

Florida Department of Environmental Protection



Everglades West Coast Basin Management Action Plan (BMAP) Stakeholder Meeting

March 4, 2015





Agenda

- Site Specific Alternative Criteria (SSAC) Development.
- Surface Water Quality Analyses.
- Ground Water Quality Analyses.
- Next Steps.



Site Specific Alternative Criterion Development



Site Specific Alternative Criterion (SSAC) Overview

- Rule 62-302.800, F.A.C.
- SSACs address situations where local conditions demonstrate that a site-specific water quality criterion is more appropriate than the generally applicable statewide criterion.
- SSACs must protect waterbody designated use(s).
- SSACs are permanent changes to water quality standards, and are subject to EPA approval.



SSAC Types

- Type I SSAC is based on natural background conditions.
- Type II SSAC must demonstrate and define the level of water quality necessary to protect human health and existing and beneficial uses.
- Type III SSAC is specific to streams and lakes nutrient criteria and requires the collection of specific data (e.g., SCI, RPS, LVI) over a prescribed time period (at least 3 years).



SSAC Options (Dissolved Oxygen)

Dissolved Oxygen (DO)(concentration or saturation)

1. Type I SSAC

- Most common and straight forward DO SSAC.
- Demonstration of natural condition *either within the Imperial River and/or Hendry Creek or a comparable reference waterbody.*
- Demonstrate minimal landscape changes (near natural land use)
 - Low Landscape Development Intensity Index (LDI) value.
 - No point discharges.
- Develop SSAC based on the distribution of DO data.

2. Type II SSAC

- Potentially based on laboratory data for species representative of indigenous taxa (unlikely approach); or,
- Demonstrate through collection of biological data (e.g., SCI) that the biological community in the river and creek are healthy.



Nutrient Options

- Determine whether waterbodies achieve the Peninsular numeric nutrient criteria.
 - Must determine Chlorophyll a levels, algal mats (RPS) or blooms, nuisance macrophyte growth, and changes in algal species composition do not indicate an imbalance in flora or fauna; AND EITHER
 - The average score of at least two temporally independent SCIs is 40 or higher, with neither of the two most recent SCI scores less than 35, OR
 - The nutrient thresholds (expressed as annual geometric means) are not exceeded more than once in a three year period.
 - TP: 0.21 mg/L.
 - TN: 1.54 mg/L.

If waterbodies attain the numeric nutrient criteria (NNC) then a SSAC may not be needed.



Nutrient Options (cont.)

1. Type I SSAC
 - Same considerations as Type I SSAC for DO.
2. Type II SSAC
 - Based on empirical or mechanistic modelling tied to protective biological endpoints (may additionally include DO).
3. Type III SSAC
 - Waterbody must achieve the narrative nutrient criteria in paragraph 62-302.530(47)(b), F.A.C., and protect downstream waters.
 - For streams: Healthy flora and average SCI > 40
 - Sufficient nutrient data to characterize variability.
 - Downstream waters must attain the applicable NNC.
 - Establish SSAC at the existing condition.
 - Must follow *Development of Type III SSAC for Nutrients*, (DEP-SAS-004/11).



SSAC Contact Information

For additional information about SSACs,
please contact:

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Water Quality Standards

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Surface Water Quality Analyses



Monitoring

- Water quality monitoring is being conducted by:
 - Lee County.
 - Bonita Springs.
 - Florida Department of Environmental Protection (FDEP)- South District.
- We need to work together to get all pertinent data uploaded so it can be used for future assessments.



Everglades West Coast Tributaries

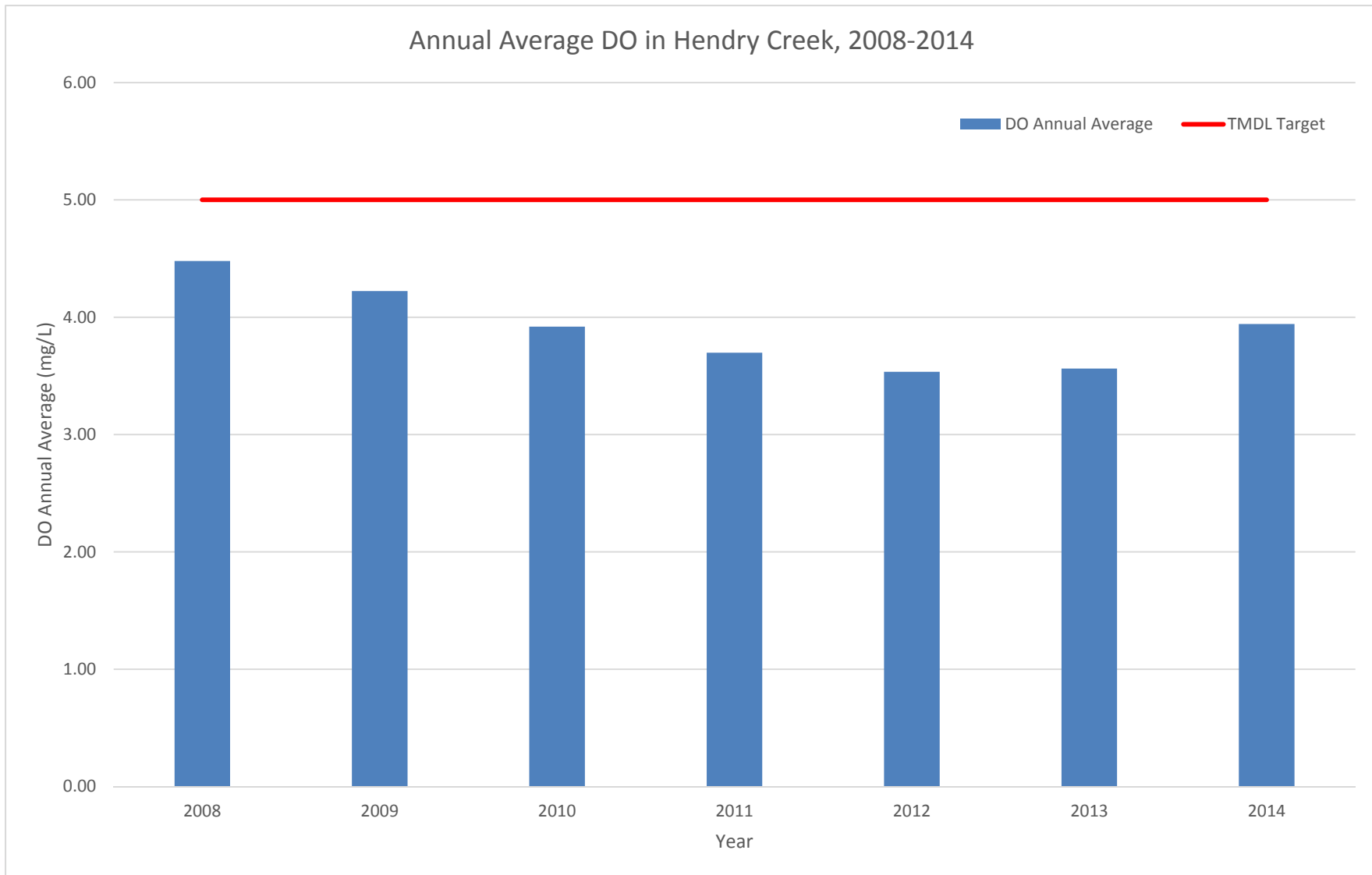
- TN data from 2008-2014 has been compiled for stations in the Everglades West Coast basin.
- Stakeholder involvement is essential to ensure all data are being considered.



