



Webinar Housekeeping

Attendee Participation

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Join audio:

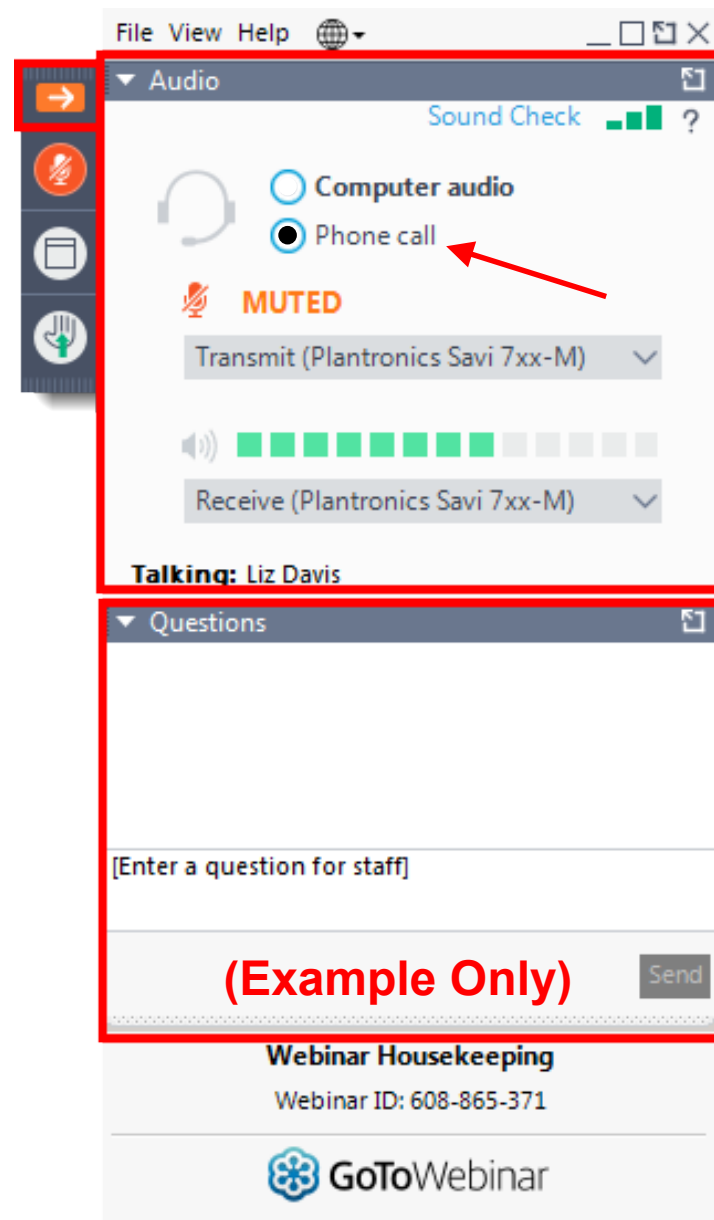
- Choose **Phone Call** and dial using the information provided
- Or choose **Computer Audio** to use your computer's speakers for audio
- Attendee audio will be muted

Submit questions and comments via the Questions panel

If viewing this webinar as a group, please provide a list of attendees via the Questions panel

Note: Today's presentation is being recorded and will be provided on the ftp after the webinar.

2/10/2021





Caloosahatchee River and Estuary Basin Management Action Plan (BMAP) Annual Meeting

February 10, 2021



Agenda

- *Background*
- *Florida Department of Agriculture and Consumer Services (FDACS) Updates*
- *South Florida Water Management District (SFWMD) Updates*
- *Annual Progress*
- *Tracking Progress in the Tributaries*
- *Statewide Annual Report*
- *Next Steps*



