14%	2.15%	2.17%	8.76%	8.78%	9.26%	9.16%	15.77%	15.71%	16.52%	16.86%	8.49%	8.49%	8.90%	8.96%
Clay Hill Campground	GA	1	323.5	7.10%	7.13%	7.39%	7.41%	2.03%	1.90%	1.94%	1.94%	8.19%	8.23%	8.67%	8.61%	15.37%	15.32%	15.79%	15.87%	8.20%	8.17%	8.47%	8.48%
Winfield Subdivision	GA	1	323.1	6.86%	6.80%	7.06%	7.07%	1.69%	1.63%	1.64%	1.66%	7.42%	7.47%	7.94%	7.91%	14.68%	14.56%	15.26%	15.29%	7.68%	7.64%	8.00%	8.00%
Mt Pleasant Ramp	SC	1	322.4	6.25%	6.22%	6.30%	6.30%	1.37%	1.37%	1.38%	1.38%	5.91%	5.84%	6.30%	6.27%	11.87%	11.79%	13.28%	13.25%	6.36%	6.32%	6.83%	6.82%
Wildwood Park 5 & 6	GA	2	322.0	5.86%	5.86%	5.92%	5.97%	1.37%	1.25%	1.37%	1.37%	5.17%	5.11%	5.45%	5.45%	10.86%	10.80%	11.57%	11.62%	5.82%	5.76%	6.09%	6.11%
Morrahs Ramp	GA	1	321.5	5.24%	5.21%	5.30%	5.33%	1.02%	0.80%	1.16%	1.16%	4.39%	4.36%	4.59%	4.65%	9.84%	9.74%	10.08%	10.07%	5.13%	5.04%	5.29%	5.31%
Bussey Point	GA	1	321.0	4.86%	4.74%	4.96%	4.96%	0.56%	0.63%	0.66%	0.65%	3.69%	3.65%	3.89%	3.89%	8.55%	8.43%	8.88%	8.88%	4.42%	4.37%	4.61%	4.60%
Chamberlain Ferry Ramp	GA	1	321.0	4.86%	4.74%	4.96%	4.96%	0.56%	0.63%	0.66%	0.65%	3.69%	3.65%	3.89%	3.89%	8.55%	8.43%	8.88%	8.88%	4.42%	4.37%	4.61%	4.60%
Modoc Campground	SC	1	321.0	4.86%	4.74%	4.96%	4.96%	0.56%	0.63%	0.66%	0.65%	3.69%	3.65%	3.89%	3.89%	8.55%	8.43%	8.88%	8.88%	4.42%	4.37%	4.61%	4.60%
Murray Creek Ramp	GA	1	321.0	4.86%	4.74%	4.96%	4.96%	0.56%	0.63%	0.66%	0.65%	3.69%	3.65%	3.89%	3.89%	8.55%	8.43%	8.88%	8.88%	4.42%	4.37%	4.61%	4.60%
Parkway Ramp	GA	1	321.0	4.86%	4.74%	4.96%	4.96%	0.56%	0.63%	0.66%	0.65%	3.69%	3.65%	3.89%	3.89%	8.55%	8.43%	8.88%	8.88%	4.42%	4.37%	4.61%	4.60%
Cherokee Recreation Area 4	GA	1	321.0	4.86%	4.74%	4.96%	4.96%	0.56%	0.63%	0.66%	0.65%	3.69%	3.65%	3.89%	3.89%	8.55%	8.43%	8.88%	8.88%	4.42%	4.37%	4.61%	4.60%
Fishing Creek / Hwy 79 Ramp	GA	1	320.7	4.25%	4.08%	4.25%	4.25%	0.44%	0.53%	0.51%	0.50%	3.32%	3.31%	3.50%	3.50%	7.64%	7.46%	8.18%	8.12%	3.92%	3.85%	4.12%	4.10%

Appendix N
Recreation Model Sensitivity Analysis Results

Boat Ramp Name	Sta te	No. of Lanes	Not useable below elevation * (ft AMSL)	Percentage of days when ramp is not useable																			
				Jan - Mar (6,588 days)				Apr - Jun (6,643 days)				Jul - Sep (6,716 days)				Oct - Dec (6,715 days)				Total POR (26,662 days)			
				NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4
Wildwood Park 3 & 4	GA	2	320.0	3.10%	3.23%	3.25%	3.25%	0.24%	0.27%	0.27%	0.27%	2.47%	2.40%	2.77%	2.78%	5.39%	5.24%	5.84%	5.75%	2.81%	2.79%	3.04%	3.02%
Maxim Subdivision Ramp	GA	1	320.0	3.10%	3.23%	3.25%	3.25%	0.24%	0.27%	0.27%	0.27%	2.47%	2.40%	2.77%	2.78%	5.39%	5.24%	5.84%	5.75%	2.81%	2.79%	3.04%	3.02%
Wells Creek Subdivision	GA	1	320.0	3.10%	3.23%	3.25%	3.25%	0.24%	0.27%	0.27%	0.27%	2.47%	2.40%	2.77%	2.78%	5.39%	5.24%	5.84%	5.75%	2.81%	2.79%	3.04%	3.02%
Leroys Ferry Campground	SC	1	319.5	2.81%	3.05%	2.82%	2.84%	0.11%	0.17%	0.17%	0.17%	1.77%	1.70%	2.03%	2.08%	4.21%	3.95%	4.53%	4.54%	2.23%	2.22%	2.39%	2.41%
Ridge Road Campground	GA	1	319.0	2.52%	2.69%	2.57%	2.57%	0.02%	0.05%	0.06%	0.06%	1.46%	1.43%	1.58%	1.59%	3.56%	3.56%	3.77%	3.77%	1.89%	1.93%	2.00%	2.00%
Cherokee Recreation Area 3	GA	1	318.7	2.29%	2.34%	2.37%	2.37%	0.00%	0.00%	0.00%	0.00%	1.31%	1.37%	1.40%	1.41%	3.23%	3.20%	3.51%	3.53%	1.71%	1.73%	1.82%	1.83%
Chamberlain Ferry Ramp	GA	1	318.3	1.85%	1.85%	2.08%	2.03%	0.00%	0.00%	0.00%	0.00%	1.19%	1.25%	1.30%	1.30%	2.83%	2.78%	3.04%	3.02%	1.47%	1.47%	1.61%	1.59%
Double Branches Ramp	GA	1	318.1	1.32%	1.32%	1.38%	1.38%	0.00%	0.00%	0.00%	0.00%	1.13%	1.21%	1.22%	1.22%	2.64%	2.52%	2.83%	2.83%	1.28%	1.26%	1.36%	1.36%
Soap Creek Marina	GA	1	318.0	1.18%	1.15%	1.21%	1.23%	0.00%	0.00%	0.00%	0.00%	1.12%	1.16%	1.19%	1.19%	2.46%	2.38%	2.58%	2.61%	1.19%	1.18%	1.25%	1.26%
Cherokee Recreation Area 2	GA	1	318.0	1.18%	1.15%	1.21%	1.23%	0.00%	0.00%	0.00%	0.00%	1.12%	1.16%	1.19%	1.19%	2.46%	2.38%	2.58%	2.61%	1.19%	1.18%	1.25%	1.26%
Amity Recreation Area	GA	1	317.9	0.99%	1.11%	1.06%	1.08%	0.00%	0.00%	0.00%	0.00%	1.10%	1.15%	1.16%	1.16%	2.35%	2.25%	2.41%	2.43%	1.11%	1.13%	1.16%	1.17%
Raysville Marina	GA	1	317.6	0.76%	0.93%	0.91%	0.91%	0.00%	0.00%	0.00%	0.00%	1.01%	1.10%	1.10%	1.10%	1.65%	1.68%	1.65%	1.67%	0.86%	0.93%	0.92%	0.92%
Elbert County Subdivision Ramp	GA	1	317.6	0.76%	0.93%	0.91%	0.91%	0.00%	0.00%	0.00%	0.00%	1.01%	1.10%	1.10%	1.10%	1.65%	1.68%	1.65%	1.67%	0.86%	0.93%	0.92%	0.92%
Modoc Ramp 2	SC	1	317.2	0.61%	0.91%	0.77%	0.73%	0.00%	0.00%	0.00%	0.00%	0.92%	1.01%	1.00%	1.00%	1.37%	1.37%	1.37%	1.37%	0.73%	0.83%	0.79%	0.78%
Soap Creek / Hwy 220 Ramp	GA	1	317.0	0.56%	0.90%	0.74%	0.68%	0.00%	0.00%	0.00%	0.00%	0.85%	0.97%	0.95%	0.95%	1.36%	1.37%	1.37%	1.37%	0.69%	0.81%	0.77%	0.75%
Landam Creek Ramp	SC	1	316.2	0.33%	0.88%	0.52%	0.47%	0.00%	0.00%	0.00%	0.00%	0.63%	0.76%	0.76%	0.74%	1.06%	1.37%	1.15%	1.10%	0.51%	0.75%	0.61%	0.58%
Dordon Creek Ramp	SC	1	316.2	0.33%	0.88%	0.52%	0.47%	0.00%	0.00%	0.00%	0.00%	0.63%	0.76%	0.76%	0.74%	1.06%	1.37%	1.15%	1.10%	0.51%	0.75%	0.61%	0.58%
Hickory Knob State Park	SC	1	316.2	0.33%	0.88%	0.52%	0.47%	0.00%	0.00%	0.00%	0.00%	0.63%	0.76%	0.76%	0.74%	1.06%	1.37%	1.15%	1.10%	0.51%	0.75%	0.61%	0.58%
Elijah Clark State Park 1, 2, & 3	GA	1	316.0	0.30%	0.88%	0.47%	0.41%	0.00%	0.00%	0.00%	0.00%	0.54%	0.73%	0.73%	0.71%	1.06%	1.37%	1.10%	1.07%	0.48%	0.75%	0.58%	0.55%
Holiday Park	GA	1	315.6	0.24%	0.88%	0.33%	0.30%	0.00%	0.00%	0.00%	0.00%	0.25%	0.66%	0.52%	0.52%	1.04%	1.37%	1.06%	1.06%	0.39%	0.73%	0.48%	0.47%
Ft. Gordon Recreation	GA	2	315.0	0.00%	0.77%	0.03%	0.03%	0.00%	0.00%	0.00%	0.00%	0.12%	0.40%	0.21%	0.21%	1.04%	1.37%	1.04%	1.04%	0.29%	0.64%	0.32%	0.32%

Appendix N
Recreation Model Sensitivity Analysis Results

Boat Ramp Name	Sta te	No. of Lanes	Not useable below elevation * (ft AMSL)	Percentage of days when ramp is not useable																			
				Jan - Mar (6,588 days)				Apr - Jun (6,643 days)				Jul - Sep (6,716 days)				Oct - Dec (6,715 days)				Total POR (26,662 days)			
				NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4
Area 1 & 2																							
Plum Branch Yacht Club	SC	1	315.0	0.00%	0.77%	0.03%	0.03%	0.00%	0.00%	0.00%	0.00%	0.12%	0.40%	0.21%	0.21%	1.04%	1.37%	1.04%	1.04%	0.29%	0.64%	0.32%	0.32%
Wildwood Park 1 & 2	GA	2	315.0	0.00%	0.77%	0.03%	0.03%	0.00%	0.00%	0.00%	0.00%	0.12%	0.40%	0.21%	0.21%	1.04%	1.37%	1.04%	1.04%	0.29%	0.64%	0.32%	0.32%
Bobby Brown State Park 1 & 2	GA	2	315.0	0.00%	0.77%	0.03%	0.03%	0.00%	0.00%	0.00%	0.00%	0.12%	0.40%	0.21%	0.21%	1.04%	1.37%	1.04%	1.04%	0.29%	0.64%	0.32%	0.32%
New Bourdeaux Subdivision Ramp	SC	1	315.0	0.00%	0.77%	0.03%	0.03%	0.00%	0.00%	0.00%	0.00%	0.12%	0.40%	0.21%	0.21%	1.04%	1.37%	1.04%	1.04%	0.29%	0.64%	0.32%	0.32%
Gill Point Ramp	GA	1	314.8	0.00%	0.56%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.01%	0.36%	0.12%	0.12%	0.97%	1.37%	1.04%	1.04%	0.25%	0.57%	0.29%	0.29%
Cherokee Recreation Area 1	GA	1	314.6	0.00%	0.38%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.24%	0.01%	0.01%	0.82%	1.37%	0.98%	0.92%	0.21%	0.50%	0.25%	0.24%
Little River / Hwy 378	SC	1	314.5	0.00%	0.32%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.21%	0.00%	0.00%	0.70%	1.33%	0.92%	0.88%	0.18%	0.47%	0.23%	0.22%
Parksville Recreation Area	SC	1	314.5	0.00%	0.32%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.21%	0.00%	0.00%	0.70%	1.33%	0.92%	0.88%	0.18%	0.47%	0.23%	0.22%
Buffalo Creek Subdivision Ramp	SC	1	314.5	0.00%	0.32%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.21%	0.00%	0.00%	0.70%	1.33%	0.92%	0.88%	0.18%	0.47%	0.23%	0.22%
Dorn 1, 2, 5, & 6	SC	4	314.4	0.00%	0.26%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.18%	0.00%	0.00%	0.61%	1.27%	0.85%	0.82%	0.15%	0.43%	0.21%	0.21%
Amity Recreation Area 2	GA	1	314.3	0.00%	0.12%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.15%	0.00%	0.00%	0.46%	1.24%	0.79%	0.71%	0.12%	0.38%	0.20%	0.18%
Hamilton Branch State Park (Day Use)	SC	1	314.0	0.00%	0.09%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.06%	0.00%	0.00%	0.00%	1.00%	0.57%	0.25%	0.00%	0.29%	0.14%	0.06%
Hamilton Branch State Park 1 & 2	SC	2	314.0	0.00%	0.09%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.06%	0.00%	0.00%	0.00%	1.00%	0.57%	0.25%	0.00%	0.29%	0.14%	0.06%
Little River Marina 1	GA	1	314.0	0.00%	0.09%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.06%	0.00%	0.00%	0.00%	1.00%	0.57%	0.25%	0.00%	0.29%	0.14%	0.06%
Baker Creek State Park	SC	1	314.0	0.00%	0.09%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.06%	0.00%	0.00%	0.00%	1.00%	0.57%	0.25%	0.00%	0.29%	0.14%	0.06%
Tradewinds Marina	GA	1	314.0	0.00%	0.09%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.06%	0.00%	0.00%	0.00%	1.00%	0.57%	0.25%	0.00%	0.29%	0.14%	0.06%
Morrahs Ramp 2	GA	1	314.0	0.00%	0.09%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.06%	0.00%	0.00%	0.00%	1.00%	0.57%	0.25%	0.00%	0.29%	0.14%	0.06%
Amity Recreation Area 3	GA	1	313.8	0.00%	0.09%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.04%	0.00%	0.00%	0.00%	0.97%	0.43%	0.16%	0.00%	0.28%	0.11%	0.04%
Big Hart	GA	1	313.8	0.00%	0.09%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.04%	0.00%	0.00%	0.00%	0.97%	0.43%	0.16%	0.00%	0.28%	0.11%	0.04%

