

Solving the Water Puzzle

A science-based collaborative approach



Florida's Water Management Districts

- Special districts
 - *Not state agencies*
 - *Ad valorem taxing*
- Governing Board
 - *Appointed by Governor*
 - *Confirmed by Senate*
 - *Unpaid volunteers*



SWFWMD Areas of Responsibility



Water Supply



Water Quality



Natural Systems



Flood Protection

MISSION

**Protect Water
Resources**

**Meet Water
Needs**

**Reduce Flood
Risks**

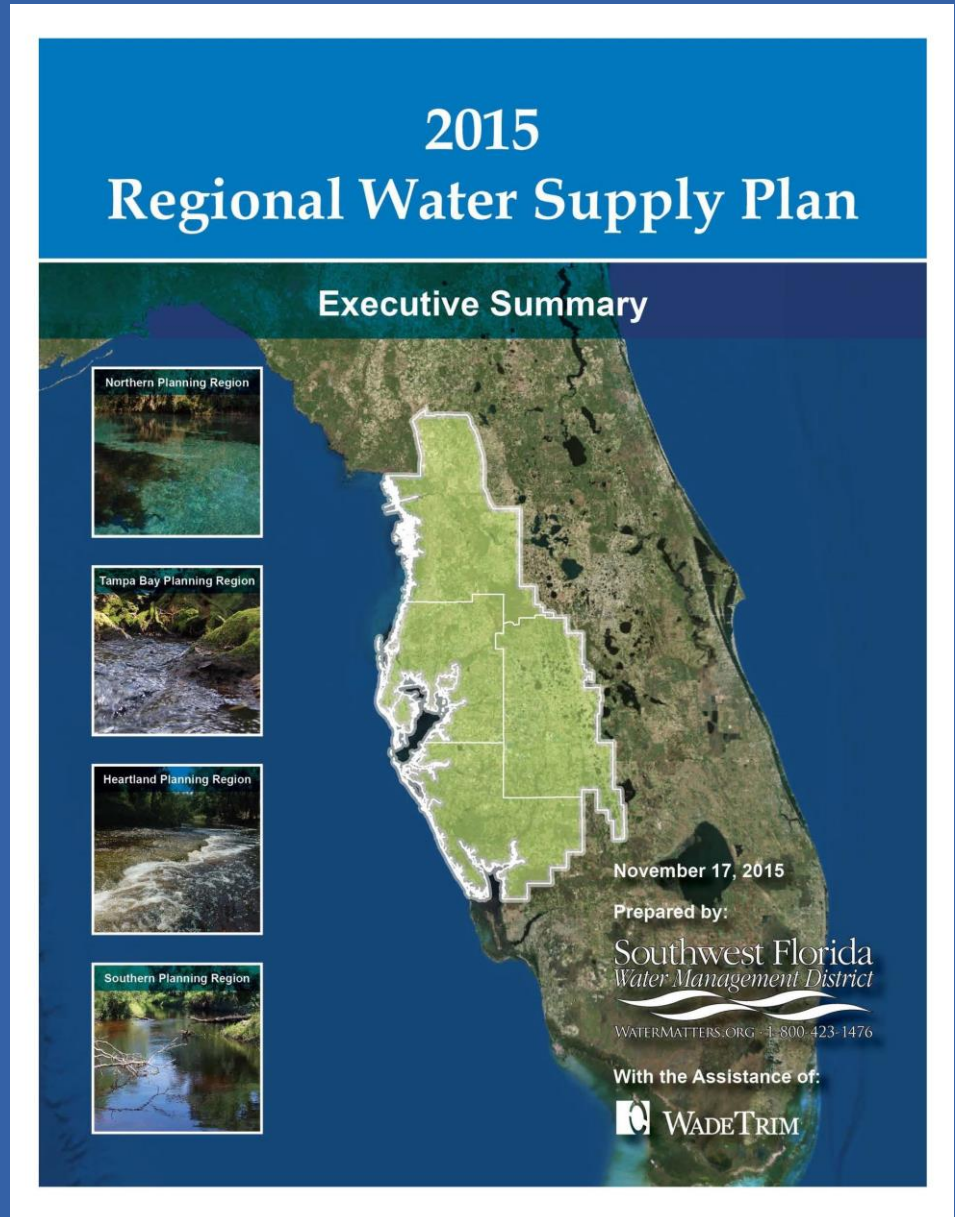
Regulation

- **Water Use**
 - Actual need?
 - Protect existing users
 - Protect water resources
- **Environmental Resource**
 - Reduce flooding risk and pollution from new development
 - Protect wetlands
- **Well Construction Permits**
 - State standards
- **Water Shortage Orders**



