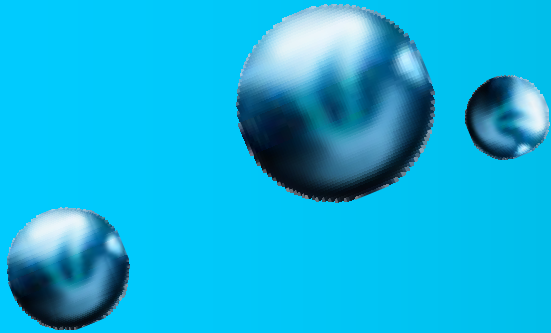


Water for Florida



- *Today's Water Use*
- *Today's Water Supply Planning*
- *Emerging Issues*
- *Long-Range Vision*

***Janet G. Llewellyn, Director
Division of Water Resource Management
Department of Environmental Protection***

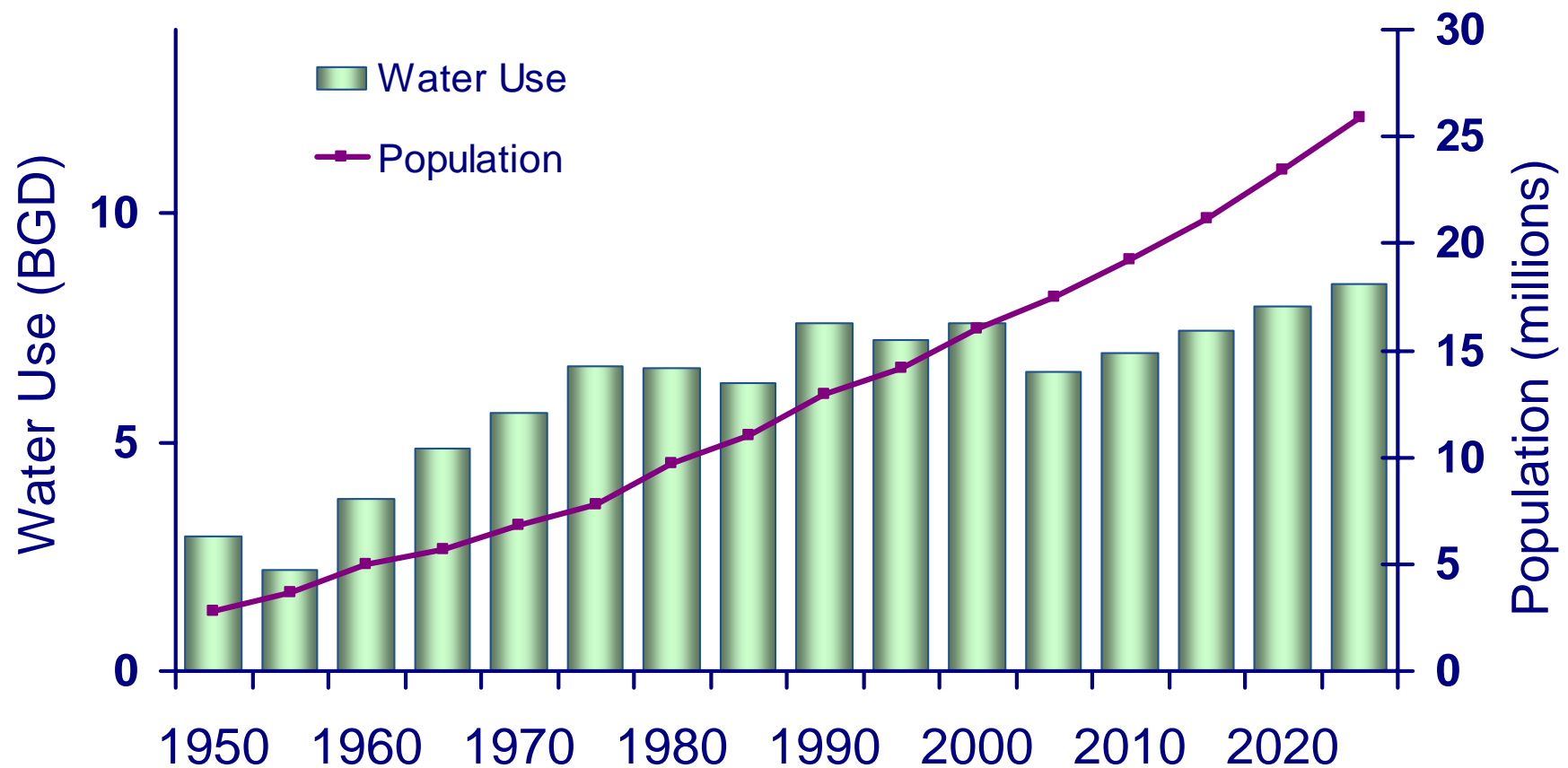


Today's Water Use



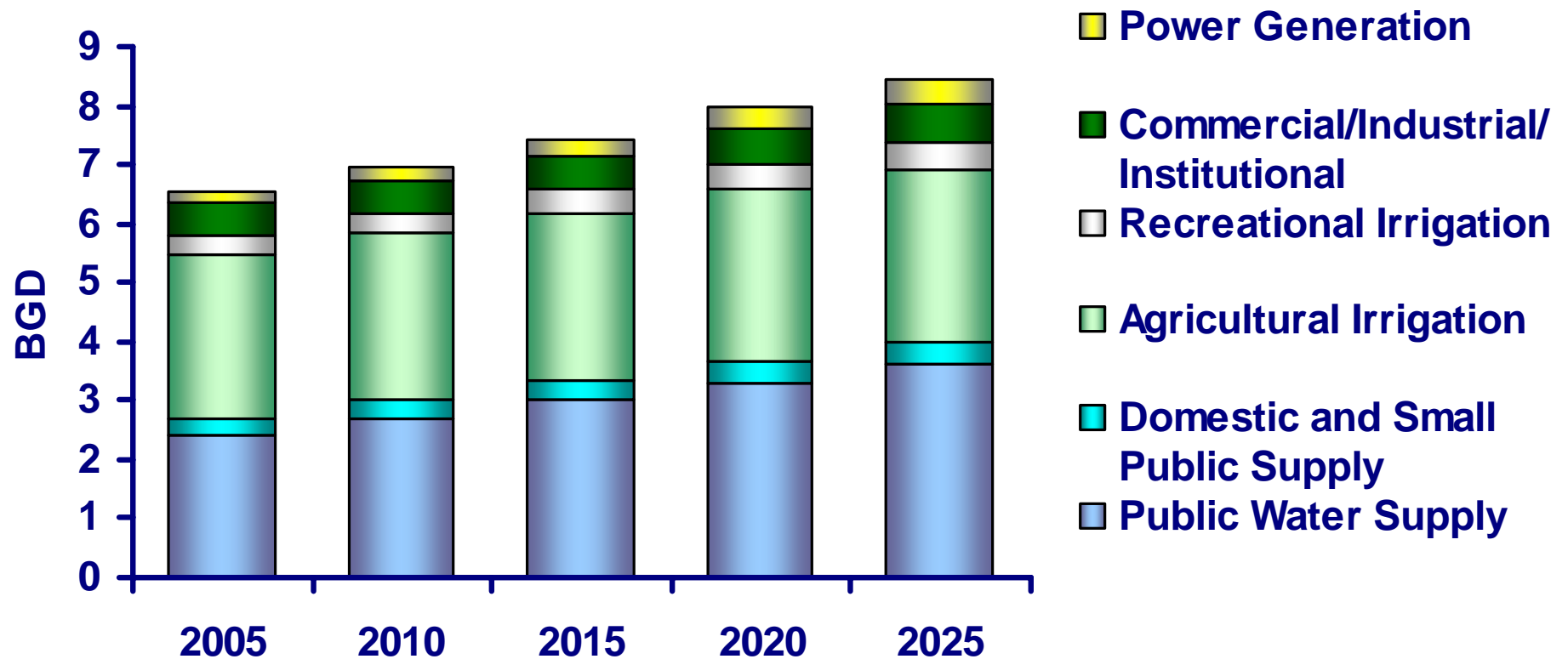
How Much Water?

