

Handouts Summarizing Information

for

St. Lucie River Watershed Protection Plan Meeting

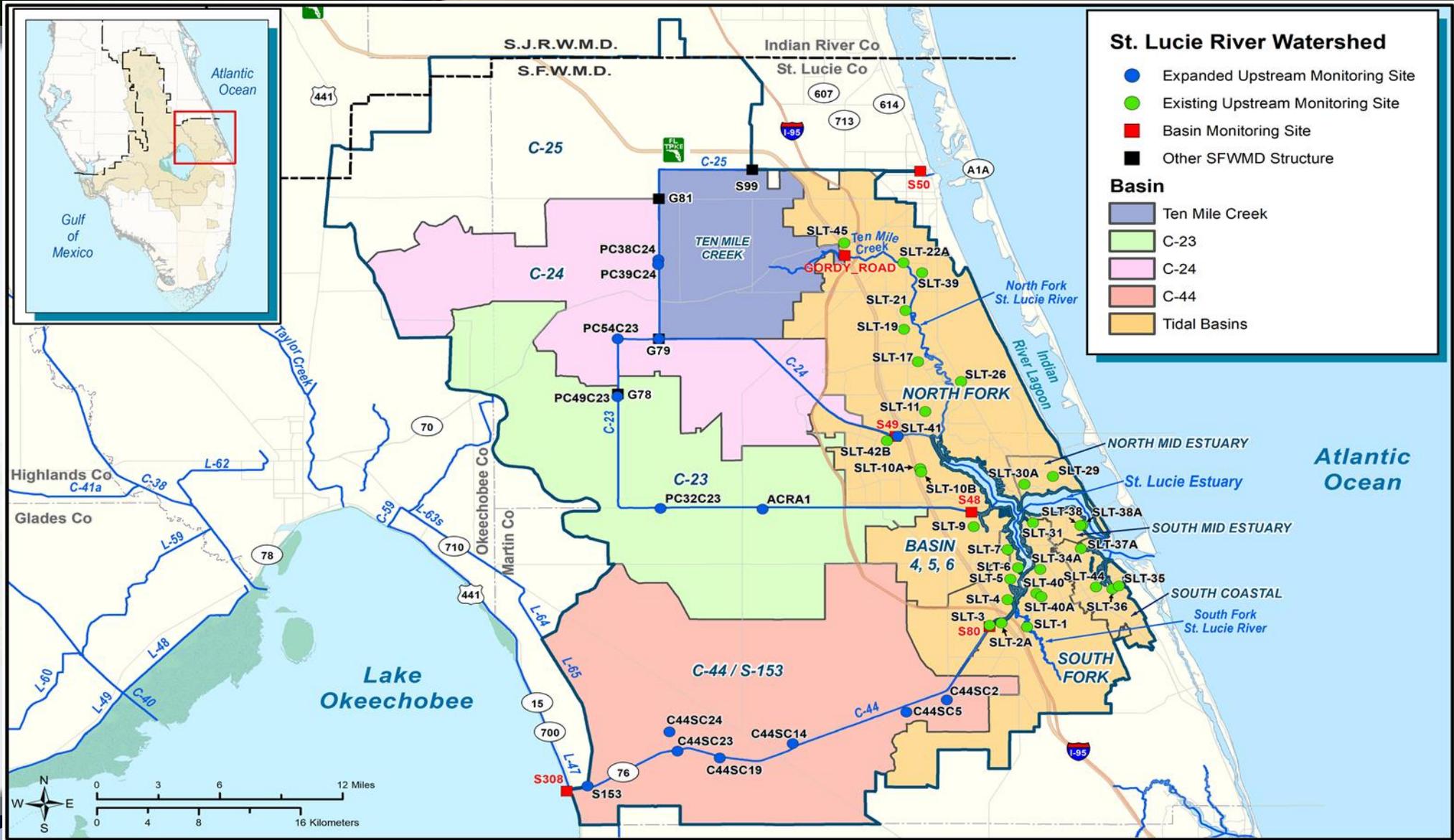
August 28, 2020

1 pm

Via Zoom

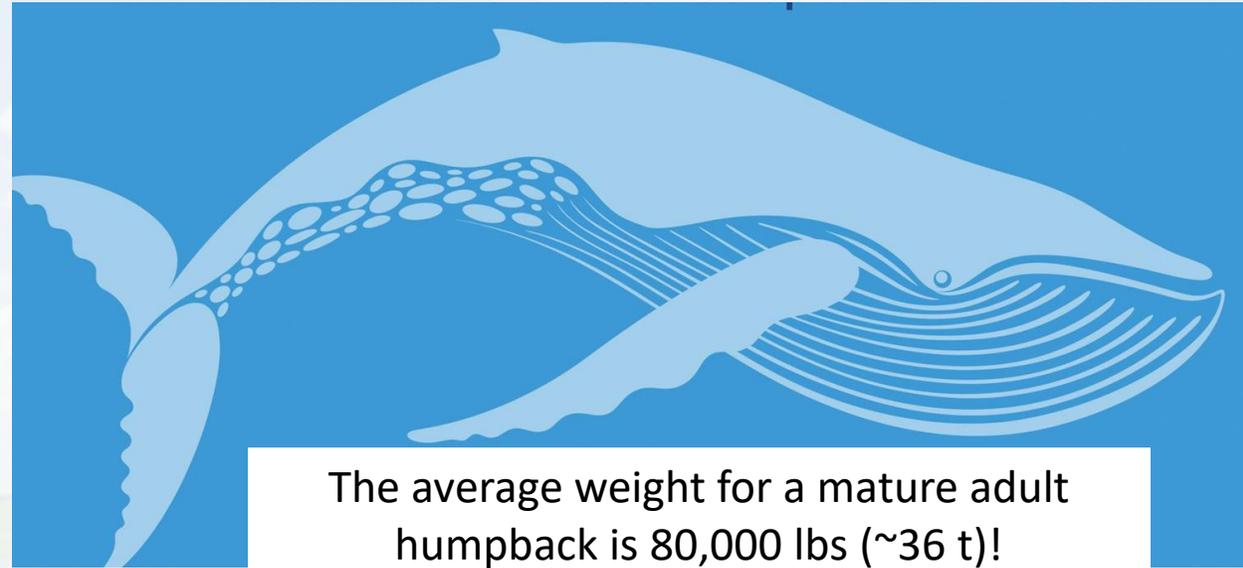
Note – for presentation slides please go to presentation link on the website

St. Lucie River Watershed



Data Terminology

- **Nutrient Load:** The cumulative weight of a constituent transported (usually by stormwater) passed the point of measurement. Commonly expressed in pounds (lbs) or metric tons (t).
- **Discharge Volume (acre-feet):** Amount of water required to cover 1 acre of land to a depth of 1 foot.
- **UAL: Unit Area Load** is the nutrient load per acre of area
- **FWMC: Flow Weighted Mean Concentration:** Represents the average concentration of a constituent that passes through a structure relative to the total flow volume passing through.



St. Lucie River Watershed Flows to the St. Lucie Estuary

	Lake Okeechobee ^a	St. Lucie Basins ^b	Tidal Basins	Total St. Lucie	St. Lucie Basins ^b			
					C-44 Basin	C-23 Basin	C-24 Basin	Ten Mile Creek Basin
Total Flow (ac-ft X 10³)								
WY2016	369.84	586.30	262.56	1,218.70	188.56	106.70	176.61	114.43
WY2017	338.21	370.42	236.53	945.16	78.82	65.89	97.95	127.77
WY2018	585.62	673.51	316.85	1,575.98	79.85	219.66	221.13	152.87
WY2019	308.28	383.05	176.19	867.52	121.06	92.03	77.01	92.95
WY2020	0.00	232.62	131.88	364.50	31.16	56.39	59.39	85.68
5-Yr Avg. ^c	320.39	449.18	224.80	994.37	99.89	108.13	126.42	114.74
5-Yr % ^d	32%	45%	23%	100%	10%	11%	13%	12%
WY1997-WY2020	254.92	478.49	246.90	980.31	107.31	117.35	136.21	117.62