Hendry Creek WBID 3258B2

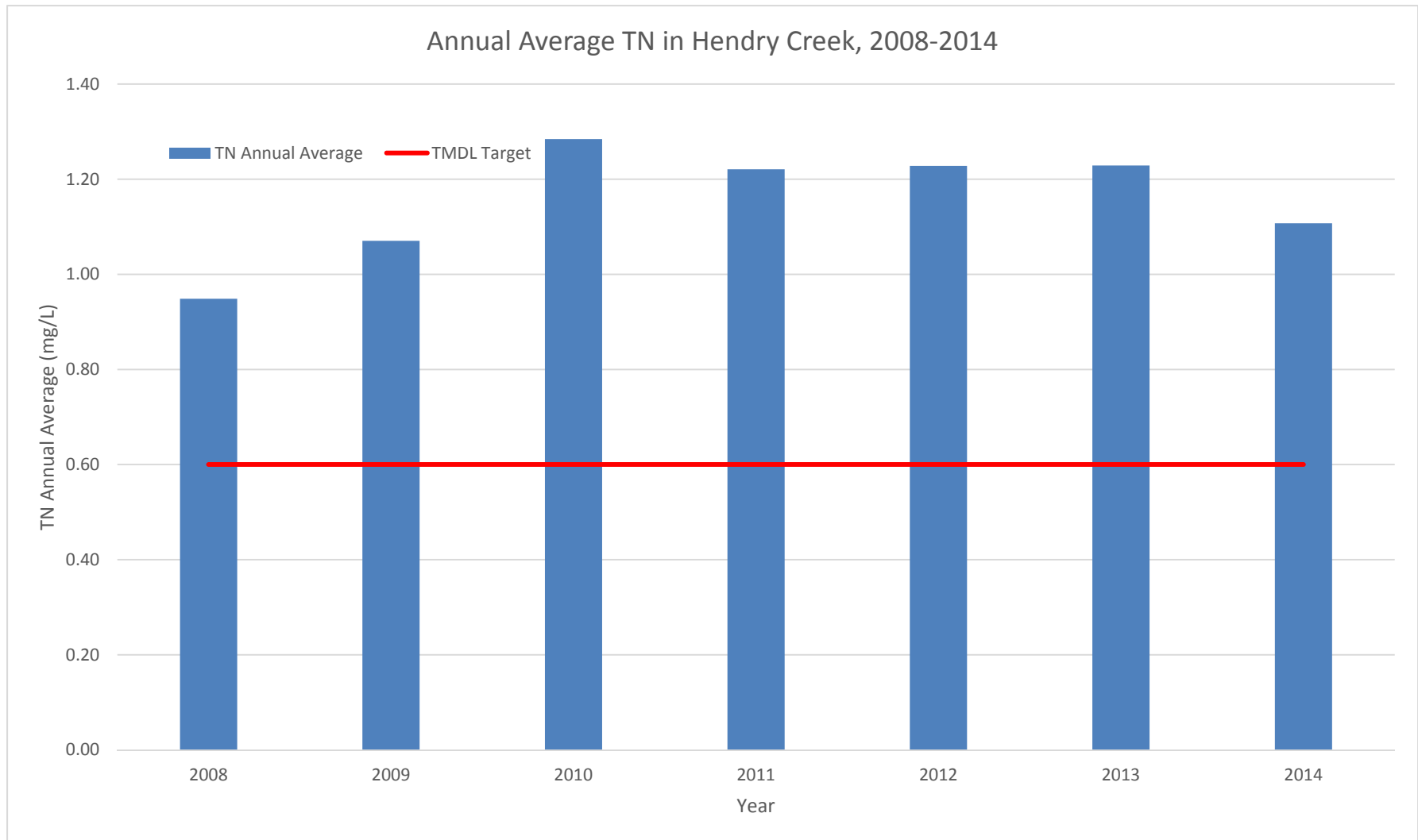


Hendry Creek DO, 2008-2014





Hendry Creek TN, 2008-2014

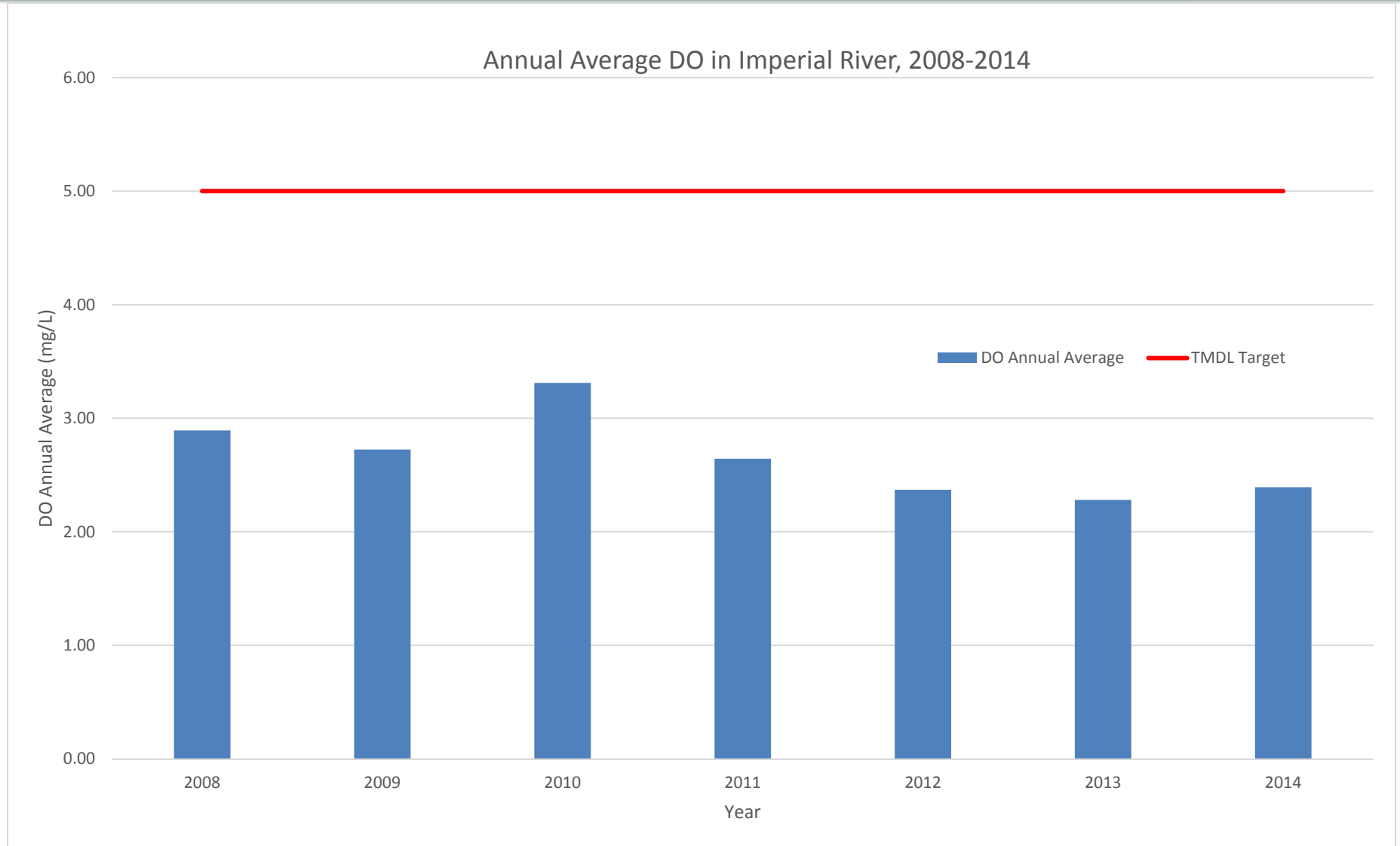




Imperial River WBID 3258EA

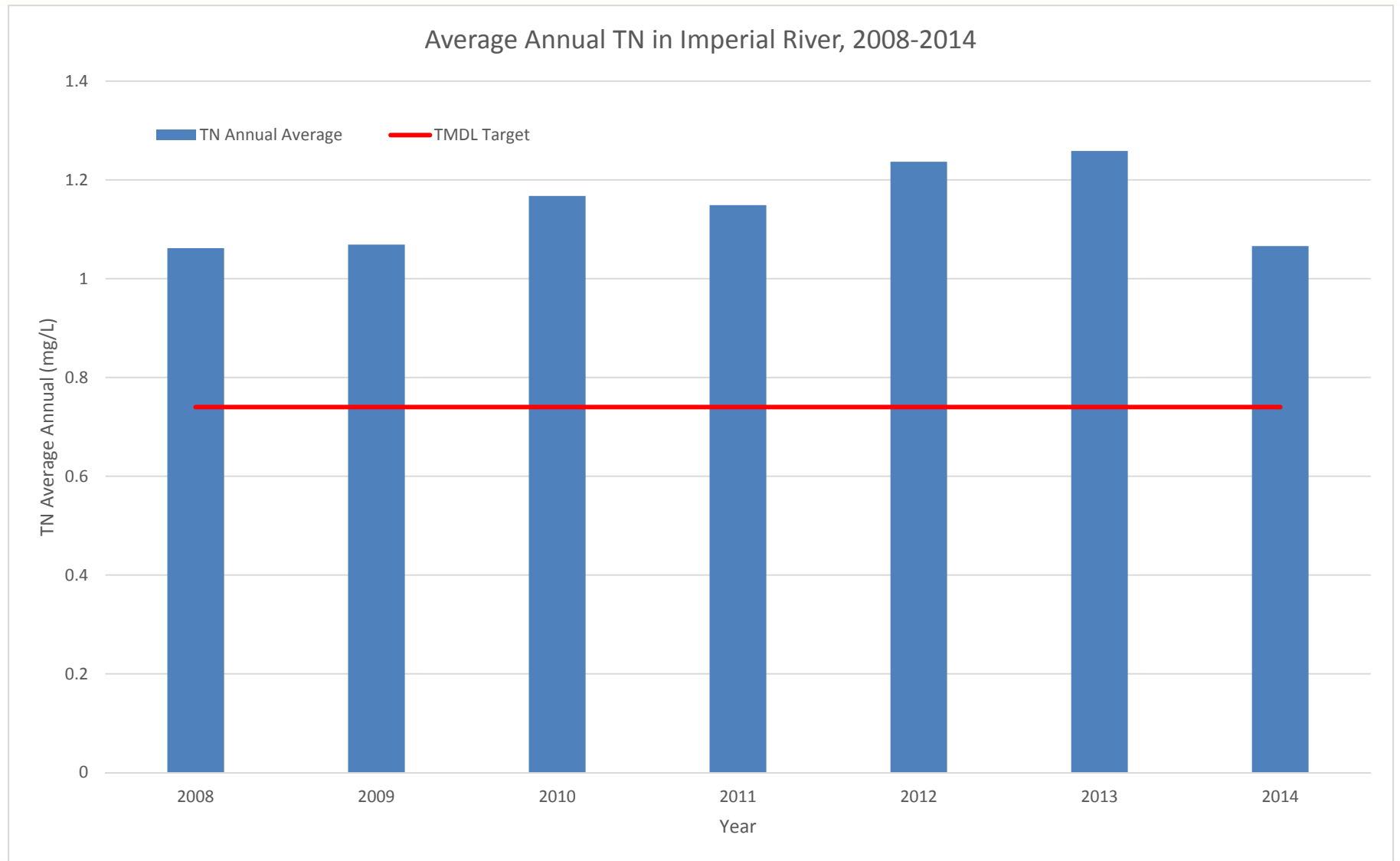


Imperial River DO, 2008-2014





Imperial River TN, 2008-2014





Questions about WQ Data?





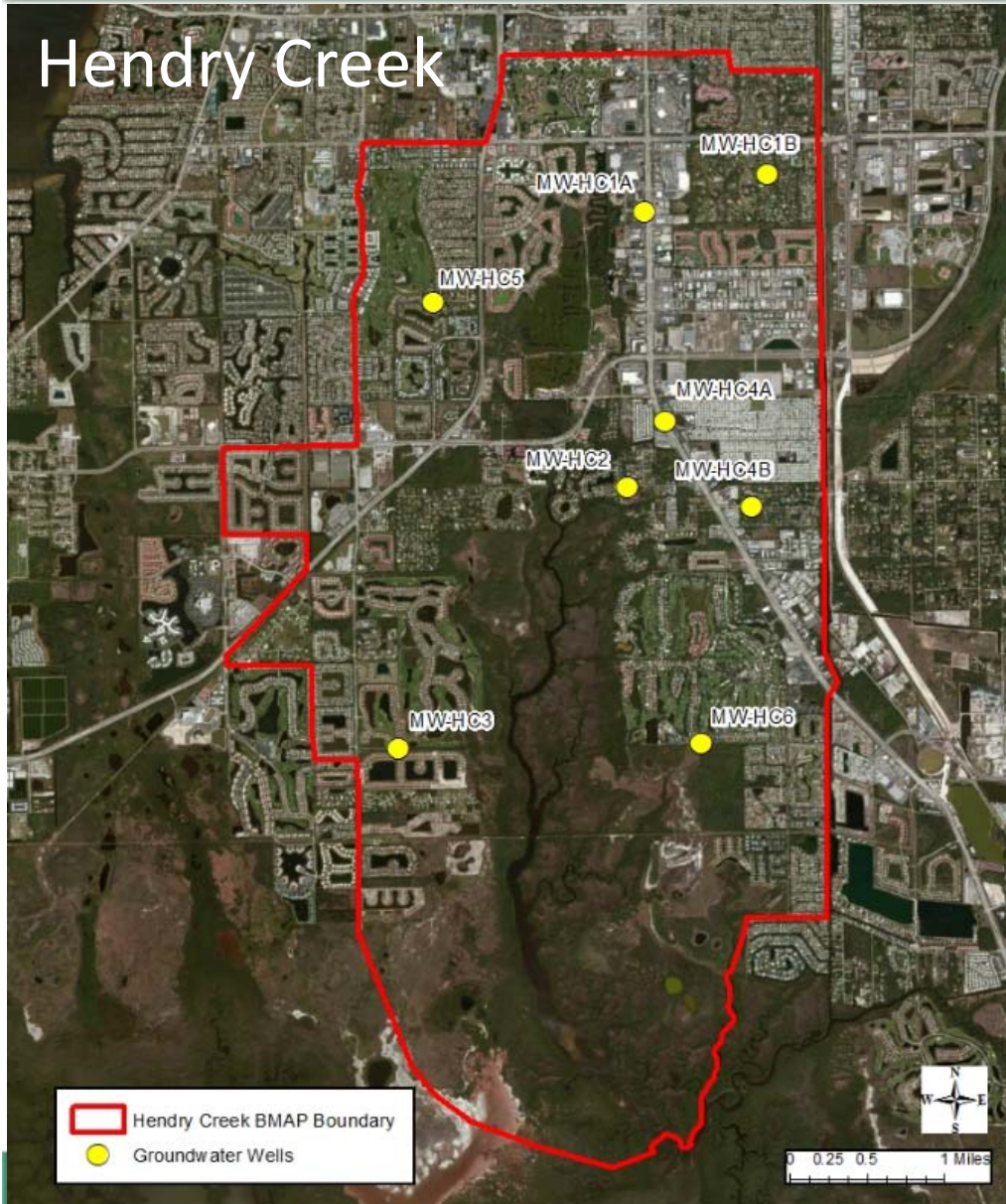
Ground Water Analysis

Julie Neurohr



EWC Monitoring Wells

Hendry Creek



- Quarterly Sampling
- Parameters Sampled:
 - Boron
 - Chloride*
 - Ammonia*
 - Nitrite/Nitrate*
 - Potassium
 - TKN*
 - Sucralose
 - Total Phosphorus*
- Depth to Water
- pH
- Temperature
- Specific Conductance*
- Dissolved Oxygen
- Turbidity
- Oxidation Reduction Potential

