Horseshoe Cove and Suwannee Sound: Impaired Waters Assessment Overview

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Outline

Overview of Watershed Assessment Process

- Watershed Management Approach
- Determination of Impaired Waters
- What is an Assessment List?
- Data Sources Used to Develop Water Quality Assessments

IWR Database

Horseshoe Cove & Suwannee Sound – Impaired Waters Assessment Perspective

- DO Endangered Species Criteria
- Strategic Monitoring
- SHACP Monitoring Coordination
- Verified List of Impaired Waters, TMDLs, BMAPs and Alternative Restoration Plans

Florida DEP Webpages

- Strategic Monitoring
- Interactive Maps

What is the Biennial Assessment?

How Can You Get Involved?

Watershed Assessment – The Watershed Management Approach

Section 303(d) of the Federal Clean Water Act requires states to submit lists every two years of waters that do not meet water quality standards, including designated uses – "Impaired or Threatened Waters."

- Requires states to develop TMDLs for listed waters
- This work is carried out by DEP's Watershed Assessment Section

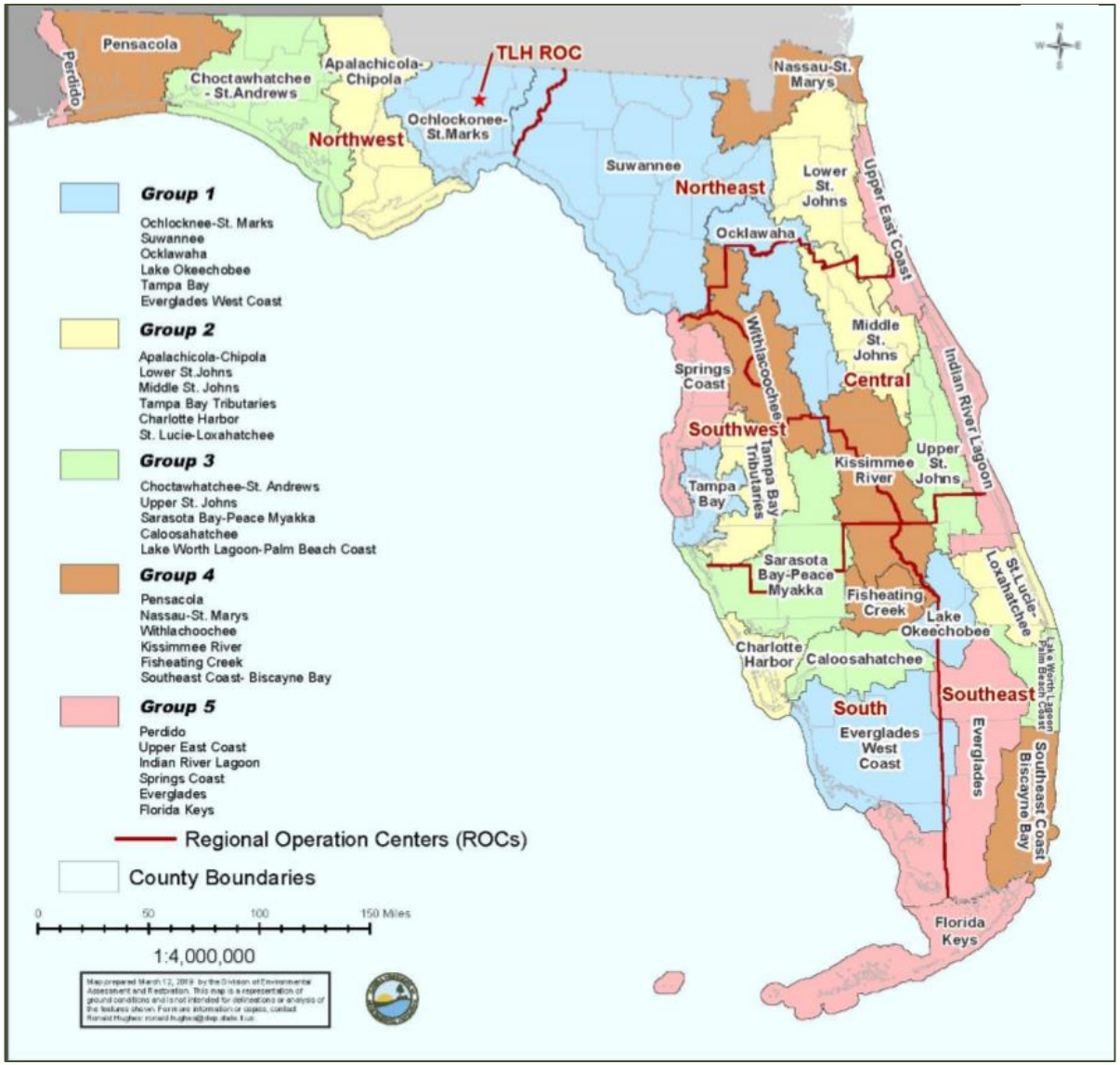
DEP also implements the TMDL Program as part of the Watershed Management Approach.

- Started in July 2000
- Monitoring and Assessment
- TMDL Development
- BMAP Implementation
- Watershed Restoration

Watershed Approach established five-phase cycle that rotates through all basins in the state over five-year period.

- Divided state's basins into five groups

Florida's Basin Groups



Determination of Impaired Waters

DESIGNATED USES ADDRESSED BY ASSESSMENT

Aquatic Life

- Nutrients, Field Parameters, Metals, Turbidity, Pesticides, Biological Assessment

Primary Contact and Recreation

- Bacteria, Beach Advisories

Fish and Shellfish Consumption

- Pathogenic Bacteria, Mercury, Shellfish Harvesting Classification

Drinking Water

- Metals, Pesticides, Bacteria

APPLICABLE RULES AND DOCUMENTATION

Water Quality Standards, 62-302, F.A.C.
Impaired Waters Rule, 62-303, F.A.C.
Total Maximum Daily Loads, 62-304, F.A.C.
NNC Implementation Document

What is an Assessment List?

All assessment determinations are retained as part of the department's administrative record.

- **Data for each WBID-Parameter combination are tracked on the Master List, an assessment list containing all assessments in the form of an Excel spreadsheet.**
- **Each WBID-Parameter combination is assessed per Chapters 62-302 and 62-303, F.A.C., and depending on the assessment status and category, may also be placed on additional assessment lists:**
  - Verified List – Impaired, needs a TMDL
  - Delist List – Removals from the Verified List
  - Study List – Not meeting standards, but needs additional information/data
  - Study List Removals - Removals from the Study List
- **Waterbodies on the Verified List and Study List are targeted for additional monitoring through the SMP.**

Assessment Category Descriptions*

EPA allows for states to use sub-categories based on the data sufficiency and management activities.

