

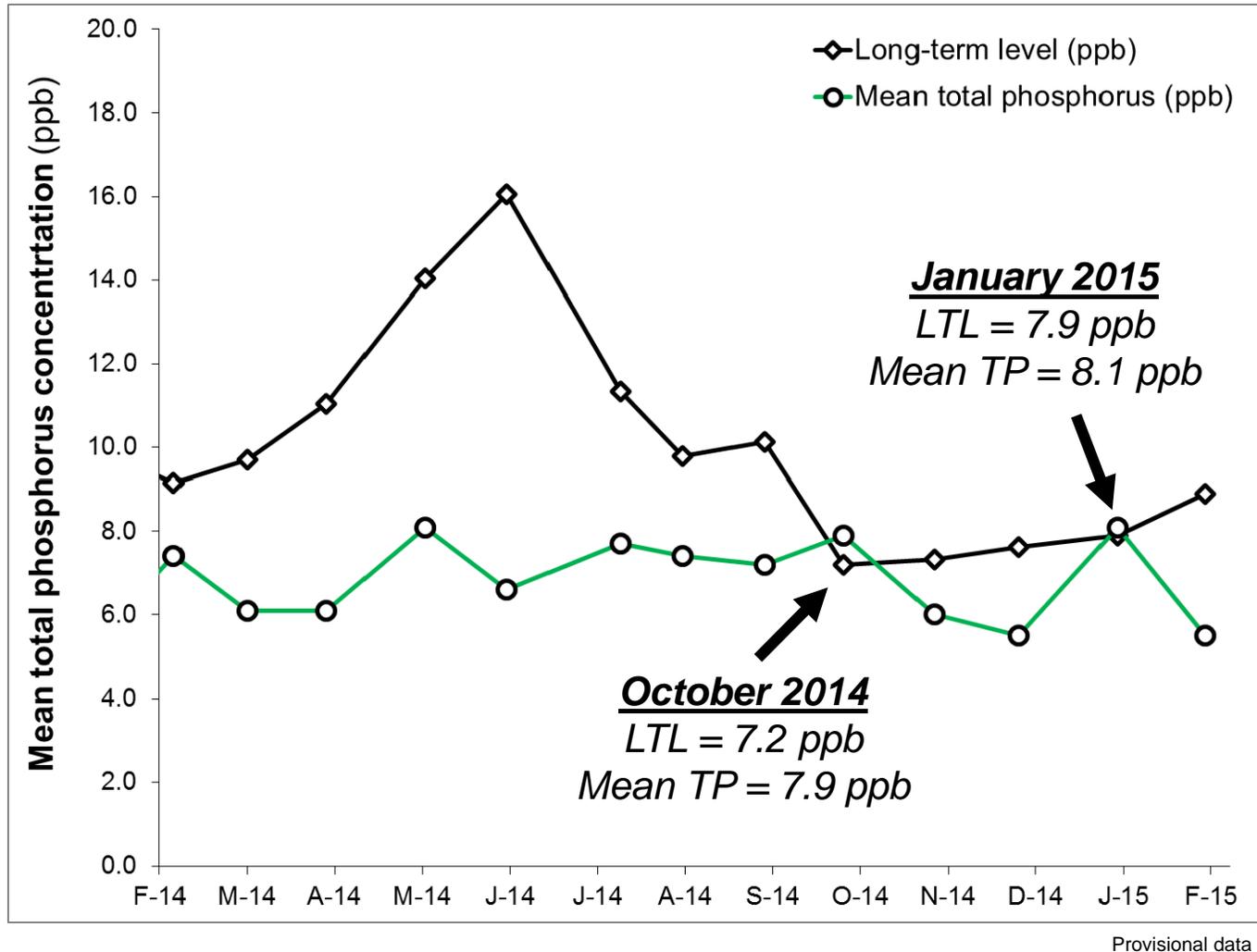
Technical Briefing:
Water quality conditions for
the Arthur R. Marshall Loxahatchee
National Wildlife Refuge, 2014 and 2015

