

Appendix E

Minimum Flows and Minimum Levels – Adopted and Priority Lists

Technical Memorandum
North Florida Regional Water Supply Plan
Minimum Flows and Minimum Levels – Adopted and Priority Lists
August 18, 2016

Adopted Minimum Flows and Minimum Levels

Minimum Flows and Minimum Levels (MFLs) are the minimum water flows and/or minimum levels adopted by water management district Governing Boards or the Florida Department of Environmental Protection (FDEP) to prevent significant harm to the water resources or the ecological structure and function of an area resulting from groundwater or surface water withdrawals. MFLs characterize water resource values (WRVs) for individual waterbodies and define the duration and frequency of critical flooding and drying events necessary to protect these WRVs from significant harm. MFLs inform decisions regarding water use permitting, water shortages, assessments of water supply sources, and development of water resource and water supply projects.

Establishing MFLs is required pursuant to section (s.) 373.042(2), Florida Statutes (F.S.). Adoption is typically a four- to six-month process that involves public workshops, review by FDEP and publication in the Florida Administrative Weekly. MFLs are to be reviewed periodically and revised as necessary under s. 373.0421(3), F.S.

As of May 2016, the St. Johns River Water Management District (SJRWMD), Suwannee River Water Management District (SRWMD) and FDEP have established 67 MFLs in the North Florida Regional Water Supply Plan (NFRWSP) area; 47 lakes in the SJRWMD and 16 springs and three rivers (four reaches) in the SRWMD (Table E1). The full list of adopted MFLs within the SJRWMD and SRWMD can be found in chapters 40C-8 and 40B-8, respectively, and section 62-42.300, Florida Administrative Code. Adopted MFLs located outside of the NFRWSP area, but within the SJRWMD and SRWMD, are listed in Tables E2 and E3, respectively. Although there are 47 lakes with MFLs in the SJRWMD portion of the NFRWSP area, only 19 were assessed in the NFRWSP. The SJRWMD lake MFL assessment methodology only applies to lakes that have a significant connection to the Floridan aquifer. Lakes without such a connection (six total within the NFRWSP area) are noted in Table E1 as having “no significant Floridan aquifer connection” (NSFAC). The remaining non-assessed lakes (22 total) lacked sufficient data for assessment at the time of analysis. For the majority of these systems, surface water models have not yet been developed to assess whether MFLs are being met. Surface water models for Star Lake (Putnam County) and Lake Wauberg (Alachua County) were developed in 2015, but assessment had not yet been completed at the time of NFRWSP development. The SJRWMD is working to develop surface water models for all systems with MFLs that currently lack them. In south Putnam County, where many of these non-assessed lakes are located, surface water models have been developed and MFLs assessed for nearby lakes help ensure regional protection of water resources from consumptive use impacts.

MFLs Priority Lists

Each year, the Districts' Governing Boards approve and submit to FDEP an updated MFLs Priority List and Schedule. The MFLs list identifies the waterbodies and year in which MFLs will be developed for the upcoming five years. These lists are updated and resubmitted annually. The 2016 MFLs Priority List and Schedule shows the planned year for completion of new MFLs and reevaluations for the years 2016 through 2020. The Districts' Governing Boards approved their respective 2016 MFLs Priority List and Schedule on November 10, 2015 (SJRWMD), and November 12, 2015 (SRWMD). The 2016 MFLs Priority List and Schedule for each District is provided in Tables E4 and E5.