Appendix N
Recreation Model Sensitivity Analysis Results

Boat Ramp Name	Sta te	No. of Lanes	Not useable below elevation * (ft AMSL)	Percentage of days when ramp is not useable																			
				Jan - Mar (6,588 days)				Apr - Jun (6,643 days)				Jul - Sep (6,716 days)				Oct - Dec (6,715 days)				Total POR (26,662 days)			
				NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4
Recreation Area																							
Petersburg Campground	GA	1	313.7	0.00%	0.09%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.01%	0.00%	0.00%	0.00%	0.83%	0.22%	0.03%	0.00%	0.24%	0.06%	0.01%
Mt. Carmel Picnic	SC	1	313.7	0.00%	0.09%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.01%	0.00%	0.00%	0.00%	0.83%	0.22%	0.03%	0.00%	0.24%	0.06%	0.01%
Modoc Ramp 1	SC	1	313.5	0.00%	0.09%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.48%	0.00%	0.00%	0.00%	0.14%	0.00%	0.00%
Clarks Hill Park	GA	1	313.5	0.00%	0.09%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.48%	0.00%	0.00%	0.00%	0.14%	0.00%	0.00%
Hawe Creek Campground	SC	1	313.5	0.00%	0.09%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.48%	0.00%	0.00%	0.00%	0.14%	0.00%	0.00%
Little River Subdivision Ramp	SC	1	313.5	0.00%	0.09%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.48%	0.00%	0.00%	0.00%	0.14%	0.00%	0.00%
Mistletoe State Park Low Water Ramp	GA	1	313.5	0.00%	0.09%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.48%	0.00%	0.00%	0.00%	0.14%	0.00%	0.00%
Hesters Ferry Campground	GA	1	312.9	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.19%	0.00%	0.00%	0.00%	0.05%	0.00%	0.00%
Raysville Campground	GA	1	312.2	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Winfield Campground	GA	1	311.7	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Little River Marina 2	GA	1	311.3	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Mt. Carmel Campground	SC	1	311.0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Scotts Ferry Ramp	SC	1	310.7	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Modoc Shores Subdivision Ramp	SC	1	310.4	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Keg Creek Ramp	GA	1	309.0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Lake Springs Park 1, 2, & 3	GA	3	308.7	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Dorn 3 & 4	SC	2	308.4	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Leathersville Ramp	GA	1	306.3	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

* The elevation below which ramps may not be usable for most boats is presented as two feet above the top of the concrete ramp end elevation.

Appendix N
Recreation Model Sensitivity Analysis Results

Table N-8 Number of Days Boat Ramps are Unusable on JST Lake under Current Water Withdrawals and Historical Hydrology (1939 – 2011)

Boat Ramp Name	State	No. of Lanes	Not useable below elevation* (ft AMSL)	Number of days when ramp is not useable																			
				Jan - Mar (6,588 days)				Apr - Jun (6,643 days)				Jul - Sep (6,716 days)				Oct - Dec (6,715 days)				Total POR (26,662 days)			
				NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4
Hwy 28 Access Road	SC	1	326.0	1,506	1,510	1,276	1,276	549	549	533	533	1,124	1,124	1,230	1,244	2,866	2,868	2,798	2,780	6,045	6,051	5,837	5,833
Long Cane Creek Ramp	SC	1	325.7	1,243	1,249	1,026	1,027	487	456	456	459	962	955	971	997	2,274	2,273	2,189	2,175	4,966	4,933	4,642	4,658
Catfish Ramp	SC	1	325.5	1,090	1,096	909	906	436	408	398	400	838	837	851	880	1,930	1,922	1,861	1,854	4,294	4,263	4,019	4,040
Calhoun Falls Ramp	SC	1	325.0	748	737	687	686	322	302	311	310	701	702	738	742	1,441	1,433	1,559	1,555	3,212	3,174	3,295	3,293
Broad River Campground	GA	1	325.0	748	737	687	686	322	302	311	310	701	702	738	742	1,441	1,433	1,559	1,555	3,212	3,174	3,295	3,293
Cherokee Recreation Area	GA	5	324.7	613	599	595	595	251	233	252	250	664	665	703	709	1,318	1,315	1,454	1,456	2,846	2,812	3,004	3,010
Mistletoe State Park 1 & 2	GA	2	324.2	497	499	527	534	167	157	174	174	621	629	664	662	1,142	1,140	1,260	1,282	2,427	2,425	2,625	2,652
Soap Creek Park	GA	1	324.0	481	485	516	516	153	148	155	155	608	613	643	643	1,081	1,080	1,168	1,199	2,323	2,326	2,482	2,513
Little River Quarry Ramp	SC	1	324.0	481	485	516	516	153	148	155	155	608	613	643	643	1,081	1,080	1,168	1,199	2,323	2,326	2,482	2,513
Lakeside Subdivision Ramp	GA	1	324.0	481	485	516	516	153	148	155	155	608	613	643	643	1,081	1,080	1,168	1,199	2,323	2,326	2,482	2,513
Scotts Ferry (new ramp) 1 & 2	SC	2	323.8	473	476	499	499	143	142	143	144	588	590	622	615	1,059	1,055	1,109	1,132	2,263	2,263	2,373	2,390
Clay Hill Campground	GA	1	323.5	468	470	487	488	135	126	129	129	550	553	582	578	1,032	1,029	1,060	1,066	2,185	2,178	2,258	2,261
Winfield Subdivision	GA	1	323.1	452	448	465	466	112	108	109	110	498	502	533	531	986	978	1,025	1,027	2,048	2,036	2,132	2,134
Mt Pleasant Ramp	SC	1	322.4	412	410	415	415	91	91	92	92	397	392	423	421	797	792	892	890	1,697	1,685	1,822	1,818
Wildwood Park 5 & 6	GA	2	322.0	386	386	390	393	91	83	91	91	347	343	366	366	729	725	777	780	1,553	1,537	1,624	1,630
Morrahs Ramp	GA	1	321.5	345	343	349	351	68	53	77	77	295	293	308	312	661	654	677	676	1,369	1,343	1,411	1,416
Bussey Point	GA	1	321.0	320	312	327	327	37	42	44	43	248	245	261	261	574	566	596	596	1,179	1,165	1,228	1,227
Chamberlain Ferry Ramp	GA	1	321.0	320	312	327	327	37	42	44	43	248	245	261	261	574	566	596	596	1,179	1,165	1,228	1,227
Modoc Campground	SC	1	321.0	320	312	327	327	37	42	44	43	248	245	261	261	574	566	596	596	1,179	1,165	1,228	1,227
Murray Creek Ramp	GA	1	321.0	320	312	327	327	37	42	44	43	248	245	261	261	574	566	596	596	1,179	1,165	1,228	1,227
Parkway Ramp	GA	1	321.0	320	312	327	327	37	42	44	43	248	245	261	261	574	566	596	596	1,179	1,165	1,228	1,227

Appendix N
Recreation Model Sensitivity Analysis Results

Boat Ramp Name	State	No. of Lanes	Not useable below elevation* (ft AMSL)	Number of days when ramp is not useable																			
				Jan - Mar (6,588 days)				Apr - Jun (6,643 days)				Jul - Sep (6,716 days)				Oct - Dec (6,715 days)				Total POR (26,662 days)			
				NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4
Cherokee Recreation Area 4	GA	1	321.0	320	312	327	327	37	42	44	43	248	245	261	261	574	566	596	596	1,179	1,165	1,228	1,227
Fishing Creek / Hwy 79 Ramp	GA	1	320.7	280	269	280	280	29	35	34	33	223	222	235	235	513	501	549	545	1,045	1,027	1,098	1,093
Wildwood Park 3 & 4	GA	2	320.0	204	213	214	214	16	18	18	18	166	161	186	187	362	352	392	386	748	744	810	805
Maxim Subdivision Ramp	GA	1	320.0	204	213	214	214	16	18	18	18	166	161	186	187	362	352	392	386	748	744	810	805
Wells Creek Subdivision	GA	1	320.0	204	213	214	214	16	18	18	18	166	161	186	187	362	352	392	386	748	744	810	805
Leroys Ferry Campground	SC	1	319.5	185	201	186	187	7	11	11	11	119	114	136	140	283	265	304	305	594	591	637	643
Ridge Road Campground	GA	1	319.0	166	177	169	169	1	3	4	4	98	96	106	107	239	239	253	253	504	515	532	533
Cherokee Recreation Area 3	GA	1	318.7	151	154	156	156	0	0	0	0	88	92	94	95	217	215	236	237	456	461	486	488
Chamberlain Ferry Ramp	GA	1	318.3	122	122	137	134	0	0	0	0	80	84	87	87	190	187	204	203	392	393	428	424
Double Branches Ramp	GA	1	318.1	87	87	91	91	0	0	0	0	76	81	82	82	177	169	190	190	340	337	363	363
Soap Creek Marina	GA	1	318.0	78	76	80	81	0	0	0	0	75	78	80	80	165	160	173	175	318	314	333	336
Cherokee Recreation Area 2	GA	1	318.0	78	76	80	81	0	0	0	0	75	78	80	80	165	160	173	175	318	314	333	336
Amity Recreation Area	GA	1	317.9	65	73	70	71	0	0	0	0	74	77	78	78	158	151	162	163	297	301	310	312
Raysville Marina	GA	1	317.6	50	61	60	60	0	0	0	0	68	74	74	74	111	113	111	112	229	248	245	246
Elbert County Subdivision Ramp	GA	1	317.6	50	61	60	60	0	0	0	0	68	74	74	74	111	113	111	112	229	248	245	246
Modoc Ramp 2	SC	1	317.2	40	60	51	48	0	0	0	0	62	68	67	67	92	92	92	92	194	220	210	207
Soap Creek / Hwy 220 Ramp	GA	1	317.0	37	59	49	45	0	0	0	0	57	65	64	64	91	92	92	92	185	216	205	201
Landam Creek Ramp	SC	1	316.2	22	58	34	31	0	0	0	0	42	51	51	50	71	92	77	74	135	201	162	155
Dordon Creek Ramp	SC	1	316.2	22	58	34	31	0	0	0	0	42	51	51	50	71	92	77	74	135	201	162	155
Hickory	SC	1	316.2	22	58	34	31	0	0	0	0	42	51	51	50	71	92	77	74	135	201	162	155

Appendix N
Recreation Model Sensitivity Analysis Results

Boat Ramp Name	State	No. of Lanes	Not useable below elevation* (ft AMSL)	Number of days when ramp is not useable																			
				Jan - Mar (6,588 days)				Apr - Jun (6,643 days)				Jul - Sep (6,716 days)				Oct - Dec (6,715 days)				Total POR (26,662 days)			
				NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4
Knob State Park																							
Elijah Clark State Park 1, 2, & 3	GA	1	316.0	20	58	31	27	0	0	0	0	36	49	49	48	71	92	74	72	127	199	154	147
Holiday Park	GA	1	315.6	16	58	22	20	0	0	0	0	17	44	35	35	70	92	71	71	103	194	128	126
Ft. Gordon Recreation Area 1 & 2	GA	2	315.0	0	51	2	2	0	0	0	0	8	27	14	14	70	92	70	70	78	170	86	86
Plum Branch Yacht Club	SC	1	315.0	0	51	2	2	0	0	0	0	8	27	14	14	70	92	70	70	78	170	86	86
Wildwood Park 1 & 2	GA	2	315.0	0	51	2	2	0	0	0	0	8	27	14	14	70	92	70	70	78	170	86	86
Bobby Brown State Park 1 & 2	GA	2	315.0	0	51	2	2	0	0	0	0	8	27	14	14	70	92	70	70	78	170	86	86
New Bourdeaux Subdivision Ramp	SC	1	315.0	0	51	2	2	0	0	0	0	8	27	14	14	70	92	70	70	78	170	86	86
Gill Point Ramp	GA	1	314.8	0	37	0	0	0	0	0	0	1	24	8	8	65	92	70	70	66	153	78	78
Cherokee Recreation Area 1	GA	1	314.6	0	25	0	0	0	0	0	0	0	16	1	1	55	92	66	62	55	133	67	63
Little River / Hwy 378	SC	1	314.5	0	21	0	0	0	0	0	0	0	14	0	0	47	89	62	59	47	124	62	59
Parksville Recreation Area	SC	1	314.5	0	21	0	0	0	0	0	0	0	14	0	0	47	89	62	59	47	124	62	59
Buffalo Creek Subdivision Ramp	SC	1	314.5	0	21	0	0	0	0	0	0	0	14	0	0	47	89	62	59	47	124	62	59
Dorn 1, 2, 5, & 6	SC	4	314.4	0	17	0	0	0	0	0	0	0	12	0	0	41	85	57	55	41	114	57	55
Amity Recreation Area 2	GA	1	314.3	0	8	0	0	0	0	0	0	0	10	0	0	31	83	53	48	31	101	53	48
Hamilton Branch State Park (Day Use)	SC	1	314.0	0	6	0	0	0	0	0	0	0	4	0	0	0	67	38	17	0	77	38	17
Hamilton Branch State Park 1 & 2	SC	2	314.0	0	6	0	0	0	0	0	0	0	4	0	0	0	67	38	17	0	77	38	17
Little River	GA	1	314.0	0	6	0	0	0	0	0	0	0	4	0	0	0	67	38	17	0	77	38	17