Technical Oversight Committee Meeting
Tuesday, July 28, 2015

Water Quality Conditions - 2014 and 2015 A.R.M. Loxahatchee NWR

Previous discussion of 2014 and 2015 data

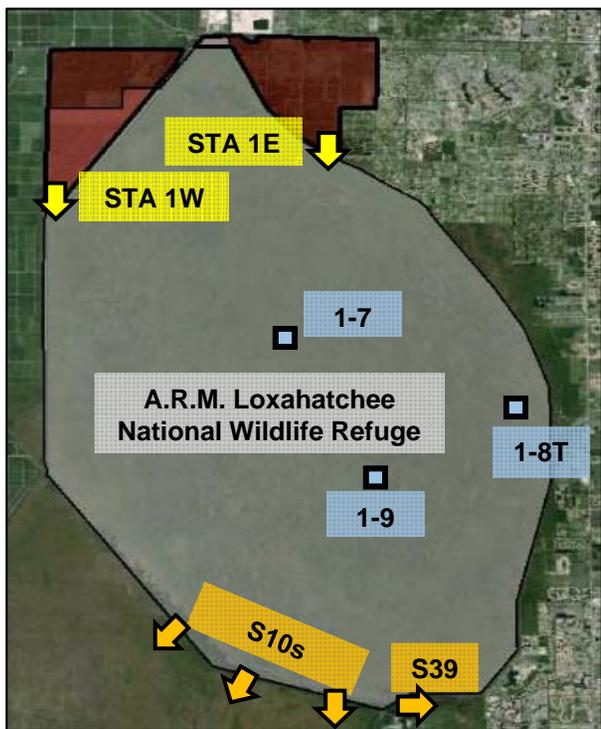
- February 4th and April 28th Technical Oversight Committee meetings



Water Quality Conditions - 2014 and 2015 A.R.M. Loxahatchee NWR

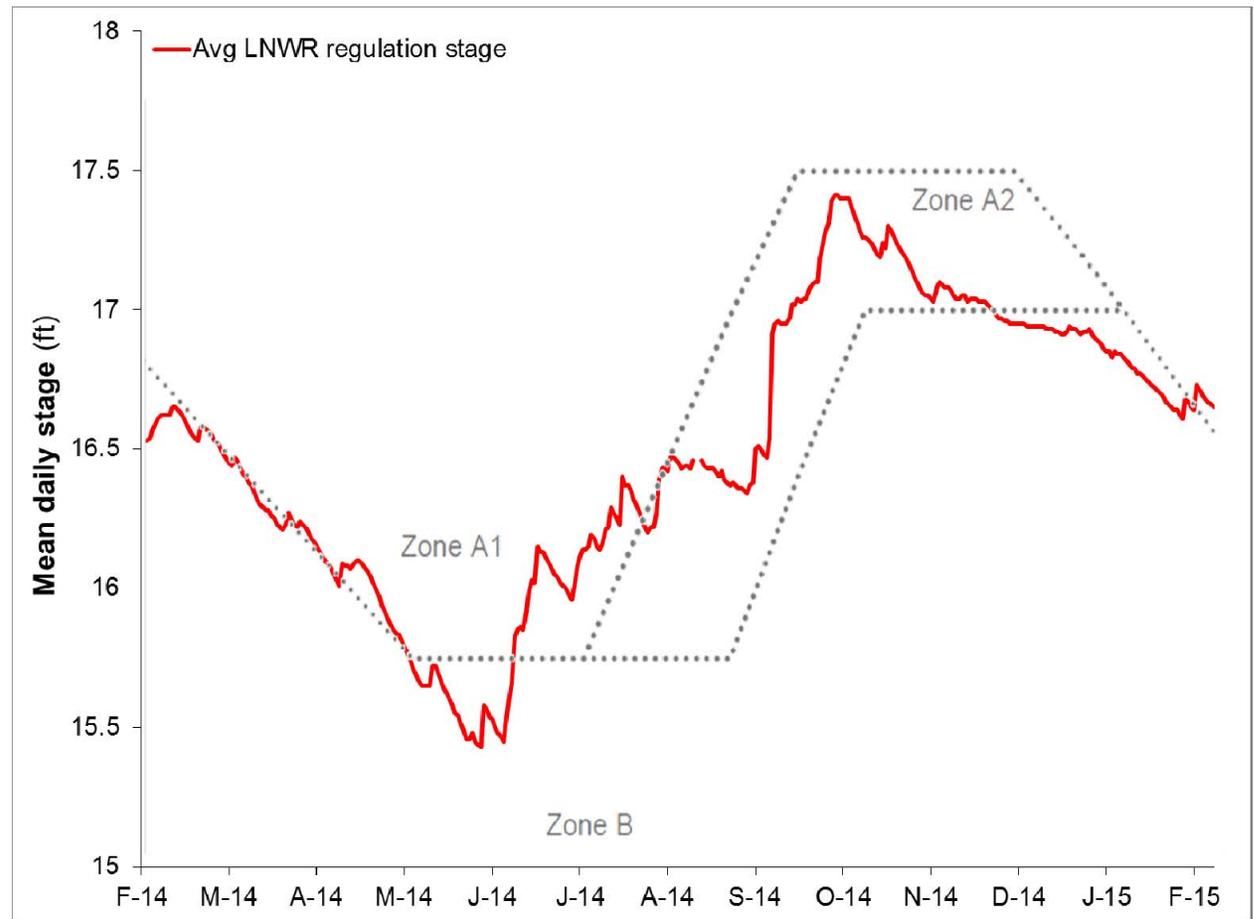
A.R.M. Loxahatchee National Wildlife Refuge regulation schedule

