

**Withlacoochee River Group 4 Basin - Southwest District - Cycle 2 FINAL Verified List**

**Hydrologic Unit: Withlacoochee River**

OGC Case Number	Planning Unit	WBID	Water Segment Name	Waterbody Type	Waterbody Class <sup>1</sup>	1998 303(d) Parameter Of Concern	Parameters Assessed Using the Impaired Surface Waters Rule (IWR)	Dissolved Oxygen/ Biology Pollutant of Concern	DO / Nutrient / Biology - TN , TP, BOD Median Values (mg/L) <sup>2</sup>	Concentration of Criterion or Threshold Not Met	Previous EPA Integrated Report Category <sup>3</sup> - Cycle 1 Assessment <sup>4</sup>	Current EPA Integrated Report Category <sup>3</sup> - Cycle 2 Assessment <sup>5</sup>	Current Integrated Category <sup>1</sup> - Final Assessment	Current Assessment Status	Priority for TMDL Development <sup>6</sup>	Verified Period Assessment Data <sup>8</sup>	Comments
10-3225	Lake Panasoffkee	1347	Lake Okahumpka	Lake	3F		Mercury (in fish tissue)			Exceeds DoH Threshold (< 0.3 ppm)	3c	5	5	Impaired	High*	Assessment based on DOH Fish Tissue Studies	Verified for impairment based on DOH fish consumption advisory data from 2003 for 12 Bluegill with an average mercury concentration of 0.37 ppm.
10-3226	Lake Panasoffkee	1351A	Outlet River	Stream	3F		Nutrients (Chlorophyll-a)		TN = 0.982 (n=113) TP = 0.05 (n=110) BOD = 2.25 (n=12)	≤ 20 µg/L	2	5	5	Impaired	Medium	2003 (17 µg/L) 2004 (14 µg/L) 2005 (ID) 2006 (9.3 µg/L) 2007 (17 µg/L) 2008 (17 µg/L) 2009 (22 µg/L)	This river was verified as impaired for nutrients because the annual average chlorophyll-a values exceeded 20 µg/l in 2009. Nitrogen and phosphorus are the limiting nutrients based on a median TN/TP ratio of 20.43 (n=107).
10-3227	Lake Panasoffkee	1351B2	Canal 485A Springs Group	Spring	3F		Nutrients (Algal Mats)		TN = 1.12 (n=17) TP = 0.05 (n=24) BOD = No Data	Balanced natural population of flora.	N/A	5	5	Impaired	Medium	N/A	This spring has been verified as impaired for nutrients based on "other information" that indicated an imbalance in flora or fauna. It is included in a springs report "Florida Springs Initiative Monitoring Network Report 2008" that documents nutrient enrichment is apparent due to abundant algae documented through photography as well as bioassessment methods. Nitrate+nitrite levels range from 0.25 - 1.4 mg/L during the verified period and is the likely cause of the impairment; however, in accordance with Rule 62-303.710(4), F.A.C., the limiting nutrients are nitrogen and phosphorus based on a median TN/TP ratio of 23 (n=17).
10-3228	Lower Withlacoochee	1329A	Cross Florida Barge Canal	Estuary	3M		Mercury (in fish tissue)			Exceeds DoH Threshold (< 0.3 ppm)	3c	5	5	Impaired	High*	Assessment based on DOH Fish Tissue Studies	Verified for impairment based on DOH fish consumption advisory data from 2003 for 12 Bluegill with an average mercury concentration of 0.37 ppm.