Category 1 – Not impaired (attains ALL uses)

Category 2 – Meets standards; not impaired

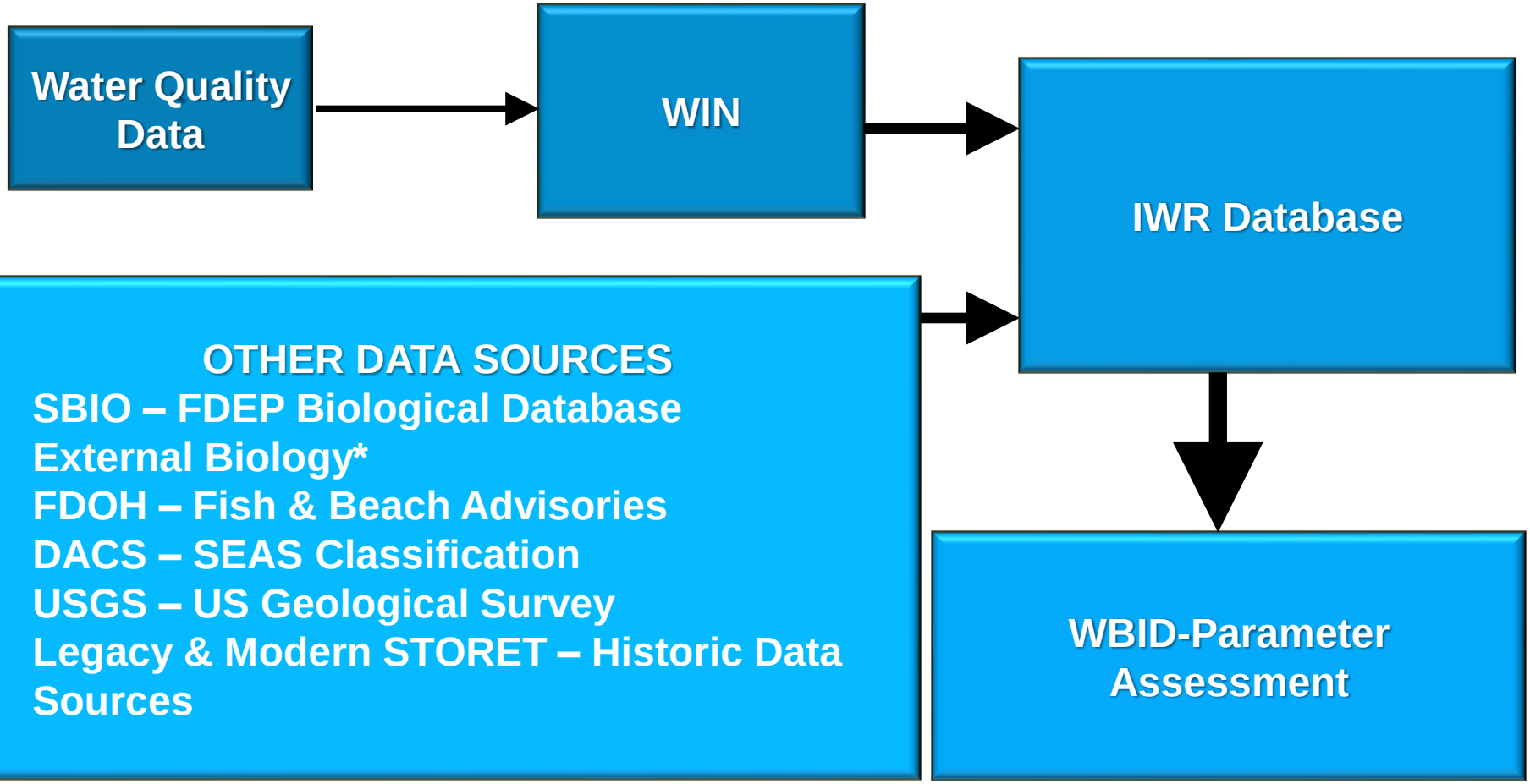
Category 3 – Insufficient data

Category 4 – Does not meet standards, but a TMDL is not needed

Category 5 – Does not meet standards; Impaired by a pollutant

**A detailed description of assessment categories can be found at:*
https://floridadep.gov/DEAR/Watershed-Assessment-Section

Data Sources Used to Develop Water Quality Assessments

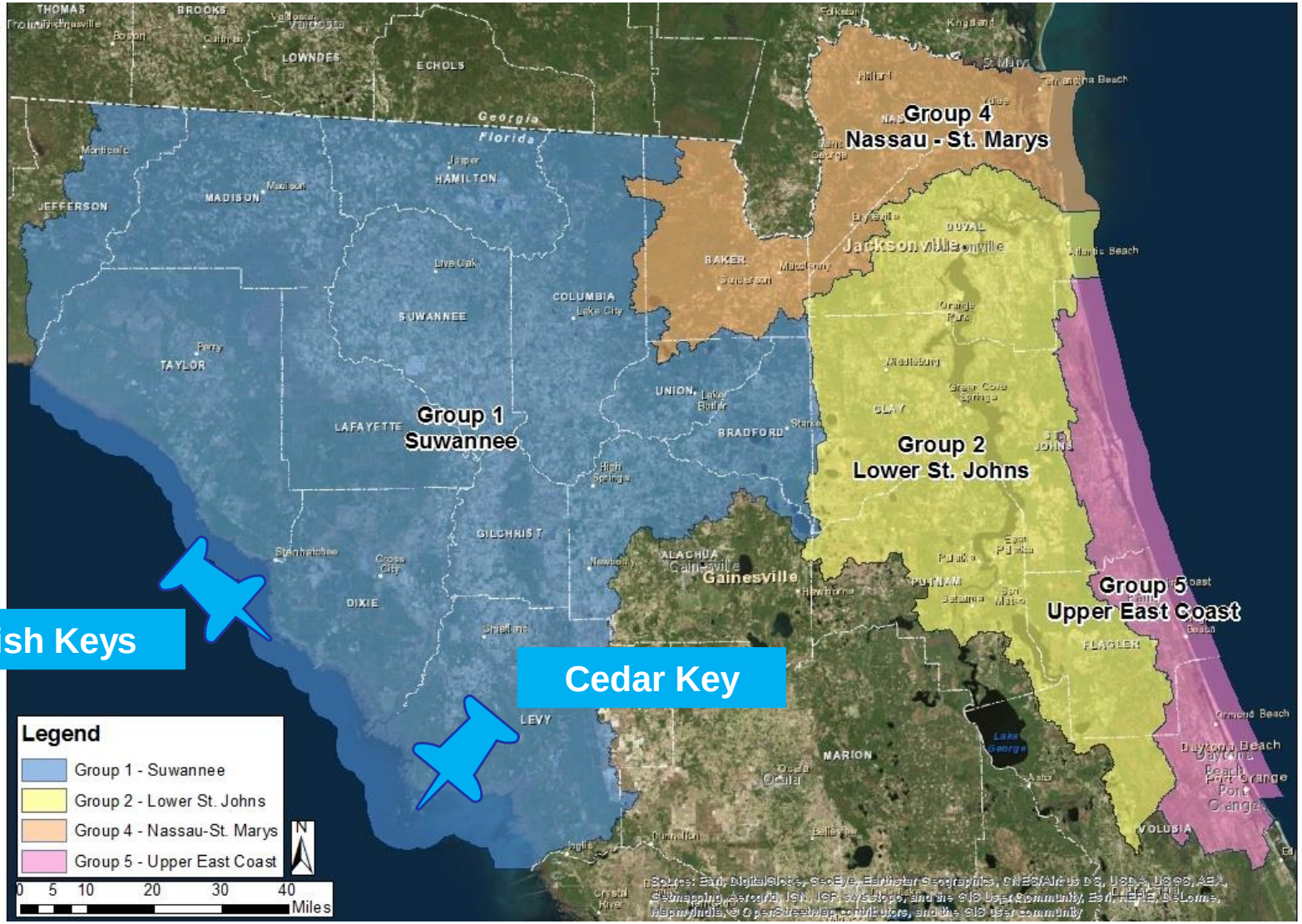


**External bioassessment data can be submitted to the department for use in the IWR assessments.*

IWR Database

- The Watershed Assessment Section produces a new iteration of the IWR database (Microsoft Access), 2-3 times per year.
- Each iteration is assigned a sequential number, referred to as a “Run.”
- The IWR Runs are available to the public at: publicfiles.dep.state.fl.us -/DEAR/IWR/.