- The location and volume of outflows from LNWR vary throughout the year based on the average stage at three gages and other conditions



Not to scale

Range of 2014 and 2015
average marsh stages
= 15.43 to 17.41 ft

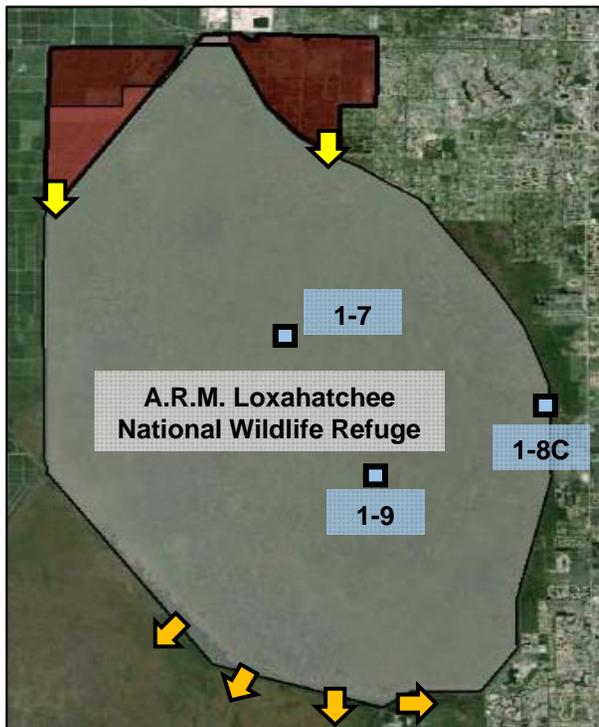


Provisional data

Water Quality Conditions - 2014 and 2015 A.R.M. Loxahatchee NWR

Consent Decree compliance calculation (Settlement Agreement, Appendix B)

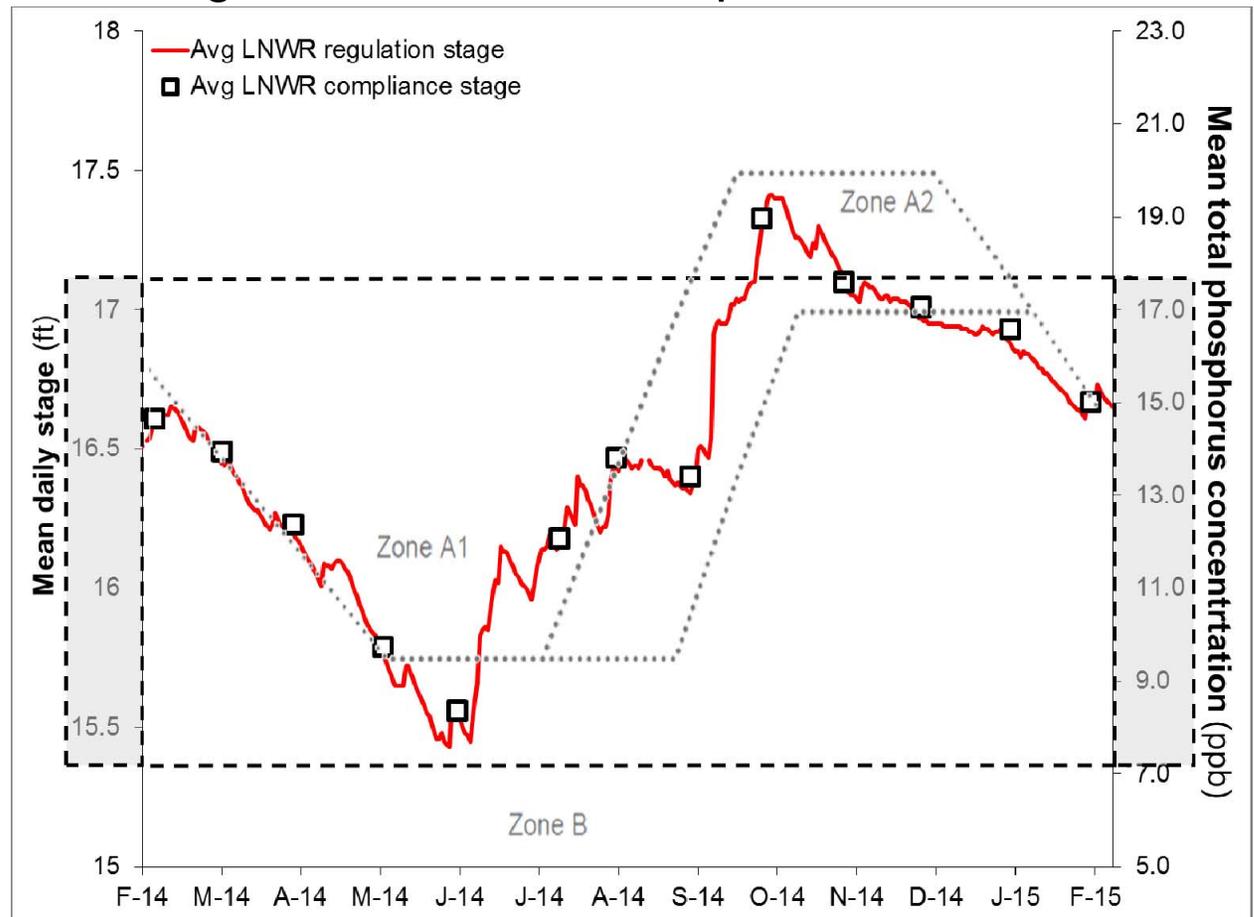
- “To account for the observed correlation between marsh total phosphorus concentration and stage, the [LTL] concentration levels vary with the average interior stage on the date of sample collection”



