

Lakes Harney and Monroe and Middle St. Johns River BMAP

Annual Meeting

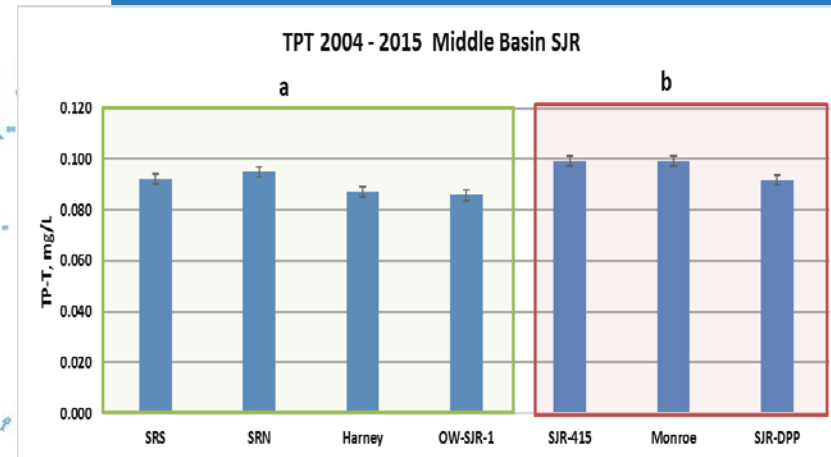
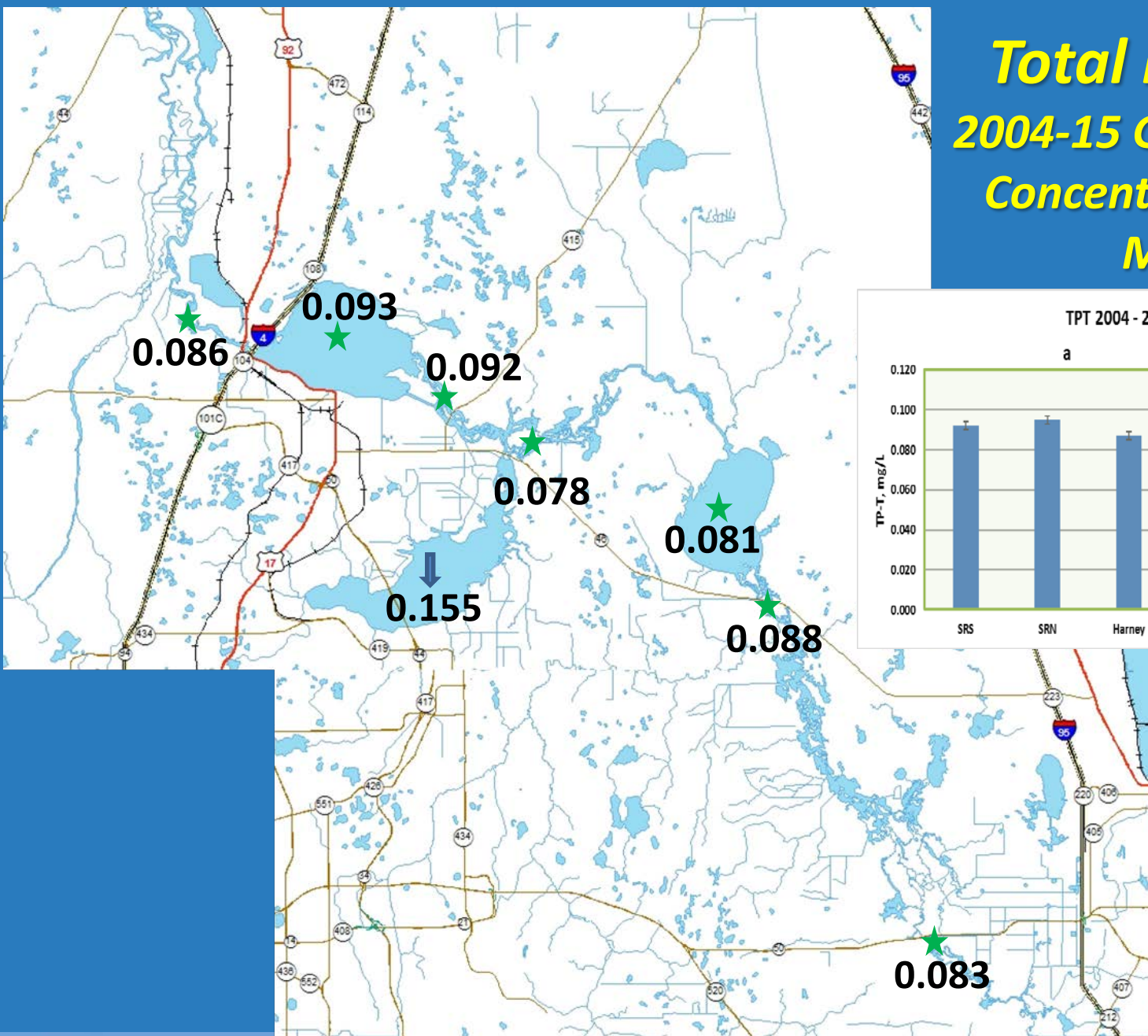
**Summary of SJRWMD WQ
Monitoring Data
10/20/2016**



