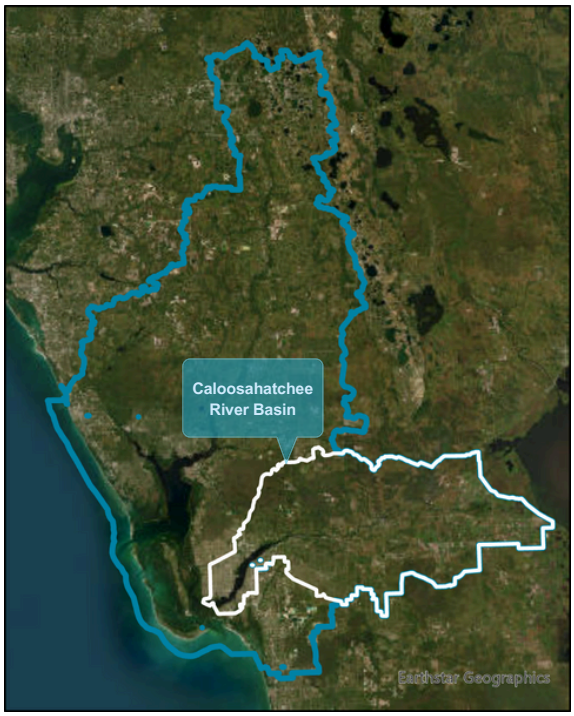
Caloosahatchee River Basin Water Quality Status Report

WATER QUALITY IMPROVEMENT

Summary

The 67-mile Caloosahatchee River originated as overland flow through marshlands and swamp forest from Lake Hicpochee, until 1881 when it was connected to Lake Okeechobee by a man-made channel. The upper river was converted into a canal (the C-43) and the tidal portion has since periodically received excess and insufficient flows from Lake Okeechobee through a series of water management structures and locks. The Franklin Lock in Lee County separates the freshwater portion of the river from its tidal mouth and estuary. The current Caloosahatchee basin is 425 square miles in size and extends from Lake Okeechobee to the Gulf of Mexico.

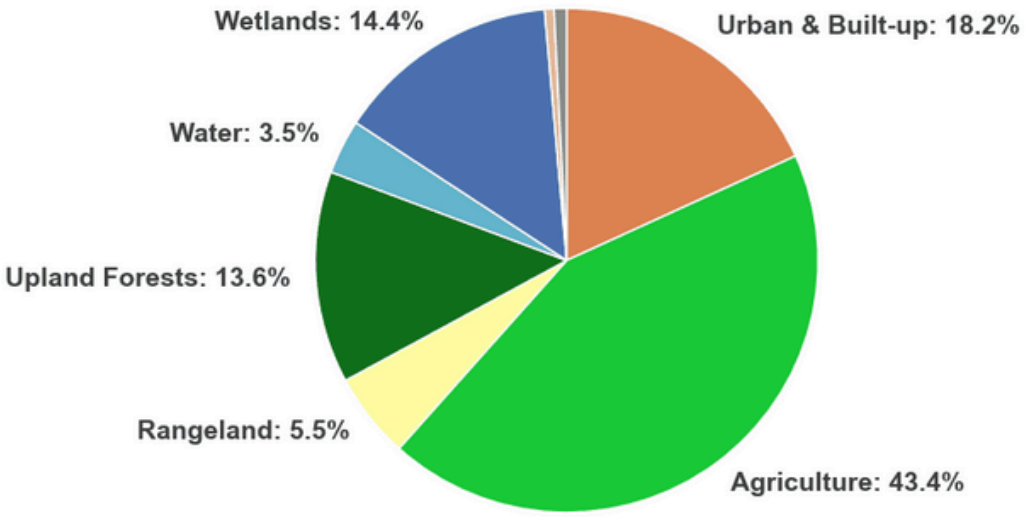
The estuary provides critical habitat for endangered species as well as for a multitude of varieties of aquatic life. Its water quality and health are tied to the restoration and management of the Kissimmee River Basin and Lake Okeechobee upstream, as well as to Everglades restoration.



The Coastal & Heartland National Estuary Partnership (CHNEP) and its partners conduct water quality monitoring in this area, which is available on the CHNEP Water Atlas (www.chnep.wateratlas.usf.edu). This report describes waterbodies that are not currently meeting water quality standards pursuant to the Impaired Waters Rule (IWR 62-303 F.A.C.).

Land Use / Land Cover Categories as a Percentage of Basin Area

Caloosahatchee River Basin, 2019



Source(s): South Florida Water Management District

CHNEP WATER ATLAS

CALOOSAHATCHEE RIVER BASIN PAGE

Nutrients

Nutrient pollution in waterbodies is one of the most widespread water quality problems, caused by excess nitrogen and phosphorus. Too much nitrogen and phosphorus in the water can cause algae to grow excessively, degrading aquatic habitat and decreasing the dissolved oxygen that fish and other aquatic life need to survive.

