

The background of the slide is a light blue gradient with several realistic water droplets of various sizes scattered across it. The droplets have highlights and shadows, giving them a three-dimensional appearance.

LEE COUNTY WATER QUALITY TOTAL MAXIMUM DAILY LOAD (TMDL) UPDATE

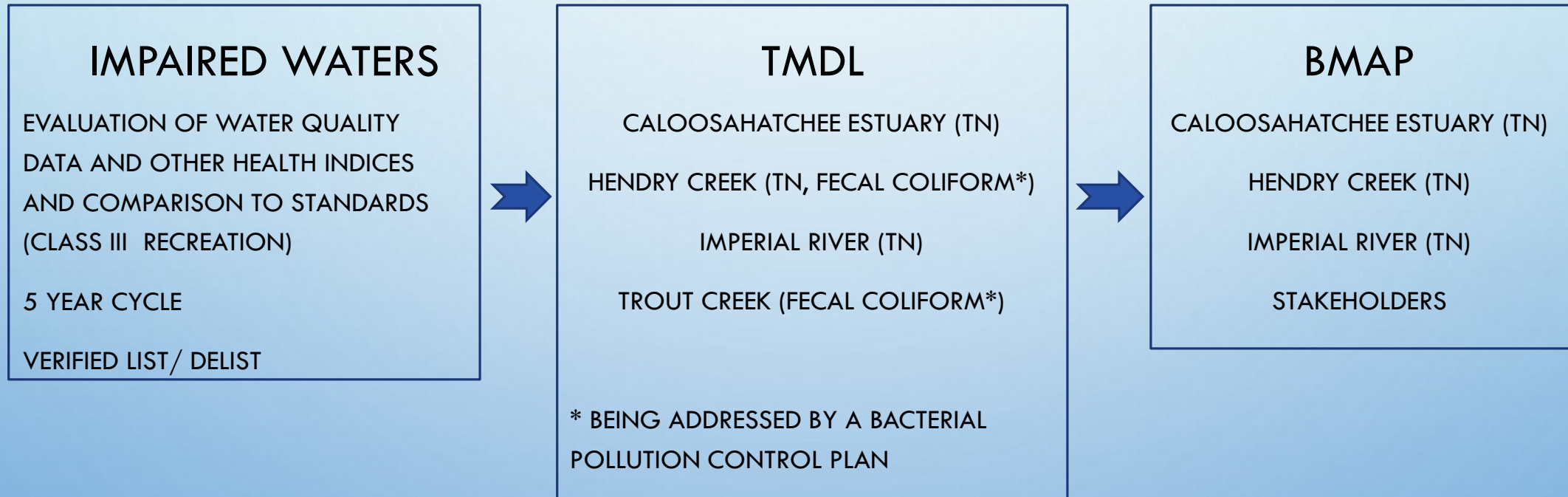
ROLAND OTTOLINI, PE, DIRECTOR, NATURAL RESOURCES DIVISION

PRESENTED TO THE LEE COUNTY BOCC, WORKSHOP DECEMBER 5, 2017

TIMELINE

- MARCH 15, 2016 WATER QUALITY COMPREHENSIVE REVIEW – BOCC WORKSHOP
- MAY 16, 2017 TMDL/BMAP UPDATE- BOCC WORKSHOP
- JUNE 2017 TIDAL CALOOSAHATCHEE BMAP NITROGEN LOAD REDUCTION PLAN COMPLETE
- SPRING 2018 FDEP ESTIMATED COMPLETION OF REVISED TMDL FOR CALOOSAHATCHEE

PROCESS



TOTAL MAXIMUM DAILY LOAD (TMDL) OBLIGATION

CALOOSAHATCHEE ESTUARY

- TMDL FOR TOTAL NITROGEN ESTABLISHED IN DECEMBER 2009, BASED ON LIGHT PENETRATION AND CHLOROPHYLL A LEVELS AT SAN CARLOS BAY
- REQUIRES 140,853 LB TN REDUCTION (ANNUALLY)
- BASIN MANAGEMENT ACTION PLAN (BMAP) – NOVEMBER 2012
- REDUCED TO DATE 46,118 LBS (ANNUALLY) (33%), REPRESENTED BY 40 PROJECTS
- REMAINING OBLIGATION 94,735 LBS (ANNUALLY), BY 2032 (20 YEARS, 5 YEARS ADDED)
- FDEP TRACKS PROGRESS THROUGH ANNUAL REPORTS AND 5 YEAR PLANNING EFFORTS
- REQUIREMENTS ARE ENFORCED THROUGH SECRETARIAL ORDER AND NPDES MS4 PERMIT