Planning

- Needs
- Sources
- Costs

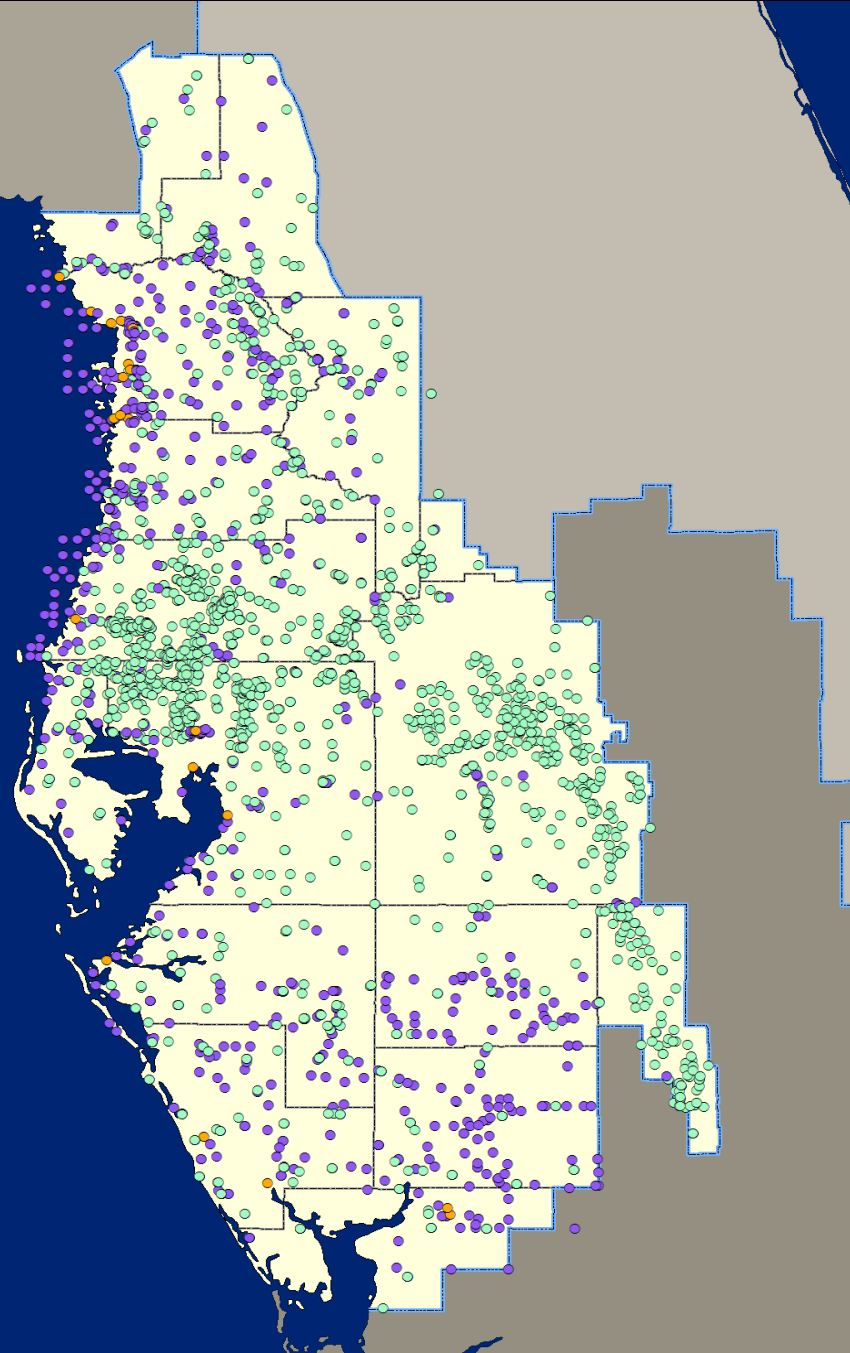


Data Collection

Active Data Collection Sites - April 2017

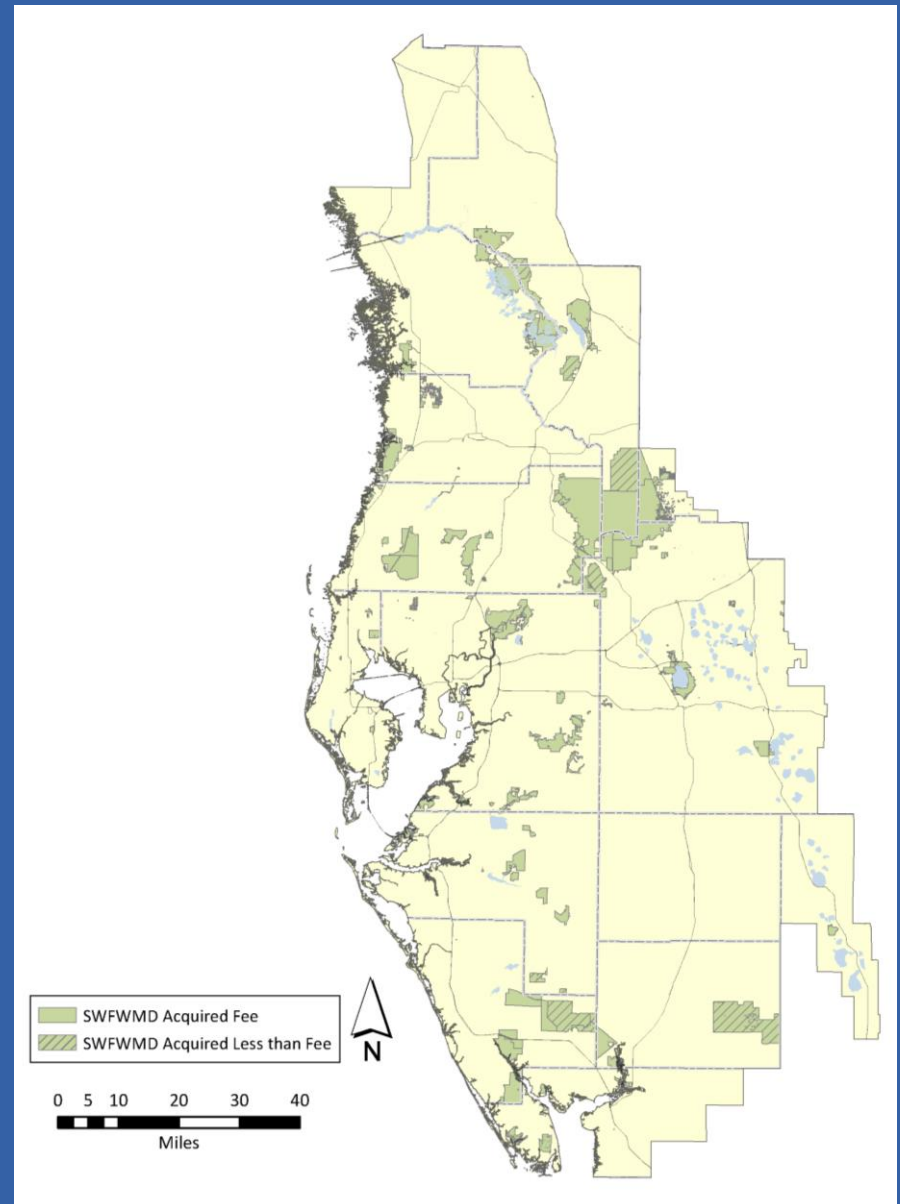
- > 3300

- Hydrologic Data
- Water-Quality Data
- Hydrologic & Water-Quality Data



Land Acquisition and Management

- > 450,652 acres
 - 106,000 easements
- Protect and restore
- Most open to public
- Recreation Guide
 - *WaterMatters.org*