Below are some examples of sources of nutrients:

- Sewage treatment plants/domestic point sources
- Lake Okeechobee water releases
- Atmospheric deposition of air pollutants
- Septic systems improperly placed or maintained
- Groundwater pollution
- Fertilizers in residential and agricultural runoff

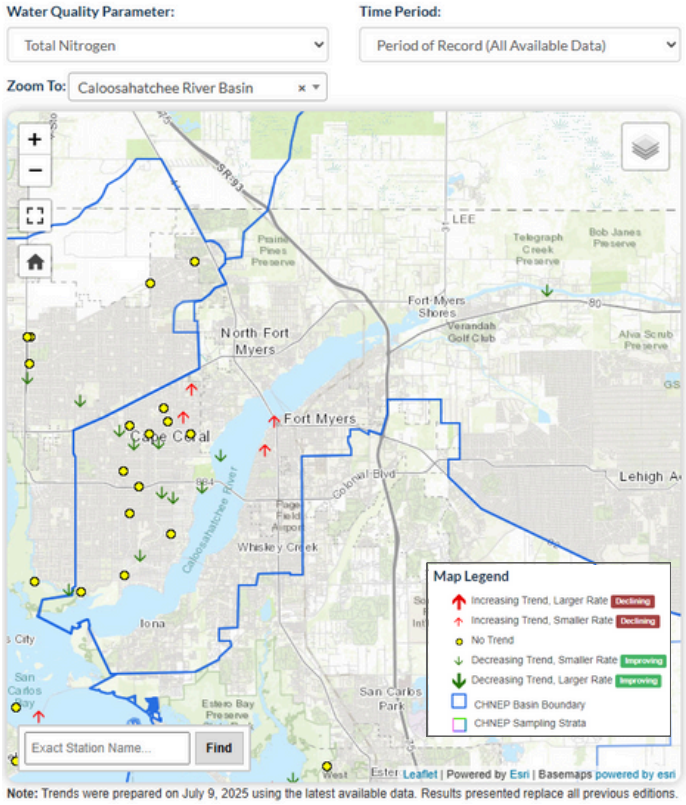
The top right graphic shows the trends for Nitrogen at long-term monitoring stations in the Basin.

The Florida Department of Environmental Protection (FDEP) uses water quality data that meets its quality control standards to identify waterbodies and water segments “WBIDs” that are not meeting the applicable water quality standards and designated uses based on the IWR 62-303 and 62-302, F.A.C. Once a WBID is verified impaired, it is to be placed on a schedule for TMDL development. TMDLs are waterbody-specific pollutant limits aimed at restoring attainment of water quality standards.

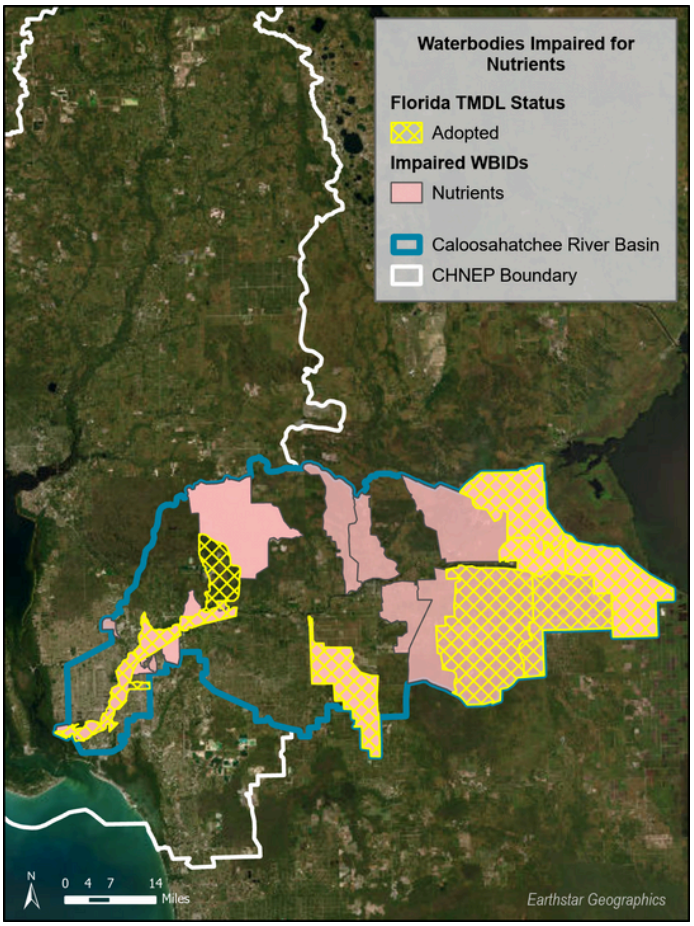
The following WBIDs are currently not meeting water quality standards for nutrients:

- Bee Branch
- Billy Creek (Freshwater Segment)
- Caloosahatchee Estuary (Tidal Segments 1-3)
- C-19 Canal
- Flaghole Canal
- Ford Street Canal
- Goodno Canal
- Lake Hicpochee
- Long Hammock Creek
- Manuel Branch
- Okaloacoochee Branch
- Otter Creek
- Padgett Ranch Canal / Turkey Creek
- Palm Creek
- Pollywog Creek
- S-4 Basin
- Telegraph Swamp
- Townsend Canal
- Yellow Fever Creek

On the map to the right, pink areas are verified impaired for nutrients and yellow striped areas designate areas under TMDL or TMDL development.



Note: Trends were prepared on July 9, 2025 using the latest available data. Results presented replace all previous editions.



Bacteria

Bacteria in the water affect our ability to use the water for drinking, swimming, and shellfishing. The state water standards establish bacteria limits for different types of uses. The most stringent standards are for shellfishing areas, followed by drinking water and water used for recreation such as swimming and fishing.

