SEMINOLE COUNTY
FLORIDA'S NATURAL CHOICE

Utilities Master Plan
Work Session #2
Water Supply and Conservation

Board of County Commissioners Meeting

November 12, 2024

Agenda

- BCC Comments from Work Session #1 –

  Johnny Edwards, PE, Interim Utilities Director

- Utilities Master Plan Details –

  Steve Riley, PE, Jacobs Engineering

BCC Comments from 9/10/24 Work Session #1

- Detailed responses sent to Commissioners
- Additional information being collected and developed
- Other programs for education, outreach and conservation are ongoing and evolving

Utilities Master Plan Update Workshop No. 2 – Water Supply & Conservation

Seminole County Board of County Commissioners

November 12, 2024

SEMINOLE COUNTY
FLORIDA'S NATURAL CHOICE

Jacobs
Challenging today.
Reinventing tomorrow.

Agenda

Current State of County’s Drinking Water Supply

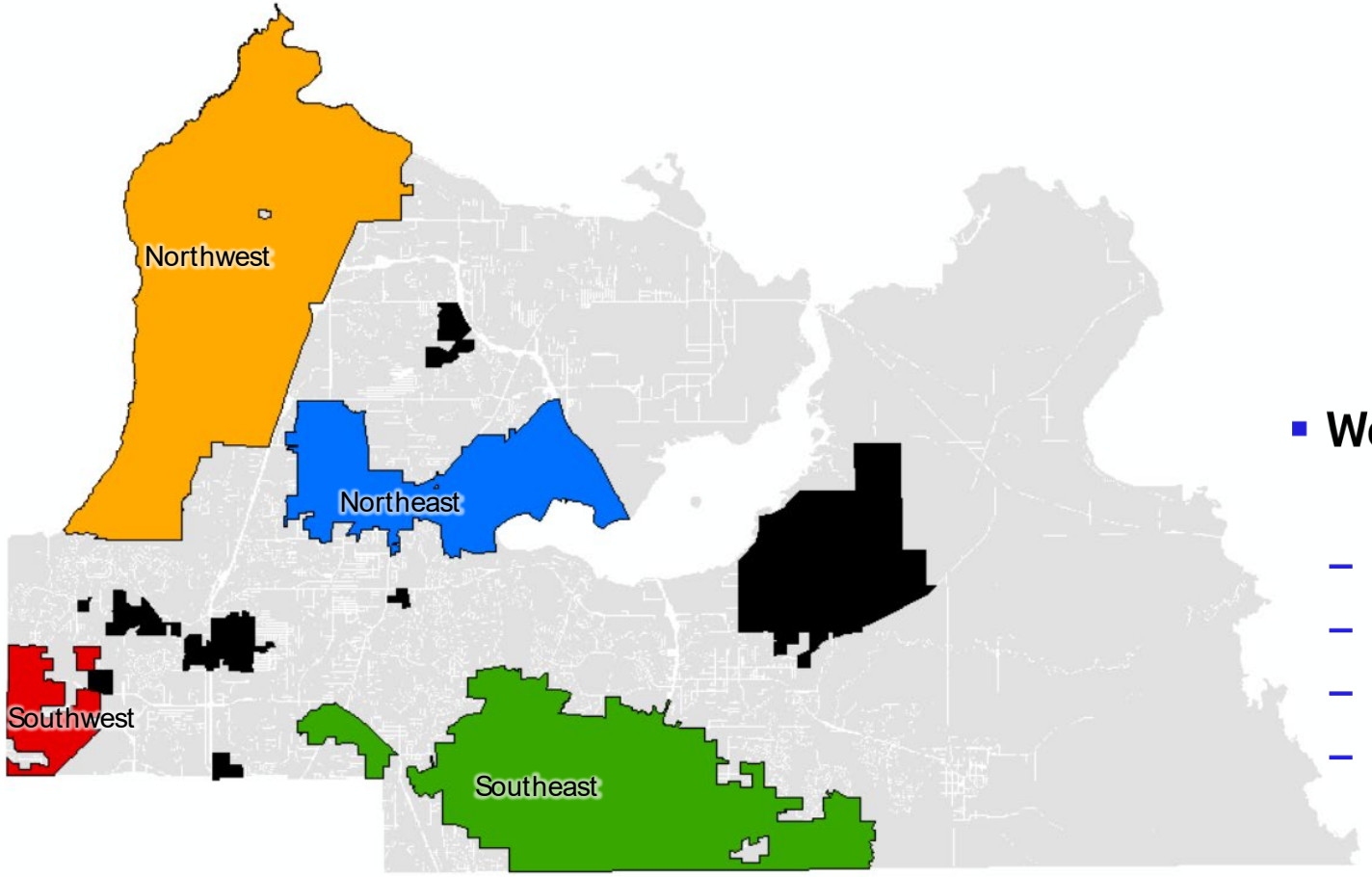
Regulatory Environment Driving Water Supply Planning