a. Due to sensor error resulting in the USGS data being unavailable, flow volumes reported from Lake Okeechobee to the C-44 Basin through S-308 for the period October 8 through December 6, 2018, are sourced from USACE flow records. Based upon measured rainfall in the basin, the flow data available to estimate runoff from the C-44 Basin for this period, computed from the difference in S-308 flow and S-80 flow, appears to overestimate contributions from Lake Okeechobee and underestimate C-44 Basin runoff.

b. St. Lucie Basins = C-44, C-23, C-24 and Ten Mile Creek Basins.

c. 5-Yr Avg. = arithmetic mean of annual data.

d. 5-Yr% = % of Total St. Lucie for Lake Okeechobee, St. Lucie Basins and Tidal Basins and C-44, C-23, C-24 and Ten Mile Creek Basins.

St. Lucie River Watershed TP loads and Concentrations to the St. Lucie Estuary

	Lake Okeechobee ^a	St. Lucie Basins ^b	Tidal Basins	Total St. Lucie	St. Lucie Basins ^b			
					C-44 Basin	C-23 Basin	C-24 Basin	Ten Mile Creek Basin
TP load (t)								
WY2016	83.60	218.99	30.57	333.16	63.73	53.49	59.85	41.92
WY2017	56.83	144.45	28.57	229.85	30.03	28.49	34.28	51.64
WY2018	160.51	349.95	45.32	555.78	68.24	100.02	111.36	70.32
WY2019	73.45	157.42	17.33	248.20	51.04	36.66	40.89	28.83
WY2020	0.00	59.27	31.88	91.15	4.77	16.91	15.14	22.46
5-Yr Avg. ^c	74.88	186.01	30.73	291.63	43.56	47.11	52.30	43.03
5-Yr % ^d	26%	64%	11%	100%	15%	16%	18%	15%
WY1997-WY2020	54.91	211.96	43.08	309.95	39.77	62.43	59.55	50.20
TP flow-weighted mean concentration (FWMC, µg/L)								
WY2016	183	303	94	222	274	406	275	297
WY2017	136	316	98	197	309	351	284	328
WY2018	222	421	116	286	693	369	408	373
WY2019	193	333	80	232	342	323	430	251
WY2020	---	207	196	203	124	243	207	213
5-Yr Avg. ^c	184	316	117	228	348	338	321	292
5-Yr FWMC ^e	189	336	111	238	354	353	335	304
WY1997-WY2020	175	359	141	256	300	431	354	346

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e. 5-Yr FWMC is the overall FWMC for the 5-Year period (calculated from 5-year load and 5-year flow).

St. Lucie River Watershed TN loads and Concentrations to the St. Lucie Estuary

	Lake Okeechobee ^a	St. Lucie Basins ^b	Tidal Basins	Total St. Lucie	St. Lucie Basins ^b			
					C-44 Basin	C-23 Basin	C-24 Basin	Ten Mile Creek Basin
TN load (t)								
WY2016	717.22	969.74	303.71	1,990.67	289.09	204.47	326.51	149.67
WY2017	621.26	497.44	257.53	1,376.23	62.18	113.88	162.11	159.26
WY2018	1,345.53	1,399.99	389.72	3,135.24	256.64	457.48	457.19	228.69
WY2019	546.05	593.46	179.12	1,318.63	160.63	166.47	153.99	112.38
WY2020	0.00	359.34	307.38	666.72	44.62	98.36	109.02	107.35
5-Yr Avg. ^c	646.01	764.00	287.49	1,697.50	162.63	208.13	241.76	151.47
5-Yr % ^d	38%	45%	17%	100%	10%	12%	14%	9%
WY1997-WY2020	531.51	886.80	296.31	1,714.62	214.31	231.15	272.27	169.08
TN flow-weighted mean concentration (FWMC, mg/L)								
WY2016	1.57	1.34	0.94	1.32	1.24	1.55	1.50	1.06
WY2017	1.49	1.09	0.88	1.18	0.64	1.40	1.34	1.01
WY2018	1.86	1.69	1.00	1.61	2.61	1.69	1.68	1.21
WY2019	1.44	1.26	0.82	1.23	1.08	1.47	1.62	0.98
WY2020	---	1.25	1.89	1.48	1.16	1.41	1.49	1.02
5-Yr Avg. ^c	1.59	1.33	1.11	1.36	1.35	1.50	1.53	1.06
5-Yr FWMC ^e	1.63	1.38	1.04	1.38	1.32	1.56	1.55	1.07
WY1997-WY2020	1.69	1.50	0.97	1.42	1.62	1.60	1.62	1.17

