



2017 Lower West Coast Water Supply Plan Update

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Water Supply Bureau

Big Cypress Basin Board Meeting
October 24, 2019

Regional Water Supply Plan

What it Does

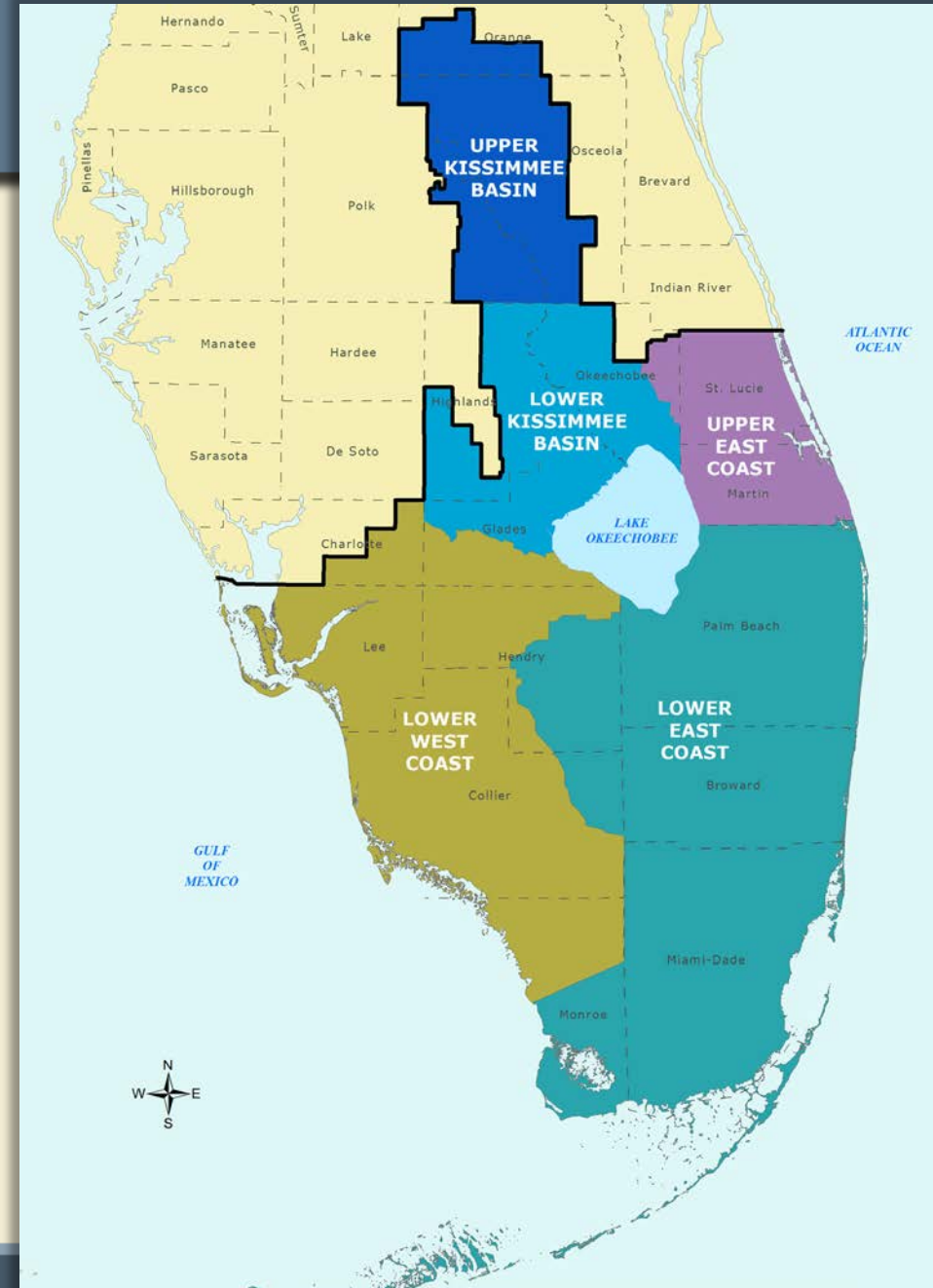
- Provides a road map to meet future water needs while protecting water resources and natural systems
- Planning-level approach
- Projects future water demands
- Identifies and evaluates water source options

What it Does NOT Do

- Does not authorize consumptive use permits
- Does not establish Minimum Flows and Minimum Water Levels
- Does not adopt rules
- Does not require water users to implement specific projects