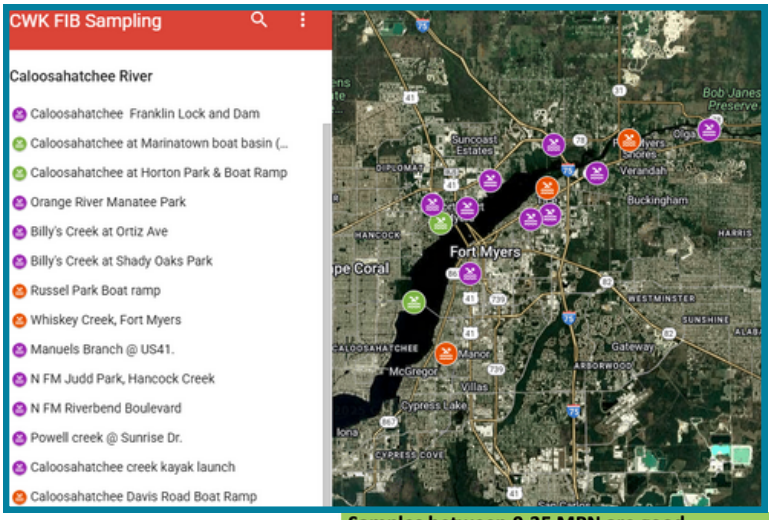
Bacteria come from a variety of sources, but those of most human health concern come from fecal waste of animals and people. Sources of fecal bacteria include:

- Malfunctioning septic systems
- Leaking sanitary sewers
- Confined animal feedlots / overgrazing
- Wastewater plant overflows
- Urban pet waste
- Stormwater

Bacteria impairment is determined by FDEP using the same processes as nutrients. In addition, TMDLs are developed for impaired waters to identify the waterbody-specific pollutant target needed for attaining applicable water quality standards.

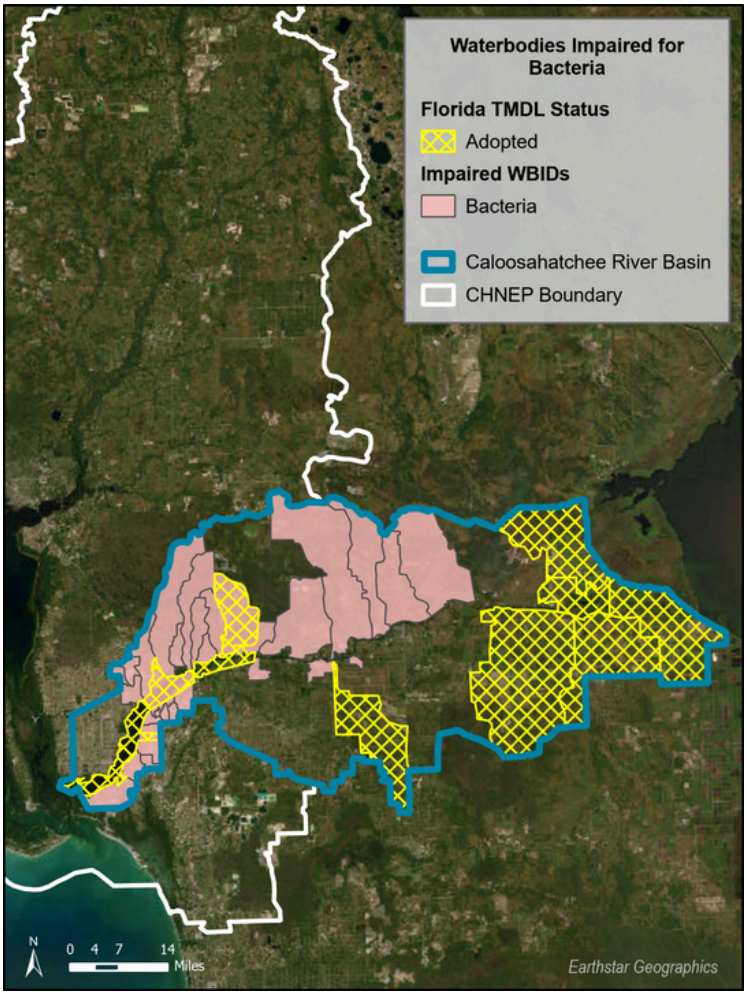
The following WBIDs are currently not meeting water quality standards for bacteria:

- Bedman Creek
- Bee Branch
- Billy Creek (Freshwater and Marine Segments)
- Caloosahatchee Estuary (Tidal Segment 2)
- Carrell Canal
- Chapel Creek / Bayshore Creek
- Cypress Branch
- Cypress Creek
- Daughtrey Creek
- Deep Lagoon Canal
- Ford Street Canal
- Fort Simmons Branch
- H Canal
- Hancock Creek
- Jacks Branch
- L Canal
- Manuel Branch
- Olga Creek
- Otter Creek
- Owl Creek
- Palm Creek
- Pollywog Creek
- Popash Creek
- Powell Creek
- Shoemaker and Zapato Canals
- Stroud Creek
- Telegraph Creek
- Trout Creek
- Whiskey Creek (Wyoua)
- Winkler Canal
- Yellow Fever Canals
- Yellow Fever Creek



The map above shows bacteria sampling results. The data in this map includes Calusa Waterkeeper test sites and publicly available data from the Florida Department of Health.

Recent monthly results for Bacteria (Entercocci) at monitoring stations in the Caloosahatchee Basin.



