Documentation in Support of Category 4e

Waterbody/Watershed Identification

Organization	Lee County Southwest Florida
Point of Contact	Maria Romero Principal Planner/TMDL Coordinator Natural Resources Department 1500 Monroe Street, Fort Myers, FL 33901 239-533-8139 / 239-565-0209 mromero@leegov.com
Waterbody(s)	WBID ID 3240L, Powell Creek Watershed. WBID ID 3240B1, Chapel Creek / Bayshore Creek*. WBID ID 3240F, Daughtrey Creek. WBID ID 3240Q, Popash Creek. WBID ID 3240B, Caloosahatchee Estuary* (Tidal Segment2). *The Florida Department of Environmental Protection (FDEP) is considering splitting these watersheds. The overall area of the combined watersheds will not change.
No. Waterbody / Pollutant Combinations	- WBID ID 3240L: Powell Creek Watershed. Verified Impaired for Fecal Bacteria - *Escherichia coli.* - WBID ID 3240B1: Chapel Creek / Bayshore Creek. Verified Impaired for Fecal Bacteria - *Escherichia coli*.* - WBID ID 3240F: Daughtrey Creek. Verified Impaired for Fecal Bacteria - *Escherichia coli.* - WBID ID 3240Q: Popash Creek. Verified Impaired for Fecal Bacteria -*Escherichia coli.* - WBID ID 3240B: Caloosahatchee Estuary (Tidal Segment2). Verified Impaired for Fecal Bacteria - *Enterococci* and Iron. * FDEP is considering splitting this watershed into two WBIDs. The parameters used to assess the impairment status are subject to change, since they are related to the marine/fresh designation of the waterbody.
EPA Completed TMDL	EPA has not completed a TMDL for any of the impaired waterbody segments listed in this document.

Description of Baseline Conditions

Watershed(s)

The watersheds included in this document are the Caloosahatchee Tidal segment 2 and all its tributaries to the north. All the watersheds in this document are part of the River Estuary Basin Group 3 and the Caloosahatchee River Basin Management Plan (BMAP).

Baseline Data

These waterbodies are verified impaired based on the number of exceedances for the sample size and anthropogenic sources have been confirmed. There is a sufficient number of samples from the water segment that do not meet applicable water quality criteria for Escherichia Coli (predominantly freshwaters) or Enterococci (predominantly marine waters) expressed as a Ten Percent Threshold Value (TPTV). All the waterbodies included in this document were initially impaired for fecal coliform bacteria. WBIDs 3240B, 3240F, 3240Q and 3240L were verified impaired in 2005 during the group 3 cycle 1 assessment and WBID 3240B1 was verified impaired in 2010 during the group 3 cycle 2 assessment. All the waterbodies remained impaired for their revised bacteria parameter during the initial 2020-2022 biennial assessment. WBID 3240B was verified impaired for iron in 2016 during the group 3 cycle 3 assessment.

WBID	Waterbody Segment Name	Waterbody Class	Parameters Assessed Using the Impaired Waters Rule (IWR)	Concentration of Criterion or Threshold Not Met	Priority for TMDL Development	Verified Period Exceedance Ratio (Exceedances/ Sample Size)
3240B	Caloosahatchee Estuary (Tidal Segment2)	3M	Enterococci	≤ 130 Counts / 100 mL	Low	60/267
3240B	Caloosahatchee Estuary (Tidal Segment2)	3M	Iron	≤ 0.3 mg/L	Medium	143/308
3240B1	Chapel Creek / Bayshore Creek	3F	Escherichia coli	≤ 410 Counts / 100 mL	Low	92/168
3240F	Daughtrey Creek	3F	Escherichia coli	≤ 410 Counts / 100 mL	Low	130/303
3240Q	Popash Creek	3F	Escherichia coli	≤ 410 Counts / 100 mL	Low	58/143
3240L	Powell Creek	3F	Escherichia coli	≤ 410 Counts / 100 mL	Low	88/169

Table 1. Impairments as listed in the Statewide Comprehensive List of Impaired Waters.

In addition to these verified impairments, Caloosahatchee Estuary (Tidal Segment 2) is on the Study list for Nutrients (Total Phosphorus).

Map

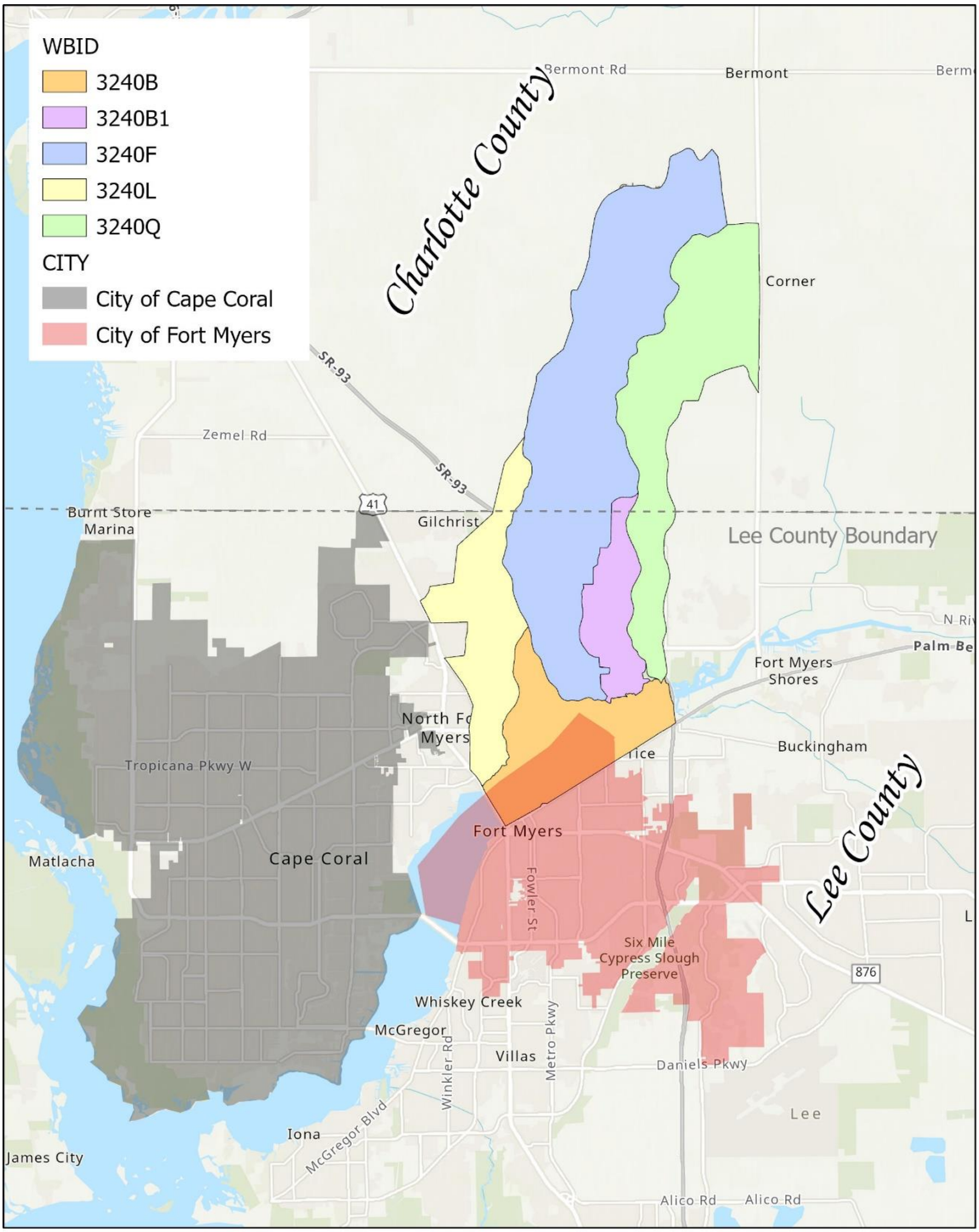

Figure 1. Proposed WBIDs for the ARP in the North Fort Myers Caloosahatchee Segment 2. All the tributaries to the north of the Caloosahatchee Segment 2 cross boundaries with Charlotte County. Part of the Caloosahatchee Segment 2 is withing the City of Fort Myers. None of this WBIDs are withing the City of Cape Coral.