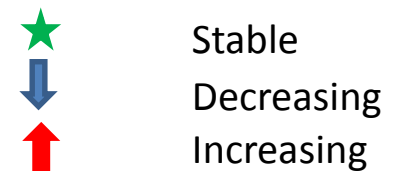
Period of Record 2004 - 2015



Total Phosphorus 2004-15 Geometric Means Concentrations in mg/L Mainstem



2016 Preliminary Trend Assessment

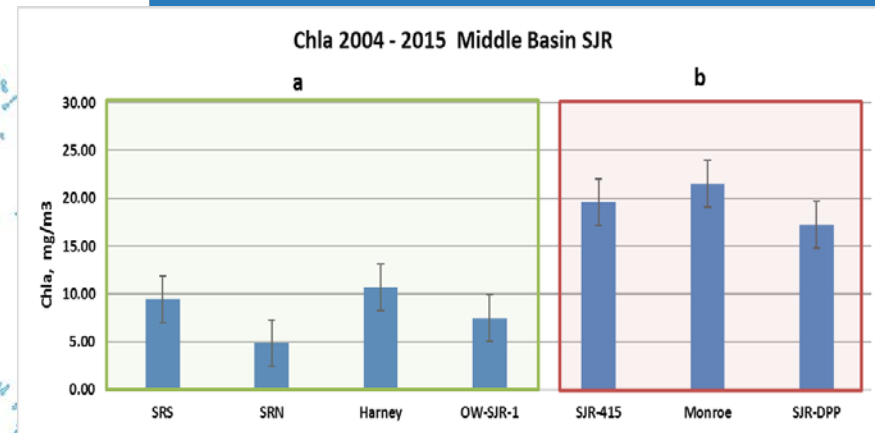
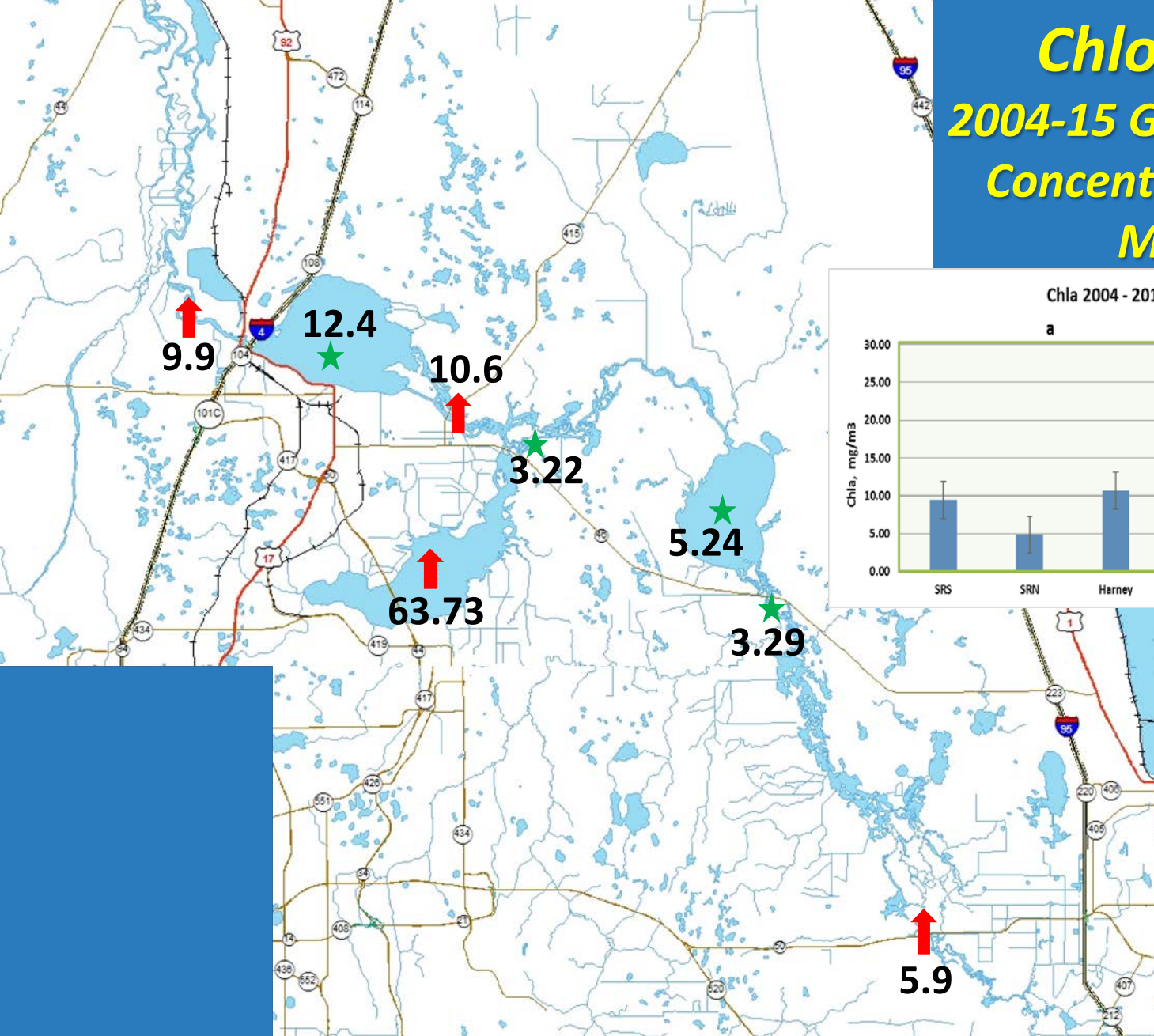


