

Documentation in Support of Category 4e

Waterbody/Watershed Identification

Organization



Point of Contact

Maria Romero
Principal Planner/TMDL Coordinator
Department of Natural Resources
1500 Monroe Street, Fort Myers, FL 33901
239-533-8139 / 239-565-0209
mromero@leegov.com

Waterbody(s)

WBID ID 3240H1, Whiskey Creek (Wyoua Creek).
WBID ID 3240H2, H Canal.
WBID ID 3240H3, L Canal.
WBID ID 3240A4, Deep Lagoon Canal.

*No. Waterbody
/ Pollutant
Combinations*

- WBID 3240H (Whiskey Creek) is no longer being assessed and has been retired in the IWR database. Former WBID 3240H has been divided into WBIDs 3240H1 (Whiskey (Wyoua) Creek), WBID 3240H2 (H Canal) and WBID 3240H3 (L Canal).
- WBID 3240H1 is impaired for Enterococci. 3240H2 and 3240H3 are both impaired for *Escherichia coli*. WBID 3240A4 (Deep Lagoon Canal) is impaired for copper and Enterococci.

*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)

3240H1, 3240H2, 3240H3 and 3240A4 are located within the Caloosahatchee River Estuary Basin Group 3. They are all tributaries of the Caloosahatchee Estuary (Tidal Segment1) (3240A4).

Baseline Data

These waterbodies are impaired for *Escherichia coli* or *Enterococci* based on the number of exceedances for the sample size and anthropogenic sources have been confirmed using genetic marker and chemical tracer data on IWR run_64.

WBID	Water Segment Name	Waterbody Class	Parameters Assessed Using the Impaired Waters Rule (IWR)	Concentration of Criterion or Threshold Not Met	Summary Assessment Status	Planning Period Assessment Data
3240H1	Whiskey Creek (Wyoua Creek)	3M	Dissolve Oxygen (Percent Saturation)	$\geq 42\%$	Study List	-
3240H1	Whiskey Creek (Wyoua Creek)	3M	Enterococci	≤ 130 Counts / 100mL	Impaired	Low
3240H2	H Canal	3F	Dissolve Oxygen (Percent Saturation)	$\geq 38\%$	Study List	-
3240H2	H Canal	3F	Escherichia coli	≤ 410 Counts / 100 mL	Impaired	Low
3240H3	L Canal	3F	Dissolve Oxygen (Percent Saturation)	$\geq 38\%$	Study List	-
3240H3	L Canal	3F	Escherichia coli	≤ 410 Counts / 100 mL	Impaired	Low
3240A4	Deep Lagoon Canal	3M	Copper	≤ 3.7 $\mu\text{g/L}$	Impaired	Medium
3240A4	Deep Lagoon Canal	3M	Enterococci	≤ 130 Counts / 100 mL	Impaired	Low
3240A4	Deep Lagoon Canal	3M	Dissolved Oxygen (Percent Saturation)	$\geq 42\%$	Study List	-

Table 1. Impairments in 3240H1, 3240H2, 3240H3 and 3240A4 (Whiskey Creek (Wyoua Creek), H Canal, L Canal and Deep Lagoon Canal). Impairments based on IWR run_64.