Population & Demand for Water





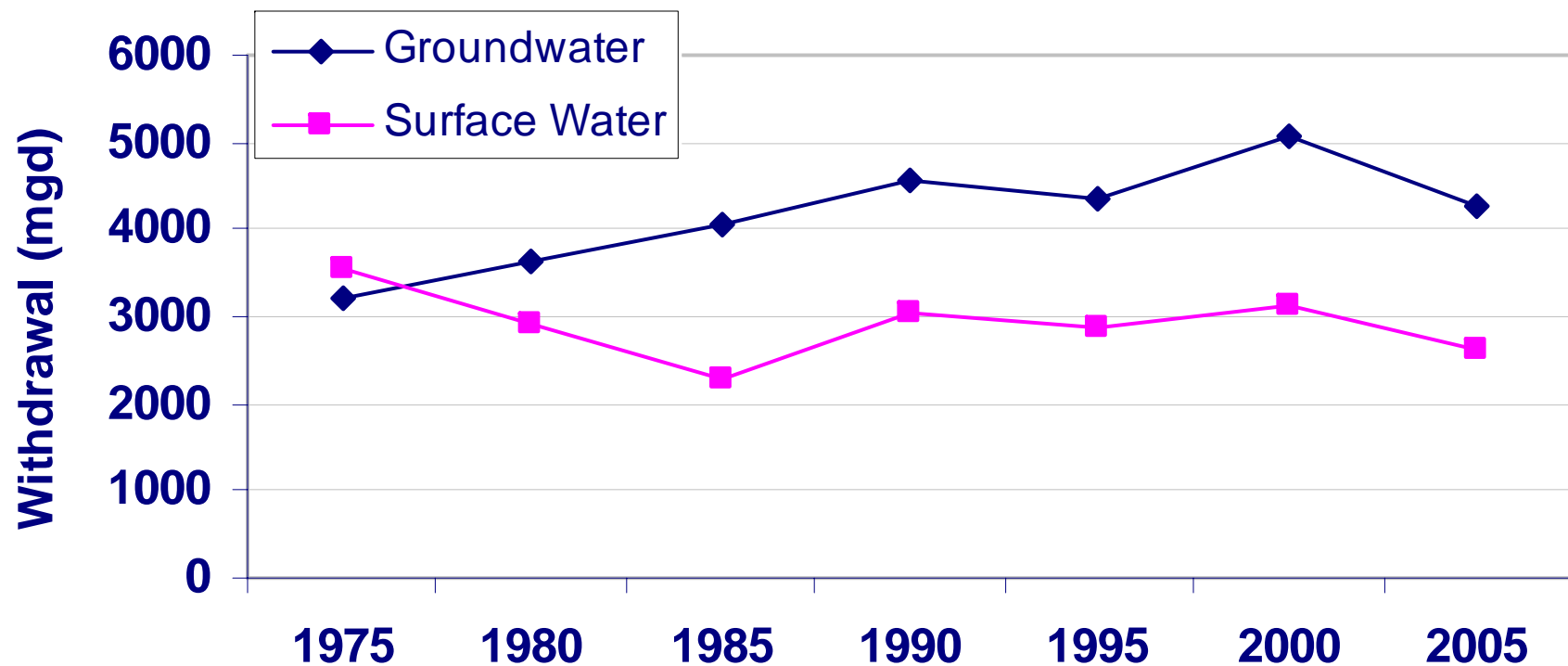
Who Uses the Water?