Appendix N
Recreation Model Sensitivity Analysis Results

Boat Ramp Name	State	No. of Lanes	Not useable below elevation* (ft AMSL)	Number of days when ramp is not useable																			
				Jan - Mar (6,588 days)				Apr - Jun (6,643 days)				Jul - Sep (6,716 days)				Oct - Dec (6,715 days)				Total POR (26,662 days)			
				NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4
Marina 1																							
Baker Creek State Park	SC	1	314.0	0	6	0	0	0	0	0	0	0	4	0	0	0	67	38	17	0	77	38	17
Tradewinds Marina	GA	1	314.0	0	6	0	0	0	0	0	0	0	4	0	0	0	67	38	17	0	77	38	17
Morrahs Ramp 2	GA	1	314.0	0	6	0	0	0	0	0	0	0	4	0	0	0	67	38	17	0	77	38	17
Amity Recreation Area 3	GA	1	313.8	0	6	0	0	0	0	0	0	0	3	0	0	0	65	29	11	0	74	29	11
Big Hart Recreation Area	GA	1	313.8	0	6	0	0	0	0	0	0	0	3	0	0	0	65	29	11	0	74	29	11
Petersburg Campground	GA	1	313.7	0	6	0	0	0	0	0	0	0	1	0	0	0	56	15	2	0	63	15	2
Mt. Carmel Picnic	SC	1	313.7	0	6	0	0	0	0	0	0	0	1	0	0	0	56	15	2	0	63	15	2
Modoc Ramp 1	SC	1	313.5	0	6	0	0	0	0	0	0	0	0	0	0	0	32	0	0	0	38	0	0
Clarks Hill Park	GA	1	313.5	0	6	0	0	0	0	0	0	0	0	0	0	0	32	0	0	0	38	0	0
Hawe Creek Campground	SC	1	313.5	0	6	0	0	0	0	0	0	0	0	0	0	0	32	0	0	0	38	0	0
Little River Subdivision Ramp	SC	1	313.5	0	6	0	0	0	0	0	0	0	0	0	0	0	32	0	0	0	38	0	0
Mistletoe State Park Low Water Ramp	GA	1	313.5	0	6	0	0	0	0	0	0	0	0	0	0	0	32	0	0	0	38	0	0
Hesters Ferry Campground	GA	1	312.9	0	0	0	0	0	0	0	0	0	0	0	0	0	13	0	0	0	13	0	0
Raysville Campground	GA	1	312.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Winfield Campground	GA	1	311.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Little River Marina 2	GA	1	311.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mt. Carmel Campground	SC	1	311.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Scotts Ferry Ramp	SC	1	310.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Modoc Shores Subdivision Ramp	SC	1	310.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Keg Creek Ramp	GA	1	309.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Appendix N
Recreation Model Sensitivity Analysis Results

Boat Ramp Name	State	No. of Lanes	Not useable below elevation* (ft AMSL)	Number of days when ramp is not useable																			
				Jan - Mar (6,588 days)				Apr - Jun (6,643 days)				Jul - Sep (6,716 days)				Oct - Dec (6,715 days)				Total POR (26,662 days)			
				NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4
Lake Springs Park 1, 2, & 3	GA	3	308.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dorn 3 & 4	SC	2	308.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Leathersville Ramp	GA	1	306.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

* The elevation below which ramps may not be usable for most boats is presented as two feet above the top of the concrete ramp end elevation.

Appendix N
Recreation Model Sensitivity Analysis Results

Table N-9 Percentage of Days Boat Ramps are Unusable on Hartwell Lake under Future Water Withdrawals and Climate Change Hydrology (1939 – 2011)

Boat Ramp Name	State	No. of Lanes	Not useable below elevation* (ft AMSL)	Percentage of days when ramp is not useable																			
				Jan - Mar (6,588 days)				Apr - Jun (6,643 days)				Jul - Sep (6,716 days)				Oct - Dec (6,715 days)				Total POR (26,662 days)			
				NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4
Sadler’s Creek State Park	SC	1	658.0	59.18%	59.14%	59.79%	59.97%	18.85%	18.91%	19.51%	20.01%	50.94%	50.95%	52.03%	52.46%	81.65%	81.40%	82.52%	82.50%	52.72%	52.66%	53.52%	53.80%
Tugaloo State Park	GA	2	658.0	59.18%	59.14%	59.79%	59.97%	18.85%	18.91%	19.51%	20.01%	50.94%	50.95%	52.03%	52.46%	81.65%	81.40%	82.52%	82.50%	52.72%	52.66%	53.52%	53.80%
Jack’s Landing	SC	1	658.0	59.18%	59.14%	59.79%	59.97%	18.85%	18.91%	19.51%	20.01%	50.94%	50.95%	52.03%	52.46%	81.65%	81.40%	82.52%	82.50%	52.72%	52.66%	53.52%	53.80%
Holder’s Access	SC	1	658.0	59.18%	59.14%	59.79%	59.97%	18.85%	18.91%	19.51%	20.01%	50.94%	50.95%	52.03%	52.46%	81.65%	81.40%	82.52%	82.50%	52.72%	52.66%	53.52%	53.80%
Lakeshore	SC	1	658.0	59.18%	59.14%	59.79%	59.97%	18.85%	18.91%	19.51%	20.01%	50.94%	50.95%	52.03%	52.46%	81.65%	81.40%	82.52%	82.50%	52.72%	52.66%	53.52%	53.80%
Mountain Bay	SC	1	658.0	59.18%	59.14%	59.79%	59.97%	18.85%	18.91%	19.51%	20.01%	50.94%	50.95%	52.03%	52.46%	81.65%	81.40%	82.52%	82.50%	52.72%	52.66%	53.52%	53.80%
Reed Creek	GA	1	657.5	51.78%	51.78%	53.37%	53.73%	16.33%	16.41%	17.04%	17.33%	40.80%	40.62%	43.34%	43.82%	75.49%	75.28%	76.43%	76.57%	46.15%	46.07%	47.60%	47.92%
Rocky Ford	GA	1	657.5	51.78%	51.78%	53.37%	53.73%	16.33%	16.41%	17.04%	17.33%	40.80%	40.62%	43.34%	43.82%	75.49%	75.28%	76.43%	76.57%	46.15%	46.07%	47.60%	47.92%
Brown Road	SC	1	657.0	44.35%	44.47%	45.78%	46.16%	13.95%	13.91%	14.60%	14.66%	31.22%	30.88%	35.47%	36.08%	68.92%	68.64%	70.59%	70.66%	39.66%	39.52%	41.66%	41.94%
Hurricane Creek	SC	1	657.0	44.35%	44.47%	45.78%	46.16%	13.95%	13.91%	14.60%	14.66%	31.22%	30.88%	35.47%	36.08%	68.92%	68.64%	70.59%	70.66%	39.66%	39.52%	41.66%	41.94%
Seneca Creek	SC	1	657.0	44.35%	44.47%	45.78%	46.16%	13.95%	13.91%	14.60%	14.66%	31.22%	30.88%	35.47%	36.08%	68.92%	68.64%	70.59%	70.66%	39.66%	39.52%	41.66%	41.94%
Walker Creek	GA	1	657.0	44.35%	44.47%	45.78%	46.16%	13.95%	13.91%	14.60%	14.66%	31.22%	30.88%	35.47%	36.08%	68.92%	68.64%	70.59%	70.66%	39.66%	39.52%	41.66%	41.94%
Cove Inlet	SC	1	656.5	37.02%	36.96%	39.03%	39.40%	12.46%	12.46%	12.77%	12.81%	25.58%	25.42%	29.73%	30.09%	61.65%	61.40%	64.17%	64.54%	34.22%	34.10%	36.48%	36.76%
Durham	SC	1	655.7	25.97%	25.93%	27.35%	27.61%	10.49%	10.51%	10.67%	10.78%	20.27%	20.18%	23.29%	23.33%	43.22%	43.17%	48.53%	48.34%	25.02%	24.98%	27.51%	27.56%
South Union	SC	1	655.5	25.12%	25.11%	26.50%	26.65%	10.09%	10.07%	10.24%	10.27%	19.58%	19.54%	22.17%	22.35%	41.19%	41.36%	46.67%	46.73%	24.03%	24.05%	26.44%	26.54%
Bradberry	GA	1	655.0	22.81%	22.95%	25.00%	25.11%	9.21%	9.09%	9.54%	9.57%	18.05%	17.97%	20.04%	20.24%	37.36%	37.11%	42.87%	42.80%	21.89%	21.81%	24.40%	24.47%
Timberland	SC	1	654.0	17.32%	17.30%	19.54%	19.90%	7.54%	7.06%	7.53%	7.96%	14.70%	14.53%	15.43%	15.66%	30.87%	30.72%	36.07%	36.46%	17.64%	17.43%	19.67%	20.03%
Darvin Wright City Park	SC	1	653.0	11.85%	11.98%	13.07%	13.72%	5.10%	4.43%	5.24%	5.63%	10.59%	10.36%	11.06%	11.49%	21.19%	21.28%	25.99%	26.57%	12.20%	12.03%	13.87%	14.38%
Tillies	SC	1	653.0	11.85%	11.98%	13.07%	13.72%	5.10%	4.43%	5.24%	5.63%	10.59%	10.36%	11.06%	11.49%	21.19%	21.28%	25.99%	26.57%	12.20%	12.03%	13.87%	14.38%
White City	SC	1	653.0	11.85%	11.98%	13.07%	13.72%	5.10%	4.43%	5.24%	5.63%	10.59%	10.36%	11.06%	11.49%	21.19%	21.28%	25.99%	26.57%	12.20%	12.03%	13.87%	14.38%
Barton Mill	SC	1	653.0	11.85%	11.98%	13.07%	13.72%	5.10%	4.43%	5.24%	5.63%	10.59%	10.36%	11.06%	11.49%	21.19%	21.28%	25.99%	26.57%	12.20%	12.03%	13.87%	14.38%
Port Bass	SC	1	653.0	11.85%	11.98%	13.07%	13.72%	5.10%	4.43%	5.24%	5.63%	10.59%	10.36%	11.06%	11.49%	21.19%	21.28%	25.99%	26.57%	12.20%	12.03%	13.87%	14.38%
Seymour	GA	1	653.0	11.85%	11.98%	13.07%	13.72%	5.10%	4.43%	5.24%	5.63%	10.59%	10.36%	11.06%	11.49%	21.19%	21.28%	25.99%	26.57%	12.20%	12.03%	13.87%	14.38%
Payne’s Creek (inner right)	GA	1	652.6	10.28%	10.26%	11.17%	11.37%	4.76%	4.03%	4.88%	5.00%	9.62%	9.44%	9.99%	10.60%	18.85%	18.69%	22.20%	22.08%	10.90%	10.63%	12.08%	12.29%
Payne’s Creek (left)	GA	1	652.6	10.28%	10.26%	11.17%	11.37%	4.76%	4.03%	4.88%	5.00%	9.62%	9.44%	9.99%	10.60%	18.85%	18.69%	22.20%	22.08%	10.90%	10.63%	12.08%	12.29%
Big Oak (left lane)	GA	1	652.5	9.73%	9.65%	10.69%	10.84%	4.73%	3.94%	4.76%	4.92%	9.50%	9.31%	9.89%	10.47%	18.20%	18.06%	21.09%	21.07%	10.56%	10.26%	11.63%	11.85%
Tabor	SC	1	652.5	9.73%	9.65%	10.69%	10.84%	4.73%	3.94%	4.76%	4.92%	9.50%	9.31%	9.89%	10.47%	18.20%	18.06%	21.09%	21.07%	10.56%	10.26%	11.63%	11.85%
Townville	SC	1	652.3	8.56%	8.59%	9.41%	9.67%	4.58%	3.82%	4.59%	4.73%	9.29%	8.92%	9.48%	10.20%	16.98%	16.71%	19.37%	19.14%	9.87%	9.53%	10.74%	10.96%
Apple Island	SC	1	651.5	7.24%	7.23%	7.86%	7.92%	4.34%	3.46%	4.26%	4.32%	7.88%	7.25%	8.07%	8.28%	13.51%	13.08%	15.43%	15.46%	8.26%	7.77%	8.92%	9.01%