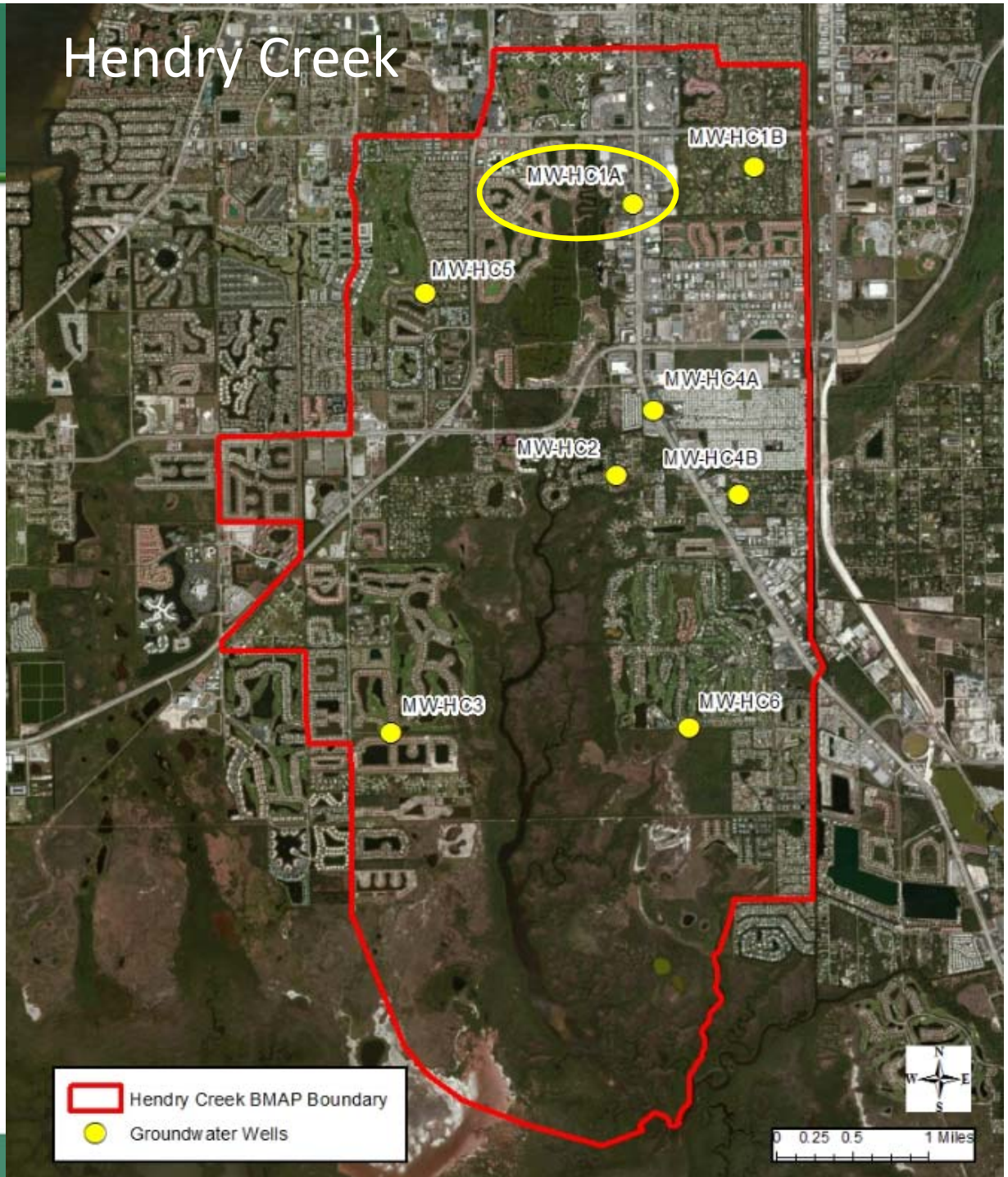
* Results in presentation



MW-HC1A

- Land Use: Urban, Built Up – Commercial
- Average Depth to Water: 5.64 feet

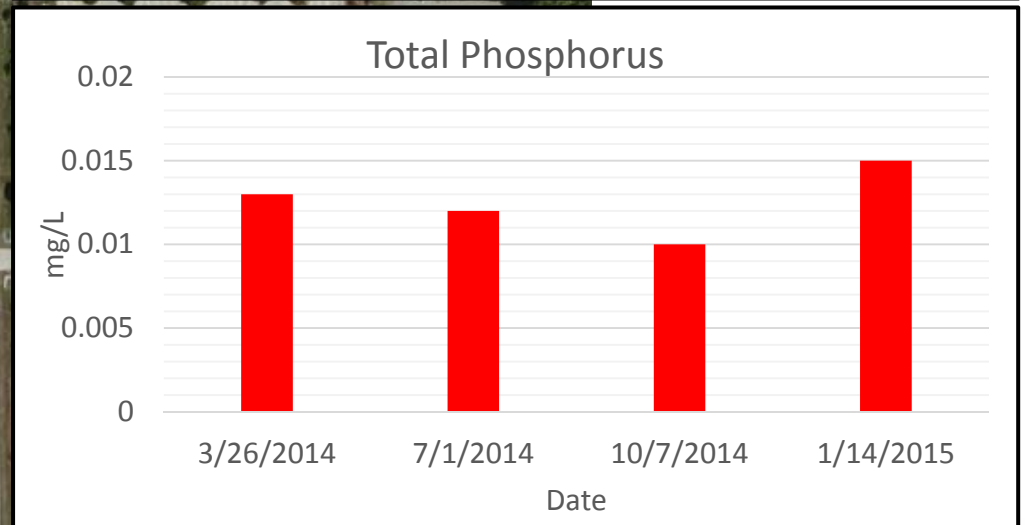
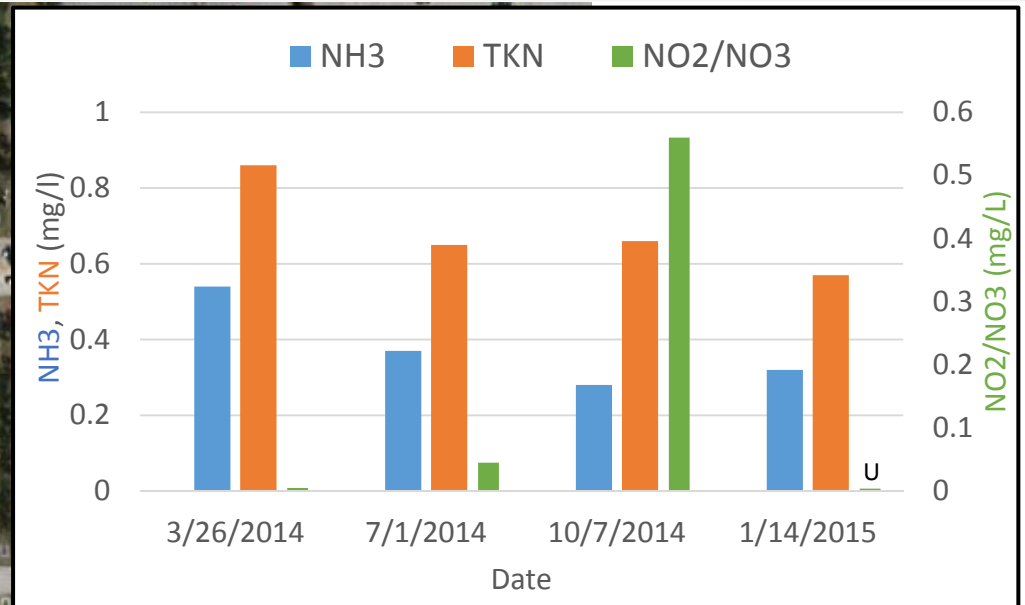
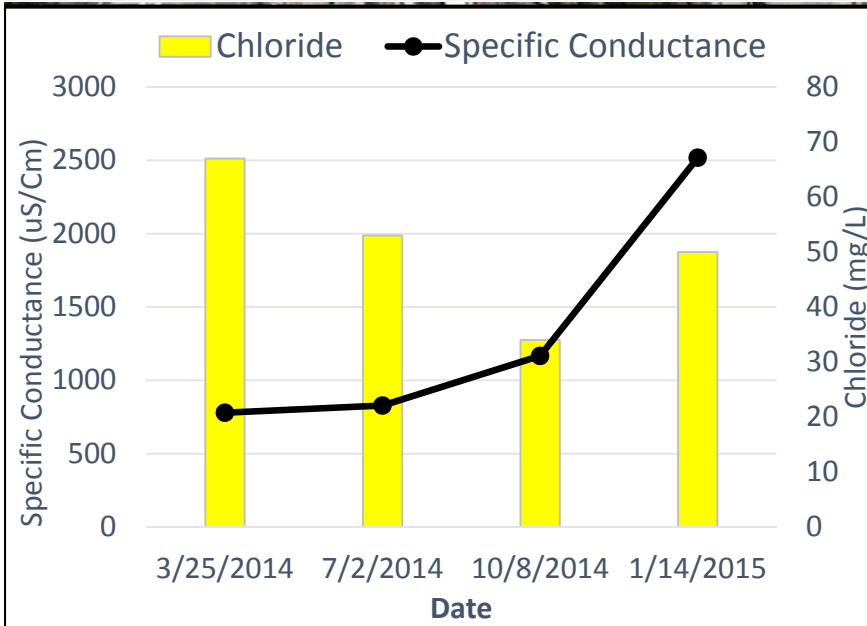
Hendry Creek





