Quantifiable Objectives Update
Weeki Wachee River

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Quantifiable Objectives

Water Quality	Target
Water clarity – river average	>50 feet[1]
Water clarity – near the headspring	>120 feet[1]
Nitrate concentration in the river	<0.20 mg/L[2]
Water Quantity	
Minimum flow for the river system	>90% natural flow[3]
Natural Systems	
Coverage of desirable submerged aquatic vegetation in the river	>40%[4]
Coverage of invasive aquatic vegetation (including filamentous algae) in the river	<10%[4]

[1] Based on data presented in Figure 15

[2] Dodson and Bridger 2014 – Nutrient TMDLs for Weeki Wachee Spring and Weeki Wachee River (WBIDs 1382B and 1382F)

[3] SWFWMD 2008 – Weeki Wachee River Recommended Minimum Flows and Levels

[4] Based on data presented in Figure 21

ACTIVE SURFACE WATER QUALITY MONITORING STATIONS
WEEKI WACHEE RIVER

Ammonia (N) (Total)
Calcium (Dissolved)
Carbon-Total Organic (Total)
Chlorophyll a (Total)
Color (Dissolved)
Depth (Total)
Depth, bottom (Total)
Dissolved Oxygen (Total)
Iron (Dissolved)
Magnesium (Dissolved)
Nitrate-Nitrite (N) (Total)
Nitrite (N) (Total)

Nitrogen- Total (Total)
Orthophosphate (P) (Dissolved)
pH (Total)
Phaeophytin (Total)
Phosphorus- Total (Total)
Potassium (Dissolved)
Residues- Nonfilterable (TSS) (Total)
Residues- Volatile (Total)
Salinity (Total)
Secchi-horizontal (Total)
Sodium (Dissolved)
Specific Conductance (Total)
Temperature (Total)
Turbidity (Total)

Legend

P108 Surface Water Quality Monitoring

Southwest Florida Water Management District

(1) Period of Recod for Stations WW0 - WW5: 2006-Present
(2) Preiod of Record for Stations WEEKI 1-4 and WEEKI 6-8: 1999-Present
(3) Homo nr Shell Island, Homo nr Mud River, Homo Spgs at Homo Spgs grab samples associated with continuous monitoring stations: Period of Record for these stations: 2017-Present

Surface water grab samples are collected at 0.5 meters below the surface and irrespective of tide Samples are analyzed at the SWFWMD Laboratory in Brooksville, FL. Field measurements are taken in concert with grab samples using field deployable sondes.

Natural Systems & Restoration
SF NDE 2016
Aerial Year 2017

0 0.075 0.15 0.3 Miles

Water Quality
Quantifiable Objectives

- Water Clarity
  - River Average >50 feet
  - Near Headsprings >120 feet
- Nitrate Concentration in the River
  - TMDL <0.20mg/L