Environmental Restoration

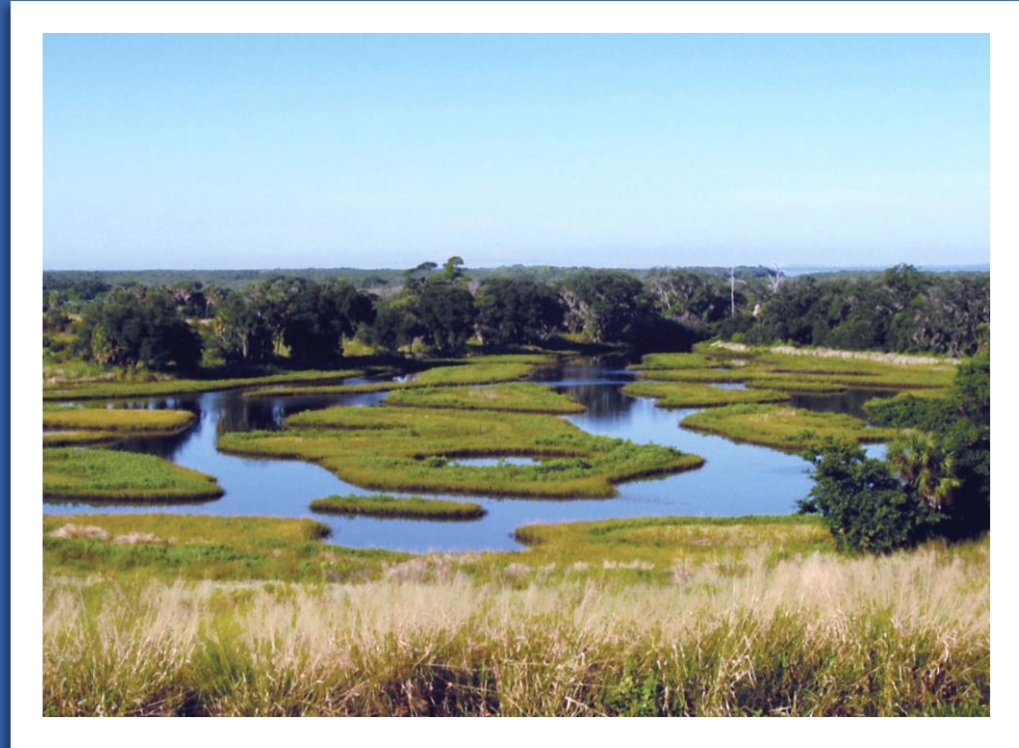
SWIM Projects

Water Quality

- Treat stormwater to reduce pollutants
- > 140,000 acres of watershed treated

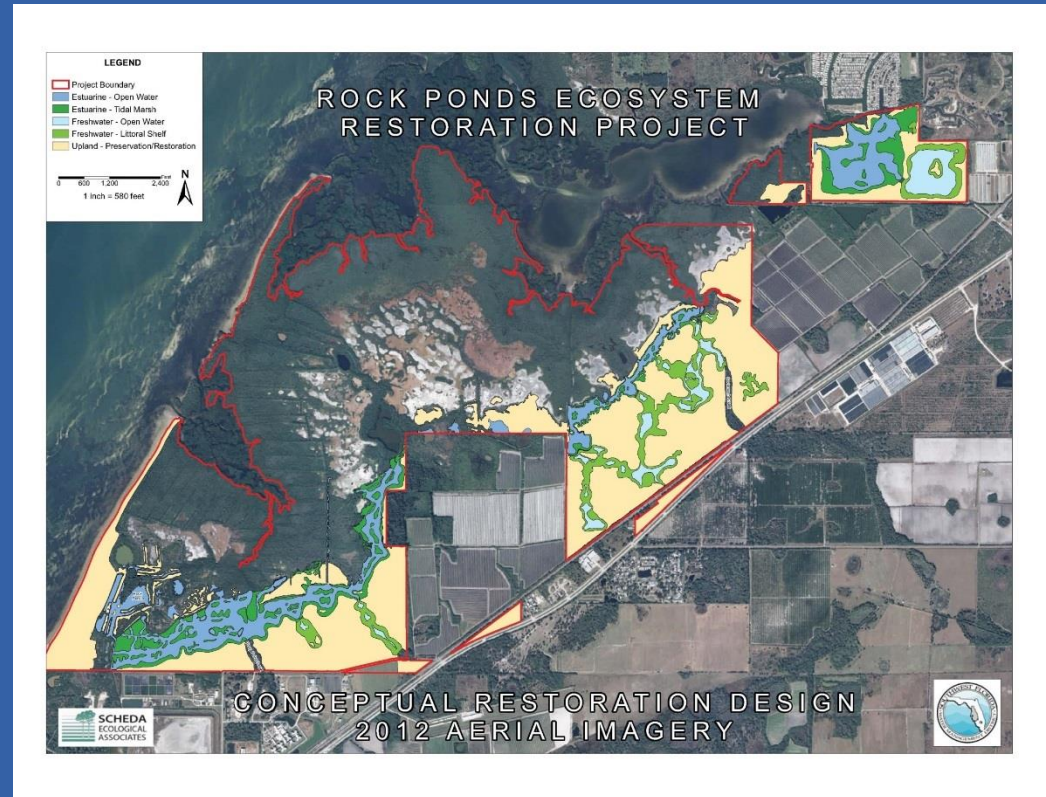
Natural Systems

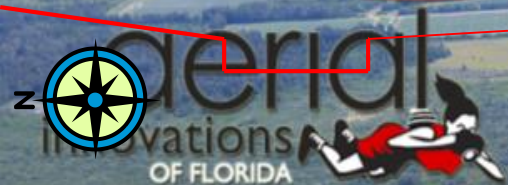
- Restore, enhance and preserve natural habitats
- > 11,000 acres restored



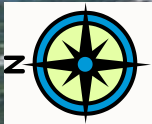
Rock Ponds Project

- 645 upland acres
- 398 wetland acres
- 16.2 miles new shoreline
- 972,127 plants
- 1.6 million cu. yards of dirt moved
 - *Equals football 611 feet high*





Rock Ponds Western Sector –
“Pre-Restoration” November 2013



Lagoon with 11 new miles
of intertidal shoreline

Observation
Mounds

Rock Ponds Western Sector –
Post Restoration – August 2015

437 ac





Rock Ponds Central Sector – “Pre-Restoration” – November 2013