Pink areas are verified impaired for nutrients and yellow striped areas designate areas under TMDL or TMDL development.

Outstanding Florida Waters

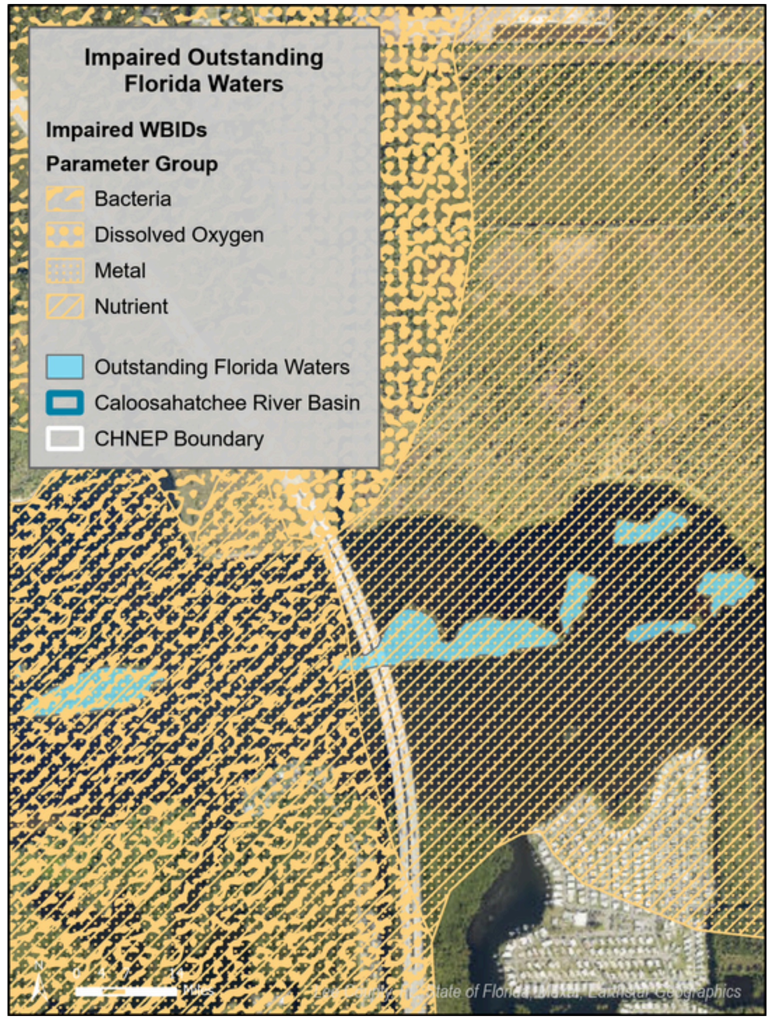
An Outstanding Florida Water (OFW) is a water designated worthy of special protection because of its natural attributes. This special designation is applied to certain waters and is intended to protect existing good water quality. Most OFWs are areas managed by the state or federal government as parks, including wildlife refuges or preserves.

Generally, the waters within these managed areas are OFWs because the managing agency has requested this special protection.

However, some of these OFWs are now impaired (*as indicated by light blue with peach fill pattern on the map to the right*).

The following OFWs are currently not meeting water quality standards:

- Caloosahatchee National Wildlife Refuge



For more information on Lake Okeechobee levels and flows, visit https://chnep.wateratlas.usf.edu/waterbodies/lakes/1002667/lake-okeechobee/.