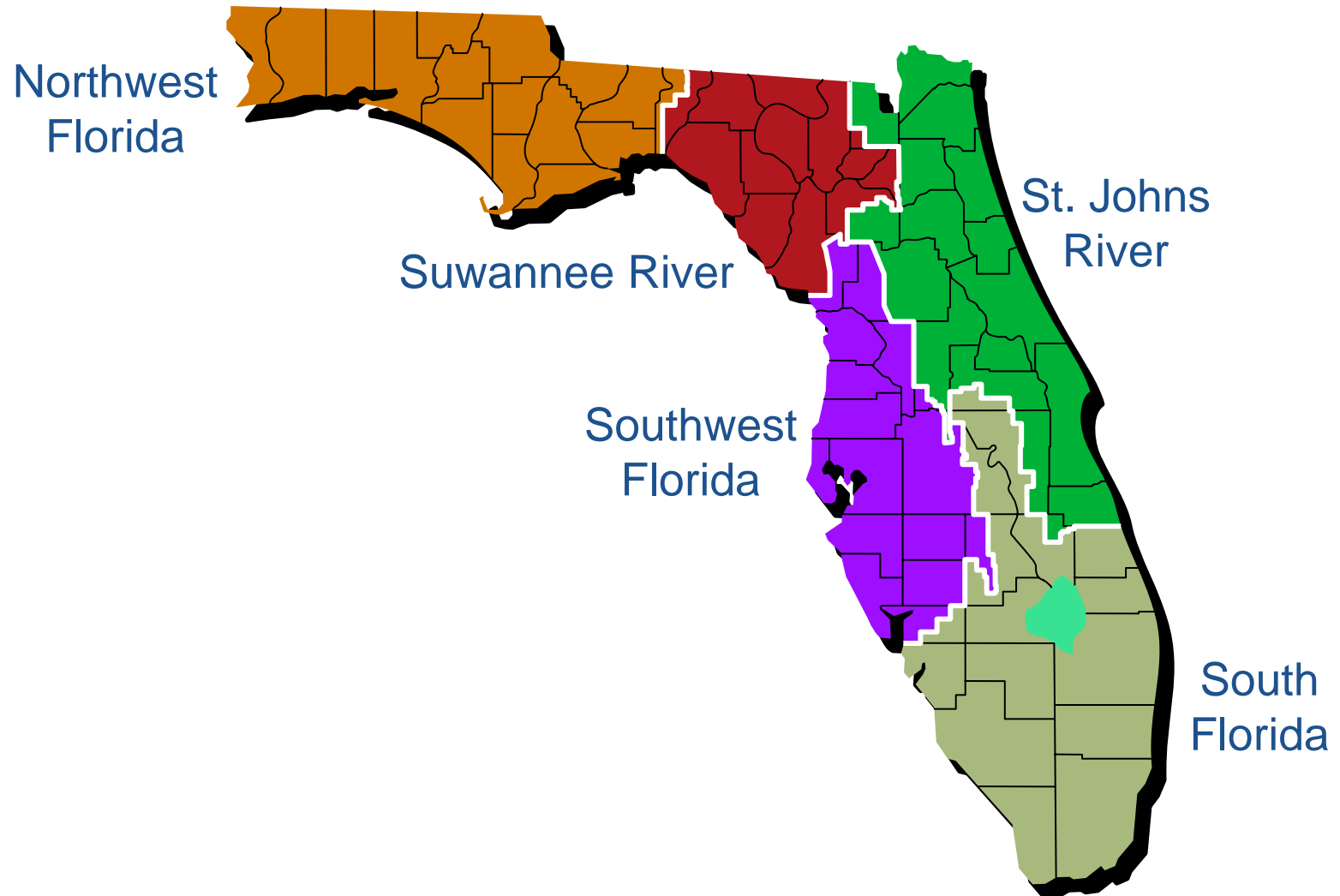
Water Source Trends

Statewide - Total Fresh Water - USGS





Water Management Districts





Water Resources at Risk

- 7,700 lakes
- 8 million acres of wetlands
- 50,000 miles of streams
- 4,300 square miles of estuaries
- 33 first magnitude springs



Minimum Flows and Levels

- Defined as “the limit at which further withdrawals would be significantly harmful to the water resources or ecology of the area”
- Calculated using “best available information”
- When appropriate, minimum flows and levels may be calculated to reflect seasonal variations
- Established by water management districts for water bodies within their boundaries

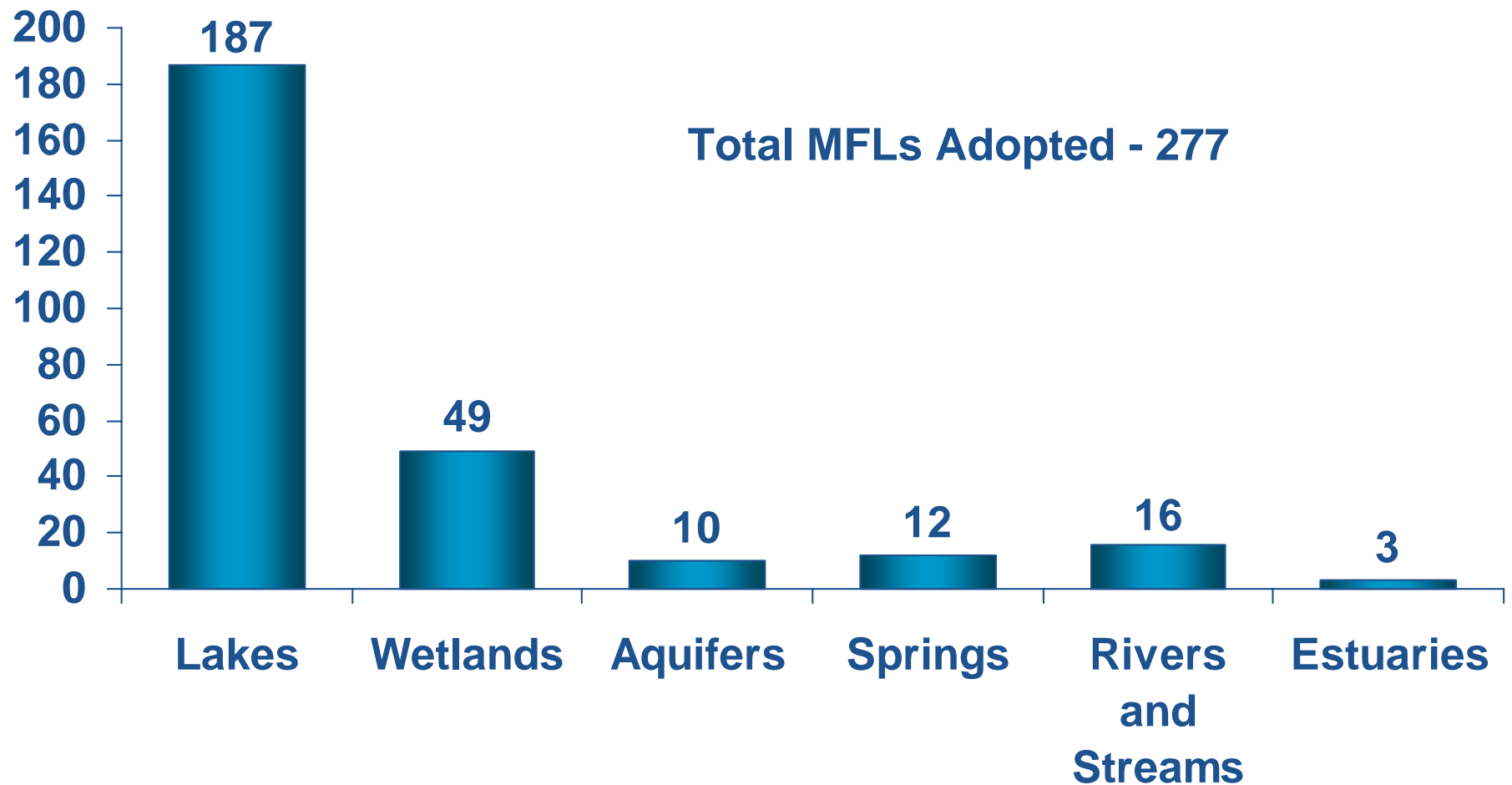


Considerations When Setting MFLs

- Recreation in and on the water
- Fish and wildlife habitat & fish passage
- Estuarine resources
- Transfer of detrital material
- Maintenance of freshwater storage and supply
- Aesthetic and scenic attributes
- Filtration, absorption of nutrients and pollutants
- Sediment loads
- Water quality
- Navigation