Evidence of Watershed Approach

Area of Effort	The present Alternative Restoration Plan (ARP) is targeting urban areas of North Fort Myers that were developed along canals and creeks that ultimately flow into the Caloosahatchee Estuary (Tidal Segment2). The western side of the target area is limited by Powell Creek and the eastern side is limited by Popash Creek. Powell Creek is east of US41. Popash Creek drains directly west of the I75 highway, but it moves east of I75 as it extends north towards its head waters in Charlotte County. Daughtrey Creek, Powell Creek and Popash Creek are at the northern portion of Lee County and the upstream origin is in Charlotte County. All selected watersheds drain into the Caloosahatchee Estuary (Tidal Segment2).
Key Stakeholders Involved and Their Roles	The projects proposed in this ARP are being executed solely by Lee County within Unincorporated Lee County jurisdictional boundaries. Charlotte County has jurisdiction over some of the northern portions of these watersheds, but none of the proposed projects take place outside Unincorporated Lee County.
Watershed Plan & Other Supporting Documentation	The area includes the watershed drainage area to the Caloosahatchee River Tidal Segment 2 (3240B) which includes the WBIDs: - Chapel Creek/Bayshore Creek (3240B1) - Chapel Creek/Bayshore Creek Marine segment (3240B2) - Daughtrey Creek (3240F) - Popash Creek (3240Q) - Powell Creek (3240L) - Caloosahatchee Estuary (Tidal Segment2) (3240B) These WBIDs are impaired for *Escherichia coli* or *Enterococci sp*. based on the number of exceedances for the sample size. The projects already in place and the objectives outlined by the Caloosahatchee River – North Fort Myers Nutrient and Bacteria Source Identification Study will address these impairments. The WBID drainage area corresponds to the current and future key projects as follows: • Hydrological restoration projects: Powell Creek/Old Bridge Park Restoration; Powell Creek Filter Marsh; Caloosahatchee Creeks East Restoration; Powell Creek Extension and Lost Lane Levee; Prairie Pines Preserve rehydration project; Caloosahatchee Creeks West Restoration; Popash Creek Preserve Restoration; Nalle Grade Stormwater Park; Palm Creek Lower Filter Marsh. • Land purchase and conversion to conservation land use. Current conservation lands in these watersheds are the following: Caloosahatchee Creeks Preserve; Prairie Pines Preserve; Judd Creek Preserve; Powell Creek Preserve; Pop Ash Creek Preserve. More details about current properties and future acquisitions are

available in the 20/20 program Lee County website Conservation 2020 Status Map (arcgis.com).

- Septic to sewer conversion. Lee County Utilities (LCU) has finished the Countywide Wastewater Management Plan (CWMP) for septic to sewer conversions in these and other watersheds around the County.
- Walk-the-WBIDs. The Walk the WBID exercise is a low-cost, effective alternative to help with identification of potential sources of fecal coliform pollution as well as outline measures to address identified sources, to help it meet state water quality standards. Lee County will develop a Walk-the-WBID exercise in 2024 in these watersheds as part of this Alternative Restoration Plan response.
- Street Sweeping. Street cleaning is one of the Best Management Practice (BMP) for preventing pollutants such as nutrients, metals, and organics from entering stormwater systems.
- Keep Lee County Beautiful litter collection. The mission of Keep Lee County Beautiful is to inspire, educate, and engage the Lee County community in improving, beautifying, and protecting our environment. Lee County is a partner with this non-profit organization. We will work with them to organize clean ups in identified hot-spots areas in the watershed.
- Fertilizer Ordinance and Pet Waste Ordinance outreach campaign. New buses were with advertisement were added to the routes this year to promote pet waste best management practices. Buses wrapped with new advertisement were added some of the routes this year to promote the summer fertilizer ban from June 1st to September 30th.
- Clean and Snag Program. One of the goals of this creek maintenance program is to preserve a balance between reducing flood risks and protecting the environment. Creek maintenance generally includes the following operations:
  1. Removing blockages that could prevent water from flowing over banks.
  2. Trimming or removing vegetation within creek banks.
  3. Install measurers to prevent wash outs and protect water quality at the vicinity of creeks.

Point Sources and Indirect Source Monitoring (Sites)	These watersheds are proactively inspected by the NPDES and Pollution Prevention programs for illicit discharges and spills. The entire area is regulated by the Municipal Separate Storm Sewer System (MS4) permit # FLS000035-004. The most recent MS4 annual report is attached to this document - Attachment number 1. Other supporting documents can be found in the attachments: • "Countywide Wastewater Management Plan (CWMP)" - Attachment number 2. • "North Fort Myers Nutrient and Bacteria Source Identification Study" - Attachment number 3. • "Microbial Source Tracking in Lee County Waterways" - Attachment number 4. • "North Fort Myers Surface Water Management Plan" - Attachment number 5.
Nonpoint Sources	The combined watersheds of: Powell Creek (3240L), Chapel Creek / Bayshore Creek (3240B1), Daughtrey Creek (3240F), Popash Creek (3240Q) and the Marsh Point watershed cover around 140.4 square miles. Altogether, the North Fort Myers Caloosahatchee Estuary Segment 2 ARP is 53 percent urban land uses inside Lee County's jurisdiction. Lee County has conducted studies to determine the coverage and location of these watersheds. The latest study in this subject region of Lee County is the "North Fort Myers Surface Water Management Plan" (Attachment #5). The findings on these studies diverged from the watershed boundaries that the Florida Department of Environmental Protection uses to implement the Verified Impairment Lists assessments. The boundary lines do not match exactly between government agencies, but the overall extent and location of these watersheds is very similar. To better study the unique conditions of these watersheds, the boundaries delimitated by local studies in each of these watersheds has been used in this report. The following pages will analyze each watershed in this Alternative Restoration Plan as studied:

The subwatersheds of Daughtrey Creek, Daughtrey Creek East, and Daughtrey Creek East Branch watersheds are approximately 36.8 square miles combined. Daughtrey Creek East is entirely located in Charlotte County (1.5 square miles), and Daughtrey Creek East Branch is entirely located in Lee County (3.2 square miles). The lower 4.7 square miles of the remaining 32.1 square miles lies in Lee County. Eighty-nine percent of the urban land use is in Lee County. The portion of the combined watershed located in Lee County is 43 percent urban land uses. In Charlotte County there is about 1 percent urban land uses within this watershed.

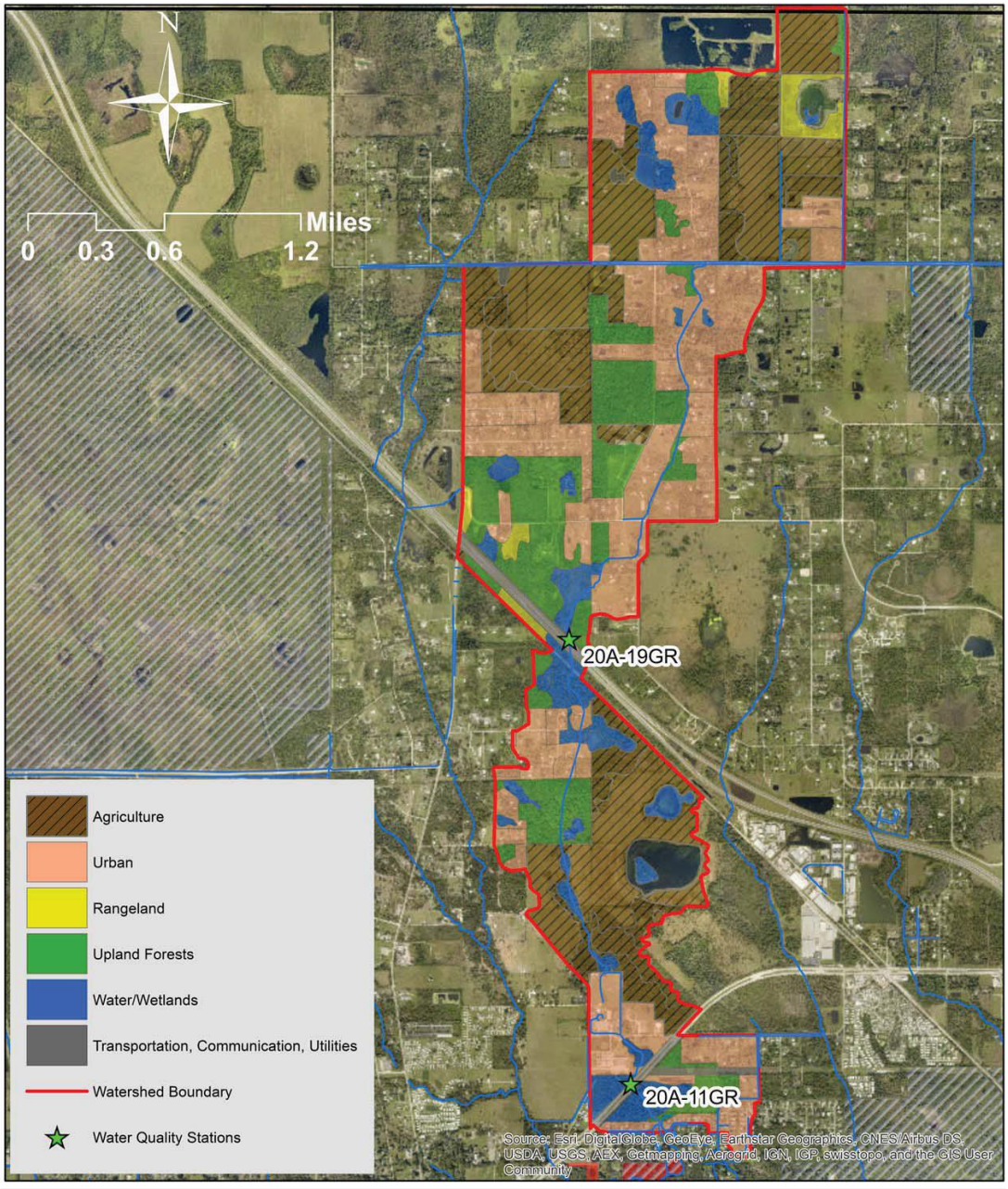

Figure 2. Daughtrey Creek watershed in Unincorporated Lee County.

