



City Efforts to Remove Trash from Waterways

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Assistant Public Works Director

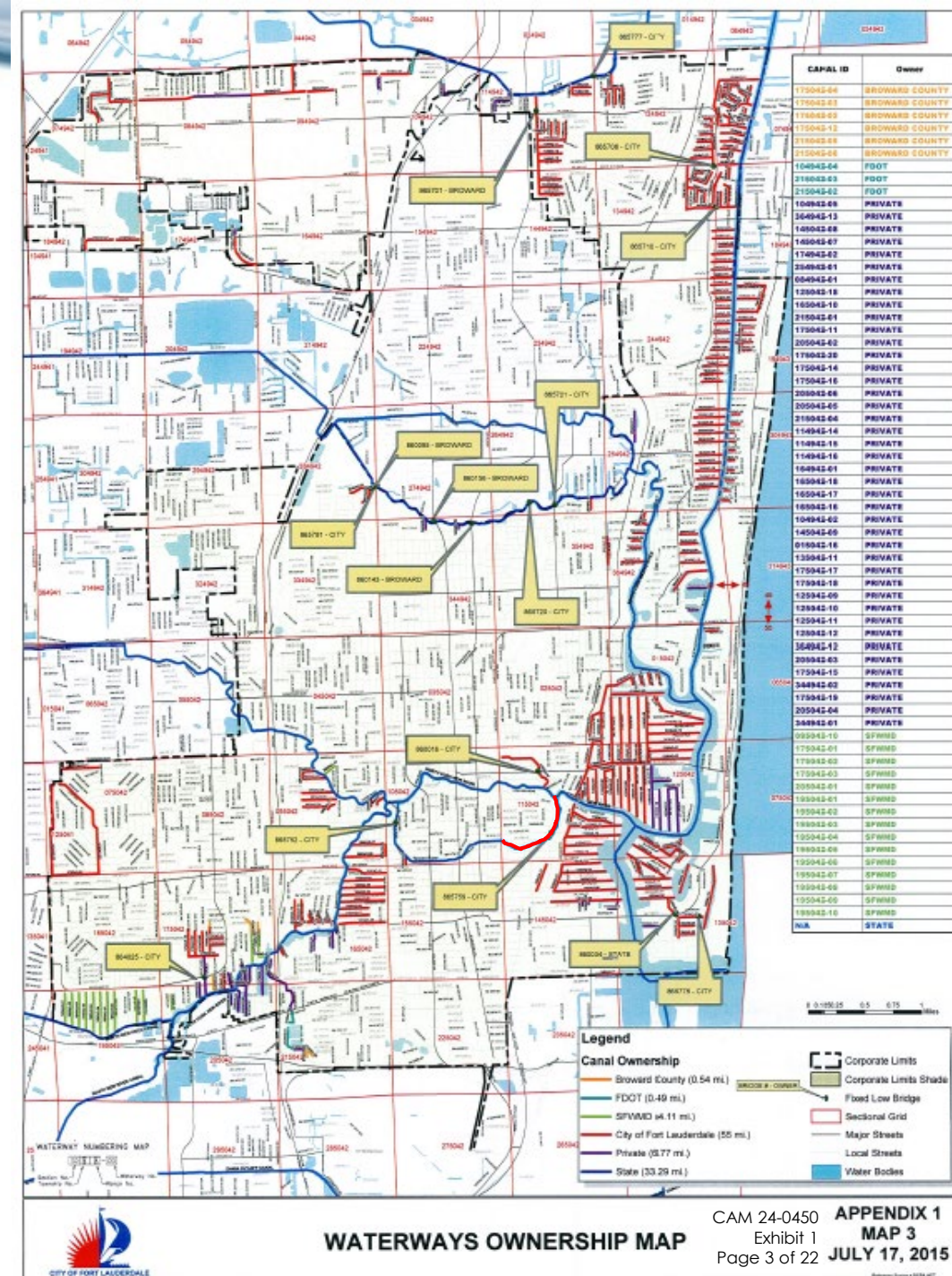
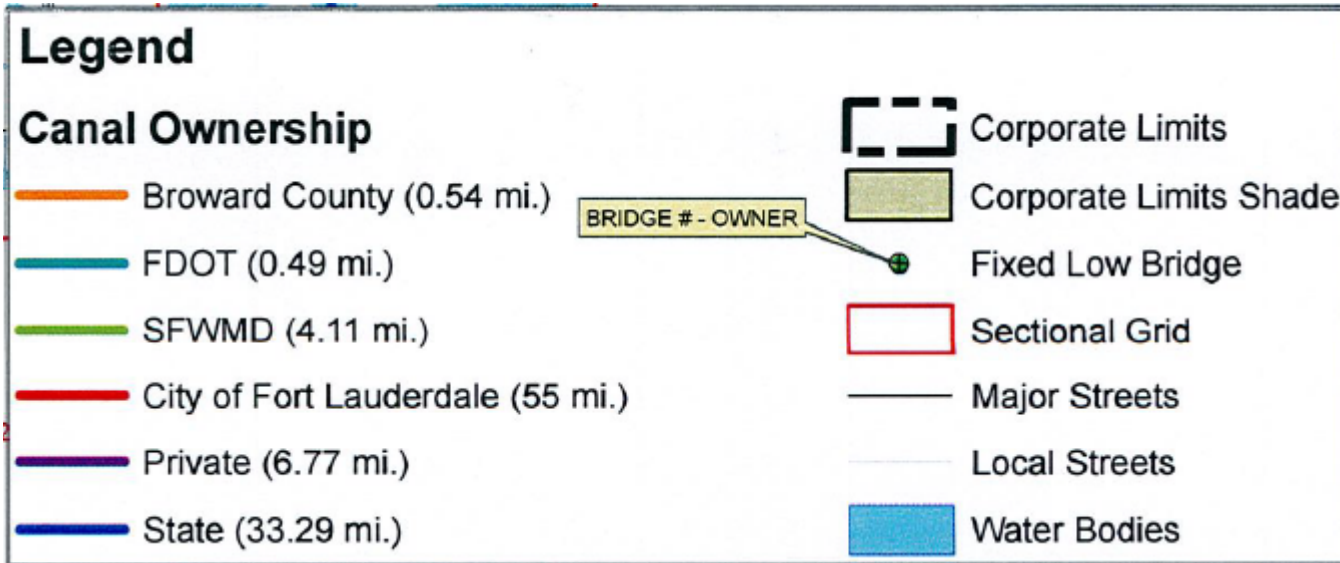
Commission Conference Meeting– June 4, 2024