Lagoon with 3.2 miles of new intertidal shoreline

Cascading freshwater wetlands

Rock Ponds Central Sector – “Post Restoration”- August 2015

453 ac



Cockroach Bay Road

Cockroach Bay

Rock Ponds Borrow Pit Sector –
“Pre-Restoration” – November 2013



Cockroach Bay Road

Cockroach Bay

Water Flow

Freshwater Wetland

Intertidal Lagoon

2.2 miles of new
intertidal shoreline

Rock Ponds Borrow Pit Sector – “Post
Restoration” – August 2015

153 ac

District Water Control Structures

Total 81

- Water Conservation
- Flood Control (only 18)
- Salinity Barrier



*Water Conservation
Brogen Bridge*



*Flood Control
Tampa Bypass Canal*



*Salinity Barrier
Rocky Creek*

Tampa Bypass Canal Structure S-160

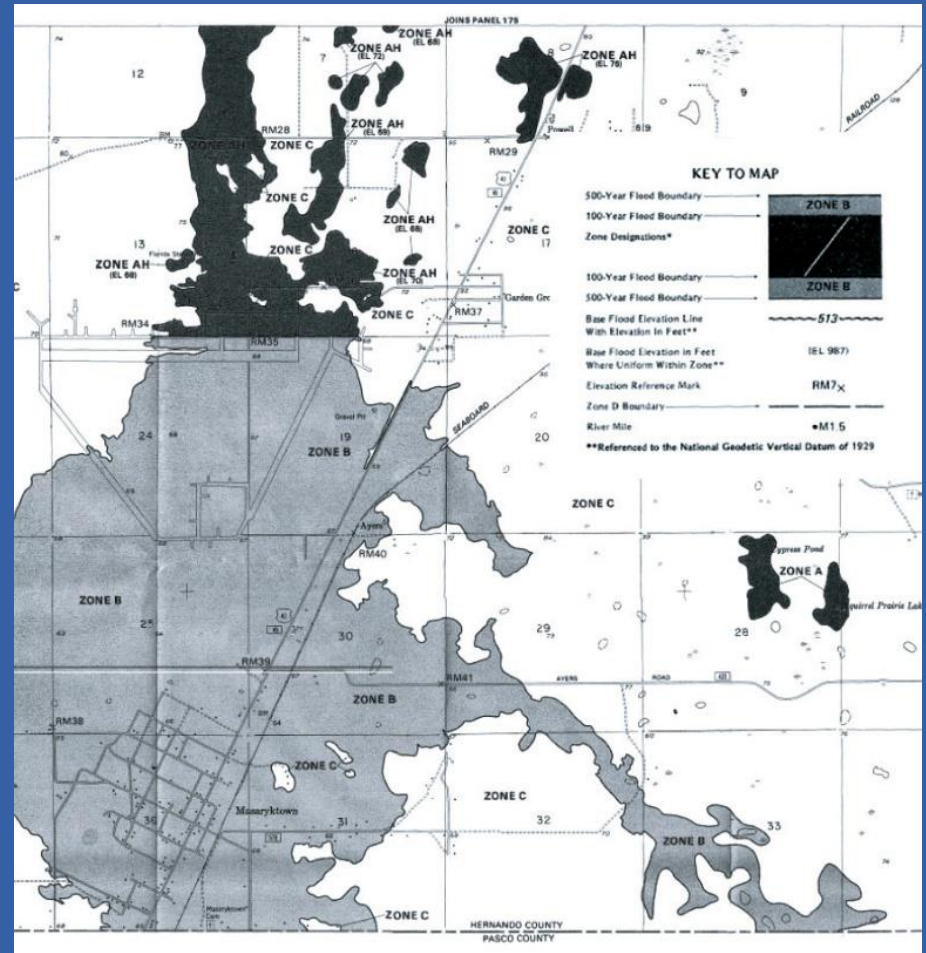
Largest Volume Water Control Structure in Florida: 26,700 CFS capacity