Not to scale

Range of stages used to calculate the LTL = 15.42 to 17.14 ft

Range of LTL mean total phosphorus concentrations = 7.2 to 17.5 ppb

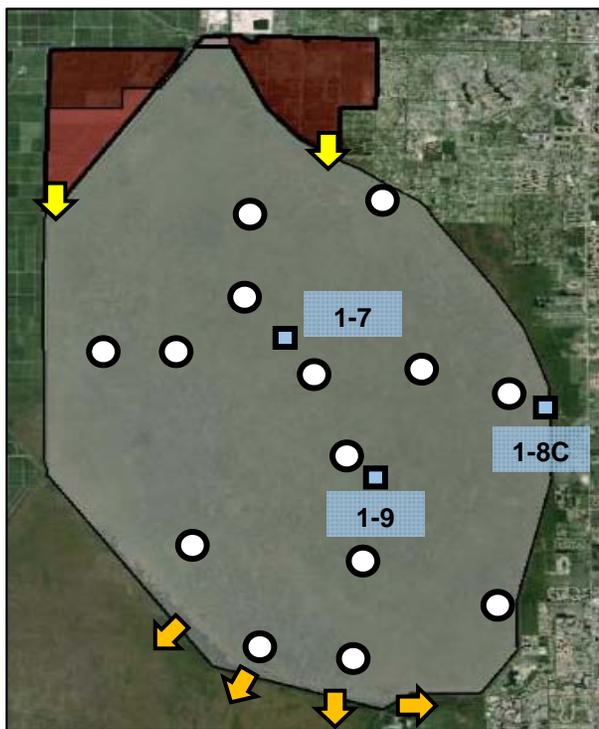


Provisional data

Water Quality Conditions - 2014 and 2015 A.R.M. Loxahatchee NWR

Consent Decree compliance calculation (Settlement Agreement, Appendix B)