Background

*Caloosahatchee Estuary and Tributaries Total
Maximum Daily Loads (TMDLs)*

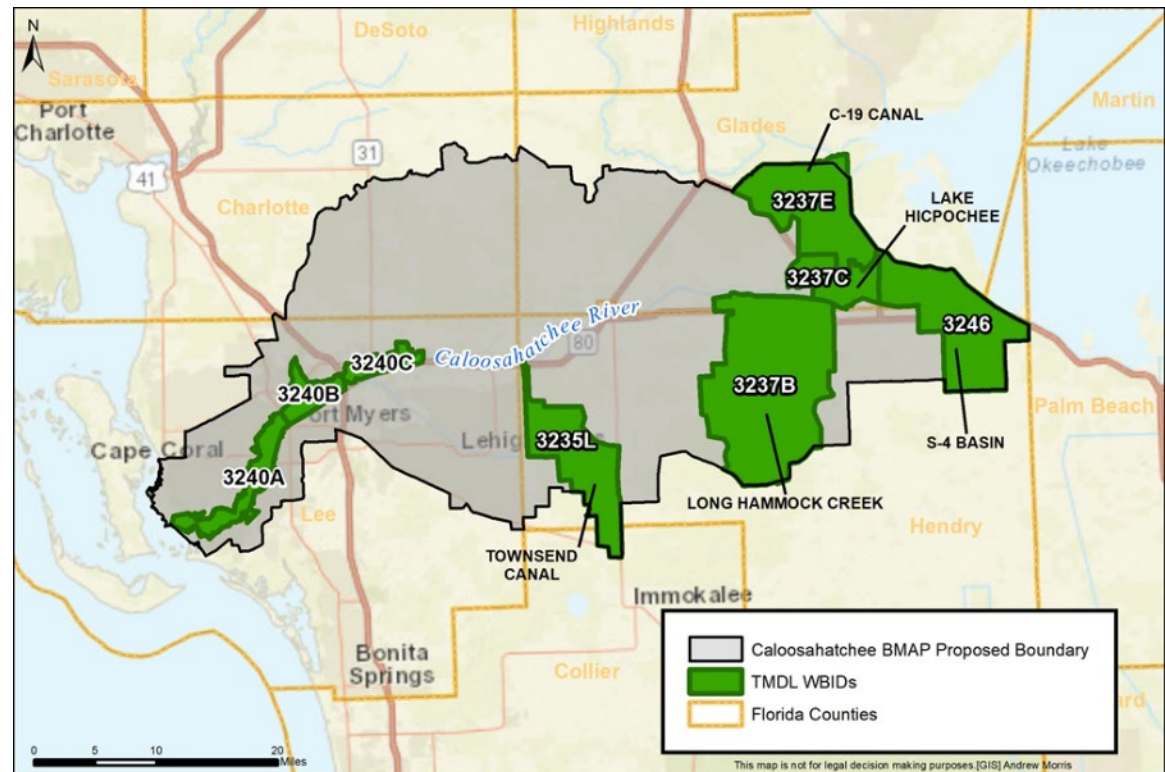
Caloosahatchee River and Estuary BMAP



Background Information

Caloosahatchee TMDLs

- Estuary TMDL for total nitrogen (TN) adopted in 2009
- Tributaries TMDLs for TN and total phosphorus (TP) adopted in 2019

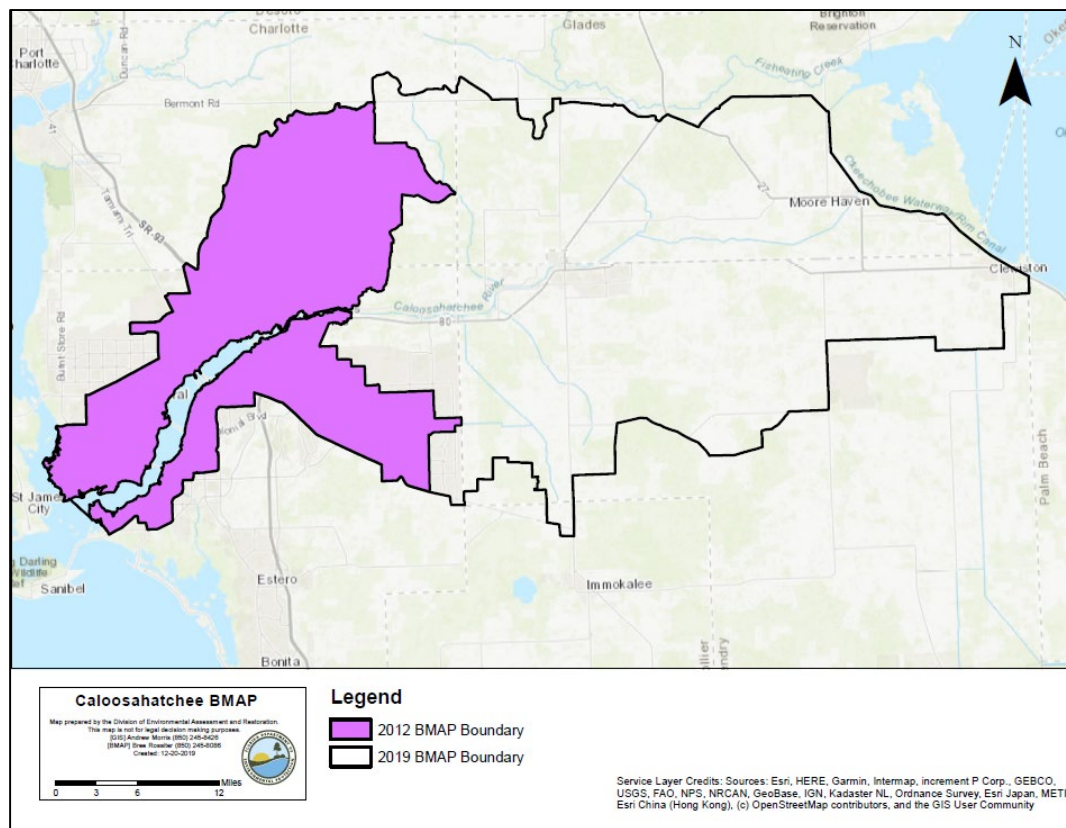




Background Information

Caloosahatchee BMAP

- BMAP initially adopted in June 2012 for the tidal portion
- Progress towards achieving TMDL guided by 5-year milestones
 - First 5-Year Review completed in 2017
- Updated BMAP adopted in February 2020





Stakeholders

Caloosahatchee BMAP

Type of Governmental or Private Entity	Participant
Local Governments	Charlotte County Collier County Glades County Hendry County Lee County City of Cape Coral City of Clewiston City of Fort Myers City of LaBelle City of Moore Haven
Community Development Districts	Copperhead Lucaya Mirada Moody River Estates Port LaBelle Portico River Hall Sail Harbour Sugarland Verandah East Verandah West
Special Districts	Barron Water Control District Clewiston Water Control District Collins Slough Water Control District County Line Drainage District Cow Slough Water Control District Devil's Garden Water Control District Disston Island Conservancy District Flaghole Drainage District Gerber Groves Water Control District Hendry-Hilliard Water Control District Lehigh Acres Municipal Services District Sugarland Drainage District
Agencies	Florida Department of Agriculture and Consumer Services Florida Department of Environmental Protection Florida Department of Transportation District 1 South Florida Water Management District



FDACS Updates

Maddy Hart

*Florida Department of Agriculture and Consumer
Services (FDACS)*

Office of Agricultural Water Policy (OAWP)