Flood Protection

Non-Structural

- Watershed Management Program
- FEMA mapping
- Land acquisition





Funding Priorities

- Sustainable water supply
 - *Alternative water source development*
 - *Water storage (reservoirs)*
 - *Reclaimed water*
 - *Water conservation*
- FARMS
- Environmental restoration
 - *SWIM program*
- Stormwater improvements
 - *Water quality and flood protection*

Cooperative Funding Since 1988

- **\$1.5 billion** District-funded
- **\$2.9 billion** combined regional investment
- **Five-year avg. annual expenditure: \$72 million**



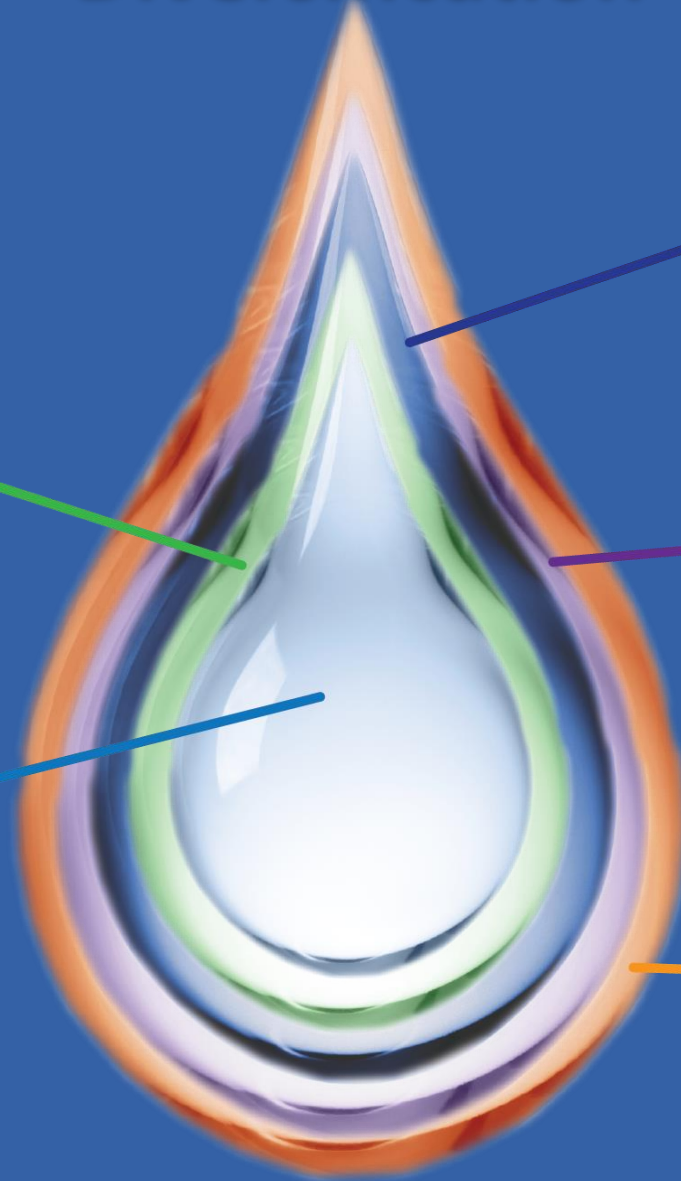
Diversification



Conservation



Groundwater



Surface Water



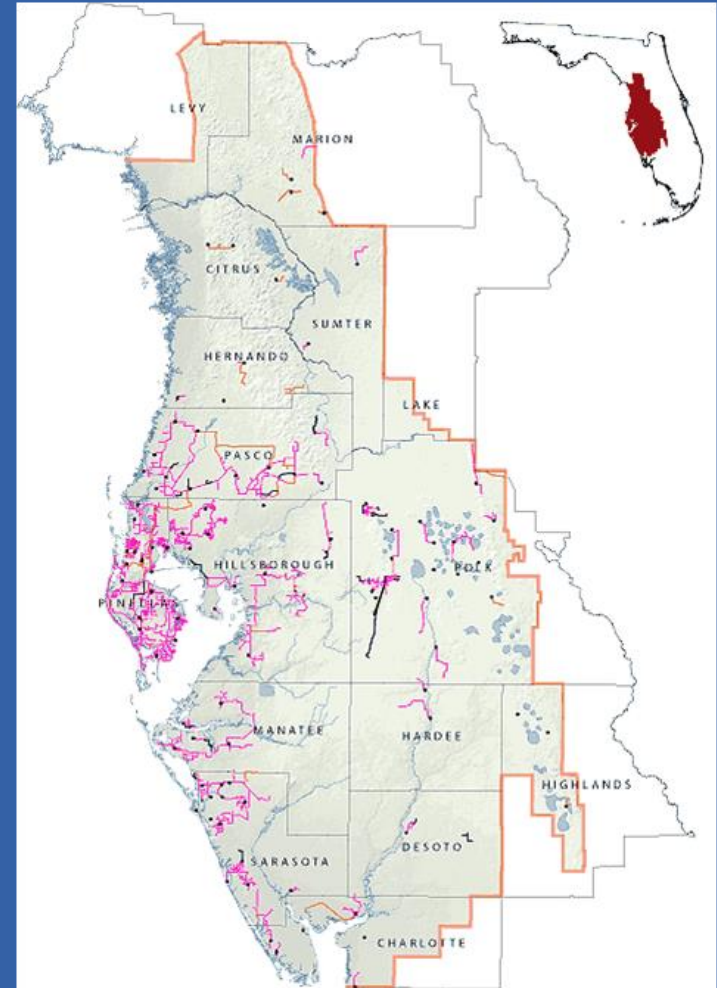
Reclaimed Water



Stormwater

SWFWMD Reuse Funding and Benefits

- 364 projects funded since 1987
- \$435M leveraged \$1 Billion
- 970 miles of pipelines
- 248 mgd reuse capacity
- 112-134 mgd of new water
- 13% of Districtwide water use



2015 Reclaimed Water

District
average reuse
42%
utilization*

Florida
average reuse
30%
utilization*

Nationwide
average reuse
7%
utilization

- 158 mgd beneficial reuse out of 376 mgd (FDEP)
- 499 mgd beneficial reuse out of 1671 mgd (FDEP)