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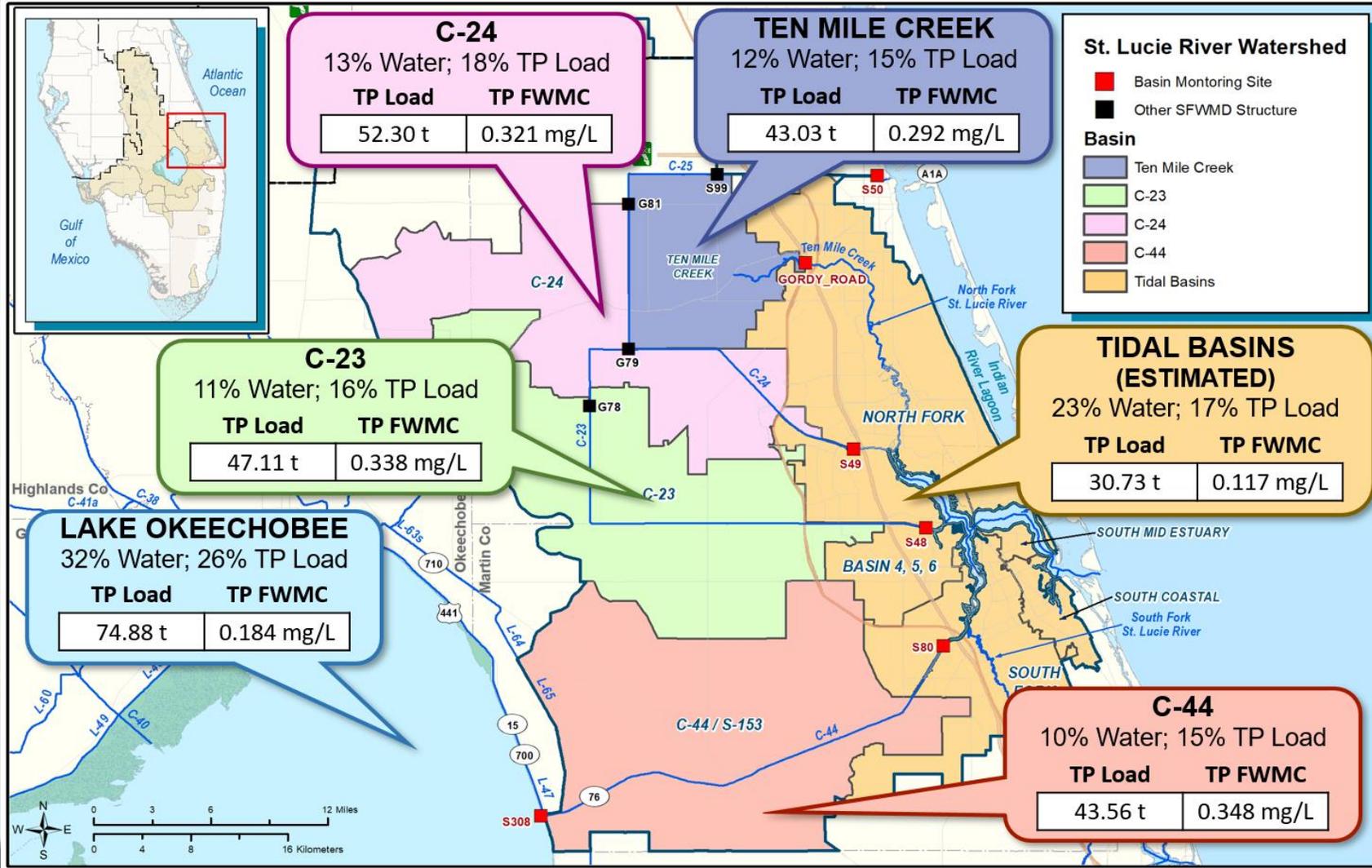
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St. Lucie Estuary Inflows

