Central Springs/East Coast Draft Regional Water Supply Plan

Public Workshop
at the
Lake County Commissioner Chambers

July 29, 2021

St. Johns River Water Management District

St. Johns River
Water Management District

Welcome and Introductions

Clay Coarsey, Bureau Chief
Water Supply Planning

Agenda

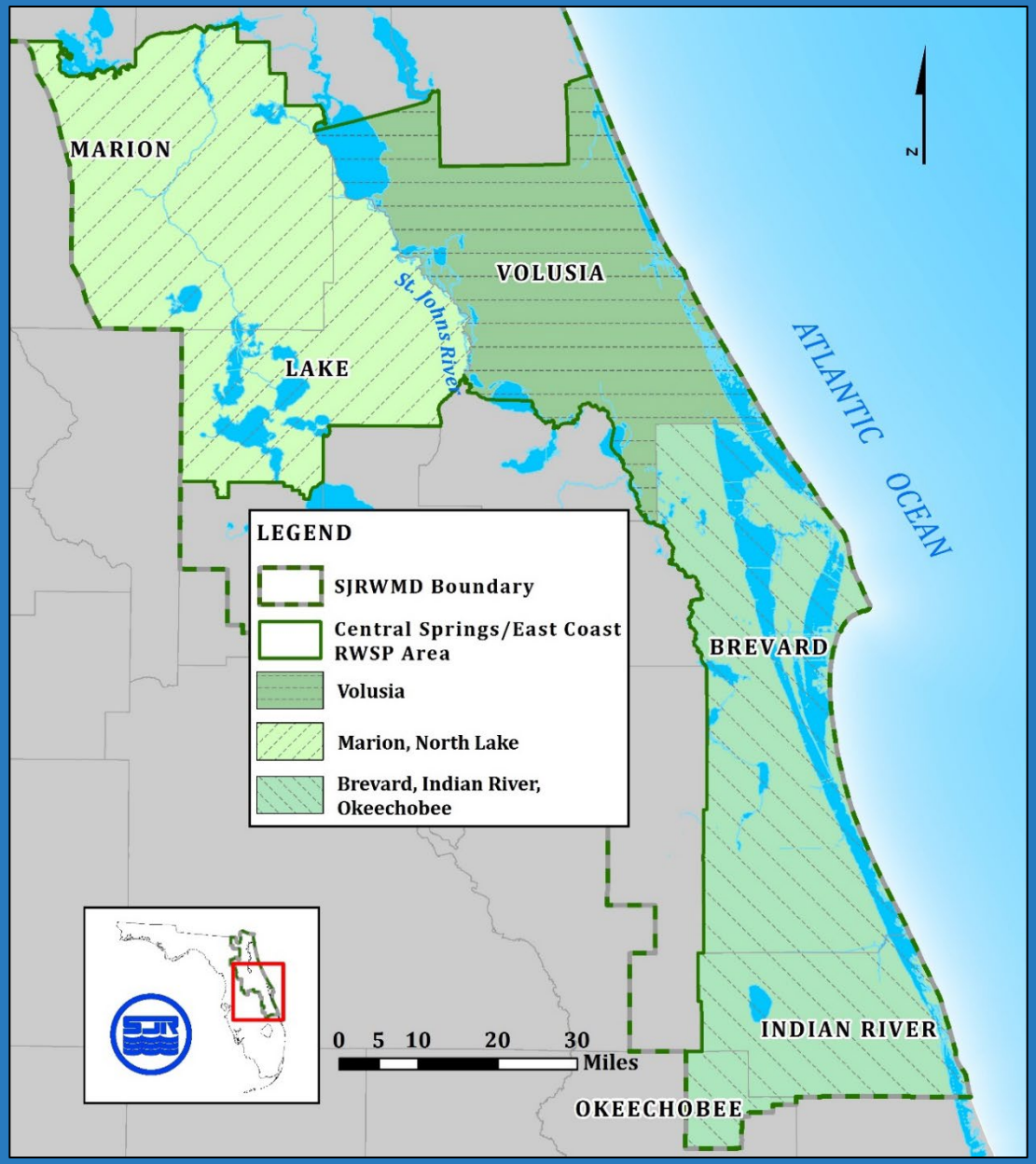
- Welcome and Introductions
- Central Springs/East Coast (CSEC) Display Panel Stations (Q&A)
- CSEC RWSP Overview Presentation
- Public Comment
- Closing Remarks

Central Springs/East Coast Display Panels

- Water Supply Planning
- Data and Projections
- Resource Constraints
- Projects
- Water Conservation

CSEC RWSP Overview Presentation

Joy Kokjohn, Regional Water Supply Planning Coordinator
Bureau of Water Supply Planning



Regional Water Supply Planning
§373.709, F.S.

The governing board of each water management district shall conduct water supply planning for a water supply planning region…, where it determines that existing sources of water are not adequate to supply water for all existing and future reasonable-beneficial uses and to sustain the water resources and related natural systems for the planning period.

What is a Regional Water Supply Plan (RWSP)?

Constitutes an assessment of:

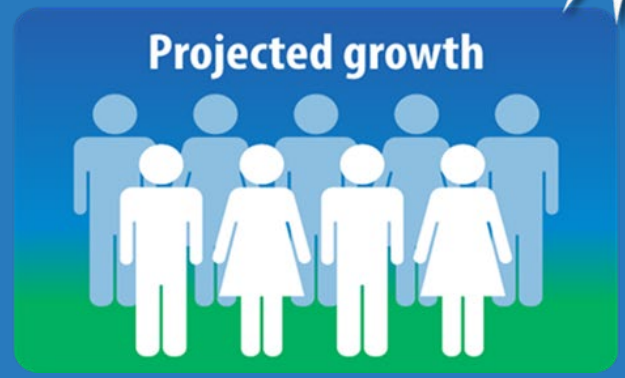
- how much water is needed over the planning horizon, and
- whether traditional sources can meet that demand

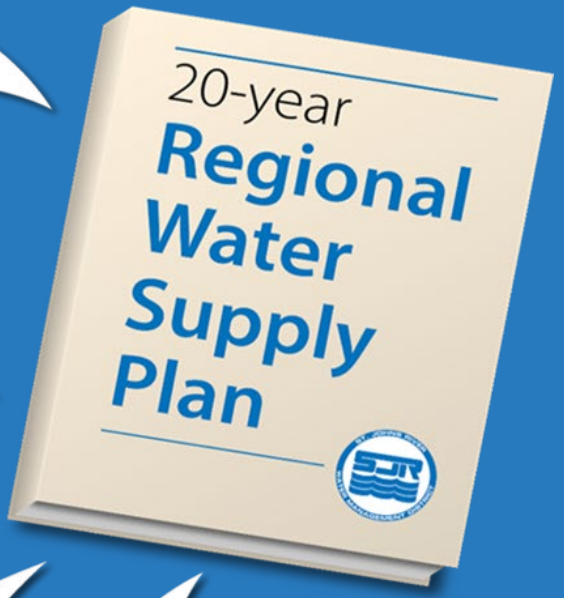
While:

- protecting the water resources and related natural systems, and
- identifying future water supply sources