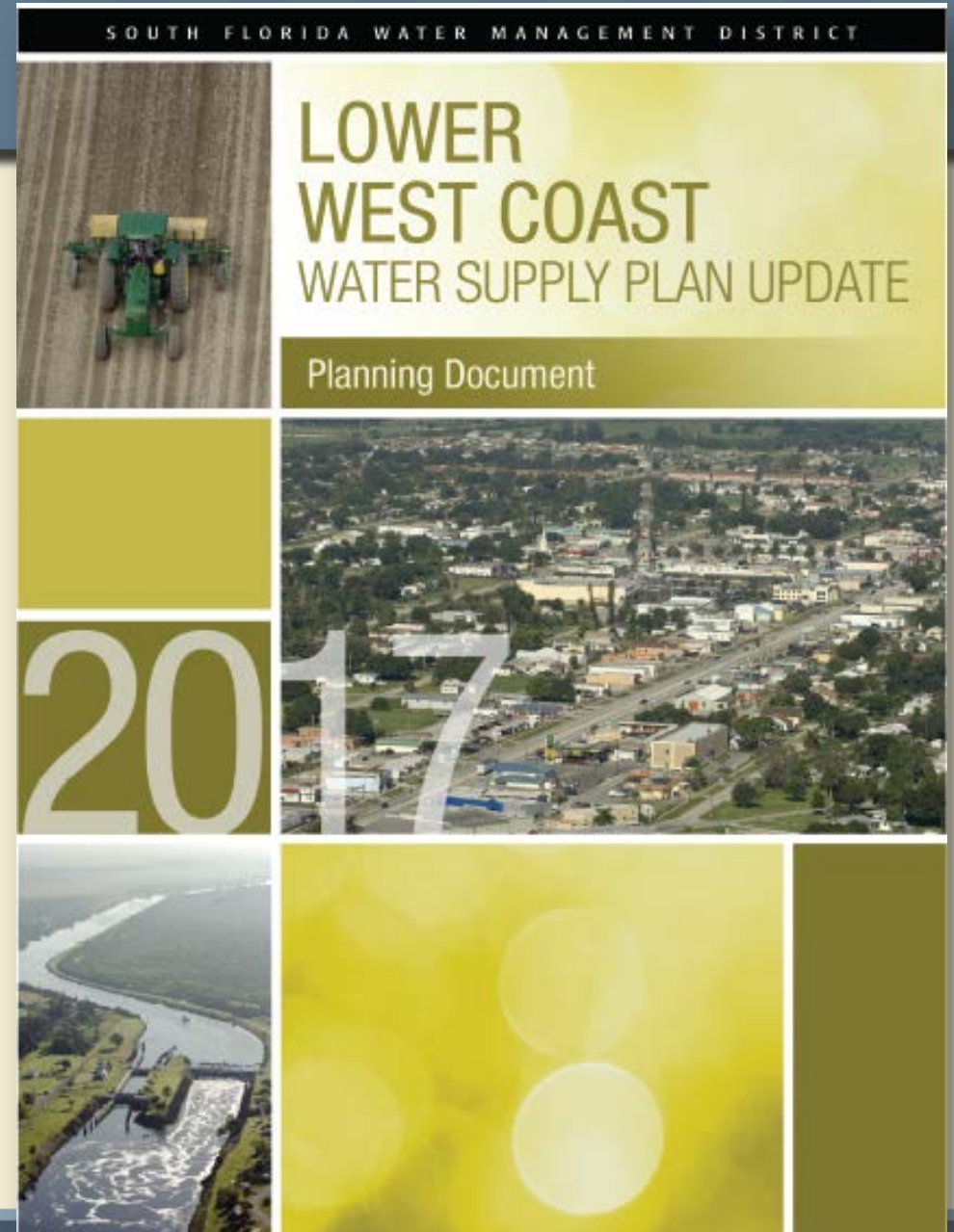
Water Supply Plan Requirements

- 20-year planning period
- Demand estimates and projections
- Resource analyses & issue identification
- Evaluation of water source options including conservation
- Water resource development
 - Responsibility of water management
- Water supply development
 - Responsibility of water users
- Minimum Flows and Minimum Water Levels
 - Recovery and prevention strategies



Public Participation

- Two presentations to Big Cypress Basin Board
- Governing Board updates
- Three stakeholder workshops
- Meetings with local government, agricultural, and utility representatives
- Draft documents distributed/posted for review
- Plan approved in December 2017



Lower West Coast (LWC) Planning Area

➤ Planning Horizon 2014 - 2040

➤ Population (permanent)*

- 2014 1,031,924 residents
 - 2040 1,632,168 residents
- 58% increase

➤ Irrigated agricultural acreage**

- 2014 306,119 acres
 - 2040 339,648 acres
- 11% increase

➤ Gross water demands

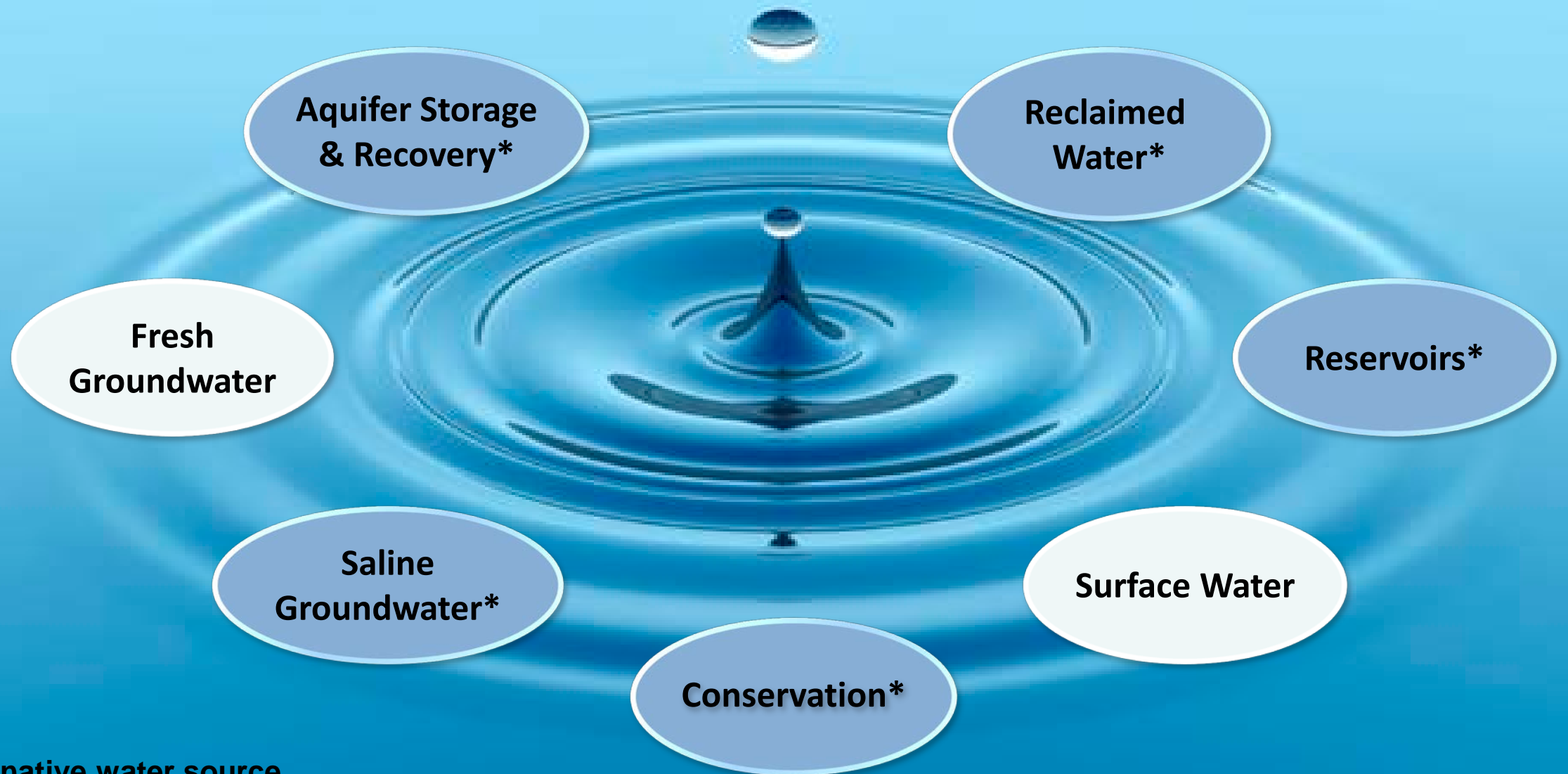
- 2014 971 mgd
 - 2040 1,210 mgd
- 25% increase