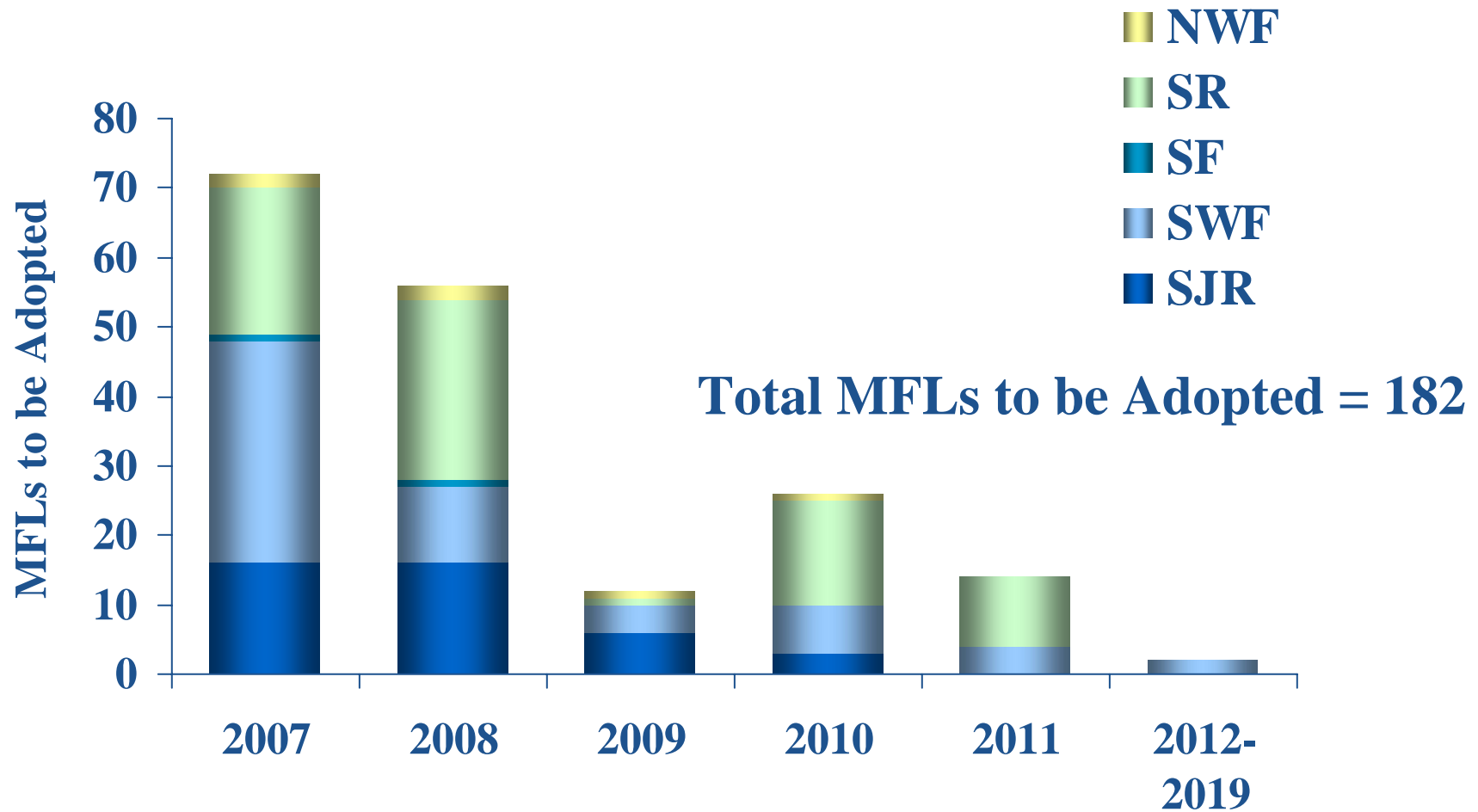


Established MFLs by Water Body Type





Priority Lists for Future MFLs



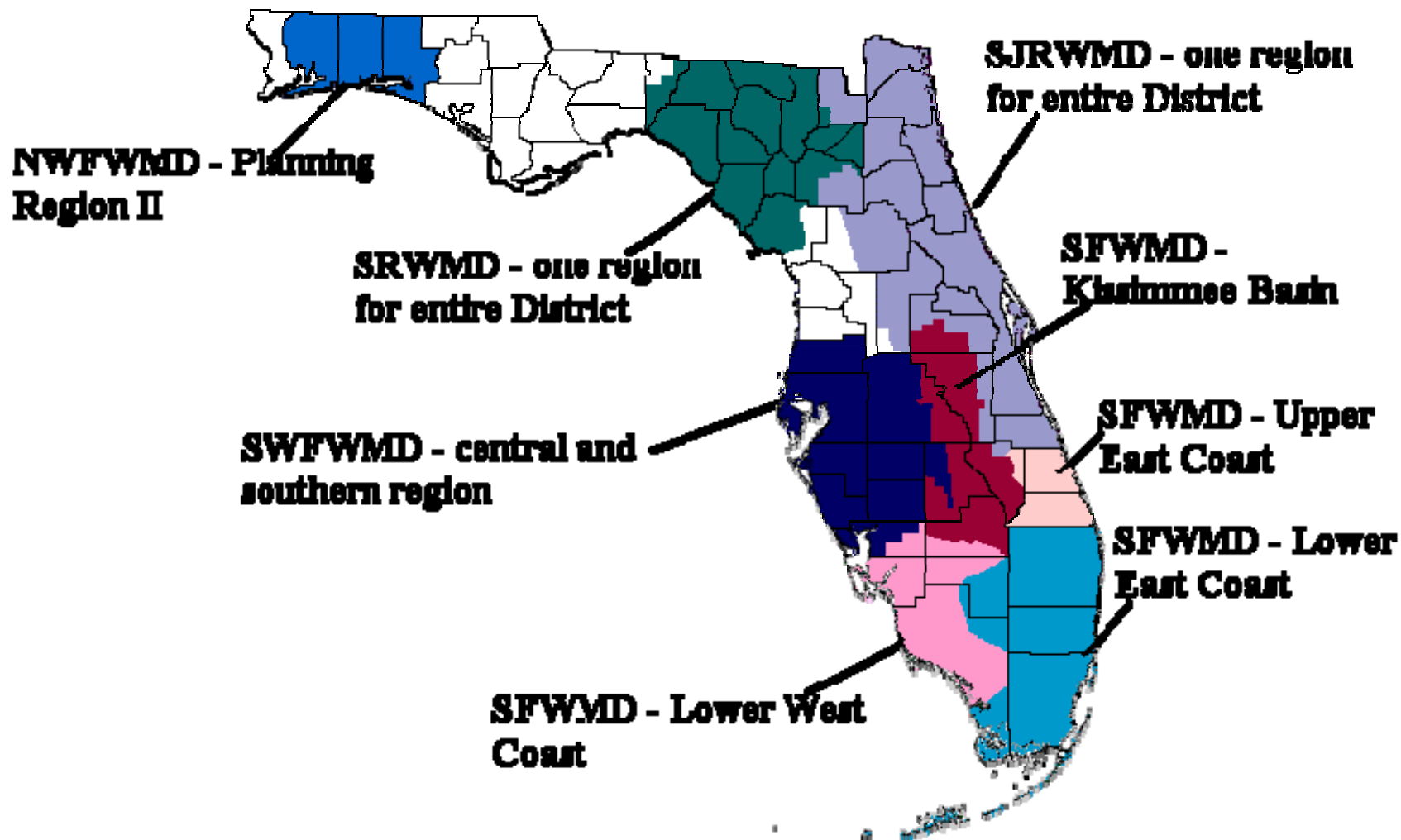


Today's Water Supply Planning

- Plans
- Dollars
- Alternative Water Supplies
- Water Conservation



Water Supply Planning Regions





Regional Water Supply Plans

- Identify more than enough water to meet the 20 year needs
- Not just water supply options, but projects
- Sustain the water resources
- Identify who should implement project
- Identify multi-jurisdictional approaches
- Coordinate with local government and other water suppliers