Possible Solutions to Secure Future Supply

Proposed Master Plan Framework for Future Water Supply

Input from BCC on Proposed Framework

County's Current Drinking Water Supply Infrastructure



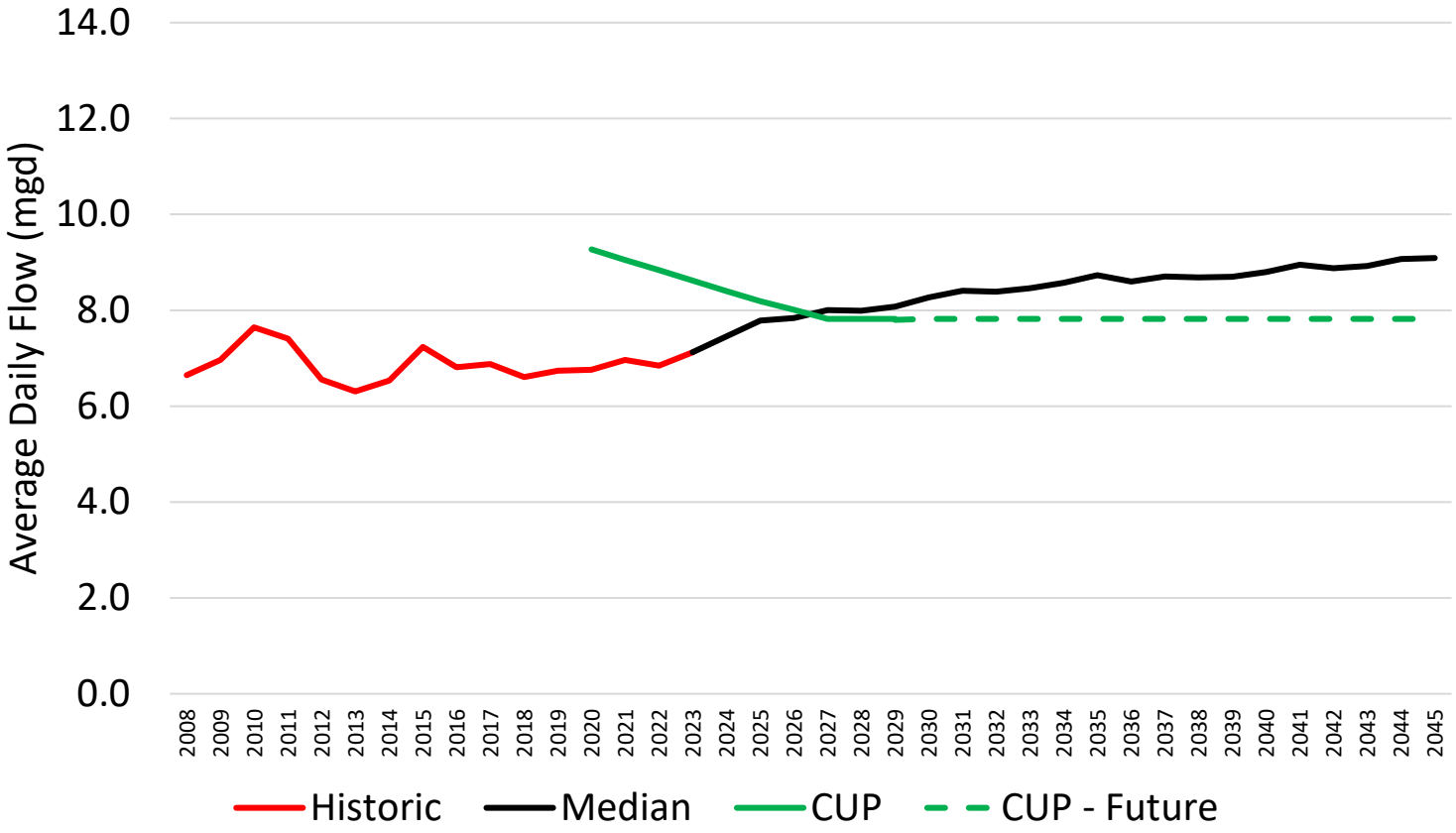
- **Well inventory – 26 Groundwater Wells**
  - Northwest - 8
  - Northeast - 5
  - Southeast - 9
  - Southwest - 4

Current State of County's Drinking Water Supply – Water Quality

- Wells are in Compliance with Current Drinking Water Regulations.
- County Water Quality Testing and Monitoring is On-going.
- Treatment Testing is Underway - Treatment Modifications May be Needed.

Regulatory Environment Driving Water Supply Planning

- Groundwater Consumptive Use Permit (CUP) Exceedance – At Risk in Next Few Years in Northeast and Northwest Regions.
- Total Water Use in All Four Regions Will Be Below CUP Allocation through 2029.

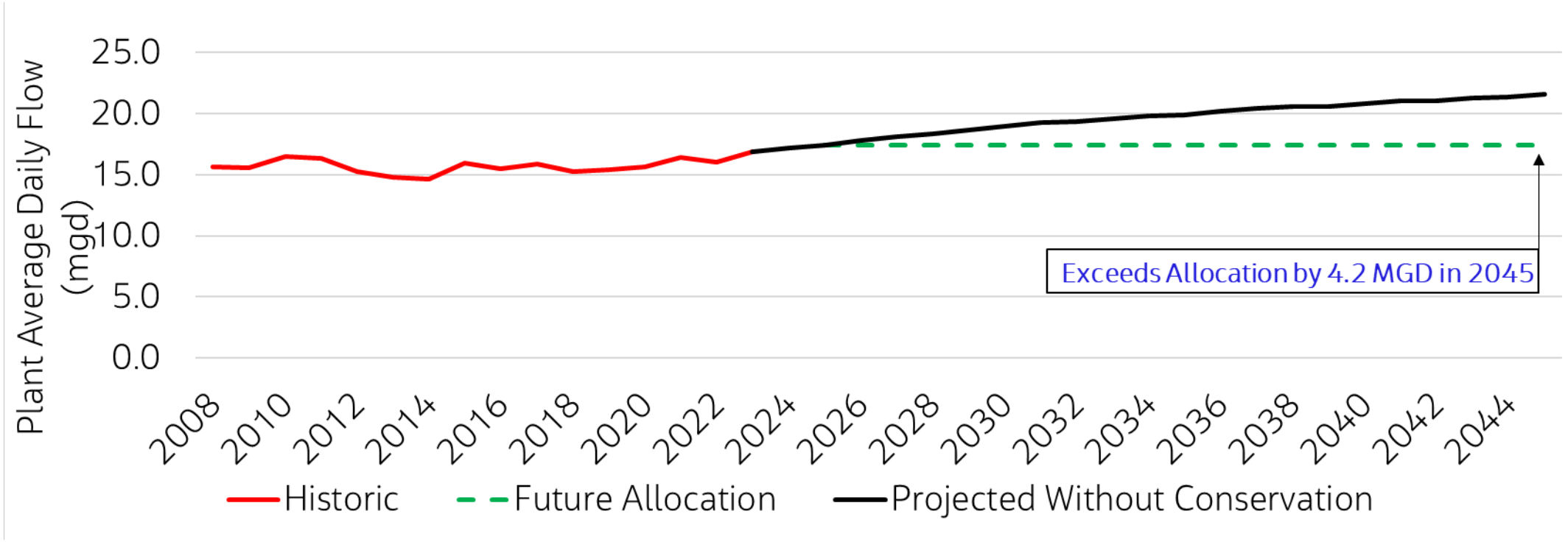


What is the Central Florida Water Initiative (CFWI)?