* Data from University of Florida Bureau of Economic and Business Research

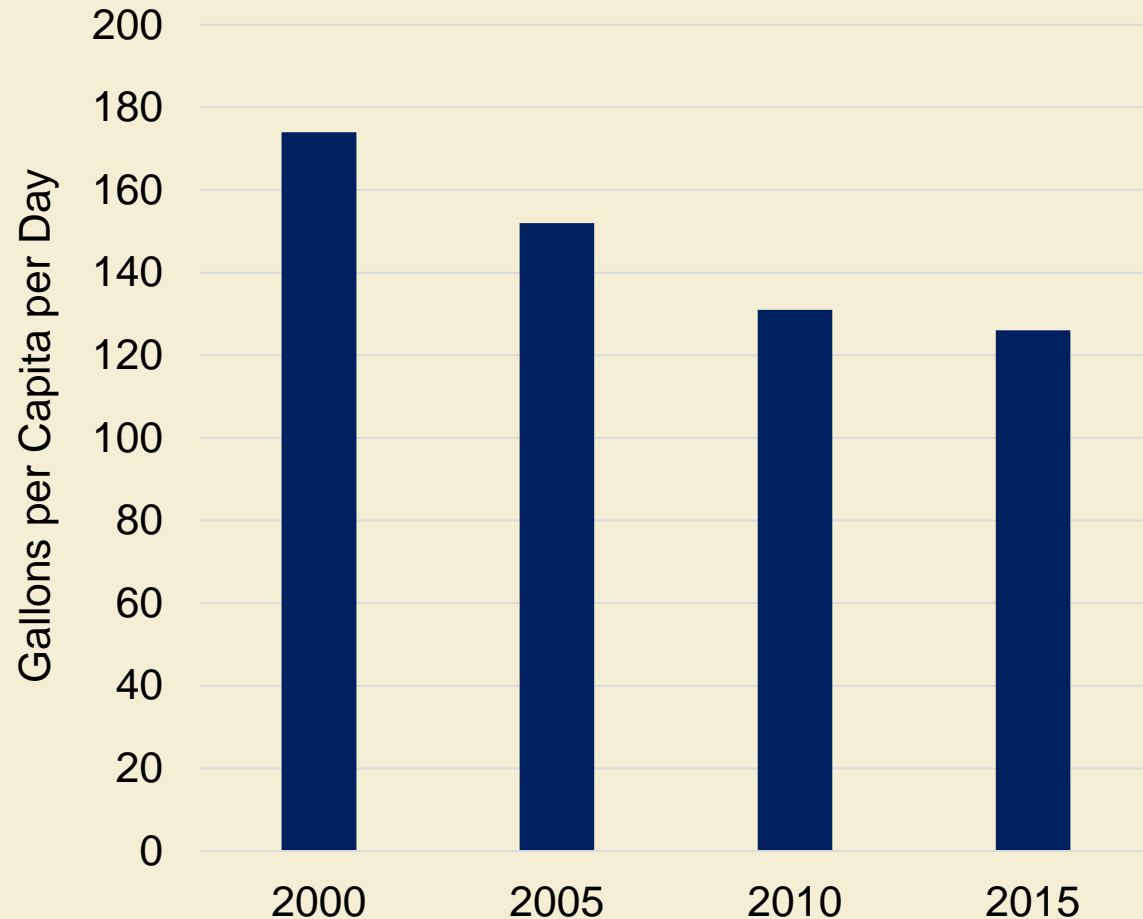
** Data from Florida Department of Agriculture and Consumer Services