10-3229	Lower Withlacoochee	1329A	Cross Florida Barge Canal	Estuary	3M		Nutrients (Chlorophyll-a)		TN = 0.74 (n=104) TP = 0.056 (n=105) BOD = 2.5 (n=5)	≤ 11 µg/L	2	5	5	Impaired	Medium	2003 (6.4 µg/L) 2004 (6.5 µg/L) 2005 (8.3 µg/L) 2006 (11 µg/L) 2007 (11 µg/L) 2008 (11 µg/L) 2009 (34 µg/L)	This canal was verified as impaired for nutrients because the annual average chlorophyll-a values exceeded 11 µg/l in 2009. Nitrogen and phosphorus are the limiting nutrients based on a median TN/TP ratio of 13 (n=104).
10-3230	Lower Withlacoochee	1329B	Lake Rousseau	Lake	3F		Mercury (in fish tissue)			Exceeds DoH Threshold (< 0.3 ppm)	3c	5	5	Impaired	High*	Assessment based on DOH Fish Tissue Studies	Verified for impairment based on DOH fish consumption advisory data from 2003 for 12 Bluegill with an average mercury concentration of 0.37 ppm.
10-3231	Lower Withlacoochee	1329B1	Lake Rousseau Drain	Stream	3F		Mercury (in fish tissue)			Exceeds DoH Threshold (< 0.3 ppm)	3c	5	5	Impaired	High*	Assessment based on DOH Fish Tissue Studies	Verified for impairment based on DOH fish consumption advisory data from 2003 for 12 Bluegill with an average mercury concentration of 0.37 ppm.
10-3232	Lower Withlacoochee	1329C	Withlacoochee River	Stream	3F		Mercury (in fish tissue)			Exceeds DoH Threshold (< 0.3 ppm)	3c	5	5	Impaired	High*	Assessment based on DOH Fish Tissue Studies	Verified for impairment based on DOH fish consumption advisory data from 2003 for 12 Bluegill with an average mercury concentration of 0.37 ppm.
10-3233	Lower Withlacoochee	1329D	Withlacoochee River	Stream	3F		Mercury (in fish tissue)			Exceeds DoH Threshold (< 0.3 ppm)	3c	5	5	Impaired	High*	Assessment based on DOH Fish Tissue Studies	Verified for impairment based on DOH fish consumption advisory data from 2003 for 12 Bluegill with an average mercury concentration of 0.37 ppm.
10-3234	Lower Withlacoochee	1329R	Wilson Head Spring	Spring	3F		Nutrients (Algal Mats)		TN = 0.66 (n=17) TP = 0.045 (n=18) BOD = No Data	Balanced natural population of flora.	N/A	5	5	Impaired	Medium	N/A	This spring has been verified as impaired for nutrients based on "other information" that indicated an imbalance in flora or fauna. It is included in a springs report "Florida Springs Initiative Monitoring Network Report 2008" that documents nutrient enrichment is apparent due to abundant algae documented through photography as well as bioassessment methods. Nitrate+nitrite levels range from 0.56 - 0.8 mg/L during the verified period and is the likely cause of the impairment; however, in accordance with Rule 62-303.710(4), F.A.C., the limiting nutrients are nitrogen and phosphorus based on a median TN/TP ratio of 14 (n=17).
10-3235	Lower Withlacoochee	1337	Withlacoochee River	Stream	3F		Mercury (in fish tissue)			Exceeds DoH Threshold (< 0.3 ppm)	3c	5	5	Impaired	High*	Assessment based on DOH Fish Tissue Studies	Verified for impairment based on DOH fish consumption advisory data from 2003 for 12 Bluegill with an average mercury concentration of 0.37 ppm.