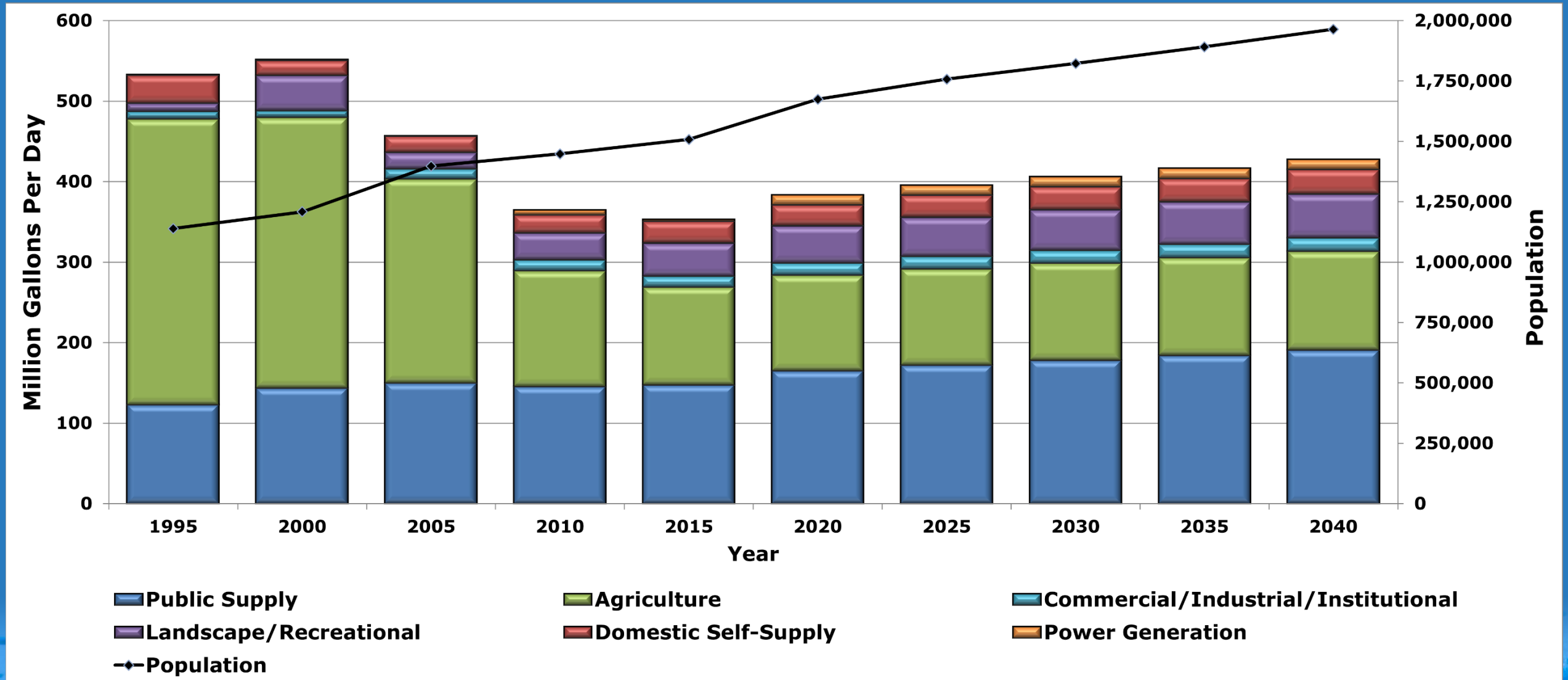
Regional Water Supply Planning Process

- 20-year planning horizon
- Conducted in an open public process
- Coordination with other agencies
- Approval by the Governing Board
- Updated every five years



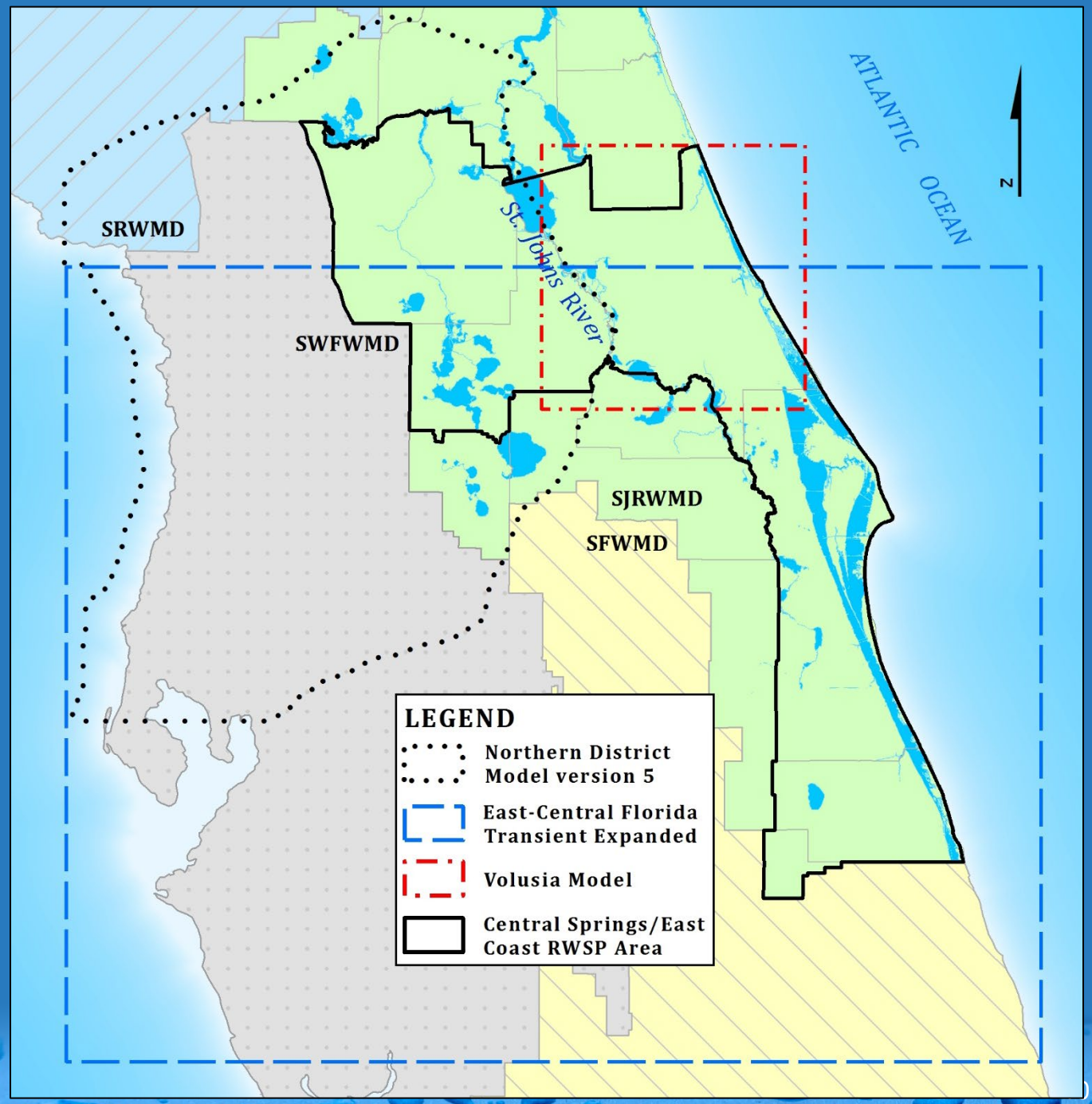


CSEC Historic and Projected Water Use and Population



CSEC Groundwater Flow Models

- Northern District Model v 5
- Volusia Model
- East-Central Florida Transient Expanded Model



St. Johns River Water Management District

Water Resource Evaluation

Can future water demand be met with traditional sources, while protecting water resources and related natural systems?