Appendix N
Recreation Model Sensitivity Analysis Results

Boat Ramp Name	State	No. of Lanes	Not useable below elevation* (ft AMSL)	Percentage of days when ramp is not useable																			
				Jan - Mar (6,588 days)				Apr - Jun (6,643 days)				Jul - Sep (6,716 days)				Oct - Dec (6,715 days)				Total POR (26,662 days)			
				NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4
Poplar Spring (left ramp)	GA	1	651.5	7.24%	7.23%	7.86%	7.92%	4.34%	3.46%	4.26%	4.32%	7.88%	7.25%	8.07%	8.28%	13.51%	13.08%	15.43%	15.46%	8.26%	7.77%	8.92%	9.01%
Stephens Co.	GA	1	651.5	7.24%	7.23%	7.86%	7.92%	4.34%	3.46%	4.26%	4.32%	7.88%	7.25%	8.07%	8.28%	13.51%	13.08%	15.43%	15.46%	8.26%	7.77%	8.92%	9.01%
Broyles (East ramp)	SC	1	651.3	7.23%	7.19%	7.68%	7.71%	4.31%	3.22%	4.06%	4.29%	7.44%	6.80%	7.85%	7.98%	12.79%	12.39%	14.98%	15.20%	7.96%	7.42%	8.66%	8.81%
Friendship (left lane)	SC	1	651.0	7.15%	7.06%	7.42%	7.47%	4.05%	2.63%	3.60%	4.05%	7.03%	6.18%	7.36%	7.50%	12.35%	11.78%	14.01%	14.18%	7.66%	6.92%	8.11%	8.32%
Lawrence Bridge	SC	1	651.0	7.15%	7.06%	7.42%	7.47%	4.05%	2.63%	3.60%	4.05%	7.03%	6.18%	7.36%	7.50%	12.35%	11.78%	14.01%	14.18%	7.66%	6.92%	8.11%	8.32%
River Fork (right ramp)	SC	1	651.0	7.15%	7.06%	7.42%	7.47%	4.05%	2.63%	3.60%	4.05%	7.03%	6.18%	7.36%	7.50%	12.35%	11.78%	14.01%	14.18%	7.66%	6.92%	8.11%	8.32%
Broyles (West ramp)	SC	1	650.5	6.71%	6.59%	7.21%	7.29%	3.33%	2.29%	2.91%	3.36%	6.28%	5.32%	6.54%	6.79%	11.97%	11.33%	13.00%	12.97%	7.08%	6.39%	7.43%	7.61%
Jarrett	SC	1	650.0	6.33%	6.21%	6.85%	6.97%	3.06%	1.69%	2.50%	3.10%	5.82%	4.66%	5.81%	6.16%	11.32%	10.80%	11.84%	12.03%	6.64%	5.85%	6.76%	7.08%
Holcomb	GA	1	650.0	6.33%	6.21%	6.85%	6.97%	3.06%	1.69%	2.50%	3.10%	5.82%	4.66%	5.81%	6.16%	11.32%	10.80%	11.84%	12.03%	6.64%	5.85%	6.76%	7.08%
Cleveland	GA	1	649.5	6.12%	5.84%	6.21%	6.34%	2.94%	1.45%	2.32%	3.01%	5.42%	4.17%	5.38%	5.84%	10.38%	9.96%	11.11%	11.35%	6.22%	5.36%	6.26%	6.65%
Spring Branch	GA	1	649.0	5.49%	4.99%	5.92%	6.00%	2.45%	1.04%	1.93%	2.88%	5.14%	3.68%	4.99%	5.45%	8.50%	8.28%	10.39%	10.62%	5.40%	4.50%	5.82%	6.24%
Honea Path	SC	1	648.5	4.20%	3.96%	5.45%	5.59%	1.93%	0.57%	1.29%	2.26%	4.60%	3.20%	4.41%	5.17%	7.59%	7.33%	9.49%	9.86%	4.59%	3.77%	5.17%	5.73%
Twin Lakes (right ramp)	SC	1	648.0	3.89%	3.63%	4.37%	4.58%	1.81%	0.44%	1.01%	1.91%	3.57%	2.81%	3.72%	4.27%	6.49%	6.27%	7.95%	8.49%	3.95%	3.29%	4.27%	4.82%
Twin Lakes (left ramp)	SC	1	648.0	3.89%	3.63%	4.37%	4.58%	1.81%	0.44%	1.01%	1.91%	3.57%	2.81%	3.72%	4.27%	6.49%	6.27%	7.95%	8.49%	3.95%	3.29%	4.27%	4.82%
Fairplay (left lane)	SC	1	647.0	3.19%	2.58%	3.57%	3.63%	1.19%	0.23%	0.60%	1.35%	2.56%	2.32%	2.74%	2.83%	4.44%	4.57%	5.91%	6.14%	2.85%	2.43%	3.21%	3.49%
Twelve Mile (left lane)	SC	1	647.0	3.19%	2.58%	3.57%	3.63%	1.19%	0.23%	0.60%	1.35%	2.56%	2.32%	2.74%	2.83%	4.44%	4.57%	5.91%	6.14%	2.85%	2.43%	3.21%	3.49%
Twelve Mile (right lane)	SC	1	647.0	3.19%	2.58%	3.57%	3.63%	1.19%	0.23%	0.60%	1.35%	2.56%	2.32%	2.74%	2.83%	4.44%	4.57%	5.91%	6.14%	2.85%	2.43%	3.21%	3.49%
Clemson	SC	1	645.5	1.37%	0.97%	2.02%	2.20%	0.77%	0.00%	0.17%	0.83%	1.94%	1.86%	2.10%	2.11%	2.34%	2.34%	3.45%	3.65%	1.61%	1.30%	1.94%	2.20%
Milltown	GA	1	645.4	1.37%	0.91%	1.94%	2.06%	0.74%	0.00%	0.15%	0.80%	1.88%	1.86%	2.04%	2.11%	2.26%	2.29%	3.26%	3.54%	1.56%	1.27%	1.85%	2.13%
Carters Ferry	GA	1	645.0	1.37%	0.77%	1.82%	1.88%	0.68%	0.00%	0.12%	0.74%	1.70%	1.56%	1.85%	1.92%	1.97%	1.97%	2.87%	3.01%	1.43%	1.08%	1.67%	1.89%
Watsadler	GA	1	645.0	1.37%	0.77%	1.82%	1.88%	0.68%	0.00%	0.12%	0.74%	1.70%	1.56%	1.85%	1.92%	1.97%	1.97%	2.87%	3.01%	1.43%	1.08%	1.67%	1.89%
Big Oaks (right lane)	GA	1	644.0	1.37%	0.26%	1.37%	1.37%	0.48%	0.00%	0.05%	0.60%	1.28%	1.47%	1.47%	1.61%	1.46%	1.64%	1.98%	2.31%	1.15%	0.85%	1.22%	1.47%
Camp Creek	GA	1	644.0	1.37%	0.26%	1.37%	1.37%	0.48%	0.00%	0.05%	0.60%	1.28%	1.47%	1.47%	1.61%	1.46%	1.64%	1.98%	2.31%	1.15%	0.85%	1.22%	1.47%
Choestoea	SC	1	644.0	1.37%	0.26%	1.37%	1.37%	0.48%	0.00%	0.05%	0.60%	1.28%	1.47%	1.47%	1.61%	1.46%	1.64%	1.98%	2.31%	1.15%	0.85%	1.22%	1.47%
Coneross	SC	1	644.0	1.37%	0.26%	1.37%	1.37%	0.48%	0.00%	0.05%	0.60%	1.28%	1.47%	1.47%	1.61%	1.46%	1.64%	1.98%	2.31%	1.15%	0.85%	1.22%	1.47%
Double Spring	SC	1	644.0	1.37%	0.26%	1.37%	1.37%	0.48%	0.00%	0.05%	0.60%	1.28%	1.47%	1.47%	1.61%	1.46%	1.64%	1.98%	2.31%	1.15%	0.85%	1.22%	1.47%
Duncan	GA	1	644.0	1.37%	0.26%	1.37%	1.37%	0.48%	0.00%	0.05%	0.60%	1.28%	1.47%	1.47%	1.61%	1.46%	1.64%	1.98%	2.31%	1.15%	0.85%	1.22%	1.47%

Appendix N
Recreation Model Sensitivity Analysis Results

Boat Ramp Name	State	No. of Lanes	Not useable below elevation* (ft AMSL)	Percentage of days when ramp is not useable																			
				Jan - Mar (6,588 days)				Apr - Jun (6,643 days)				Jul - Sep (6,716 days)				Oct - Dec (6,715 days)				Total POR (26,662 days)			
				NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4
Branch																							
Fairplay (right lane)	SC	1	644.0	1.37%	0.26%	1.37%	1.37%	0.48%	0.00%	0.05%	0.60%	1.28%	1.47%	1.47%	1.61%	1.46%	1.64%	1.98%	2.31%	1.15%	0.85%	1.22%	1.47%
Friendship (right lane)	SC	1	644.0	1.37%	0.26%	1.37%	1.37%	0.48%	0.00%	0.05%	0.60%	1.28%	1.47%	1.47%	1.61%	1.46%	1.64%	1.98%	2.31%	1.15%	0.85%	1.22%	1.47%
Glenn Ferry	GA	1	644.0	1.37%	0.26%	1.37%	1.37%	0.48%	0.00%	0.05%	0.60%	1.28%	1.47%	1.47%	1.61%	1.46%	1.64%	1.98%	2.31%	1.15%	0.85%	1.22%	1.47%
Green Pond	SC	1	644.0	1.37%	0.26%	1.37%	1.37%	0.48%	0.00%	0.05%	0.60%	1.28%	1.47%	1.47%	1.61%	1.46%	1.64%	1.98%	2.31%	1.15%	0.85%	1.22%	1.47%
Hatton's Ford	SC	1	644.0	1.37%	0.26%	1.37%	1.37%	0.48%	0.00%	0.05%	0.60%	1.28%	1.47%	1.47%	1.61%	1.46%	1.64%	1.98%	2.31%	1.15%	0.85%	1.22%	1.47%
Long Point	GA	1	644.0	1.37%	0.26%	1.37%	1.37%	0.48%	0.00%	0.05%	0.60%	1.28%	1.47%	1.47%	1.61%	1.46%	1.64%	1.98%	2.31%	1.15%	0.85%	1.22%	1.47%
New Prospect	GA	1	644.0	1.37%	0.26%	1.37%	1.37%	0.48%	0.00%	0.05%	0.60%	1.28%	1.47%	1.47%	1.61%	1.46%	1.64%	1.98%	2.31%	1.15%	0.85%	1.22%	1.47%
Rock Spring	GA	1	644.0	1.37%	0.26%	1.37%	1.37%	0.48%	0.00%	0.05%	0.60%	1.28%	1.47%	1.47%	1.61%	1.46%	1.64%	1.98%	2.31%	1.15%	0.85%	1.22%	1.47%
Gum Branch	GA	6	644.0	1.37%	0.26%	1.37%	1.37%	0.48%	0.00%	0.05%	0.60%	1.28%	1.47%	1.47%	1.61%	1.46%	1.64%	1.98%	2.31%	1.15%	0.85%	1.22%	1.47%
Poplar Spring (right ramp)	GA	1	643.6	1.37%	0.17%	1.37%	1.37%	0.38%	0.00%	0.02%	0.54%	1.10%	1.28%	1.37%	1.43%	1.37%	1.55%	1.47%	1.82%	1.05%	0.75%	1.06%	1.29%
Springfield	SC	1	643.6	1.37%	0.17%	1.37%	1.37%	0.38%	0.00%	0.02%	0.54%	1.10%	1.28%	1.37%	1.43%	1.37%	1.55%	1.47%	1.82%	1.05%	0.75%	1.06%	1.29%
Crawford Ferry	GA	1	643.3	1.35%	0.12%	1.37%	1.37%	0.03%	0.00%	0.00%	0.50%	1.03%	1.19%	1.30%	1.40%	1.37%	1.50%	1.37%	1.47%	0.95%	0.71%	1.01%	1.19%
Asbury (camping)	SC	1	643.0	1.32%	0.12%	1.34%	1.37%	0.00%	0.00%	0.00%	0.44%	1.00%	1.07%	1.13%	1.28%	1.37%	1.44%	1.37%	1.37%	0.92%	0.66%	0.96%	1.11%
Denver	SC	1	643.0	1.32%	0.12%	1.34%	1.37%	0.00%	0.00%	0.00%	0.44%	1.00%	1.07%	1.13%	1.28%	1.37%	1.44%	1.37%	1.37%	0.92%	0.66%	0.96%	1.11%
Eighteen Mile Creek	SC	1	643.0	1.32%	0.12%	1.34%	1.37%	0.00%	0.00%	0.00%	0.44%	1.00%	1.07%	1.13%	1.28%	1.37%	1.44%	1.37%	1.37%	0.92%	0.66%	0.96%	1.11%
Elrod Ferry	GA	1	643.0	1.32%	0.12%	1.34%	1.37%	0.00%	0.00%	0.00%	0.44%	1.00%	1.07%	1.13%	1.28%	1.37%	1.44%	1.37%	1.37%	0.92%	0.66%	0.96%	1.11%
Jenkins Ferry	GA	1	643.0	1.32%	0.12%	1.34%	1.37%	0.00%	0.00%	0.00%	0.44%	1.00%	1.07%	1.13%	1.28%	1.37%	1.44%	1.37%	1.37%	0.92%	0.66%	0.96%	1.11%
Martin Creek	SC	1	643.0	1.32%	0.12%	1.34%	1.37%	0.00%	0.00%	0.00%	0.44%	1.00%	1.07%	1.13%	1.28%	1.37%	1.44%	1.37%	1.37%	0.92%	0.66%	0.96%	1.11%
Mary Ann Branch	GA	1	643.0	1.32%	0.12%	1.34%	1.37%	0.00%	0.00%	0.00%	0.44%	1.00%	1.07%	1.13%	1.28%	1.37%	1.44%	1.37%	1.37%	0.92%	0.66%	0.96%	1.11%
Oconee Point	SC	1	643.0	1.32%	0.12%	1.34%	1.37%	0.00%	0.00%	0.00%	0.44%	1.00%	1.07%	1.13%	1.28%	1.37%	1.44%	1.37%	1.37%	0.92%	0.66%	0.96%	1.11%
Paynes Creek (outer)	GA	1	643.0	1.32%	0.12%	1.34%	1.37%	0.00%	0.00%	0.00%	0.44%	1.00%	1.07%	1.13%	1.28%	1.37%	1.44%	1.37%	1.37%	0.92%	0.66%	0.96%	1.11%
Powder Bag Creek N	GA	1	643.0	1.32%	0.12%	1.34%	1.37%	0.00%	0.00%	0.00%	0.44%	1.00%	1.07%	1.13%	1.28%	1.37%	1.44%	1.37%	1.37%	0.92%	0.66%	0.96%	1.11%
Richland Creek	SC	1	643.0	1.32%	0.12%	1.34%	1.37%	0.00%	0.00%	0.00%	0.44%	1.00%	1.07%	1.13%	1.28%	1.37%	1.44%	1.37%	1.37%	0.92%	0.66%	0.96%	1.11%
River Forks (left ramp)	SC	1	643.0	1.32%	0.12%	1.34%	1.37%	0.00%	0.00%	0.00%	0.44%	1.00%	1.07%	1.13%	1.28%	1.37%	1.44%	1.37%	1.37%	0.92%	0.66%	0.96%	1.11%
Singing Pines	SC	1	643.0	1.32%	0.12%	1.34%	1.37%	0.00%	0.00%	0.00%	0.44%	1.00%	1.07%	1.13%	1.28%	1.37%	1.44%	1.37%	1.37%	0.92%	0.66%	0.96%	1.11%
Weldon	SC	1	643.0	1.32%	0.12%	1.34%	1.37%	0.00%	0.00%	0.00%	0.44%	1.00%	1.07%	1.13%	1.28%	1.37%	1.44%	1.37%	1.37%	0.92%	0.66%	0.96%	1.11%