Table E1: SJRWMD and SRWMD Adopted MFLs within the NFRWSP Area

Water Body	Water Body Name	County/Basin	WMD	Assessed in NFRWSP
Lake	Argenta	Putnam	SJR	No – Insufficient data
Lake	Banana	Putnam	SJR	Yes
Lake	Bell	Putnam	SJR	Yes
Lake	Bird Pond	Putnam	SJR	No – Insufficient data
Lake	Blue Pond	Clay	SJR	No – NSFAC
Lake	Brooklyn	Clay	SJR	Yes
Lake	Broward	Putnam	SJR	Yes
Lake	Clear	Putnam	SJR	No – Insufficient data
Lake	Como	Putnam	SJR	Yes
Lake	Cowpen	Putnam	SJR	Yes
Lake	Crystal/Baker/Ida	Putnam	SJR	No – Insufficient data
Lake	Deep	Putnam	SJR	No – Insufficient data
Lake	Disston	Flagler	SJR	No – NSFAC
Lake	Dream Pond	Putnam	SJR	Yes
Lake	Echo	Putnam	SJR	No – Insufficient data
Lake	English/Nettles	Putnam	SJR	No – NSFAC
Lake	Estella	Putnam	SJR	No – Insufficient data
Lake	Geneva	Clay	SJR	Yes
Lake	Georges	Putnam	SJR	Yes
Lake	Gore	Flagler	SJR	Yes
Lake	Grandin	Putnam	SJR	Yes
Lake	Howell	Putnam	SJR	No – Insufficient data
Lake	Little Como	Putnam	SJR	Yes
Lake	Little Mall	Putnam	SJR	No – Insufficient data
Lake	Lizzie	Putnam	SJR	No – Insufficient data

Table E1: SJRWMD and SRWMD Adopted MFLs within the NFRWSP Area

Water Body	Water Body Name	County/Basin	WMD	Assessed in NFRWSP
Lake	Lowry/Sand Hill	Clay	SJR	No – NSFAC
Lake	Magnolia	Clay	SJR	No – NSFAC
Lake	Margaret	Putnam	SJR	No – Insufficient data
Lake	Marvin	Putnam	SJR	No – Insufficient data
Lake	McGrady	Putnam	SJR	No – Insufficient data
Lake	McKasel	Putnam	SJR	No – Insufficient data
Lake	Melrose	Putnam	SJR	No – NSFAC
Lake	North Como Park	Putnam	SJR	No – Insufficient data
Lake	Omega	Putnam	SJR	No – Insufficient data
Lake	Orio	Putnam	SJR	Yes
Lake	Pam	Putnam	SJR	No – Insufficient data
Lake	Prior	Putnam	SJR	No – Insufficient data
Lake	Sand	Putnam	SJR	No – Insufficient data
Lake	Silver	Putnam	SJR	Yes
Lake	South Como Park	Putnam	SJR	No – Insufficient data
Lake	Star	Putnam	SJR	No – Insufficient data
Lake	Stella	Putnam	SJR	Yes
Lake	Swan	Putnam	SJR	Yes
Lake	Tarhoe	Putnam	SJR	Yes
Lake	Trone	Putnam	SJR	Yes
Lake	Tuscawilla	Alachua	SJR	Yes
Lake	Wauberg	Alachua	SJR	No – Insufficient data
River	Ichetucknee	Santa Fe	SR	Yes
River	Lower Santa Fe	Santa Fe	SR	Yes
River	Upper Santa Fe @ Graham	Santa Fe	SR	Yes
River	Upper Santa Fe @ Worthington Springs	Santa Fe	SR	Yes
Spring	ALA 112971 (Treehouse) ²	Santa Fe	SR	Yes
Spring	Blue Hole ¹	Santa Fe	SR	Yes
Spring	COL 101974 (Unnamed) ²	Santa Fe	SR	Yes
Spring	Columbia ²	Santa Fe	SR	Yes
Spring	Devil’s Ear (Ginnie Group) ²	Santa Fe	SR	Yes

Table E1: SJRWMD and SRWMD Adopted MFLs within the NFRWSP Area

Water Body	Water Body Name	County/Basin	WMD	Assessed in NFRWSP
Spring	Devil's Eye ¹	Santa Fe	SR	Yes
Spring	GIL 1012973 (Siphon Creek Falls) ²	Santa Fe	SR	Yes
Spring	Grassy Hole ¹	Santa Fe	SR	Yes
Spring	Hornsby ²	Santa Fe	SR	Yes
Spring	Ichetucknee Head ¹	Santa Fe	SR	Yes
Spring	July ²	Santa Fe	SR	Yes
Spring	Mill Pond ¹	Santa Fe	SR	Yes
Spring	Mission ¹	Santa Fe	SR	Yes
Spring	Poe ²	Santa Fe	SR	Yes
Spring	Rum Island ²	Santa Fe	SR	Yes
Spring	Santa Fe Rise ²	Santa Fe	SR	Yes