WBID	Waterbody Name	Impairment(s)	Status
3235A	Caloosahatchee River (above S-79)	Mercury (in fish tissue)	TMDL Complete
3235B1	Caloosahatchee River above Townsend Canal	Dissolved Oxygen (Percent Saturat	Study List
3235B1	Caloosahatchee River above Townsend Canal	Mercury (in fish tissue)	TMDL Complete
3235B2	Caloosahatchee River between S-79 and S-78	Dissolved Oxygen (Percent Saturat	Study List
3235B2	Caloosahatchee River between S-79 and S-78	Mercury (in fish tissue)	TMDL Complete
3235I	Bedman Creek	Escherichia coli	Impaired
3235C	Cypress Creek	Dissolved Oxygen (Percent Saturat	Study List
3235D	Jacks Branch	Mercury (in fish tissue)	TMDL Complete
3235E	Bee Branch	Escherichia coli	Impaired
3240W	Carrell Canal	Escherichia coli	Impaired
3235E	Bee Branch	Dissolved Oxygen (Percent Saturat	Study List
3235E	Bee Branch	Nutrients (Total Phosphorus)	Study List
3235G	Cypress Branch	Fecal Coliform	Impaired
3235F	Pollywog Creek	Nutrients (Total Phosphorus)	Study List
3235G	Cypress Branch	Lead	Impaired
3235C	Cypress Creek	Escherichia coli	Impaired
3235K1	Fort Simmons Branch	Fecal Coliform	Impaired
3235D	Jacks Branch	Fecal Coliform	Impaired
3235L	Townsend Canal	Nutrients (Macrophytes)	Impaired
3235L	Townsend Canal	Nutrients (Total Phosphorus)	TMDL Complete
3235L	Townsend Canal	Nutrients (Total Nitrogen)	TMDL Complete
3235M	Goodno Canal	Nutrients (Algal Mats)	Impaired
3235N	Roberts Canal	Dissolved Oxygen (Percent Saturat	Study List
3235O	Okaloacoochee Branch	Nutrients (Macrophytes)	Impaired
3235P	Olga Creek	Dissolved Oxygen (Percent Saturat	Study List
3235P	Olga Creek	Escherichia coli	Impaired
3236	Telegraph Swamp	Dissolved Oxygen (Percent Saturat	Study List
3236	Telegraph Swamp	Nutrients (Total Nitrogen)	Study List
3236	Telegraph Swamp	Nutrients (Chlorophyll-a)	Study List
3240G1	Otter Creek	Escherichia coli	Impaired
3237A	Caloosahatchee River above S-78	Mercury (in fish tissue)	TMDL Complete
3237A1	Padgett Ranch Canal / Turkey Creek	Dissolved Oxygen (Percent Saturat	Study List
3237A1	Padgett Ranch Canal / Turkey Creek	Nutrients (Total Phosphorus)	Study List
3237B	Long Hammock Creek	Dissolved Oxygen (Percent Saturat	TMDL Complete
3237B	Long Hammock Creek	Nutrients (Macrophytes)	Impaired
3237C	Lake Hicpochee	Nutrients (Total Nitrogen)	TMDL Complete
3237C	Lake Hicpochee	Nutrients (Total Phosphorus)	TMDL Complete
3237C	Lake Hicpochee	Mercury (in fish tissue)	TMDL Complete
3237C	Lake Hicpochee	Nutrients (Macrophytes)	Impaired
3237C	Lake Hicpochee	Nutrients (Chlorophyll-a)	Ongoing Restoration Acti
3237D	Flaghole Canal	Dissolved Oxygen (Percent Saturat	Impaired
3237D	Flaghole Canal	Nutrients (Macrophytes)	Impaired
3237E	C-19 Canal	Nutrients (Chlorophyll-a)	Ongoing Restoration Activities
3237E	C-19 Canal	Dissolved Oxygen (Percent Satu	TMDL Complete
3237E	C-19 Canal	Nutrients (Total Nitrogen)	TMDL Complete
3237E	C-19 Canal	Nutrients (Macrophytes)	Impaired
3240A	Caloosahatchee Estuary (Tidal Segment1)	Mercury (in fish tissue)	TMDL Complete
3240A	Caloosahatchee Estuary (Tidal Segment1)	Nutrients (Total Nitrogen)	TMDL Complete
3240A	Caloosahatchee Estuary (Tidal Segment1)	Nutrients (Total Phosphorus)	Ongoing Restoration Activities
3240A	Caloosahatchee Estuary (Tidal Segment1)	Iron	Impaired
3240A1	Cape Coral (Tidal Segment)	Mercury (in fish tissue)	TMDL Complete
3240A4	Deep Lagoon Canal	Copper	Delist (Ongoing Restoration Activities)
3240A4	Deep Lagoon Canal	Enterococci	Delist (Ongoing Restoration Activities)
3240A4	Deep Lagoon Canal	Dissolved Oxygen (Percent Satu	Study List
3240A4	Deep Lagoon Canal	Mercury (in fish tissue)	TMDL Complete
3240B	Caloosahatchee Estuary (Tidal Segment2)	Nutrients (Chlorophyll-a)	TMDL Complete
3240B	Caloosahatchee Estuary (Tidal Segment2)	Mercury (in fish tissue)	TMDL Complete
3240B	Caloosahatchee Estuary (Tidal Segment2)	Nutrients (Total Nitrogen)	TMDL Complete
3240B	Caloosahatchee Estuary (Tidal Segment2)	Enterococci	Delist (Ongoing Restoration Activities)
3240B	Caloosahatchee Estuary (Tidal Segment2)	Iron	Impaired
3240B	Caloosahatchee Estuary (Tidal Segment2)	Nutrients (Total Phosphorus)	Ongoing Restoration Activities
3240B1	Chapel Creek / Bayshore Creek	Escherichia coli	Delist (Ongoing Restoration Activities)
3240B2	Chapel Creek / Bayshore Creek (Marine Segments)	Mercury (in fish tissue)	TMDL Complete