Minimum flows and minimum levels

Groundwater quality

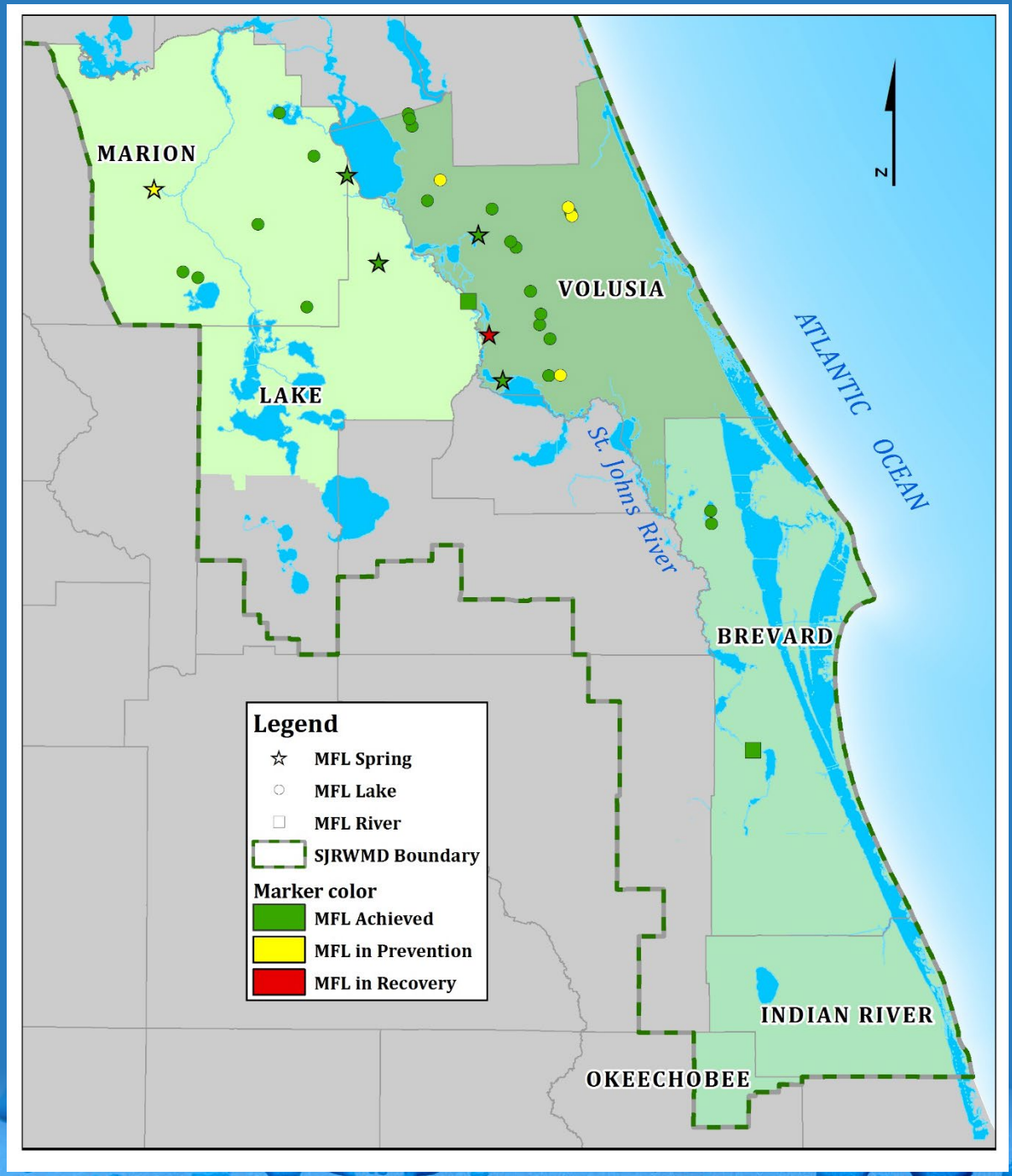
Wetlands

Minimum Flows and Minimum Levels (MFLs)

- Assessed MFL water bodies = 33
- Water bodies in prevention = 5
- Water bodies in recovery = 1

Prevention/Recovery Strategies

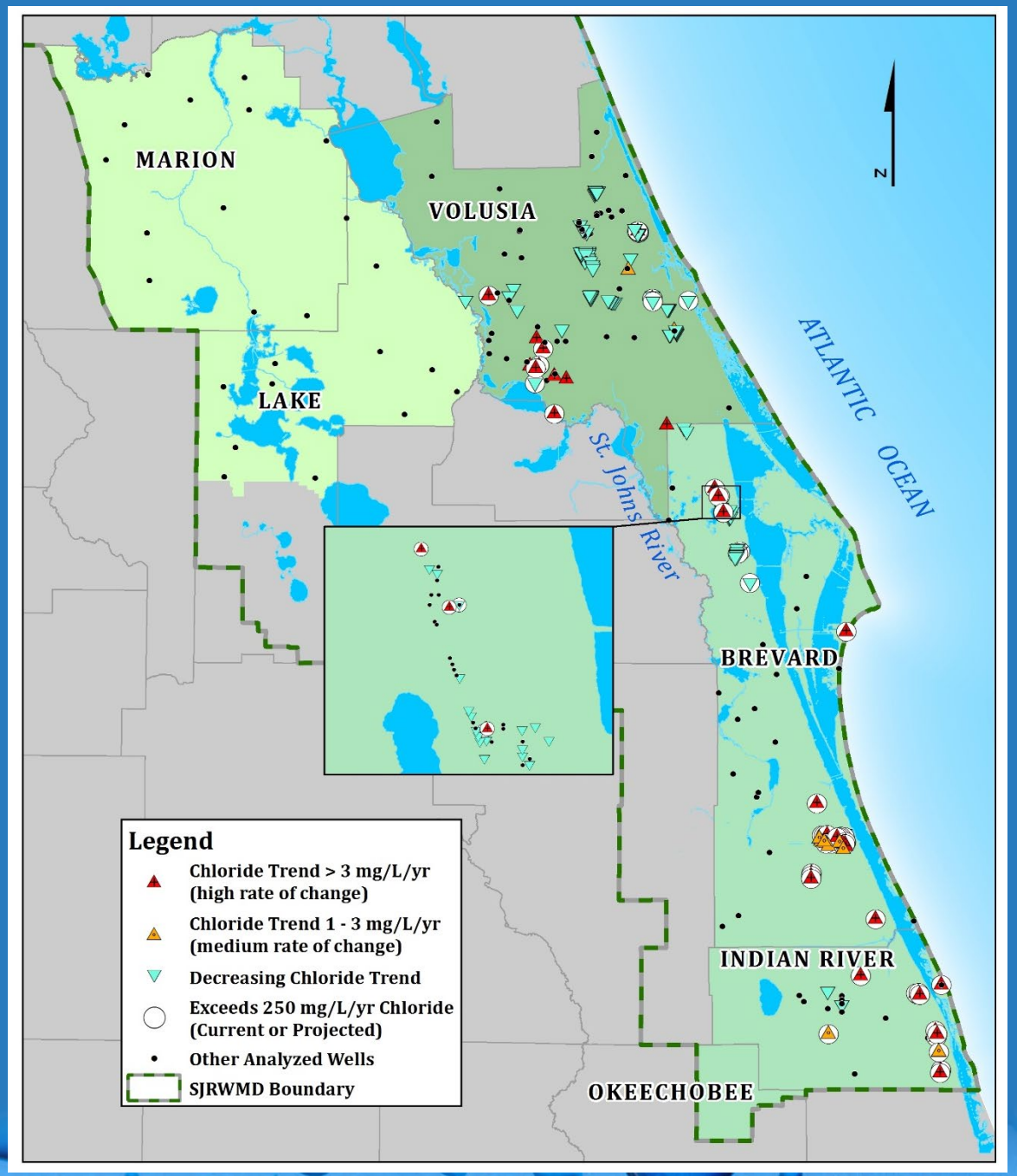
- 2013 Volusia Strategy and five-year assessment
- 2017 Silver Springs Prevention Strategy
- 2020 Lake Butler Strategy



