

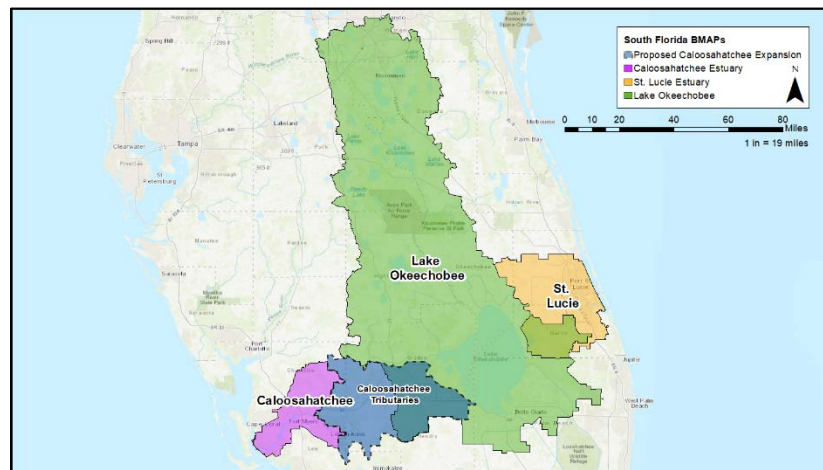
# Prioritized and Data-Driven

## DEP's Approach to Updating the Northern Everglades BMAPs



### ACHIEVING MORE, NOW

- New, more data-driven approach
- Focusing on smaller subdivisions called **“targeted restoration areas”** (e.g., basins, sub-basins, or tributaries) in each BMAP
- Evaluating TN, TP<sup>1</sup>, and flow in all BMAPs
- Comparing water quality to appropriate benchmarks
- Using the latest information from SFWMD<sup>2</sup> evaluations, identify projects tailored to each targeted restoration area
- Soliciting stakeholders, local governments, and the public through an RFI<sup>3</sup> for additional projects



### APPROACH

1. Identify smaller areas (e.g., basins, sub-basins, or tributaries) for focused restoration
2. Delineate each area and locate relevant water quality stations
  - a. Obtain existing data for TN, TP, and flow
  - b. Recommend additional monitoring where data are lacking
  - c. Supplement with information from water quality models where appropriate
3. Determine benchmarks for evaluating water quality and water storage
  - a. Lake Okeechobee— applicable numeric nutrient criteria (e.g., peninsular for streams), and consult LOWCP<sup>4</sup> for indications of water quality and/or flow issues
  - b. Caloosahatchee—applicable numeric nutrient criteria
  - c. St. Lucie— applicable numeric nutrient criteria, TMDL<sup>5</sup> target concentrations
  - d. Rely on existing SFWMD information for water storage needs for each BMAP
4. Review measured data
  - a. Calculate most recent 5-year average TN and TP concentrations (WY14-WY18)
  - b. Compare concentrations to established benchmarks

<sup>1</sup> Total Nitrogen, Total Phosphorus

<sup>2</sup> South Florida Water Management District

<sup>3</sup> Request for Information

<sup>4</sup> Lake Okeechobee Watershed Construction Project

<sup>5</sup> Total Maximum Daily Load, a water quality restoration target



- c. Consult flow-weighted mean (FWM) concentrations and unit area loads, where appropriate to better understand conditions.
5. Identify criteria for implementation and funding, and describe restoration types (e.g., water quality, flow) recommended for each targeted restoration area
  - a. Calculate expected reductions from existing and recommended projects using measured data wherever possible
  - b. Identify where additional projects are necessary
6. Prioritize areas where new projects would be most impactful to overall restoration
  - a. Use water quality (TN and TP) and flow data
  - b. Compare to benchmarks for each basin
7. Publish an RFI for each BMAP to solicit for additional projects and evaluate responses based on criteria established for each targeted restoration area
8. Evaluate progress in targeted restoration areas annually by comparing measured data to:
  - a. Benchmarks
  - b. TMDL targets for subwatersheds or basin as defined in BMAP
9. Use responses from RFIs and existing project lists, combined with the prioritized areas and recommended restoration need to inform future budget requests for the agency
10. Update existing water quality models based on expanded monitoring efforts

### OUTCOMES

- Identify data needs and revised monitoring plans for TN, TP, and flow
- Establish benchmarks and comparison metrics
- Prioritize targeted restoration areas and selection criteria
- List projects and project types needed by targeted restoration area
- Establish timeline for implementation to assist with meeting milestones
- Provide recommendations to inform the department's regulatory efforts
  - o Where to prioritize inspections
  - o When to conduct detailed permit reviews

### SCHEDULE FOR UPDATING THE BMAPs

- Present approach to stakeholders:
  - o **Lake Okeechobee—July 30 meeting**
  - o St. Lucie—late August meeting
  - o Caloosahatchee—early September meeting
- Present status and results to date of Steps 1-6:
  - o **Lake Okeechobee—July 30 meeting**
  - o St. Lucie—late September meeting
  - o Caloosahatchee—early October meeting
- Publish RFI (Step 7):
  - o **Lake Okeechobee—late August/early September**
  - o St. Lucie and Caloosahatchee—late October
- Release draft BMAPs to stakeholders for comment:
  - o **Lake Okeechobee—early November**
  - o St. Lucie—late November
  - o Caloosahatchee—early December
- Updated **all BMAPs by end of January 2020**