Water Source Options



* Alternative water source

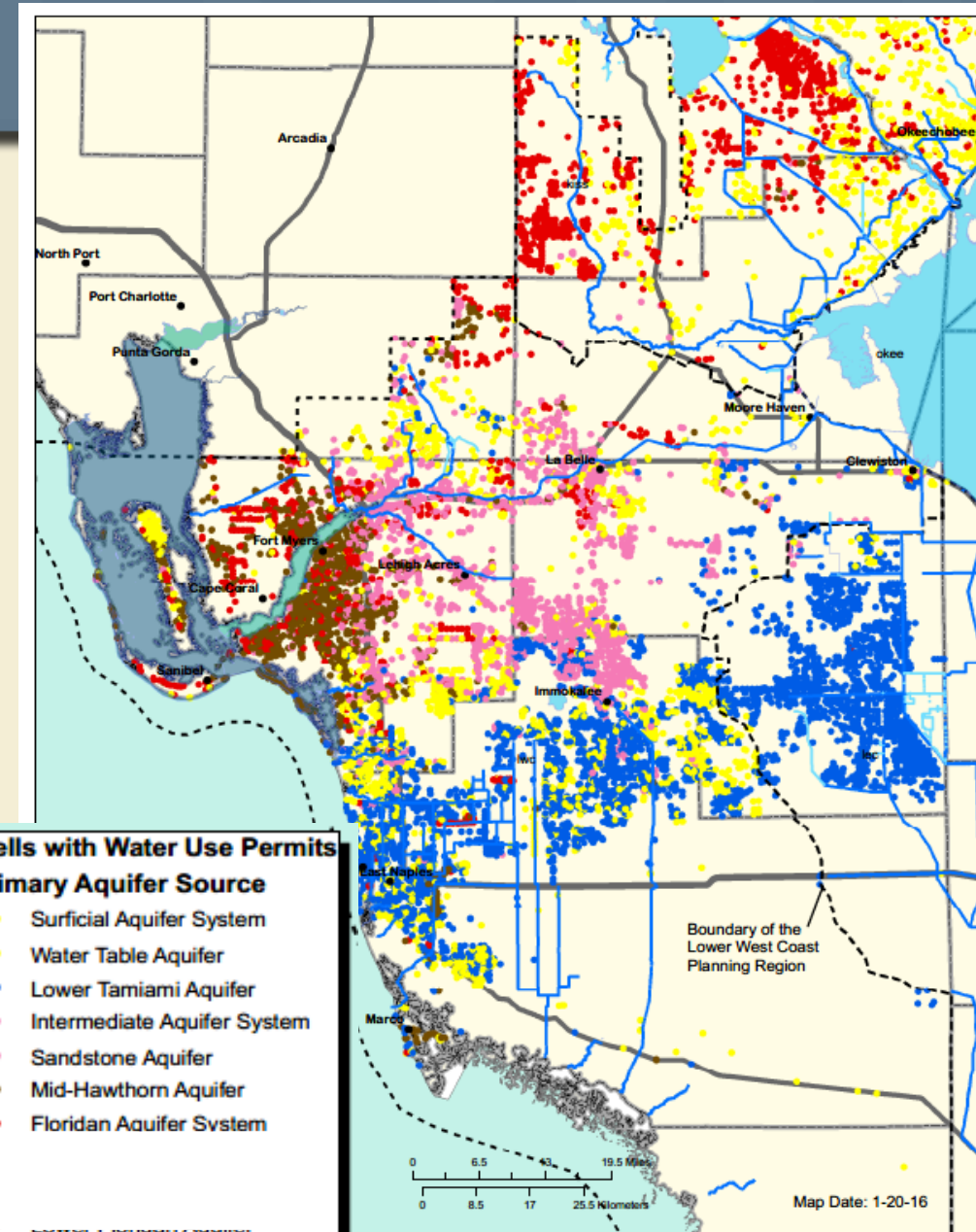
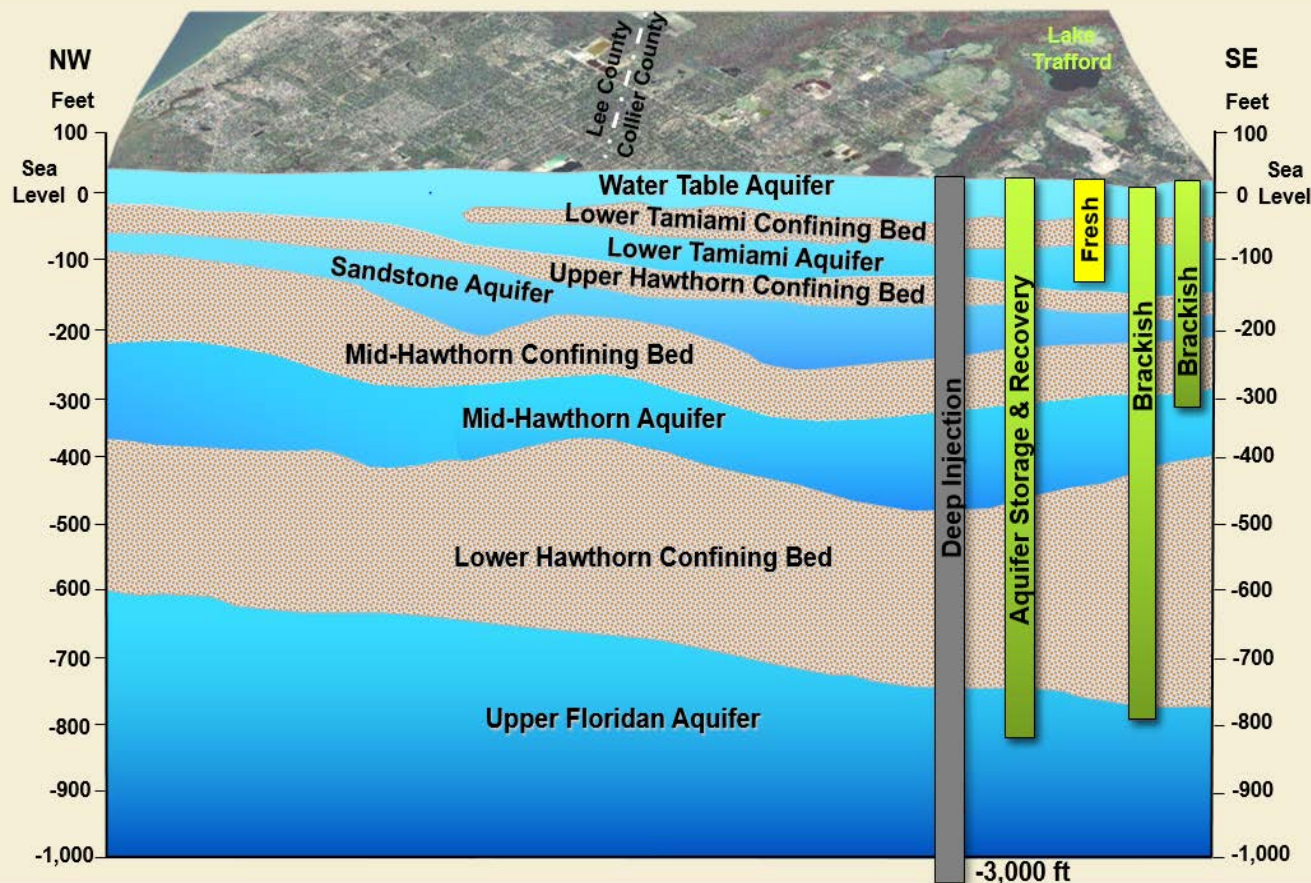
Water Conservation