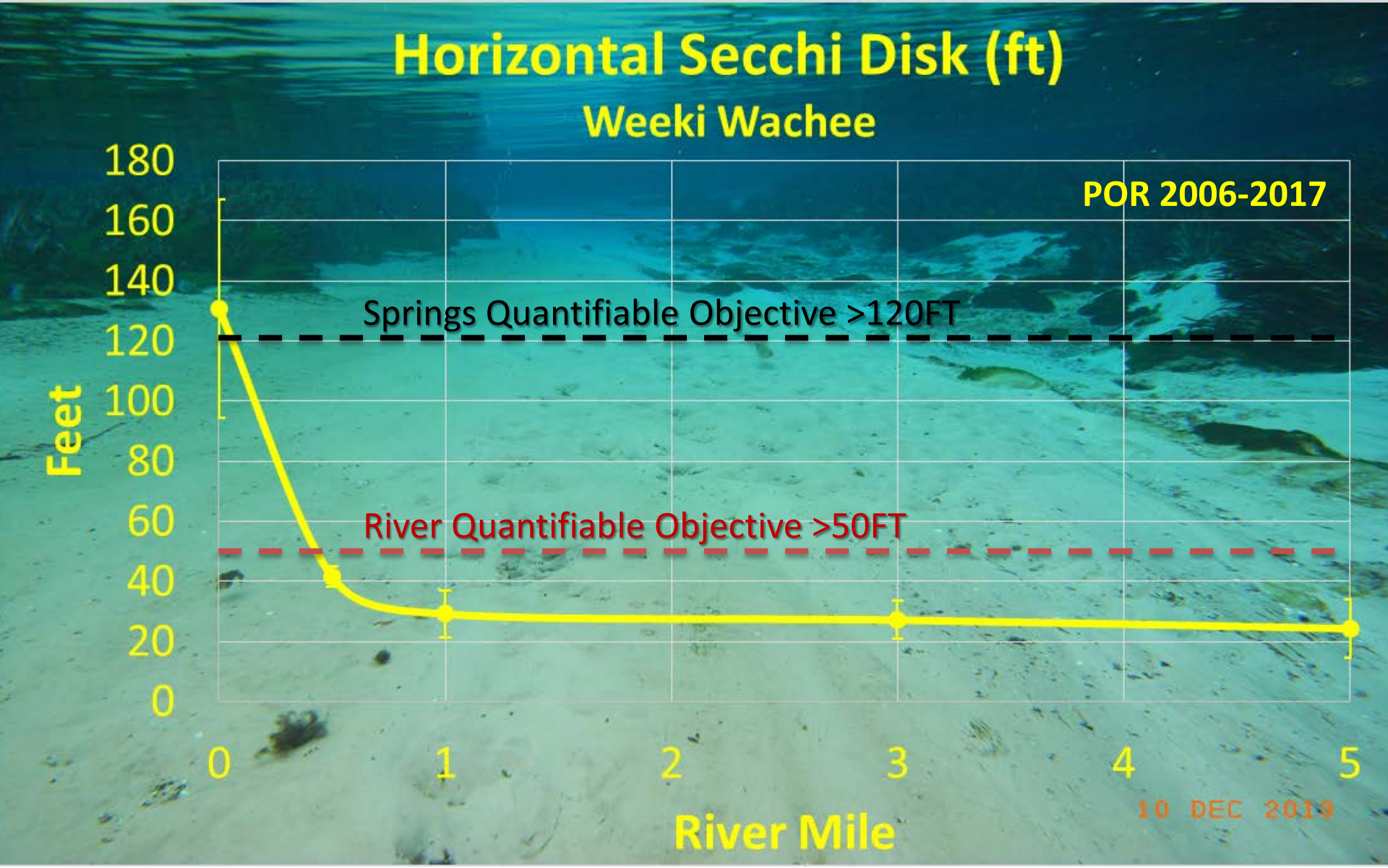
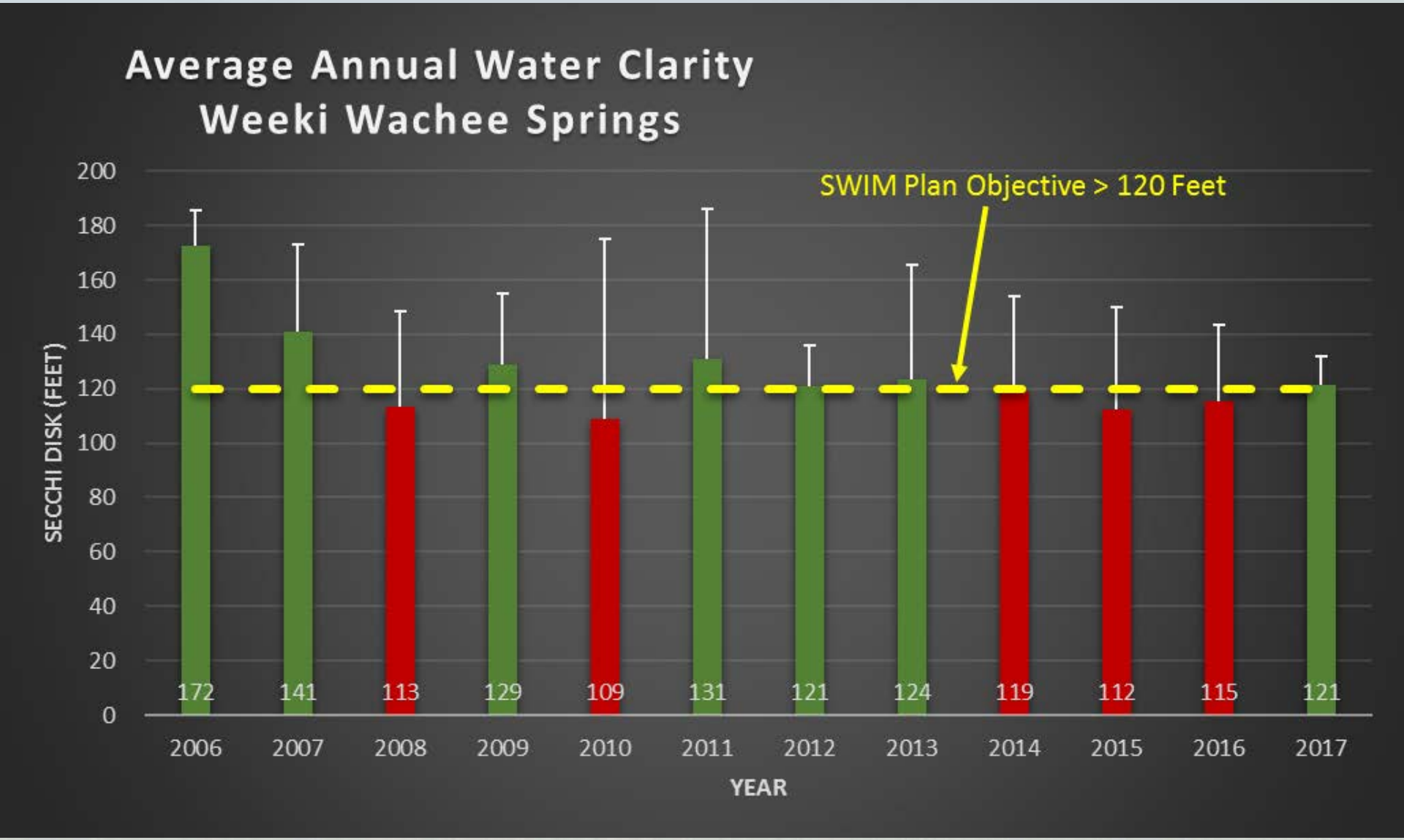