Appendix N
Recreation Model Sensitivity Analysis Results

Boat Ramp Name	State	No. of Lanes	Not useable below elevation* (ft AMSL)	Percentage of days when ramp is not useable																			
				Jan - Mar (6,588 days)				Apr - Jun (6,643 days)				Jul - Sep (6,716 days)				Oct - Dec (6,715 days)				Total POR (26,662 days)			
				NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4
Island																							
Harbor Light Marina	GA	2	643.0	1.32%	0.12%	1.34%	1.37%	0.00%	0.00%	0.00%	0.44%	1.00%	1.07%	1.13%	1.28%	1.37%	1.44%	1.37%	1.37%	0.92%	0.66%	0.96%	1.11%
Hartwell Marina	GA	1	643.0	1.32%	0.12%	1.34%	1.37%	0.00%	0.00%	0.00%	0.44%	1.00%	1.07%	1.13%	1.28%	1.37%	1.44%	1.37%	1.37%	0.92%	0.66%	0.96%	1.11%
Hart State Park	GA	2	643.0	1.32%	0.12%	1.34%	1.37%	0.00%	0.00%	0.00%	0.44%	1.00%	1.07%	1.13%	1.28%	1.37%	1.44%	1.37%	1.37%	0.92%	0.66%	0.96%	1.11%
Portman Shoals	GA	1	643.0	1.32%	0.12%	1.34%	1.37%	0.00%	0.00%	0.00%	0.44%	1.00%	1.07%	1.13%	1.28%	1.37%	1.44%	1.37%	1.37%	0.92%	0.66%	0.96%	1.11%
Broyles (middle ramp)	SC	1	642.0	1.29%	0.00%	1.29%	1.34%	0.00%	0.00%	0.00%	0.00%	0.82%	0.73%	0.89%	0.98%	1.37%	1.37%	1.37%	1.37%	0.87%	0.53%	0.89%	0.92%
Tugaloo State Park (mega)	GA	6	642.0	1.29%	0.00%	1.29%	1.34%	0.00%	0.00%	0.00%	0.00%	0.82%	0.73%	0.89%	0.98%	1.37%	1.37%	1.37%	1.37%	0.87%	0.53%	0.89%	0.92%
Mullins Ford	SC	1	638.0	0.88%	0.00%	0.90%	0.99%	0.00%	0.00%	0.00%	0.00%	0.13%	0.00%	0.22%	0.24%	1.37%	0.77%	1.37%	1.37%	0.60%	0.20%	0.62%	0.65%
Big Water	SC	1	638.0	0.88%	0.00%	0.90%	0.99%	0.00%	0.00%	0.00%	0.00%	0.13%	0.00%	0.22%	0.24%	1.37%	0.77%	1.37%	1.37%	0.60%	0.20%	0.62%	0.65%
Bruce Creek	GA	1	638.0	0.88%	0.00%	0.90%	0.99%	0.00%	0.00%	0.00%	0.00%	0.13%	0.00%	0.22%	0.24%	1.37%	0.77%	1.37%	1.37%	0.60%	0.20%	0.62%	0.65%
Lake Hartwell State Park	SC	2	638.0	0.88%	0.00%	0.90%	0.99%	0.00%	0.00%	0.00%	0.00%	0.13%	0.00%	0.22%	0.24%	1.37%	0.77%	1.37%	1.37%	0.60%	0.20%	0.62%	0.65%
Lightwood Log Creek	GA	1	638.0	0.88%	0.00%	0.90%	0.99%	0.00%	0.00%	0.00%	0.00%	0.13%	0.00%	0.22%	0.24%	1.37%	0.77%	1.37%	1.37%	0.60%	0.20%	0.62%	0.65%
Sadlers Creek State Park #1	SC	2	638.0	0.88%	0.00%	0.90%	0.99%	0.00%	0.00%	0.00%	0.00%	0.13%	0.00%	0.22%	0.24%	1.37%	0.77%	1.37%	1.37%	0.60%	0.20%	0.62%	0.65%

* The elevation below which ramps may not be usable for most boats is presented as three feet above the top of the concrete ramp end elevation.

Appendix N
Recreation Model Sensitivity Analysis Results

Table N-10 Number of Days Boat Ramps are Unusable on Hartwell Lake under Future Water Withdrawals and Climate Change Hydrology (1939 – 2011)

Boat Ramp Name	State	No. of Lanes	Not useable below elevation* (ft AMSL)	Number of days when ramp is not useable																			
				Jan - Mar (6,588 days)				Apr - Jun (6,643 days)				Jul - Sep (6,716 days)				Oct - Dec (6,715 days)				Total POR (26,662 days)			
				NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4
Sadler's Creek State Park	SC	1	658.0	3,899	3,896	3,939	3,951	1,252	1,256	1,296	1,329	3,421	3,422	3,494	3,523	5,483	5,466	5,541	5,540	14,055	14,040	14,270	14,343
Tugaloo State Park	GA	2	658.0	3,899	3,896	3,939	3,951	1,252	1,256	1,296	1,329	3,421	3,422	3,494	3,523	5,483	5,466	5,541	5,540	14,055	14,040	14,270	14,343
Jack's Landing	SC	1	658.0	3,899	3,896	3,939	3,951	1,252	1,256	1,296	1,329	3,421	3,422	3,494	3,523	5,483	5,466	5,541	5,540	14,055	14,040	14,270	14,343
Holder's Access	SC	1	658.0	3,899	3,896	3,939	3,951	1,252	1,256	1,296	1,329	3,421	3,422	3,494	3,523	5,483	5,466	5,541	5,540	14,055	14,040	14,270	14,343
Lakeshore	SC	1	658.0	3,899	3,896	3,939	3,951	1,252	1,256	1,296	1,329	3,421	3,422	3,494	3,523	5,483	5,466	5,541	5,540	14,055	14,040	14,270	14,343
Mountain Bay	SC	1	658.0	3,899	3,896	3,939	3,951	1,252	1,256	1,296	1,329	3,421	3,422	3,494	3,523	5,483	5,466	5,541	5,540	14,055	14,040	14,270	14,343
Reed Creek	GA	1	657.5	3,411	3,411	3,516	3,540	1,085	1,090	1,132	1,151	2,740	2,728	2,911	2,943	5,069	5,055	5,132	5,142	12,305	12,284	12,691	12,776
Rocky Ford	GA	1	657.5	3,411	3,411	3,516	3,540	1,085	1,090	1,132	1,151	2,740	2,728	2,911	2,943	5,069	5,055	5,132	5,142	12,305	12,284	12,691	12,776
Brown Road	SC	1	657.0	2,922	2,930	3,016	3,041	927	924	970	974	2,097	2,074	2,382	2,423	4,628	4,609	4,740	4,745	10,574	10,537	11,108	11,183
Hurricane Creek	SC	1	657.0	2,922	2,930	3,016	3,041	927	924	970	974	2,097	2,074	2,382	2,423	4,628	4,609	4,740	4,745	10,574	10,537	11,108	11,183
Seneca Creek	SC	1	657.0	2,922	2,930	3,016	3,041	927	924	970	974	2,097	2,074	2,382	2,423	4,628	4,609	4,740	4,745	10,574	10,537	11,108	11,183
Walker Creek	GA	1	657.0	2,922	2,930	3,016	3,041	927	924	970	974	2,097	2,074	2,382	2,423	4,628	4,609	4,740	4,745	10,574	10,537	11,108	11,183
Cove Inlet	SC	1	656.5	2,439	2,435	2,571	2,596	828	828	848	851	1,718	1,707	1,997	2,021	4,140	4,123	4,309	4,334	9,125	9,093	9,725	9,802
Durham	SC	1	655.7	1,711	1,708	1,802	1,819	697	698	709	716	1,361	1,355	1,564	1,567	2,902	2,899	3,259	3,246	6,671	6,660	7,334	7,348
South Union	SC	1	655.5	1,655	1,654	1,746	1,756	670	669	680	682	1,315	1,312	1,489	1,501	2,766	2,777	3,134	3,138	6,406	6,412	7,049	7,077
Bradberry	GA	1	655.0	1,503	1,512	1,647	1,654	612	604	634	636	1,212	1,207	1,346	1,359	2,509	2,492	2,879	2,874	5,836	5,815	6,506	6,523
Timberland	SC	1	654.0	1,141	1,140	1,287	1,311	501	469	500	529	987	976	1,036	1,052	2,073	2,063	2,422	2,448	4,702	4,648	5,245	5,340
Darvin Wright City Park	SC	1	653.0	781	789	861	904	339	294	348	374	711	696	743	772	1,423	1,429	1,745	1,784	3,254	3,208	3,697	3,834
Tillies	SC	1	653.0	781	789	861	904	339	294	348	374	711	696	743	772	1,423	1,429	1,745	1,784	3,254	3,208	3,697	3,834
White City	SC	1	653.0	781	789	861	904	339	294	348	374	711	696	743	772	1,423	1,429	1,745	1,784	3,254	3,208	3,697	3,834
Barton Mill	SC	1	653.0	781	789	861	904	339	294	348	374	711	696	743	772	1,423	1,429	1,745	1,784	3,254	3,208	3,697	3,834
Port Bass	SC	1	653.0	781	789	861	904	339	294	348	374	711	696	743	772	1,423	1,429	1,745	1,784	3,254	3,208	3,697	3,834
Seymour	GA	1	653.0	781	789	861	904	339	294	348	374	711	696	743	772	1,423	1,429	1,745	1,784	3,254	3,208	3,697	3,834
Payne's Creek (inner right)	GA	1	652.6	677	676	736	749	316	268	324	332	646	634	671	712	1,266	1,255	1,491	1,483	2,905	2,833	3,222	3,276
Payne's Creek (left)	GA	1	652.6	677	676	736	749	316	268	324	332	646	634	671	712	1,266	1,255	1,491	1,483	2,905	2,833	3,222	3,276
Big Oak (left lane)	GA	1	652.5	641	636	704	714	314	262	316	327	638	625	664	703	1,222	1,213	1,416	1,415	2,815	2,736	3,100	3,159
Tabor	SC	1	652.5	641	636	704	714	314	262	316	327	638	625	664	703	1,222	1,213	1,416	1,415	2,815	2,736	3,100	3,159

Appendix N
Recreation Model Sensitivity Analysis Results

Boat Ramp Name	State	No. of Lanes	Not useable below elevation* (ft AMSL)	Number of days when ramp is not useable																			
				Jan - Mar (6,588 days)				Apr - Jun (6,643 days)				Jul - Sep (6,716 days)				Oct - Dec (6,715 days)				Total POR (26,662 days)			
				NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4
Townville	SC	1	652.3	564	566	620	637	304	254	305	314	624	599	637	685	1,140	1,122	1,301	1,285	2,632	2,541	2,863	2,921
Apple Island	SC	1	651.5	477	476	518	522	288	230	283	287	529	487	542	556	907	878	1,036	1,038	2,201	2,071	2,379	2,403
Poplar Spring (left ramp)	GA	1	651.5	477	476	518	522	288	230	283	287	529	487	542	556	907	878	1,036	1,038	2,201	2,071	2,379	2,403
Stephens Co.	GA	1	651.5	477	476	518	522	288	230	283	287	529	487	542	556	907	878	1,036	1,038	2,201	2,071	2,379	2,403
Broyles (East ramp)	SC	1	651.3	476	474	506	508	286	214	270	285	500	457	527	536	859	832	1,006	1,021	2,121	1,977	2,309	2,350
Friendship (left lane)	SC	1	651.0	471	465	489	492	269	175	239	269	472	415	494	504	829	791	941	952	2,041	1,846	2,163	2,217
Lawrence Bridge	SC	1	651.0	471	465	489	492	269	175	239	269	472	415	494	504	829	791	941	952	2,041	1,846	2,163	2,217
River Fork (right ramp)	SC	1	651.0	471	465	489	492	269	175	239	269	472	415	494	504	829	791	941	952	2,041	1,846	2,163	2,217
Broyles (West ramp)	SC	1	650.5	442	434	475	480	221	152	193	223	422	357	439	456	804	761	873	871	1,889	1,704	1,980	2,030
Jarrett	SC	1	650.0	417	409	451	459	203	112	166	206	391	313	390	414	760	725	795	808	1,771	1,559	1,802	1,887
Holcomb	GA	1	650.0	417	409	451	459	203	112	166	206	391	313	390	414	760	725	795	808	1,771	1,559	1,802	1,887
Cleveland	GA	1	649.5	403	385	409	418	195	96	154	200	364	280	361	392	697	669	746	762	1,659	1,430	1,670	1,772
Spring Branch	GA	1	649.0	362	329	390	395	163	69	128	191	345	247	335	366	571	556	698	713	1,441	1,201	1,551	1,665
Honea Path	SC	1	648.5	277	261	359	368	128	38	86	150	309	215	296	347	510	492	637	662	1,224	1,006	1,378	1,527
Twin Lakes (right ramp)	SC	1	648.0	256	239	288	302	120	29	67	127	240	189	250	287	436	421	534	570	1,052	878	1,139	1,286
Twin Lakes (left ramp)	SC	1	648.0	256	239	288	302	120	29	67	127	240	189	250	287	436	421	534	570	1,052	878	1,139	1,286
Fairplay (left lane)	SC	1	647.0	210	170	235	239	79	15	40	90	172	156	184	190	298	307	397	412	759	648	856	931
Twelve Mile (left lane)	SC	1	647.0	210	170	235	239	79	15	40	90	172	156	184	190	298	307	397	412	759	648	856	931
Twelve Mile (right lane)	SC	1	647.0	210	170	235	239	79	15	40	90	172	156	184	190	298	307	397	412	759	648	856	931
Clemson	SC	1	645.5	90	64	133	145	51	0	11	55	130	125	141	142	157	157	232	245	428	346	517	587
Milltown	GA	1	645.4	90	60	128	136	49	0	10	53	126	125	137	142	152	154	219	238	417	339	494	569
Carters Ferry	GA	1	645.0	90	51	120	124	45	0	8	49	114	105	124	129	132	132	193	202	381	288	445	504
Watsadler	GA	1	645.0	90	51	120	124	45	0	8	49	114	105	124	129	132	132	193	202	381	288	445	504
Big Oaks (right lane)	GA	1	644.0	90	17	90	90	32	0	3	40	86	99	99	108	98	110	133	155	306	226	325	393
Camp Creek	GA	1	644.0	90	17	90	90	32	0	3	40	86	99	99	108	98	110	133	155	306	226	325	393
Choestoea	SC	1	644.0	90	17	90	90	32	0	3	40	86	99	99	108	98	110	133	155	306	226	325	393
Coneross	SC	1	644.0	90	17	90	90	32	0	3	40	86	99	99	108	98	110	133	155	306	226	325	393