St. Johns River Water Management District

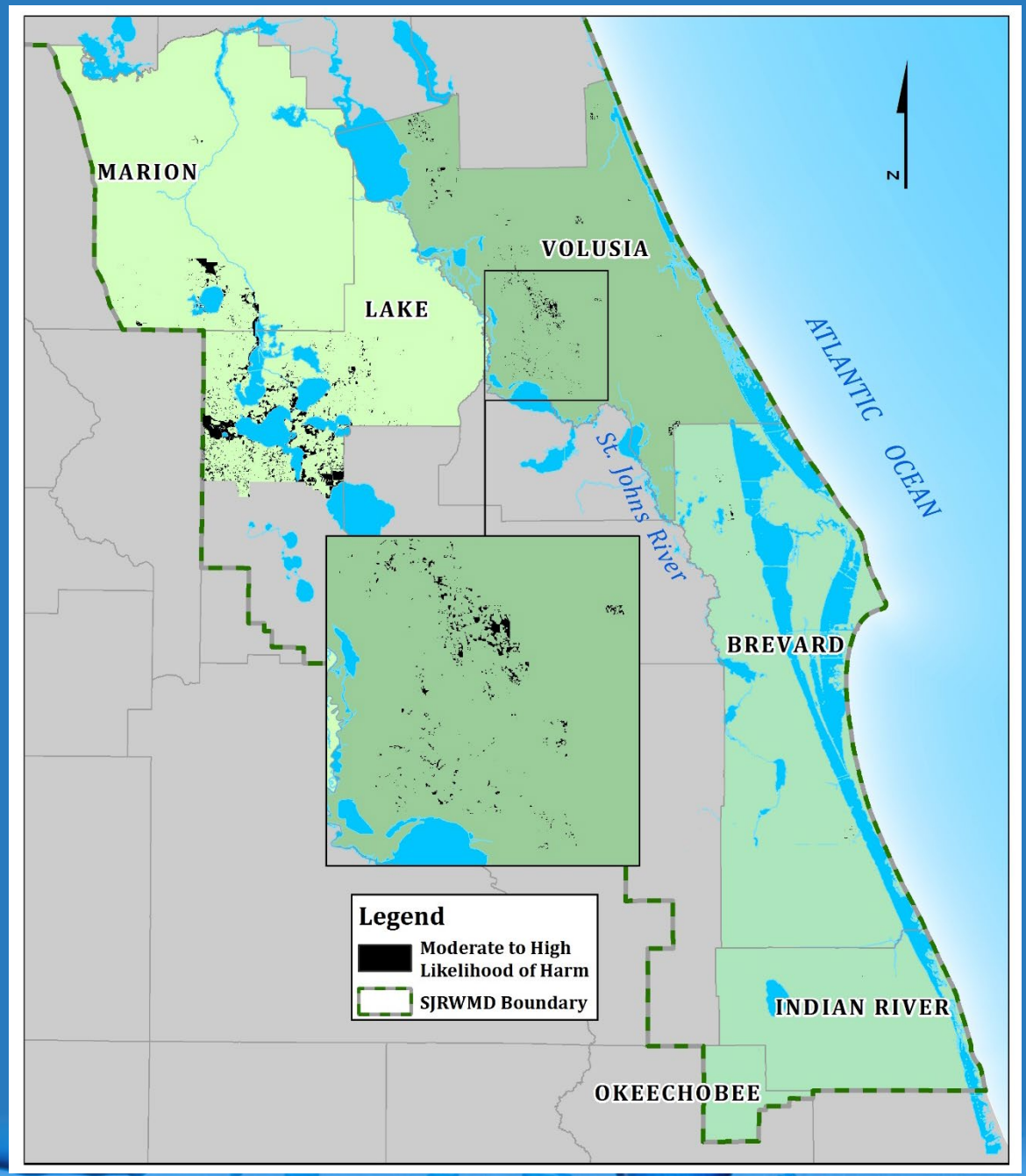
Water Quality (Saltwater Intrusion)

- 389 wells analyzed for chloride trends
- 61 wells with high rate of change (> 3 mg/L/yr)
- 14 wells with medium rate of change (1 – 3 mg/L/yr)
- 23 wells predicted to exceed 250 mg/L SDWS by 2040



Wetlands

- 34,091 acres at risk in 2040
- Represents 4% of the wetland (sensitive vegetation) acreage in the CSEC planning region
- Provides regional picture of potential change (not realized change)
- Regulatory program provides actual verification and monitoring



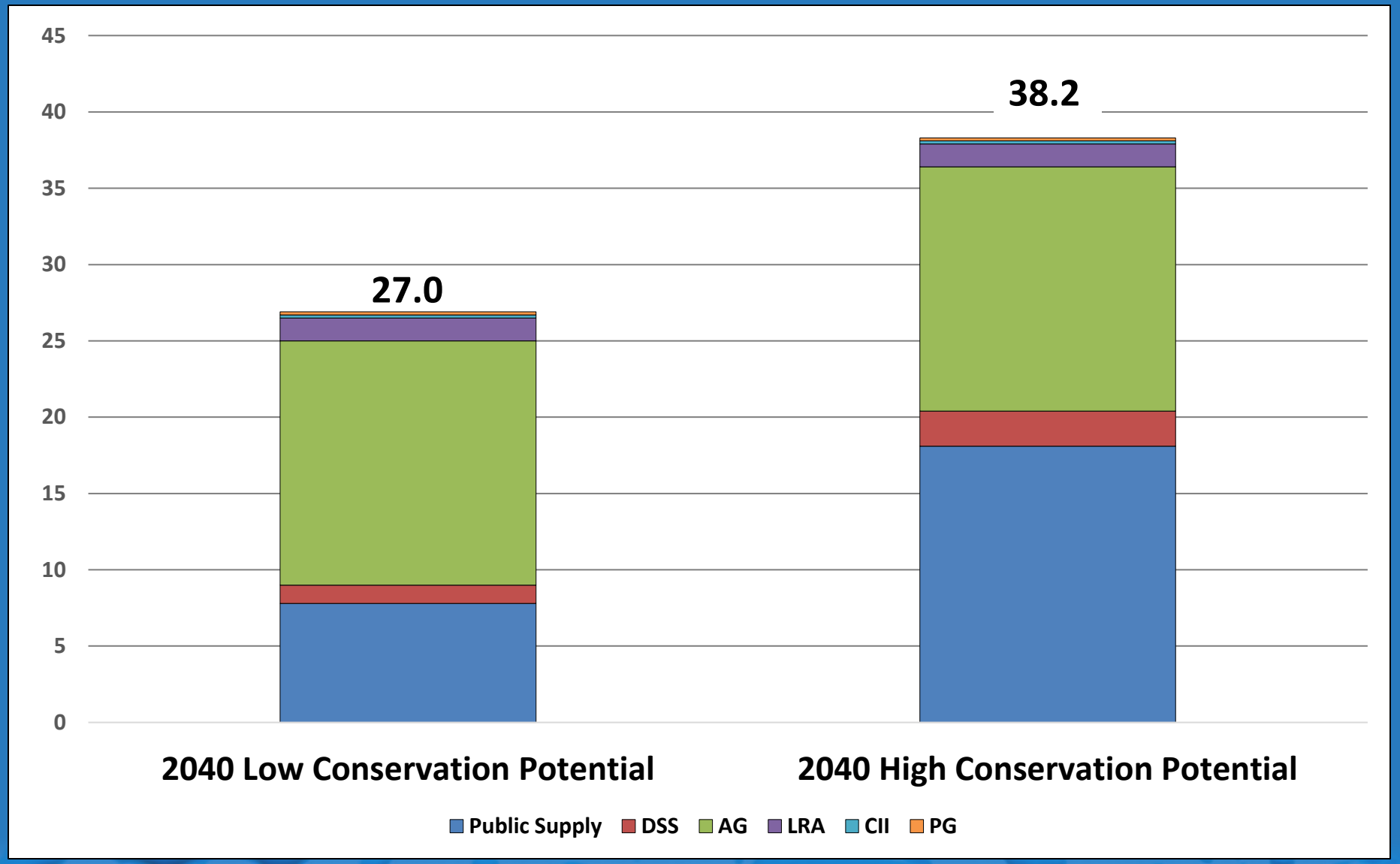
Water Resource Evaluation Results

- Traditional groundwater sources can meet some, but not all projected water demand
- Water demand projections exceed fresh groundwater availability
- There are springs and lakes that are currently not achieving or projected to not achieve their MFLs
- There are wells with increasing chloride trends and wells projected to exceed the chloride standard
- Wetland acreage at potential risk for change