WY2016-WY2020

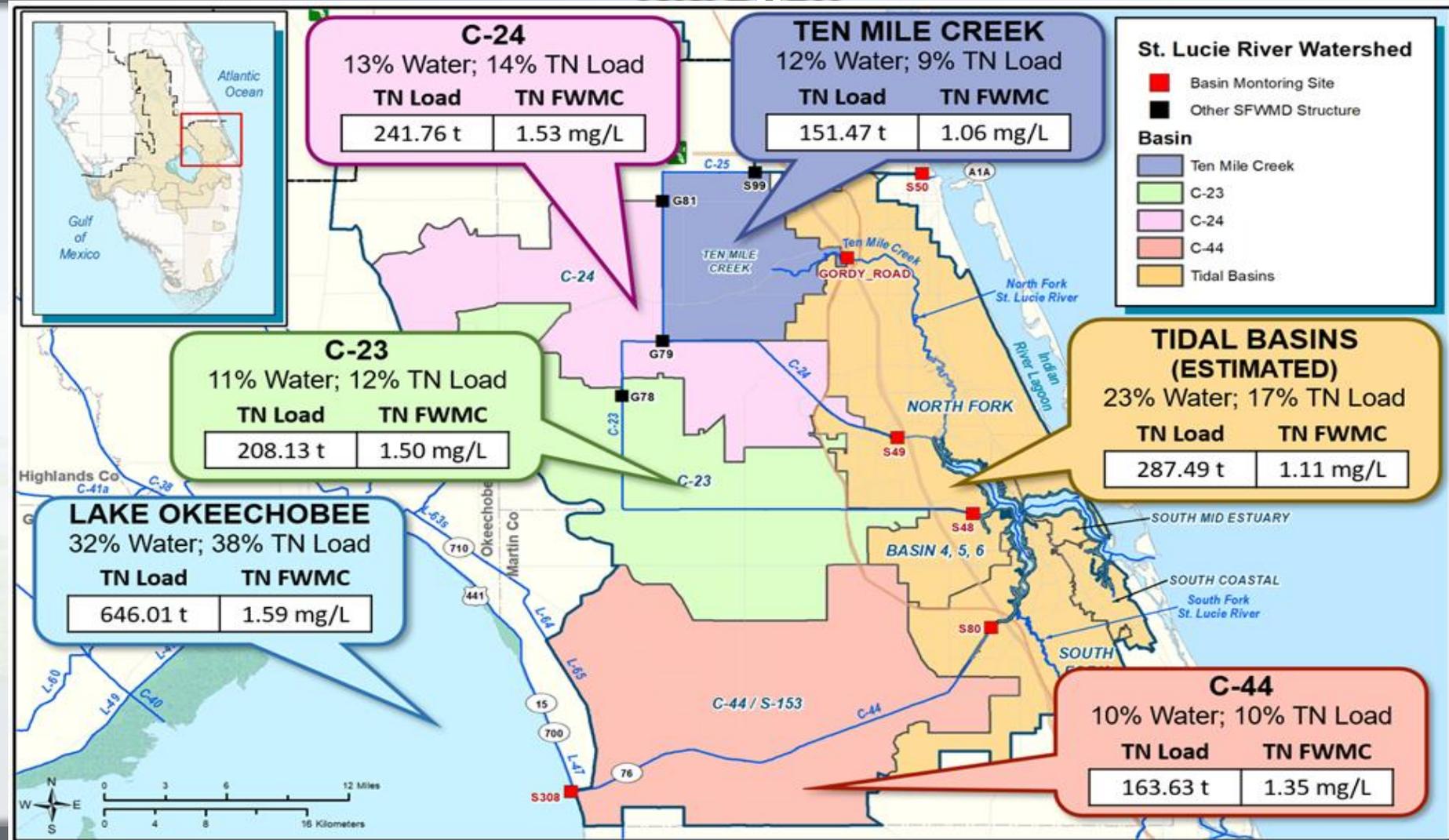
Phosphorus



St. Lucie Estuary Inflows

WY2016-WY2020

Nitrogen



St. Lucie River Watershed

5-year Average for WY2016-WY2020

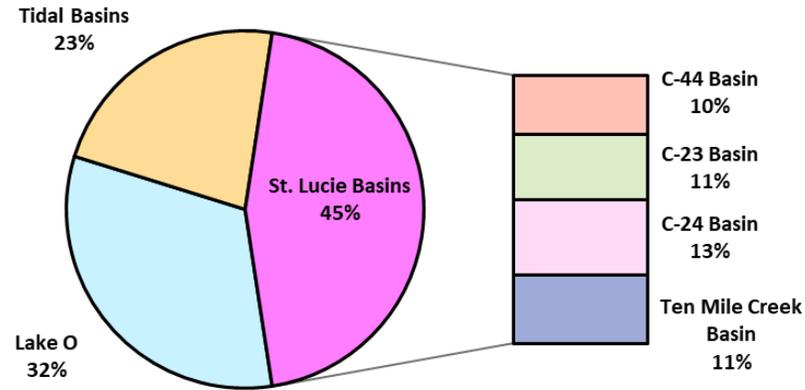
Basin	TP UAL (lb/ac)	TP Load (t)	TP FWMC (mg/L)	Runoff (Inches)	Area (ac)
Ten Mile Creek	2.35	43.0	0.292	34.14	40,327
C-24	1.38	52.3	0.321	18.20	83,373
C-23	0.94	47.1	0.338	11.70	110,872
C-44	0.72	43.6	0.348	9.03	132,705
Tidal Basins	0.40	30.7	0.117	15.82	170,509

Basin	TN UAL (lb/ac)	TN Load (t)	TN FWMC (mg/L)	Runoff (Inches)	Area (ac)
Ten Mile Creek	8.28	151.5	1.06	34.14	40,327
C-24	6.39	241.8	1.53	18.20	83,373
C-23	4.14	208.1	1.5	11.70	110,872
Tidal Basin	3.72	287.5	1.11	15.82	170,509
C-44	2.70	162.6	1.35	9.03	132,705