MW-HC1A

Land Use: Urban, Built Up - Commercial

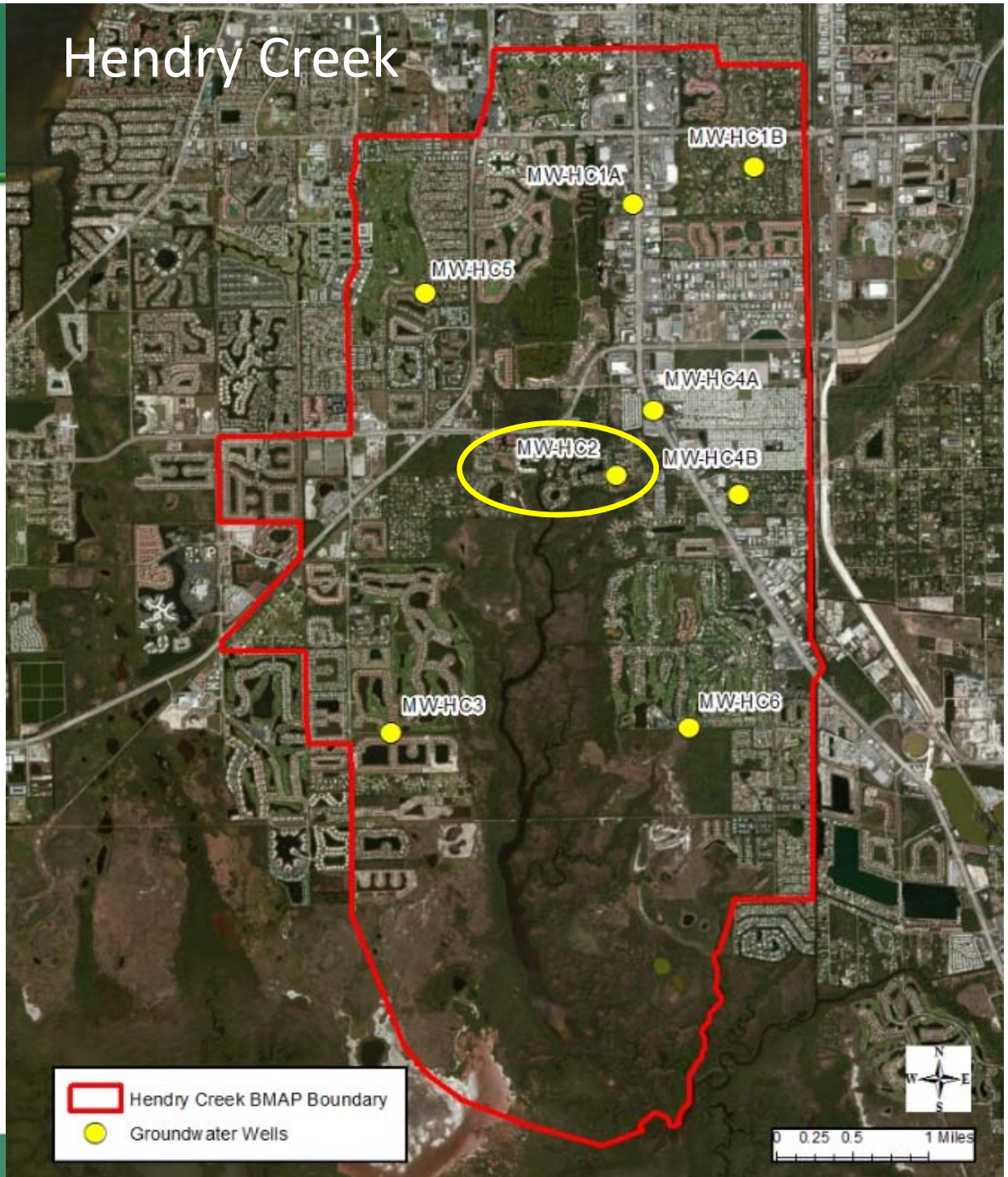




MW-HC2

- Land Use: Urban, Built Up – Low Density, Residential
- Average Depth to Water: 2.62 feet

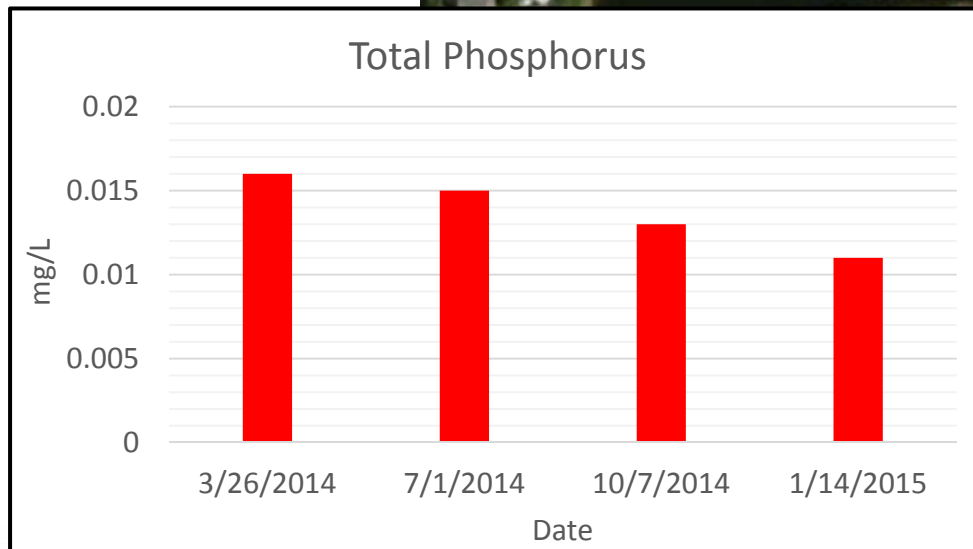
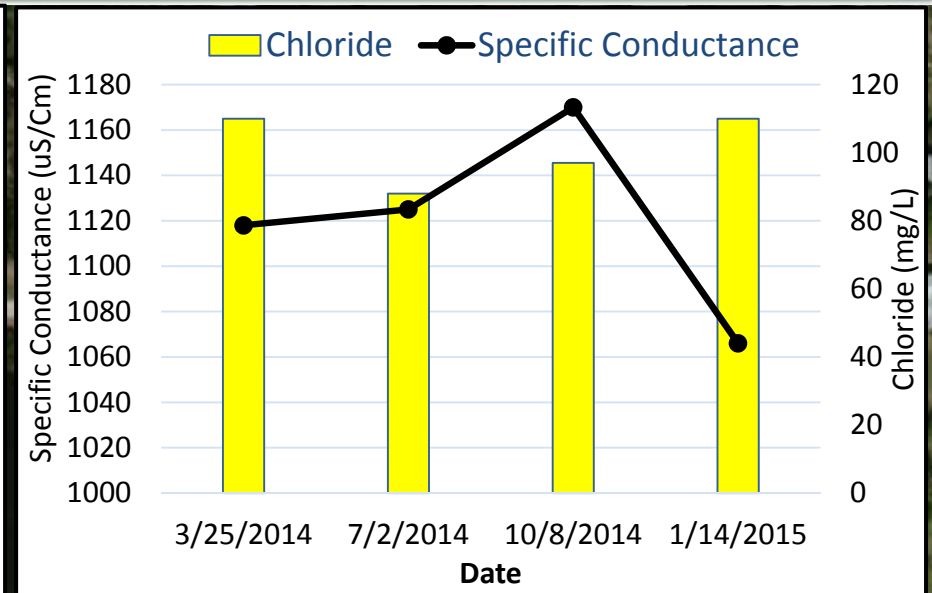
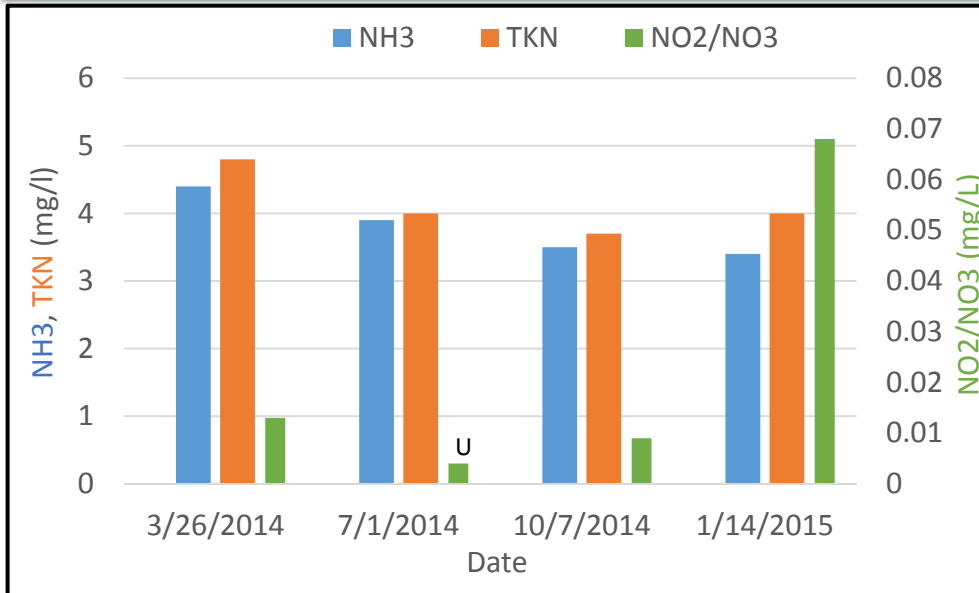
Hendry Creek