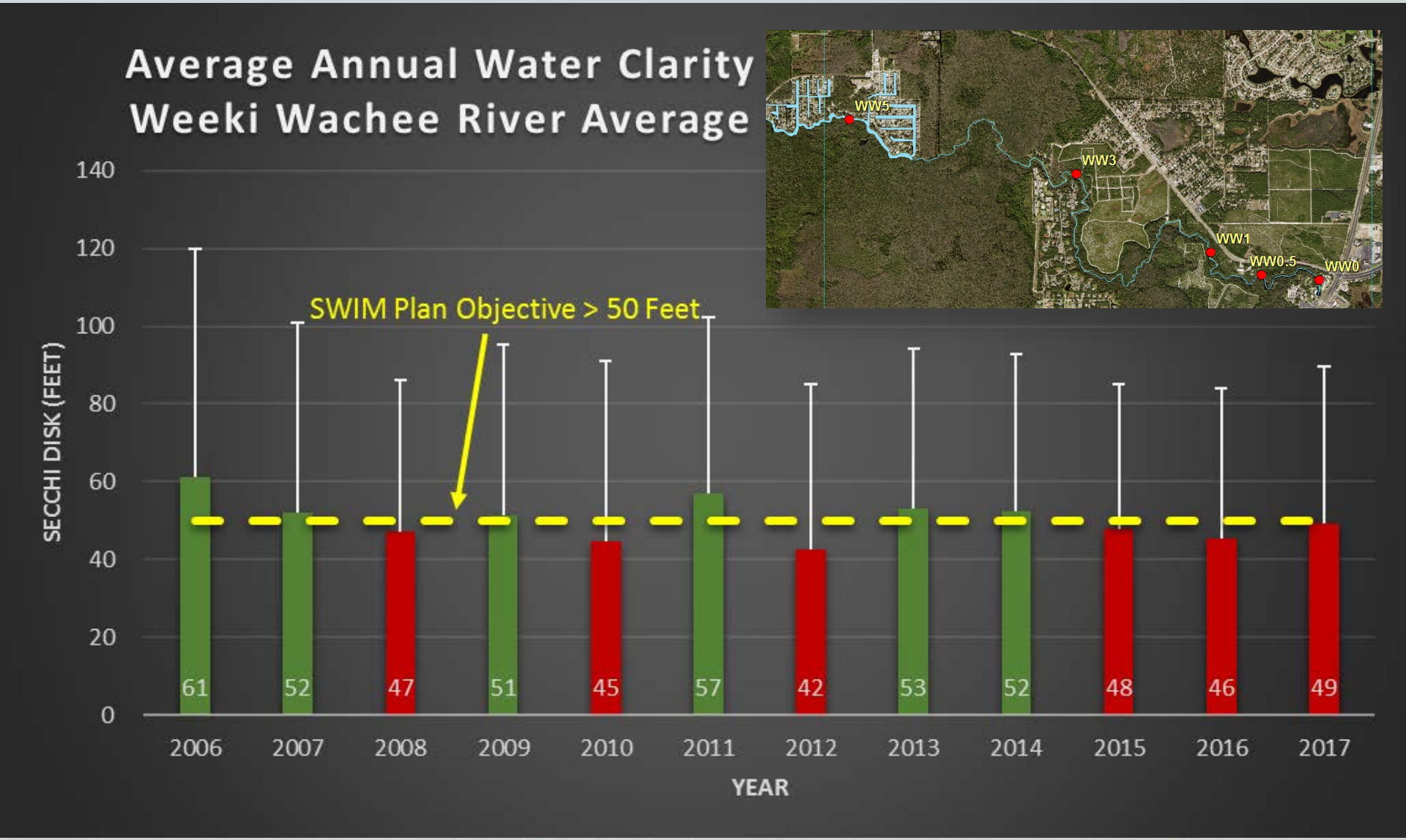
Figure 15: Water Clarity in the Weeki Wachee River