Suwannee Basin in the Northeast District

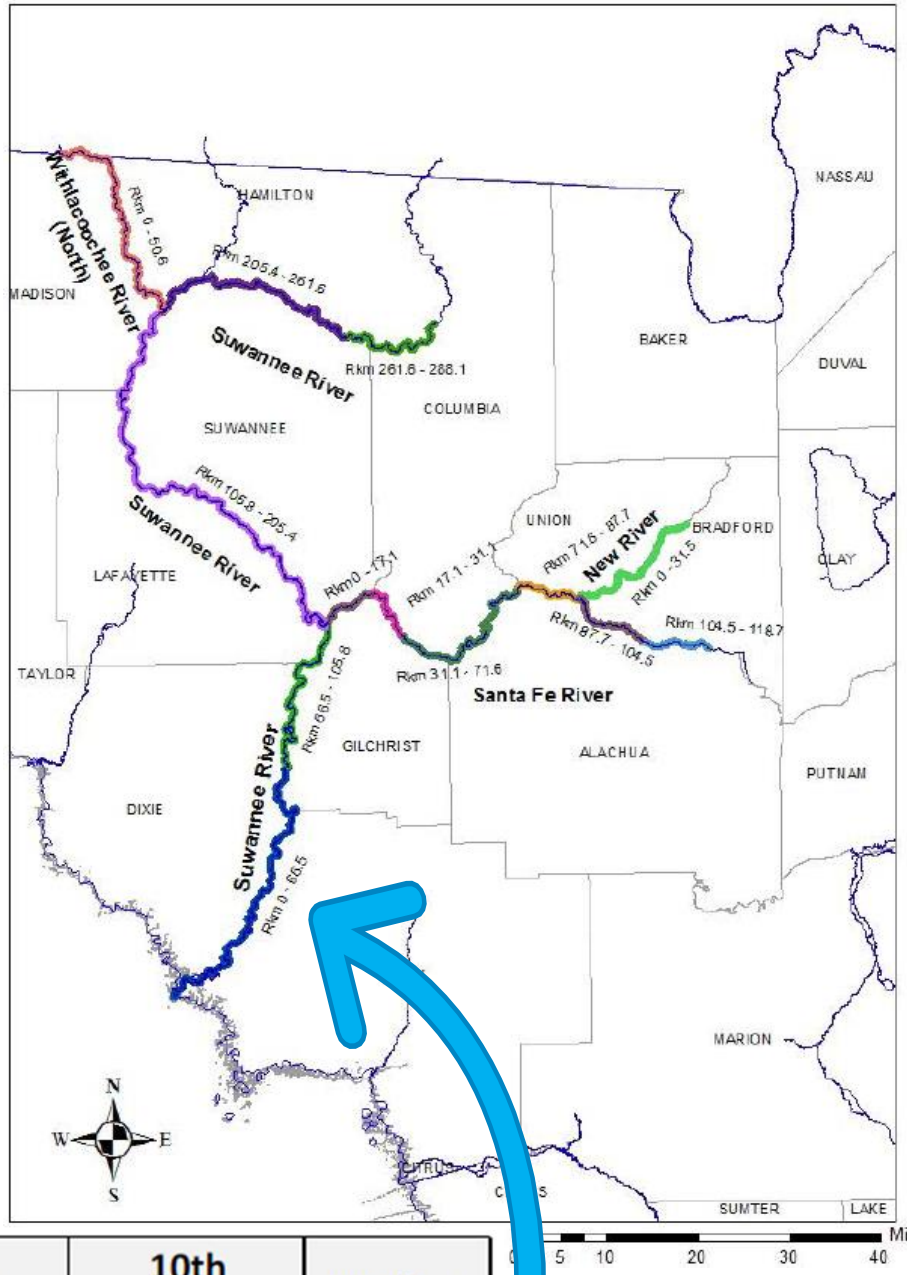


Site-Specific Dissolved Oxygen Criteria in the Suwannee Basin:

Protection of Threatened and Endangered Species in Portions of the Suwannee, Withlacoochee, Santa Fe and New Rivers

- **During development of the DO criteria, DEP worked with USFWS and NOAA NMFS to ensure protection of the threatened and endangered species in Florida.**
- **It was determined that young of the year Gulf sturgeon in the Suwannee needed additional protections.**
- **Existing DO conditions were summarized – period from 1991-2011 was selected; long enough to capture expected range of temporal variability, and covers significant portion of the period when the sturgeon population has been stable or increasing.**
- **Resulting DO criteria incorporate an evaluation of current conditions compared to this baseline distribution to ensure protection of these species.**
  - No more than 10% of DO percent saturation measurements shall be below the 10th percentile of the baseline distribution for the segment.
  - No more than 50% of DO percent saturation measurements shall be below the median of the baseline distribution for the segment.

Site-Specific Dissolved Oxygen Criteria in the Suwannee Basin



Map illustrates portions of the rivers in the Suwannee basin utilized by the Gulf Sturgeon and oval pigtoe mussel requiring alternative DO criteria.

Horseshoe Cove and Suwannee Sound Region

- Suwannee River kilometers 0 – 66.5
- No more than 10% of measurements <58.9%, no more than 50% of measurements <76.7%

Species	River System	River km	10th Percentile	Median
Gulf Sturgeon	Suwannee River	0 - 66.5	58.9	76.7