MW-HC2

Land Use: Urban, Built Up – Low Density, Residential

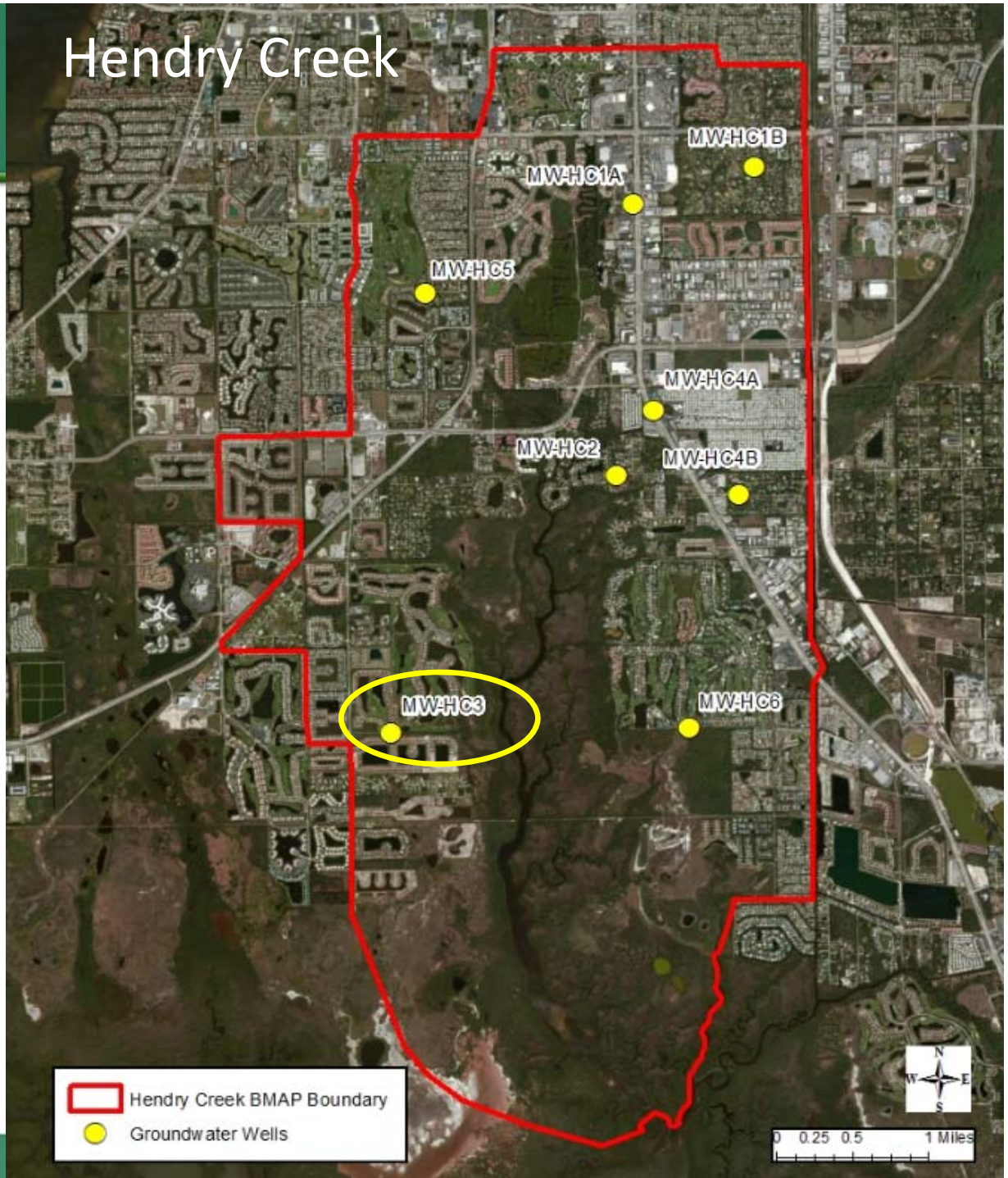




MW-HC3

- Land Use: Urban, Built Up – Medium Density Residential, Golf Course
- Average Depth to Water: 1.99 feet

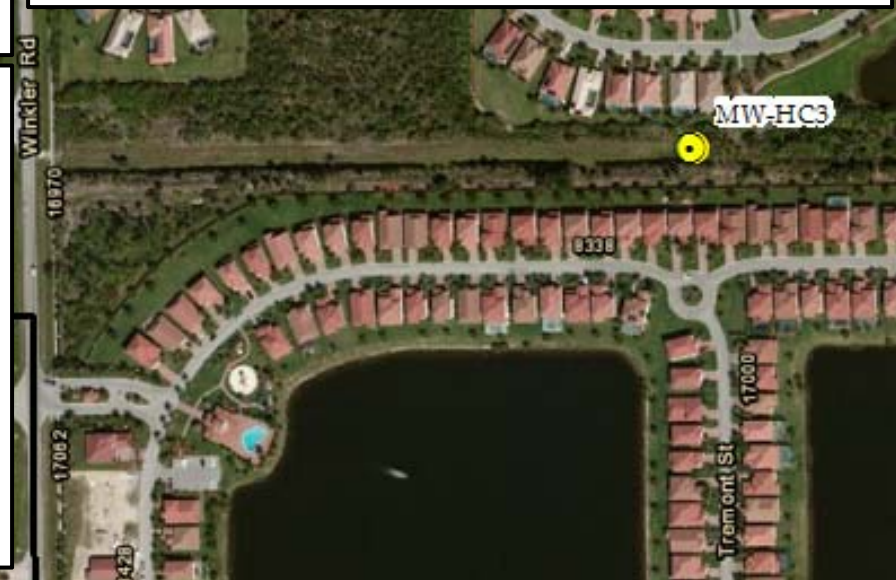
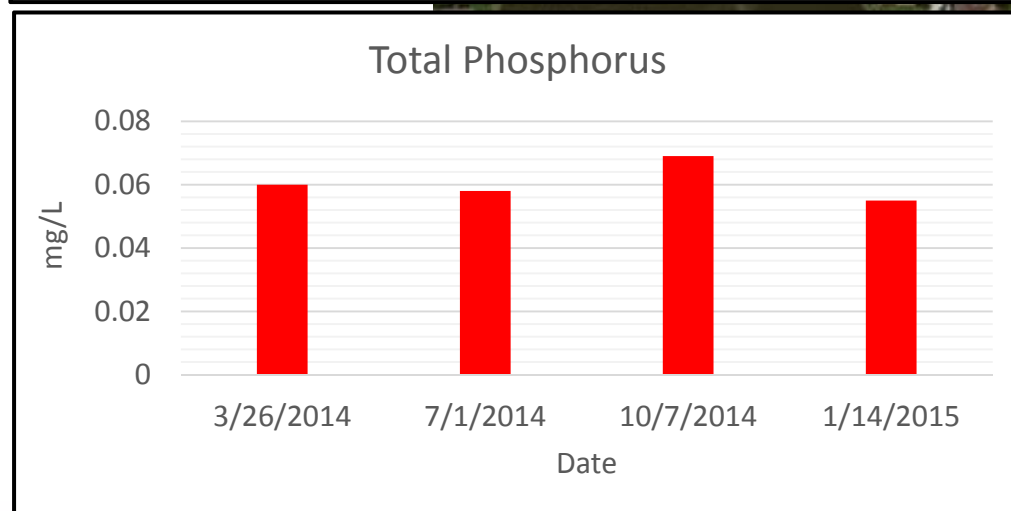
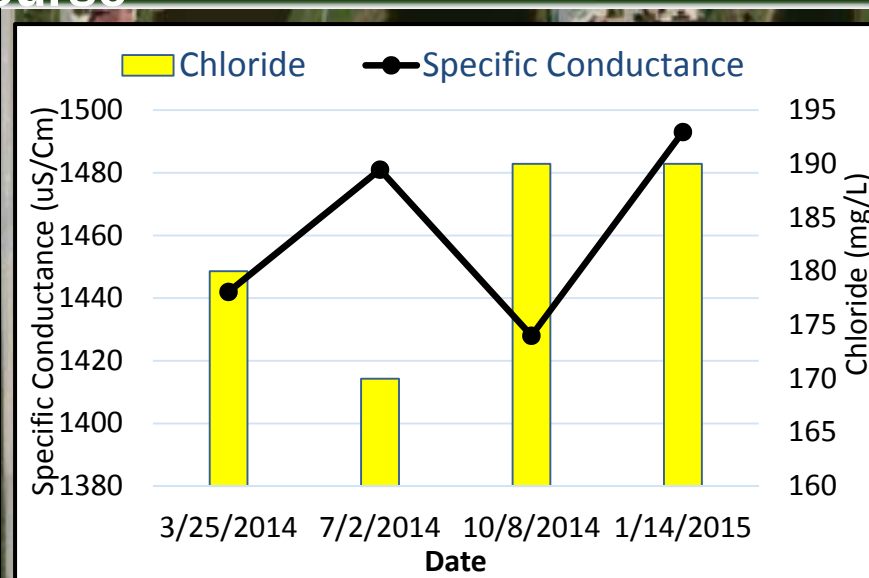
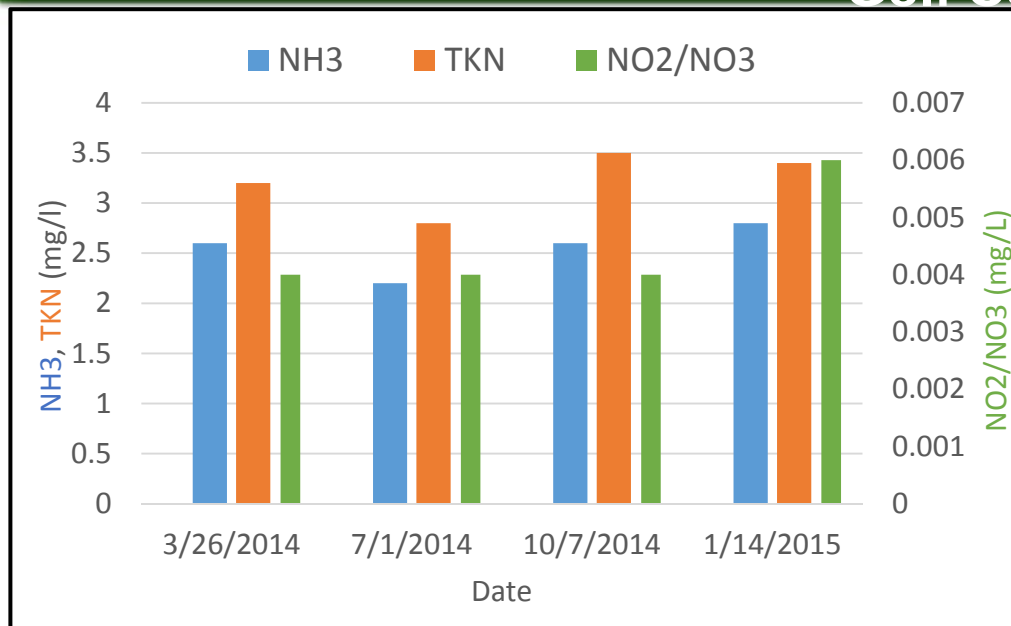
Hendry Creek