Chlorophyll-a

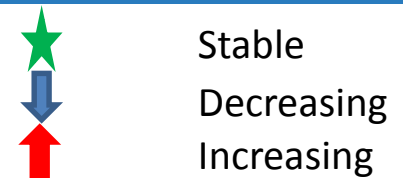
2004-15 Geometric Means

Concentrations in $\mu\text{g/L}$

Mainstem

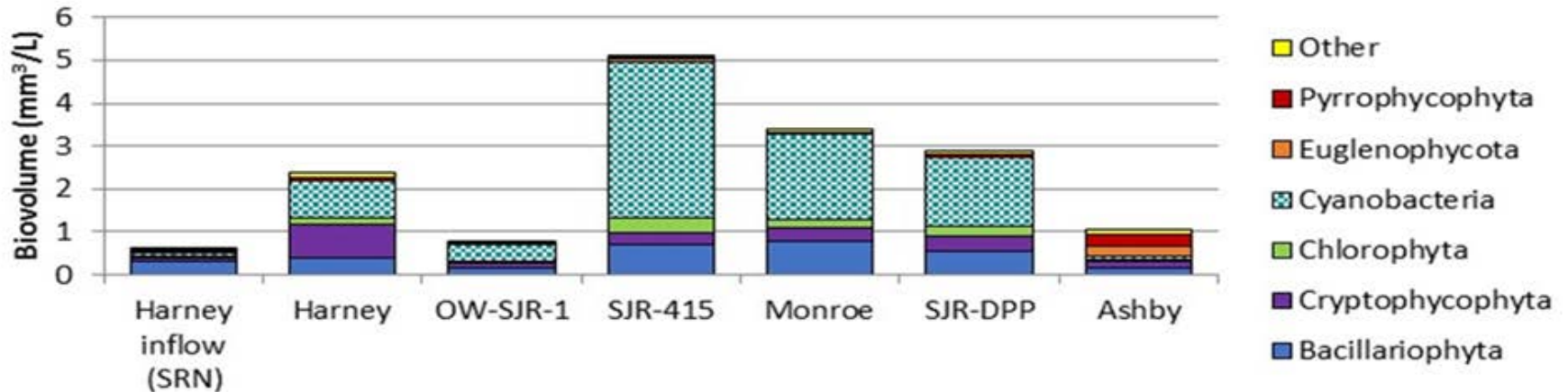


2016 Preliminary Trend Assessment