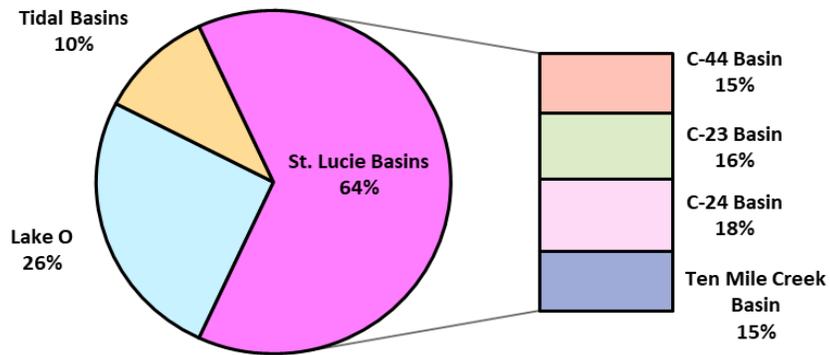
St. Lucie Estuary Inflows

WY2016-WY2020

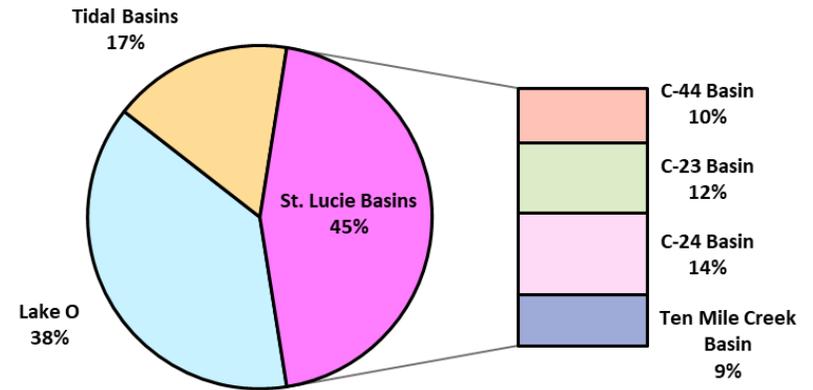
5-Year Average Flow



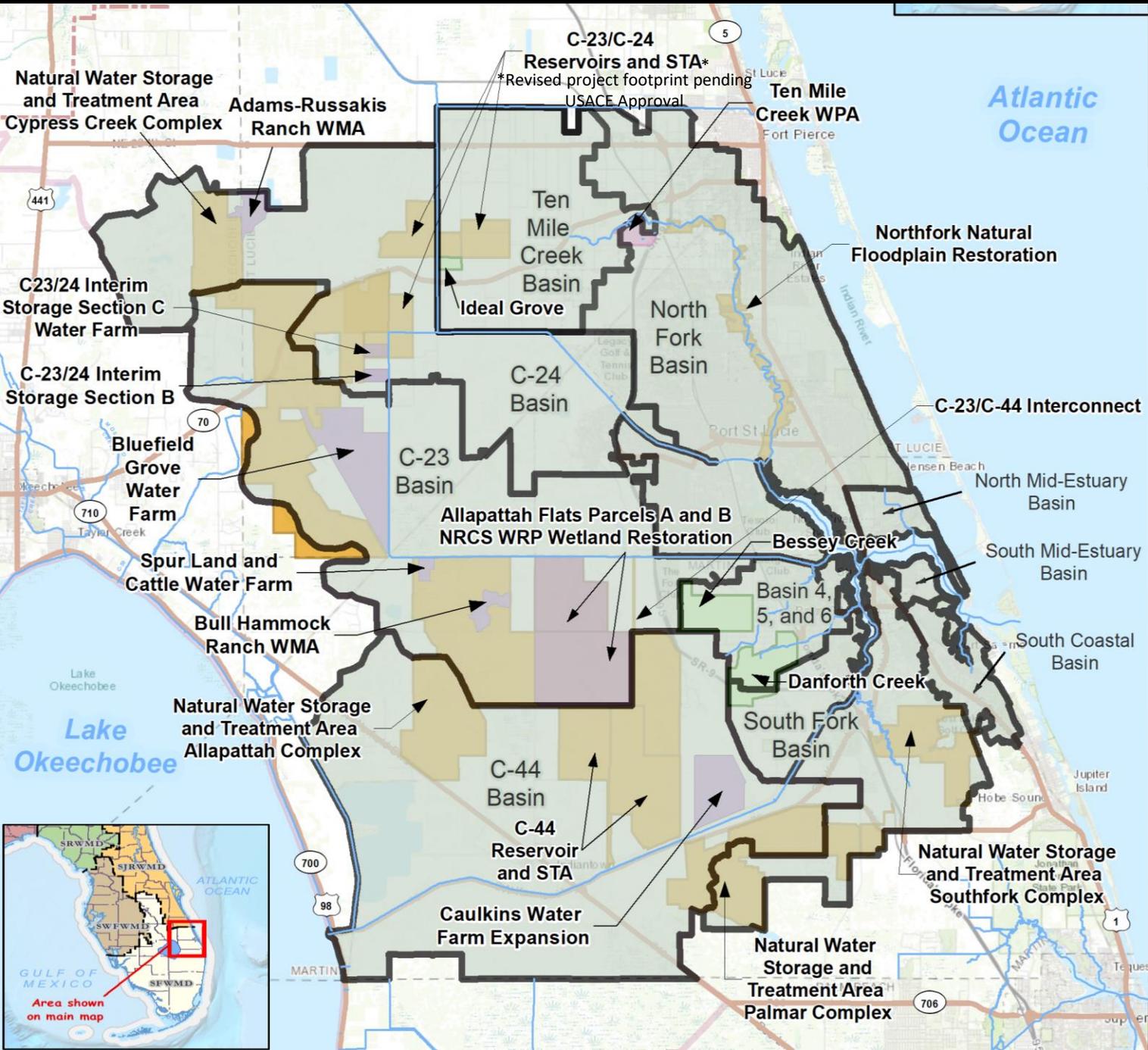
5-Year Average TP Load



5-Year Average TN Load



St. Lucie River Watershed Projects



Legend

- St. Lucie River Watershed
- Program**
- CERP IRL-South Project
- Critical Project
- DWM Project
- FDACS HWTT Project

0 1 2 3 Miles

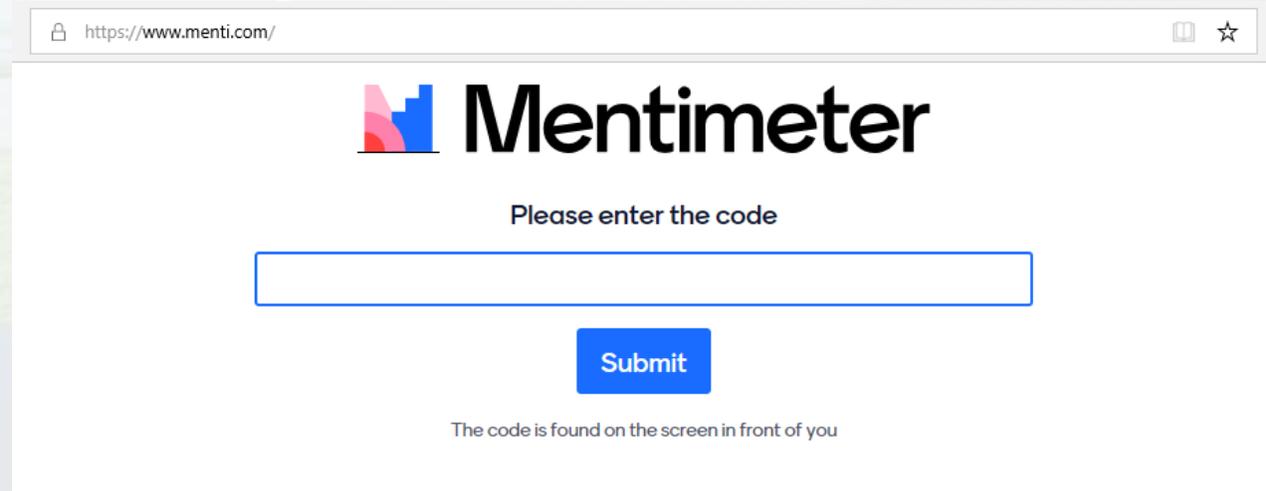
0 2 4 6 Kilometers



St. Lucie River Watershed Workshop

Menti.com Instructions

- **Step 1:** Open a new internet browser on your computer or smart phone (such as Internet Explorer, Safari, Google, or Edge). To view all public input leave the Zoom meeting window open. We will be coming back to the Zoom Meeting for Q&A.
- **Step 2:** Type the web address, Menti.com and hit enter.
- **Step 3:** Enter the Menti Code in the box on your screen and click “Submit” – **code will be provided at the August 28, 2020 workshop**



The screenshot shows a web browser window with the address bar containing "https://www.menti.com/". The main content area displays the Menti logo (a stylized bar chart) and the word "Mentimeter" in a large, bold font. Below the logo, the text "Please enter the code" is centered. Underneath this text is a long, empty rectangular input field with a blue border. Below the input field is a blue button with the word "Submit" in white text. At the bottom of the page, there is a small line of text that reads "The code is found on the screen in front of you".