Map

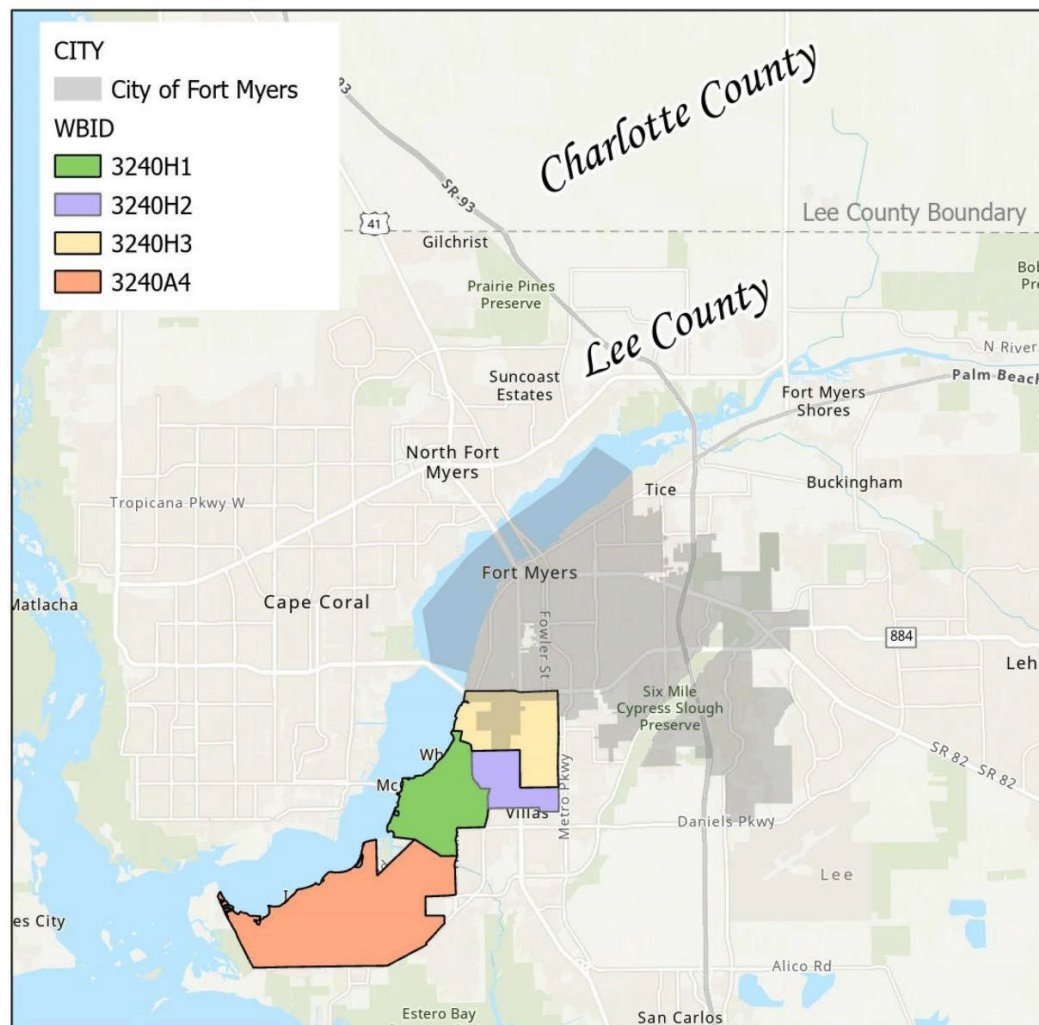


Figure 1. Whiskey Creek, H Canal, L Canal, and Deep Lagoon Canal (3240H1, 3240H2, 3240H3 and 3240A4) locations in the Caloosahatchee River watershed.

Evidence of Watershed Approach

Area of Effort

Whiskey Creek (Wyoua Creek), H Canal and L Canal (WBID 3240H1, WBID 3240H2 and WBID 3240H3) have an area of 11.57 square miles. The Deep Lagoon Canal watershed (WBID 3240A4) has an area of 11.86 square miles. These watersheds are tributaries to the Caloosahatchee Estuary Tidal Segment 1. A portion of the L Canal watershed (3240H3) is within the City of Fort Myers (Figure 1).

Key Stakeholders Involved and Their Roles

The projects outlined in this alternative restoration plan (ARP) are being executed solely by Lee County and within Unincorporated Lee County jurisdictional boundaries.

The selected area includes the watershed drainage area to the Caloosahatchee River Tidal Segment 1 which includes the Whiskey Creek (Wyoua Creek), L canal, H canal, and Deep Lagoon canal watersheds (3240H1, 3240H2, 3240H3 and 3240A4). These WBIDs are impaired for *Escherichia coli* and Enterococci based on the number of exceedances for the sample size. Deep Lagoon canal is also impaired for copper. The current projects already in place and the future projects outlined by this Alternative Restoration plan will address these impairments.

The WBID drainage areas correspond to the current and future key projects as follows:

- Hydrological restoration projects: All of these projects have already been completed or are currently in the works:
 1. Deep Lagoon Hydrologic Restoration. Completed prior 2012.
 2. Whiskey Creek Weir Reconstruction project. Completed prior 2012.
 3. Deep Lagoon Pollutant Load Reduction Phase 2-Watershed Analysis. Completed in 2018.
 4. Caloosahatchee Tributary L-3 Canal Rehabilitation. Completed in 2021.
 5. Deep Lagoon Preserve Water Quality Improvement Project. Planned completion in 2025.
- Land purchase and conversion to conservation land use: The property known as Deep Lagoon Preserve is inside the Deep Lagoon Canal watershed. It was added to the BMAP as LC-07. The first piece of this property was purchased in 2012, but additional lands have been added to the preserve since its original acquisition. There are also some conservation easements protecting land from development in the watershed. More details about conservation lands and future acquisitions are available at the 20/20 program Lee County website [Conservation 2020 Status Map \(arcgis.com\)](https://www.lee.org/conservation/2020-status-map).
- 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.
- 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. Lee County street sweeping program manages the maintenance of some of the streets in these watersheds on a regular basis.
- 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 campaigns. New buses with advertisement were added to the routes this year to promote fertilizer and 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.
- WETPLAN program: WETPLAN (Watershed Education Training - Ponds, Lakes & Neighborhoods) is a partnership of water quality and lake management experts including members from the Lee County Natural Resources, Lee County Hyacinth Control District, the Florida Native Plant Society, Florida Gulf Coast