- LWC public potable water supply per capita use rate
- Agriculture
 - Expand use of micro-irrigation
 - Best Management Practices

The cheapest gallon of water is the gallon we don't use

Groundwater Sources

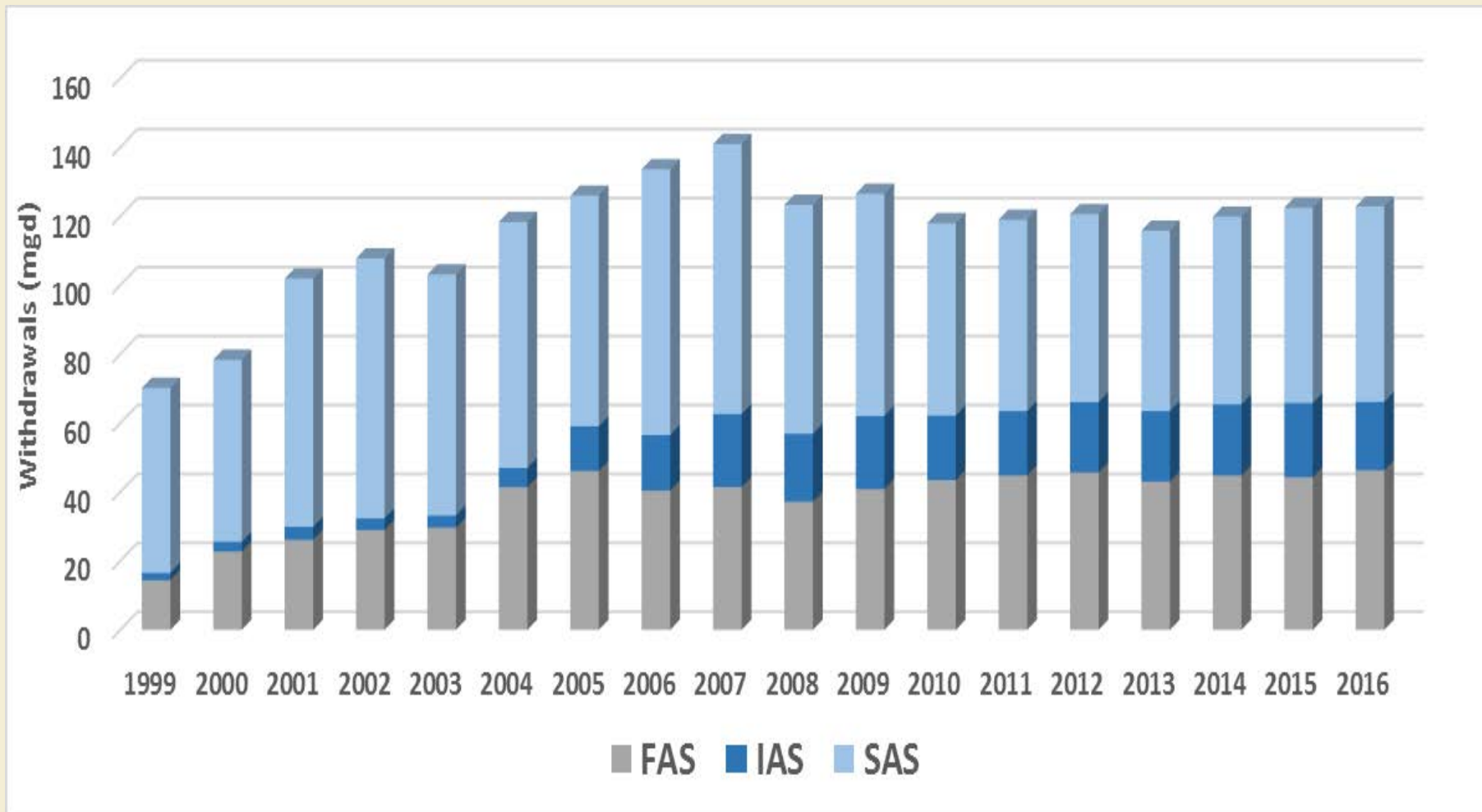


Water Supply Issues

- Development of the surficial and intermediate aquifer systems has been maximized in many areas
- Freshwater discharges are affecting the health of coastal resources
- Surface water availability is limited because of the lack of storage and regulatory restrictions
- Freshwater sources alone are inadequate to meet water needs
- Long-term sustainability of brackish water sources



Floridan, Intermediate and Surficial Aquifer Groundwater Use – Public Water Supply