Since traditional sources cannot meet future demand while protecting water resources…

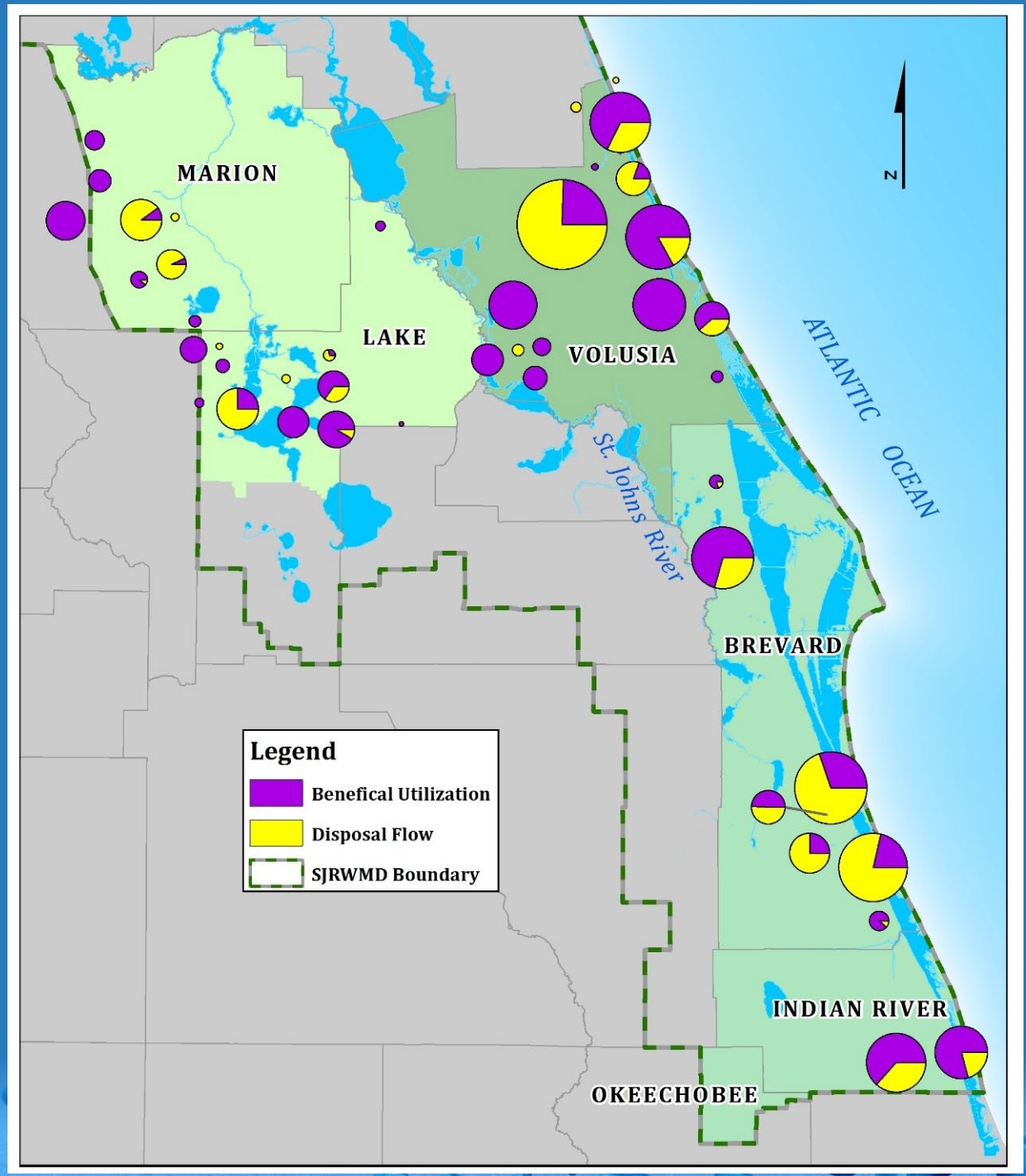
- The plan identifies projects to meet future water demands
  - water supply development
  - water resource development
  - water conservation
  - reclaimed water
- Future demand can be met, while protecting water resources, through a combination of alternative sources and other identified projects

Water Conservation Potential



Reclaimed Water Availability

Category	2015 Percent (mgd)	FDEP 75% (mgd)
Existing Additional Reclaimed Water for Reuse	13.6	27.0
2040 Potential New Reclaimed Water for Reuse	16.6	21.5
2040 Total	**30.3**	**48.5**



St. Johns River
Water Management District

Water Resource Development Projects

Type	Number of Projects	Quantity Water Produced (mgd)	Estimated Construction Cost (Million dollars)
Groundwater (brackish)	3	22.5	$0.3
Reclaimed Water	1	6.0	$5.3
Surface Water	2	14.9	$38.7
Stormwater	1	3.0	$0.3
Multi-Source[1]	5	12.6	$30.0
Total	12	59.0	$74.6

[1] Combined source that can include reclaimed water, surface water, and stormwater

Water Supply Development Projects

Type	Number of Projects	Quantity Water Produced (mgd)	Estimated Construction Cost (Million dollars)
Groundwater (fresh)	5	14.3	$89.5
Groundwater (AWS[1])	9	31.1	$160.6
Reclaimed Water	34	26.4	$172.3
Surface Water	3	3.6	$10.5
Multi-Source[2]	2	12.1	$11.6
Total	53	87.5	$444.5

[1] Includes brackish groundwater and groundwater from Lower Floridan aquifer in Marion and north Lake counties
[2] Combined source that can include reclaimed water, surface water, and stormwater