3240C	Caloosahatchee Estuary (Tidal Segment3)	Nutrients (Total Nitrogen)	TMDL Complete
3240C	Caloosahatchee Estuary (Tidal Segment3)	Mercury (in fish tissue)	TMDL Complete
3240C	Caloosahatchee Estuary (Tidal Segment3)	Iron	Impaired
3240C	Caloosahatchee Estuary (Tidal Segment3)	Nutrients (Chlorophyll-a)	TMDL Complete
3240C	Caloosahatchee Estuary (Tidal Segment3)	Nutrients (Total Phosphorus)	Ongoing Restoration Activities
3240N	Owl Creek	Escherichia coli	Impaired
3240C1	Palm Creek	Dissolved Oxygen (Percent Satu	Study List
3240C1	Palm Creek	Nutrients (Total Phosphorus)	Study List
3240C1	Palm Creek	Nutrients (Chlorophyll-a)	Study List
3240E1	Hancock Creek	Mercury (in fish tissue)	TMDL Complete
3240E1	Hancock Creek	Copper	Delist (Ongoing Restoration Activities)
3240E1	Hancock Creek	Enterococci	Delist (Ongoing Restoration Activities)
3240EA	Yellow Fever Canals	Escherichia coli	Ongoing Restoration Activities
3240EA	Yellow Fever Canals	Dissolved Oxygen (Percent Satu	Ongoing Restoration Activities
3240EB	Yellow Fever Creek	Nutrients (Total Phosphorus)	Ongoing Restoration Activities
3240EB	Yellow Fever Creek	Escherichia coli	Ongoing Restoration Activities
3240F	Daughtrey Creek	Escherichia coli	Delist (Ongoing Restoration Activities)
3240F	Daughtrey Creek	Dissolved Oxygen (Percent Satu	Study List
3240F	Daughtrey Creek	Mercury (in fish tissue)	TMDL Complete
3240C1	Palm Creek	Escherichia coli	Impaired
3240G1	Otter Creek	Dissolved Oxygen (Percent Satu	Study List
3235F	Pollywog Creek	Escherichia coli	Impaired
3240G1	Otter Creek	Nutrients (Total Phosphorus)	Study List
3240H1	Whiskey (Wyoua) Creek	Iron	Impaired
3240H1	Whiskey (Wyoua) Creek	Enterococci	Ongoing Restoration Activities
3240H1	Whiskey (Wyoua) Creek	Copper	Ongoing Restoration Activities
3240H1	Whiskey (Wyoua) Creek	Dissolved Oxygen (Percent Satura	Study List
3240H2	H Canal	Escherichia coli	Ongoing Restoration Activities
3240H2	H Canal	Dissolved Oxygen (Percent Satura	Study List
3240H3	L Canal	Dissolved Oxygen (Percent Satura	Study List
3240H3	L Canal	Escherichia coli	Ongoing Restoration Activities
3240J1	Billy Creek (Marine Segment)	Mercury (in fish tissue)	TMDL Complete
3240J1	Billy Creek (Marine Segment)	Iron	Impaired
3240J1	Billy Creek (Marine Segment)	Dissolved Oxygen (Percent Satura	Study List
3240J1	Billy Creek (Marine Segment)	Enterococci	Ongoing Restoration Activities
3240J2	Billy Creek (Freshwater Segment)	Dissolved Oxygen (Percent Satura	Study List
3240J2	Billy Creek (Freshwater Segment)	Escherichia coli	Ongoing Restoration Activities
3240J2	Billy Creek (Freshwater Segment)	Iron	Impaired
3240J2	Billy Creek (Freshwater Segment)	Nutrients (Chlorophyll-a)	Study List
3240J2	Billy Creek (Freshwater Segment)	Nutrients (Total Phosphorus)	Study List
3240J3	Ford Street Canal	Nutrients (Total Phosphorus)	Study List
3240J3	Ford Street Canal	Escherichia coli	Ongoing Restoration Activities
3240J3	Ford Street Canal	Dissolved Oxygen (Percent Satura	Study List
3240J4	Shoemaker and Zapato Canals	Escherichia coli	Ongoing Restoration Activities
3240J4	Shoemaker and Zapato Canals	Dissolved Oxygen (Percent Satura	Study List
3240L	Powell Creek	Escherichia coli	Delist (Ongoing Restoration Activities)
3240M	Stroud Creek	Dissolved Oxygen (Percent Satura	Study List
3240M	Stroud Creek	Escherichia coli	Impaired
3240M	Stroud Creek	Biology	Study List
3240N	Owl Creek	Dissolved Oxygen (Percent Satura	Study List
3236A	Telegraph Creek	Escherichia coli	Impaired
3240Q	Popash Creek	Escherichia coli	Delist (Ongoing Restoration Activities)
3240G	Trout Creek	Escherichia coli	Impaired
3240U	Winkler Canal	Dissolved Oxygen (Percent Satura	Study List
3240V	Manuel Branch	Nutrients (Total Phosphorus)	Impaired
3240V	Manuel Branch	Escherichia coli	Ongoing Restoration Activities
3240V	Manuel Branch	Dissolved Oxygen (Percent Satura	Study List
3240V	Manuel Branch	Nutrients (Macrophytes)	Impaired
3240W	Carrell Canal	Dissolved Oxygen (Percent Satura	Study List
3240U	Winkler Canal	Escherichia coli	Impaired
3246	S-4 Basin	Nutrients (Chlorophyll-a)	Ongoing Restoration Activities
3246	S-4 Basin	Nutrients (Total Phosphorus)	TMDL Complete
3246	S-4 Basin	Nutrients (Total Nitrogen)	TMDL Complete
3246	S-4 Basin	Nutrients (Macrophytes)	Impaired