Marine Dissolved Oxygen Criteria

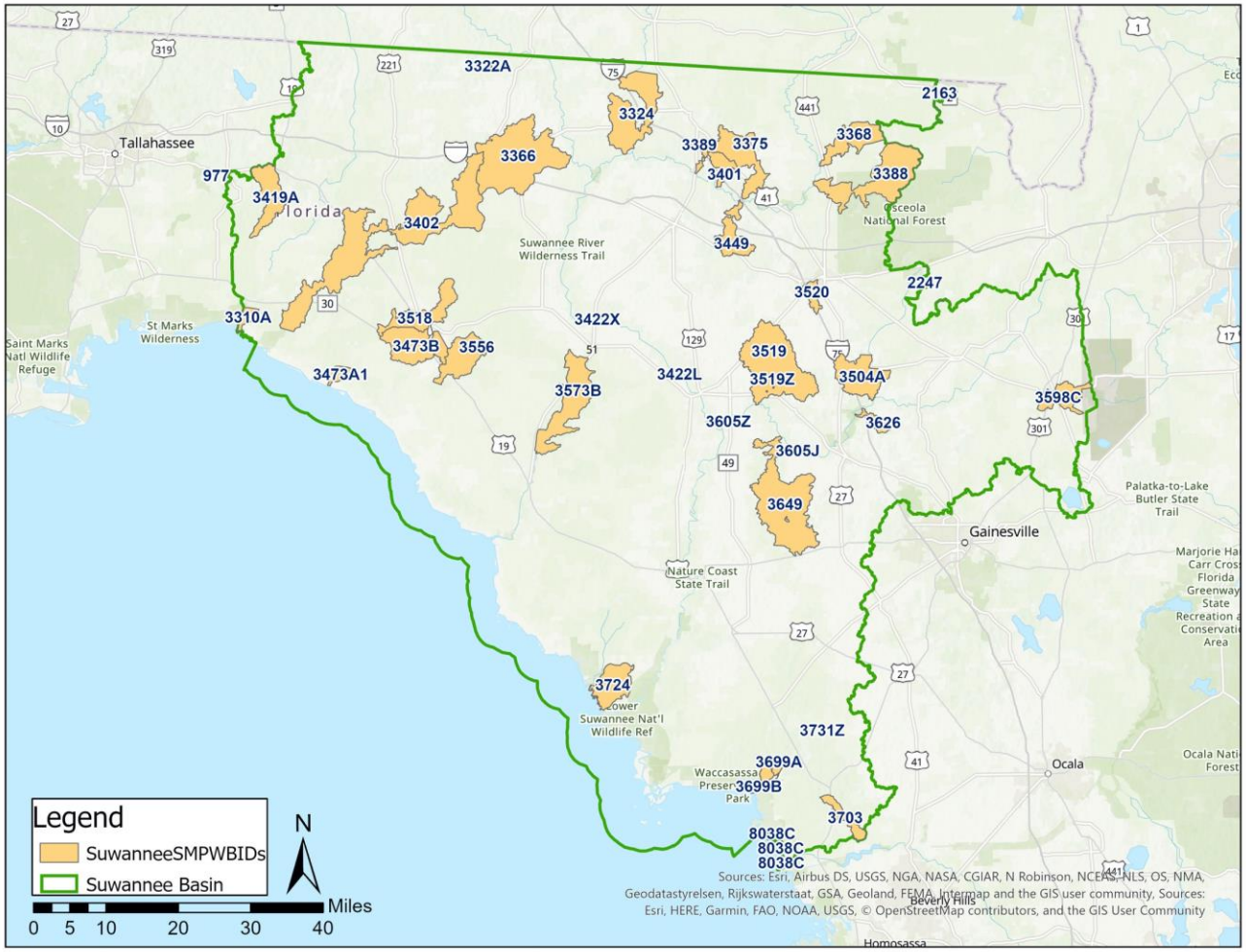
Applies to Marine and Coastal Waters

- **The daily average percent DO saturation shall not be <u>below 42</u> percent saturation in more than 10 percent of the values**
  - For 303(d) assessments, applied using the binomial hypothesis test
  - No more than 10 percent of the values collected during an assessment period to be below the DO criterion
- **The seven-day average DO percent saturation shall not be <u>below 51</u> percent**
  - For 303(d) assessments, an exceedance if there is more than one weekly average below the 7-day average criterion in a 12-week period
- **The 30-day average DO percent saturation shall not be <u>below 56</u> percent**
  - For 303(d) assessments, an exceedance if there is more than one month average below the 30-day average criterion in a calendar year
- **Allows for both continuous monitoring data collection and discrete measurements, but both are resource intensive**

Strategic Monitoring in the Suwannee Basin

49 Suwannee Basin WBIDs on the 2021 SMP:

- Nutrients
- Bacteria
- Chemical Tracers/Genetic Markers
- Bioassessments
- Metals
- Pesticides



Division of Aquaculture Monitoring Coordination in the Suwannee Basin

- Coordinated monitoring effort with Division of Aquaculture at the Department of Agriculture and Consumer Services (FDACS).
- FDACS assists DEP by collecting additional surface water samples in estuarine shellfish harvesting areas around the state.
- DEP analyzes for total Kjeldahl nitrogen, total phosphorus, nitrate-nitrite, chlorophyll-a and turbidity.
- FDACS also measures field parameters: dissolved oxygen, specific conductance, salinity, pH and temperature.

Division of Aquaculture Monitoring Coordination in the Suwannee Basin

- **All data are uploaded to the Watershed Information Network (WIN).**
- **Seven sites being monitored as part of this effort in the Suwannee Basin, all within Cedar Key Shellfish Harvesting Area (#30), WBID 8037D.**

SHACP Monitoring Coordination in the Suwannee Basin

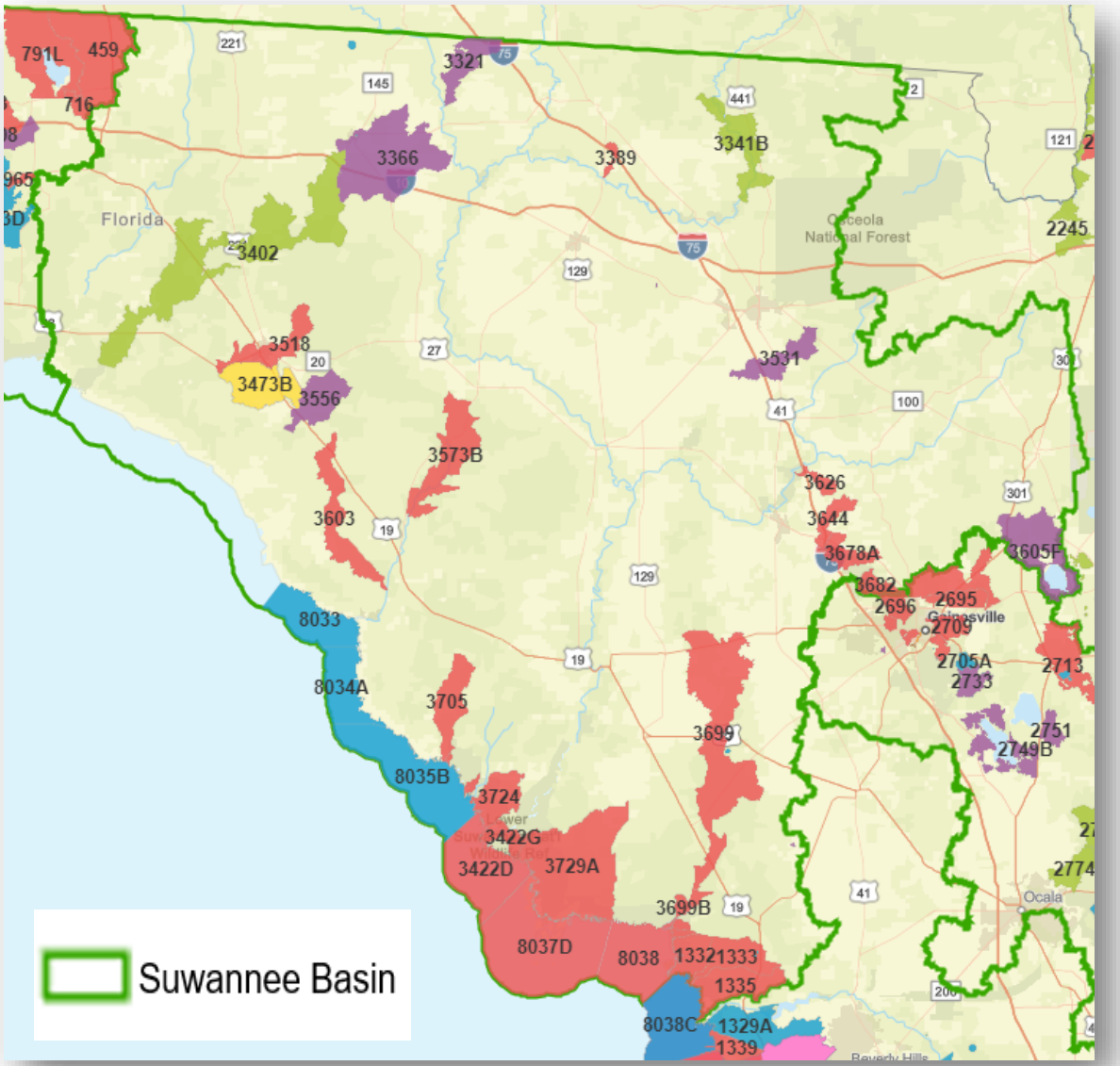
7 SITES IN WBID 8037D GULF OF MEXICO (CEDAR KEY)

Station ID	Station Name
21FLWQA 30SEAS053	Mouth of Dennis Creek
21FLWQA 30SEAS080	West end of Gomez Bar
21FLWQA 30SEAS111	Northwest Side of #4 Channel
21FLWQA 30SEAS118	Eastern Shore of Buck Island
21FLWQA 30SEAS702	West of Atsena Otie Key
21FLWQA 30SEAS712	Due west of CM #16
21FLWQA 30SEAS715	East of North Key

Verified List of Impaired Waters in the Suwannee Basin

What is the Verified List?