Water clarity, as measured by a horizontal secchi disk, over time at the five fixed river stations. Clarity is affected by many factors including the amount of tannins and suspended sediment in the water column.

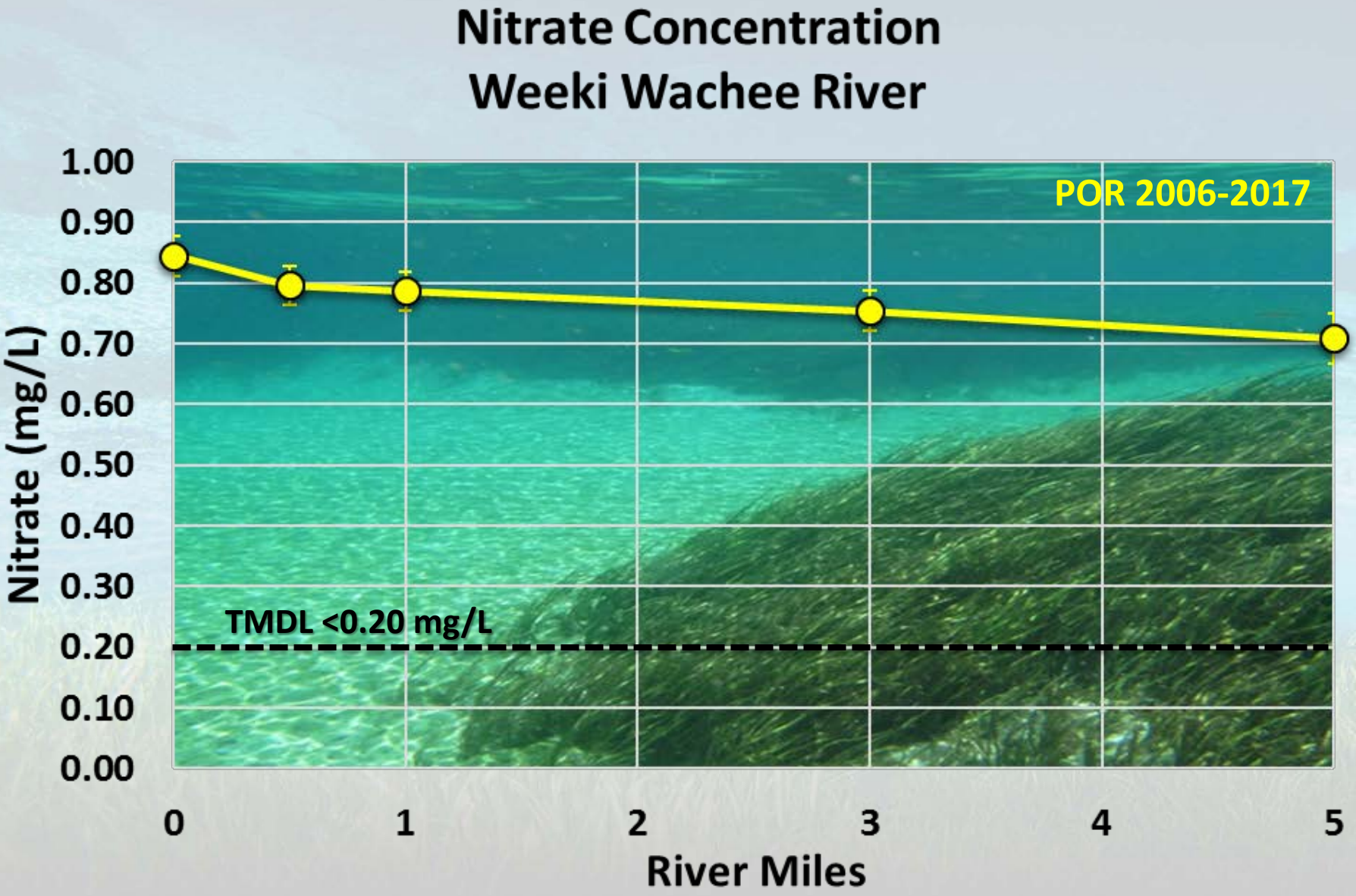
Water Quality Quantifiable Objective - Clarity