Chapel Branch watershed is 2.4 square miles and includes 37 percent urban land uses, 31 percent of which is high- or medium-density residential or commercial, industrial or transportation. These higher intensity land uses are generally located lower in the basin than the remaining low-density residential. A portion of the Caloosahatchee Creeks Preserve is situated in the lowest portion of the watershed.

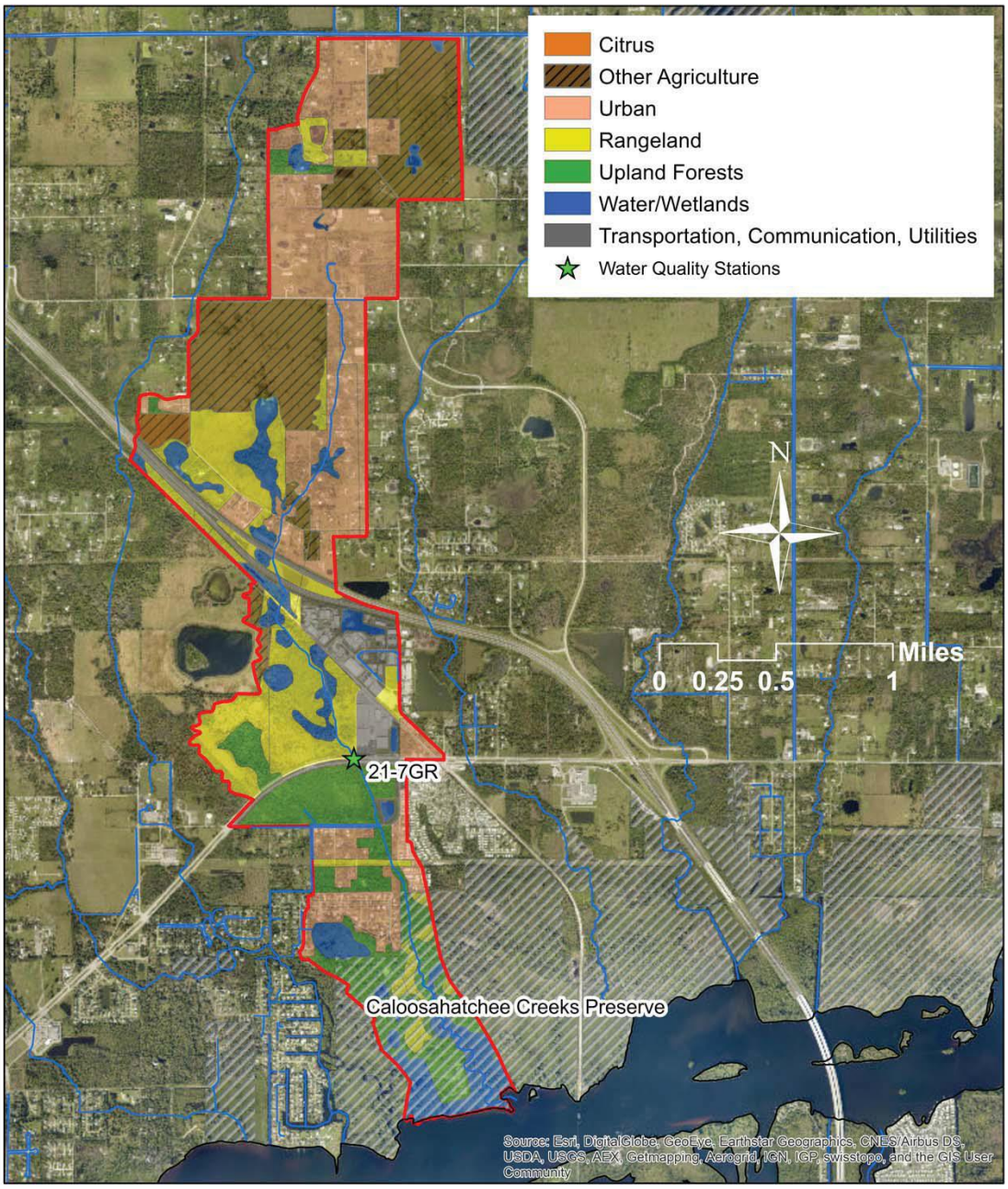

Figure 3. Chapel Branch watershed in Unincorporated Lee County.

The Bayshore Creek watershed is approximately 3.1 square miles and includes 55 percent urban land uses. Eighty-seven percent of the land use classified as urban is low-density residential, with less than two homes per acre. Existing water quality and conservation projects in the watershed include Nalle Grade Stormwater Park and Caloosahatchee Creeks Preserve.

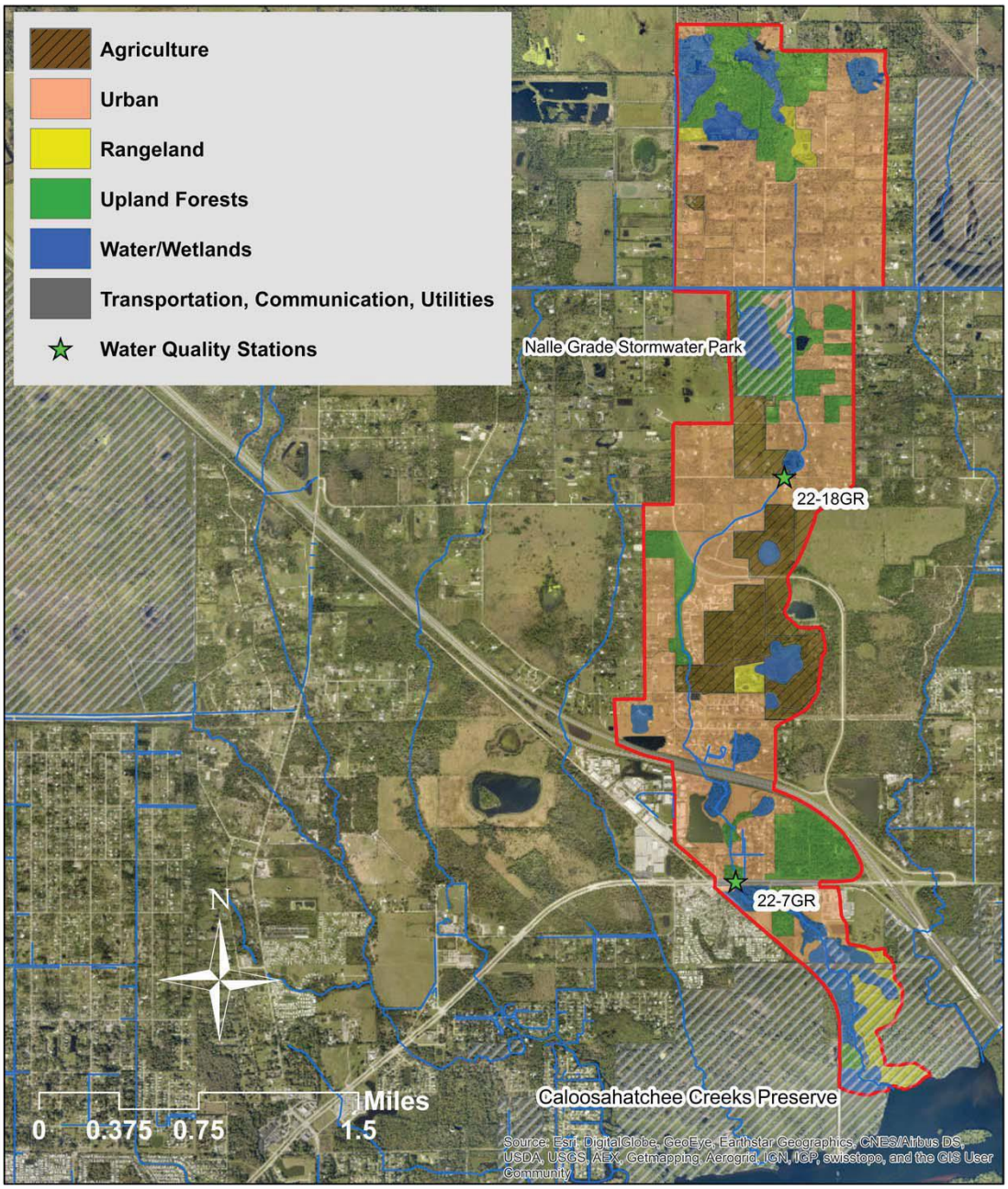

Figure 4. Bayshore watershed in Unincorporated Lee County.

The Popash Creek watershed occupies a total of 15.2 square miles, with 3.7 square miles (24 percent) situated in Lee County. Overall, the watershed includes 10 percent urban land uses, but 93 percent of the urbanized area is in Lee County. The Lee County portion of the watershed is 37 percent urban. Popash Creek Preserve is located at the Charlotte/Lee County line, and a portion of the Caloosahatchee Creeks Preserve is located in the lower portion of the watershed at the Caloosahatchee River.