- Waterbodies that do not meet the water quality standard for a given pollutant of concern and need a TMDL.



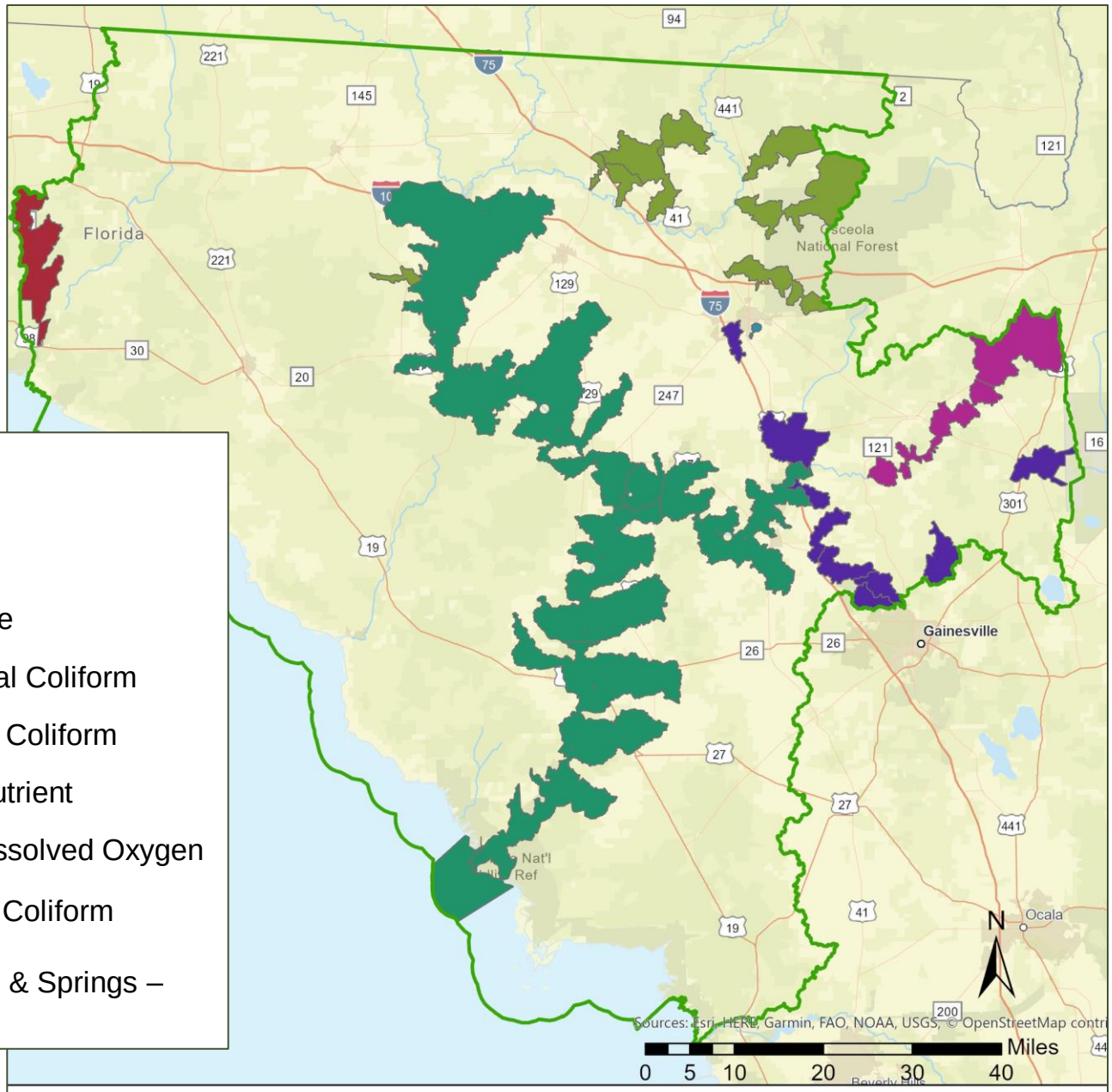
TMDLs, BMAPs and Alternative Restoration Plans in the Suwannee Basin

What is a TMDL?

- Waterbodies that do not meet the water quality standard for a given pollutant of concern are identified as "impaired."
- A Total Maximum Daily Load, or TMDL, must be developed, adopted and implemented to reduce the pollutant and improve the health of the water body.
- This TMDL defines the amount of the pollutant that the waterbody can assimilate while still meeting the water quality standard.

39 WBIDs included in six TMDLs in the Suwannee Basin, DEP Adopted and EPA Approved.

Suwannee Basin TMDLs



Legend

- Suwannee Basin

Adopted Florida TMDLs – Suwannee

- Suwannee River Basin – Fecal Coliform
- Santa Fe River Basin – Fecal Coliform
- Wacissa River & Springs – Nutrient
- Alligator Lake – Nutrient & Dissolved Oxygen
- New River – Nutrient & Fecal Coliform
- Suwannee & Santa Fe Rivers & Springs – Nutrient & Dissolved Oxygen

TMDLs, BMAPs and Alternative Restoration Plans in the Suwannee Basin

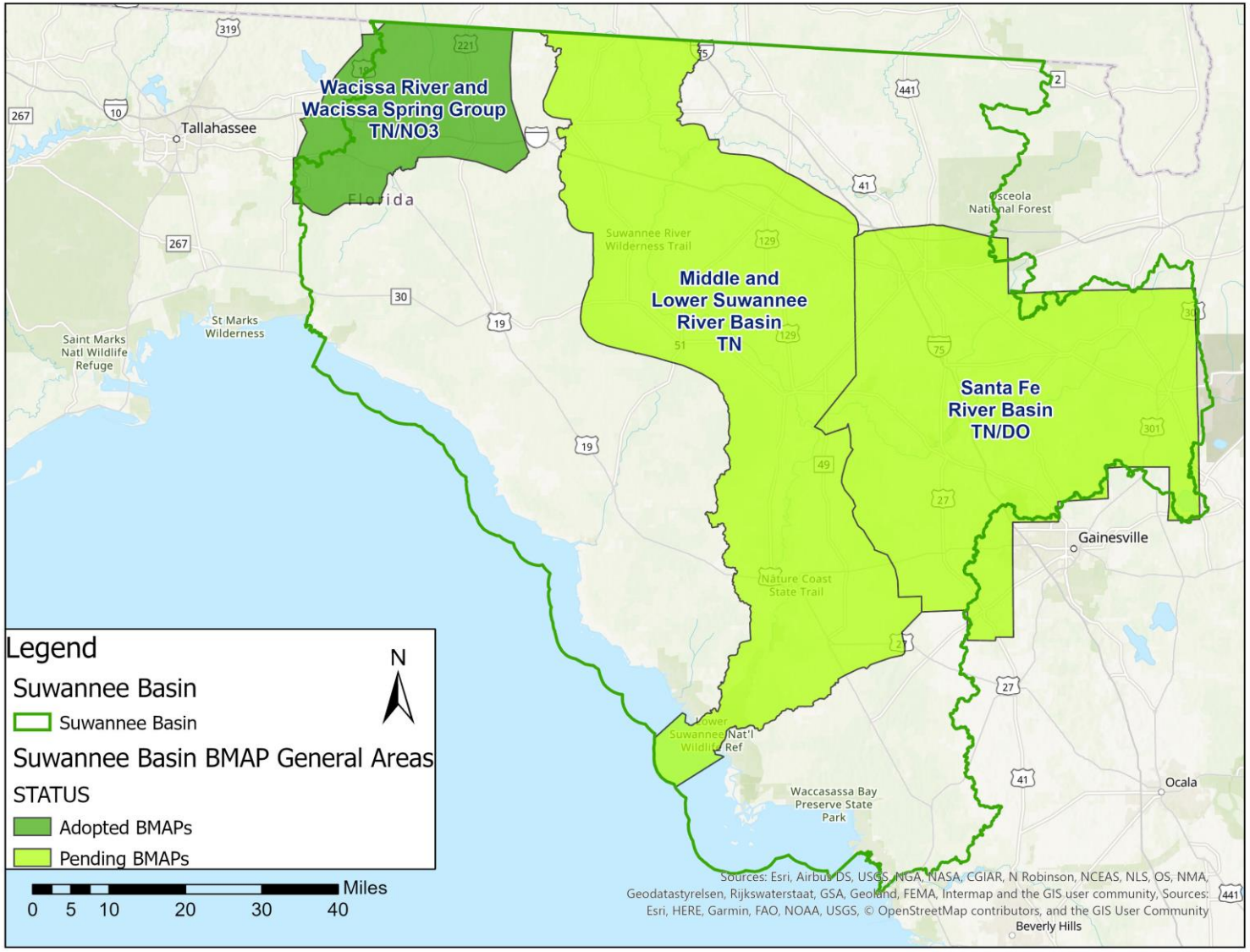
What is a BMAP?