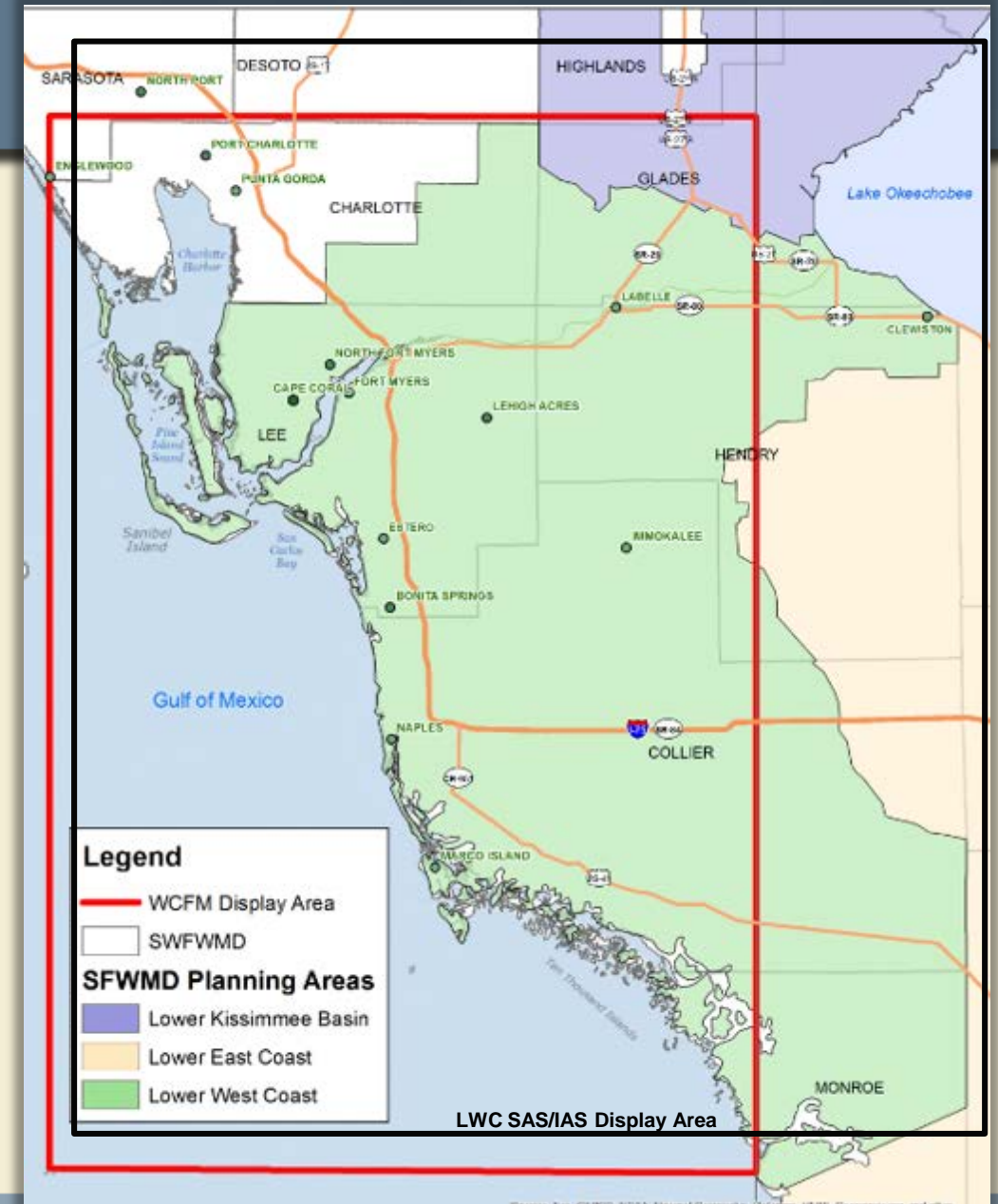
Groundwater Models

➤ Lower West Coast Surficial/Intermediate Aquifer Model

- Calibration complete
- Baseline and 2040 scenarios
- Expect simulations in 2020

➤ West Coast Floridan Aquifer Model

- Improved with water quality
- Finalizing calibration
- Baseline and 2040 scenarios
- Expect simulations in 2020



Collier County

➤ Population (permanent)*

- 2014 336,783 residents
 - 2040 487,258 residents
- 38% increase

38%
increase

➤ Irrigated agricultural acreage**

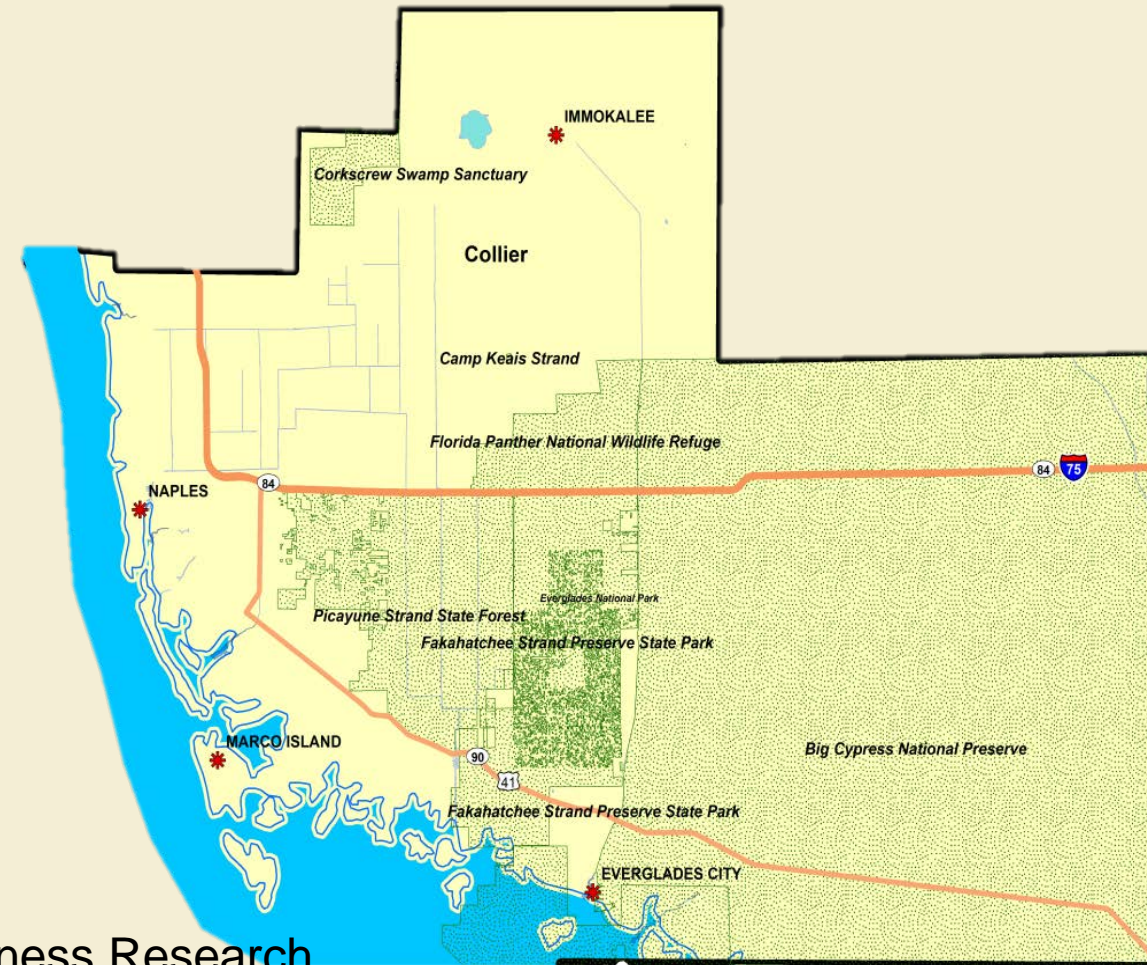
- 2014 78,126 acres
 - 2040 73,786 acres
- 5% decrease