University, and others. WETPLAN will increase outreach efforts to explain the dangers of Copper Sulfates in ponds.

- Water quality monitoring conditions for new developments: New developments inside the Deep Lagoon Canal watershed that apply for a new Zoning or Development Order may be asked to monitor for copper as a condition of the approval.
- Walk the WBID exercise: This 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 2025 as part of this Alternative Restoration Plan response.
- 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.

More details about these projects can be found on the restoration work section of this document and the attachments.

*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.

Lee County maintains six long-term water quality-monitoring stations in the watersheds included in this Alternative restoration Plan: Whiskey Creek at City of Fort Myers Golf Course weir (WHISGR10), upstream Whiskey Creek at College Pkwy (WHISGR18) and Culvert at Brantley and US41 (WHISGR50), Deep Lagoon at Summerlin Road (DEEPGR90), Deep Lagoon at Gladiolus Drive (DEEPGR50), and Deep Lagoon at McGregor Boulevard (DEEPGR10). WHISGR10, WHISGR10, DEEPGR90, DEEPGR50, and DEEPGR10 have data from 1990 to present. WHISGR18 has data from 2016 to present. The grab samples taken at these sites is sufficient for the hot spot analysis, and no additional data collection is planned at this time.

USGS maintains one active tributary gauge station in the project area at Whiskey Creek.

*Nonpoint
Sources*

Based on the Southern Lee County Flood Mitigation Plan (Attachment 5), Whiskey Creek, L canal and H canal watersheds are 9.3 square miles, with 92 percent urban land uses. These highly urbanized watersheds leave little to no opportunities for the purchase of conservation lands. The watershed is comprised of canals and ditches that are managed for flooding purposes. The application of BMPs, educational outreach and septic to sewer conversions are the proposed projects to reduce pollution in these watersheds.