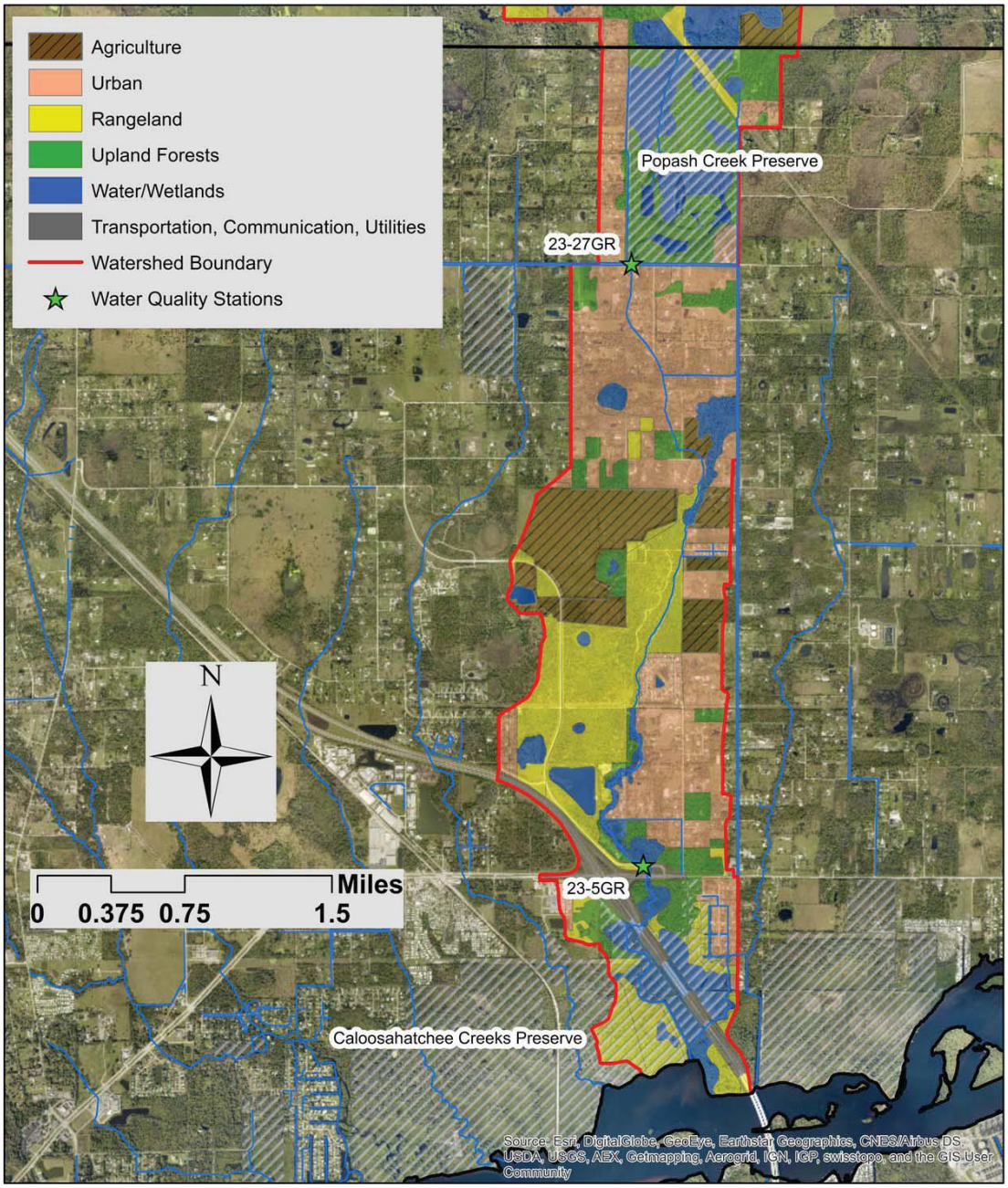

Figure 5. Popash Creek watershed in Unincorporated Lee County.

The Powell Creek watershed is approximately 10.7 square miles, with 9.0 square miles (85 percent) located in Lee County. All of the urbanized area in this watershed is in Lee County. This watershed has a total of 35 percent urban land uses. A large portion of the upper Lee County watershed is a part of the Prairie Pines Preserve. Powell Creek Preserve and its filter marsh system are located to the south, downstream of much of the urban areas.

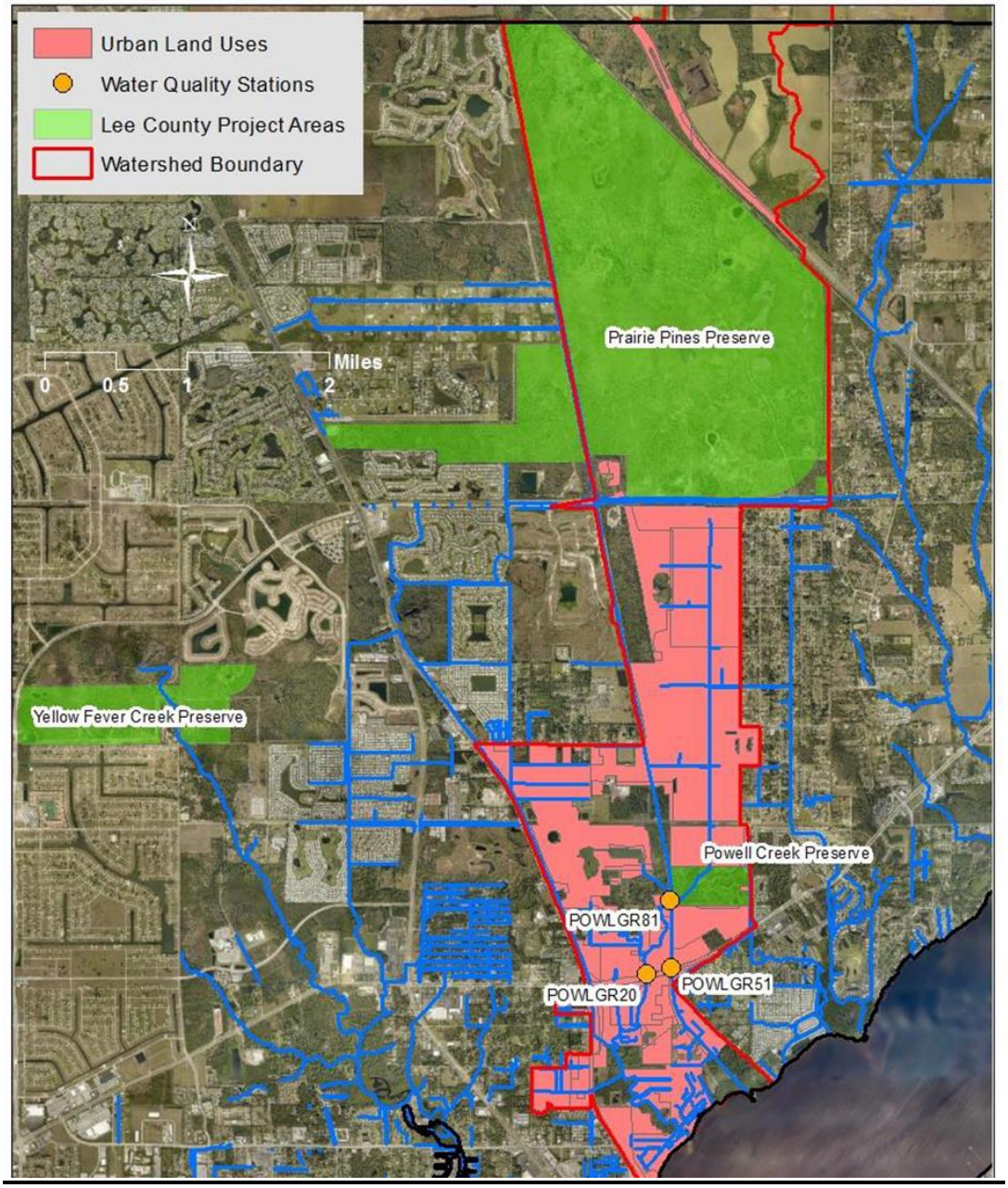

Figure 6. Powell Creek watershed in Unincorporated Lee County.

The Caloosahatchee Estuary segment 2 watershed is mostly over open water, except for an area that overlaps a subwatershed that Lee County recognizes as the "Marsh Point" subwatershed. This subwatershed is approximately 2.0 square miles and is 79 percent urban land uses. The rest of Caloosahatchee Segment 2 watershed that is on land is 1.1 square miles and around 85 percent urban land uses.