Madeline.Hart@FDACS.gov



SFWMD Updates

Liz Caneja

*South Florida Water Management District (SFWMD)
Lead Project Manager*

Ecosystem Restoration & Capital Projects Division

ecaneja@sfwmd.gov



Annual Progress

Monitoring Network Revisions

Targeted Restoration Area (TRA) Evaluation Update

Status of Projects

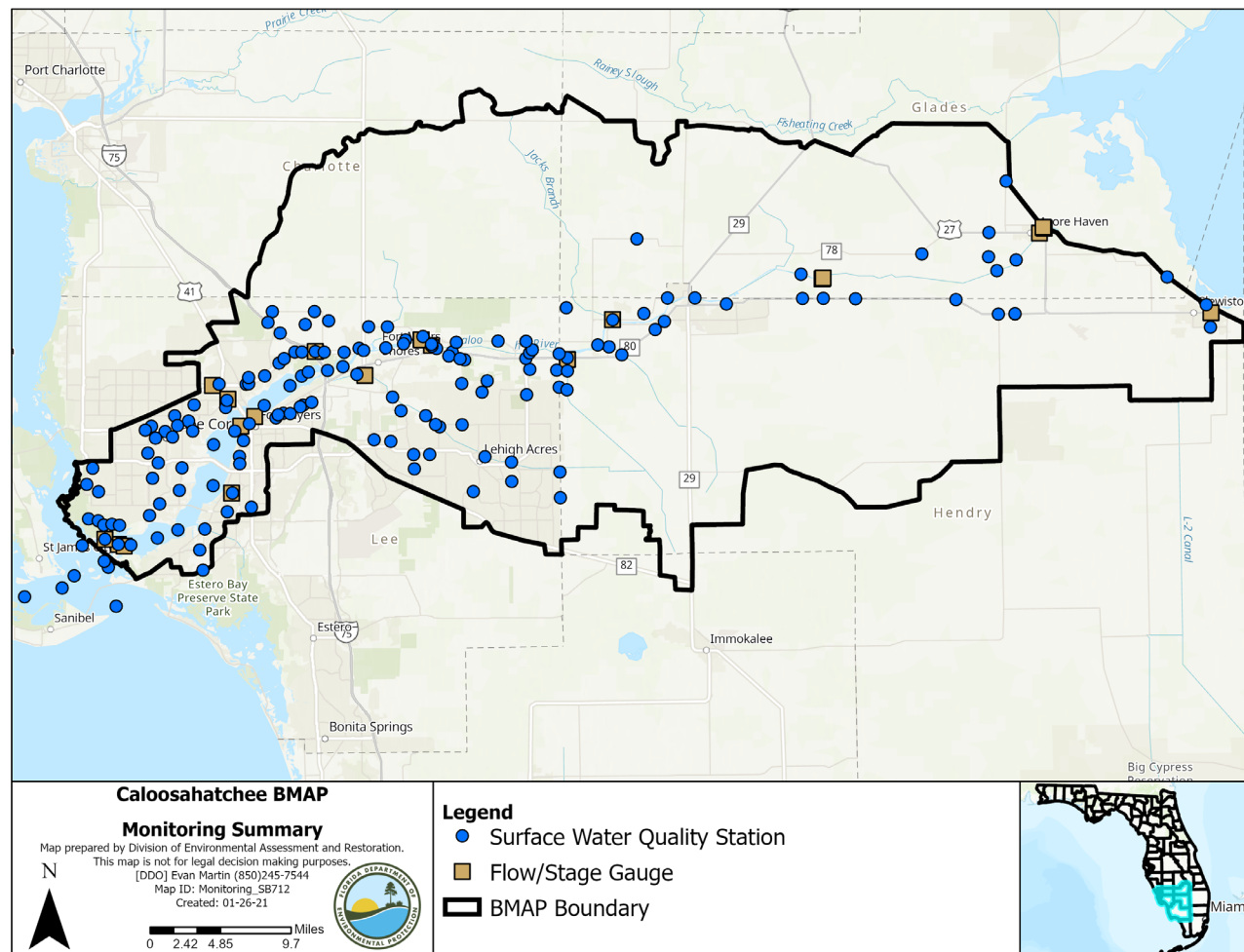
Methodology for Tracking Tributary TMDLs Progress