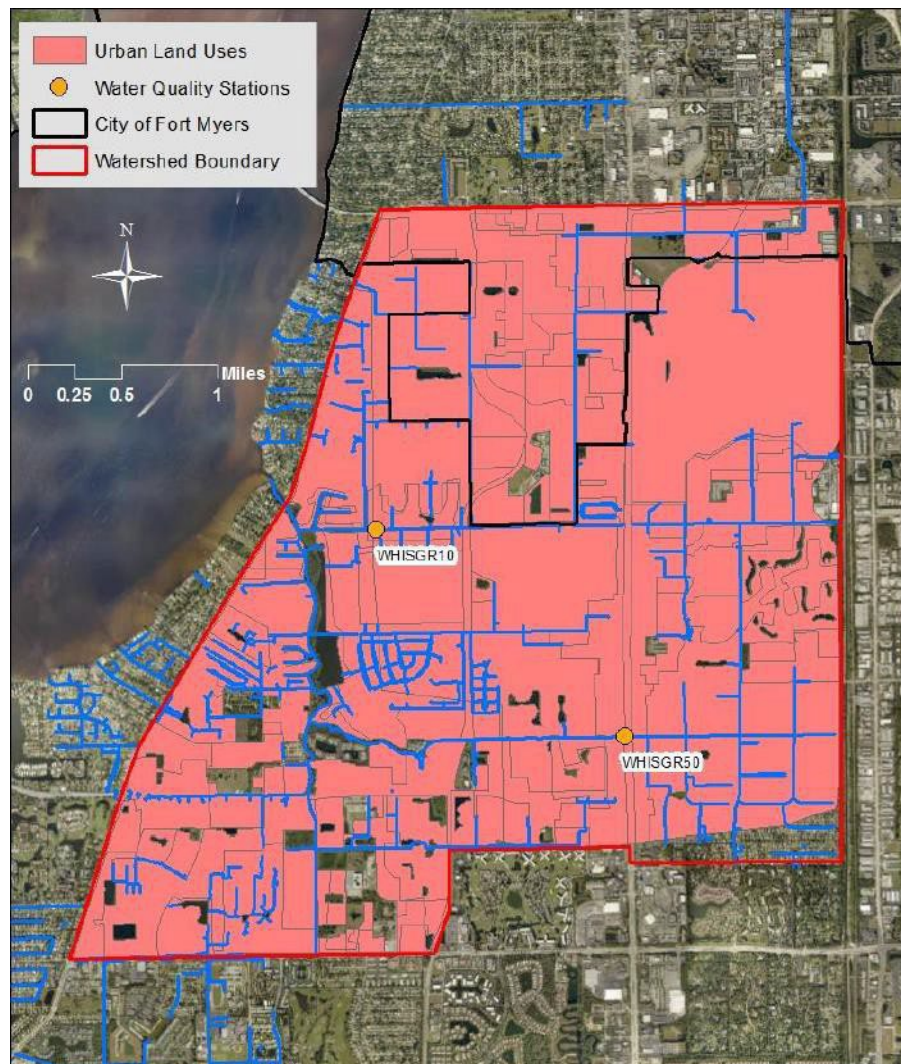


Figure 2: Land uses in the Whiskey Creek, L canal and H canal watersheds (3240H1, 3240H2, and 3240H3).

Based on the Southern Lee County Flood Mitigation Plan (Attachment 5), The Deep Lagoon and Iona subwatersheds comprise the Deep Lagoon Canal watershed (WBID 3240A4). They are approximately 9.5 square miles combined. Seventy-four percent of the watershed is urban, with high- and medium-density residential representing 64 percent of the urban land uses. The next highest category of urban land use is commercial and industrial, at 16 percent of urban area. The application of BMPs, educational outreach and septic to sewer conversions are the proposed projects to reduce pollution in these watersheds.

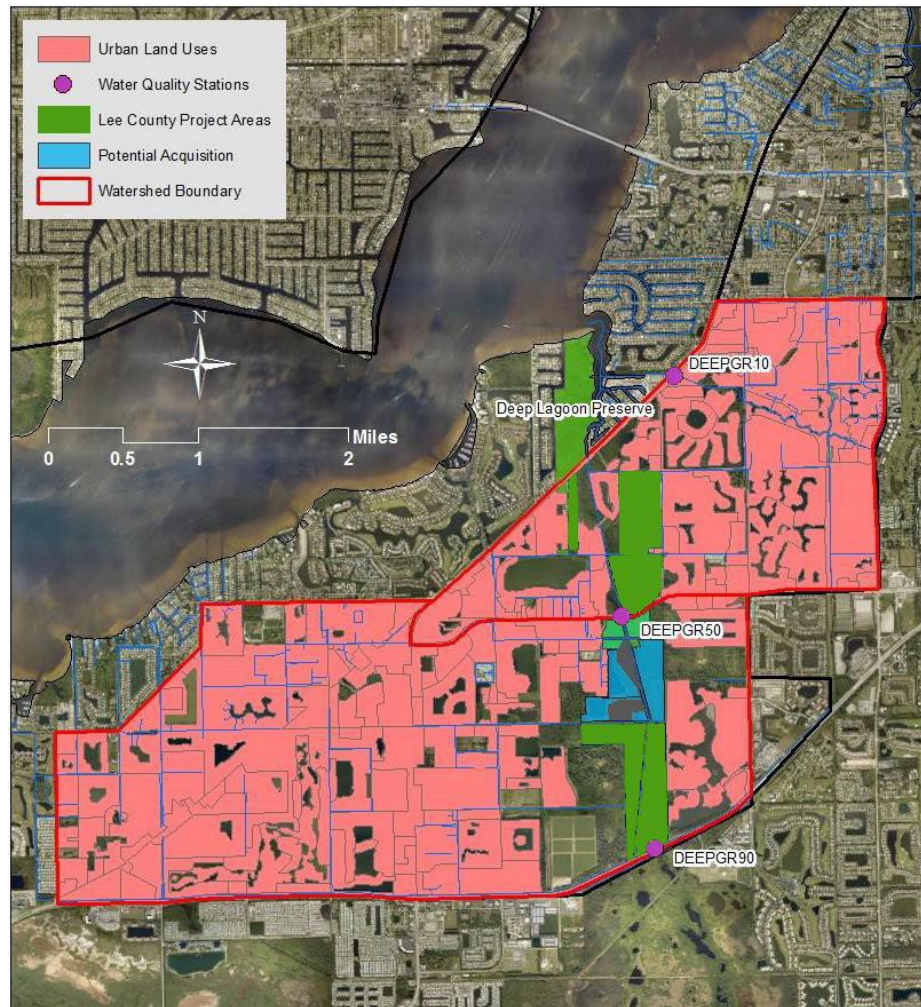


Figure 3: Land uses in the Deep Lagoon Canal watershed (WBID 3240A4).