- 2,240 mgd reuse out of 32 **billion** gpd (USEPA)

Reclaimed Water Facts

- 116,000 residences
- 189 golf courses
- 478 parks
- 174 schools
- 8 power plants
- 2 additional power plants (2015)
- 8,700 acres of agriculture
- 43 Cooling Towers



Indirect Potable Reuse

(Planned versus unplanned examples)

- **Unplanned**

- Mississippi River
- Ohio River
- Trinity River (Texas)
- Colorado River

- **Planned**

- Orange County Groundwater Replenishment System (California)
- CONSERV II (Orlando)
- Upper Occoquan (Washington DC Metro Area)

Did You Know?

- > 2 dozen utilities
 - Populations up to 2 million
 - Seasonal flows of water sources > 50 percent wastewater
- Trinity River
 - Houston water supply
 - Dry season flow mostly wastewater
- Colorado River
 - Water source: 40 million people; irrigates 5.5 million acres (15% of nation's crops)
 - Receives discharge from > 60 wastewater plants

Potable Reuse: *An Efficient Option*

(either Direct or Indirect)

- Statewide, 840 mgd not being reused
 - *685 mgd of potential in just 6 coastal counties*
- 150 mgd of potential in SWFWMD
 - *123 mgd of potential in Hillsborough/Pinellas alone*

Shared Interests

1. Follow the science
2. Be open and inclusive
3. Collaborate on solutions