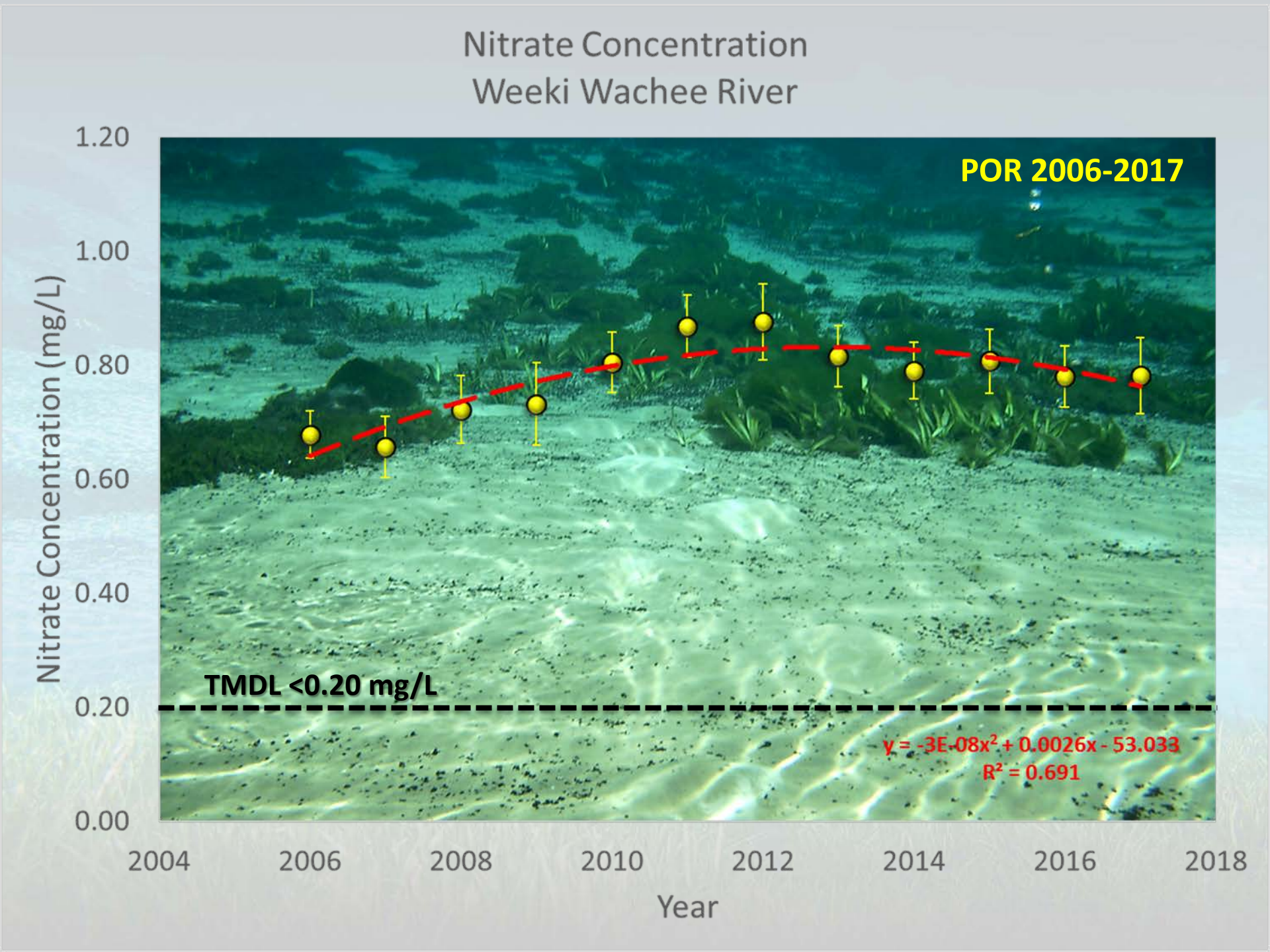


Water Quality Quantifiable Objective - Clarity

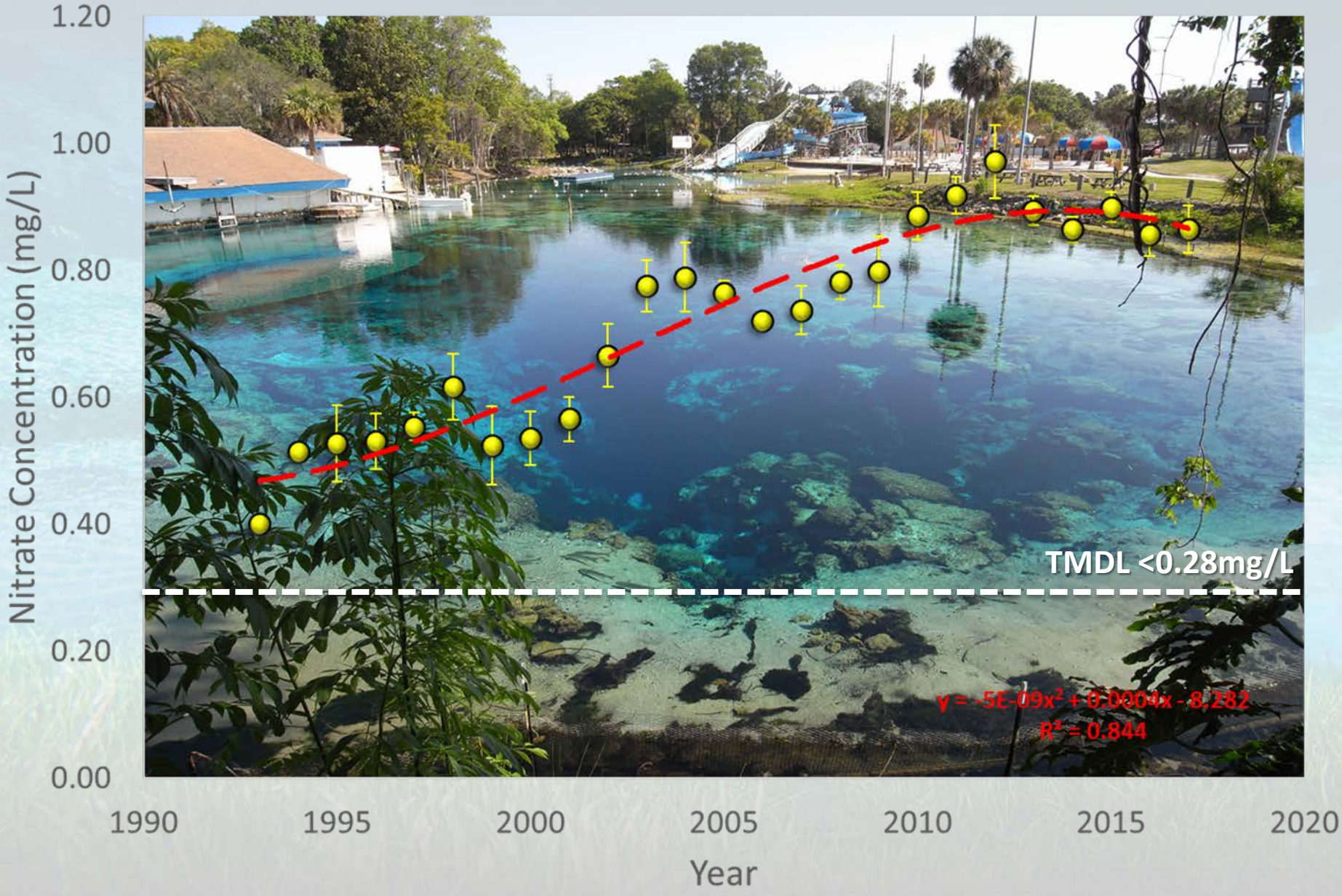


Water Quality Quantifiable Objective - Nitrate




Nitrate Concentration
Weeki Wachee River
POR 2006-2017
TMDL <0.20 mg/L
y = -3E-08x² + 0.0026x - 53.033
R² = 0.691
Nitrate Concentration (mg/L)
1.20
1.00
0.80
0.60
0.40
0.20
0.00
2004
2006
2008
2010
2012
2014
2016
2018
Year