There have been several studies conducted to identify nonpoint sources of pollution in all the previously mentioned watersheds “Countywide Waste Management Plan (CWMP)” - Attachment number 2, and the “Microbial Source Tracking in Lee County Waterways” - Attachment number 3.

Wastewater Facilities in Area: Two wastewater facilities. Fiesta Village WWTP belongs to Lee County Utilities. CFM South WWTP belongs to the City of Fort Myers.

Solid Waste Facilities in area: There are no Solid Waste Facilities in this watershed.

**Water Quality
Criteria**

It is expected that the Class III freshwater water quality standards within WBIDs 3240H2 and 3240H3 for *Escherichia Coli* will be attained upon implementation of the specified watershed improvement projects. It is also expected that the Class III estuary water quality criteria within WBID 3240H1 for Enterococci and WBID 3240A4 for Enterococci and copper will be attained.

**Restoration
Work**

- A) Existing and ongoing restoration work in this watershed:
1. Caloosahatchee Tributary L-3 Canal Rehabilitation: This project was completed in 2021. This project consisted in reshaping canal banks, installation of littoral plantings, and the addition of control structure. It is included in the Caloosahatchee BMAP as LC-41. This project is located in a highly urbanized area. Lee County, in partnership with the City of Fort Myers, has rehabilitated the north-south section of the L-3 Canal. The canal was built on the 1920s to provide drainage for an area south of Fort Myers. It was excavated as a relatively deep, uniform straight channel, which is very different from the area's typical undisturbed condition of shallow, natural flow-ways. The City of Fort Myers owns, maintains, and operates the section of the canal proposed for rehabilitation, and a portion of unincorporated Lee County drains to the canal. Surrounding land uses include single and multi-family residential and light commercial. Prior to completion of the project, the canal was overgrown with nuisance vegetation and had no water control structures to attenuate flow. Project objectives included water quality improvement, increased natural function, and habitat enhancement. The project increases residence time, which attenuates runoff and improves groundwater recharge and nutrient uptake by plants. Rehabilitation activities included:
 - Reshaping and stabilizing bank slopes to reduce potential for sedimentation and erosion.
 - Creation of littoral zones with planted native vegetation.
 - Removal of invasive vegetation.
 - Installation of control structure(s) if necessary to enhance water quality by increasing residence time and thereby allowing nutrient uptake by plants.
 2. Whiskey Creek Weir Reconstruction: This project was completed prior 2012. It is included in the Caloosahatchee BMAP as LC-18. Retention Lake weir repairs to restore originally intended design. This project has a water quality component by increasing the holding times expanding the treatment time in the stormwater pond.
 3. Deep Lagoon Hydrologic Restoration: It consisted in a hydrologic restoration, wetland enhancement, water conservation, wildlife habitat enhancement, and flood protection for communities surrounding the preserve. This restoration project was included in the Caloosahatchee BMAP as LC-22. It was completed prior 2012. This project took place inside the Deep Lagoon Preserve
 4. Deep Lagoon Pollutant Load Reduction Phase 2-Watershed Analysis: Basin study to identify pollutant sources and identify further actions to reach reduction goals. This study was included in the Caloosahatchee BMAP as LC-38. It was completed in 2018.
 5. 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.

6. 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 breeding grounds that could impact water quality. This program has an annual budget \$280,000/year. The average annual miles cleaned vary depending on access and they are prioritized based on flooding risks.
7. Pet waste campaign: <https://Fertilizesmart.com/pet-waste-info.html>.
Post cards sent to residential addresses in the Whiskey Creek watershed:

Zip Code	Watershed	# of letters	Comments
33907	Whiskey Creek, Hendry Creek	12,797	Residential
33919	Whiskey Creek, Deep Lagoon	18,166	Residential

Table 2. Letters per residential area inside Whiskey Creek watershed.

Flyers. Flyers are distributed and explained by the NPDES inspectors at events. Numbers can be found in the most recent MS4 annual report (Attachment #1).