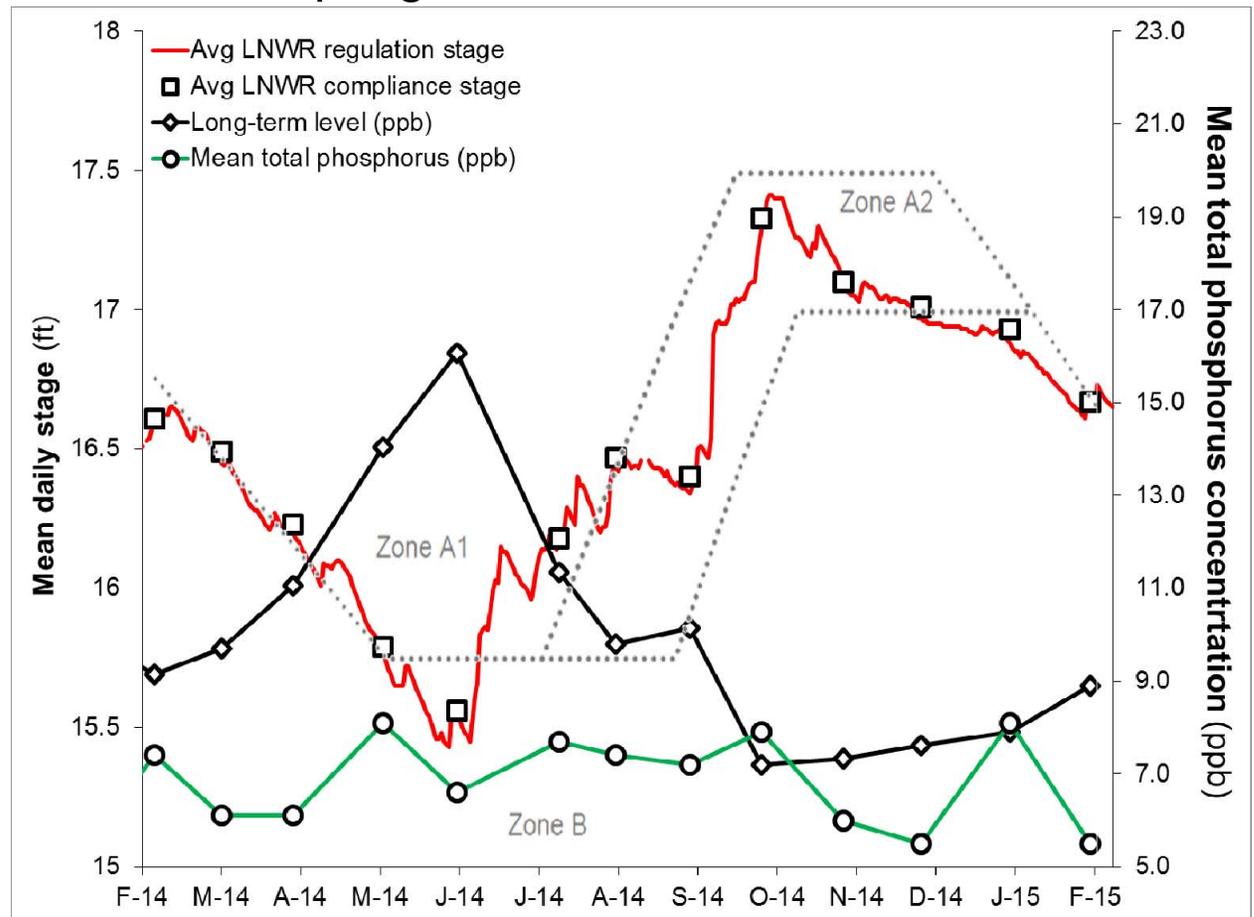
- “[The LTL] concentration levels shall apply to monthly...geometric means, calculated from measurements at...14 marsh stations with sufficient water for accurate sampling”



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Range of 2014 and 2015 LTL concentrations = 7.2 to 16.1 ppb

Range of 2014 and 2015 mean TP concentrations = 5.2 to 8.1 ppb

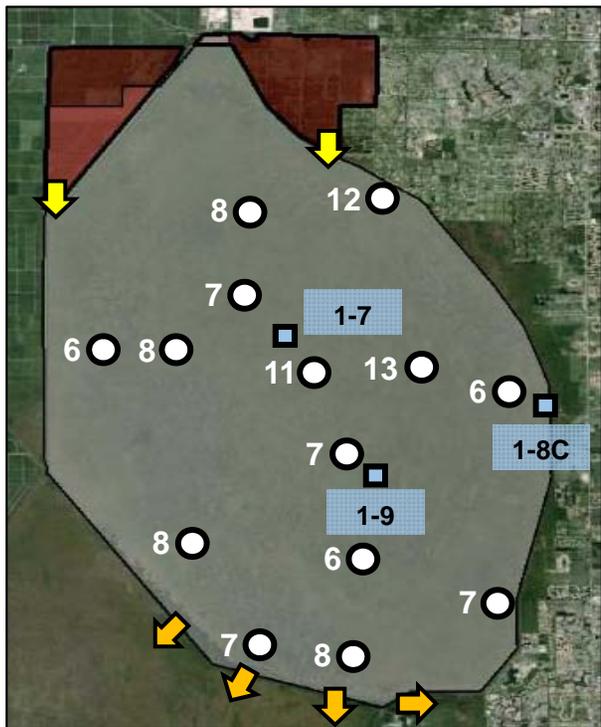


Provisional data

Water Quality Conditions - 2014 and 2015 A.R.M. Loxahatchee NWR

Consent Decree compliance calculation (Settlement Agreement, Appendix B)