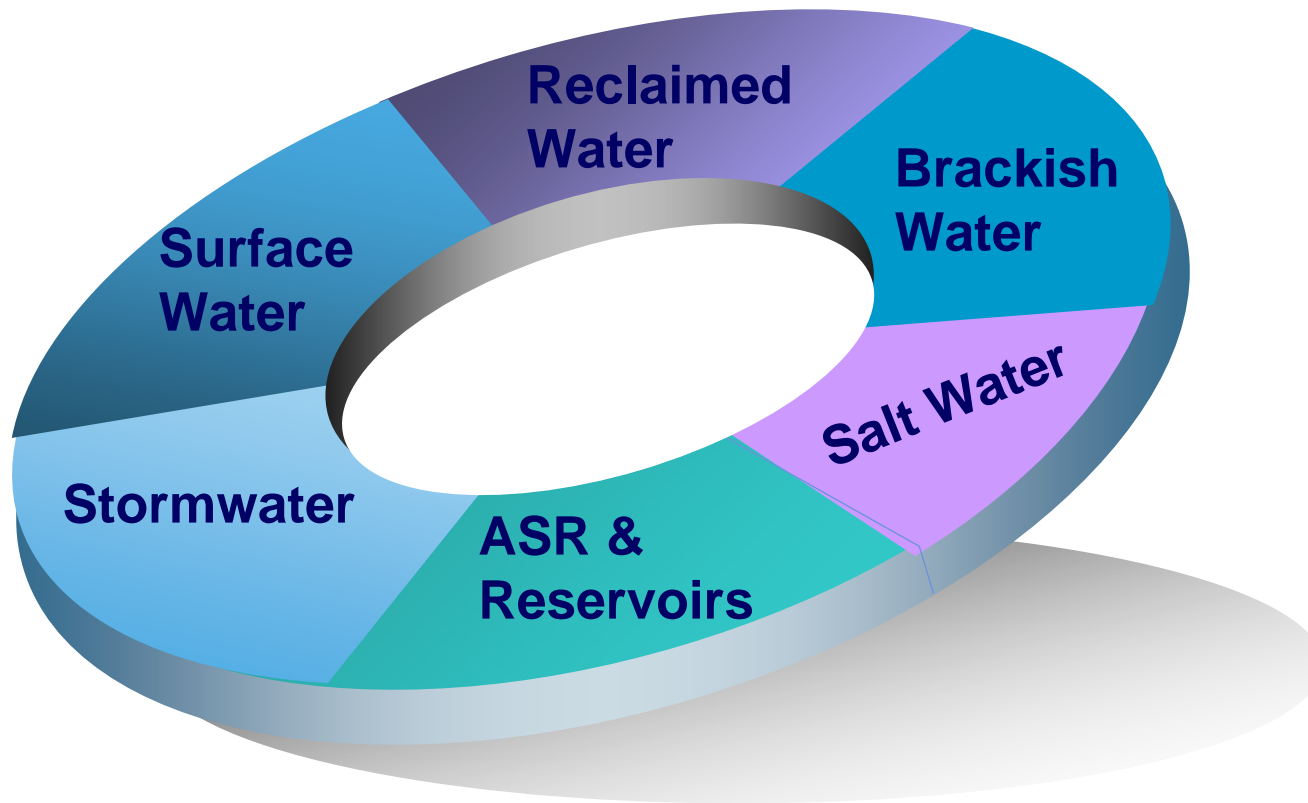


Water Protection & Sustainability Program

- Program established by the legislature to fund:
 - ◆ Alternative Water Supply Projects
 - ◆ Surface Water Improvement and Management (SWIM)
 - ◆ Total Maximum Daily Loads (TMDLs)
 - ◆ Disadvantaged Small Community Wastewater Program