8. Other outreach efforts: Lee County's Water Initiative website at leegov.com/water
9. Land purchase: 3240H1, 3240H2 and 3240H3 are urbanized watersheds with little to no land available for conservation. 3240A4 has the Deep Lagoon Preserve which comprises 271.85 acres of conservation land. There are also several conservation easement properties within the Deep Lagoon watershed. Additionally, some available land could be acquired in the future. More information about the status of the conservation lands status can be found in the [20/20 Conservation status map](#).
10. Street sweeping. This is a Countywide on-going activity. Streets in the selected watersheds are cleaned by the Lee County Department of Transportation sweeping program on a 2 to 3 month schedule. Since the hurricane they have not met their schedule due to workload, but that will likely change in the upcoming months. In 2023, about 175 miles of County roads are considered hurricane related sweeping. In regular circumstances there are 107.4 miles of sweeping in these 4 watersheds. Due to hurricane Ian, the total cost of sweeping in the watersheds of concern was \$46,706.40 from 5/1/2022 to present. The average price for this area in normal conditions is \$19,332. The annual final price is influenced by traffic and spills.

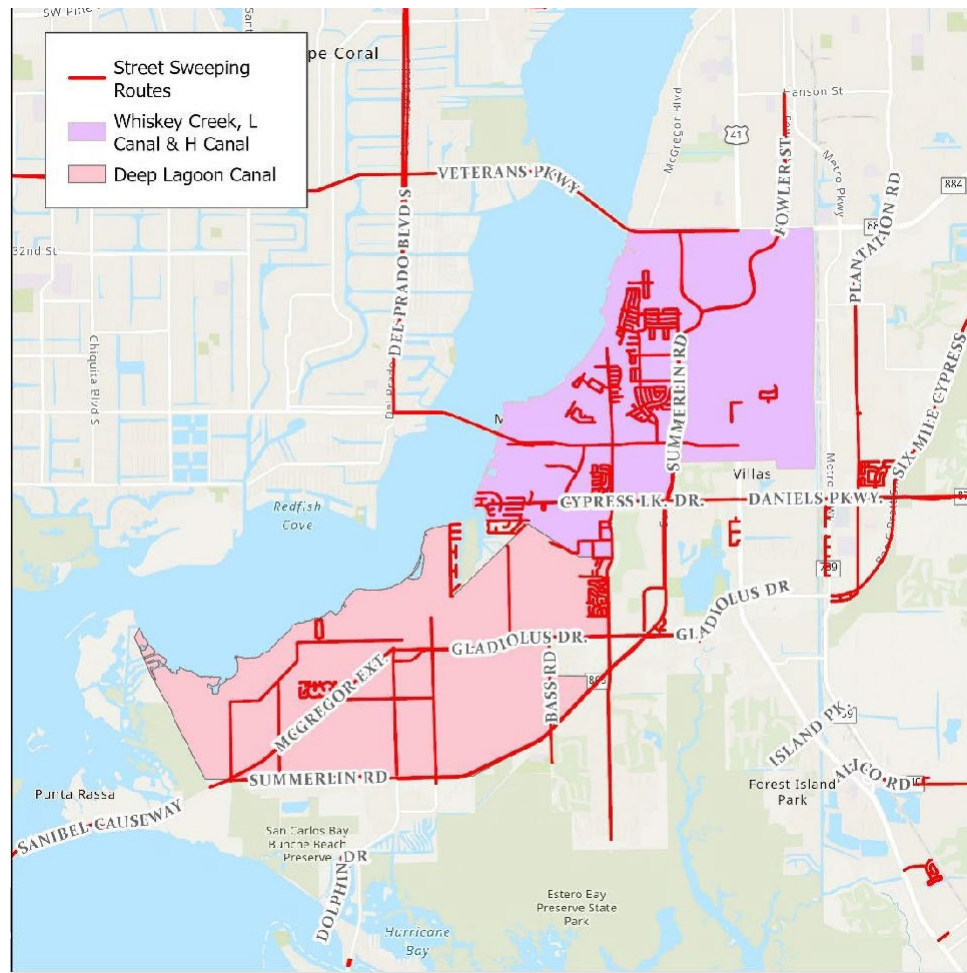


Figure 4: Regularly swept streets in the Whiskey Creek, L canal, H canal, and Deep Lagoon Canal watersheds are represented in the map above.

11. Countywide Wastewater Management Plan (CWMP): Study to support the development of a countywide septic conversion master plan (Attachment #2).
12. Microbial Source Tracking in Lee County Waterways: Watershed study to investigate interactions between OSTDS and surface water in the Caloosahatchee Estuary (Attachment #3).