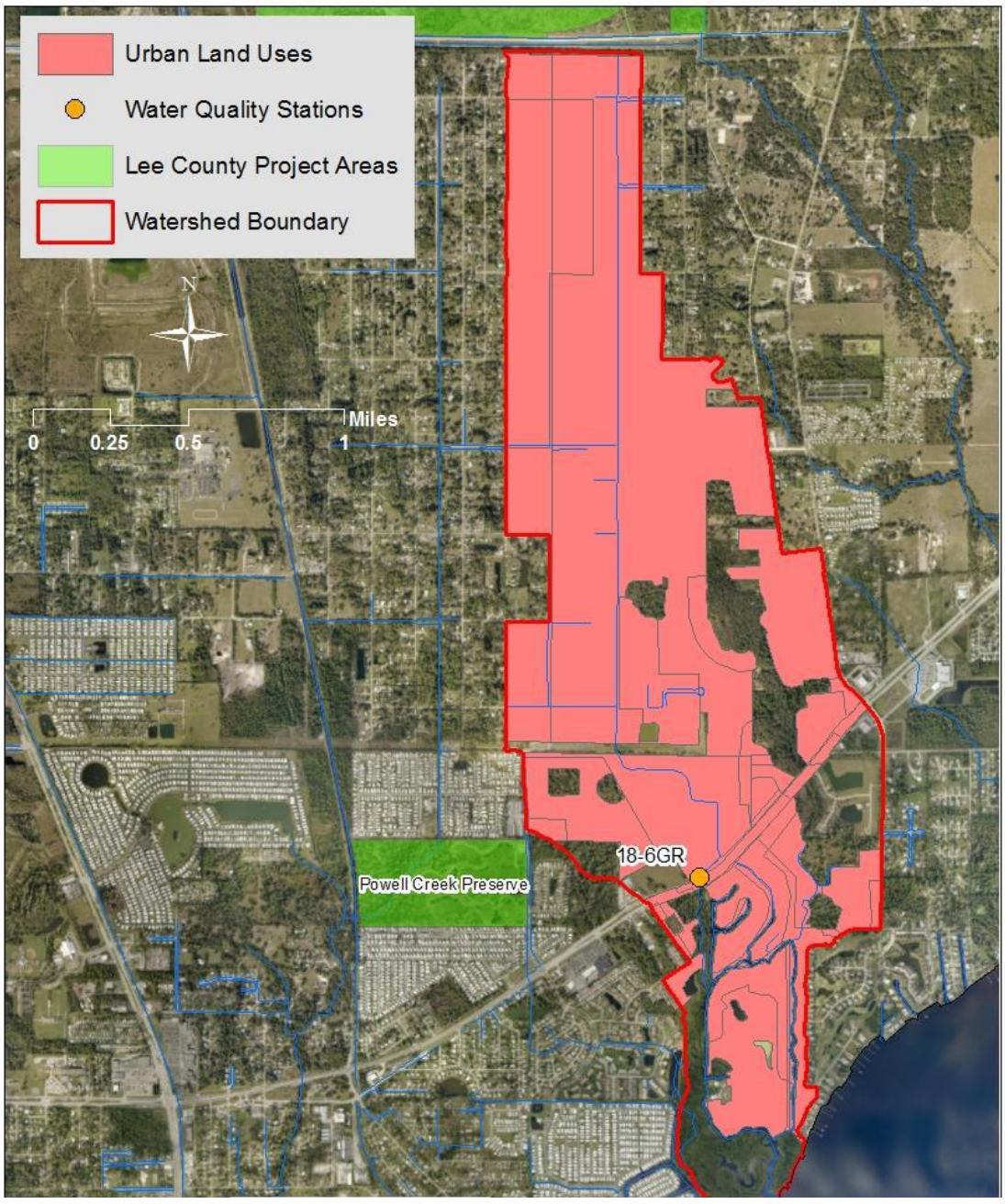

Figure 7. Marsh Point watershed in Unincorporated Lee County.

Wastewater Facilities in Area: Two wastewater facilities. Del Prado Water Reclamation Facility belongs to Florida Governmental Utility Authority (FGUA). High Point WWTP belongs to Lee County Utilities.

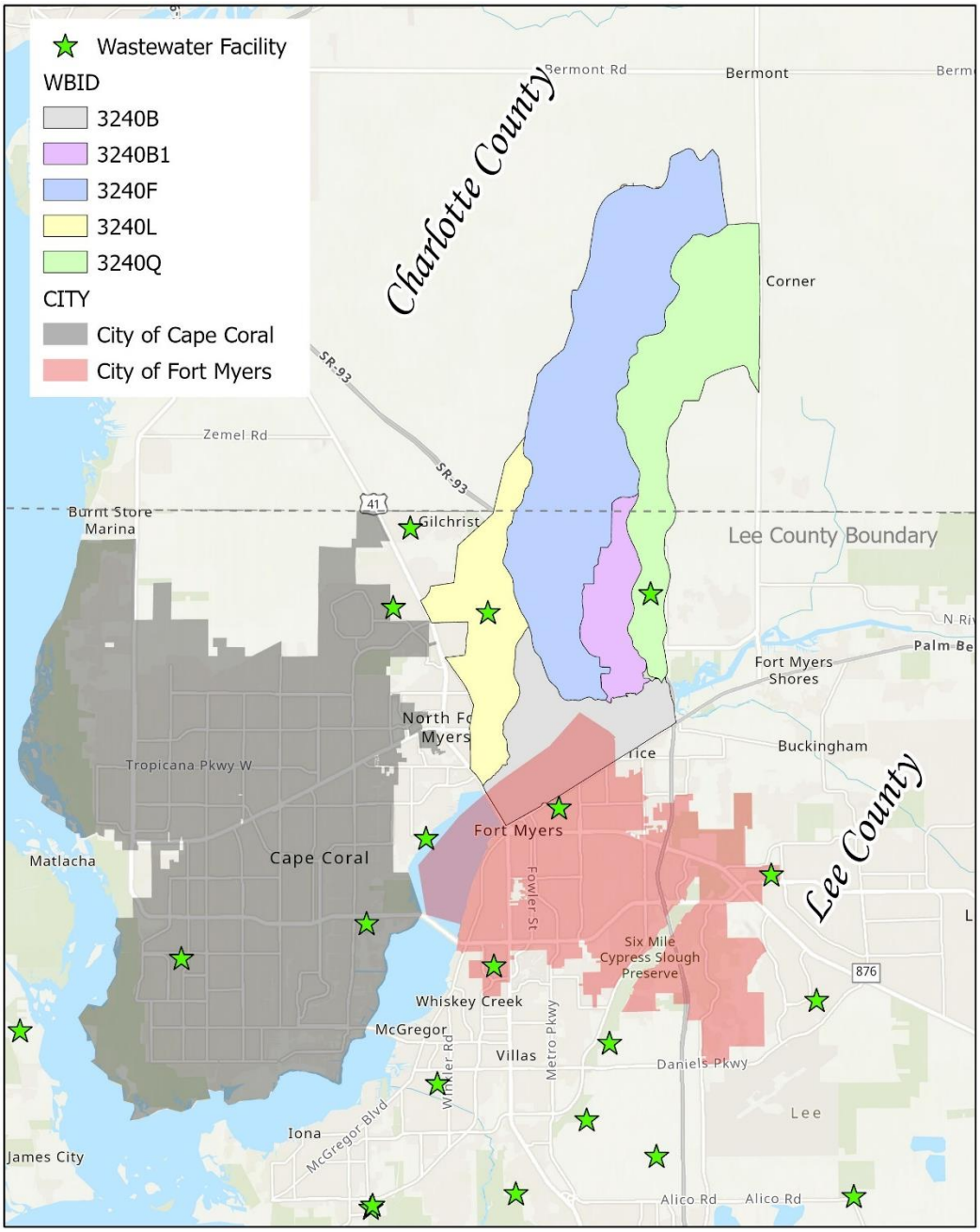

Figure 8. There are two wastewater treatment plants in within this North Fort Myers Caloosahatchee River Segment 2 ARP.

Solid Waste Facilities in area: There are no Solid Waste Facilities in these watersheds.

Water Quality Criteria	It is expected that the Class III water quality standards derived from the Narrative Nutrient Criteria associated with estuary waterbody types for bacteria (fecal coliforms) will be attained upon implementation of the specified watershed improvement projects.
Restoration Work	A) Existing and ongoing restoration work in this watershed: - Hydrological restoration projects: All these projects were designed to reduce nutrients as part of the Caloosahatchee BMAP. There is a bacterial reduction benefit from the creation of wetlands. Wetlands are known to act as excellent biofilters through a complex of physical, chemical, and biological factors which all participate in the reduction of the number of pathogenic bacteria: 1. **Powell Creek Filter Marsh**: This project is a constructed wetland treatment. This filter marsh was completed in 2013. This project is in the Caloosahatchee Basin Management Action Plan as LC-20. This project is in Powell Creek Watershed (WBID 3240L.) 2. **Powell Creek Extension and Lost Lane Levee:** This project is a constructed wetland treatment. This filter marsh was completed in 2013. This project is in the Caloosahatchee Basin Management Action Plan as LC-17. This project is in Powell Creek Watershed (WBID 3240L.) 3. **Caloosahatchee Creeks West Restoration**: Restoration of wetlands to rehydrate and restore flows inside the Caloosahatchee Creeks Preserve. This project started in 2016 and the filter marsh was completed the same year. This project is in the Caloosahatchee Basin Management Action Plan as LC-25. This project is in Chapel Creek / Bayshore Creek (WBID ID 3240B1.) 4. **Prairie Pines Preserve rehydration project:** This project consists in the restoration of historical flows and the enhancement and restoration of wetlands. This project is in the Caloosahatchee Basin Management Action Plan as LC-27. This project was completed in 2018. This project is in Daughtrey Creek (WBID ID 3240F.) 5. **Nalle Grade Storm Water Park**: This project is a constructed wetland treatment with stormwater treatment areas. This project started in 2019 the filter marsh was completed in 2021. This project is in the Caloosahatchee Basin Management Action Plan as LC-21. This project is in Chapel Creek / Bayshore Creek (WBID ID 3240B1.) 6. **Powell Creek/Old Bridge Park Restoration**: This project is a constructed wetland treatment. This project started in 2021 and the filter marsh will be completed in 2023. This project is in the Caloosahatchee Basin Management Action Plan as LC-44. This project is in Powell Creek Watershed (WBID 3240L), and Caloosahatchee Estuary Tidal Segment 2 (WBID ID 3240B.)