Next Steps



Monitoring Network Revisions

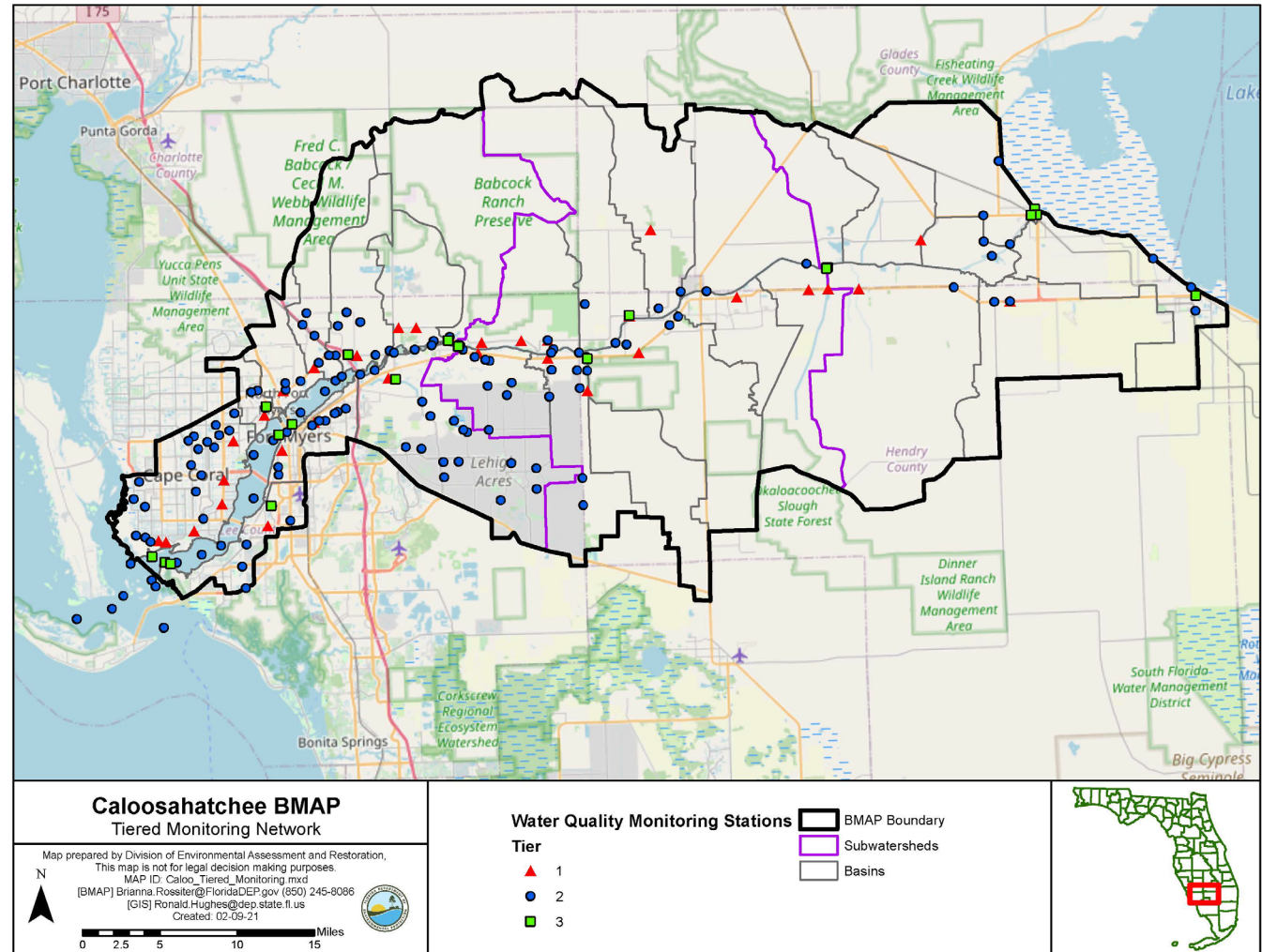
- 188 stations
- Sampled by:
 - City of Cape Coral
 - City of Fort Myers
 - DEP SROC
 - DEP WMS
 - LA-MSID
 - Lee County
 - SFWMD
 - USGS
 - USACE





Monitoring Network Revisions

- **Tier 1** stations are the primary/priority stations used in periodic water quality analyses to track long term BMAP progress and water quality trends.
- **Tier 2** stations will provide secondary information that can be used to help focus and adaptively manage implementation efforts.





Monitoring Network Revisions

Subwatershed	Basin	Tier			Total
		1 (Representative)	2 (Non-representative)	3 (Flow)	
East	C-19		5		5
	Lake Hicpochee		1		1
	Long Hammock	1	1		2
	Nine Mile	1	2		3
	S-4	1	3	3	7
	Turkey Creek				
	York	1			1
	In River	N/A		4	4
	Total	3	12	8	23
Tidal	Billy Creek/Manuel Branch	2	8		10
	Daughtrey	1	5		6
	Hancock/Yellow Fever	1	3	1	5
	Orange	1	14	1	16
	Owl/Trout	2	1		3
	Popash/Stroud	2	6	1	9
	Powell	1	3		4
	Telegraph	1	1	1	3
	Tidal Northwest	6	19		25
	Tidal Southwest	1	6	2	9
	In River	N/A	24	4	28
	Total	18	90	10	118
West	Bedman/Dog	1	8		9
	Bee Branch/Pollywog	1	3		4
	Cypress Creek	3	3		6
	Deadmans/Cypress Branch		2		2
	Goodno	2			2
	Jacks Branch	1	2	1	4
	Okaloacoochee Branch	1			1
	Olga/Hickey	1	11		12
	Roberts	1	2		2
	Townsend	1	1	1	3
	In River	N/A	1	1	2
	Total	11	33	3	47
Caloosahatchee BMAP Total		32	135	21	188



TRA Evaluation Update

Approach

- Overview

- Used measured data to evaluate TP and TN concentrations
- Compared with benchmarks to identify highest priority basins
 - Benchmarks not intended to measure progress towards restoration; only to prioritize resources