- The CFWI will limit Seminole County's Use of Groundwater in the Coming Years.
- Goal of the CFWI is to Protect and Preserve Springs, Lakes, Aquifers, and Wetlands in a 5,300 Square-mile Area Orange, Osceola, Seminole, Polk and southern Lake counties.
- Led by Three Water Management Districts, the Florida Department of Environmental Protection (FDEP), and the Florida Department of Agriculture and Consumer Services (FDACS).
- Coordination with Water Utilities, Environmental Groups, Business Organizations, Agricultural Communities, and Other Stakeholders.
- Solutions consist of:
  - Expanding Reclaimed Water Use
  - Developing Alternative Water Sources – Brackish groundwater, Storm water, Surface water
  - Expanding Water Conservation - Conservation is the Least Expensive Way to Help Meet Future Needs.
  - Conduct Mitigation Projects to Offset Withdrawal Impacts.

Impacts of CFWI Regulations on Seminole County Utilities Dept. (SCUD)

- Expect Groundwater Limits to be Applied to SCUD.
- Future Allocation will be Limited and Capped at 2025 Usage Amount.
- Will Need to Reduce Groundwater Use by 20% Over Next 20 years.



Possible Solutions For Seminole County to Secure Future Supply

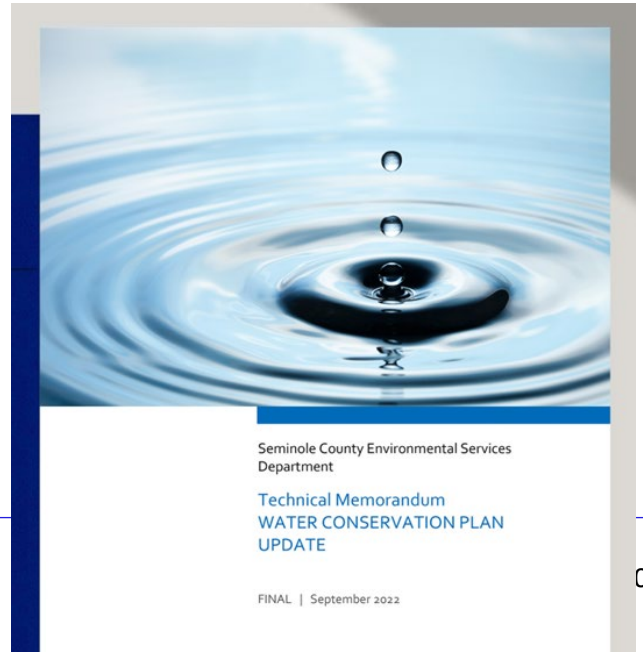
- Reduce Groundwater Use Through:
  - Water Conservation.
  - Expansion of Reclaimed Water System.
    - Increase use of Surface Water (Alternative Water Supply).
  - Impact Mitigation.
    - Recharging the Groundwater Aquifer to Offset Withdrawals.

These are Programs in County's Holistic Water Policy

Possible Solutions to Secure Future Supply – Water Conservation

- Continue Implementing Water Conservation Plan.
  - Smart Irrigation Controllers. ★
  - Advanced Metering Infrastructure (AMI). ★
  - Water Audits, Irrigation and Landscape Evaluation. ★
  - Educational and Informational Resources (Conservation Kits). ★
  - High-Efficiency Fixture Replacement Program. ★
  - Florida-Friendly Landscaping Florida Water Star Certification for New Construction.
  - High Water Use Billing Rates Increase.
  - Irrigation Restrictions: Enforcement, New Programs. Materials.