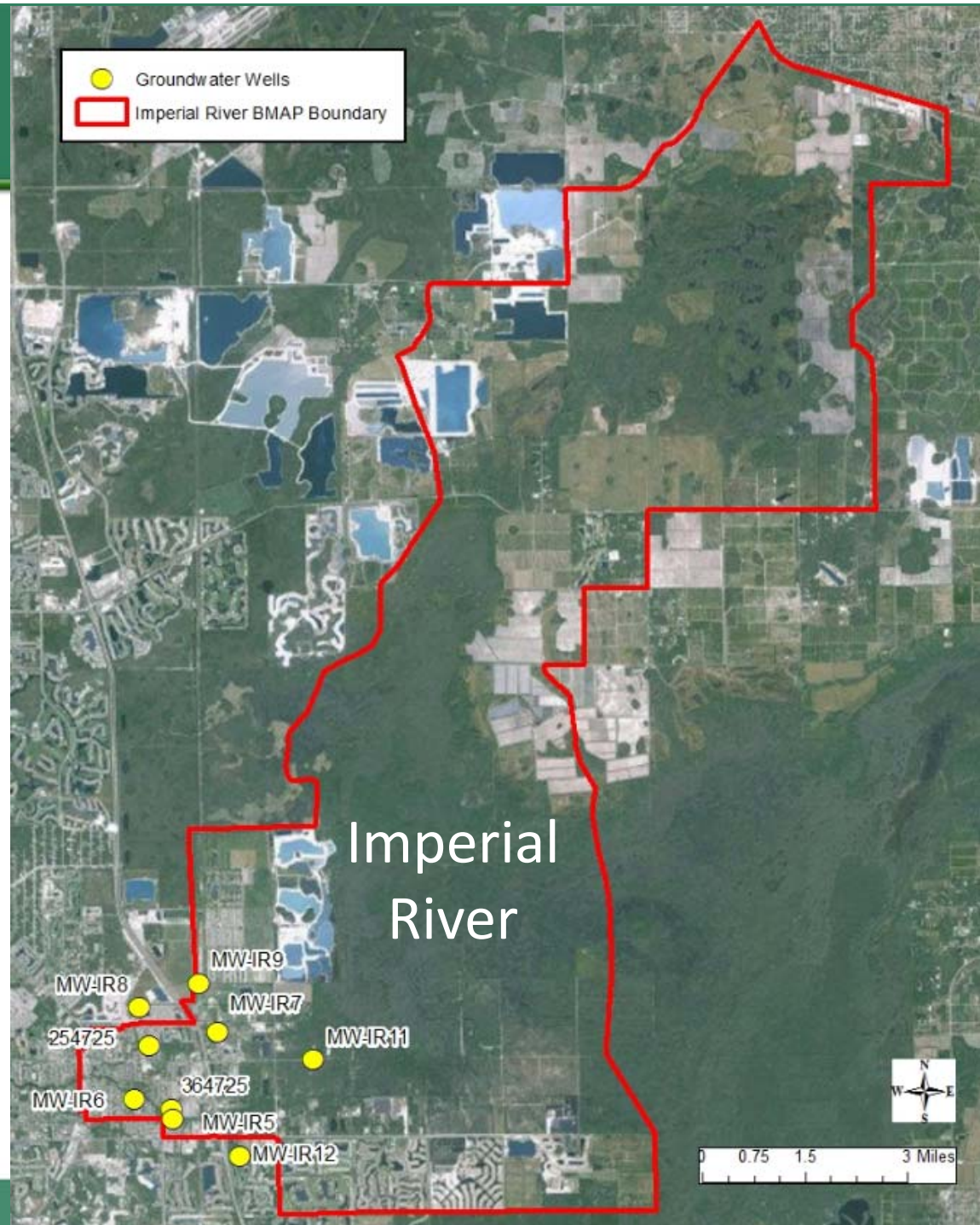




MW-HC3

Land Use: Urban, Built Up – Medium Density Residential,
Golf Course

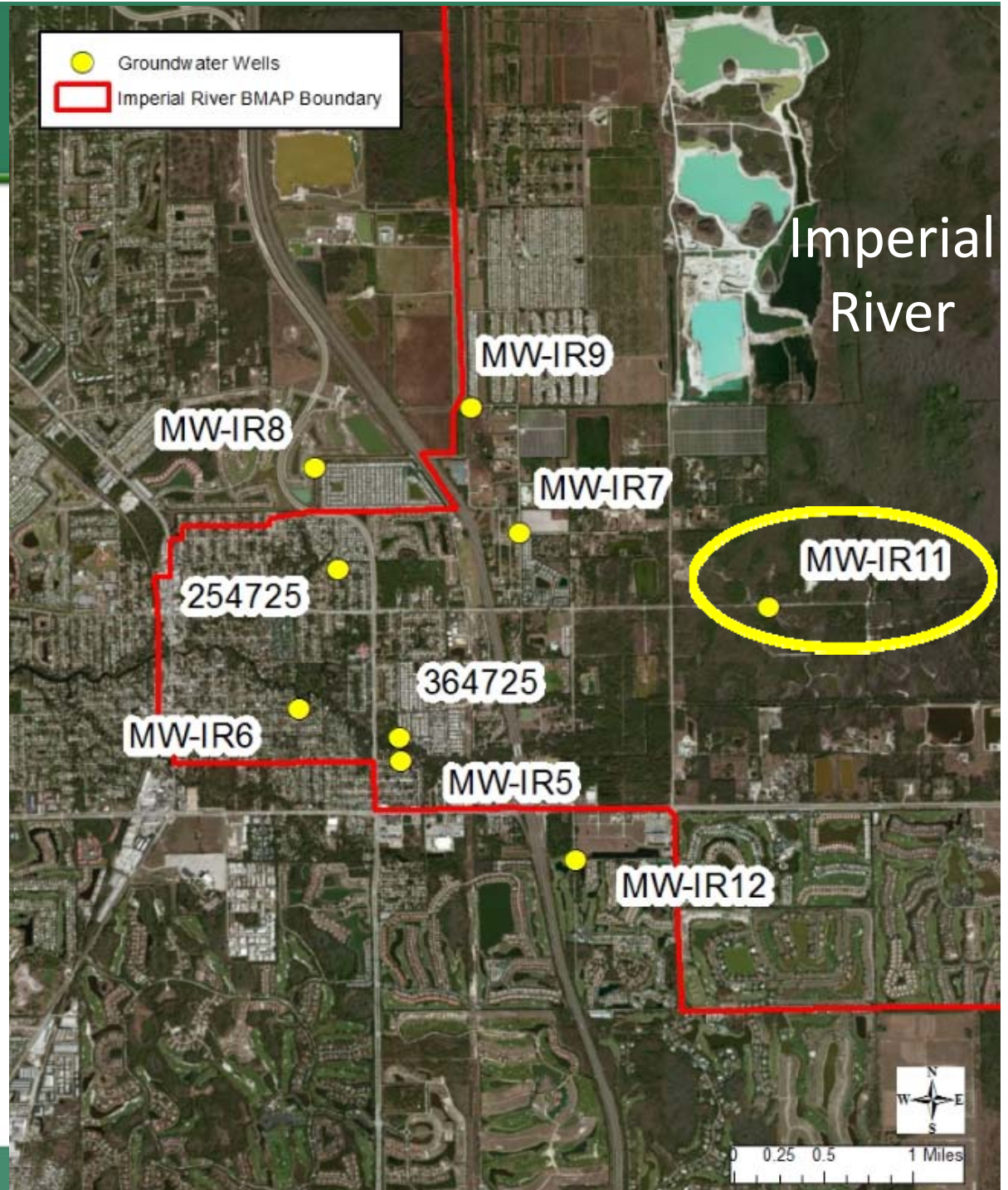






MW-IR11

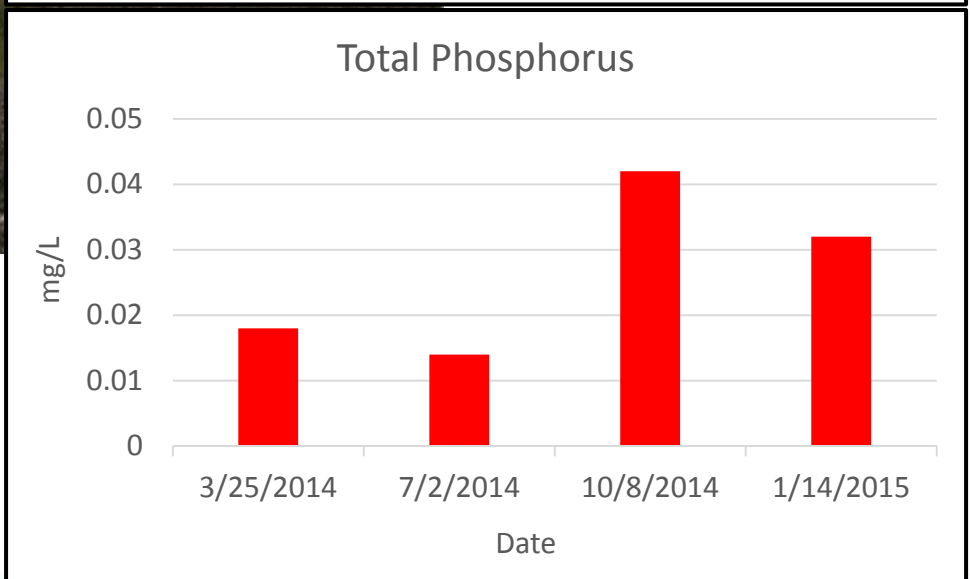
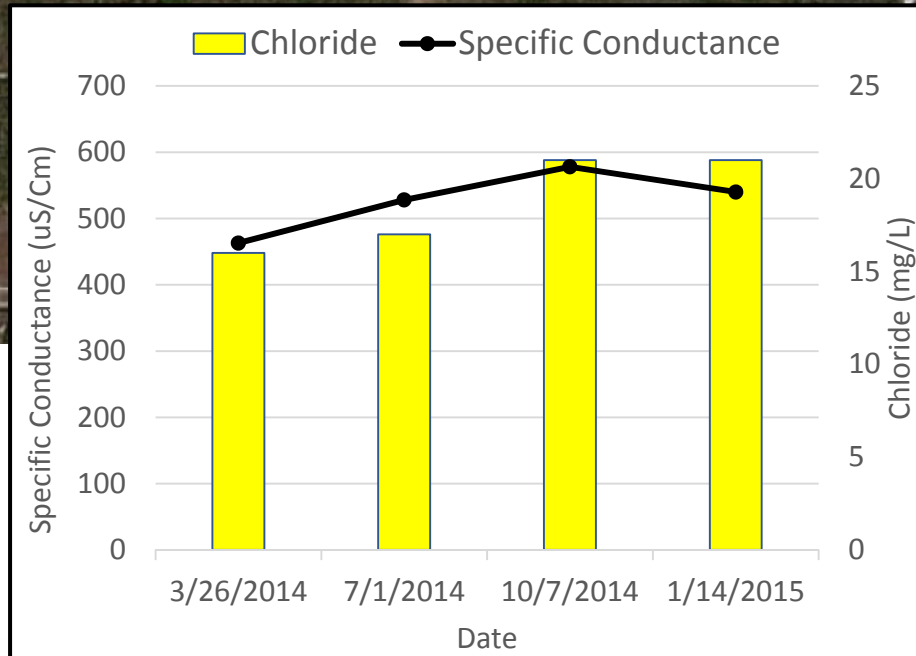
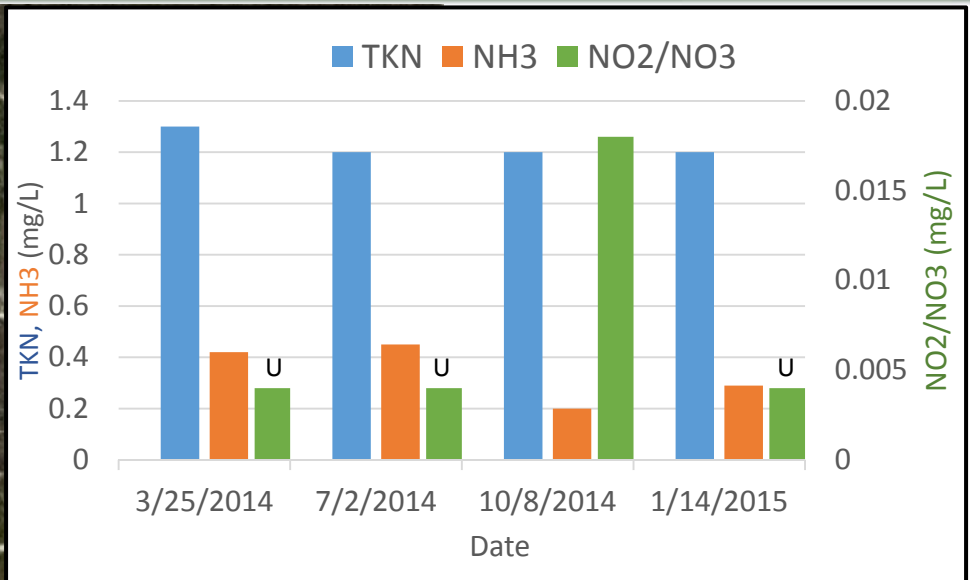
- Land Use: Hydric Pine
- Average Depth to Water: 4.30 feet