Source(s): Florida Department of Environmental Protection

CONTACT INFORMATION

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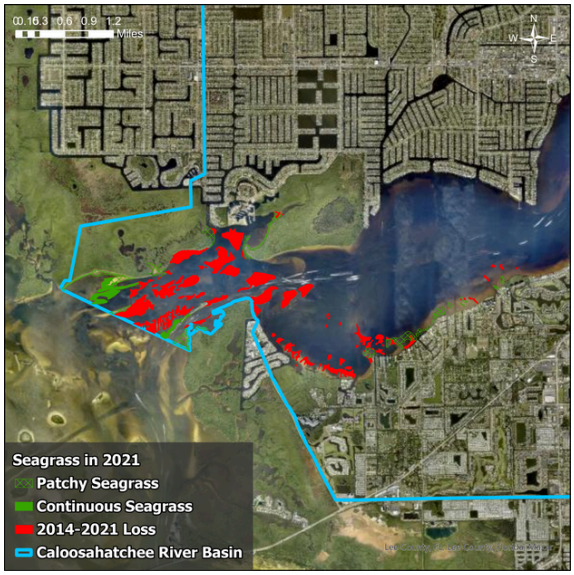
Seagrass in Caloosahatchee River Basin

FISH, WILDLIFE & HABITAT PROTECTION

Seagrass Measures Water Quality & Improves Estuary Health

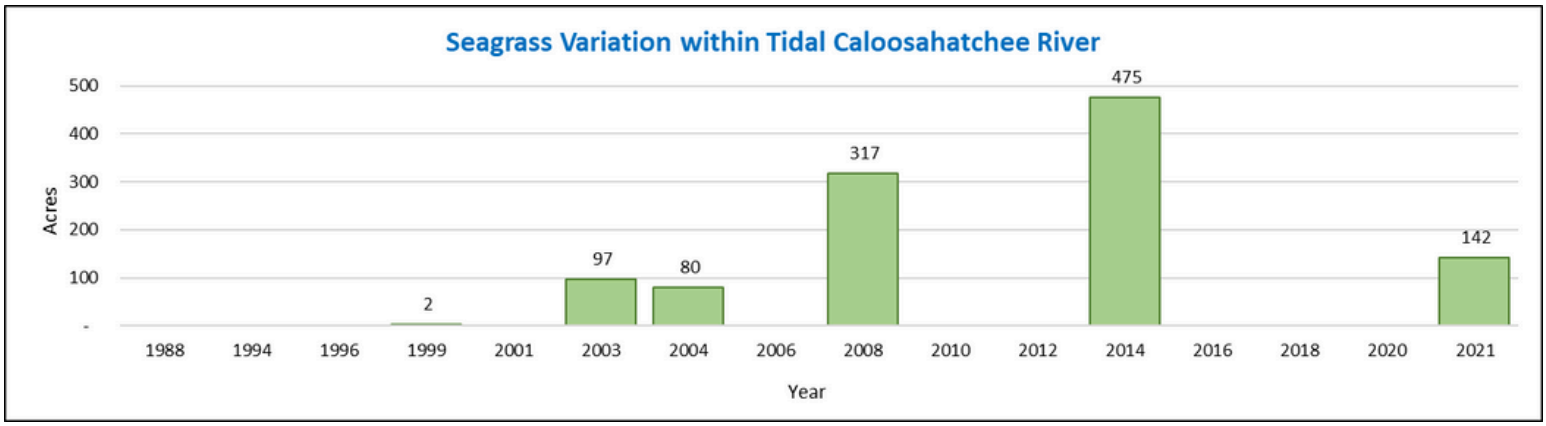
Seagrass beds provide many benefits. It is nursery habitat for fish and shellfish and it contributes to better water quality by trapping sediments, storing carbon, and filtering nutrients from stormwater runoff. Seagrass requires clean water and ample sunlight to grow, and therefore it is used by agencies and local governments as a way to measure water quality. This is documented in two ways:

- Mapping changes in seagrass acreage and location over time with aerial photography. This is valuable for estimating seagrass locations, acres and broad changes over time.
- On-the-ground monitoring of changes in species composition, estimation of bottom cover in a seagrass bed (abundance), and maximum depth in which seagrass can grow due to light availability and water clarity (deep edge). This monitoring works to characterize the density, complexity, and stability of those seagrass meadows.



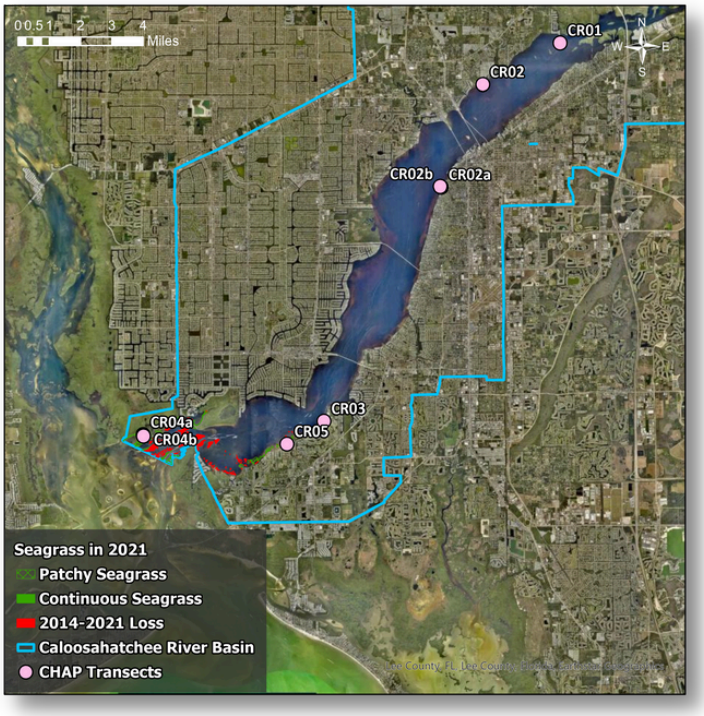
Seagrass Acreage

The graph below depicts results from seagrass mapping in the tidal portion of the Caloosahatchee River from 1999–2021. From 2006 to 2014, seagrass acreage in the Tidal Caloosahatchee River appears to have increased. However, it is important to note, consistent mapping of acreage and locations with aerial photography is needed at least every 3–4 years in order to evaluate trends in seagrass acreage. Between 2014 and 2021, the Tidal Caloosahatchee River lost 333 acres of seagrass, representing a 70% loss overall. The reason for this decline is complex and likely involves several factors. This includes impacts from storm events such as Hurricane Irma, increased temperatures and rainfall, additional nutrient runoff from land, as well as prolonged red tide and algae blooms in the region. The CHNEP continues to work with our partners to better understand causes and investigate solutions.