★ *Implemented and Underway*



Possible Solutions to Secure Future Supply – Water Conservation

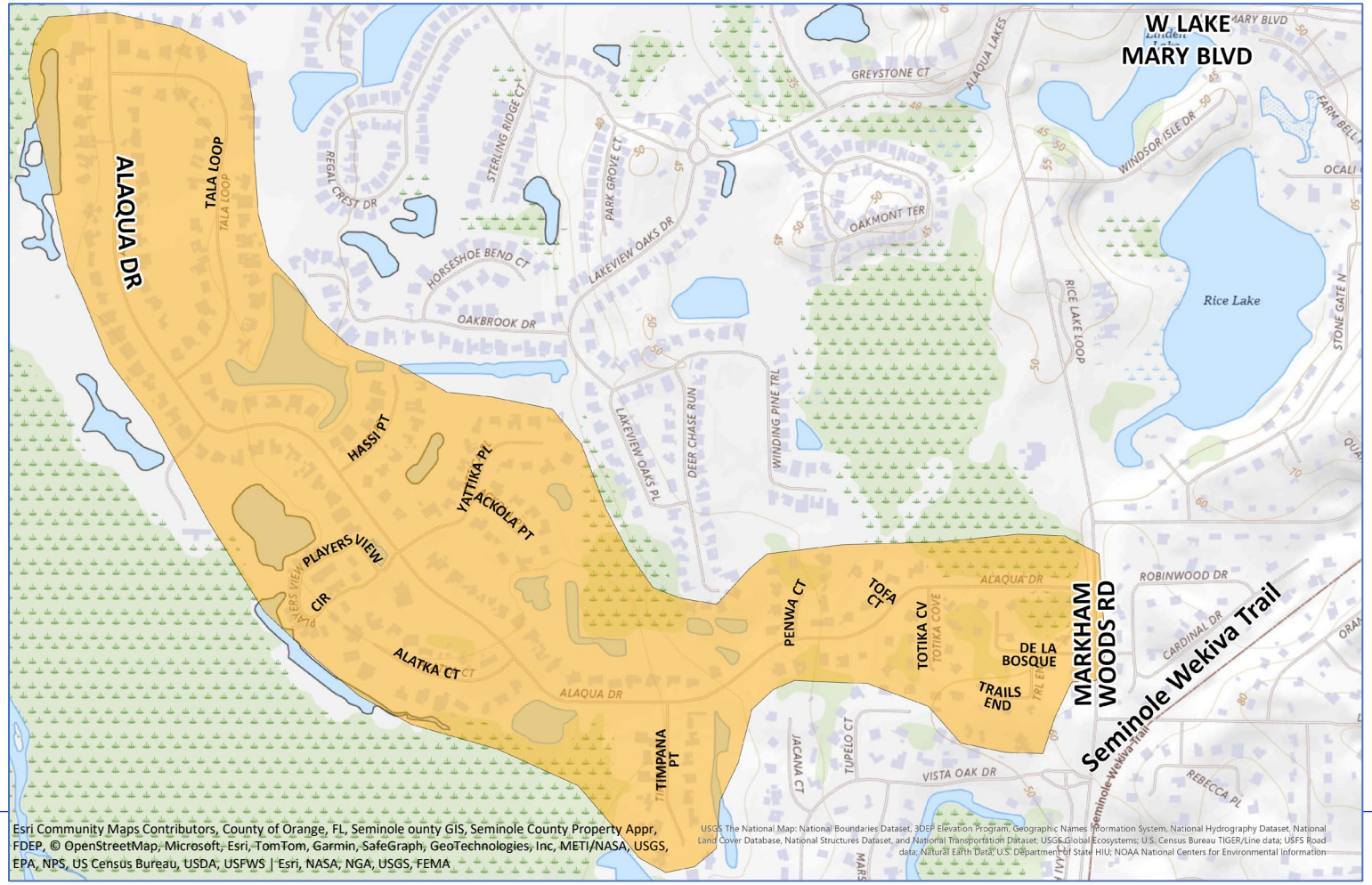
- Conservation Potential = 2.7 Million Gallons per Day (MGD) over next 20 years.
- County has Active Conservation Program.
- Implementation Plan based on 2022 Conservation Plan is in Development by Environmental Services Department.
  - Additional Resources Will Be Needed to Achieve Conservation Potential.

Possible Solutions to Secure Future Supply – Reclaimed Water Expansion

- Reclaimed Water System Expansion
  - Potential Potable Water Savings – 1 MGD +
  - Northwest –
    - Construct Reclaimed Retrofits Phases IV and V.
    - Surface Water Treatment Plant – Renewal/Replacement & Treatment Improvements.
  - Southeast – Expand Reclaimed Water Distribution System from Orlando's Iron Bridge Wastewater Plant.
  - Southwest – Install Reclaimed Water Distribution Mains in Converted Septic Tank Areas.

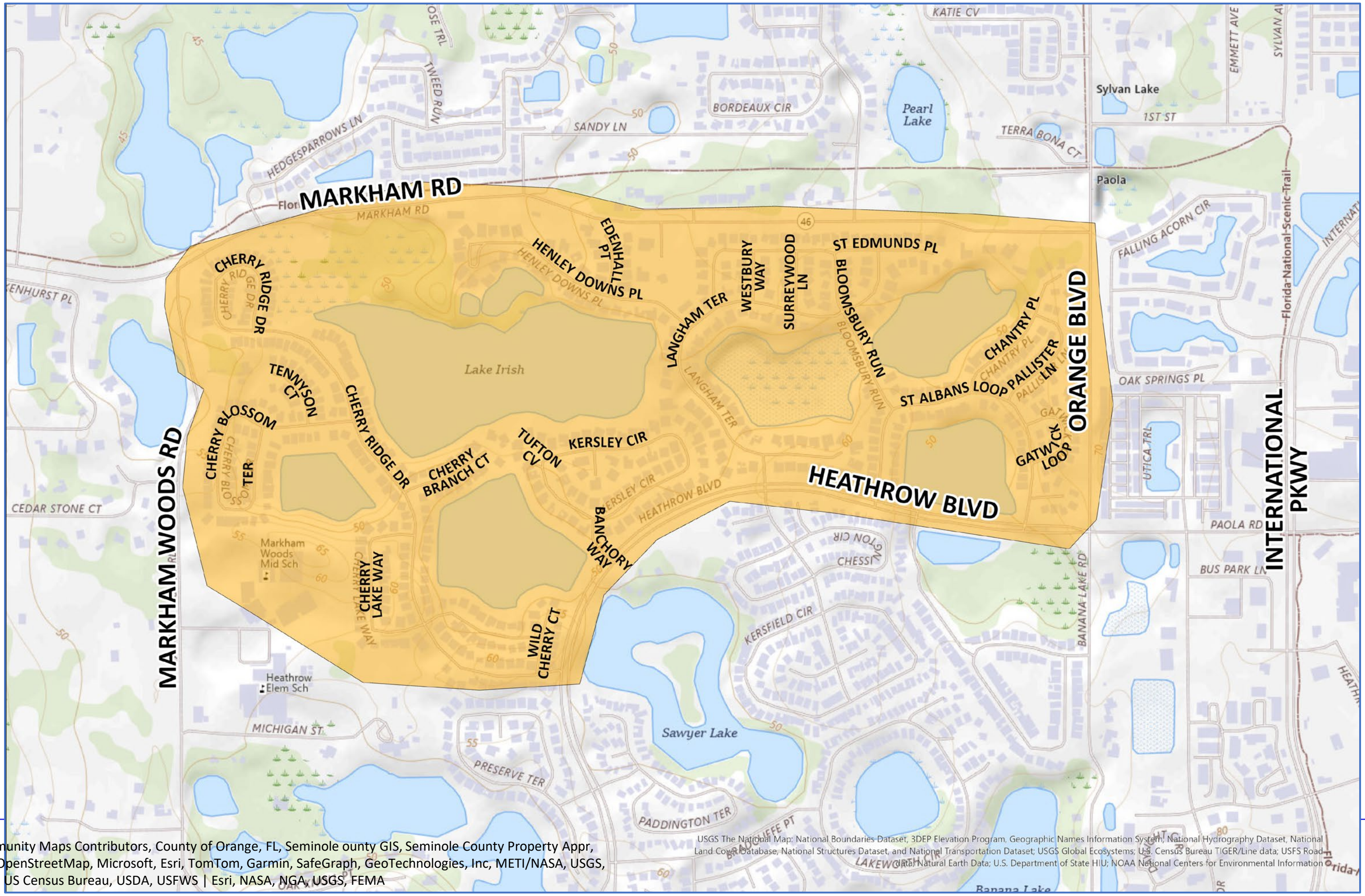
Reclaimed Water Expansion - Northwest Reclaimed Retrofits Phases IV and V