Appendix N
Recreation Model Sensitivity Analysis Results

Boat Ramp Name	State	No. of Lanes	Not useable below elevation* (ft AMSL)	Number of days when ramp is not useable																			
				Jan - Mar (6,588 days)				Apr - Jun (6,643 days)				Jul - Sep (6,716 days)				Oct - Dec (6,715 days)				Total POR (26,662 days)			
				NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4
Double Spring	SC	1	644.0	90	17	90	90	32	0	3	40	86	99	99	108	98	110	133	155	306	226	325	393
Duncan Branch	GA	1	644.0	90	17	90	90	32	0	3	40	86	99	99	108	98	110	133	155	306	226	325	393
Fairplay (right lane)	SC	1	644.0	90	17	90	90	32	0	3	40	86	99	99	108	98	110	133	155	306	226	325	393
Friendship (right lane)	SC	1	644.0	90	17	90	90	32	0	3	40	86	99	99	108	98	110	133	155	306	226	325	393
Glenn Ferry	GA	1	644.0	90	17	90	90	32	0	3	40	86	99	99	108	98	110	133	155	306	226	325	393
Green Pond	SC	1	644.0	90	17	90	90	32	0	3	40	86	99	99	108	98	110	133	155	306	226	325	393
Hatton's Ford	SC	1	644.0	90	17	90	90	32	0	3	40	86	99	99	108	98	110	133	155	306	226	325	393
Long Point	GA	1	644.0	90	17	90	90	32	0	3	40	86	99	99	108	98	110	133	155	306	226	325	393
New Prospect	GA	1	644.0	90	17	90	90	32	0	3	40	86	99	99	108	98	110	133	155	306	226	325	393
Rock Spring	GA	1	644.0	90	17	90	90	32	0	3	40	86	99	99	108	98	110	133	155	306	226	325	393
Gum Branch	GA	6	644.0	90	17	90	90	32	0	3	40	86	99	99	108	98	110	133	155	306	226	325	393
Poplar Spring (right ramp)	GA	1	643.6	90	11	90	90	25	0	1	36	74	86	92	96	92	104	99	122	281	201	282	344
Springfield	SC	1	643.6	90	11	90	90	25	0	1	36	74	86	92	96	92	104	99	122	281	201	282	344
Crawford Ferry	GA	1	643.3	89	8	90	90	2	0	0	33	69	80	87	94	92	101	92	99	252	189	269	316
Asbury (camping)	SC	1	643.0	87	8	88	90	0	0	0	29	67	72	76	86	92	97	92	92	246	177	256	297
Denver	SC	1	643.0	87	8	88	90	0	0	0	29	67	72	76	86	92	97	92	92	246	177	256	297
Eighteen Mile Creek	SC	1	643.0	87	8	88	90	0	0	0	29	67	72	76	86	92	97	92	92	246	177	256	297
Elrod Ferry	GA	1	643.0	87	8	88	90	0	0	0	29	67	72	76	86	92	97	92	92	246	177	256	297
Jenkins Ferry	GA	1	643.0	87	8	88	90	0	0	0	29	67	72	76	86	92	97	92	92	246	177	256	297
Martin Creek	SC	1	643.0	87	8	88	90	0	0	0	29	67	72	76	86	92	97	92	92	246	177	256	297
Mary Ann Branch	GA	1	643.0	87	8	88	90	0	0	0	29	67	72	76	86	92	97	92	92	246	177	256	297
Oconeel Point	SC	1	643.0	87	8	88	90	0	0	0	29	67	72	76	86	92	97	92	92	246	177	256	297
Paynes Creek (outer)	GA	1	643.0	87	8	88	90	0	0	0	29	67	72	76	86	92	97	92	92	246	177	256	297
Powder Bag Creek N	GA	1	643.0	87	8	88	90	0	0	0	29	67	72	76	86	92	97	92	92	246	177	256	297
Richland Creek	SC	1	643.0	87	8	88	90	0	0	0	29	67	72	76	86	92	97	92	92	246	177	256	297

Appendix N
Recreation Model Sensitivity Analysis Results

Boat Ramp Name	State	No. of Lanes	Not useable below elevation* (ft AMSL)	Number of days when ramp is not useable																			
				Jan - Mar (6,588 days)				Apr - Jun (6,643 days)				Jul - Sep (6,716 days)				Oct - Dec (6,715 days)				Total POR (26,662 days)			
				NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4
River Forks (left ramp)	SC	1	643.0	87	8	88	90	0	0	0	29	67	72	76	86	92	97	92	92	246	177	256	297
Singing Pines	SC	1	643.0	87	8	88	90	0	0	0	29	67	72	76	86	92	97	92	92	246	177	256	297
Weldon Island	SC	1	643.0	87	8	88	90	0	0	0	29	67	72	76	86	92	97	92	92	246	177	256	297
Harbor Light Marina	GA	2	643.0	87	8	88	90	0	0	0	29	67	72	76	86	92	97	92	92	246	177	256	297
Hartwell Marina	GA	1	643.0	87	8	88	90	0	0	0	29	67	72	76	86	92	97	92	92	246	177	256	297
Hart State Park	GA	2	643.0	87	8	88	90	0	0	0	29	67	72	76	86	92	97	92	92	246	177	256	297
Portman Shoals	GA	1	643.0	87	8	88	90	0	0	0	29	67	72	76	86	92	97	92	92	246	177	256	297
Broyles (middle ramp)	SC	1	642.0	85	0	85	88	0	0	0	0	55	49	60	66	92	92	92	92	232	141	237	246
Tugaloo State Park (mega)	GA	6	642.0	85	0	85	88	0	0	0	0	55	49	60	66	92	92	92	92	232	141	237	246
Mullins Ford	SC	1	638.0	58	0	59	65	0	0	0	0	9	0	15	16	92	52	92	92	159	52	166	173
Big Water	SC	1	638.0	58	0	59	65	0	0	0	0	9	0	15	16	92	52	92	92	159	52	166	173
Bruce Creek	GA	1	638.0	58	0	59	65	0	0	0	0	9	0	15	16	92	52	92	92	159	52	166	173
Lake Hartwell State Park	SC	2	638.0	58	0	59	65	0	0	0	0	9	0	15	16	92	52	92	92	159	52	166	173
Lightwood Log Creek	GA	1	638.0	58	0	59	65	0	0	0	0	9	0	15	16	92	52	92	92	159	52	166	173
Sadlers Creek State Park #1	SC	2	638.0	58	0	59	65	0	0	0	0	9	0	15	16	92	52	92	92	159	52	166	173

* The elevation below which ramps may not be usable for most boats is presented as three feet above the top of the concrete ramp end elevation.

Appendix N
Recreation Model Sensitivity Analysis Results

Table N-11 Percentage of Days Boat Ramps are Unusable on JST Lake under Future Water Withdrawals and Climate change Hydrology (1939 – 2011)

Boat Ramp Name	State	No. of Lanes	Not useable below elevation* (ft AMSL)	Percentage of days when ramp is not useable																			
				Jan - Mar (6,588 days)				Apr - Jun (6,643 days)				Jul - Sep (6,716 days)				Oct - Dec (6,715 days)				Total POR (26,662 days)			
				NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4
Hwy 28 Access Road	SC	1	326.0	23.39%	23.28%	21.27%	21.19%	12.07%	12.40%	12.39%	11.89%	21.71%	21.87%	24.66%	24.67%	48.32%	48.09%	45.60%	45.72%	26.43%	26.46%	26.04%	25.93%
Long Cane Creek Ramp	SC	1	325.7	18.29%	18.34%	17.12%	17.05%	10.76%	10.94%	11.44%	10.79%	18.14%	18.09%	19.58%	18.88%	38.20%	38.20%	36.52%	36.35%	21.39%	21.44%	21.21%	20.81%
Catfish Ramp	SC	1	325.5	16.14%	16.33%	15.73%	15.79%	9.91%	10.18%	10.66%	10.15%	15.93%	15.99%	16.87%	16.65%	32.78%	32.67%	32.38%	32.17%	18.72%	18.83%	18.94%	18.72%
Calhoun Falls Ramp	SC	1	325.0	13.68%	13.86%	14.18%	14.19%	8.28%	8.22%	9.05%	8.17%	14.16%	14.18%	15.08%	14.79%	25.76%	25.66%	27.09%	26.87%	15.50%	15.51%	16.38%	16.03%
Broad River Campground	GA	1	325.0	13.68%	13.86%	14.18%	14.19%	8.28%	8.22%	9.05%	8.17%	14.16%	14.18%	15.08%	14.79%	25.76%	25.66%	27.09%	26.87%	15.50%	15.51%	16.38%	16.03%
Cherokee Recreation Area	GA	5	324.7	12.42%	12.70%	13.31%	13.31%	7.44%	7.30%	8.29%	7.38%	13.80%	13.79%	14.59%	14.28%	24.07%	23.74%	25.79%	25.23%	14.46%	14.41%	15.53%	15.08%
Mistletoe State Park 1 & 2	GA	2	324.2	10.34%	10.52%	11.28%	11.26%	6.05%	5.86%	7.30%	6.43%	12.94%	12.97%	13.67%	13.48%	22.22%	21.89%	23.47%	23.16%	12.92%	12.84%	13.96%	13.61%
Soap Creek Park	GA	1	324.0	9.71%	9.99%	10.69%	10.55%	5.89%	5.57%	7.09%	6.22%	12.72%	12.67%	13.37%	13.21%	21.73%	21.36%	23.02%	22.84%	12.54%	12.43%	13.57%	13.24%
Little River Quarry Ramp	SC	1	324.0	9.71%	9.99%	10.69%	10.55%	5.89%	5.57%	7.09%	6.22%	12.72%	12.67%	13.37%	13.21%	21.73%	21.36%	23.02%	22.84%	12.54%	12.43%	13.57%	13.24%
Lakeside Subdivision Ramp	GA	1	324.0	9.71%	9.99%	10.69%	10.55%	5.89%	5.57%	7.09%	6.22%	12.72%	12.67%	13.37%	13.21%	21.73%	21.36%	23.02%	22.84%	12.54%	12.43%	13.57%	13.24%
Scotts Ferry (new ramp) 1 & 2	SC	2	323.8	9.20%	9.52%	10.19%	10.05%	5.55%	5.18%	6.61%	5.96%	12.37%	12.33%	13.01%	12.92%	21.12%	20.73%	22.61%	22.38%	12.09%	11.97%	13.13%	12.86%
Clay Hill Campground	GA	1	323.5	8.88%	9.12%	9.70%	9.64%	4.97%	4.11%	5.84%	5.39%	11.72%	11.70%	12.52%	12.24%	20.00%	19.61%	21.92%	21.61%	11.42%	11.17%	12.53%	12.25%
Winfield Subdivision	GA	1	323.1	8.38%	8.52%	9.29%	9.35%	3.85%	3.43%	4.67%	4.31%	10.93%	10.72%	11.55%	11.35%	18.45%	17.68%	20.37%	20.12%	10.43%	10.11%	11.50%	11.31%
Mt Pleasant Ramp	SC	1	322.4	7.51%	7.68%	7.98%	8.14%	3.09%	3.00%	3.70%	3.28%	9.35%	9.25%	9.84%	9.74%	16.14%	15.90%	17.50%	17.50%	9.05%	8.98%	9.78%	9.69%
Wildwood Park 5 & 6	GA	2	322.0	7.27%	7.29%	7.45%	7.45%	2.86%	2.85%	3.21%	3.00%	8.68%	8.53%	9.22%	9.14%	15.29%	15.03%	15.77%	15.83%	8.55%	8.44%	8.93%	8.88%
Morrahs Ramp	GA	1	321.5	7.09%	7.00%	7.07%	7.15%	2.83%	2.74%	3.07%	2.85%	7.70%	7.37%	8.25%	8.19%	13.46%	13.19%	14.27%	14.40%	7.79%	7.59%	8.18%	8.17%
Bussey Point	GA	1	321.0	6.94%	6.92%	6.92%	6.94%	2.60%	2.02%	2.50%	2.62%	6.88%	6.45%	7.46%	7.33%	12.05%	11.82%	12.51%	12.60%	7.13%	6.81%	7.36%	7.39%
Chamberlain Ferry Ramp	GA	1	321.0	6.94%	6.92%	6.92%	6.94%	2.60%	2.02%	2.50%	2.62%	6.88%	6.45%	7.46%	7.33%	12.05%	11.82%	12.51%	12.60%	7.13%	6.81%	7.36%	7.39%
Modoc Campground	SC	1	321.0	6.94%	6.92%	6.92%	6.94%	2.60%	2.02%	2.50%	2.62%	6.88%	6.45%	7.46%	7.33%	12.05%	11.82%	12.51%	12.60%	7.13%	6.81%	7.36%	7.39%
Murray Creek Ramp	GA	1	321.0	6.94%	6.92%	6.92%	6.94%	2.60%	2.02%	2.50%	2.62%	6.88%	6.45%	7.46%	7.33%	12.05%	11.82%	12.51%	12.60%	7.13%	6.81%	7.36%	7.39%
Parkway	GA	1	321.0	6.94%	6.92%	6.92%	6.94%	2.60%	2.02%	2.50%	2.62%	6.88%	6.45%	7.46%	7.33%	12.05%	11.82%	12.51%	12.60%	7.13%	6.81%	7.36%	7.39%