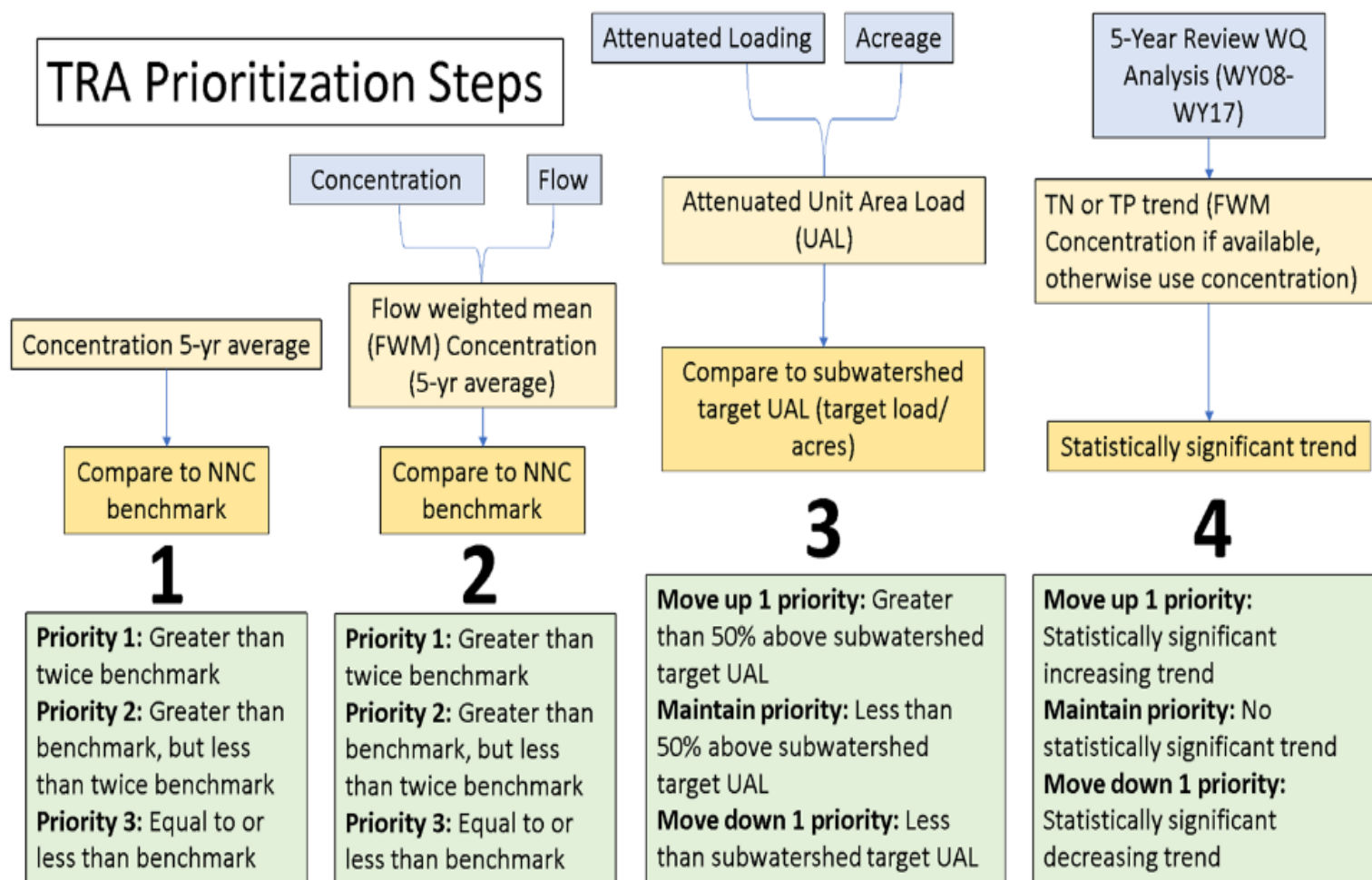
- Evaluation

- Assessed and prioritized systematically



TRA Evaluation Update

Approach





TRA Evaluation Update

Process

- Obtained data from:
 - Watershed Information Network (WIN)
 - Draft 2021 South Florida Environmental Report (SFER)
 - SFWMD
- Calculated TN where needed
 - Used measured data for nitrate + nitrite and total Kjeldahl nitrogen (TKN)
- Updated evaluation period - Water Year (WY) 2016-2020
 - Dropped WY2014-2015 and added WY2019-2020



Results - TN

Subwatershed	Basin	Station	WY14-WY18	WY16-WY20
East Caloosahatchee	C-19	C19	Insufficient Data	Insufficient Data
East Caloosahatchee	Lake Hicpochee	N/A	Insufficient Data	Insufficient Data
East Caloosahatchee	Long Hammock	N/A	Insufficient Data	Insufficient Data
East Caloosahatchee	Nine Mile	G3SD0088	3	Insufficient Data
East Caloosahatchee	S-4	S235	3	Insufficient Data
East Caloosahatchee	Turkey Creek	N/A	Insufficient Data	Insufficient Data
East Caloosahatchee	York	N/A	Insufficient Data	Insufficient Data
Tidal Caloosahatchee	Billy Creek/Manuel Branch	CFMFSP/ CFMMANUEL	2	2
Tidal Caloosahatchee	Daughtry	20-9GR	3	3
Tidal Caloosahatchee	Hancock/Yellow Fever	16-3GR	2	2
Tidal Caloosahatchee	Orange	G3SD0128	3	Insufficient Data
Tidal Caloosahatchee	Owl/Trout	27-6GR/27O-GR20	3	3
Tidal Caloosahatchee	Popash/Stroud	23-5GR/24-7GR	2	2
Tidal Caloosahatchee	Powell	POWLGR20	3	3
Tidal Caloosahatchee	Telegraph	G3SD0129	3	2
Tidal Caloosahatchee	Tidal Northwest	300/400/470/540/ 590/600	2	2
Tidal Caloosahatchee	Tidal Southwest	WHISGR18	2	Insufficient Data
West Caloosahatchee	Bedman/Dog	37-4GR	3	3
West Caloosahatchee	Bee Branch/Pollywog	G3SD0085	3	Insufficient Data
West Caloosahatchee	Cypress Creek	CYPRESSGR/ FICHTERSGR/ SPANISHGR	1	1
West Caloosahatchee	Deadmans/Cypress Branch	N/A	Insufficient Data	Insufficient Data
West Caloosahatchee	Goodno	CRFW06/CRFW07	Insufficient Data	Insufficient Data
West Caloosahatchee	Jacks Branch	CRFW23	Insufficient Data	Insufficient Data
West Caloosahatchee	Okalocoochee Branch	CRFW09	Insufficient Data	Insufficient Data
West Caloosahatchee	Olga/Hickey	38-3GR	2	2
West Caloosahatchee	Roberts	G3SD0146	Insufficient Data	Insufficient Data
West Caloosahatchee	Townsend	WQ SITE 15	2	2