MW-IR11

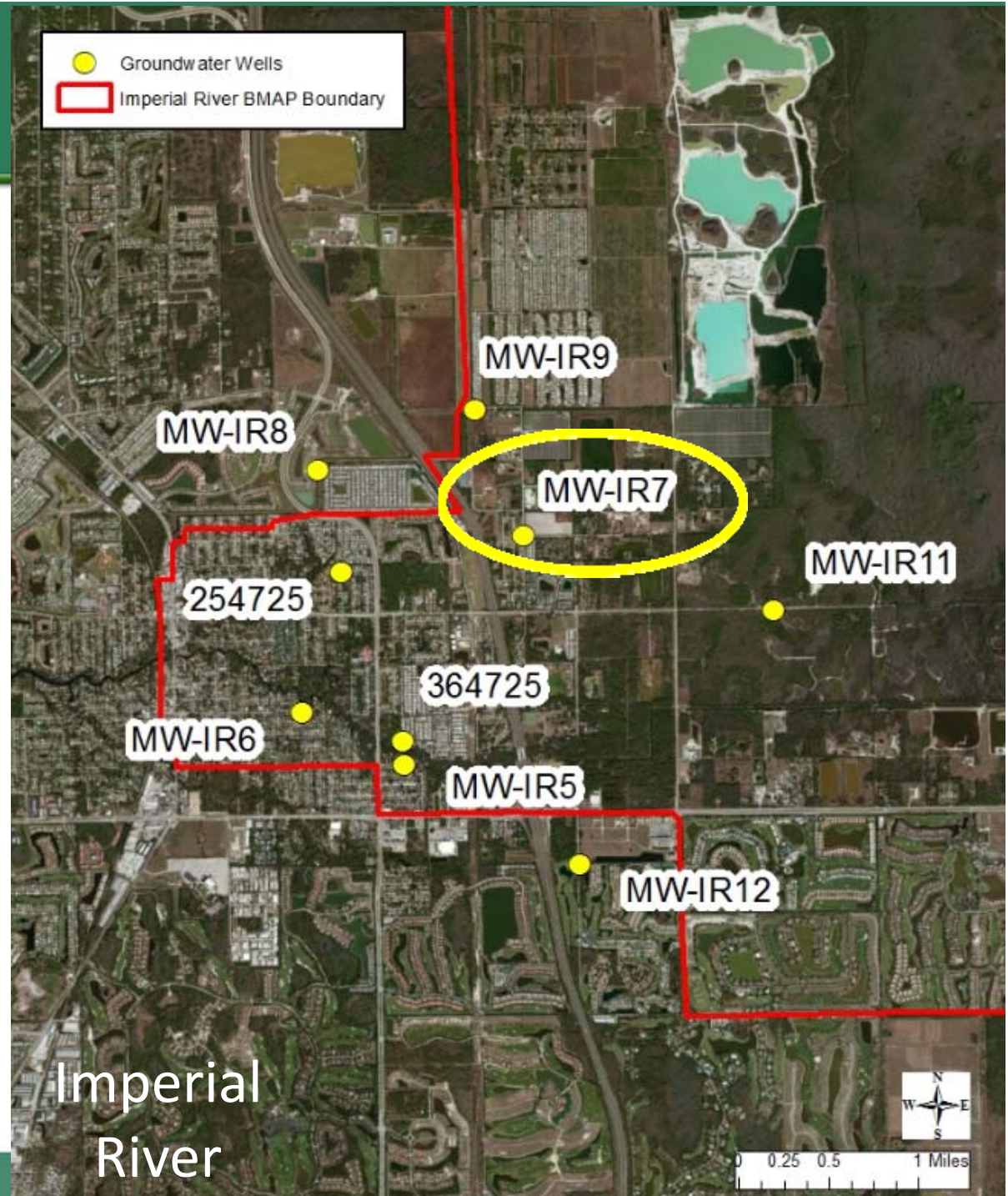
Land Use: Hydric Pine





MW-IR7

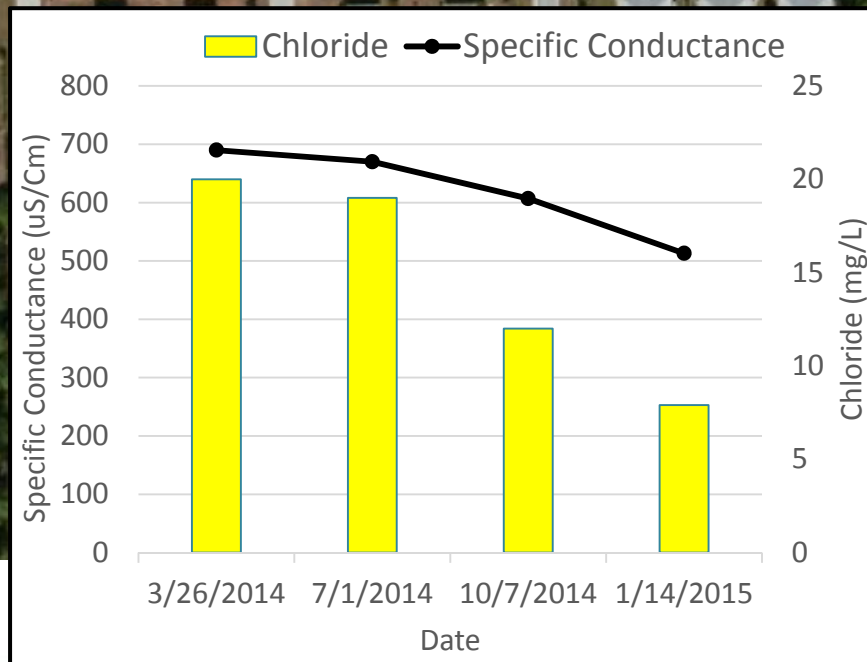
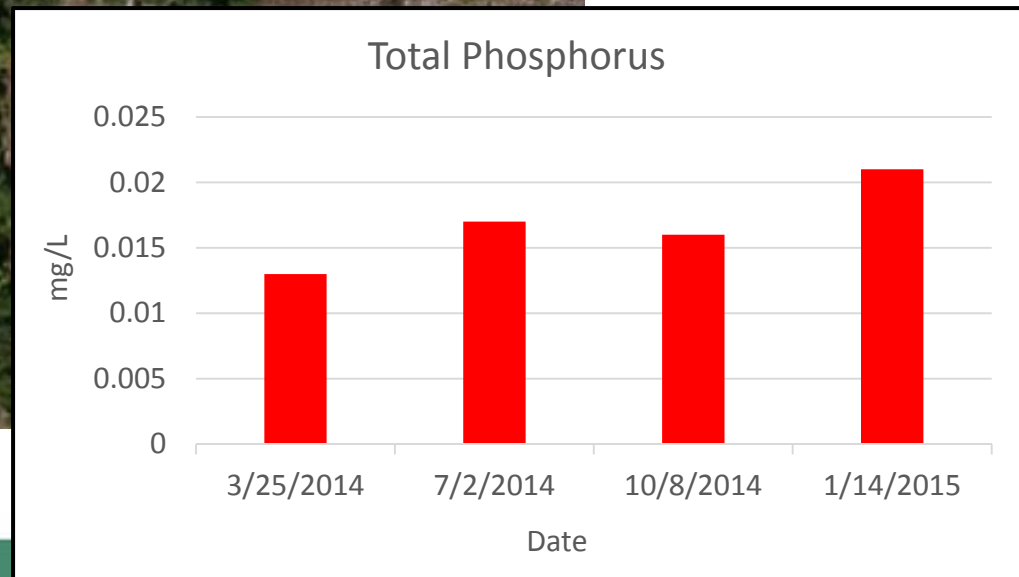
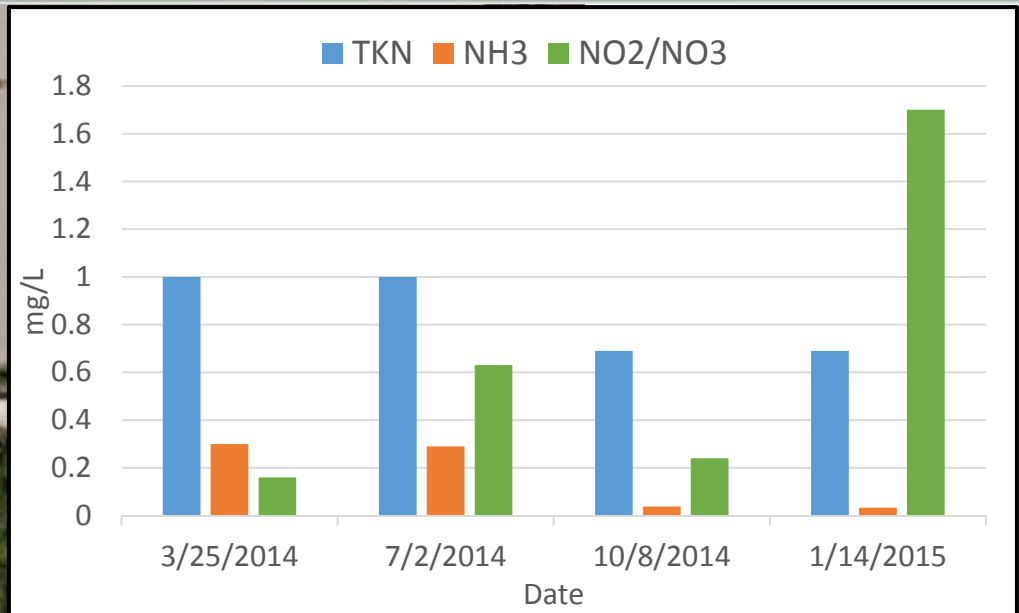
- Land Use:
Medium Density,
High Density, Row
Crops
- Average Depth to
Water: 4.84 feet