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OGC Case Number	Planning Unit	WBID	Water Segment Name	Waterbody Type	Waterbody Class <sup>1</sup>	1998 303(d) Parameter Of Concern	Parameters Assessed Using the Impaired Surface Waters Rule (IWR)	Dissolved Oxygen/ Biology Pollutant of Concern	DO / Nutrient / Biology - TN , TP, BOD Median Values (mg/L) <sup>2</sup>	Concentration of Criterion or Threshold Not Met	Previous EPA Integrated Report Category <sup>†</sup> - Cycle 1 Assessment <sup>4</sup>	Current EPA Integrated Report Category <sup>†</sup> - Cycle 2 Assessment <sup>5</sup>	Current Integrated Category <sup>†</sup> - Final Assessment	Current Assessment Status	Priority for TMDL Development <sup>6</sup>	Verified Period Assessment Data <sup>8</sup>	Comments
10-3236	Lower Withlacoochee	1337A	Bypass Channel	Stream	3F		Mercury (in fish tissue)			Exceeds DoH Threshold (< 0.3 ppm)	3c	5	5	Impaired	High*	Assessment based on DOH Fish Tissue Studies	Verified for impairment based on DOH fish consumption advisory data from 2003 for 12 Bluegill with an average mercury concentration of 0.37 ppm.
10-3237	Lower Withlacoochee	1338A	Gum Springs (Alligator Springs)	Spring	3F		Nutrients (Algal Mats)		TN = 1.31 (n=69) TP = 0.029 (n=71) BOD = 0.2 (n=1)	Balanced natural population of flora.	n/a	5	5	Impaired	Medium	N/A	This spring has been verified as impaired for nutrients based on "other information" that indicated an imbalance in flora or fauna. It is included in a springs report "Florida Springs Initiative Monitoring Network Report 2008" that documents nutrient enrichment is apparent due to abundant algae documented through photography as well as bioassessment methods. Nitrate+nitrite levels range from 0.14 - 1.4 mg/L during the verified period and is the likely cause of the impairment; however, in accordance with Rule 62-303.710(4), F.A.C., the limiting nutrient is phosphorus based on a median TN/TP ratio of 44 (n=69).
10-3238	Lower Withlacoochee	1357	Leslie-Hefner Canal	Stream	3F		Nutrients (Chlorophyll-a)		TN = 1.52 (n=32) TP = 0.1 (n=38) BOD = 2 (n=22)	≤ 20 µg/L	2	5	5	Impaired	Medium	2004 (ID) 2007 (ID) 2009 (44 µg/L)	This canal was verified as impaired for nutrients because the annual average chlorophyll-a value exceeded 20 µg/l in 2009. Nitrogen and phosphorus are the limiting nutrients based on a median TN/TP ratio of 18.36 (n=32).
10-3239	Rainbow River	1320A	Rainbow Springs Group	Spring	3F	Nutrients	Nutrients (Algal Mats)		TN = 1.58 (n=181) TP = 0.031 (n=181) BOD = 0.27 (n=16)	Balanced natural population of flora.	n/a	5	5	Impaired	Medium	N/A	This spring has been verified as impaired for nutrients based on "other information" that indicated an imbalance in flora or fauna. It is included in two spring reports "Florida Springs Initiative Monitoring Network Report 2008" and "Documentation to Support Listing of Nutrient Impaired Springs and Spring Runs" that documents the presence of epiphyte and algal mats in Rainbow Springs and Run and that nutrient enrichment is apparent due to due to the abundant algae documented through photography as well as bioassessment methods. Nitrate+nitrite levels range from 0.96 - 2.2 mg/L during the verified period and is the likely cause of the impairment; however, in accordance with Rule 62-303.710(4), F.A.C., the limiting nutrient is phosphorus based on a median TN/TP ratio of 52 (n=178).
10-3240	Rainbow River	1320B	Rainbow Springs Group Run	Stream	3F		Nutrients (Algal Mats)		TN = 1.4 (n=92) TP = 0.03 (n=91) BOD = No Data	Balanced natural population of flora.	n/a	5	5	Impaired	Medium	N/A	This spring has been verified as impaired for nutrients based on "other information" that indicated an imbalance in flora or fauna. It is included in two spring reports "Florida Springs Initiative Monitoring Network Report 2008" and "Documentation to Support Listing of Nutrient Impaired Springs and Spring Runs" that documents the presence of epiphyte and algal mats in Rainbow Springs and Run and that nutrient enrichment is apparent due to due to the abundant algae documented through photography as well as bioassessment methods. Nitrate+nitrite levels range from 1.0 - 1.7 mg/L during the verified period and is the likely cause of the impairment; however, in accordance with Rule 62-303.710(4), F.A.C., the limiting nutrient is phosphorus based on a median TN/TP ratio of 46 (n=91).
10-3241	Tsalo Apopka	1340A	Davis Lake	Lake	3F		Nutrients (TSI)		TN = 1.82 (n=20) TP = 0.042 (n=21) BOD = No Data	TSI ≤ 60; Color > 40	3b	5	5	Impaired	Medium	2009 (67; Color: 166 PCU)	This lake was verified as impaired because the TSI threshold of 60 was exceeded in 2009. Phosphorus is the limiting nutrient based on a median TN/TP ratio of 43.42 (n=20).
10-3242	Tsalo Apopka	1340E	Little Lake Consuella	Lake	3F		Nutrients (TSI)		TN = 1.095 (n=44) TP = 0.026 (n=43) BOD = No Data	TSI ≤ 40; Color ≤ 40	3b	5	5	Impaired	Medium	2007 (53; Color: 34 PCU) 2008 (46; Color: 31 PCU) 2009 (53; Color: 27 PCU)	This lake was verified as impaired because the TSI threshold of 40 was exceeded in 2007, 2008, 2009. Phosphorus is the limiting nutrient based on a median TN/TP ratio of 43.57 (n=43).
10-3243	Tsalo Apopka	1340L	Cooter Lake	Lake	3F		Nutrients (TSI)		TN = 0.555 (n=40) TP = 0.025 (n=41) BOD = No Data	TSI ≤ 40; Color ≤ 40	3b	5	5	Impaired	Medium	2007 (42; Color: 22 PCU) 2008 (38; Color: 19 PCU) 2009 (41; Color: 18 PCU)	This lake was verified as impaired because the TSI threshold of 40 was exceeded in 2007 and 2009. Nitrogen and phosphorus are the limiting nutrients based on a median TN/TP ratio of 25.47 (n=40).