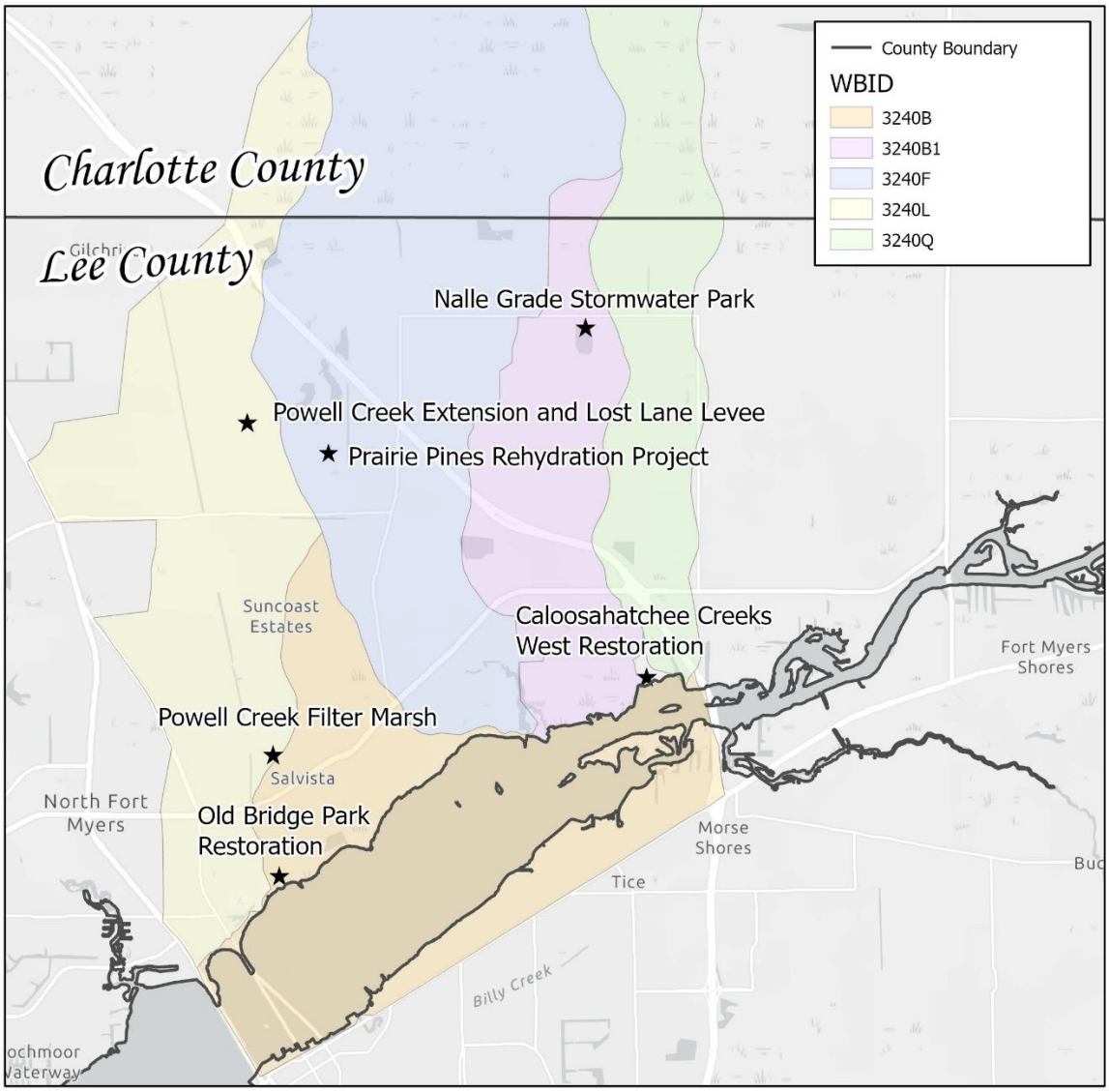

Figure 9. Location of the Lee County water quality projects in the watershed.

- Pet waste ordinance 14-22: The owner of every animal shall be responsible for the removal of any excreta deposited by the animal on public walks, recreation areas, private property, or any other place where such excreta deposits may create a nuisance injurious to the public health.

- Clean and Snag Program: Trash and litter contribute to bacteria impairments by transporting waste and impeding flow. These changes in flow create shaded, stagnant pockets of water and increase surface areas. Each of these factors promotes bacteria proliferation. This program removes excess aquatic vegetation and takes out any debris in the canal that may impede water flow. Through the process of removing snags and debris this program also reduces areas conducive to bacteria reproduction that could impact water quality.
    - Budget $280,000/year

- The average annual miles cleaned change every year based on project requirements and available access.

- Pet waste campaign: More information about these projects can be found in attachment #1.
  - https://Fertilizesmart.com/pet-waste-info.html.
  - Post cards sent to residential addresses in the following watersheds:

Zip Code	Watershed	# of letters	Comments
33917	WBID ID 3240L	2,139	Residential only

Table 2. Watersheds that received pet waste best management practices information.

  - Flyers.

- Countywide Wastewater Management Plan (CWMP): Study to support the development of a countywide septic conversion master plan (Attachment #2).

- Other outreach efforts: Please see Lee County's Water Initiative website at leegov.com/water.

- Land purchase: Caloosahatchee Creeks Preserve; Prairie Pines Preserve; Judd Creek Preserve; Powell Creek Preserve; Pop Ash Creek Preserve. More details are available at Lee County's website: Conservation 2020 Status Map (arcgis.com).

- Microbial Source Tracking in Lee County Waterways: Watershed study to investigate interactions between OSTDS and surface water in the Caloosahatchee Estuary.

- Street Sweeping: Several streets within the selected watersheds are cleaned by the Lee County Department of Transportation sweeping program on a 2-to-3-month schedule (Figure 10). In 2023, about 175 miles of County roads are considered hurricane related sweeping. There are 13.1 miles of sweeping within these watersheds. The average price for this area in normal conditions is $2,358. The annual final price is influenced by traffic and spills response.

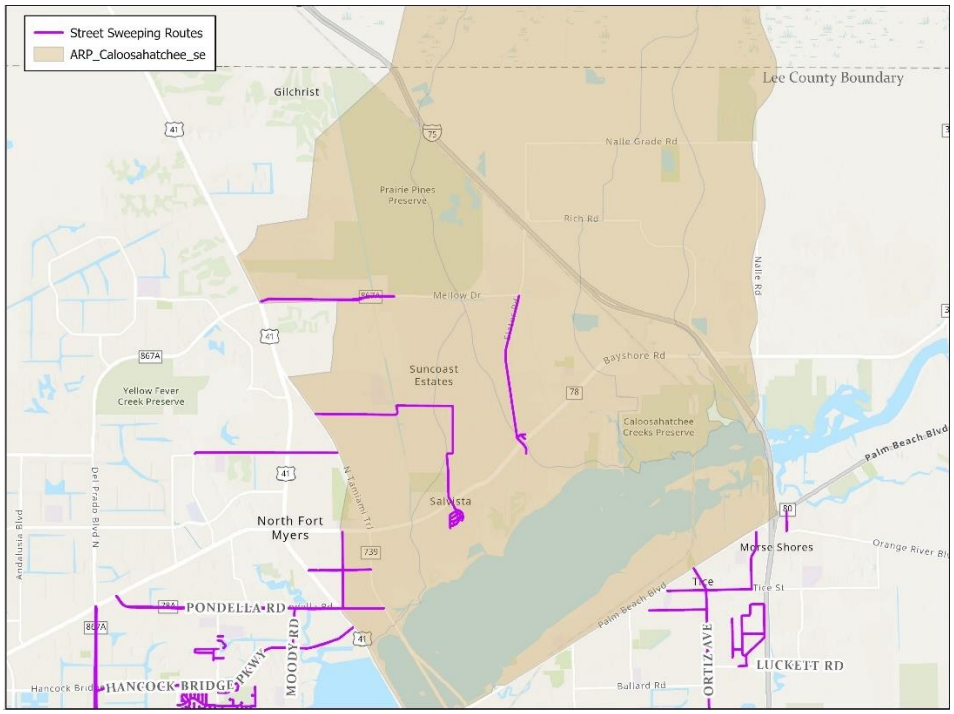

Figure 10. Street Sweeping routes.