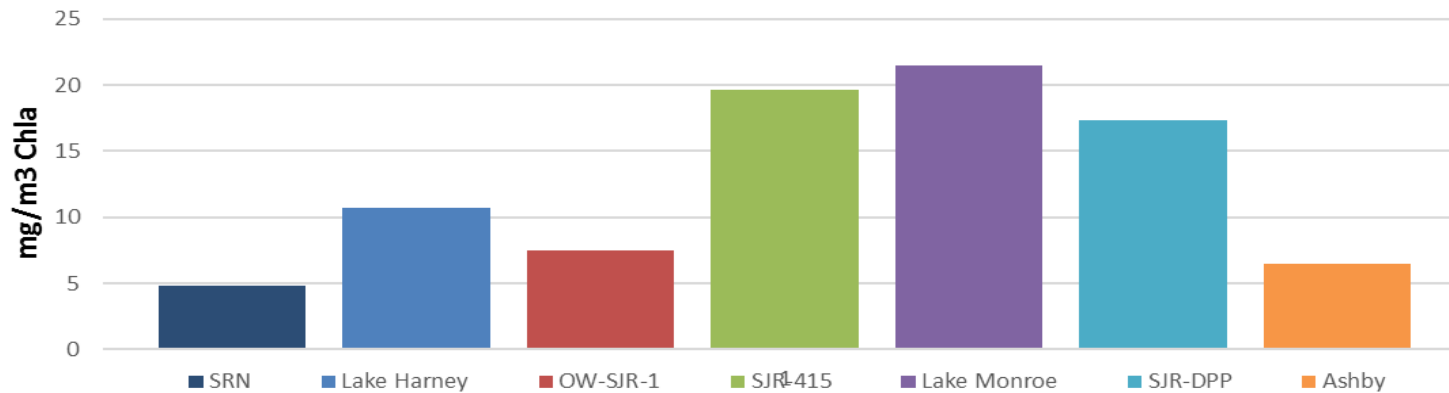


Phytoplankton Biovolumes

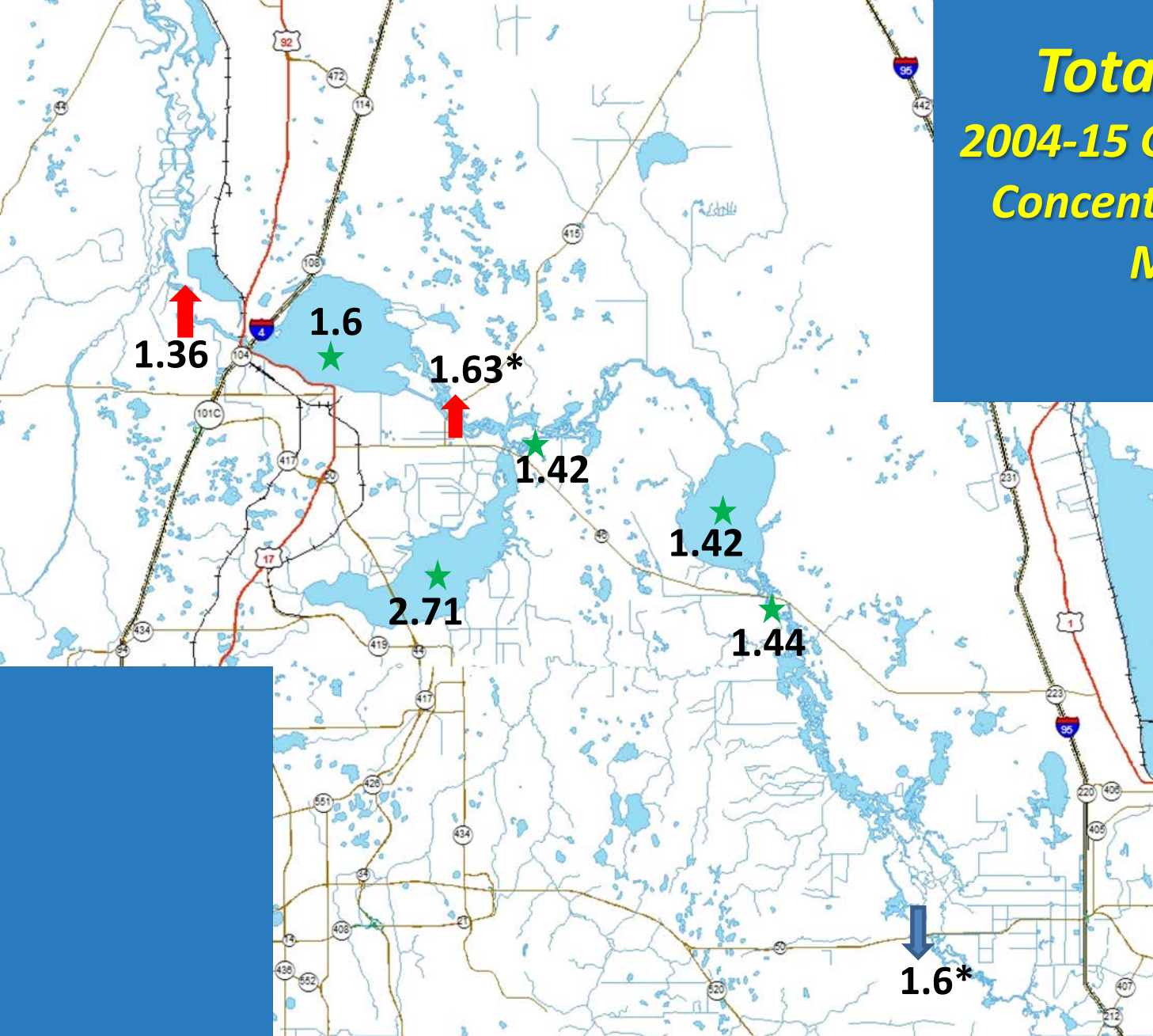
Middle St. Johns River Basin Mean 2004-2015 Phytoplankton Biovolumes