- A Basin Management Action Plan, or BMAP, is a framework for water quality restoration.
- Outlines local and state commitments to reduce pollutant loading through current and future projects and strategies.
- Contains a comprehensive set of solutions, such as permit limits on wastewater facilities, urban and agricultural best management practices, and conservation programs, designed to achieve pollutant reductions established by a TMDL.
- Developed with local stakeholders and rely on local input and commitment for development and successful implementation.

Three BMAPs in the Suwannee Basin, one Adopted and two Pending.

Suwannee Basin BMAPs

Suwannee and Santa Fe TMDL Parameter is Nitrate+Nitrite in Springs



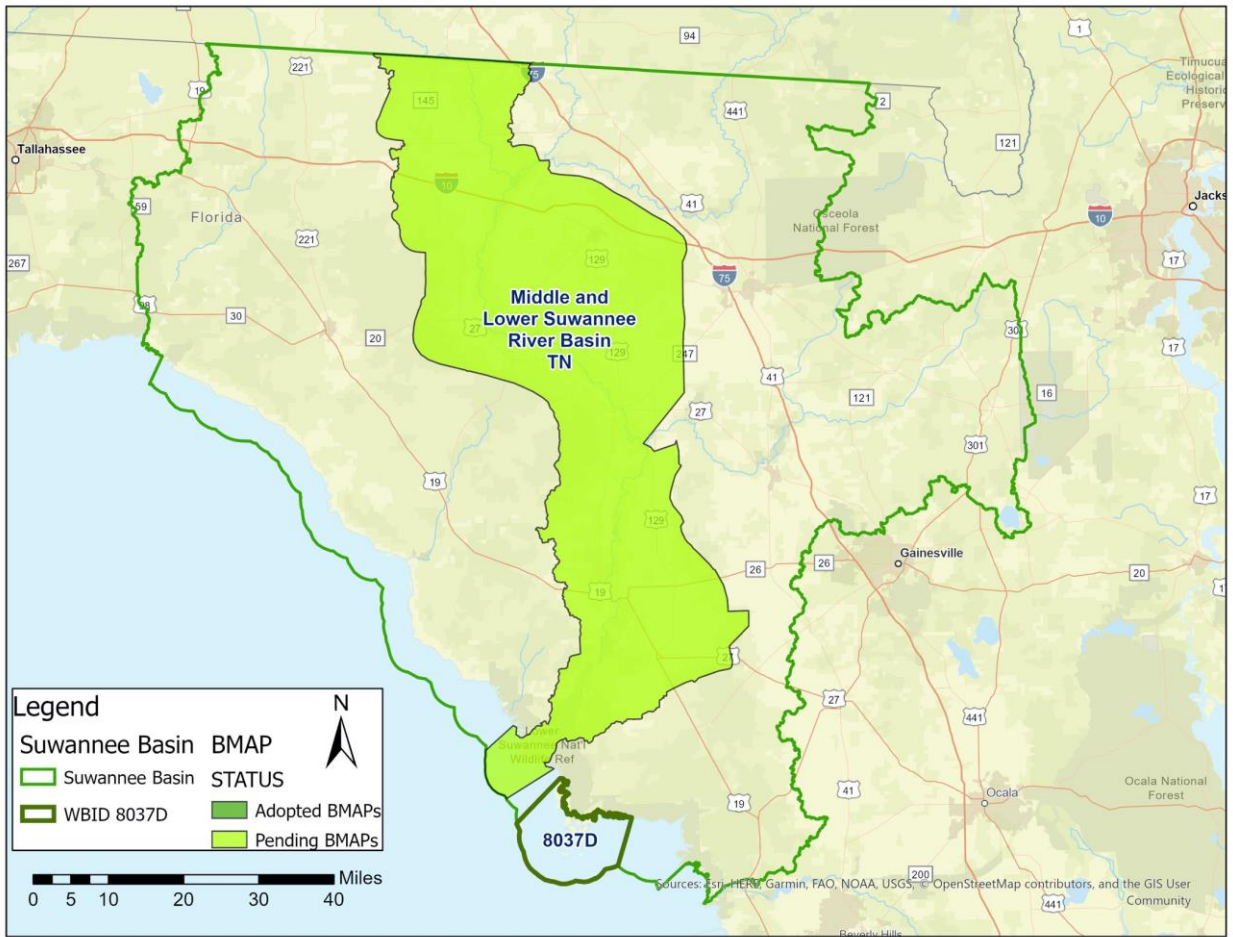
TMDLs, BMAPs and Alternative Restoration Plans in the Suwannee Basin

What is an Alternative Restoration Plan?

- Impaired Waters Rule authorizes two types of restoration plans that avoid placement of a waterbody on the Verified List.
  - Reasonable Assurance (4b) plans meet requirements of Rule 62-303.600, F.A.C., and are **NOT** placed on the Verified List or 303(d) List.
  - Ongoing Restoration (4e) plans meet requirements of Paragraph 62-303.390(2)(d), F.A.C., and **ARE** placed on the Study List and 303(d) List.
- Focuses limited local and state resources directly on measures that will improve water quality.
- Preferred, streamlined alternative to the typical regulatory steps taken by the department (TMDL and BMAP development).

Suwannee Basin Alternative Restoration Plans

Cedar Key (WBID 8037D) was most recently assessed in category 4e for chlorophyll-a in 2019 (Cycle 4), based on restoration activities in the Withlacoochee, Middle and Lower Suwannee BMAP



Suwannee Basin Alternative Restoration Plans

- **Documentation in support of category 4e for nutrients in Cedar Key (WBID 8037D) was submitted to EPA in October 2020, with revised report submitted in January 2021.**
- **In addition to BMAP watershed improvement projects, the Suwannee River Water Management District and U.S. Fish and Wildlife Service are working cooperatively toward hydrologic restoration of the Lower Suwannee National Wildlife Refuge.**
- **It's expected that the completion of this work will result in the attainment of water quality standards.**
- **EPA Region 4 has completed review and approved the 4e documentation.**

Where Can I Download the Strategic Monitoring Plans?