# Prioritized and Data-Driven

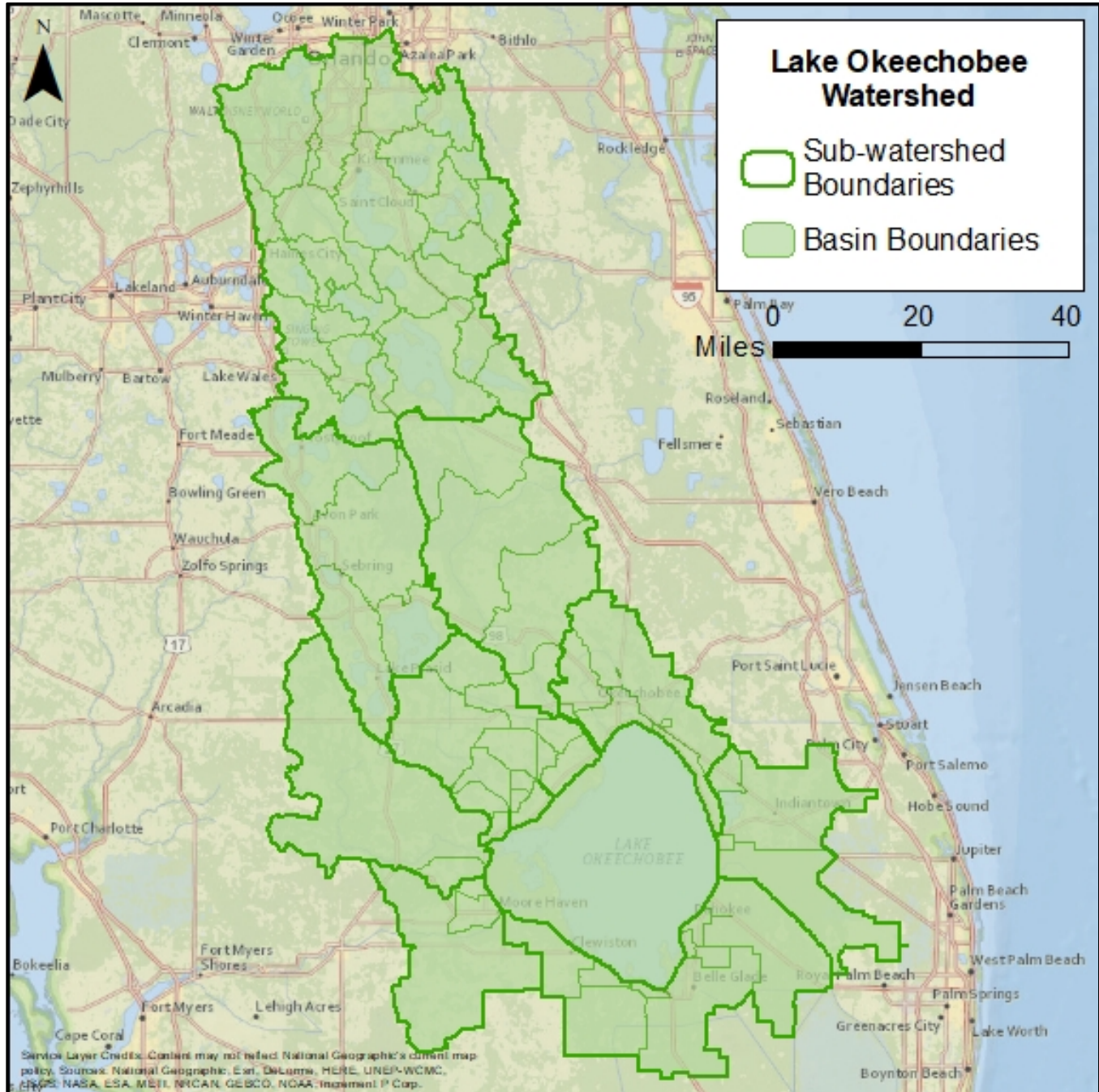
DEP's Approach to Updating the Northern Everglades BMAPs



DRAFT status July 30, 2019

## APPROACH

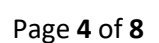
1. Identify smaller areas (e.g., basins, sub-basins, or tributaries) for focused restoration







2. Delineate each area and locate relevant water quality stations
  - a. Obtain existing data for TN, TP, and flow
  - b. Recommend additional monitoring where data are lacking
  - c. Supplement with information from water quality models where appropriate





3. Determine benchmarks for evaluating water quality and water storage
  - a. Lake Okeechobee— applicable numeric nutrient criteria (e.g., peninsular for streams), and consult LOWCP for indications of water quality and/or flow issues
  - b. Rely on existing SFWMD information for water storage needs for each BMAP