Results - TP

Subwatershed	Basin	Station	WY14-WY18	WY16-WY20
East Caloosahatchee	C-19	C19	Insufficient Data	Insufficient Data
East Caloosahatchee	Lake Hicpochee	N/A	Insufficient Data	Insufficient Data
East Caloosahatchee	Long Hammock	N/A	Insufficient Data	Insufficient Data
East Caloosahatchee	Nine Mile	G3SD0088	2	Insufficient Data
East Caloosahatchee	S-4	S235	Insufficient Data	Insufficient Data
East Caloosahatchee	Turkey Creek	N/A	Insufficient Data	Insufficient Data
East Caloosahatchee	York	N/A	Insufficient Data	Insufficient Data
Tidal Caloosahatchee	Billy Creek/Manuel Branch	CFMFSP/ CFMMANUEL	1	Insufficient Data
Tidal Caloosahatchee	Daughtry	20-9GR	3	3
Tidal Caloosahatchee	Hancock/Yellow Fever	16-3GR	2	3
Tidal Caloosahatchee	Orange	G3SD0128	3	Insufficient Data
Tidal Caloosahatchee	Owl/Trout	27-6GR/27O-GR20	3	3
Tidal Caloosahatchee	Popash/Stroud	23-5GR/24-7GR	3	3
Tidal Caloosahatchee	Powell	POWLGR20	2	2
Tidal Caloosahatchee	Telegraph	G3SD0129	3	Insufficient Data
Tidal Caloosahatchee	Tidal Northwest	300/400/470/540/ 590/600	3	Insufficient Data
Tidal Caloosahatchee	Tidal Southwest	WHISGR18	2	Insufficient Data
West Caloosahatchee	Bedman/Dog	37-4GR	3	3
West Caloosahatchee	Bee Branch/Pollywog	G3SD0085	3	Insufficient Data
West Caloosahatchee	Cypress Creek	CYPRESSGR/ FICHTERSGR/ SPANISHGR	3	3
West Caloosahatchee	Deadmans/Cypress Branch	N/A	Insufficient Data	Insufficient Data
West Caloosahatchee	Goodno	CRFW06/CRFW07	Insufficient Data	Insufficient Data
West Caloosahatchee	Jacks Branch	CRFW23	Insufficient Data	Insufficient Data
West Caloosahatchee	Okaloocoochee Branch	CRFW09	Insufficient Data	Insufficient Data
West Caloosahatchee	Olga/Hickey	38-3GR	3	3
West Caloosahatchee	Roberts	G3SD0146	Insufficient Data	Insufficient Data
West Caloosahatchee	Townsend	WQ SITE 15	3	Insufficient Data



Results Summary

- 15 basins had insufficient data for TN and 19 had insufficient data for TP
 - Some basins have newly added stations, some have TP newly added, and some do not have a representative station yet
- One basin increased in priority for TN (water quality is worse)
- One basin decreased in priority for TP (water quality is better)



Questions & Comments





Status of Projects

*Through December 31, 2020**

Lead Entity	Completed		Completed Total	Ongoing Total	Planned Total	Underway Total	Grand Total
	Prior to 2020	2020					
Charlotte County				1			1
City of Cape Coral	14		14	3		2	19
City of Clewiston				3			3
City of Fort Myers	10		10	2	3	1	16
City of LaBelle				2	1		3
City of Moore Haven		1	1		2		3
Coordinating Agency	2		2		3	2	7
FDACS				6			6
FDOT District 1	25		27	2		2	31
Glades County	1		1			2	3
Hendry County							
Lehigh Acres MSID	7		7	1		4	12
Lee County	34	3	37	2	8	3	50
Lucaya CDD				2			2
Mirada CDD				2			2
Port LaBelle CDD					1		1
Portico CDD	3		3	1			4
Verandah East CDD				1			1
Verandah West CDD				1			1
Grand Total	96	4	102	29	18	16	165

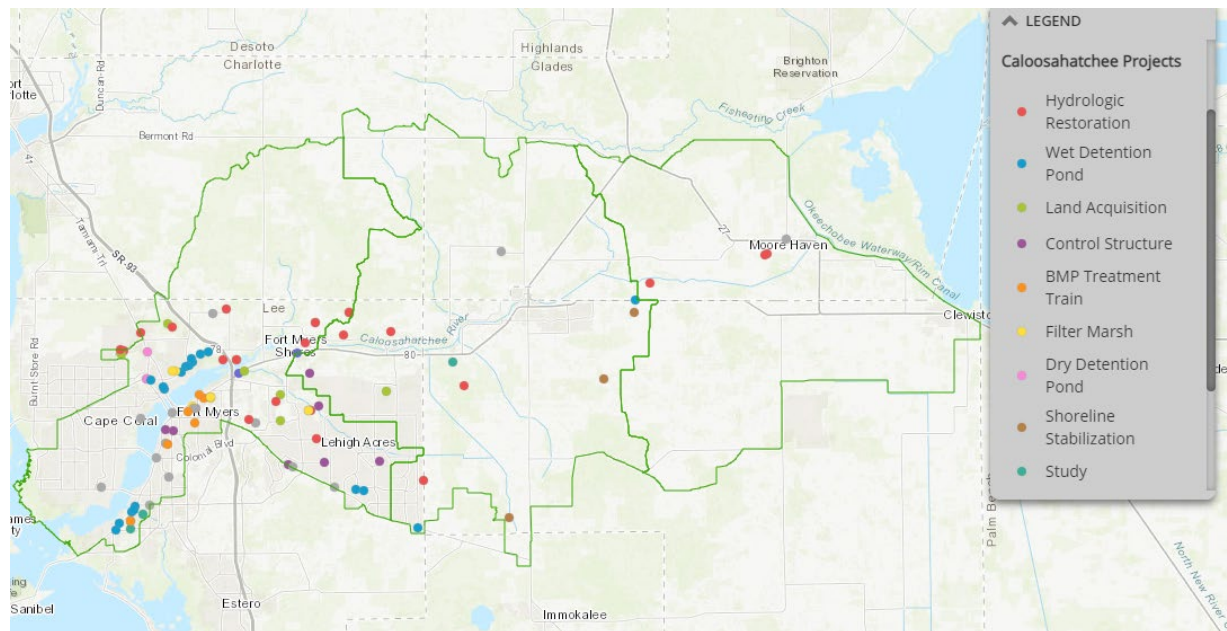
*Draft numbers to be included in July 1, 2021 STAR