B) Planned restoration work in this watershed.

- The selected watersheds in this ARP are in "Grouping 2" for the recommended septic conversion areas in the Countywide Wastewater Management Plan (CWMP). Seven hundred eighty-four septic tanks will be transfer to a sewer system. More information can be found in Attachment #4.

Priority Area Name Tiers	Priority Grouping No.	WWTP Area/ Service Area	Area Name	Septic #	TN Loading (lbs./yr.)	Total Impact (in Millions)
2	2	FGUA - Del Prado WWTP	Daughtreys Creek	154	1642	$8.39
			Mobile Manor	264	2816	$8.06
			Yacht Club Colony	189	2016	$10.36
2	8A		Cabana City	177	596	$9.23

Table 3. Septic to sewer conversions by neighborhood.

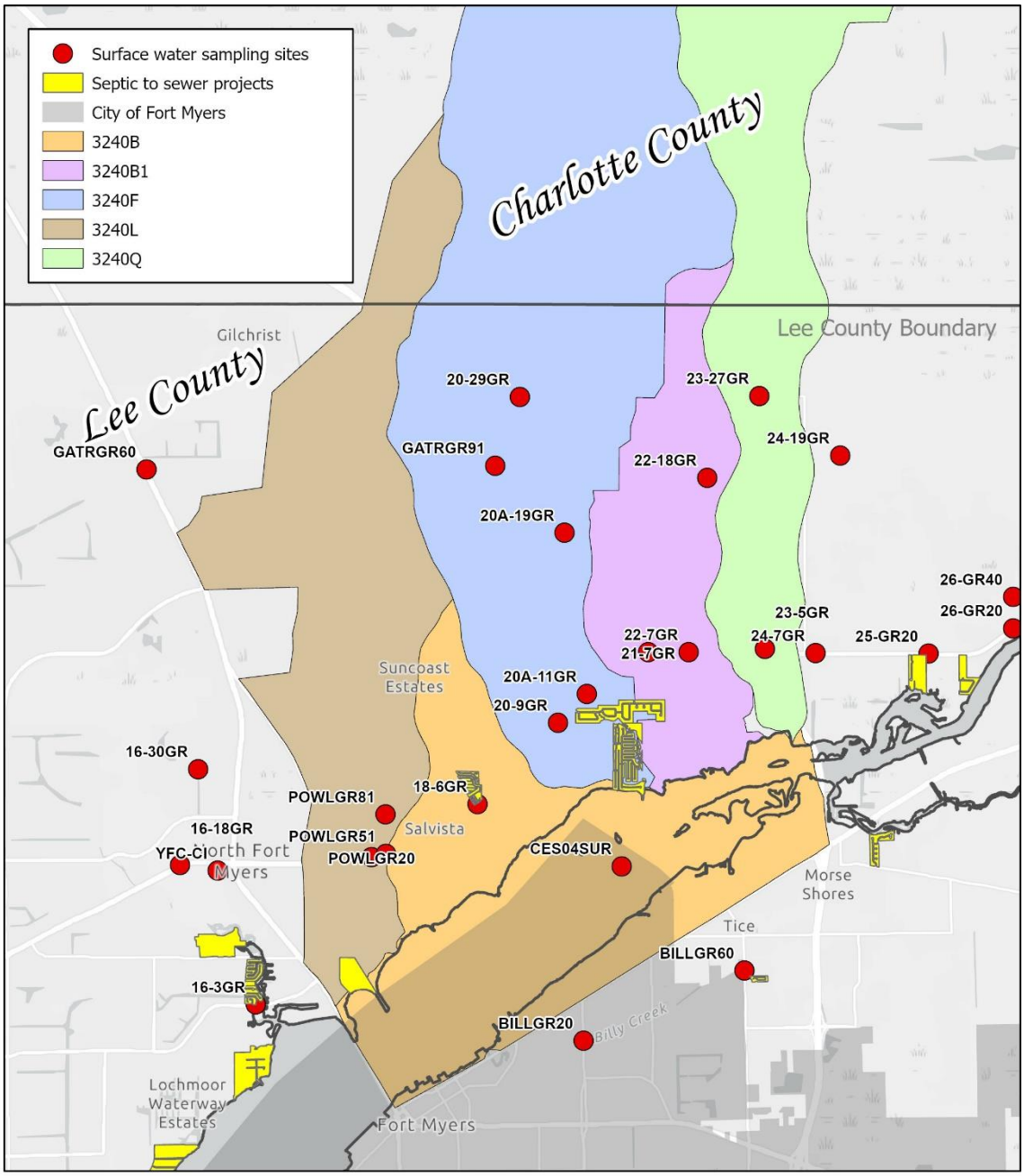

Figure 11. Priority areas for septic to sewer conversions in relation to WBIDs and surface water monitoring stations.

- Social marketing: A public transportation advertisement campaign will enhance outreach efforts in the North Caloosahatchee Tidal segment 2 tributaries in this ARP. Advertisements about pet waste best management practices will be displayed on LeeTran buses with routes in the targeted areas. The fixed route "140 - Merchants Crossing/Bell Tower" that was selected for traveling through this ARP.

Figure 12. Proposed bus design.

Two paratransit buses will also display pet waste advertisement on their tails as shown in Figure 12.

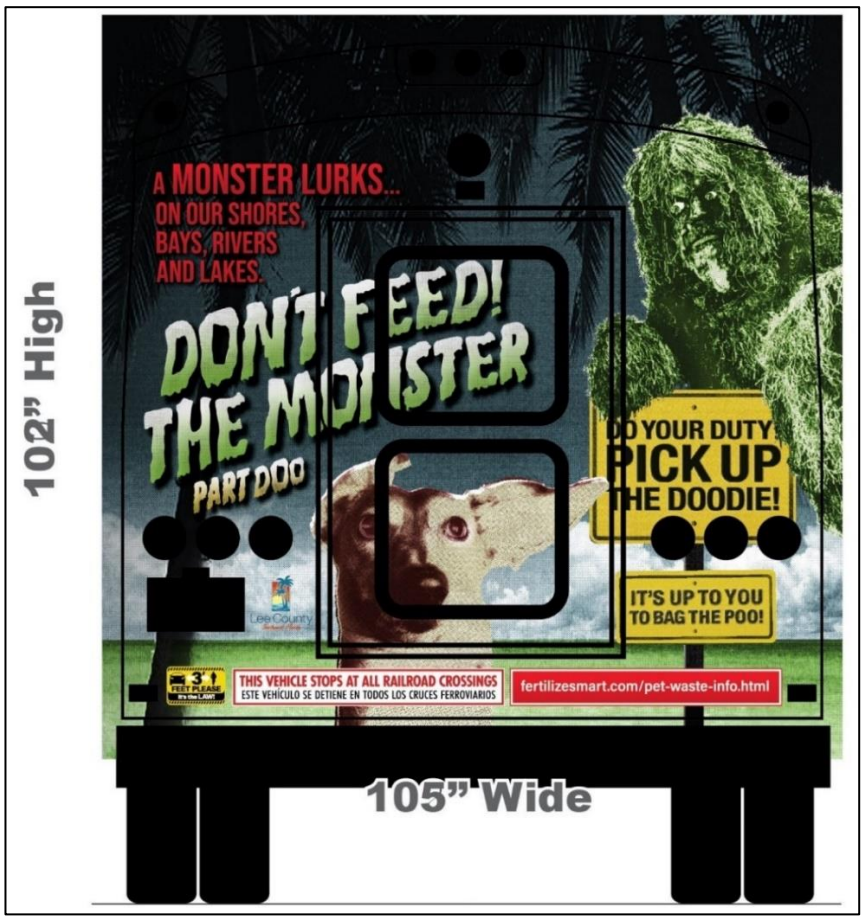

Figure 13. Proposed design to be displayed on the tails of the paratransits.

- Keep Lee County Beautiful partnership to clean the watershed –Trash and litter contribute to bacteria impairments by transporting waste and impeding flow. These changes in flow create shaded, stagnant pockets of water and increase surface areas. Each of these factors promotes bacteria proliferation. Targeting these watersheds on an as-needed basis will reduce the bacterial numbers.

- Walk-the-WBID: Lee County Natural Resources will organize a walk-the-WBID with stakeholders and interested parties to evaluate the success of the program and to identify point source pollution problems in the selected watersheds starting in 2024. Potential sources or other issues identified while in the field will be reported to the proper jurisdiction and cataloged while in the field. A record will be kept of major findings, including observations about the waterbody, potential sources, follow-up items and the responsible entity, and any areas that should be added to the monitoring plan or that required additional investigation.