Nitrate Concentration
Weeki Wachee Springs



WATER QUANTITY

Water Quantity
Quantifiable Objective

- Minimum Flow for the River > 90% of Natural Flow

- **Maintaining 95.1% of Natural Flow**

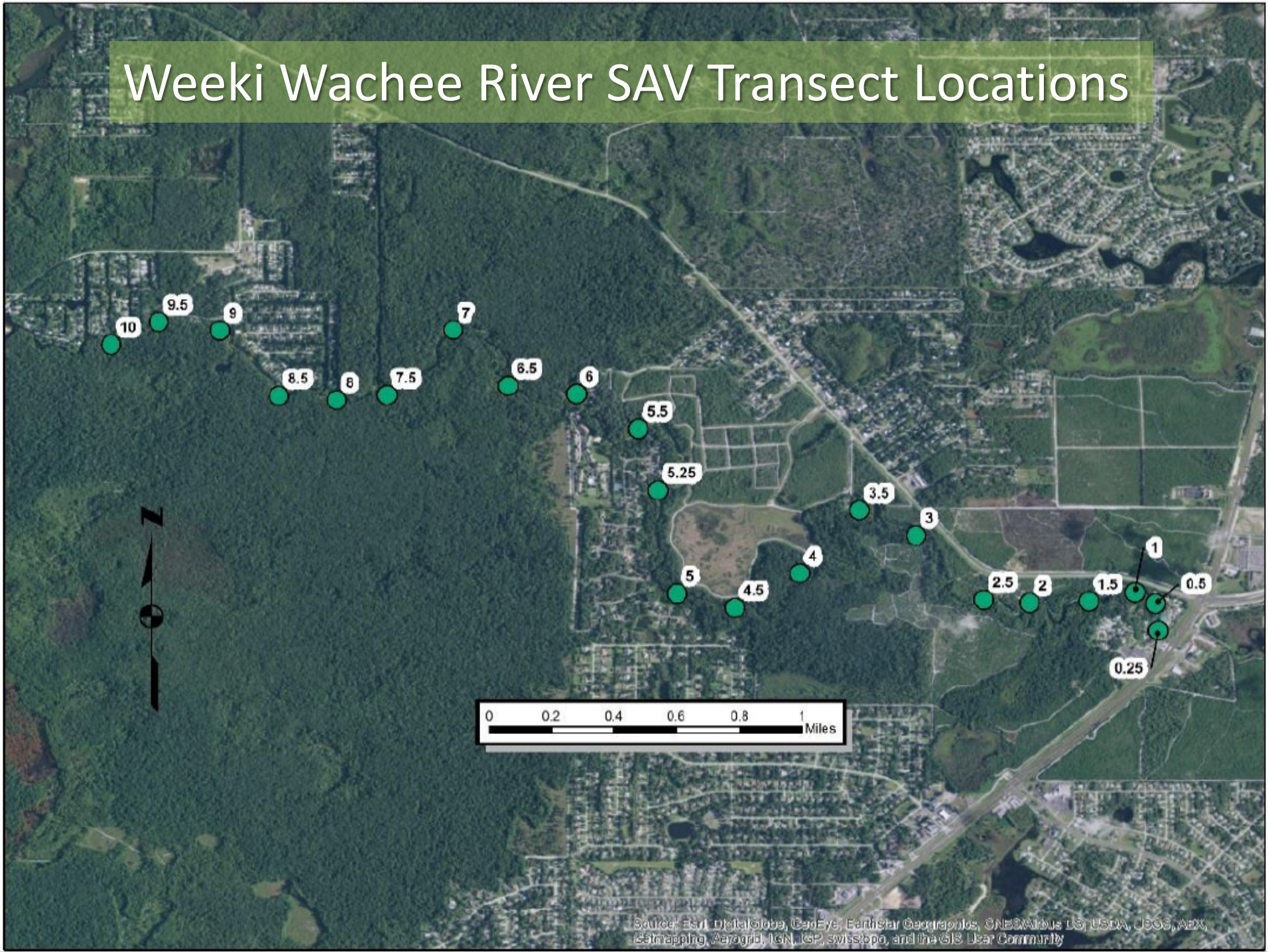
NATURAL SYSTEMS

Natural Systems Quantifiable Objectives

- Coverage of Desirable SAV
  - > 40% Coverage

- Coverage of Undesirable SAV
  - <10% Coverage

Weeki Wachee River SAV Transect Locations



Natural Systems Quantifiable Objectives

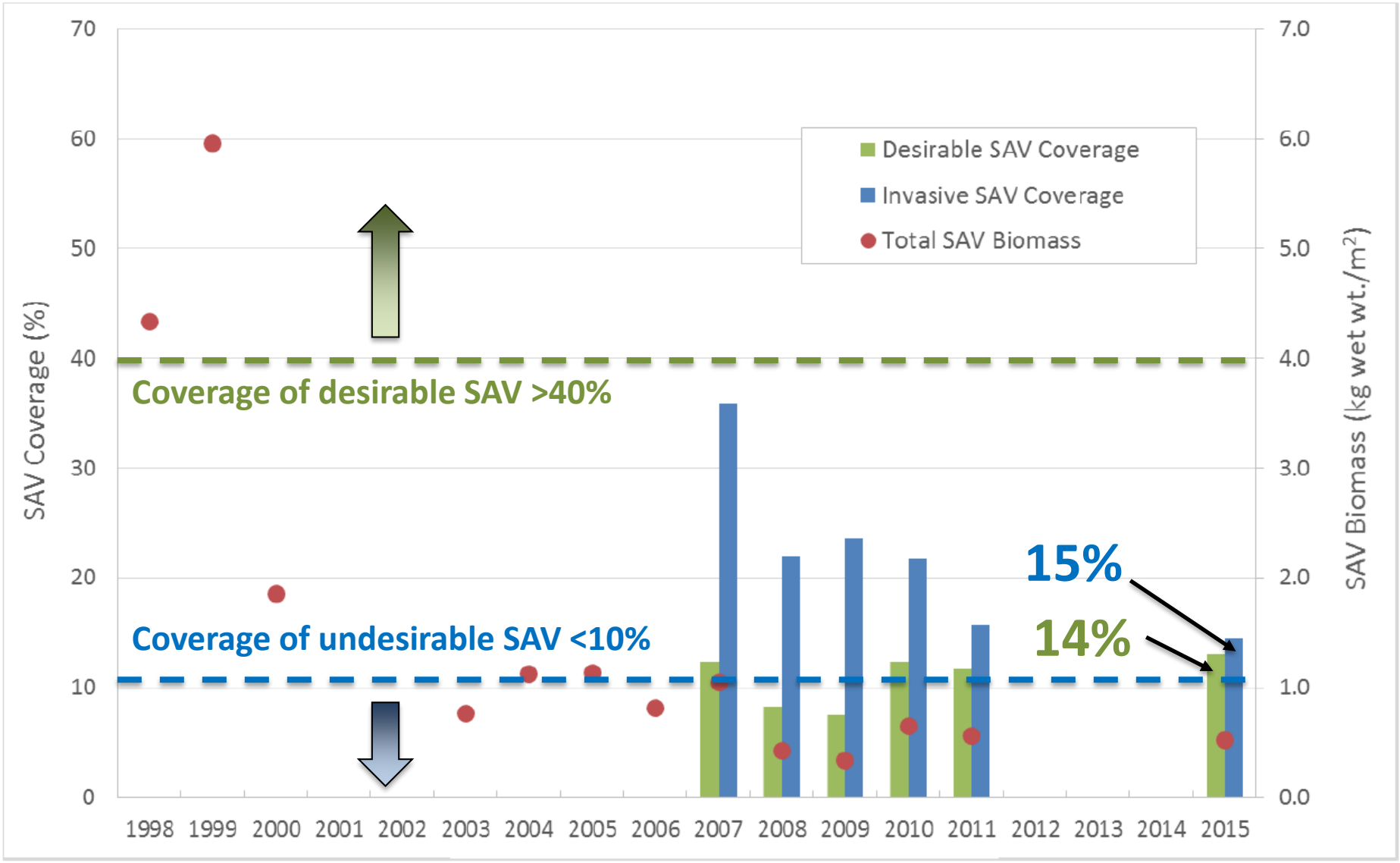


Figure 21: SAV Coverage and Biomass in the Weeki Wachee River

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Weeki Wachee River SWIM Plan Data Collection

- Quarterly Springs Water Quality Monitoring
- Ambient Stream Water Quality Monitoring
- Springs Initiative Monitoring
- USGS Surface & Groundwater Data Collection
- USGS MFL Surface Water Data Collection
- Aquatic Vegetation Mapping Evaluation

My Home. My Springs.
Southwest Florida Water Management District
#MySprings

Weeki Wachee River SWIM Plan Projects

- FY19 Septic to Sewer Projects
- Weeki Wachee Natural System Capacity Study
- Weeki Wachee River Channel Restoration
- Weeki Wachee Rogers Park LID Project
- Weeki Wachee Springs State Park Canoe Launch

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