Status of Projects

Caloosahatchee Story Map

- Interactive story map with additional information on BMAP projects available online
- Projects submitted for 2020 STAR will be added later this year



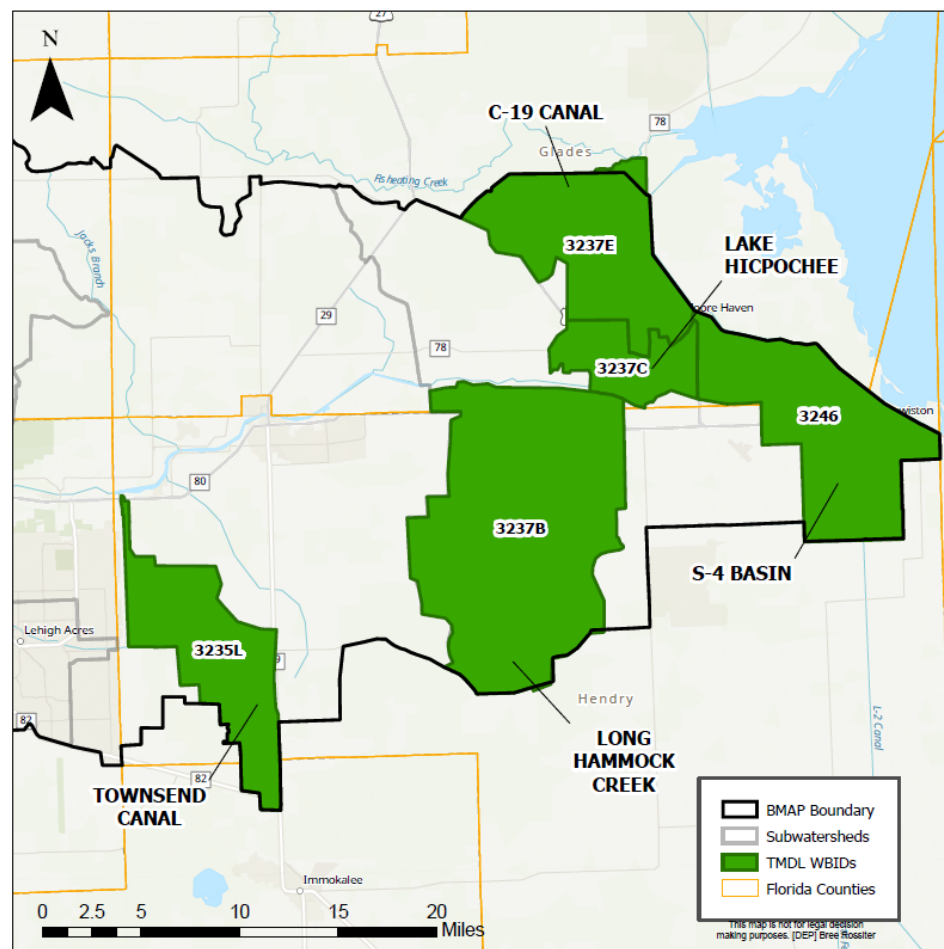
<https://fddep.maps.arcgis.com/apps/MapSeries/index.html?appid=627a7ebb8e1d4ab6ba5115dc545a0835>



Tracking Progress in the Tributaries

Caloosahatchee BMAP

- Tributary TMDLs were adopted in July 2019
- BMAP currently tracks progress towards the estuary TMDL
- Proposed methodology to track progress towards the tributary TMDLs





Tracking Progress in the Tributaries

Caloosahatchee BMAP

- Starting loads and required reductions for each tributary
- Calculate loads using project area shapefiles and the Load Estimation Tool (LET)
- Projects: One set of project reductions for the estuary and one for each tributary

Tributary	TN Starting Load (lbs/yr)	TN Required Reduction (lbs/yr)	TP Starting Load (lbs/yr)	TP Required Reduction (lbs/yr)
C-19	60,244	28,917	3,036	1,457
Lake Hicpochee	25,437	508	1,375	27
Long Hammock	437,365	183,692	28,094	11,799
S-4 Basin	153,336	41,401	10,493	2,938
Townsend Canal	254,468	94,154	23,065	8,765