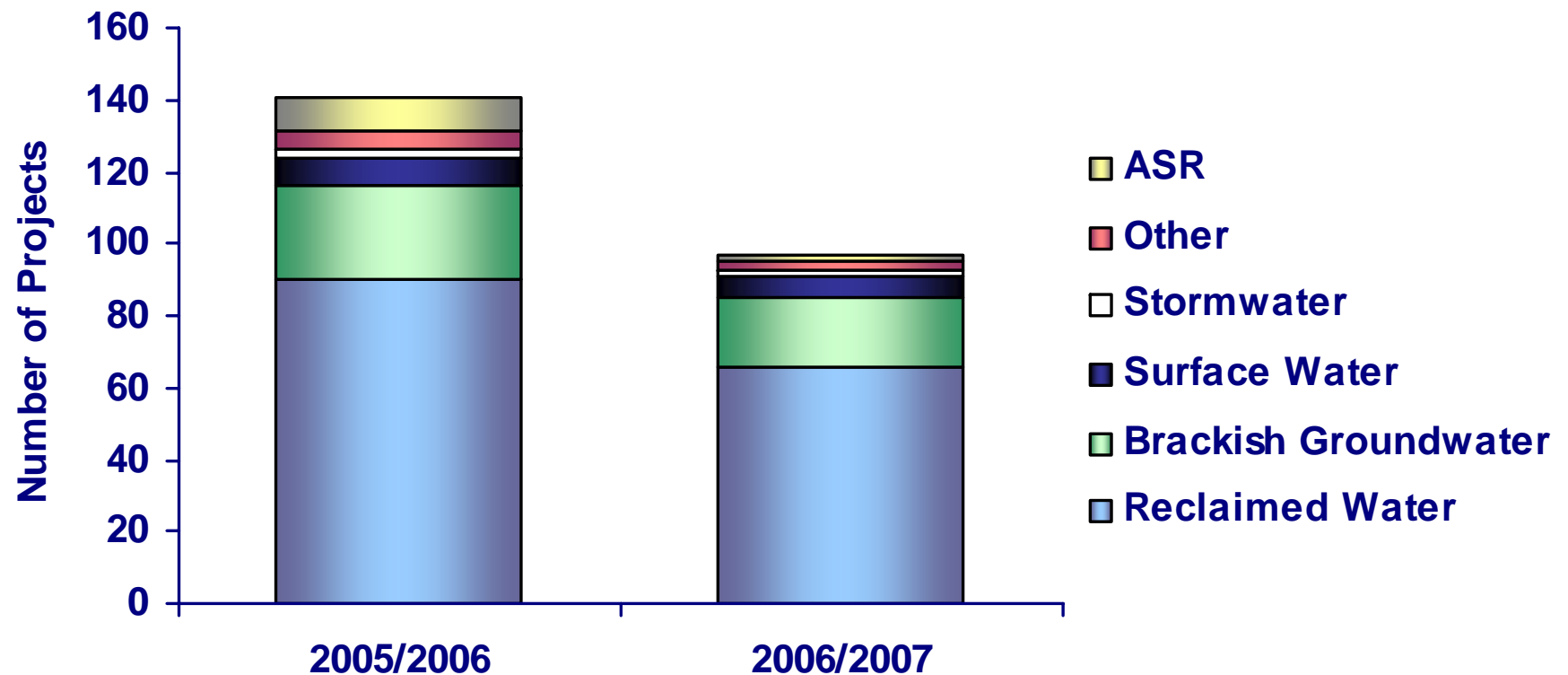
Alternative Water Supplies





AWS Project Types Funded

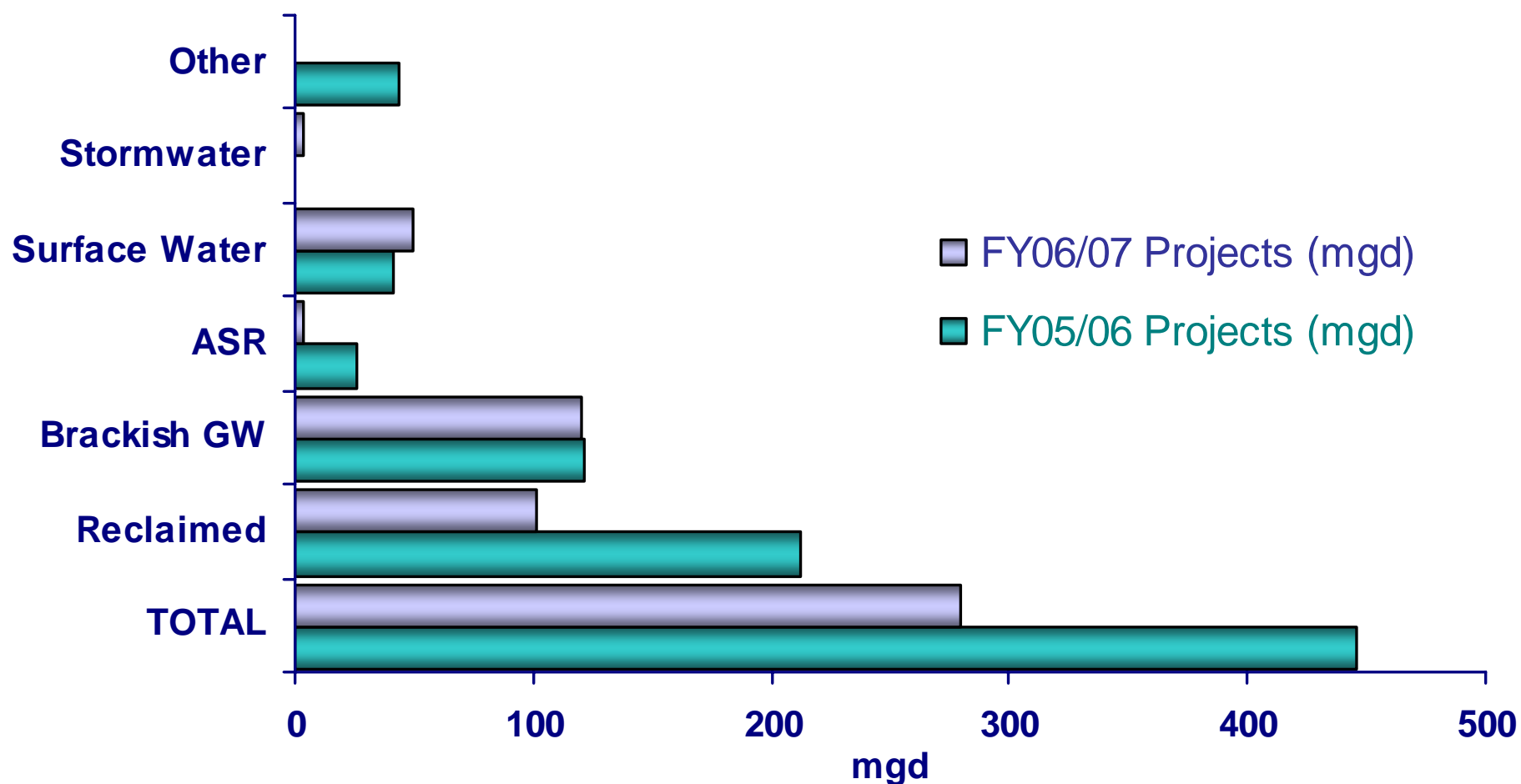
Types of Projects Funded Statewide





How Much Water Can We Make?