- Construct Phase IV – Alaqua Lakes. Estimated 0.4 MGD Drinking Water Saved.



Reclaimed Water Expansion –
Northwest Reclaimed Retrofits Phases IV and V

- Construct Phase V – Heathrow Subdivision. Estimated 0.4 Million Gallons Per Day (MGD) Drinking Water Saved.



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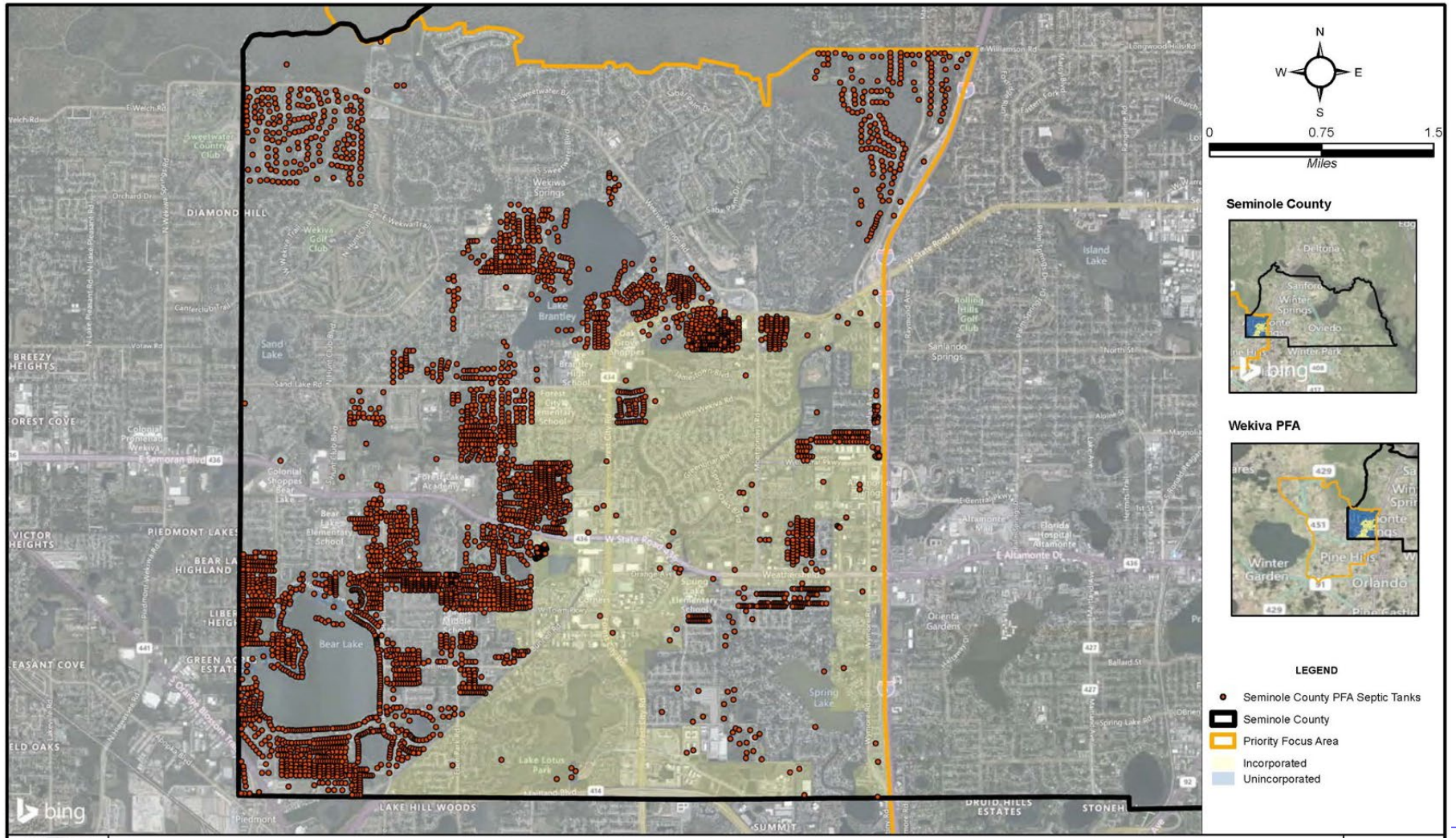
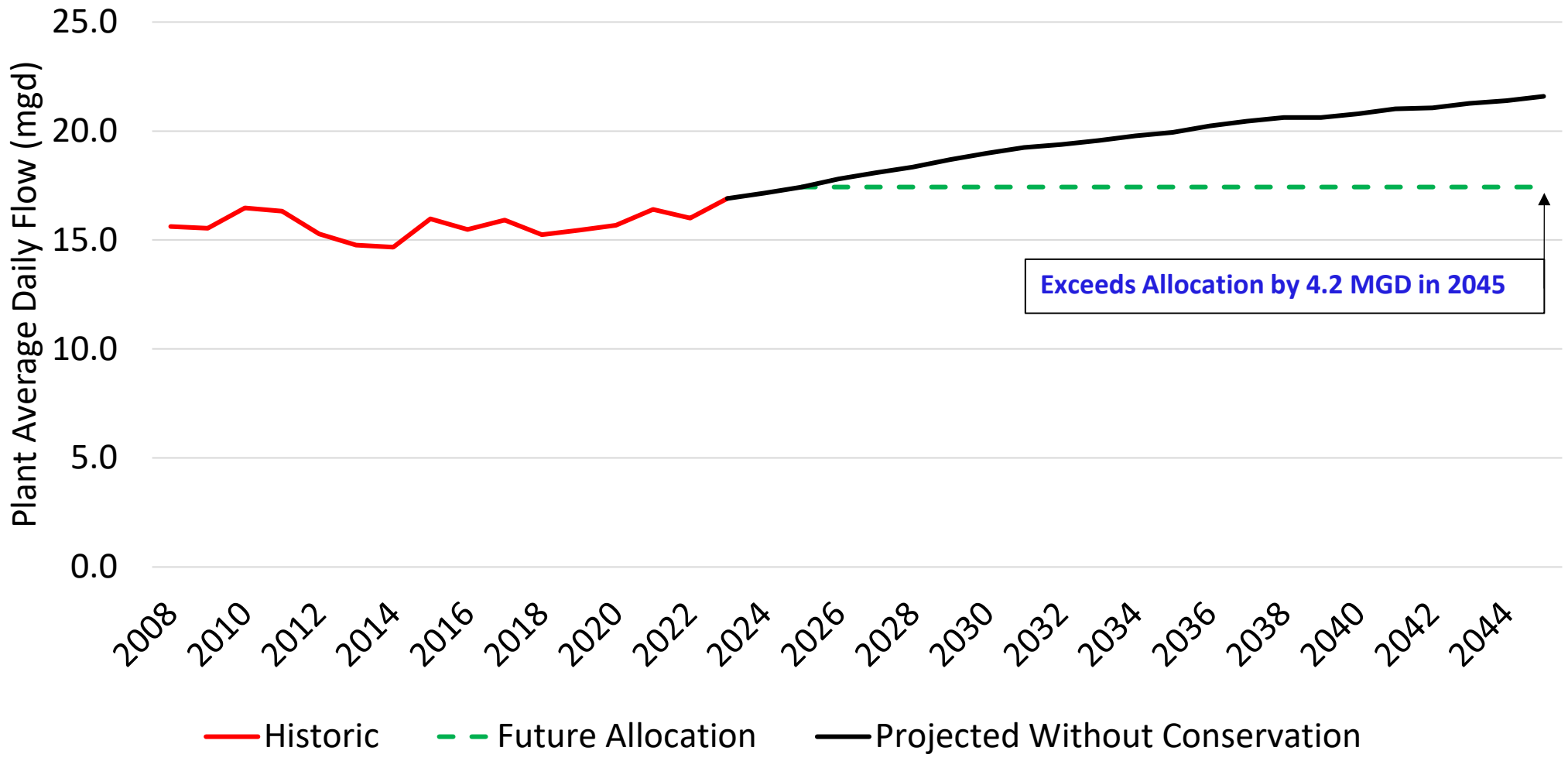
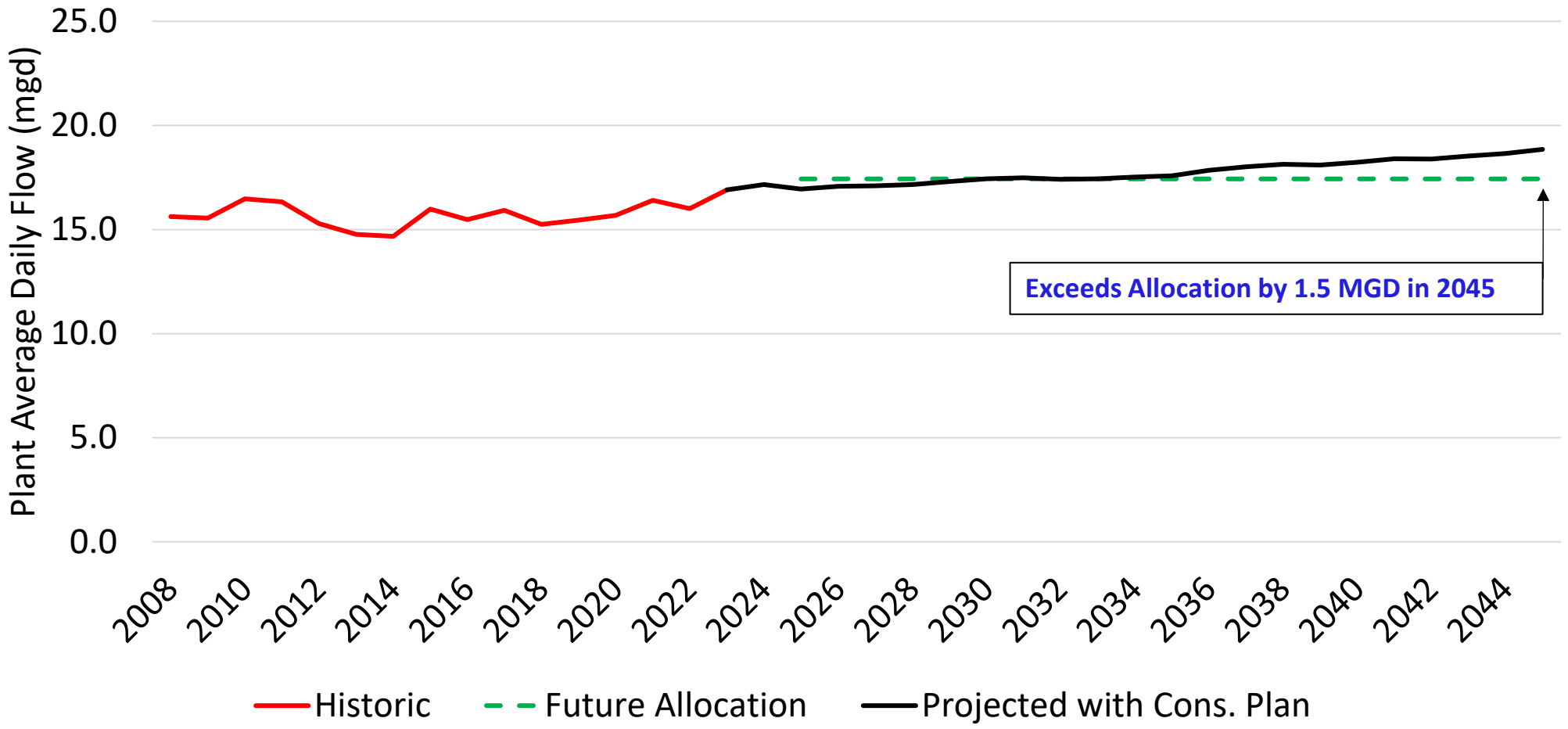
Reclaimed Water Expansion – Southwest Reclaimed – Septic-to-Sewer Conversion Area