TOTAL MAXIMUM DAILY LOAD (TMDL) OBLIGATION

HENDRY CREEK

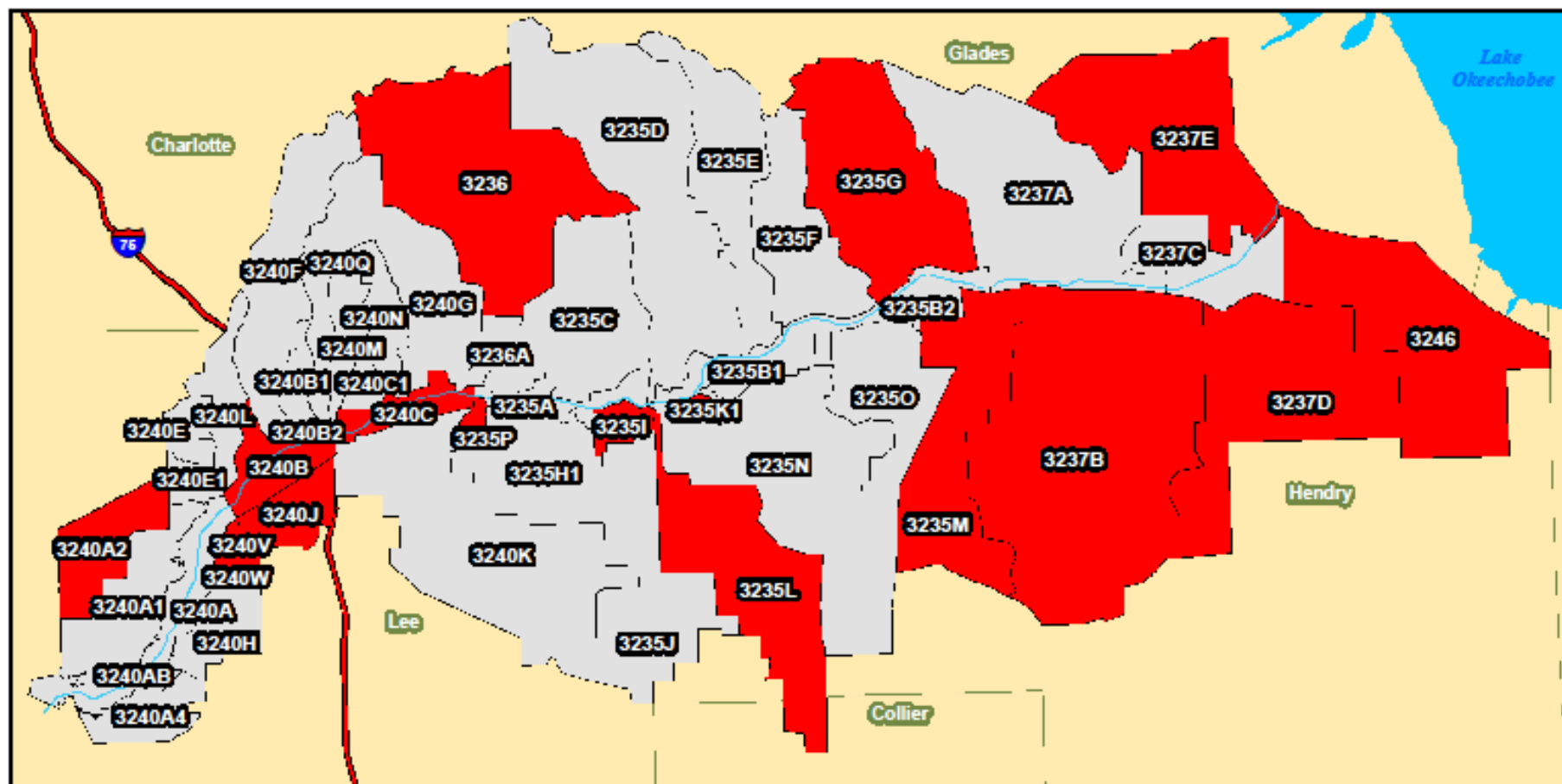
- TMDL FOR TOTAL NITROGEN, BASED ON LOW DISSOLVED OXYGEN
- REMOVED 6,680 LBS, REMAINING OBLIGATION 3,404 LBS (ANNUALLY)

IMPERIAL RIVER

- TMDL FOR TOTAL NITROGEN, BASED ON LOW DISSOLVED OXYGEN
- REMOVED 1,597 LBS, REMAINING OBLIGATION 0 LBS (ANNUALLY)





CALOOSAHATCHEE TMDL UPDATE

- FDEP UPDATING TMDL MODEL TO INCLUDE WATERSHEDS EAST TO LAKE OKEECHOBEE
- REVISED TMDL EXPECTED IN SPRING 2018
- DATA AND EARLY MODEL RESULTS DEMONSTRATES TARGET USED FOR EXISTING TMDL IS INACCURATE
- LOCATION OF IMPAIRMENTS AND REQUIRED NUTRIENT REDUCTIONS ARE LIKELY TO CHANGE AND BEING VETTED BY FDEP, SFWMD, AND STAKEHOLDERS