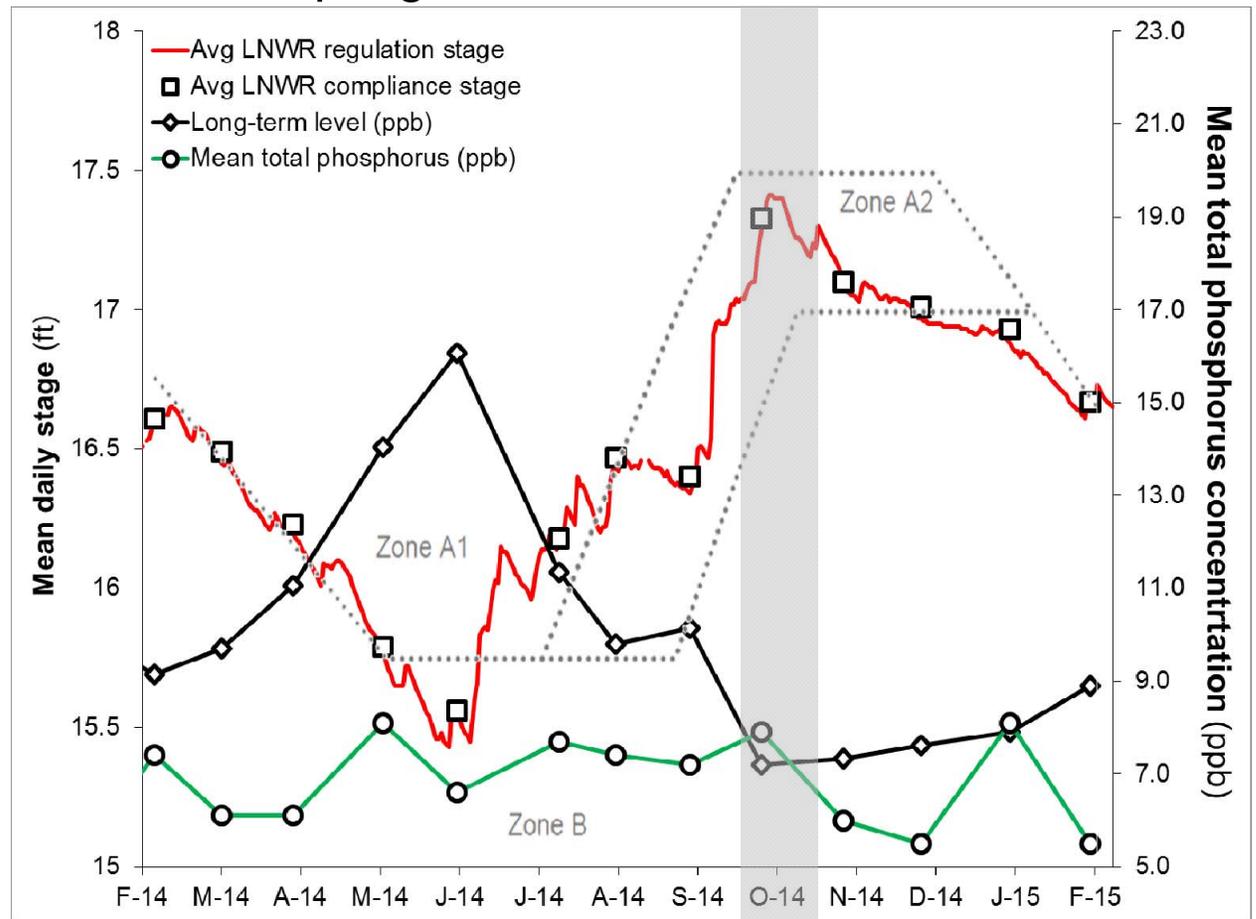
- “[The LTL] concentration levels shall apply to monthly...geometric means, calculated from measurements at...14 marsh stations with sufficient water for accurate sampling”



Not to scale

October 2014

Average marsh stage = 17.33 ft
 LTL concentration = 7.2 ppb
 Mean TP concentration = 7.9 ppb