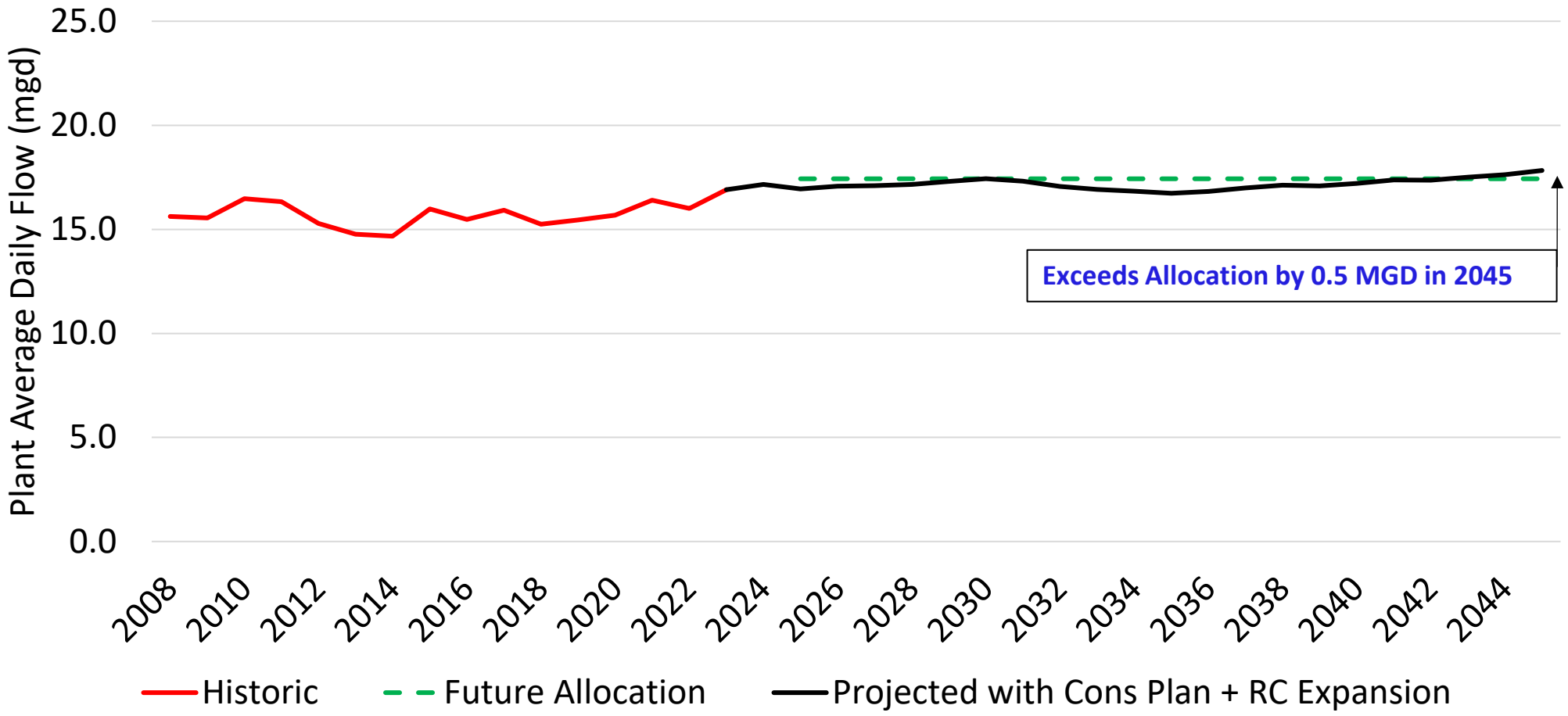
Projected Future Plant Flow using Historic Growth, Key Development, and without Aggressive Conservation



Projected Future Plant Flow using Historic Growth, Key Development with Aggressive Conservation



Projected Future Plant Flow using Historic Growth, Key Development with Aggressive Conservation and Reclaimed Expansion