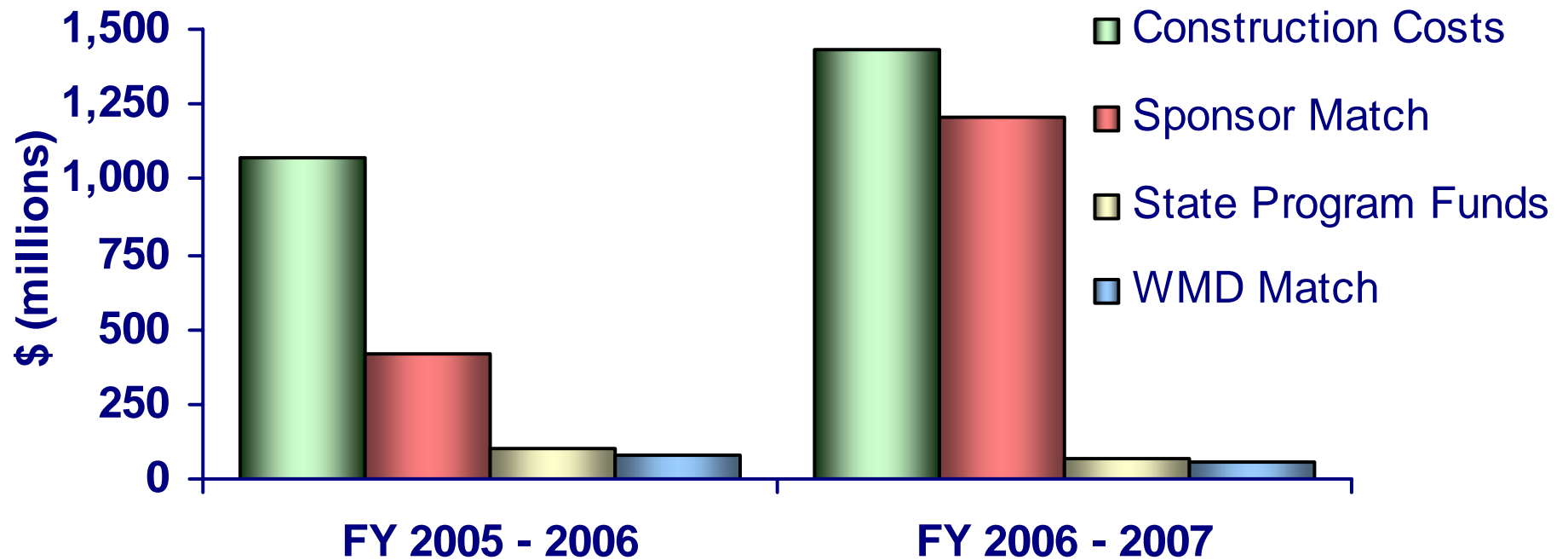
Quantity of Water Created Statewide





What Will It Cost? Who Pays?

Statewide Costs of Alternative Water Supply Projects





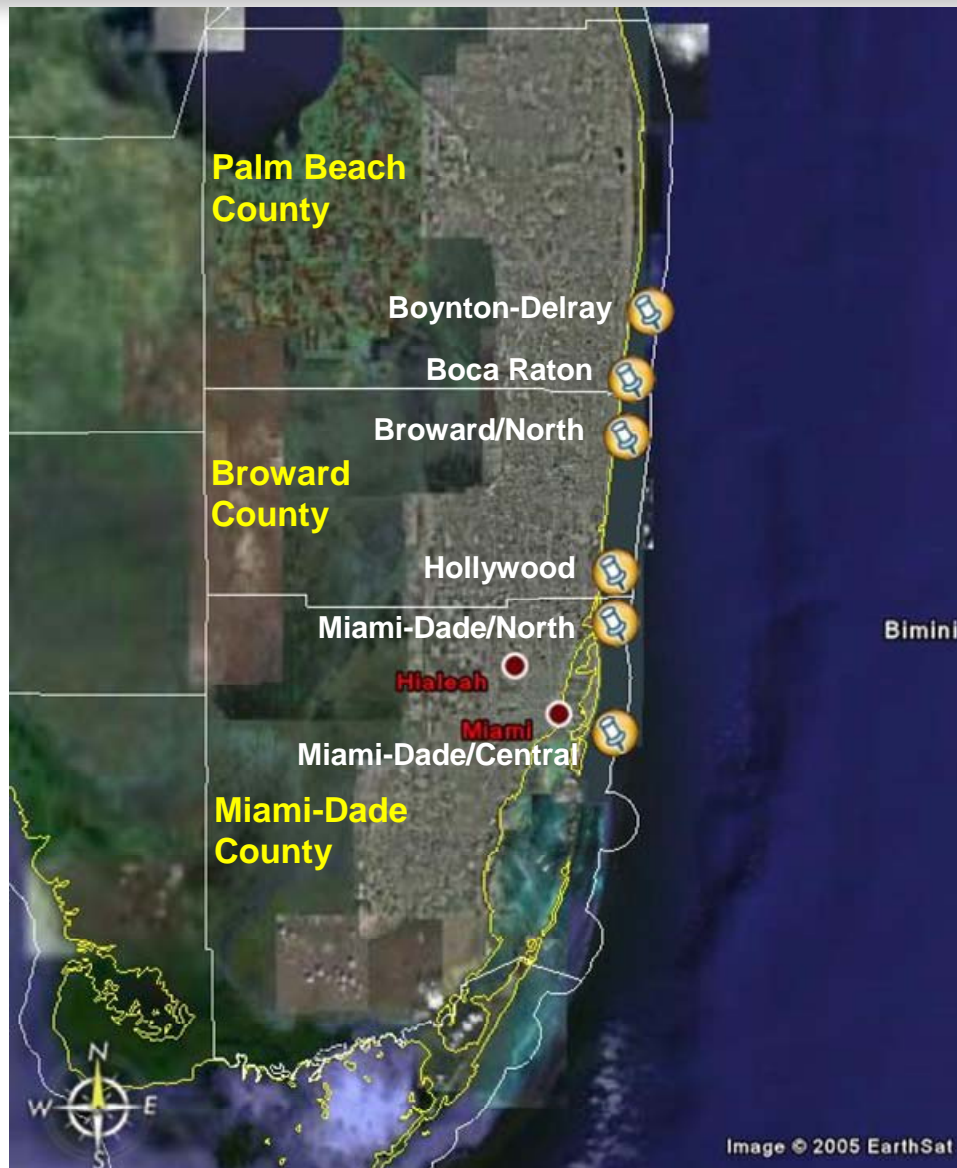
Emerging Issues

- Ocean Outfalls
- Reuse Feasibility
- Stormwater Reuse
- ASR and Arsenic
- Surface Water Withdrawal & Transport
- Becoming Drought Smart



Ocean Outfalls

300 million gallons of minimally treated wastewater are discharged via ocean outfalls every day – day after day.



These same facilities produce only 25 million gallons of reclaimed water each day.



Reuse of Reclaimed Water

- Revise Reuse Feasibility Study Guidelines.
- Higher levels of required treatment will facilitate reuse.
- Reliability – especially during droughts.





Stormwater Reuse

- Opportunities to capture, store, and reuse
- Developing statewide stormwater rule
- Innovative BMPs
- Promote green buildings