MW-IR7

Land Use: Medium Density, High Density, Row Crops

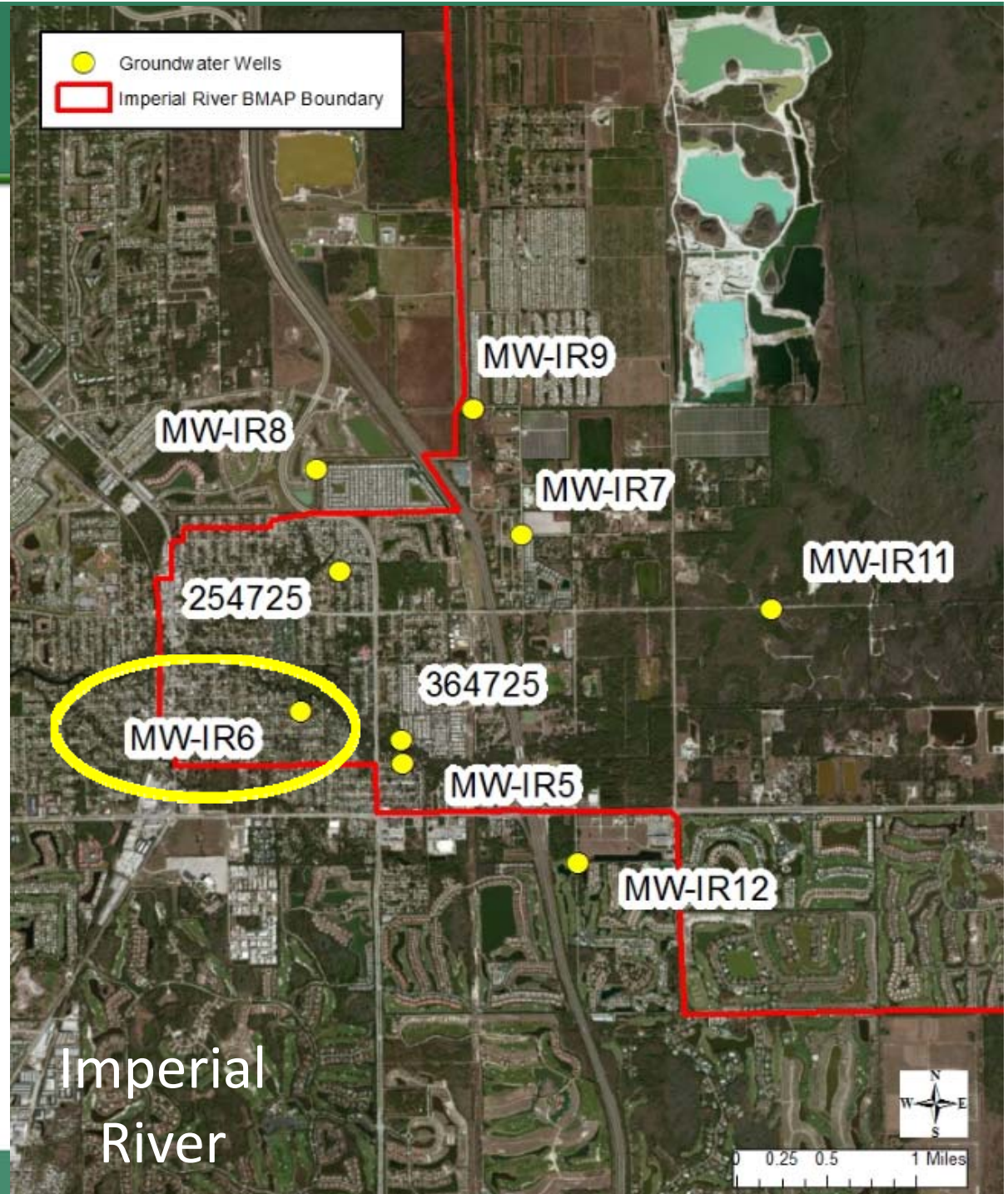


7/2/2015



MW-IR6

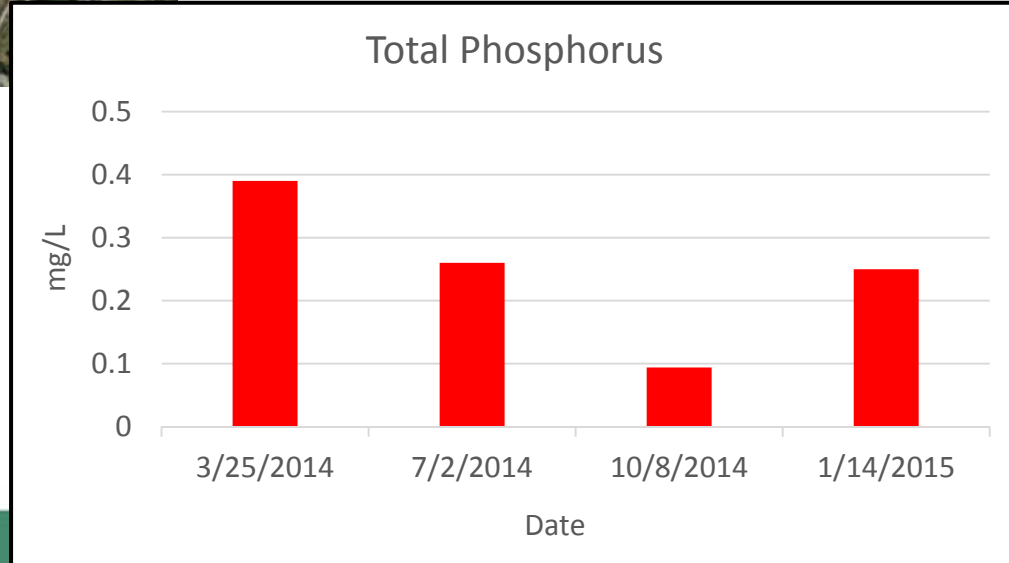
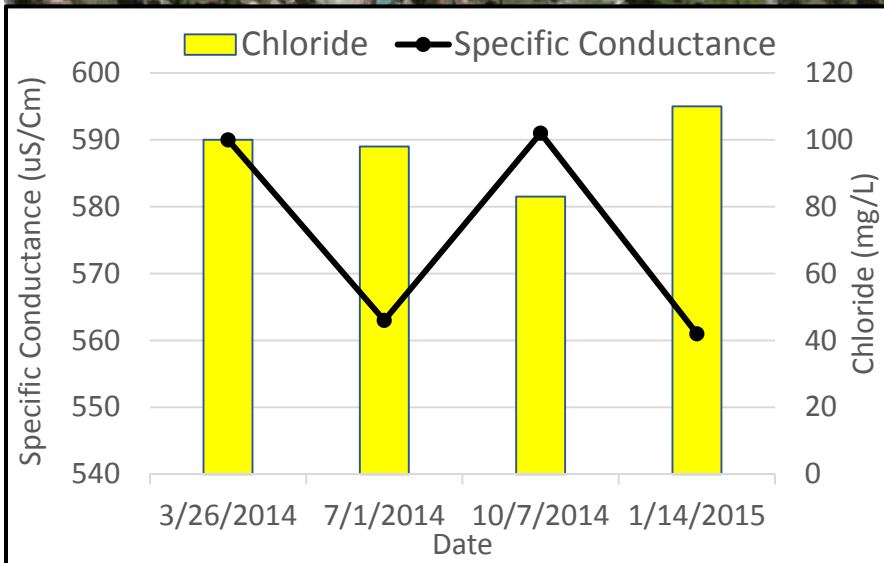
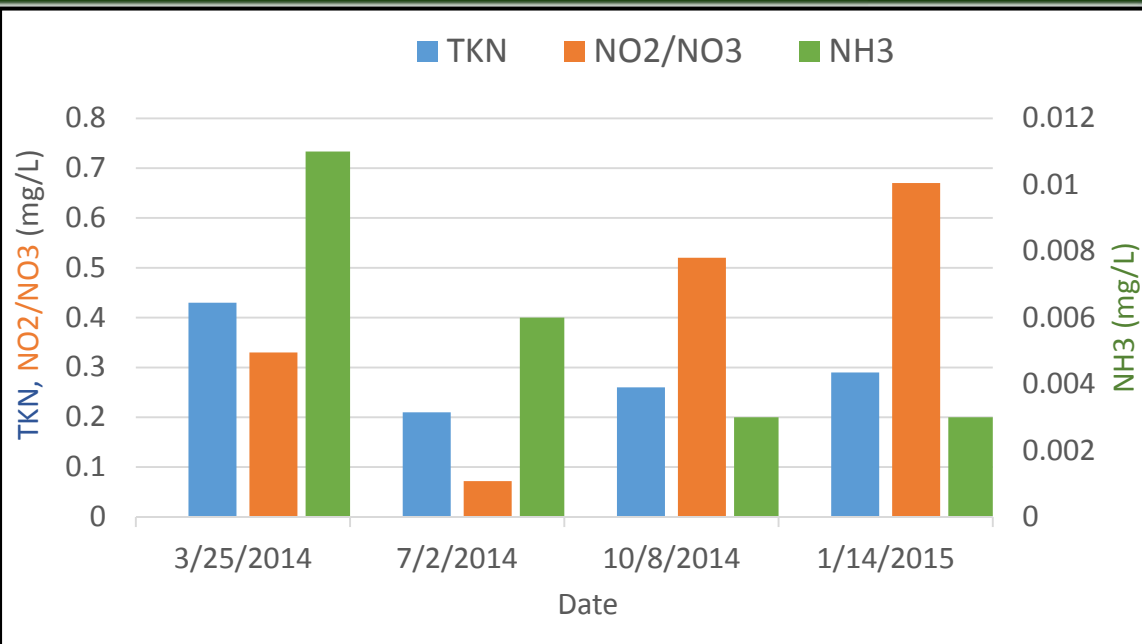
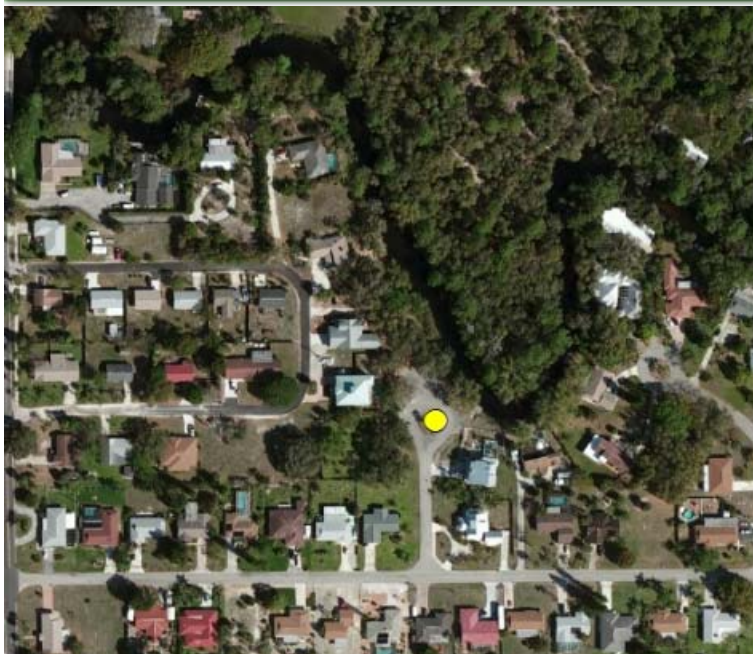
- Land Use:
Medium density,
residential
- Average Depth to
Water: 7.49 feet





MW-IR6

Land Use: Medium density, residential





Next Steps



Action Items

- Continue work on SSAC development.
 - Compare current water quality conditions to the state criteria for nutrients and DO.
- Continue ground water observations to evaluate ground water influence on the DO impairments.
- The Department plans to hold the next meeting in June 2015.



Contact Information

For additional information please contact:

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