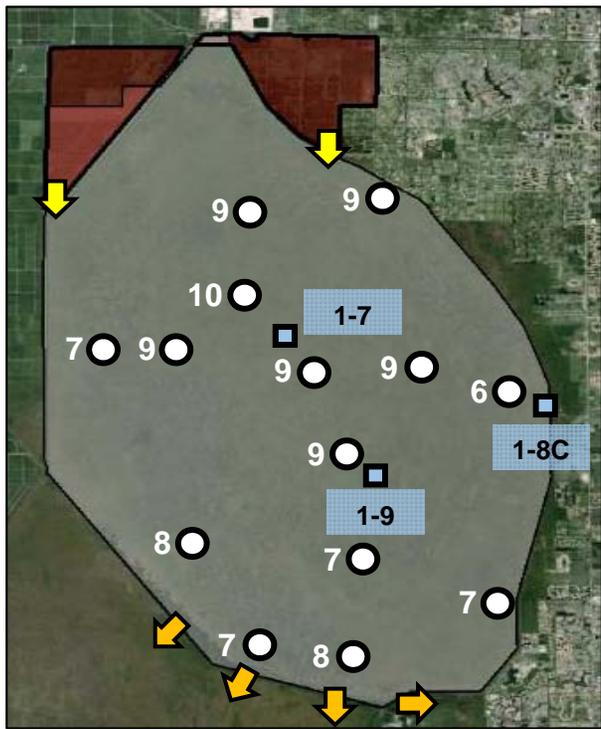


Provisional data

Water Quality Conditions - 2014 and 2015 A.R.M. Loxahatchee NWR

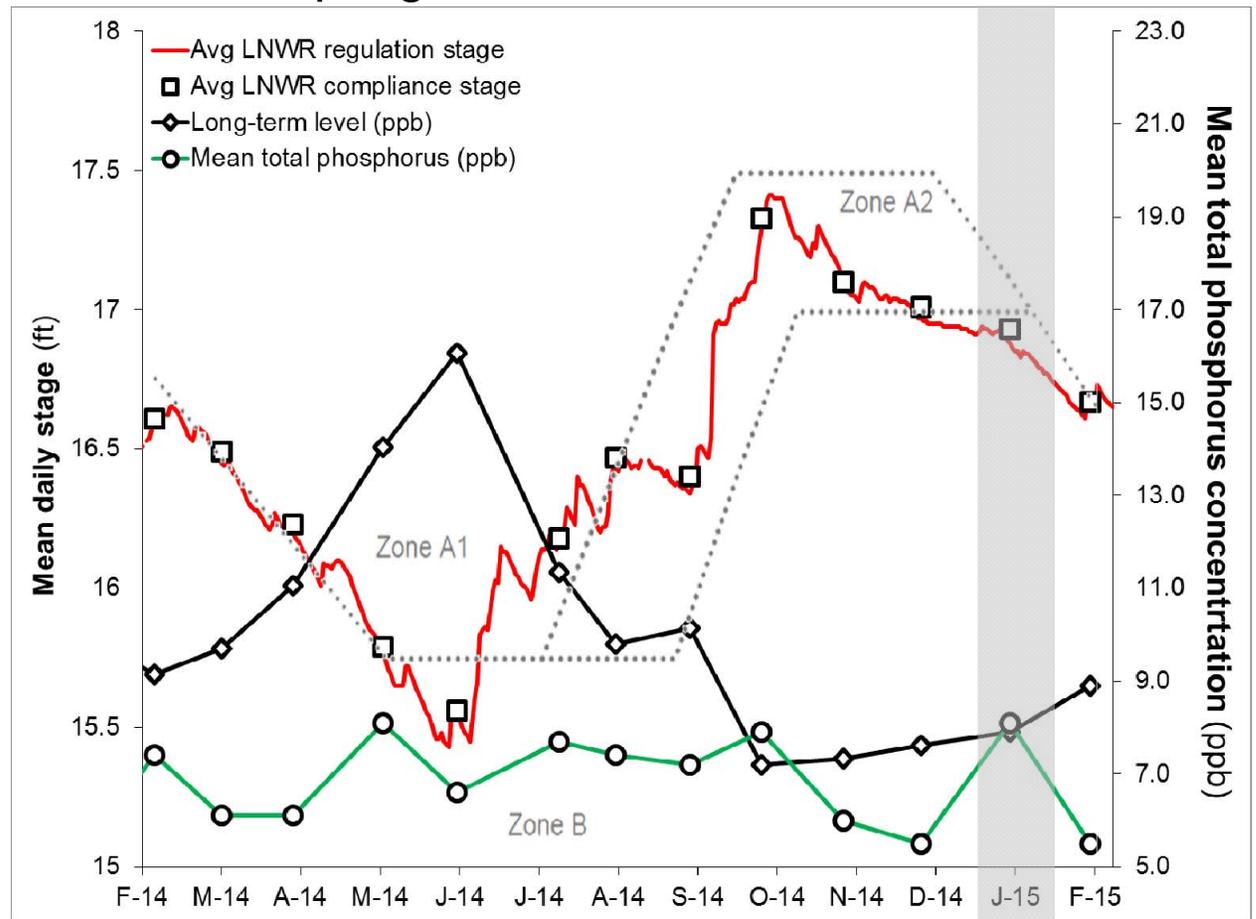
Consent Decree compliance calculation (Settlement Agreement, Appendix B)

- “[The LTL] concentration levels shall apply to monthly...geometric means, calculated from measurements at...14 marsh stations with sufficient water for accurate sampling”