Caloosahatchee

Verified List

-  WBID
-  Impaired
-  County
-  Interstate



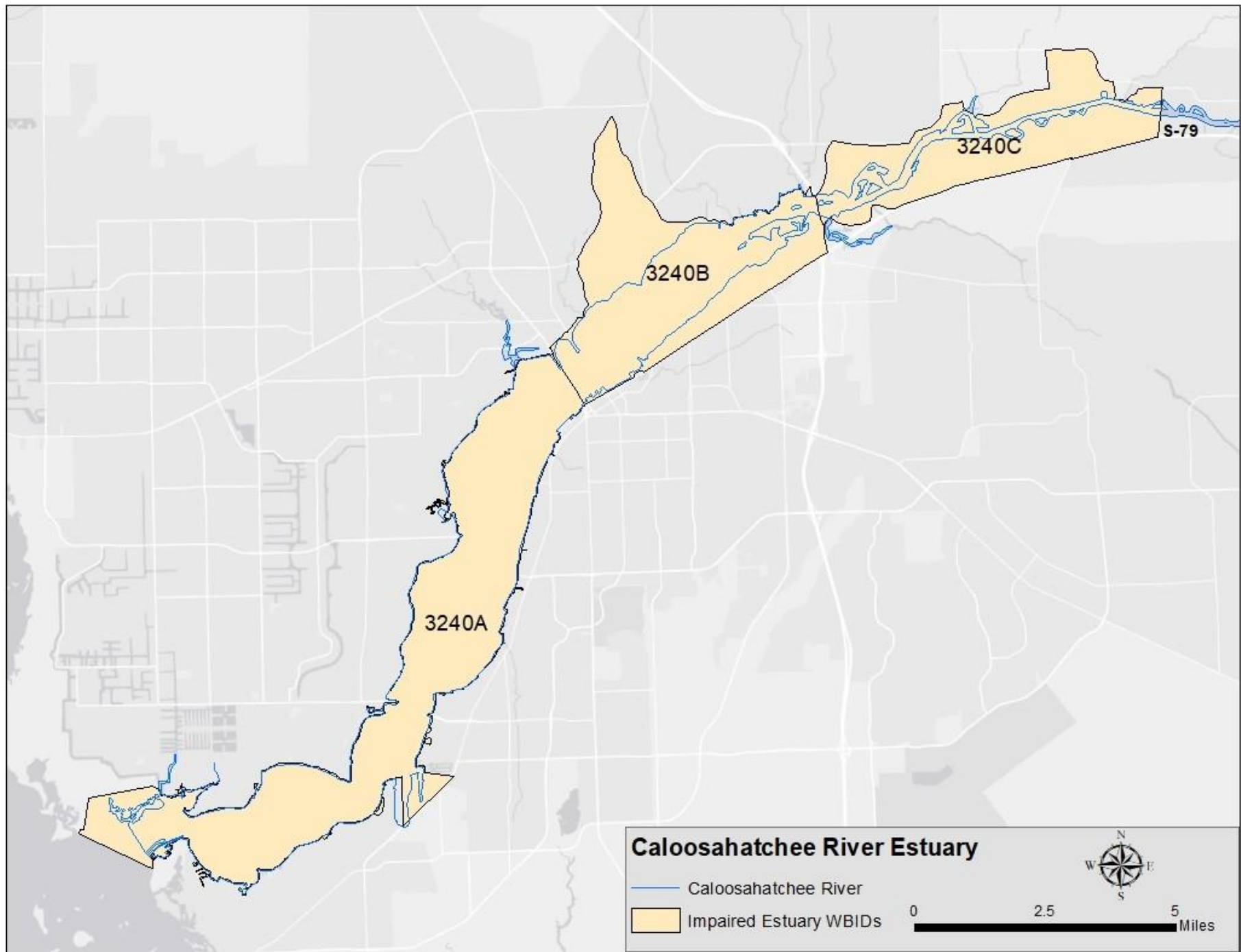
0 5 10 20 Miles

This map is not for legal decision making purposes.