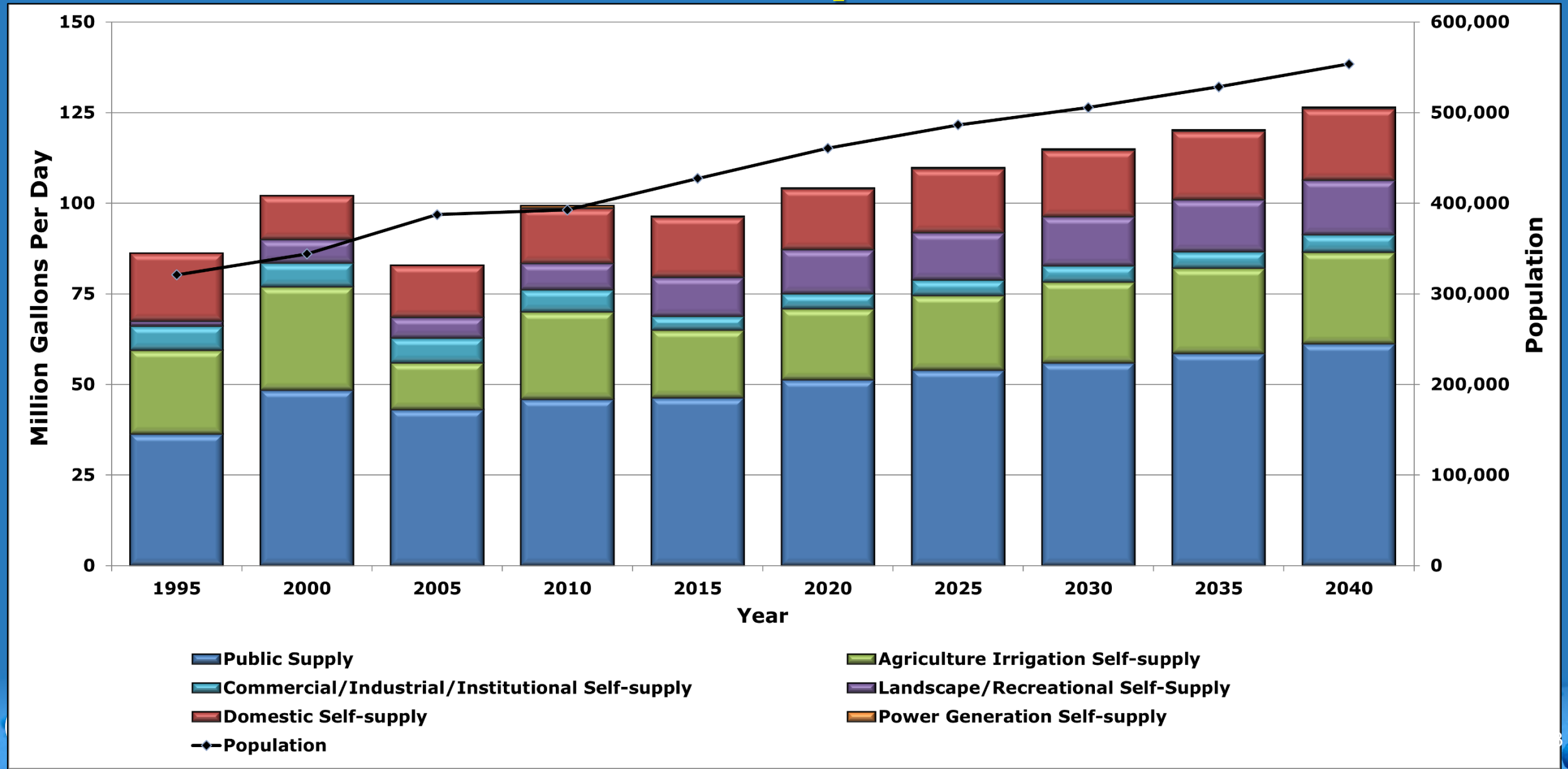
Conclusions

- Projected 75 mgd increase in demand from 2015 to 2040
- Cannot be met with traditional sources alone without predicted impacts to MFL water bodies, groundwater quality, wetlands
- CSEC RWSP identifies 229.4 mgd of projects and measures that will meet future demand, while protecting water resources and related natural systems