Appendix N
Recreation Model Sensitivity Analysis Results

Boat Ramp Name	State	No. of Lanes	Not useable below elevation* (ft AMSL)	Percentage of days when ramp is not useable																			
				Jan - Mar (6,588 days)				Apr - Jun (6,643 days)				Jul - Sep (6,716 days)				Oct - Dec (6,715 days)				Total POR (26,662 days)			
				NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4
Ramp																							
Cherokee Recreation Area 4	GA	1	321.0	6.94%	6.92%	6.92%	6.94%	2.60%	2.02%	2.50%	2.62%	6.88%	6.45%	7.46%	7.33%	12.05%	11.82%	12.51%	12.60%	7.13%	6.81%	7.36%	7.39%
Fishing Creek / Hwy 79 Ramp	GA	1	320.7	6.74%	6.74%	6.85%	6.86%	2.03%	1.93%	1.97%	2.08%	6.39%	5.82%	7.10%	6.92%	11.71%	11.47%	11.96%	12.11%	6.73%	6.50%	6.98%	7.01%
Wildwood Park 3 & 4	GA	2	320.0	6.15%	6.13%	6.22%	6.25%	1.73%	1.72%	1.72%	1.75%	5.42%	4.76%	5.97%	5.91%	11.08%	10.78%	11.32%	11.39%	6.11%	5.86%	6.32%	6.34%
Maxim Subdivision Ramp	GA	1	320.0	6.15%	6.13%	6.22%	6.25%	1.73%	1.72%	1.72%	1.75%	5.42%	4.76%	5.97%	5.91%	11.08%	10.78%	11.32%	11.39%	6.11%	5.86%	6.32%	6.34%
Wells Creek Subdivision	GA	1	320.0	6.15%	6.13%	6.22%	6.25%	1.73%	1.72%	1.72%	1.75%	5.42%	4.76%	5.97%	5.91%	11.08%	10.78%	11.32%	11.39%	6.11%	5.86%	6.32%	6.34%
Leroys Ferry Campground	SC	1	319.5	6.07%	5.78%	6.00%	6.13%	1.63%	1.51%	1.61%	1.64%	4.91%	4.21%	5.46%	5.42%	10.29%	10.10%	10.62%	10.80%	5.73%	5.41%	5.93%	6.01%
Ridge Road Campground	GA	1	319.0	5.48%	4.80%	5.53%	5.63%	1.16%	1.10%	1.35%	1.55%	4.56%	3.65%	4.99%	4.97%	8.68%	8.34%	9.46%	9.98%	4.98%	4.48%	5.34%	5.54%
Cherokee Recreation Area 3	GA	1	318.7	4.54%	3.99%	4.72%	5.04%	0.77%	0.78%	1.01%	1.17%	4.23%	3.41%	4.65%	4.73%	7.86%	7.59%	8.22%	8.67%	4.36%	3.95%	4.66%	4.91%
Chamberlain Ferry Ramp	GA	1	318.3	3.58%	3.55%	3.66%	3.81%	0.53%	0.54%	0.60%	0.72%	3.80%	3.07%	4.26%	4.38%	7.36%	7.13%	7.49%	7.64%	3.83%	3.58%	4.01%	4.15%
Double Branches Ramp	GA	1	318.1	3.57%	3.49%	3.46%	3.60%	0.47%	0.48%	0.56%	0.59%	3.53%	2.92%	3.93%	4.20%	6.88%	6.76%	7.10%	7.25%	3.62%	3.42%	3.77%	3.92%
Soap Creek Marina	GA	1	318.0	3.49%	3.38%	3.40%	3.54%	0.45%	0.45%	0.51%	0.56%	3.42%	2.84%	3.72%	4.12%	6.73%	6.48%	6.81%	7.10%	3.53%	3.30%	3.62%	3.84%
Cherokee Recreation Area 2	GA	1	318.0	3.49%	3.38%	3.40%	3.54%	0.45%	0.45%	0.51%	0.56%	3.42%	2.84%	3.72%	4.12%	6.73%	6.48%	6.81%	7.10%	3.53%	3.30%	3.62%	3.84%
Amity Recreation Area	GA	1	317.9	3.40%	3.25%	3.29%	3.42%	0.41%	0.42%	0.50%	0.53%	3.34%	2.77%	3.59%	3.95%	6.52%	6.18%	6.58%	6.85%	3.42%	3.16%	3.50%	3.69%
Raysville Marina	GA	1	317.6	3.14%	3.13%	3.16%	3.23%	0.33%	0.36%	0.39%	0.45%	3.07%	2.59%	3.29%	3.50%	5.55%	5.51%	5.73%	6.11%	3.03%	2.90%	3.15%	3.33%
Elbert County Subdivision Ramp	GA	1	317.6	3.14%	3.13%	3.16%	3.23%	0.33%	0.36%	0.39%	0.45%	3.07%	2.59%	3.29%	3.50%	5.55%	5.51%	5.73%	6.11%	3.03%	2.90%	3.15%	3.33%
Modoc Ramp 2	SC	1	317.2	3.04%	3.05%	2.96%	3.05%	0.26%	0.30%	0.30%	0.35%	2.68%	2.46%	2.92%	3.10%	4.90%	4.97%	5.20%	5.32%	2.72%	2.70%	2.85%	2.96%
Soap Creek / Hwy 220 Ramp	GA	1	317.0	2.87%	2.84%	2.43%	2.90%	0.21%	0.26%	0.27%	0.30%	2.58%	2.38%	2.77%	2.89%	4.59%	4.66%	4.88%	5.17%	2.57%	2.54%	2.60%	2.82%
Landam Creek Ramp	SC	1	316.2	1.37%	1.72%	1.37%	1.46%	0.05%	0.12%	0.12%	0.15%	2.25%	2.25%	2.38%	2.40%	3.40%	3.63%	3.14%	3.75%	1.77%	1.94%	1.76%	1.95%
Dordon Creek Ramp	SC	1	316.2	1.37%	1.72%	1.37%	1.46%	0.05%	0.12%	0.12%	0.15%	2.25%	2.25%	2.38%	2.40%	3.40%	3.63%	3.14%	3.75%	1.77%	1.94%	1.76%	1.95%

Appendix N
Recreation Model Sensitivity Analysis Results

Boat Ramp Name	State	No. of Lanes	Not useable below elevation* (ft AMSL)	Percentage of days when ramp is not useable																			
				Jan - Mar (6,588 days)				Apr - Jun (6,643 days)				Jul - Sep (6,716 days)				Oct - Dec (6,715 days)				Total POR (26,662 days)			
				NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4
Hickory Knob State Park	SC	1	316.2	1.37%	1.72%	1.37%	1.46%	0.05%	0.12%	0.12%	0.15%	2.25%	2.25%	2.38%	2.40%	3.40%	3.63%	3.14%	3.75%	1.77%	1.94%	1.76%	1.95%
Elijah Clark State Park 1, 2, & 3	GA	1	316.0	1.17%	1.47%	1.31%	1.24%	0.02%	0.09%	0.09%	0.11%	2.17%	2.20%	2.28%	2.35%	2.96%	3.29%	2.86%	3.11%	1.59%	1.77%	1.64%	1.71%
Holiday Park	GA	1	315.6	0.59%	1.28%	0.88%	0.70%	0.00%	0.02%	0.00%	0.03%	2.01%	2.14%	2.13%	2.14%	2.32%	2.78%	2.37%	2.58%	1.24%	1.56%	1.35%	1.37%
Ft. Gordon Recreation Area 1 & 2	GA	2	315.0	0.46%	0.77%	0.76%	0.53%	0.00%	0.00%	0.00%	0.00%	1.61%	1.92%	1.76%	1.89%	1.67%	2.29%	1.98%	1.76%	0.94%	1.25%	1.13%	1.05%
Plum Branch Yacht Club	SC	1	315.0	0.46%	0.77%	0.76%	0.53%	0.00%	0.00%	0.00%	0.00%	1.61%	1.92%	1.76%	1.89%	1.67%	2.29%	1.98%	1.76%	0.94%	1.25%	1.13%	1.05%
Wildwood Park 1 & 2	GA	2	315.0	0.46%	0.77%	0.76%	0.53%	0.00%	0.00%	0.00%	0.00%	1.61%	1.92%	1.76%	1.89%	1.67%	2.29%	1.98%	1.76%	0.94%	1.25%	1.13%	1.05%
Bobby Brown State Park 1 & 2	GA	2	315.0	0.46%	0.77%	0.76%	0.53%	0.00%	0.00%	0.00%	0.00%	1.61%	1.92%	1.76%	1.89%	1.67%	2.29%	1.98%	1.76%	0.94%	1.25%	1.13%	1.05%
New Bourdeaux Subdivision Ramp	SC	1	315.0	0.46%	0.77%	0.76%	0.53%	0.00%	0.00%	0.00%	0.00%	1.61%	1.92%	1.76%	1.89%	1.67%	2.29%	1.98%	1.76%	0.94%	1.25%	1.13%	1.05%
Gill Point Ramp	GA	1	314.8	0.35%	0.73%	0.71%	0.49%	0.00%	0.00%	0.00%	0.00%	1.21%	1.79%	1.38%	1.49%	1.25%	2.11%	1.77%	1.67%	0.71%	1.16%	0.97%	0.92%
Cherokee Recreation Area 1	GA	1	314.6	0.33%	0.59%	0.65%	0.43%	0.00%	0.00%	0.00%	0.00%	0.91%	1.53%	1.06%	1.07%	1.07%	1.97%	1.34%	1.16%	0.58%	1.03%	0.77%	0.67%
Little River / Hwy 378	SC	1	314.5	0.32%	0.55%	0.62%	0.36%	0.00%	0.00%	0.00%	0.00%	0.80%	1.43%	0.94%	0.97%	1.06%	1.88%	1.25%	1.09%	0.55%	0.97%	0.71%	0.61%
Parksville Recreation Area	SC	1	314.5	0.32%	0.55%	0.62%	0.36%	0.00%	0.00%	0.00%	0.00%	0.80%	1.43%	0.94%	0.97%	1.06%	1.88%	1.25%	1.09%	0.55%	0.97%	0.71%	0.61%
Buffalo Creek Subdivision Ramp	SC	1	314.5	0.32%	0.55%	0.62%	0.36%	0.00%	0.00%	0.00%	0.00%	0.80%	1.43%	0.94%	0.97%	1.06%	1.88%	1.25%	1.09%	0.55%	0.97%	0.71%	0.61%
Dorn 1, 2, 5, & 6	SC	4	314.4	0.30%	0.50%	0.61%	0.35%	0.00%	0.00%	0.00%	0.00%	0.74%	1.34%	0.85%	0.82%	1.06%	1.83%	1.21%	1.06%	0.53%	0.92%	0.67%	0.56%
Amity Recreation Area 2	GA	1	314.3	0.30%	0.46%	0.58%	0.35%	0.00%	0.00%	0.00%	0.00%	0.61%	1.22%	0.74%	0.77%	1.04%	1.79%	1.19%	1.06%	0.49%	0.87%	0.63%	0.55%
Hamilton Branch State Park (Day Use)	SC	1	314.0	0.26%	0.38%	0.52%	0.30%	0.00%	0.00%	0.00%	0.00%	0.21%	0.94%	0.43%	0.42%	1.04%	1.50%	1.10%	1.04%	0.38%	0.71%	0.51%	0.44%
Hamilton Branch State Park 1 & 2	SC	2	314.0	0.26%	0.38%	0.52%	0.30%	0.00%	0.00%	0.00%	0.00%	0.21%	0.94%	0.43%	0.42%	1.04%	1.50%	1.10%	1.04%	0.38%	0.71%	0.51%	0.44%

Appendix N
Recreation Model Sensitivity Analysis Results

Boat Ramp Name	State	No. of Lanes	Not useable below elevation* (ft AMSL)	Percentage of days when ramp is not useable																			
				Jan - Mar (6,588 days)				Apr - Jun (6,643 days)				Jul - Sep (6,716 days)				Oct - Dec (6,715 days)				Total POR (26,662 days)			
				NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4
Little River Marina 1	GA	1	314.0	0.26%	0.38%	0.52%	0.30%	0.00%	0.00%	0.00%	0.00%	0.21%	0.94%	0.43%	0.42%	1.04%	1.50%	1.10%	1.04%	0.38%	0.71%	0.51%	0.44%
Baker Creek State Park	SC	1	314.0	0.26%	0.38%	0.52%	0.30%	0.00%	0.00%	0.00%	0.00%	0.21%	0.94%	0.43%	0.42%	1.04%	1.50%	1.10%	1.04%	0.38%	0.71%	0.51%	0.44%
Tradewinds Marina	GA	1	314.0	0.26%	0.38%	0.52%	0.30%	0.00%	0.00%	0.00%	0.00%	0.21%	0.94%	0.43%	0.42%	1.04%	1.50%	1.10%	1.04%	0.38%	0.71%	0.51%	0.44%
Morrahs Ramp 2	GA	1	314.0	0.26%	0.38%	0.52%	0.30%	0.00%	0.00%	0.00%	0.00%	0.21%	0.94%	0.43%	0.42%	1.04%	1.50%	1.10%	1.04%	0.38%	0.71%	0.51%	0.44%
Amity Recreation Area 3	GA	1	313.8	0.08%	0.30%	0.49%	0.29%	0.00%	0.00%	0.00%	0.00%	0.07%	0.80%	0.27%	0.19%	1.04%	1.38%	1.07%	1.04%	0.30%	0.63%	0.46%	0.38%
Big Hart Recreation Area	GA	1	313.8	0.08%	0.30%	0.49%	0.29%	0.00%	0.00%	0.00%	0.00%	0.07%	0.80%	0.27%	0.19%	1.04%	1.38%	1.07%	1.04%	0.30%	0.63%	0.46%	0.38%
Petersburg Campground	GA	1	313.7	0.03%	0.26%	0.47%	0.27%	0.00%	0.00%	0.00%	0.00%	0.03%	0.73%	0.16%	0.16%	1.04%	1.33%	1.06%	1.04%	0.28%	0.58%	0.42%	0.37%
Mt. Carmel Picnic	SC	1	313.7	0.03%	0.26%	0.47%	0.27%	0.00%	0.00%	0.00%	0.00%	0.03%	0.73%	0.16%	0.16%	1.04%	1.33%	1.06%	1.04%	0.28%	0.58%	0.42%	0.37%
Modoc Ramp 1	SC	1	313.5	0.00%	0.18%	0.09%	0.24%	0.00%	0.00%	0.00%	0.00%	0.00%	0.64%	0.03%	0.03%	0.88%	1.24%	1.00%	1.04%	0.22%	0.52%	0.28%	0.33%
Clarks Hill Park	GA	1	313.5	0.00%	0.18%	0.09%	0.24%	0.00%	0.00%	0.00%	0.00%	0.00%	0.64%	0.03%	0.03%	0.88%	1.24%	1.00%	1.04%	0.22%	0.52%	0.28%	0.33%
Hawe Creek Campground	SC	1	313.5	0.00%	0.18%	0.09%	0.24%	0.00%	0.00%	0.00%	0.00%	0.00%	0.64%	0.03%	0.03%	0.88%	1.24%	1.00%	1.04%	0.22%	0.52%	0.28%	0.33%
Little River Subdivision Ramp	SC	1	313.5	0.00%	0.18%	0.09%	0.24%	0.00%	0.00%	0.00%	0.00%	0.00%	0.64%	0.03%	0.03%	0.88%	1.24%	1.00%	1.04%	0.22%	0.52%	0.28%	0.33%
Mistletoe State Park Low Water Ramp	GA	1	313.5	0.00%	0.18%	0.09%	0.24%	0.00%	0.00%	0.00%	0.00%	0.00%	0.64%	0.03%	0.03%	0.88%	1.24%	1.00%	1.04%	0.22%	0.52%	0.28%	0.33%
Hesters Ferry Campground	GA	1	312.9	0.00%	0.09%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.36%	0.00%	0.00%	0.39%	1.06%	0.67%	0.67%	0.10%	0.38%	0.17%	0.17%
Raysville Campground	GA	1	312.2	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.13%	0.00%	0.00%	0.00%	0.98%	0.18%	0.03%	0.00%	0.28%	0.05%	0.01%
Winfield Campground	GA	1	311.7	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Little River Marina 2	GA	1	311.3	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Mt. Carmel Campground	SC	1	311.0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Scotts Ferry Ramp	SC	1	310.7	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Modoc Shores Subdivision Ramp	SC	1	310.4	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Keg Creek	GA	1	309.0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

Appendix N
Recreation Model Sensitivity Analysis Results

Boat Ramp Name	State	No. of Lanes	Not useable below elevation* (ft AMSL)	Percentage of days when ramp is not useable																			
				Jan - Mar (6,588 days)				Apr - Jun (6,643 days)				Jul - Sep (6,716 days)				Oct - Dec (6,715 days)				Total POR (26,662 days)			
				NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4
Ramp																							
Lake Springs Park 1, 2, & 3	GA	3	308.7	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Dorn 3 & 4	SC	2	308.4	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Leathersville Ramp	GA	1	306.3	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

* The elevation below which ramps may not be usable for most boats is presented as two feet above the top of the concrete ramp end elevation.