NSFAC = No significant Floridan aquifer connection

¹ Ichetucknee River Priority Spring

² Lower Santa Fe River Priority Spring

Table E2: SJRWMD Adopted MFLs Outside the NFRWSP Area

Water Body Type	Water Body Name	County
Lake	Apshawa North	Lake
Lake	Apshawa South	Lake
Lake	Ashby	Volusia
Lake	Big	Volusia
Lake	Boggy Marsh	Lake
Lake	Bowers	Marion
Lake	Brantley	Seminole
Lake	Burkett	Orange
Lake	Charles	Marion
Lake	Cherry	Lake
Lake	Colby	Volusia
Lake	Coon Pond	Volusia
Lake	Cow Pond	Volusia
Lake	Daugharty	Volusia
Lake	Davis	Volusia
Lake	Dias	Volusia
Lake	Dorr	Lake
Lake	Drudy	Volusia
Lake	Emma	Lake
Lake	Emporia	Volusia
Lake	Fox	Brevard
Lake	Gertie	Volusia
Lake	Halfmoon	Marion
Lake	Helen	Volusia
Lake	Hires	Volusia
Lake	Hokey	Volusia
Lake	Hopkins Prairie	Marion
Lake	Howell	Seminole
Lake	Indian	Volusia
Lake	Irma	Orange
Lake	Kerr	Marion
Lake	Louisa	Lake
Lake	Lower Lake Louise	Volusia
Lake	Lucy	Lake

Table E2: SJRWMD Adopted MFLs Outside the NFRWSP Area

Water Body Type	Water Body Name	County
Lake	Martha	Orange
Lake	Mills	Seminole
Lake	Minneola	Lake
Lake	Monroe	Seminole/Volusia
Lake	Nicotoon	Marion
Lake	Norris	Lake
Lake	North Talmadge	Volusia
Lake	Pearl	Orange
Lake	Pierson	Volusia
Lake	Pine Island	Lake
Lake	Prevatt	Orange
Lake	Purdom	Volusia
Lake	Savannah	Volusia
Lake	Scoggin	Volusia
Lake	Shaw	Volusia
Lake	Smith	Marion
Lake	South	Brevard
Lake	Sunset	Lake
Lake	Sylvan	Seminole
Lake	Three Island Lakes	Volusia
Lake	Trout	Volusia
Lake	Upper Lake Louise	Volusia
Lake	Washington	Brevard
Lake	Weir	Marion
Lake	Winnemisett	Volusia
Lake	Winona	Volusia
River	Black Water Creek @ SR 44	Lake
River	St. Johns 1.5 miles downstream of Lake Washington Weir	Brevard
River	St. Johns @ SR 44	Volusia
River	Taylor Creek 1.7 miles downstream of S-164	Orange
River	St. Johns @ SR 50	Orange/Brevard
River	Wekiva @SR 46	Seminole/Lake
Spring	Blue	Volusia

Table E2: SJRWMD Adopted MFLs Outside the NFRWSP Area

Water Body Type	Water Body Name	County
Spring	Messant	Lake
Spring	Miami	Seminole
Spring	Palm	Seminole
Spring	Rock	Orange
Spring	Sanlando	Seminole
Spring	Seminole	Lake
Spring	Starbuck	Seminole
Spring	Wekiwa	Orange
Water Management Area	Blue Cypress WMA	Indian River

Table E3: SRWMD Adopted MFLs Outside the NFRWSP Area

Water Body Type	Water Body Name	Basin
River	Aucilla	Aucilla
River	Econfina	Econfina
River	Lower Suwannee	Lower Suwannee
River	Waccasassa	Waccasassa
River	Wacissa	Aucilla
Spring	Fanning	Lower Suwannee
Spring	Levy (Bronson) Blue	Waccasassa
Spring	Little Fanning	Lower Suwannee
Spring	Madison Blue	Withlacoochee
Spring	Manatee	Lower Suwannee
Spring	Nutall Rise	Aucilla
Spring	Wacissa group	Aucilla