B) Planned restoration work in this watershed:

1. Whiskey Creek and L canal are inside the Priority Tier 1 and in the seventh grouping for the recommended septic conversion areas in the Countywide Wastewater Management Plan. Deep Lagoon Canal is inside the Priority Tier 3 and in the third grouping. A total of 564 septic tanks will be transferred to a sewer system inside the mentioned watersheds. The estimated implementation deadline for Tier 1 conversions is 2030 and for Tier 3 is 2040.

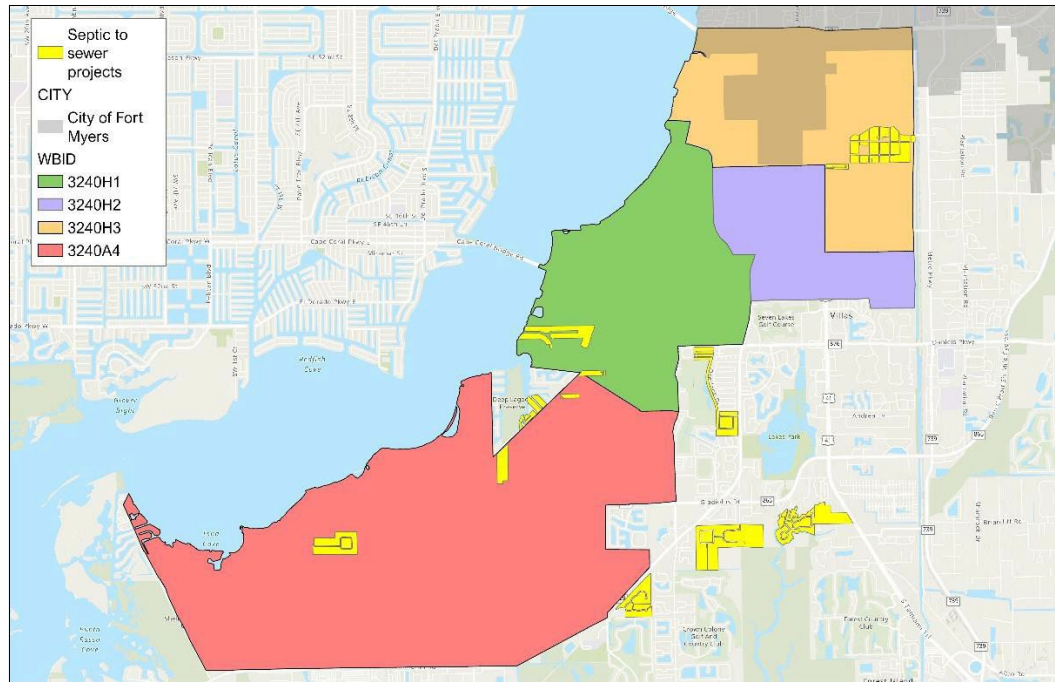


Figure 5. Whiskey Creek polygon represents 3240H1, 3240H2 and 3240H3. The septic to sewer planned locations in the Caloosahatchee watershed are highlighted on yellow in this map.

Priority Tiers	Priority Grouping	WWTP Area/ Service Area	Area Name	FDOH Septic Count	TN Loading to Groundwater: Residential Septic Systems (lbs/yr)	Resident Impact (in Millions)	Utility Impact (in Millions)	Total Impact (in Millions)
1	7	CFM- South WWTP	Page Park	151	1610	\$11.37	\$1.75	\$13.12
			Southside Trailer Village	30	320	\$1.34	\$0.0	\$1.34
3	3	LCU - Fiesta Village WWTP	Deep Lagoon Estates	54	501	\$5.40	\$0.245	\$5.65
			Lake McGregor	30	320	\$0.85	\$0.175	\$1.03
			McGregor Vista	86	1674	\$6.30	\$0.525	\$6.83
			North Town River	171	576	\$7.47	\$0.875	\$8.35
		LCU - FMB WWTP	Summerwood	42	448	\$2.85	\$0.210	\$3.06

Table 3. Number of septic tanks per neighborhood.

2. Deep Lagoon Preserve Water Quality Improvement Project

Three projects have been identified to improve water quality within the Deep Lagoon watershed: McGregor Boulevard Weir, Canal C9 Weir, and Hagie Road Pond. Retention ponds, channel/ditch modifications, ditch blocks and pumped solutions will take place to improve the water quality in this watershed. The project has been included in the BMAP as LC-45. It is estimated to start in 2023 and the approximate completion year is 2025. It was registered in the Caloosahatchee BMAP as LC-22.