Marion and Northern Lake Sub-Region

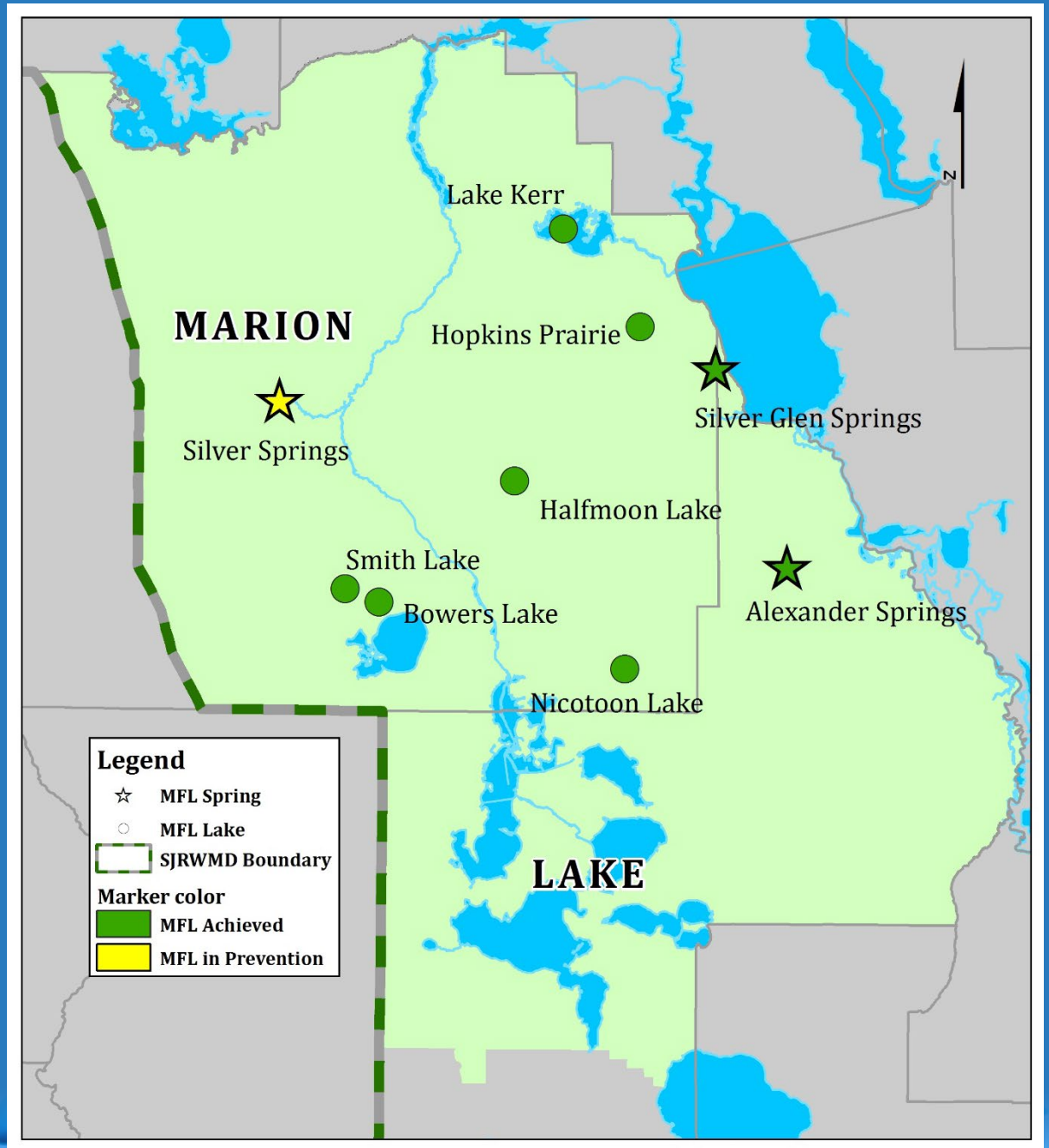
Silver Springs, Marion County

Marion and North Lake Historic and Projected Water Use and Population



Marion and North Lake MFLs

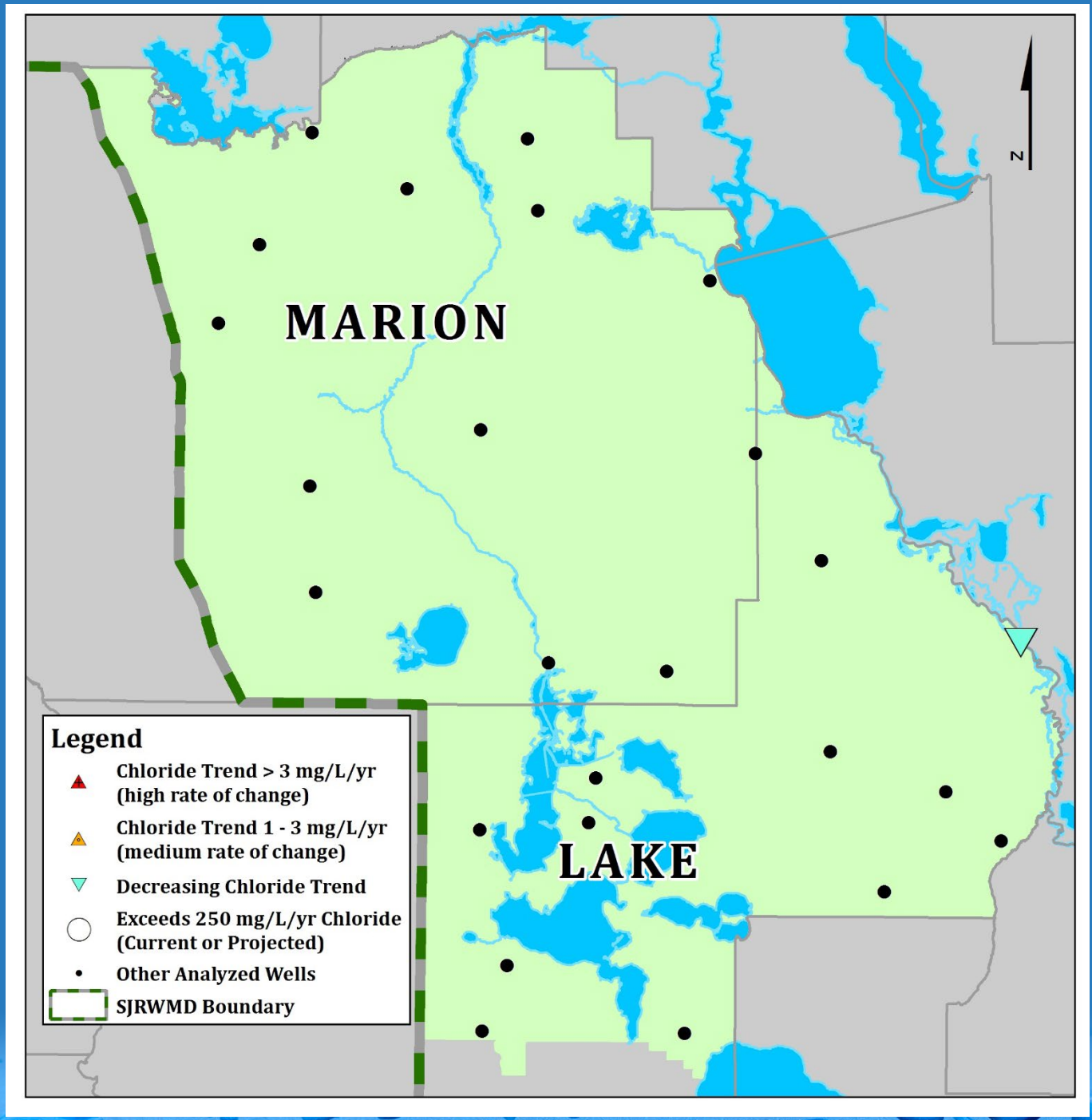
- MFL lakes = 6
- MFL springs = 3 (all Outstanding Florida Springs)
- Silver Springs in prevention
  - 2017 Silver Springs Prevention Strategy



Marion and North Lake Groundwater Quality

DOWN Wells

- High rate Cl^- change = 0
- Medium rate Cl^- change = 0
- Decreasing Cl^- trend = 1