Appendix N
Recreation Model Sensitivity Analysis Results

Table N-12 Number of Days Boat Ramps are Unusable on JST Lake under Future Water Withdrawals and Climate change Hydrology (1939 – 2011)

Boat Ramp Name	State	No. of Lanes	Not useable below elevation* (ft AMSL)	Number of days when ramp is not useable																			
				Jan - Mar (6,588 days)				Apr - Jun (6,643 days)				Jul - Sep (6,716 days)				Oct - Dec (6,715 days)				Total POR (26,662 days)			
				NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4
Hwy 28 Access Road	SC	1	326.0	1,541	1,534	1,401	1,396	802	824	823	790	1,458	1,469	1,656	1,657	3,245	3,229	3,062	3,070	7,046	7,056	6,942	6,913
Long Cane Creek Ramp	SC	1	325.7	1,205	1,208	1,128	1,123	715	727	760	717	1,218	1,215	1,315	1,268	2,565	2,565	2,452	2,441	5,703	5,715	5,655	5,549
Catfish Ramp	SC	1	325.5	1,063	1,076	1,036	1,040	658	676	708	674	1,070	1,074	1,133	1,118	2,201	2,194	2,174	2,160	4,992	5,020	5,051	4,992
Calhoun Falls Ramp	SC	1	325.0	901	913	934	935	550	546	601	543	951	952	1,013	993	1,730	1,723	1,819	1,804	4,132	4,134	4,367	4,275
Broad River Campground	GA	1	325.0	901	913	934	935	550	546	601	543	951	952	1,013	993	1,730	1,723	1,819	1,804	4,132	4,134	4,367	4,275
Cherokee Recreation Area	GA	5	324.7	818	837	877	877	494	485	551	490	927	926	980	959	1,616	1,594	1,732	1,694	3,855	3,842	4,140	4,020
Mistletoe State Park 1 & 2	GA	2	324.2	681	693	743	742	402	389	485	427	869	871	918	905	1,492	1,470	1,576	1,555	3,444	3,423	3,722	3,629
Soap Creek Park	GA	1	324.0	640	658	704	695	391	370	471	413	854	851	898	887	1,459	1,434	1,546	1,534	3,344	3,313	3,619	3,529
Little River Quarry Ramp	SC	1	324.0	640	658	704	695	391	370	471	413	854	851	898	887	1,459	1,434	1,546	1,534	3,344	3,313	3,619	3,529
Lakeside Subdivision Ramp	GA	1	324.0	640	658	704	695	391	370	471	413	854	851	898	887	1,459	1,434	1,546	1,534	3,344	3,313	3,619	3,529
Scotts Ferry (new ramp) 1 & 2	SC	2	323.8	606	627	671	662	369	344	439	396	831	828	874	868	1,418	1,392	1,518	1,503	3,224	3,191	3,502	3,429
Clay Hill Campground	GA	1	323.5	585	601	639	635	330	273	388	358	787	786	841	822	1,343	1,317	1,472	1,451	3,045	2,977	3,340	3,266
Winfield Subdivision	GA	1	323.1	552	561	612	616	256	228	310	286	734	720	776	762	1,239	1,187	1,368	1,351	2,781	2,696	3,066	3,015
Mt Pleasant Ramp	SC	1	322.4	495	506	526	536	205	199	246	218	628	621	661	654	1,084	1,068	1,175	1,175	2,412	2,394	2,608	2,583
Wildwood Park 5 & 6	GA	2	322.0	479	480	491	491	190	189	213	199	583	573	619	614	1,027	1,009	1,059	1,063	2,279	2,251	2,382	2,367
Morrahs Ramp	GA	1	321.5	467	461	466	471	188	182	204	189	517	495	554	550	904	886	958	967	2,076	2,024	2,182	2,177
Bussey Point	GA	1	321.0	457	456	456	457	173	134	166	174	462	433	501	492	809	794	840	846	1,901	1,817	1,963	1,969
Chamberlain Ferry Ramp	GA	1	321.0	457	456	456	457	173	134	166	174	462	433	501	492	809	794	840	846	1,901	1,817	1,963	1,969
Modoc Campground	SC	1	321.0	457	456	456	457	173	134	166	174	462	433	501	492	809	794	840	846	1,901	1,817	1,963	1,969
Murray Creek Ramp	GA	1	321.0	457	456	456	457	173	134	166	174	462	433	501	492	809	794	840	846	1,901	1,817	1,963	1,969
Parkway	GA	1	321.0	457	456	456	457	173	134	166	174	462	433	501	492	809	794	840	846	1,901	1,817	1,963	1,969

Appendix N
Recreation Model Sensitivity Analysis Results

Boat Ramp Name	State	No. of Lanes	Not useable below elevation* (ft AMSL)	Number of days when ramp is not useable																			
				Jan - Mar (6,588 days)				Apr - Jun (6,643 days)				Jul - Sep (6,716 days)				Oct - Dec (6,715 days)				Total POR (26,662 days)			
				NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4
Ramp																							
Cherokee Recreation Area 4	GA	1	321.0	457	456	456	457	173	134	166	174	462	433	501	492	809	794	840	846	1,901	1,817	1,963	1,969
Fishing Creek / Hwy 79 Ramp	GA	1	320.7	444	444	451	452	135	128	131	138	429	391	477	465	786	770	803	813	1,794	1,733	1,862	1,868
Wildwood Park 3 & 4	GA	2	320.0	405	404	410	412	115	114	114	116	364	320	401	397	744	724	760	765	1,628	1,562	1,685	1,690
Maxim Subdivision Ramp	GA	1	320.0	405	404	410	412	115	114	114	116	364	320	401	397	744	724	760	765	1,628	1,562	1,685	1,690
Wells Creek Subdivision	GA	1	320.0	405	404	410	412	115	114	114	116	364	320	401	397	744	724	760	765	1,628	1,562	1,685	1,690
Leroys Ferry Campground	SC	1	319.5	400	381	395	404	108	100	107	109	330	283	367	364	691	678	713	725	1,529	1,442	1,582	1,602
Ridge Road Campground	GA	1	319.0	361	316	364	371	77	73	90	103	306	245	335	334	583	560	635	670	1,327	1,194	1,424	1,478
Cherokee Recreation Area 3	GA	1	318.7	299	263	311	332	51	52	67	78	284	229	312	318	528	510	552	582	1,162	1,054	1,242	1,310
Chamberlain Ferry Ramp	GA	1	318.3	236	234	241	251	35	36	40	48	255	206	286	294	494	479	503	513	1,020	955	1,070	1,106
Double Branches Ramp	GA	1	318.1	235	230	228	237	31	32	37	39	237	196	264	282	462	454	477	487	965	912	1,006	1,045
Soap Creek Marina	GA	1	318.0	230	223	224	233	30	30	34	37	230	191	250	277	452	435	457	477	942	879	965	1,024
Cherokee Recreation Area 2	GA	1	318.0	230	223	224	233	30	30	34	37	230	191	250	277	452	435	457	477	942	879	965	1,024
Amity Recreation Area	GA	1	317.9	224	214	217	225	27	28	33	35	224	186	241	265	438	415	442	460	913	843	933	985
Raysville Marina	GA	1	317.6	207	206	208	213	22	24	26	30	206	174	221	235	373	370	385	410	808	774	840	888
Elbert County Subdivision Ramp	GA	1	317.6	207	206	208	213	22	24	26	30	206	174	221	235	373	370	385	410	808	774	840	888
Modoc Ramp 2	SC	1	317.2	200	201	195	201	17	20	20	23	180	165	196	208	329	334	349	357	726	720	760	789
Soap Creek / Hwy 220 Ramp	GA	1	317.0	189	187	160	191	14	17	18	20	173	160	186	194	308	313	328	347	684	677	692	752
Landam Creek Ramp	SC	1	316.2	90	113	90	96	3	8	8	10	151	151	160	161	228	244	211	252	472	516	469	519
Dordon Creek Ramp	SC	1	316.2	90	113	90	96	3	8	8	10	151	151	160	161	228	244	211	252	472	516	469	519

Appendix N
Recreation Model Sensitivity Analysis Results

Boat Ramp Name	State	No. of Lanes	Not useable below elevation* (ft AMSL)	Number of days when ramp is not useable																			
				Jan - Mar (6,588 days)				Apr - Jun (6,643 days)				Jul - Sep (6,716 days)				Oct - Dec (6,715 days)				Total POR (26,662 days)			
				NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4
Hickory Knob State Park	SC	1	316.2	90	113	90	96	3	8	8	10	151	151	160	161	228	244	211	252	472	516	469	519
Elijah Clark State Park 1, 2, & 3	GA	1	316.0	77	97	86	82	1	6	6	7	146	148	153	158	199	221	192	209	423	472	437	456
Holiday Park	GA	1	315.6	39	84	58	46	0	1	0	2	135	144	143	144	156	187	159	173	330	416	360	365
Ft. Gordon Recreation Area 1 & 2	GA	2	315.0	30	51	50	35	0	0	0	0	108	129	118	127	112	154	133	118	250	334	301	280
Plum Branch Yacht Club	SC	1	315.0	30	51	50	35	0	0	0	0	108	129	118	127	112	154	133	118	250	334	301	280
Wildwood Park 1 & 2	GA	2	315.0	30	51	50	35	0	0	0	0	108	129	118	127	112	154	133	118	250	334	301	280
Bobby Brown State Park 1 & 2	GA	2	315.0	30	51	50	35	0	0	0	0	108	129	118	127	112	154	133	118	250	334	301	280
New Bourdeaux Subdivision Ramp	SC	1	315.0	30	51	50	35	0	0	0	0	108	129	118	127	112	154	133	118	250	334	301	280
Gill Point Ramp	GA	1	314.8	23	48	47	32	0	0	0	0	81	120	93	100	84	142	119	112	188	310	259	244
Cherokee Recreation Area 1	GA	1	314.6	22	39	43	28	0	0	0	0	61	103	71	72	72	132	90	78	155	274	204	178
Little River / Hwy 378	SC	1	314.5	21	36	41	24	0	0	0	0	54	96	63	65	71	126	84	73	146	258	188	162
Parksville Recreation Area	SC	1	314.5	21	36	41	24	0	0	0	0	54	96	63	65	71	126	84	73	146	258	188	162
Buffalo Creek Subdivision Ramp	SC	1	314.5	21	36	41	24	0	0	0	0	54	96	63	65	71	126	84	73	146	258	188	162
Dorn 1, 2, 5, & 6	SC	4	314.4	20	33	40	23	0	0	0	0	50	90	57	55	71	123	81	71	141	246	178	149
Amity Recreation Area 2	GA	1	314.3	20	30	38	23	0	0	0	0	41	82	50	52	70	120	80	71	131	232	168	146
Hamilton Branch State Park (Day Use)	SC	1	314.0	17	25	34	20	0	0	0	0	14	63	29	28	70	101	74	70	101	189	137	118
Hamilton Branch State Park 1 & 2	SC	2	314.0	17	25	34	20	0	0	0	0	14	63	29	28	70	101	74	70	101	189	137	118

Appendix N
Recreation Model Sensitivity Analysis Results

Boat Ramp Name	State	No. of Lanes	Not useable below elevation* (ft AMSL)	Number of days when ramp is not useable																			
				Jan - Mar (6,588 days)				Apr - Jun (6,643 days)				Jul - Sep (6,716 days)				Oct - Dec (6,715 days)				Total POR (26,662 days)			
				NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4
Little River Marina 1	GA	1	314.0	17	25	34	20	0	0	0	0	14	63	29	28	70	101	74	70	101	189	137	118
Baker Creek State Park	SC	1	314.0	17	25	34	20	0	0	0	0	14	63	29	28	70	101	74	70	101	189	137	118
Tradewinds Marina	GA	1	314.0	17	25	34	20	0	0	0	0	14	63	29	28	70	101	74	70	101	189	137	118
Morrahs Ramp 2	GA	1	314.0	17	25	34	20	0	0	0	0	14	63	29	28	70	101	74	70	101	189	137	118
Amity Recreation Area 3	GA	1	313.8	5	20	32	19	0	0	0	0	5	54	18	13	70	93	72	70	80	167	122	102
Big Hart Recreation Area	GA	1	313.8	5	20	32	19	0	0	0	0	5	54	18	13	70	93	72	70	80	167	122	102
Petersburg Campground	GA	1	313.7	2	17	31	18	0	0	0	0	2	49	11	11	70	89	71	70	74	155	113	99
Mt. Carmel Picnic	SC	1	313.7	2	17	31	18	0	0	0	0	2	49	11	11	70	89	71	70	74	155	113	99
Modoc Ramp 1	SC	1	313.5	0	12	6	16	0	0	0	0	0	43	2	2	59	83	67	70	59	138	75	88
Clarks Hill Park	GA	1	313.5	0	12	6	16	0	0	0	0	0	43	2	2	59	83	67	70	59	138	75	88
Hawe Creek Campground	SC	1	313.5	0	12	6	16	0	0	0	0	0	43	2	2	59	83	67	70	59	138	75	88
Little River Subdivision Ramp	SC	1	313.5	0	12	6	16	0	0	0	0	0	43	2	2	59	83	67	70	59	138	75	88
Mistletoe State Park Low Water Ramp	GA	1	313.5	0	12	6	16	0	0	0	0	0	43	2	2	59	83	67	70	59	138	75	88
Hesters Ferry Campground	GA	1	312.9	0	6	0	0	0	0	0	0	0	24	0	0	26	71	45	45	26	101	45	45
Raysville Campground	GA	1	312.2	0	0	0	0	0	0	0	0	0	9	0	0	0	66	12	2	0	75	12	2
Winfield Campground	GA	1	311.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Little River Marina 2	GA	1	311.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mt. Carmel Campground	SC	1	311.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Scotts Ferry Ramp	SC	1	310.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Modoc Shores Subdivision Ramp	SC	1	310.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Keg Creek	GA	1	309.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Appendix N
Recreation Model Sensitivity Analysis Results

Boat Ramp Name	State	No. of Lanes	Not useable below elevation* (ft AMSL)	Number of days when ramp is not useable																			
				Jan - Mar (6,588 days)				Apr - Jun (6,643 days)				Jul - Sep (6,716 days)				Oct - Dec (6,715 days)				Total POR (26,662 days)			
				NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4	NAA/A1	A2	A3	A4
Ramp																							
Lake Springs Park 1, 2, & 3	GA	3	308.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dorn 3 & 4	SC	2	308.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Leathersville Ramp	GA	1	306.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

* The elevation below which ramps may not be usable for most boats is presented as three feet above the top of the concrete ramp end elevation.