Middle St. Johns River Basin Mean 2004 - 2015 Chlorophyll-a



Total Nitrogen 2004-15 Geometric Means Concentrations in mg/L Mainstem

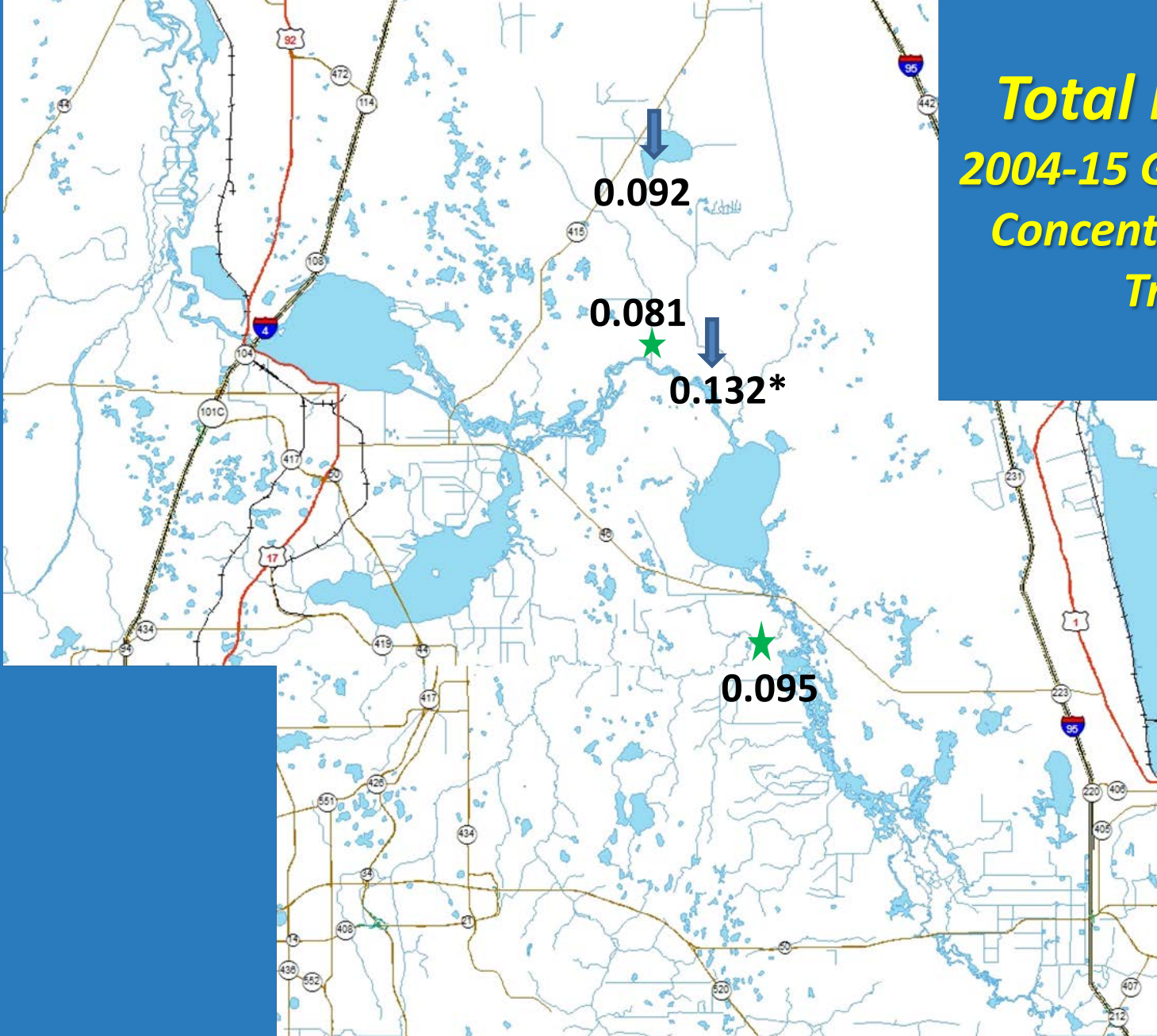


2016 Preliminary
Trend Assessment

★ Stable
↓ Decreasing
↑ Increasing



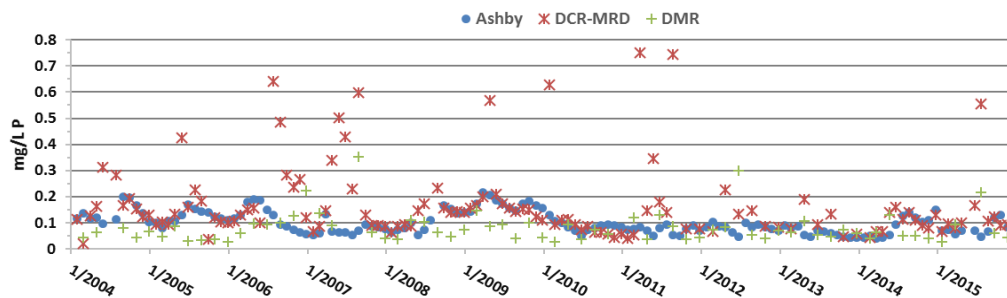
Total Phosphorus **2004-15 Geometric Means** **Concentrations in mg/L** **Tributaries**