FloridaDEP.gov/dear/watershed-assessment-section/content/strategic-monitoring-plans

2021 Monitoring Plans

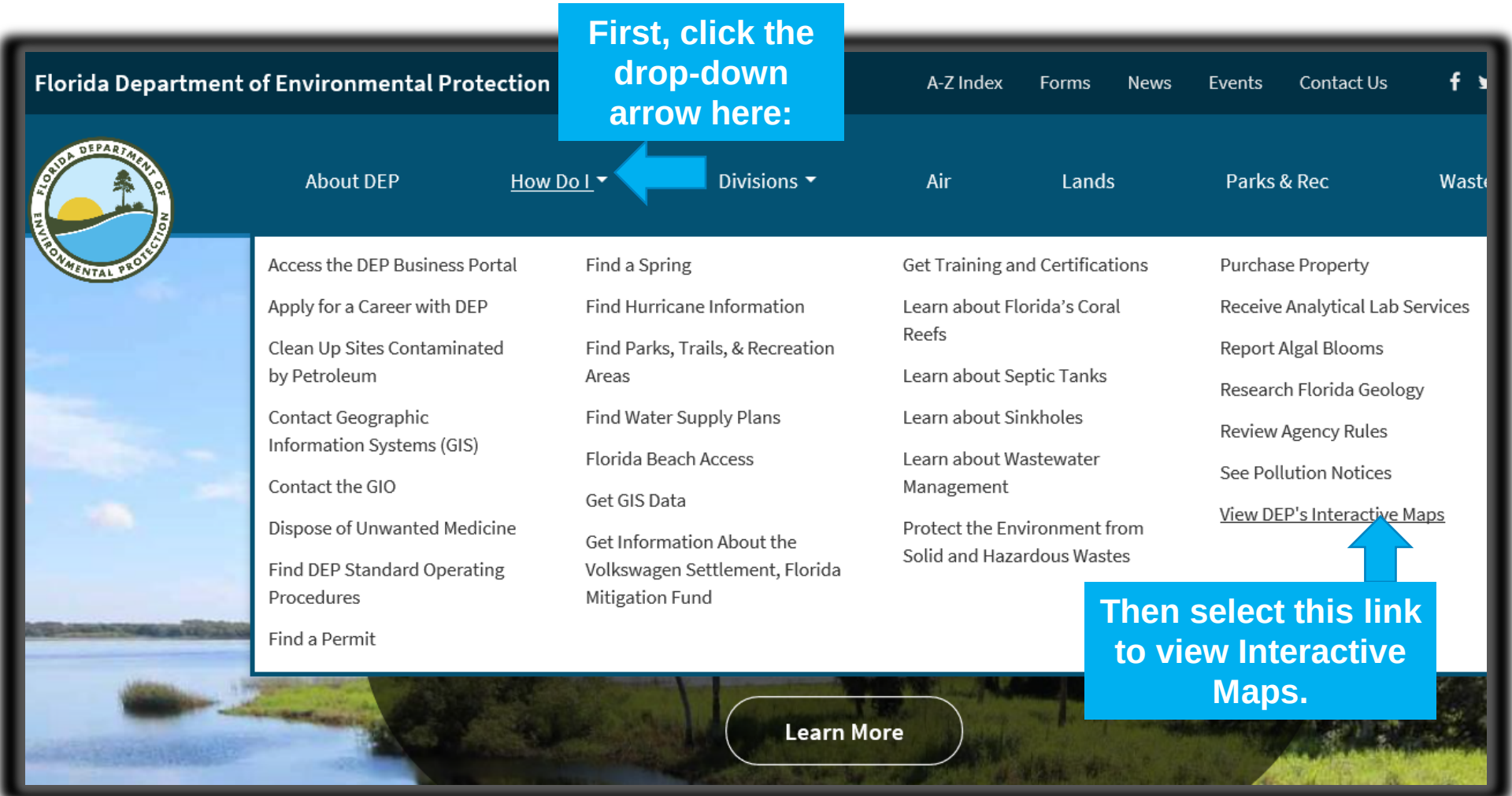
(**Note:** The Strategic Monitoring Plans were posted on December 11, 2020.)

DEP District	Group Number and Basin Monitored
2021 Northwest SMP	1 - Ochlockonee - St. Marks 2 - Apalachicola - Chipola 3 - Choctawhatchee - St. Andrews 4 - Pensacola 5 - Perdido
2021 Northeast SMP	1 – Suwannee 2 – Lower St. Johns 4 – Nassau – St. Mary's 5 – Upper East Coast

Each SMP can be downloaded as an Excel spreadsheet.

How Can I View the WBIDs Being Monitored?