### WY14-WY18 Average TP Concentration (mg/L)

 < 0.121

 0.121 - 0.180

 0.181 - 0.240

 > 0.240

### WY14-WY18 Average TN Concentration (mg/L)

 < 1.541

 1.541 - 2.310

 2.310 - 3.080

 > 3.080

4. Review measured data
  - a. Calculate most recent 5-year average TN and TP concentrations (WY14-WY18)
    - i. *So far, data from the water quality analysis (at stations with >50% availability) have been averaged, assigned to basins, and compared to the benchmarks.*
    - ii. *Data from additional stations are also being evaluated and assigned to other basins.*
  - b. Compare concentrations to established benchmarks
  - c. Consult flow-weighted mean (FWM) concentrations and unit area loads, where appropriate to better understand conditions.
    - i. *TP & TN FWM concentrations and unit area loads available from SFWMD.*



**DRAFT results of steps 4a and 4b:**





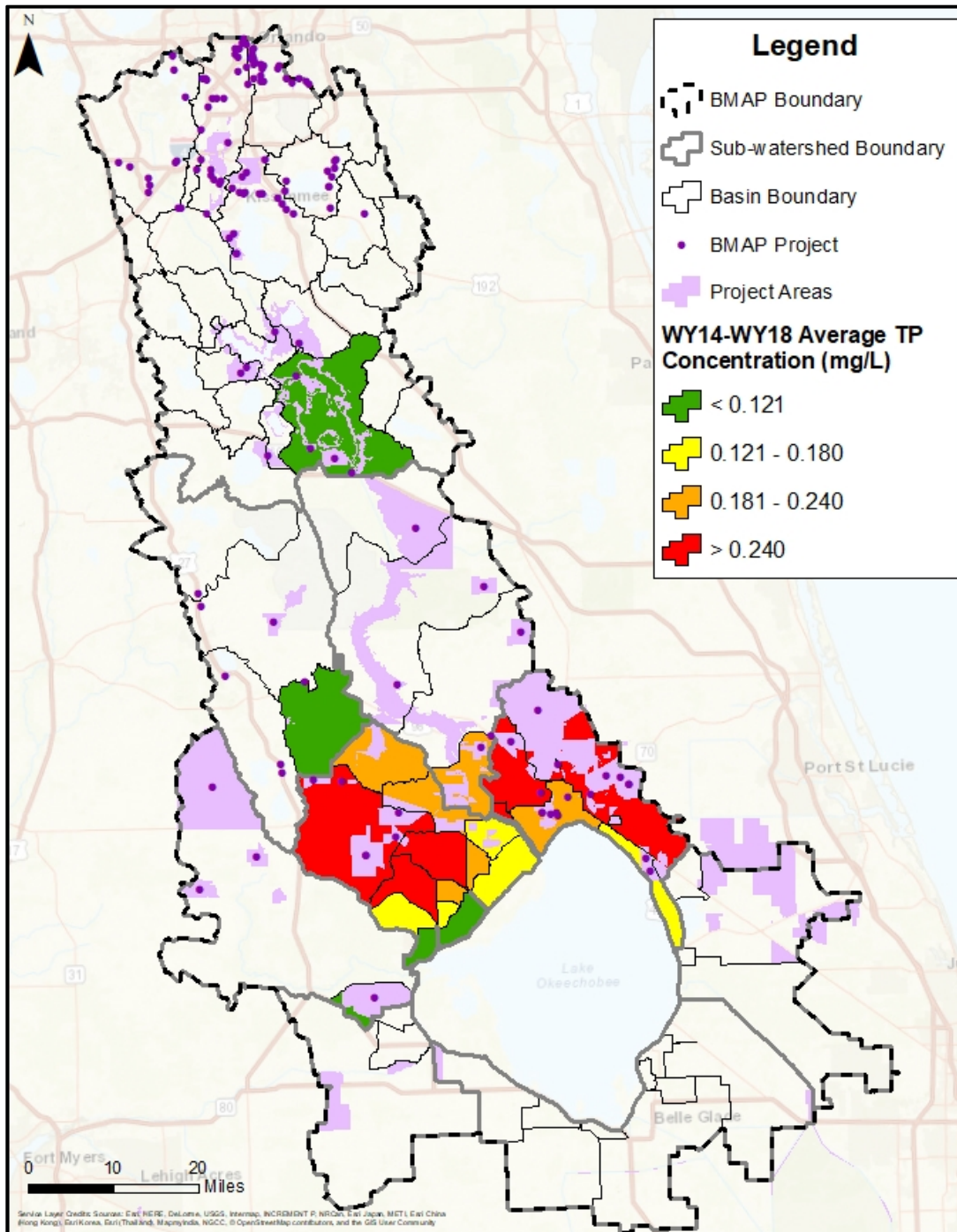


## Prioritized and Data-Driven

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5. Identify criteria for implementation and funding, and describe restoration types (e.g., water quality, flow) recommended for each targeted restoration area
  - a. Calculate expected reductions from existing and recommended projects using measured data wherever possible
  - b. Identify where additional projects are necessary to achieve benchmarks



6. Prioritize areas where new projects would be most impactful to overall restoration
  - a. Use water quality (TN and TP) and flow data
  - b. Compare to benchmarks for each basin