Final Verified Listings

WBIDs with only one listing:
 Fecal Coliform: 3235G, 3235I, 3235K1, 3235P, 3238, 3240U, 3240V, 3240W
 Nutrients (Algal Mats): 3235M
 Nutrients (Macrophytes): 3237B, 3237D
 Un-ionized Ammonia: 3240A2
 Iron: 3240B, 3240C, 3240J

WBIDs with more than one listing:
 3235L Townsend Canal: Nutrients (Macrophytes), Nutrients (Total Phosphorus)
 3237E C-19 Canal: Dissolved Oxygen (Percent Saturation), Nutrients (Macrophytes), Nutrients (Total Nitrogen)
 3246 S-4 Basin: Nutrients (Macrophytes), Nutrients (Total Nitrogen)



TIDAL CALOOSAHATCHEE BMAP NITROGEN LOAD REDUCTION PLAN

LEE COUNTY COMPLETED STUDY IN JUNE 2017 TO IDENTIFY PROJECTS AND ACTIVITIES NECESSARY TO MEET BALANCE OF BMAP OBLIGATIONS

- **WATER QUALITY ANALYSES** – WATER QUALITY AND FLOW DATA, TRENDS
- **PRIORITY BASIN RANKING** – NUTRIENT CONCENTRATION, LOADING, LEVEL OF URBANIZATION
- **PROJECT SITE SCREENING** – PUBLIC/PRIVATE VACANT PARCEL LIST, SORTED BY SIZE
- **LOAD REDUCTION ALTERNATIVES** – REVISED C2020 CREDITS, SEPTIC CONVERSION, REUSE, PET WASTE ORDINANCE, STREET SWEEPING AND CATCH BASIN CLEAN-OUT, AQUATIC WEED HARVESTING, NEW PROJECTS
- **PROJECT COSTS** – PLANNING LEVEL, FDEP DATABASE, LEEPA
- **ALTERNATIVES RANKING** – MATRIX INCLUDING PUBLIC OWNERSHIP, CONTIGUITY WITH OTHERS, SIZE, PROXIMITY TO WATERBODY, LOCATION IN WATERSHED, EXISTING LAND USE, SOILS, POLLUTANT LOAD REDUCTION CAPABILITY, ACCESSIBILITY, COST, OPERATIONS & MAINTENANCE
- **SUMMARY AND RECOMMENDATIONS** – LIST OF PRIORITY PROJECTS TO MOVE FORWARD IN ORDER TO SATISFY TMDL OBLIGATIONS

C20/20 WATER QUALITY PRIORITY

- RANKING CRITERIA HAS BEEN ADJUSTED TO EMPHASIZE POTENTIAL FOR WATER QUALITY ENHANCEMENT
- WATER QUALITY PROJECTS RESULT IN TMDL CREDITS, PARTNERSHIP OPPORTUNITIES
- WATER QUALITY PROJECTS CAN PROVIDE ENVIRONMENTAL VALUE TO DISTURBED SITES
- PAST EXAMPLES INCLUDE POWELL CREEK PRESERVE, POP ASH CREEK PRESERVE, BILLY'S CREEK, HARNIS MARSH PRESERVE WEST



Natural Resources (Water Quality) CIP Budget

- Caloosahatchee TMDL Reduction
 - (\$2M Set Aside Annually in FY16-17 & FY17-18)

- Three New Projects Approved this Year:
 - FY17-18 (Design two projects)
 - ✓ Bob Janes Restoration Project - \$300,000
 - ✓ Powell Creek/Old Bridge Park Restoration - \$200,000
 - FY18-19 (Construction)
 - ✓ Caloosahatchee Canal L-3 Rehabilitation - \$300,000 (and \$200,000 from FY17-18)



What That Gets In 5 Years

FY 17-18

Caloosahatchee TMDL (Projects Identified by 2017)	\$4.4M
Lakes Park Littoral Zone	\$1.1M
Nalle Grade Stormwater Park	\$3.6M
3 New Projects	\$1.0 M



FY 18-19

Deep Lagoon Hydrological Restoration (Construction)	\$3.0M
Sunniland / 9 Mile Run Drainage	\$550,000

FY 19-20

Hendry Creek West Branch Improvements (Construction)	\$1.5M
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Total - \$15 Million

FUNDING

HISTORICALLY

- LAND ACQUISITION THROUGH C2020 PROCESS
- DESIGN, CONSTRUCTION AND OPERATIONS THROUGH GENERAL FUNDS
- GRANT FUNDS: FDEP- TMDL PROGRAM, 319; DIRECT STATE APPROPRIATION, SFWMD
- PARTNERSHIPS WITH OTHER TMDL STAKEHOLDERS; CREDIT BASED ON PERCENT COST SHARE

CHALLENGES

- SIGNIFICANT REVENUES NEEDED FOR:
 - LAND
 - CAPITAL
 - OPERATIONS AND MAINTENANCE
- BALANCE OF OBLIGATION BECOMES MORE CHALLENGING
- CONSIDER RESTORE ACT (DEEP WATER HORIZON OIL SPILL) PROCEEDS
 - REQUIRES MULTIYEAR IMPLEMENTATION PLAN APPROVED BY US TREASURY

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QUESTIONS?