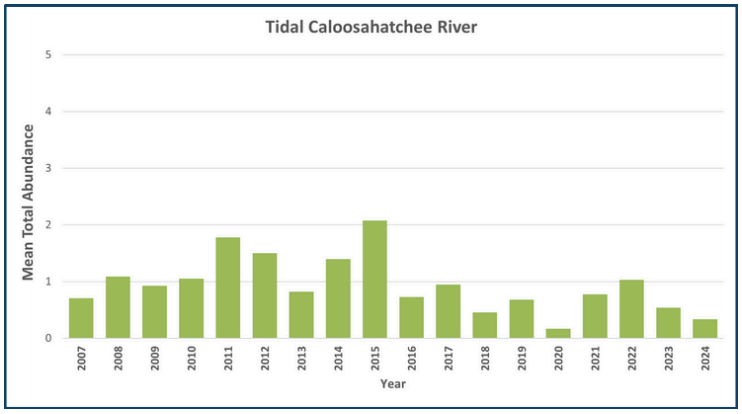
For more information, please visit the CHNEP Water Atlas at chnep.wateratlas.usf.edu.

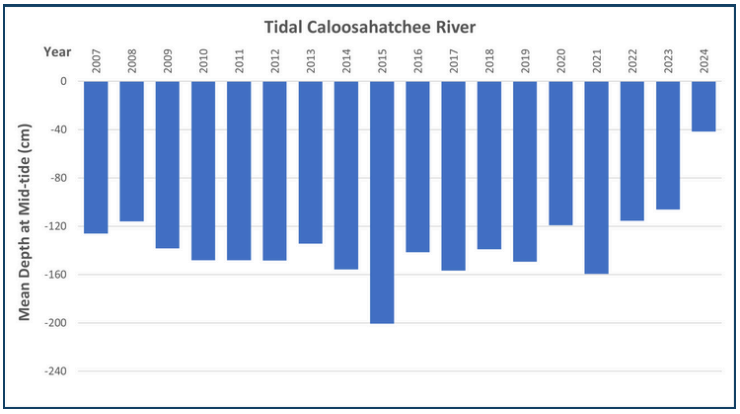
The map to the right shows locations of monitoring sites (highlighted in pink) in selected meadows in the Tidal Caloosahatchee River by the Florida Department of Environmental Protection Aquatic Preserve staff.

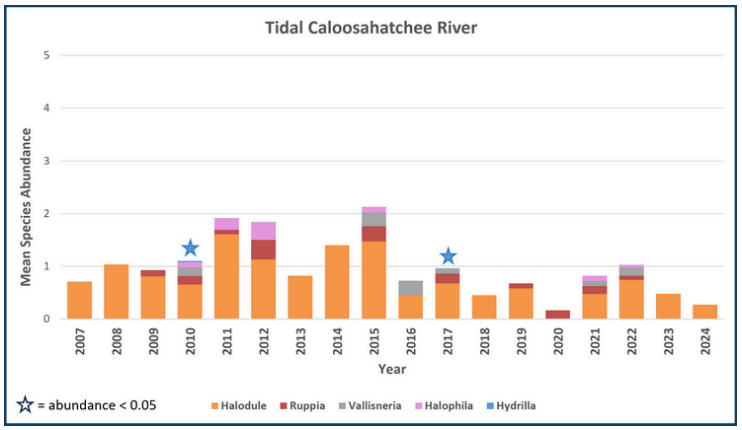


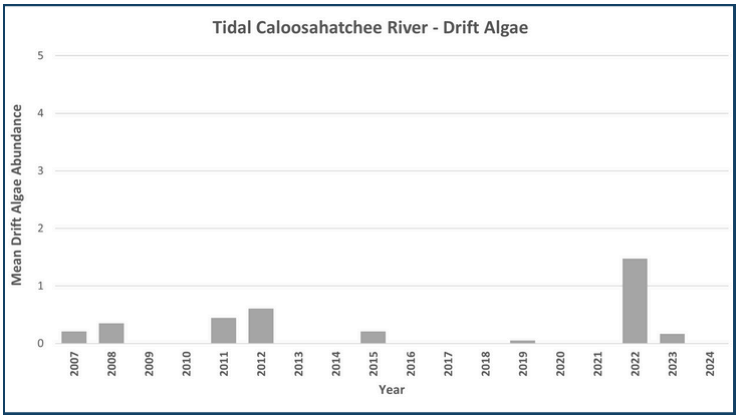
Seagrass Diversity and Health

The bar graphs here depict the changes in presence of different species of seagrass found at monitored locations in the region. The primary seagrass species found in the area are Shoal grass (*Halodule wrightii*) and Widgeon grass (*Ruppia maritima*) for the years 2007–2024. Other types of seagrass are only found infrequently at these locations. Both types of seagrass species experienced declines at multiple monitoring locations starting as far back as 2016. Data collected in 2022 showed slight gains (though not full recovery) in Shoal grass and overall seagrass abundance throughout the region, however data collected in 2024 demonstrate significant declines.









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