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10-3244	Upper Withlacoochee	1329E	Withlacoochee River	Stream	3F		Mercury (in fish tissue)			Exceeds DoH Threshold (< 0.3 ppm)	3c	5	5	Impaired	High*	Assessment based on DOH Fish Tissue Studies	Verified for impairment based on DOH fish consumption advisory data from 2003 for 12 Bluegill with an average mercury concentration of 0.37 ppm.
10-3245	Upper Withlacoochee	1329F	Withlacoochee River	Stream	3F		Mercury (in fish tissue)			Exceeds DoH Threshold (< 0.3 ppm)	3c	5	5	Impaired	High*	Assessment based on DOH Fish Tissue Studies	Verified for impairment based on DOH fish consumption advisory data from 2003 for 12 Bluegill with an average mercury concentration of 0.37 ppm.
10-3246	Upper Withlacoochee	1329G	Withlacoochee River	Blackwater	3F		Mercury (in fish tissue)			Exceeds DoH Threshold (< 0.3 ppm)	3c	5	5	Impaired	High*	Assessment based on DOH Fish Tissue Studies	Verified for impairment based on DOH fish consumption advisory data from 2003 for 12 Bluegill with an average mercury concentration of 0.37 ppm.
10-3247	Upper Withlacoochee	1378	Big Gant Canal	Stream	3F		Nutrients (Chlorophyll-a)		TN = 0.976 (n=103) TP = 0.046 (n=106) BOD = 1.9 (n=37)	≤ 20 µg/L	2	5	5	Impaired	Medium	2004 (12 µg/L) 2005 (8.2 µg/L) 2006 (4.6 µg/L) 2007 (23 µg/L) 2008 (6.8 µg/L) 2009 (15 µg/L) 2010 (ID)	This canal was verified as impaired for nutrients because the annual average chlorophyll-a value exceeded 20 µg/l in 2007. Nitrogen and phosphorus are the limiting nutrients based on a median TN/TP ratio of 20.7 (n=103).
10-3248	Upper Withlacoochee	1426	Pony Creek	Stream	3F		Dissolved Oxygen (Nutrients)	Total Phosphorus	TN = 1.66 (n=79) TP = 0.179 (n=79) BOD = No Data	≥ 5.0 mg/L	4c	5	5	Impaired	Medium	36/79	Impaired with total phosphorus identified as the causative pollutant. There are a sufficient number of exceedances to meet the verified list requirements and the total phosphorus median exceeds the 90th percentile value of 0.116 mg/L for the Peninsula region. 2004 SWFWMD land use statistics: 45% upland forest and wetlands, 44% agriculture and rangeland, 11% urban and built-up.
10-3249	Upper Withlacoochee	1449A	Lake Deeson	Lake	3F		Nutrients (TSI)		TN = 1.458 (n=18) TP = 0.06 (n=15) BOD = No Data	TSI ≤ 40; Color ≤ 40	3b	5	5	Impaired	Medium	2007 (71; Color: 20 PCU)	This lake was verified as impaired because the TSI threshold of 40 was exceeded in 2007. Nitrogen and phosphorus are the limiting nutrients based on a median TN/TP ratio of 23.7 (n=15).
10-3250	Upper Withlacoochee	1484A	Lake Tennessee	Lake	3F		Nutrients (TSI)		TN = 1.016 (n=29) TP = 0.025 (n=24) BOD = No Data	TSI ≤ 40; Color ≤ 40	3b	5	5	Impaired	Medium	2007 (57; Color: 6 PCU) 2008 (48; Color: 6 PCU) 2009 (42; Color: 9 PCU)	This lake was verified as impaired because the TSI threshold of 40 was exceeded in 2007, 2008 and 2009. Phosphorus is the limiting nutrient based on a median TN/TP ratio of 34.4 (n=24).
10-3251	Upper Withlacoochee	1484B	Lake Juliana	Lake	3F		Nutrients (TSI)		TN = 1.188 (n=33) TP = 0.03 (n=29) BOD = No Data	TSI ≤ 40; Color ≤ 40	3a	5	5	Impaired	Medium	2007 (53; Color: 11 PCU) 2008 (60; Color: 9 PCU) 2009 (59; Color: 9 PCU)	This lake was verified as impaired because the TSI threshold of 40 was exceeded in 2007, 2008 and 2009. Phosphorus is the limiting nutrient based on a median TN/TP ratio of 42.2 (n=29).