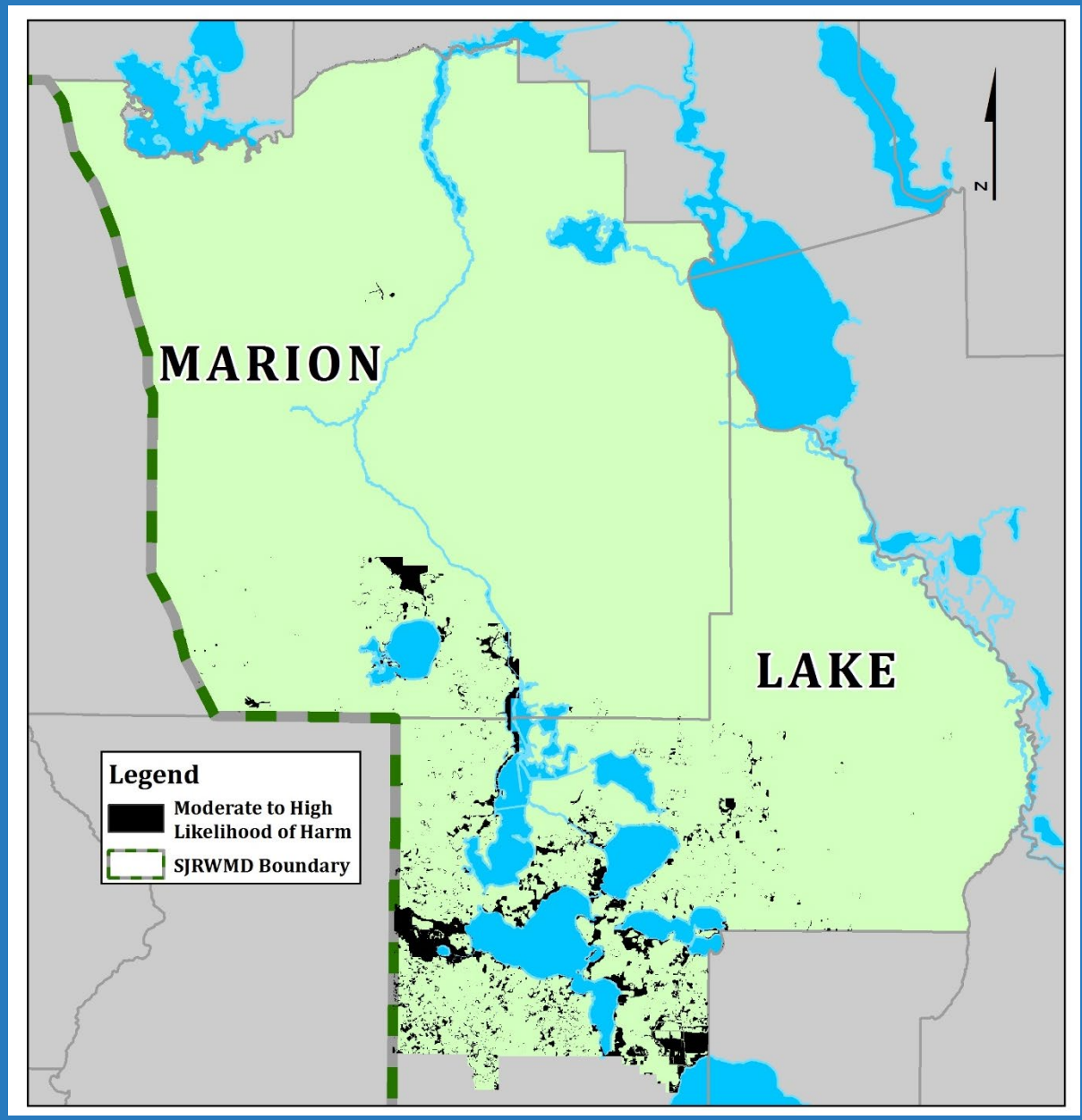


St. Johns River Water Management District

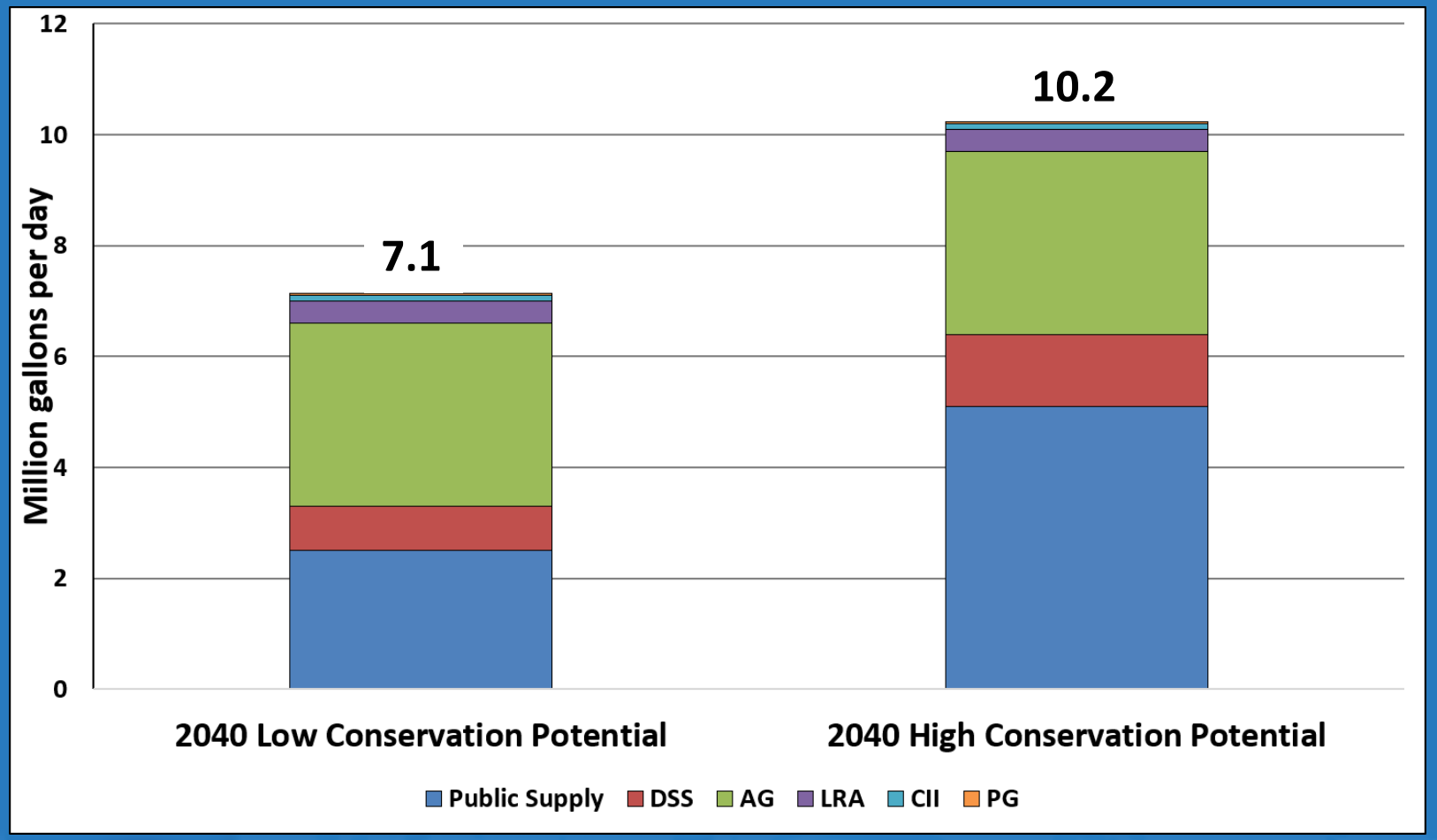
Marion and North Lake Wetlands

Wetland acreage at moderate or high potential for change due to increased withdrawals by 2040

- Marion = 4,686
- North Lake = 24,504

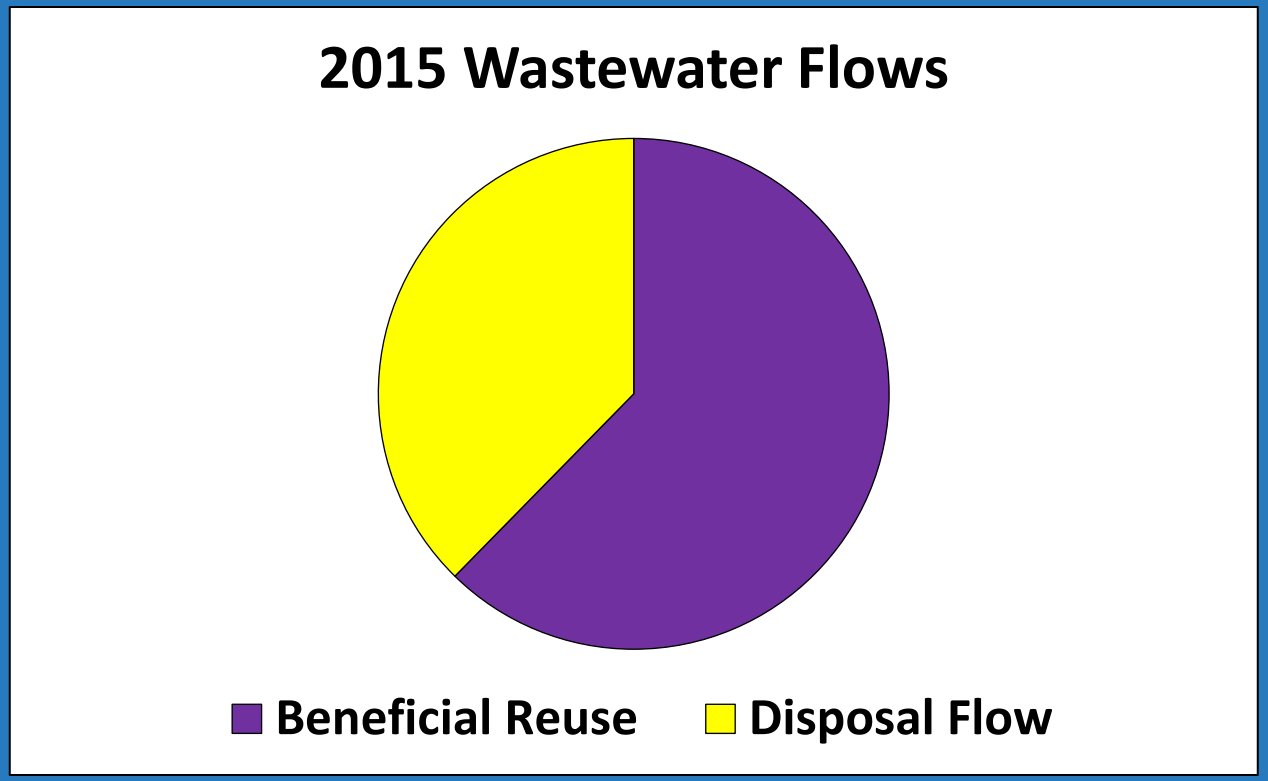


Marion and North Lake Water Conservation Potential



St. Johns River Water Management District

Marion and North Lake Reclaimed Water Availability



Category	2015 Percent (mgd)	FDEP 75% (mgd)
Existing Additional Reclaimed Water for Reuse	2.4	4.5
2040 Potential New Reclaimed Water for Reuse	3.7	5.2
2040 Total	6.1	9.7

Marion and North Lake Water Resource Development Projects

Type	Number of Projects	Quantity Water Produced (mgd)	Estimated Construction Cost (Million dollars)
Multi-Source[1]	1	5	$9.3

[1] Combined source that can include reclaimed water, surface water, and stormwater

Marion and North Lake Water Supply Development Projects

Type	Number of Projects	Quantity Water Produced (mgd)	Estimated Construction Cost (Million dollars)
Groundwater	5	19.1	$60.8
Reclaimed Water	8	5.6	$40.1
Total	13	24.7	$100.9

SJRWMD Cost-Share in Marion and North Lake
(Fiscal years 2014 to 2020)

- Total funds to Marion and North Lake cooperators = $33.6M
- Funds for water supply, water conservation, and natural systems projects = $13.5M
  - Alternative water supplies = 20.4 mgd
  - Water conservation = 1.8 mgd
  - Natural systems = 4.4 mgd

Marion and North Lake Conclusions

- Projected 30.0 mgd increase in demand from 2015 to 2040
- Cannot be met with traditional sources without predicted impacts to MFL water bodies and potential risk to wetlands
- CSEC RWSP identifies 48.2 mgd of projects and measures that will meet future demand, while protecting water resources and related natural systems

Public Comment

Moderated by Kraig McLane, Senior Project Manager
Bureau of Water Supply Planning

SJRWMD also welcomes comments in writing to be submitted no later than August 27, 2021.

Please submit written comments by email to csecrwspcomments@sjrwmd.com or online at www.sjrwmd.com/water-supply/planning/csec-rwsp/#documents

Workshop Closing

Clay Coarsey, Bureau Chief
Water Supply Planning

For additional CSEC information,
visit www.sjrwmd.com/water-supply/planning/csec-rwsp/
or contact Joy Kokjohn at (386)329-4223 or jkokjohn@sjrwmd.com