3. Keep Lee County Beautiful (KLCB) 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 annual basis when needed will reduce the bacterial numbers.
4. 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 in 2025. 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.
5. Public transportation advertisement: The fixed route “140 - Merchants Crossing/Bell Tower” was chosen because it crosses Whiskey Creek watershed. The design can be seen in Figure 6.



Figure 6. Proposed bus design.

Two paratransit buses are also currently displaying pet waste advertisement on their tails as shown in Figure 7.



Figure 7. Proposed design to be displayed on the tails of the paratransit.

6. New Developments: Developments within unincorporated Lee County must demonstrate compliance with Lee Plan policies 125.1.2 and 125.1.4. These policies maintain that development must not degrade surface and ground water quality and that developments which have the potential of lowering existing water quality below State and Federal water quality standards will provide standardized appropriate monitoring data. To demonstrate compliance with these policies, new development applications within the Hancock Creek watershed may be required to monitor for copper as a condition of approval.
7. WETPLAN program: WETPLAN (Watershed Education Training - Ponds, Lakes & Neighborhoods) is an education program and resource for anyone interested in improving and caring for their neighborhood lakes and ponds. Short videos to explain to homeowners the risks of the use of copper sulfate in ponds will be post in WETPLAN's YouTube channel, social media, and at www.wetplan.org.

Critical Milestones/Monitoring

*Anticipated
Critical
Milestone(s) and
Completion
Dates:*

List restoration project(s) status and expected completion dates.

1. 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

*Monitoring
Component*

- budgets and funding. Whiskey Creek is in “Grouping 7” for the recommended septic conversion areas in the Countywide Wastewater Management Plan.
2. Public transportation advertisement: The new ads were launched in April of 2023.
 3. Deep Lagoon Preserve Water Quality Improvement Project is planned to start in 2023, and the completion date is intended to be in 2025.
 4. Keep Lee County Beautiful partnership to clean the watershed – KLCB will organize clean ups in these watersheds as needed starting in 2024.

The Lee County Environmental Laboratory maintains six long-term water quality monitoring stations in the selected watersheds.:

- WHISGR10: Whiskey Creek at City of Fort Myers Golf Course weir (26.57501, -81.890989)
- WHISGR18: Upstream Whiskey Creek at College Pkwy (26.556327, -81.896108).
- WHISGR50: Culvert at Brantley and US41 (26.560851, -81.872139).
- DEEPGR90: Deep Lagoon at Summerlin Road (26.497913, -81.920118).
- DEEPGR50: Deep Lagoon at Gladiolus Drive (26.518467, -81.923533).
- DEEPGR10: Deep Lagoon at McGregor Boulevard (26.539153, -81.918514).

WHISGR10, WHISGR18, DEEPGR90, DEEPGR50, and DEEPGR10 have data from 1990 to present. WHISGR18 has data from 2016 to present. All surface water samples are grab samples and scheduled monthly according to availability of personnel, weather, and the Lee County Utilities Department needs. No additional data collection is recommended at this time.

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
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/100 mL		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	Temperature by field instrument	°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 every sampling site in the selected watersheds.

Other Key Dates

Submitted by: Lee County Natural Resources Department to Florida Department of Environmental Protection Division of Environmental Assessment and Restoration – Watershed Assessment Section

DATE

*Estimated Date
for Delisting from
Verified List or
Removal from
Study List*

WBIDs 3240H1, 3240H2, 3240H3 and 3240A4 (Whiskey (Wyoua) Creek, H Canal, L Canal and Deep Creek Canal) are in the State's Group 3 Caloosahatchee River basin. The most recent review and assessment cycle was completed in 2022. The earliest opportunity for delisting would happen during the current biennial assessment (estimated completion date of spring 2024), although this is prior to the implementation of all the activities described in this report. Once all the proposed projects are implemented, an improvement in water quality is expected within this watershed. If 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 Countywide Wastewater Management Plan, including land acquisition (if applicable) is estimated to be \$39,380,000.00.

The total project cost for the Caloosahatchee Tributary L-3 Canal Rehabilitation project is \$500,000.00. The cost includes a 319(h) Clean Water Act Section grant of \$400,000.00 (LPA0063) (80% of construction and monitoring costs). Maintenance of this project is around \$1,000.00/year.

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.

Land Acquisition
(if applicable)

Funding Source:

Total\$ 0

Design and
Construction
(if applicable)

Funding Source:

- Design and construction costs will use the same funding sources as outlined in the implementation cost section above.

References:

- MS4 annual report (permit # FLS000035-004). - Attachment number 1.
- Countywide Wastewater 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.
- Southern Lee County Flood Mitigation Plan - Attachment number 5.