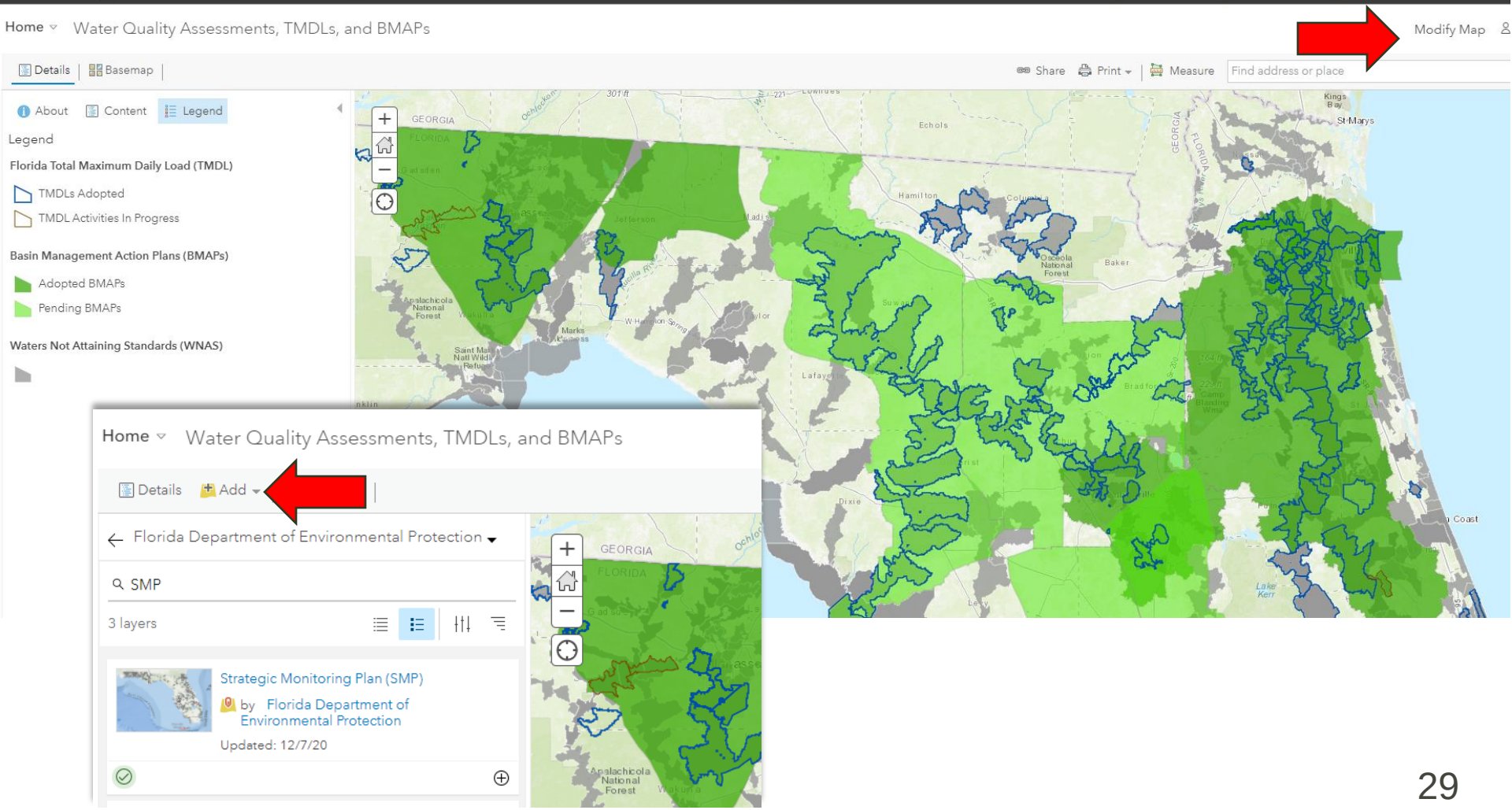
FloridaDEP.gov



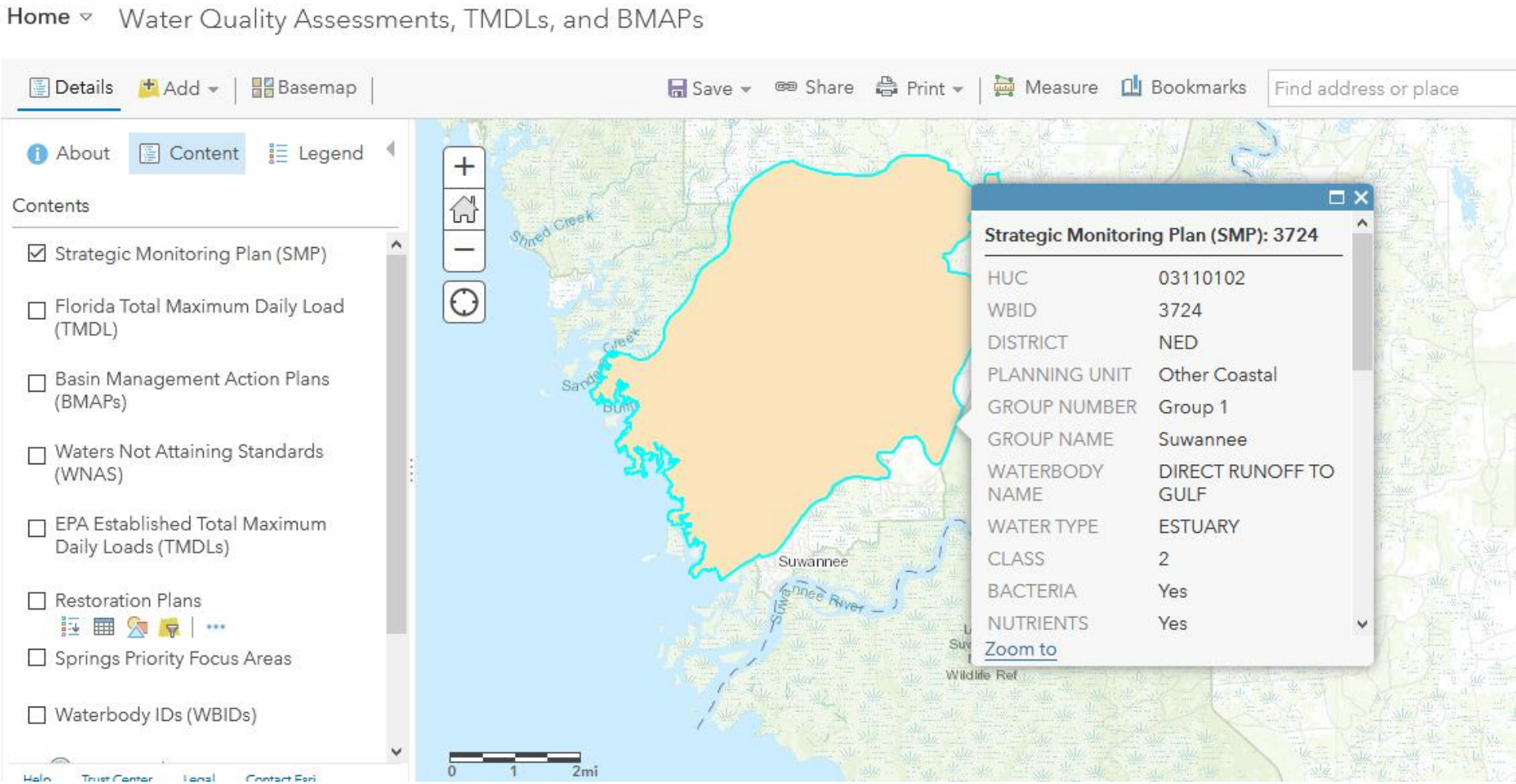
Interactive Maps

https://fdep.maps.arcgis.com/home/index.html

Water Quality Assessments, TMDLs and BMAPs - Interactive Map



Strategic Monitoring Plan – Interactive Map



What is the Biennial Assessment?

- Currently 20% of the basins are being assessed each year; assessment of the entire state takes five years.
- With the Biennial Assessment currently underway, all waterbodies will be assessed once every two years.
- The annual strategic monitoring process will **NOT** change.

Benefits of the Biennial Assessment

- **Floridians will have access to a clearer picture of Florida's water quality.**
- **Stakeholders across the state will have up-to-date, actionable information to support effective water quality decisions and restoration.**
- **DEP will be able to re-evaluate TMDL priorities more frequently.**
- **Statewide assessments will benefit from the consistent application of water quality criteria and assessment period.**
- **Assessments will be synchronized with EPA 303(d) reporting requirements.**

How Can You Get Involved?

Subscribe to DEP notifications at
FloridaDEP.gov/dear/dear/content/subscribe#IWR

Impaired Waters Rule (IWR) Updates/Notifications

Thank you for your interest in the Florida Department of Environmental Protection's Water Quality Assessment Program and Impaired Waters Rule (IWR). To receive notifications on upcoming public meetings and the department's activities related to the development and implementation of 303(d) lists and watershed assessments please enter your email adc **subscriber page** and you will be taken to the subscription page. You may update your subscription preferences at any time. Below is a brief description of each distribution list.

Impaired Waters Rule (IWR) Updates/Notifications	Notifications on upcoming public meetings and the department's activities related to the development and implementation of 303(d) lists and watershed assessments
Group 1 Basin Assessments	Updates on basin assesments for waters in the Ochlockonee - St. Marks, Suwannee, Ocklawaha, Tampa Bay, Everglades West Coast, and Lake Okeechobee basins.
Group 2 Basin Assessments	Updates on basin assesments for waters in the Apalachicola -

How Can You Get Involved?

Biennial Assessment outreach meetings held on Feb. 25 and March 4.

- Feb. 25 meeting held as Go-to-Webinar format.
- March 4 meeting held as Microsoft Teams format.
- Available for download here: publicfiles.dep.state.fl.us -/DEAR/watershed/WQETP_WAS_BA_OutreachMtgMaterials/

Triennial Review workshops being planned for late April.

- Revisions to 62-302, F.A.C., 62-303, F.A.C., NNC Implementation Document and a revised turbidity criterion (SE Fla Corals and Permitting Only).

First Statewide Biennial Assessment Draft Lists will be available in Summer 2021.

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DEP Websites

WAS: FloridaDEP.gov/dear/watershed-assessment-section
Interactive Maps: https://fdep.maps.arcgis.com/home/index.html
Basins 411: FloridaDEP.gov/dear/watershed-assessment-section/content/basin-411-0

Questions?

Thank You!!