Tributary	TN Required Reductions (lbs/yr)	TN Reductions Achieved (lbs/yr)	Percent Completed	TP Required Reductions (lbs/yr)	TP Reductions Achieved (lbs/yr)	Percent Completed
C-19	28,917	TBD	TBD	1,457	TBD	TBD
Lake Hicpochee	508	TBD	TBD	27	TBD	TBD
Long Hammock	183,692	TBD	TBD	11,799	TBD	TBD
S-4 Basin	41,401	TBD	TBD	2,938	TBD	TBD
Townsend Canal	94,154	TBD	TBD	8,765	TBD	TBD



Statewide Annual Report (STAR)

STAR Background

STAR 2020 Progress and Timeline



STAR Background

- Requirement under Section 403.0675 Florida Statutes (F.S.) to provide an annual update to the Governor and Legislature
- Summarizes accomplishments in the BMAPs statewide
- Reports on restoration projects and management strategies
- All BMAP reporting periods align with calendar year
- Submitted to the Governor and the Legislature by July 1 of each year
- Annual meetings → opportunity to highlight stakeholder activities

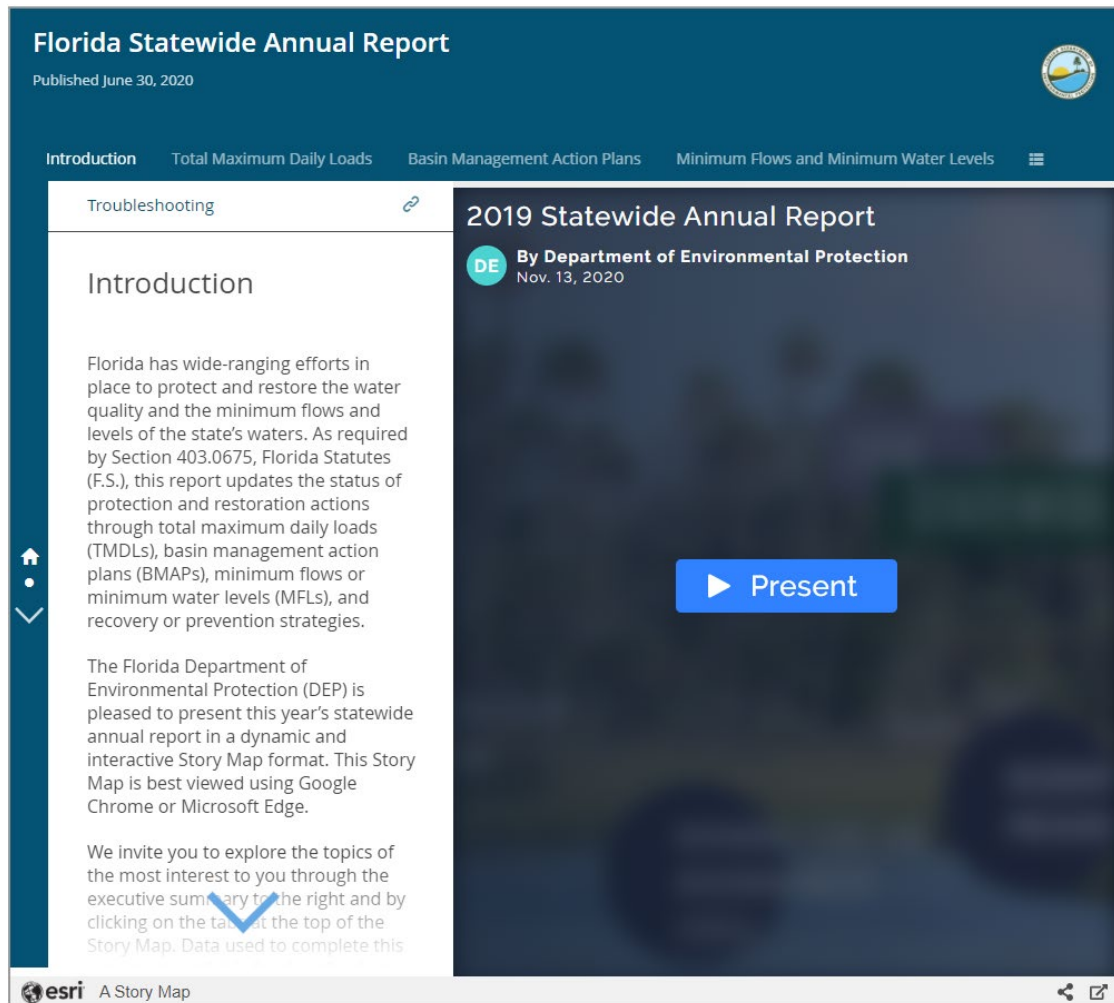


STAR

**Third STAR submitted to
the Governor and the
Legislature June 28, 2020**

**Viewable as interactive
story map**

<https://floridadep.gov/STAR>





STAR Timeline

November
2020



**Request for
review
project updates
through Dec. 31,
2020**

January
15, 2021



**Deadline for
project
information to
be submitted
to DEP**

February
through
June 2021

**Draft Report
Compiled**

July 1,
2021

**Report
submitted to
Governor and
Legislature and
web posted**



Next Steps

- *Evaluate methodology for tracking progress towards the tributary TMDLs*
- *2020 STAR web posted by July 1, 2021*
 - *BMAP Story maps will be updated after STAR is finalized*
- *2021 TRA Evaluation*
- *Assessment*
 - *Biennial review public webinars, February 25th and March 4th*



Contact Information

Bree Rossiter, Basin Coordinator

850-245-8086

Brianna.Rossiter@floridadep.gov

Sara Davis, Environmental Administrator

850-245-8825

Sara.C.Davis@floridadep.gov

Meeting materials will be available to download here:

http://publicfiles.dep.state.fl.us/dear/BMAP/Caloosahatchee/Meetings/2021_Feb_Annual_Meeting/



Questions & Comments