ASR & Arsenic

- Leaching
- State water quality standards issue



Surface Water Withdrawal & Transport

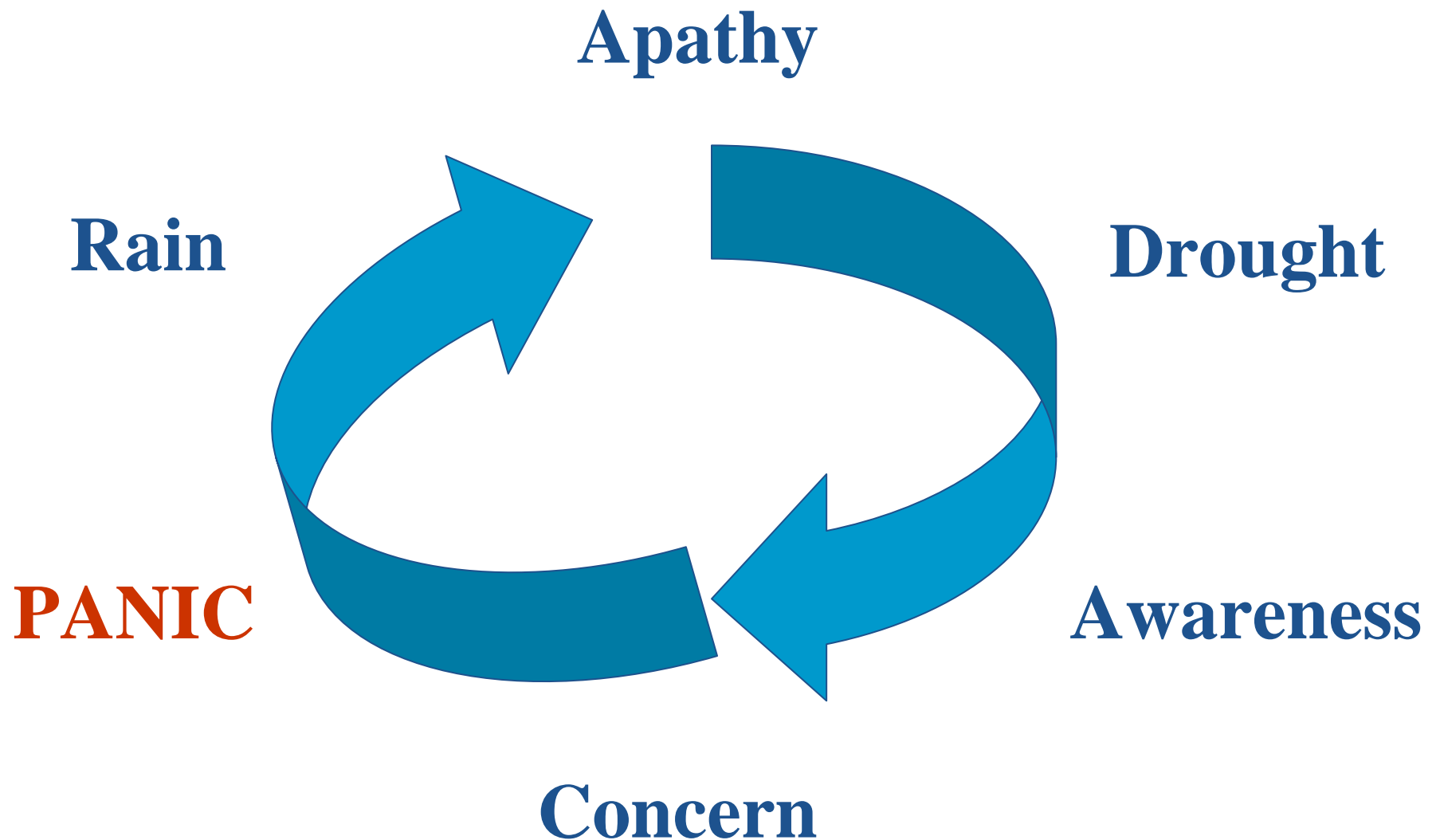
- Tapping high river flows
- St. Johns River withdrawals
- SFWMD/Kissimmee River studies



Being Drought Smart



The “Hydro-illogical Cycle”





Being “Drought Smart”

- Efficient use during times of normal rainfall allows recharge of surficial and ground water resources.
- During times of water shortage, effective conservation allows more users to share limited resources.



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Promoting Conservation in Our Public Water Supplies

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Micro-drip emitters provide just enough water to roots.



Sprinklers with micro-spray heads can conserve up to 40% more water than other devices. Photos by St. Johns River Water Management District.

Welcome to the Conserve Florida Water Conservation GUIDE! [Login Here](#)

(Note: GUIDE application is not supported by the Safari Web browser)



A leaky faucet can waste 100 gallons a day.

The GUIDE (<http://www.conservefloridawater.org/guide.asp>) is your utility's pathway toward improved water use efficiency, which helps protect Florida's unique water resources while saving money for both you and your customers. Development of the GUIDE is required by section 373.227, Florida Statutes, and has been a cooperative undertaking of the Florida Department of Environmental Protection, the South Florida Water Management District; the St. Johns River Water Management District; the Southwest Florida Water Management District; the Northwest Florida Water Management District; the Suwannee River Water Management District; the Florida Public Service Commission; the Utility Council of the American Water Works Association, Florida Section; the Utility Council of the Florida Water Environment Association; and the Florida Rural Water Association; as well as other individuals and organizations. Through a contract with the Department of Environmental Protection, software design and development services were provided by Malcolm Pirnie, Inc.



Drought Smart

- Formed from WCI recommendations
 - 💧 25 recommendations in 8 categories
- Focuses on improving water use efficiency as a drought response
- Implementation Plan



**Recommendations
for a
Drought Resistant Florida**
July 2007



Being Drought Smart





Long-Range Vision



2060: More People?

➤ 2007

- ◆ 18.7 million people, 4th largest state

➤ 2025

- ◆ 25.9 million people, 3rd largest state

➤ 2060

- ◆ 35.8 million people (1000 Friends of FL/BEBR projections)



2060: More Water Use?

- In 2005
 - ◆ 6.5 billion gallons per day.
 - ◆ Public water supply accounts for 37% of use
- In 2025
 - ◆ 8.5 billion gallons per day.
 - ◆ Public water supply becomes the largest user & accounts for 43% of total use
- In 2060
 - ◆ ??



2060: Reached Resource Limits?

- Even more areas with groundwater withdrawal caps?
- Forced to decide among water use sectors?



Water Resource Vision

- **Even more reuse of reclaimed water:**
 - 💧 Achieve close to 100% reuse statewide.
 - 💧 Potable quality water is not being used for irrigation.
 - 💧 Reuse is valued as a resource -“Water is Water”.



Water Resource Vision

- **All utilities adopt water rates that:**
 - ◆ Promote water conservation and significant savings realized.
 - ◆ Promote reuse and its value as a resource.
 - ◆ Adopt drought rates prior to crisis for implementation as needed.



Water Resource Vision

- **Low impact development is the norm:**
 - 💧 Florida Friendly Landscapes are always installed and are socially and aesthetically accepted.
 - 💧 Irrigation accomplished by properly installed, high-efficiency equipment and/or climate-based controllers.
 - 💧 Stormwater reused on site.
 - 💧 BMPs routinely implemented.
 - Green roofs installed
 - Only pervious concrete used



Water Resource Vision

➤ Water Conservation

- ◆ Per capita goals established and met.
- ◆ Water and energy efficient appliances always used in new developments.
- ◆ Older homes and businesses have been retrofitted with efficient appliances.
- ◆ Agricultural irrigation uses most efficient methods.



Water Resource Vision

➤ **Water Supplies and Climate Change:**

- ◆ Impacts of climate change on water management systems have been evaluated and quantified.
- ◆ Decisions to develop water resources adequately incorporate a complete analysis of effects of that development on climate change.
- ◆ Effects of climate change on water resources minimized and mitigated.
- ◆ Diverse water supplies are developed – no one source meets all the needs.



Thank You

Questions?