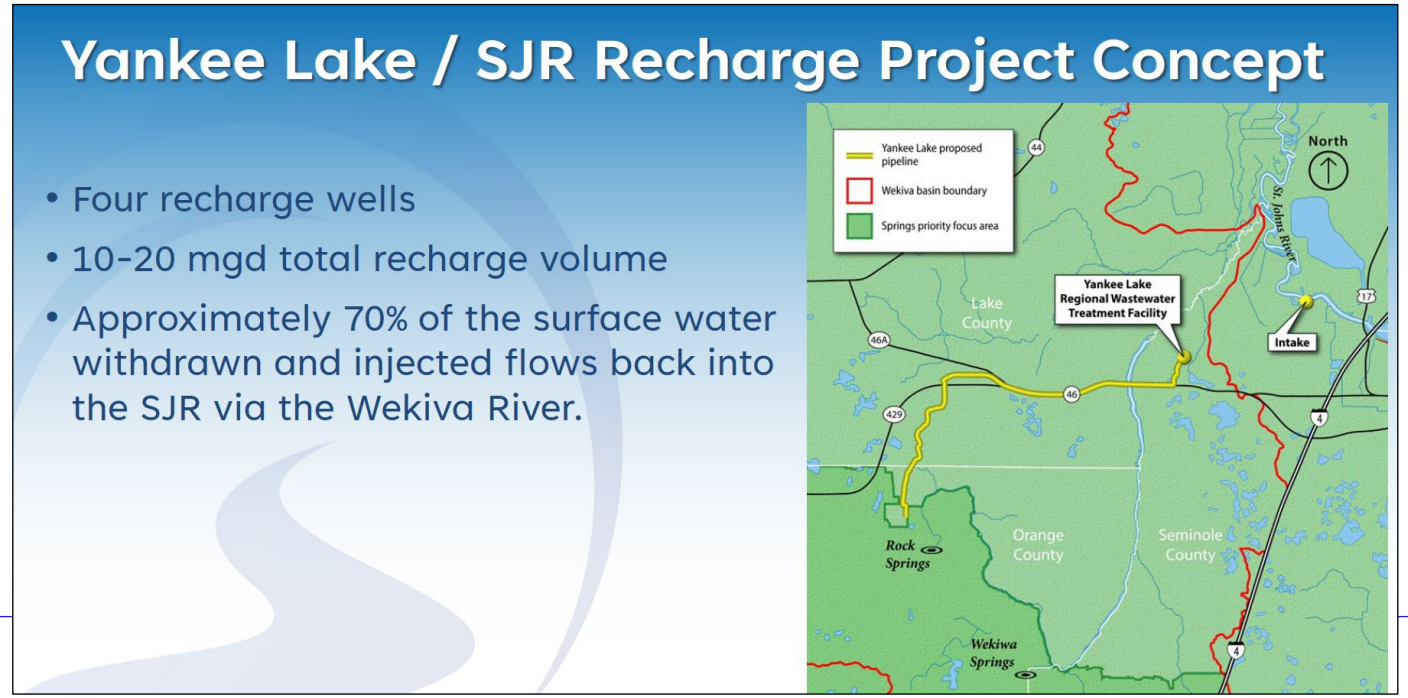


Other Possible Solutions to Secure Future Supply

- **Well Deepening** – Drilling Existing Wells into Deeper Aquifer Zone. Needs Test Well for Water Quality Data.
- **Managed Aquifer Recharge (MAR) systems** –
  - Inject Treated Surface Water into the Aquifer System to Recharge Supply.
  - Exploratory Test Well Needed to Evaluate Feasibility of Process and Injection Water Quality Requirements.
- **Water Wheeling** – Piping Water from Area with Excess Supply to Area with Insufficient Supply.
- **Water Use Redistribution or Retirement –** Evaluate Water Use Permit Allocations from Decommissioned Golf Courses to Redistribute to Public Supply or Retire Allocation to Reduce Impacts.

Regional Managed Aquifer Recharge (MAR) Concept

- Regional Springs Prevention & Recovery Strategy Conceptual Plan
  - Concept Developed by St. Johns River Water Management District.
  - Would Use Surface Water Treated at County's Yankee Lake Surface WTP, Piped to Orange County, and Injected into MAR System Near Rock Springs in Orange County.
  - Participants Would Get Increased Groundwater Allocation for Drinking Water Production.



Maintaining Drinking Water Quality

- Manage Contaminants and Regulatory Compliance through Operations and Treatment Practices.
- Implement Procedures and Projects to Remove Contaminants.
  - Testing of Treatment Processes is Underway.

Proposed Master Plan Framework for Future Water Supply

- Implement the Water Conservation Plan and Holistic Water Policy.
- Evaluate Reclaimed Water System Expansion.
- Determine Drinking Water Quality Operations and Treatment Improvements.
- Conduct Capital Improvements Projects (Reclaimed Water Distribution, Exploratory Test Well, Well Deepening, Surface WTP improvements, WTP Treatment Improvements).
- Participate in and Coordinate with Regulatory Initiatives – CFWI, Regional Water Supply Plans.
- Explore Regional Solutions/Projects.
- Prepare for CUP Renewal – Expiring in 2029.

Work Session Schedule

- ~~September 2024 – Kickoff, Utility Demand Projections - COMPLETE~~
- November 2024 – Water Supply and Conservation
- January 2025 – Treatment and Transmission Mains
- April 2025 – Capital Improvements Plan (CIP)
- September 2025 – Final Master Plan Report

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Input from Commissioners on Proposed Master Plan Framework

Utilities Master Plan Update

Seminole County Board of County Commissioners

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All Service Area Summary:
Scenario 1 (Historic Growth + Key Developments)

	2023 ADF	2045 ADF	2045 CUP
NESA	2.9	4.0	3.58
NWSA	4.2	5.0	4.24
SESA	8.7	11.2	13.80
SWSA	1.1	1.3	2.09
All	**16.9**	**21.5**	**23.71**