Table E4: SJRWMD 2015 MFLs Priority List and Schedule

Year	Water Body Type	Water Body Name	County	Within NFRWSP Area
2016	Lake	Cowpen (Re-eval)	Putnam	Yes
	Spring	De Leon	Volusia	No
2017	Lake	Apopka	Lake, Orange	No
	Lake	Brooklyn (Re-eval)	Clay	Yes
	Lake	Geneva (Re-eval)	Clay	Yes
	Lake	Griffin	Lake	No
	Lake	Harris Chain of Lakes	Lake	No
	River	Alexander Springs Creek	Lake	No
	River	Silver	Marion	No
	Spring	Alexander	Lake	No
	Spring	Silver Glen	Marion, Lake	No
	Spring	Silver	Marion	No
2018	Lake	Apshawa South (Re-eval)	Lake	No
	Lake	Johns	Orange	No
	Lake	Prevatt (Re-eval)	Orange	No
	Lake	Sylvan (Re-eval)	Seminole	No
	River	Ocklawaha at SR40	Marion	No
	River/Spring System	Wekiva at SR 46 Bridge and associated springs (Re-eval)	Seminole, Lake	No
2019	Lake	Butler	Volusia	No
	Lake	East Crystal	Seminole	No
	Lake	Hodge	Seminole	No
	Spring	Bugg	Lake	No
2020	Lake	Lochloosa/Orange	Alachua	Yes

Table E5: SRWMD 2016 MFLs Priority List and Schedule

Year	Water Body Type	Water Body Name (Basin)	Basin	Within NFRWSP Area
2016	Lake	Hampton	Santa Fe	Yes
	Lake	Butler	Santa Fe	Yes
	River	Middle Suwannee River	Middle Suwannee	No
	River	Steinhatchee River	Steinhatchee	No
	River	Upper Suwannee River	Upper Suwannee	Yes
	Spring	Bell	Middle Suwannee	No
	Spring	Otter	Middle Suwannee	No
	Spring	Hart	Middle Suwannee	No
	Spring	Rock Sink	Middle Suwannee	No
	Spring	Guaranto	Middle Suwannee	No
	Spring	Pothole	Middle Suwannee	No
	Spring	Turtle	Middle Suwannee	No
	Spring	Branford	Middle Suwannee	No
	Spring	Little River	Middle Suwannee	No
	Spring	Ruth/Little Sulfur	Middle Suwannee	No
	Spring	Troy	Middle Suwannee	No
	Spring	Royal	Middle Suwannee	No
	Spring	Peacock	Middle Suwannee	No
	Spring	Bonnet	Middle Suwannee	No
	Spring	Lafayette Blue	Middle Suwannee	No
	Spring	Allen Mill Pond	Middle Suwannee	No
Spring	Charles	Middle Suwannee	No	
Spring	Anderson	Middle Suwannee	No	

Table E5: SRWMD 2016 MFLs Priority List and Schedule

Year	Water Body Type	Water Body Name (Basin)	Basin	Within NFRWSP Area
	Spring	Falmouth	Middle Suwannee	No
	Spring	Lime	Middle Suwannee	No
	Spring	Lime Run Sink	Middle Suwannee	No
	Spring	Steinhatchee Rise	Steinhatchee	No
	Spring	TAY76992 – Unnamed	Steinhatchee	No
	Spring	White	Upper Suwannee	Yes
	Spring	SUW923973 – Stevenson	Upper Suwannee	Yes
	Spring	Alapaha Rise	Upper Suwannee	Yes
	Spring	Holton Creek Rise	Upper Suwannee	Yes
2016 (cont)	Spring	SUW1017972 – Unnamed	Upper Suwannee	Yes
	Spring	Suwannee	Upper Suwannee	Yes
	Spring	Suwanacoochee	Withlacoochee	No
2017	Lake	Santa Fe	Santa Fe	Yes
	Lake	Altho	Santa Fe	Yes
	Lake	Cherry	Withlacoochee	No
	River	Alapaha River	Alapaha	Yes
	River	Withlacoochee River	Withlacoochee	No
	Spring	Pot	Withlacoochee	No
2018	Lake	Ocean Pond	Santa Fe	Yes
	Lake	Palestine	Santa Fe	Yes
	Lake	Rowell	Santa Fe	Yes
	Lake	Crosby	Santa Fe	Yes
	Lake	Sampson	Santa Fe	Yes