Critical Milestones/Monitoring

Anticipated Critical Milestone(s) and Completion Dates:	- Septic to sewer conversion: The implementation order and exact schedule for the recommended improvements identified in the CWMP have not been approved by the Lee County Commissioners. The deadline for the planning horizon to be fully implemented is 2040, and the order of implementation for each project depends on budgets and funding. - Public transportation advertisement: The new ads were launched in April of 2023. The outreach efforts may change in future years to avoid ad fatigue. - KLCB will organize clean ups in this watershed as needed starting in 2024.
Monitoring Component	Lee County maintains two long-term water quality monitoring stations in the Daughtrey Creek watershed, Daughtrey Creek at Nalle Grade Road upstream (20-29GR) and Daughtrey Creek at State Road 78 (20-9GR). It also has two long-term stations in the Daughtrey Creek East watershed, Daughtrey Creek east branch – I-75 upstream (20A-19GR) and Daughtrey Creek east branch at State Road 78 upstream (20A-11GR). All four stations have monthly data from 1992 to present, which is sufficient for the hot spot analyses. No additional data collection is recommended at this time. Lee County maintains one water quality monitoring station in the Bayshore/Chapel Branch watershed at the upstream side of State Road 78 (21-7GR). Monthly data is available from 1992 through the present. FDEP is planning on splitting this watershed into two WBIDs, the northern WBID will keep its freshwater designation, but the southern WBID may acquire a marine designation. Lee County, in anticipation of this change, is evaluating the possibility of adding an additional site south of Bayshore Rd., but no decisions have been made at this time. The freshwater designated WBID will continue to be monitored for Escherichia Coli and the marine designated WBID will be monitored for Enterococci. At the Popash Creek watershed there are two Lee County-maintained monitoring stations, Popash Creek at Nalle Grade Road upstream (23-27GR) and Popash Creek at I-75 upstream side/northbound (23-5GR), have monthly water quality data from 1992 to present. This is sufficient for the hot spot analysis and no additional data collection is recommended at this time.

Lee County maintains three long-term water quality monitoring stations near the bottom of the watershed. The stations are Powell Creek downstream of filter marsh outfall (POWLGR81), Powell Creek bypass at State Road 78 upstream (POWLGR51) and Powell Creek natural channel at State Road 78 west of bypass (POWLGR20). All three stations have monthly data from 1990 to present. This is sufficient for the hot spot analysis, and no additional data collection is recommended.

Two Lee County stations, Bayshore Creek at Henderson Grade upstream (22-18GR) and Bayshore Creek at Bayshore Road (22-7GR) near the base of the Bayshore watershed, have monthly data from 1992 to present. These data are sufficiently representative of the watershed, and no additional data collection is recommended at this time.

Lee County has several water quality stations in the Caloosahatchee River. One of them is within the Caloosahatchee Estuary Tidal Segment 2. It is located in the Caloosahatchee River at Inner Coastal Water channel marker 27 (CES04SUR). Lee County also maintains one long-term water quality station, Marsh Point at State Road 78 (18-6GR), and there are monthly data from 1992 to present. The station captures runoff from much of the upstream urbanized area. Existing data are sufficient for the hot spot analysis in the Caloosahatchee Estuary Segment 2, and no additional data collection is recommended at this time.

Lee County has met with the Department of Natural Resources of Charlotte County to evaluate the possibility of adding temporary water quality sampling sites to four of the watersheds included in this report (WBID 3240L, WBID 3240B1, WBID 3240F, and WBID 3240Q.) These sites will be located close to the boundary between Lee County and Charlotte County. The land uses in these watersheds are predominantly agricultural within Charlotte County. The results from the temporary sampling sites may help us understand the bacterial inputs that affect these watersheds before they flow into Lee County.

The table below shows the list of parameters, analysis, Units, Minimum detections limits and methodologies that are analyzed in each sampling site every month.

Analysis	Parameters	Units	MDL	Method
$CHLOROA_Chlorophyll a - corrected for Pheophytin	**Chlorophyll a, corrected**	mg/M3	0.5	SM21 10200 H
$CHLOROA_Pheophytin	**Pheophytin**	mg/M3	0.5	SM21 10200 H
%DOSAT	**Dissolved Oxygen, % Saturation**	%	0.1	FDEP FT1500
AL-ICPMS	**Aluminum**	µg/L	5	EPA 200.8

AS-ICPMS	**Arsenic**	µg/L	0.5	EPA 200.8
BA-ICPMS	**Barium**	µg/L	0.5	EPA 200.8
BE-ICPMS	**Beryllium**	µg/L	0.25	EPA 200.8
BOD	**Biological Oxygen Demand**	mg/L	0.3	SM 5210 B
CA-ICP	**Calcium**	mg/L	0.25	EPA 200.7
CD-ICPMS	**Cadmium**	µg/L	0.3	EPA 200.8
CL_P	**Chloride**	mg/L	1.6	SM 4500-Cl^- D
COLOR	**True Color**	CU	1.25	SM21 2120 C
CONDF	**Conductivity by field instrument**	µmhos/cm		FDEP FT1200
CR-ICPMS	**Chromium**	µg/L	0.5	EPA 200.8
CU-ICPMS	**Copper**	µg/L	0.5	EPA 200.8
DOFIELD	**Dissolved Oxygen, mg/L**	mg/L	0.1	FDEP FT1500
FE-ICP	**Iron**	mg/L	0.005	EPA 200.7
MG-ICP	**Magnesium**	mg/L	0.25	EPA 200.7
E.coli	**Escherichia Coli**	MPN/100mL		SM9223B
MN-ICPMS	**Manganese**	µg/L	0.5	EPA 200.8
MO-ICPMS	**Molybdenum**	µg/L	0.5	EPA 200.8
NH3	**Ammonia**	mg/L as N	0.014	EPA 350.1
NI-ICPMS	**Nickel**	µg/L	0.75	EPA 200.8
NO2	**Nitrite, as N**	mg/L as N	0.003	EPA 353.2
NO3	**Nitrate, as N**	mg/L as N	0.01	EPA 353.2
NOX	**Nitrite + Nitrate**	mg/L as N	0.01	EPA 353.2
ONIT	**Organic Nitrogen**	mg/L as N	0.05	TKN - NH3
O-PO4	**Ortho-phosphorus**	mg/L as P	0.004	EPA 365.1
PB-ICPMS	**Lead**	µg/L	0.5	EPA 200.8
PHF	**pH by field instrument**	units	0.1	FDEP FT1100
SB-ICPMS	**Antimony**	µg/L	1	EPA 200.8
SE-ICPMS	**Selenium**	µg/L	0.5	EPA 200.8
SILICA	**Silica**	mg/L as SiO2	0.1	SM4500-SiO2 C
TEMPF	**Field Temperature**	°C	0.1	FDEP FT1400
THARDC	**Total Hardness by calculation**	mg/L as CaCO3		SM 2340 B

TKN	**Total Kjeldahl Nitrogen**	mg/L as N	0.1	EPA 351.2
TL-ICPMS	**Thallium**	µg/L	0.3	EPA 200.8
TN	**Total Nitrogen**	mg/L as N	0.05	TKN + NOX
T-PO4	**Total Phosphorus**	mg/L as P	0.006	EPA 365.1
TSS	**Total Suspended Solids**	mg/L		SM 2540 D
TURB	**Turbidity**	NTU	0.2	EPA 180.1
V-ICPMS	**Vanadium**	µg/L	1	EPA 200.8
ZN-ICPMS	**Zinc**	µg/L	1	EPA 200.8

Table 4. Analysis performed in each surface water site sample.

Other Key Dates

Estimated Date for Delisting from Verified List or Removal from Study List	WBIDs 3240L, 3240B1, 3240F, 3240Q and 3240B are in the state's Group 3 Caloosahatchee River basin. The most recent review and assessment cycle was completed in 2022. These waterbodies are currently impaired for Escherichia coli or Enterococci and Iron. The earliest opportunity for delisting would happen during the upcoming biennial assessment (2024), although this is prior to the implementation of the projects described in this report. Once all the proposed projects are implemented, it is expected an improvement in the water quality of the watershed. Once is determined that the parameters in question are no longer impaired, DEP may request these WBIDs to be delisted from the federal 303(d) list (if applicable).

Financial Commitments

Estimated Implementation Cost	- The total project cost for the implementation of the Countywide Wastewater Management Plan (CWMP) in the targeted watersheds is $36,040,000. - Educational outreach $270,000.00 (County Wide budget). - Last fiscal year (October 2021 to October 2022), street sweeping had a Countywide annual budget of $196,553.30. - Educational outreach $270,000.00 (County Wide budget). - Clean snag program has a Countywide annual budget of $280,000.00. - Lee County has already invested $11,688,397 in the Hydrological restoration projects outlined in this document.
Land Acquisition (if applicable)	**<u>Funding Source:</u>** Lee County BOCC – Conservation Lands 20/20 Program. Total……...$_____

Design and Construction (if applicable)	**Funding Source:** TBD The County is planning on applying for funding sources for the County-wide Wastewater Management plan funding. Total……...$_____

References:

- MS4 annual report (permit # FLS000035-004). - Attachment number 1.
- "Countywide Waste Management Plan (CWMP)" - Attachment number 2.
- "Microbial Source Tracking in Lee County Waterways" - Attachment number 3.
- "North Fort Myers Nutrient and Bacteria Source Identification Study" - Attachment number 4.
- "North Fort Myers Surface Water Management Plan" - Attachment number 5.