<sup>1</sup> Florida's waterbody classifications are defined as:

- 1 - Potable water supplies
- 2 - Shellfish propagation or harvesting
- 3F - Recreation, propagation, and maintenance of a healthy, well-balanced population of fish and wildlife in fresh water
- 3M - Recreation, propagation, and maintenance of a healthy, well-balanced population of fish and wildlife in marine water
- 4 - Agricultural water supplies
- 5 - Navigation, utility, and industrial use

<sup>2</sup> n is equal to the number of samples. When samples are collected at the same location less than 4 days apart, the median of those results represents a single sample for the purpose of determining n.

<sup>4</sup> The Cycle 1 assessment was done in 2005 and included data from that Verified Period (January 1, 1998 through June 30, 2005).

<sup>5</sup> The Cycle 2 assessment is the current assessment and includes data from the Verified Period (January 1, 2003 through June 30, 2010).

<sup>†</sup> EPA's Integrated Report Category:

- 1 - Attains all designated uses
- 2 - Attains some designated uses and insufficient or no information or data are present to determine if remaining uses are attained
- 3a - No data and information are present to determine if any designated use is attained
- 3b - Some data and information are present but not enough to determine if any designated use is attained
- 3c - Enough data and information are present to determine that one or more designated uses may not be attained according to the Planning List methodology
- 4a - Impaired for one or more designated uses but does not require TMDL development because a TMDL has already been completed.
- 4b - Impaired for one or more designated uses but does not require TMDL development because the water will attain water quality standards due to existing or proposed measures as part of an approved Reasonable Assurance.
- 4c - Impaired for one or more criteria or designated uses but does not require TMDL development because impairment is not caused by a pollutant.
- 4d - The waterbody does not meet applicable criteria, but no pollutant can be identified thus a TMDL will not be developed at this time.
- 4e - Impaired, but recently completed or on-going restoration activities are underway to restore the designated uses of the waterbody.
- 5 - Water quality standards are not attained and a TMDL is required.

<sup>6</sup> Where a parameter was identified as impaired, a priority of "medium" was assigned except for waters where the impairment poses a threat to potable water or

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human health, which have been assigned a "high" priority, and fecal coliform impairments, which have been assigned a "low" priority.

It is our intent that listings with a "High" priority be addressed within the next 5 years, listings with a "Medium" priority be addressed within 5-10 years as resources allow, and listings with a "Low" priority be addressed within the next 10 years.

<sup>8</sup> VP - Verified Period (January 1, 2003 through June 30, 2010); Data include chlorophyll-a annual averages, annual average TSI and color values, bioassessment results and # of exceedances/# of samples.

<sup>4</sup> A statewide TMDL for mercury, that will address this waterbody, is scheduled to be completed in 2012.

<sup>†</sup> FDEP Central laboratory determined that a threshold of 3 µg/L represents the lower end of reasonable detection limits for reporting known chlorophyll-a values.

Since the IWR permits annual mean chlorophyll-a value increases by no more than 50% over historical values, FDEP proposes to use 4.5 µg/L as a threshold for current conditions that must be exceeded in order to assess based on historic evaluations.

N/A = Not Applicable, does not apply, or was not assessed in the previous cycle (i.e. it's a new WBID, waterbody type change, etc.).

<sup>^</sup> Beach advisories are based on FL Dept of Health Enterococcus (>103 CFU/100mL) or fecal coliform (>399 CFU/100mL) criteria.

Beach advisory data is based on "2010 Beach Advisories" created 2001 by Barbara Donner (FDEP Watershed Assessment Section).

Fish advisory data is based on "2008 Fish Advisories" created 2001 and updated 2009 by Barbara Donner of (FDEP Watershed Assessment Section).

The Group 4 Withlacoochee River FINAL Verified list is based on IWR Run 41x.