5%
decrease

➤ Gross water demands

- 2014 283 mgd
 - 2040 323 mgd
- 14% increase

14%
increase

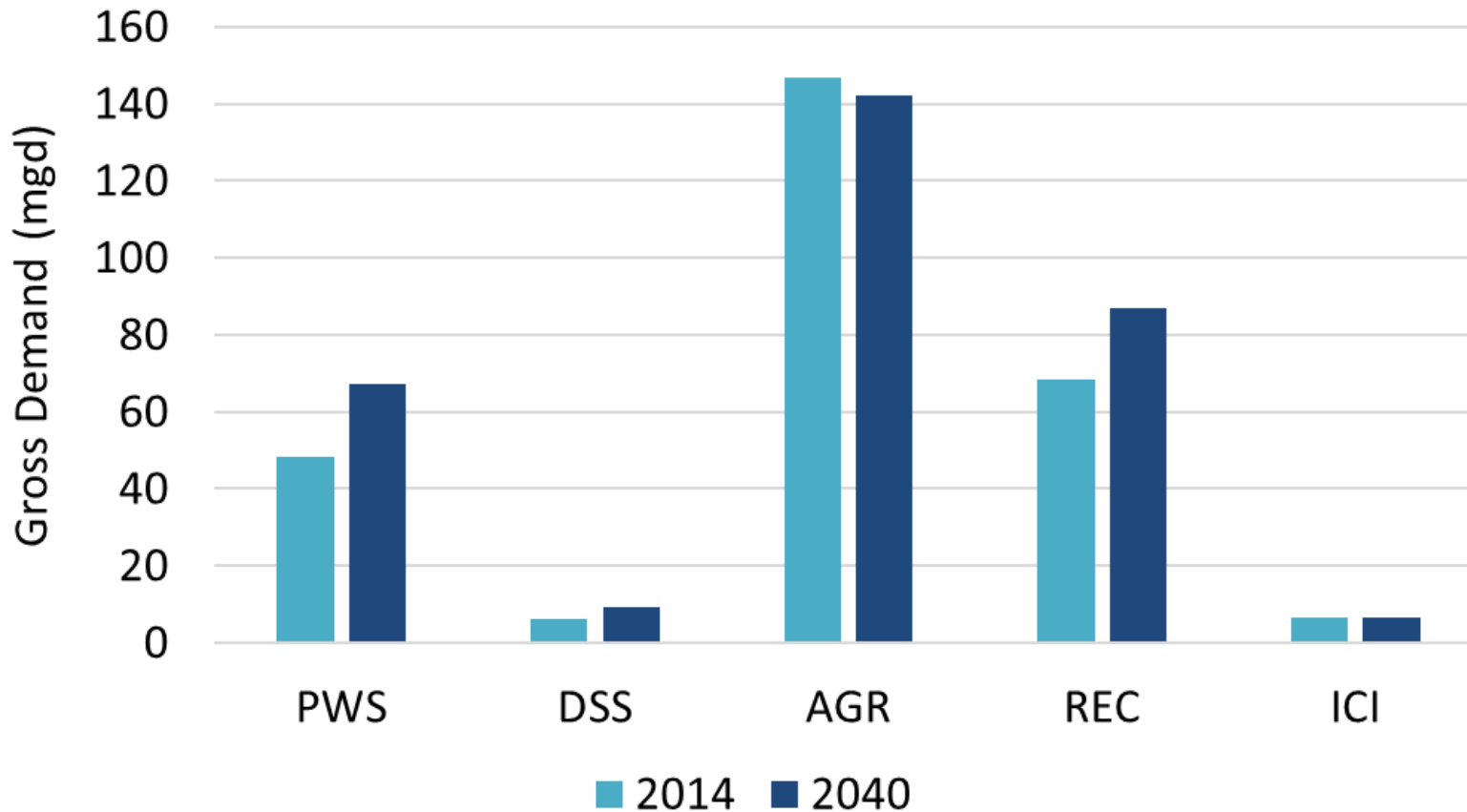


* Data from University of Florida Bureau of Economic and Business Research

** Data from Florida Department of Agriculture and Consumer Services

Collier County Gross Demand Projections

2014 to 2040



PWS: Public Water Supply

DSS: Domestic and Small
Public Supply

AGR: Agricultural Irrigation

REC: Recreational/Landscape
Irrigation

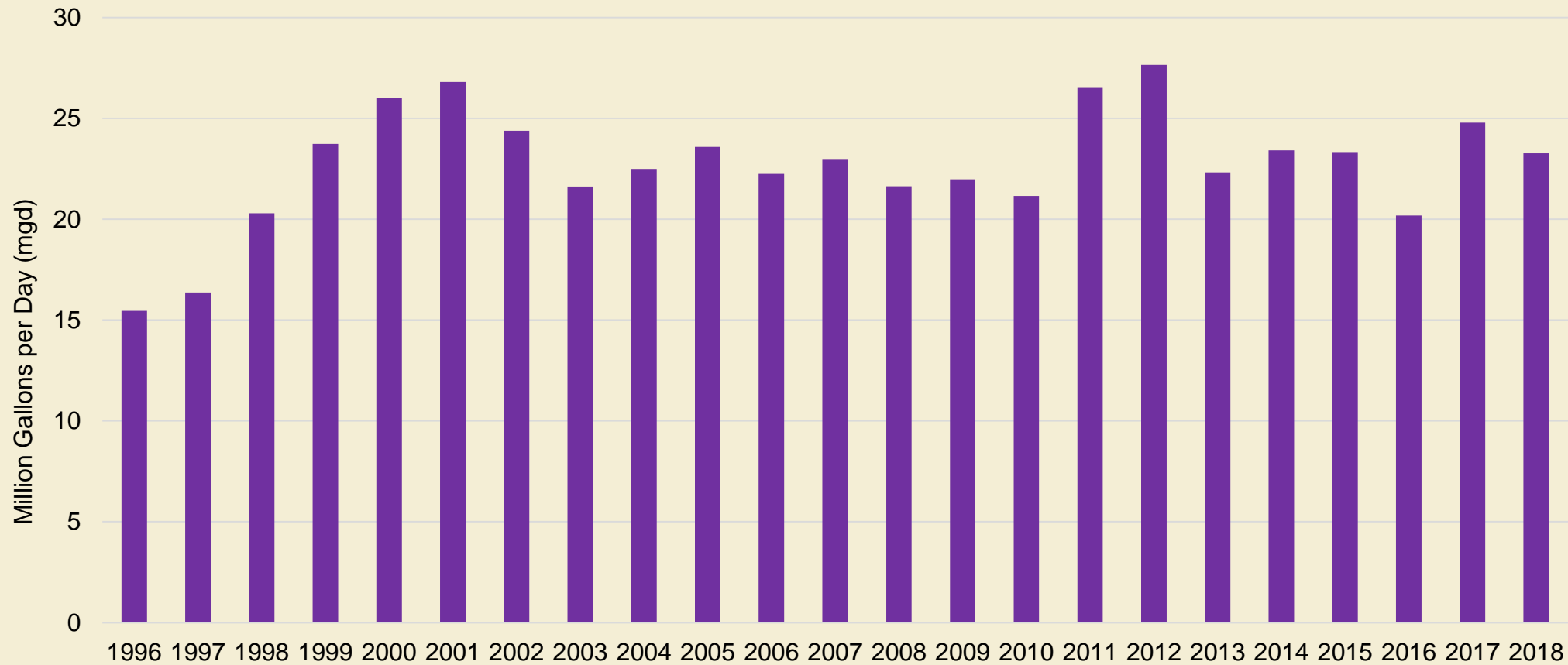
ICI: Industrial/Commercial/
Institutional

Major Water Utilities in Collier County

	Collier County WSD (mgd)	Marco Island (mgd)	Naples (mgd)
2018 Potable Water Demand*	26.50	7.54	14.12
2040 Projected Demand	34.62	7.55	19.25
Current Water Treatment Capacity	52.00	12.67	30.00
Current Water Use Permit Allocation	55.53	13.16	18.42

* From the 2018 Annual Utility Progress Reports

Total Reuse in Collier County*



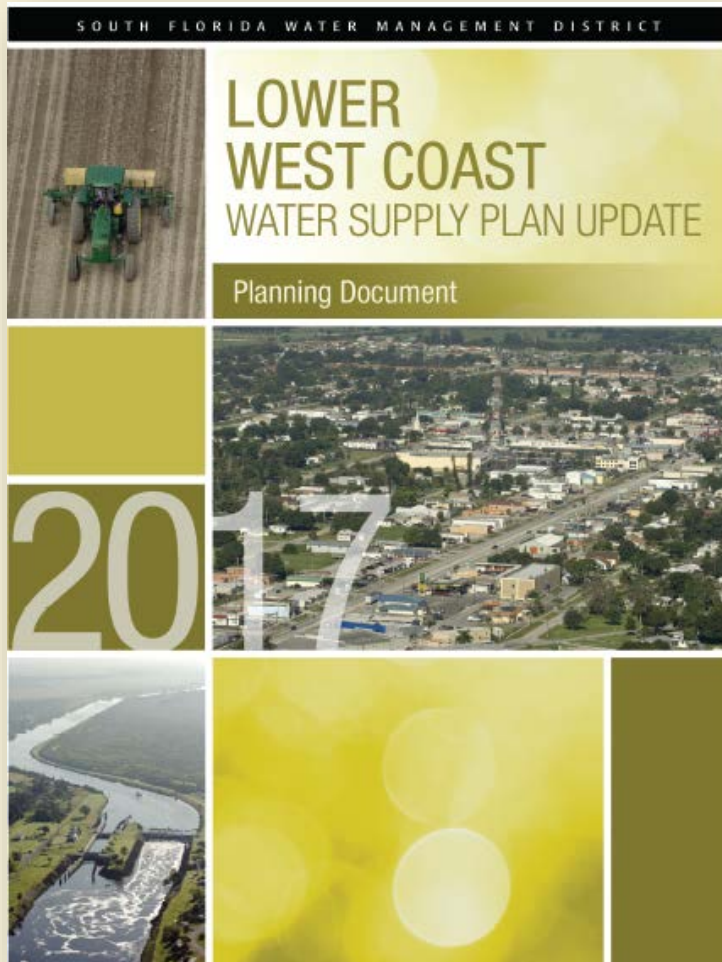
“” includes all utilities in Collier County*

Total wastewater effluent disposed in 2018: 7.25 mgd (all via deep injection well)

Future Direction

- Continue diversification of water supply sources through alternative water supplies
- Continue implementation of robust water conservation programs
- Complete groundwater modeling and conduct stakeholder meetings
- Continue to update saltwater interface maps at least every 5 years
- Evaluate potential impacts of sea level rise and climate trends
- Coordinate with local governments, utilities, and adjacent water management districts

Plan Conclusion



The future water demands of the region can continue to be met through the 2040 planning horizon with appropriate management, conservation, and implementation of projects identified in this 2017 LWC Plan Update

Depends on completion of:

- Identified Comprehensive Everglades Restoration Plan components and other projects to meet environmental needs
- Water supply development projects by 2 utilities

An aerial photograph of a vast wetland landscape. The foreground and middle ground are filled with a mosaic of green vegetation, likely mangroves or marsh grasses, interspersed with patches of blue water. The terrain appears flat and extends to a distant horizon. The sky is filled with large, white, fluffy clouds, and the overall lighting suggests a bright, sunny day.

Questions?