2016 Preliminary
Trend Assessment

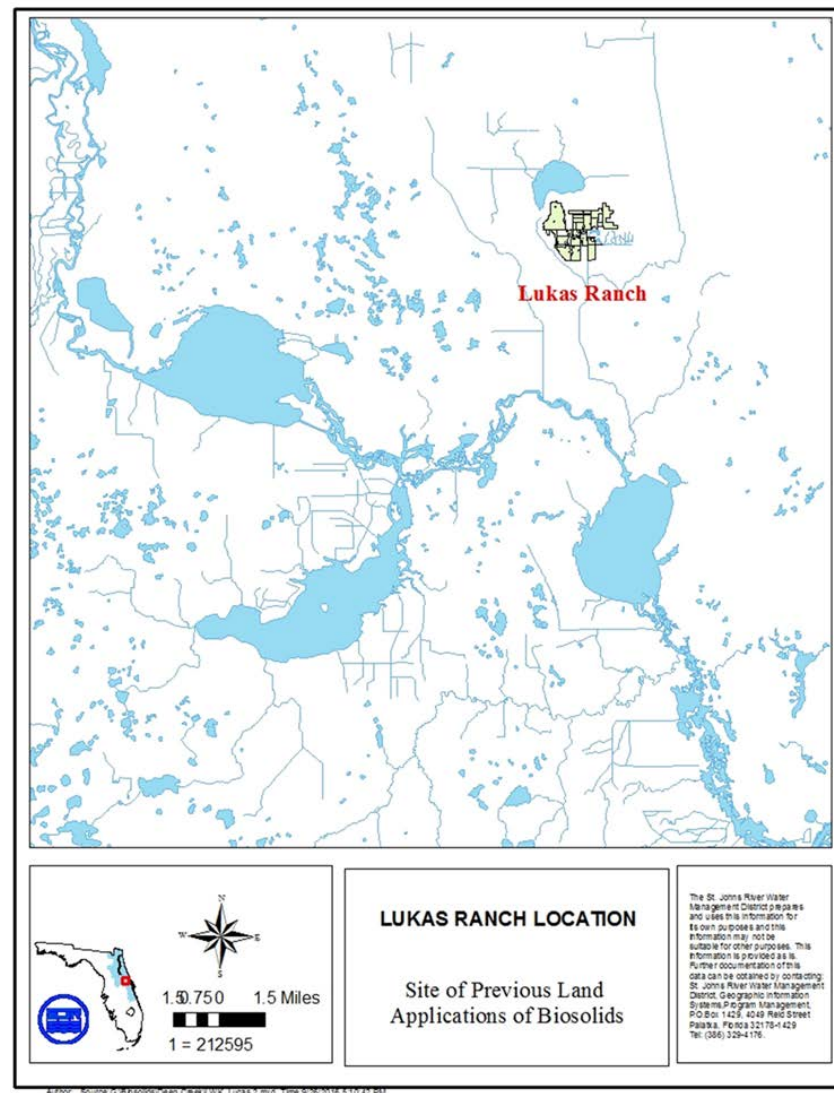
★ Stable
↓ Decreasing
↑ Increasing

Monthly TP-T - Deep Creek Planning Unit



- Highly variable spikes of elevated TP from 2007 – 2012
- Lucas Ranch applied biosolids to pasture during this time period as a soil conditioner and fertilizer
- After cessation of biosolids, large spikes occur less frequently

	TP mg/L avg. 2004 - 2012	TP mg/L avg. 2013 - 2015
DCR-MRD	0.202	0.11 (post biosolids)
Ashby	0.108	0.07 (post biosolids)



Author: Source: 08101005 Deep Creek LWR_Lucas12.mxd, Date: 9/26/2016 5:10:42 PM



SJRWMD Projects and On-going Activities

- **MSJR Mainstem and Tributary Monitoring Network** – continue to monitor water quality trends within the basin to identify hot spots and concentrate future project efforts.
- **Orange City Blue Spring Nutrient Reduction Project** – estimated nutrient reduction benefits for this project are 1,080 pounds per year of total nitrogen and 299 pounds per year of total phosphorous.
- **Volusia County Advanced Wastewater Treatment** - estimated nutrient reduction benefits for this project are 27,000 pounds per year of total nitrogen and 14,000 pounds per year of total phosphorous.
- **Seminole County Lake Jesup Nutrient Removal Facility** - The project is estimated to remove up to 2,137 pounds per year of phosphorous and 4,675 pounds of nitrogen per year at the design capacity and flow rate.
- **Lake Jesup: in-Lake Phosphorus Reduction – Review of Treatment Options** – a review of phosphorus reduction methods and their cost-effectiveness to remove water column P or permanently sequester sediment P in Lake Jesup.