January 2015

Average marsh stage = 16.93 ft
 LTL concentration = 7.9 ppb
 Mean TP concentration = 8.1 ppb



Provisional data

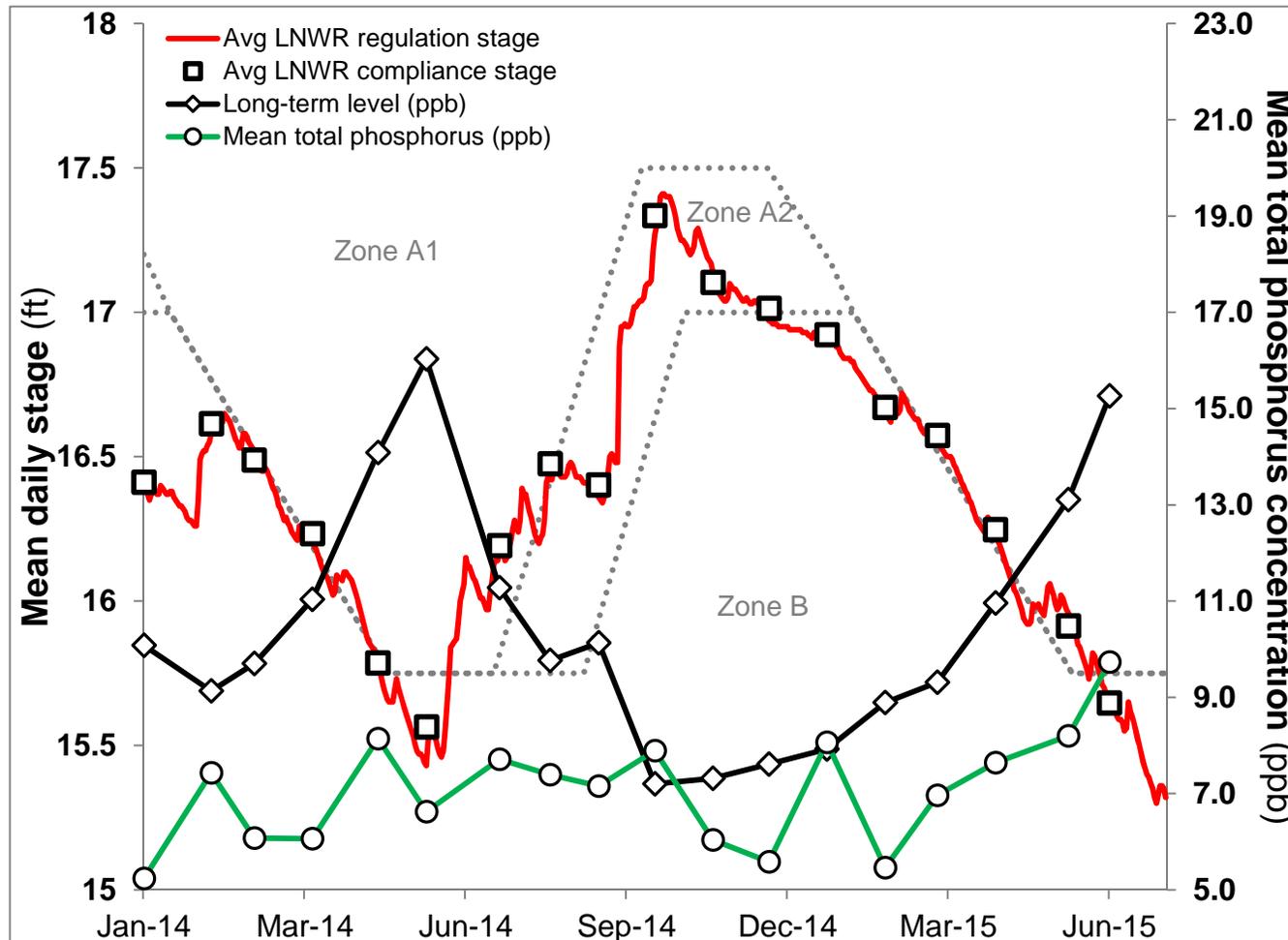
Water Quality Conditions - 2014 and 2015 A.R.M. Loxahatchee NWR

Status of 2014 and 2015 LNWR analyses:

- Future technical analyses may consider factors that influence phosphorus dynamics in the LNWR, including:
 - water releases from Lake Okeechobee to STA1E and STA1W, discharges from STA1E and STA1W,
 - higher stages in the perimeter canals compared to the interior marsh, and
 - seasonal changes in the interior marsh stage

Water Quality Conditions - 2014 and 2015 A.R.M. Loxahatchee NWR

Recent compliance data:



Questions?