PRESENTATION OVERVIEW

- City jurisdictional waterways
- Other municipal waterway cleaning programs
- Overview of the current FTL canal cleaning program
- City pollution prevention activities
- Overview of the new canal cleaning contract
- Other trash removal activities



WHAT ARE THE JURISDICTIONAL WATERS OF FORT LAUDERDALE?



WATERWAY OWNERSHIP NORTH OF COMMERCIAL BLVD

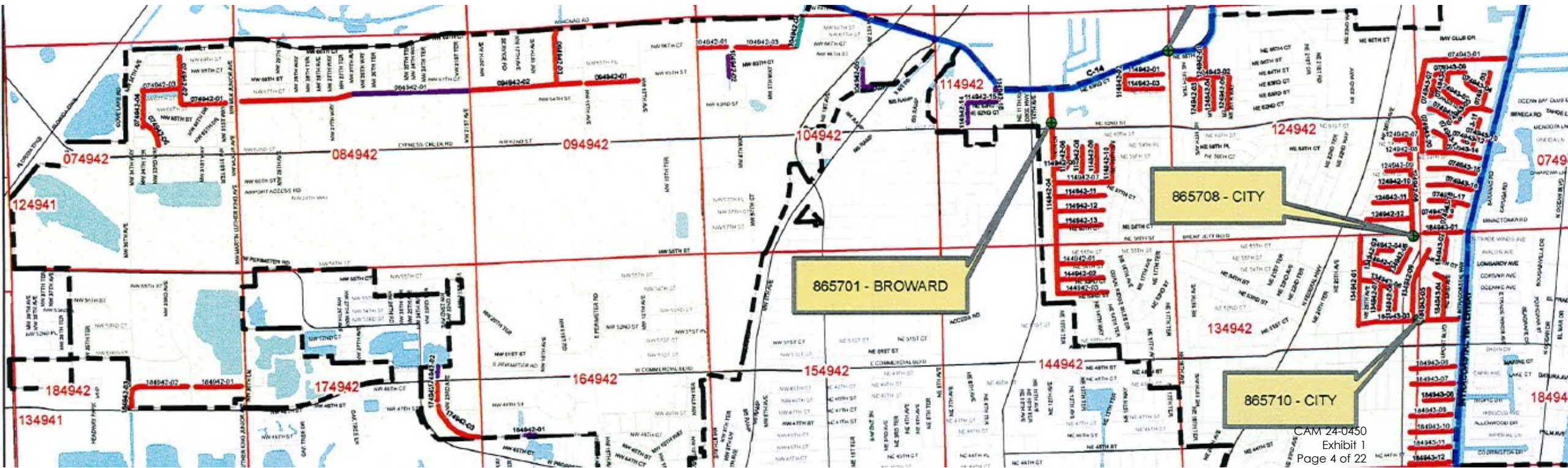
Legend

Canal Ownership

- Broward County (0.54 mi.)
- FDOT (0.49 mi.)
- SFWMD (4.11 mi.)
- City of Fort Lauderdale (55 mi.)
- Private (6.77 mi.)
- State (33.29 mi.)

- Corporate Limits
- Corporate Limits Shade
- Fixed Low Bridge
- Sectional Grid
- Major Streets
- Local Streets
- Water Bodies

BRIDGE # - OWNER



WATERWAY OWNERSHIP SOUTH OF COMMERCIAL BLVD AND NORTH OF SUNRISE BLVD

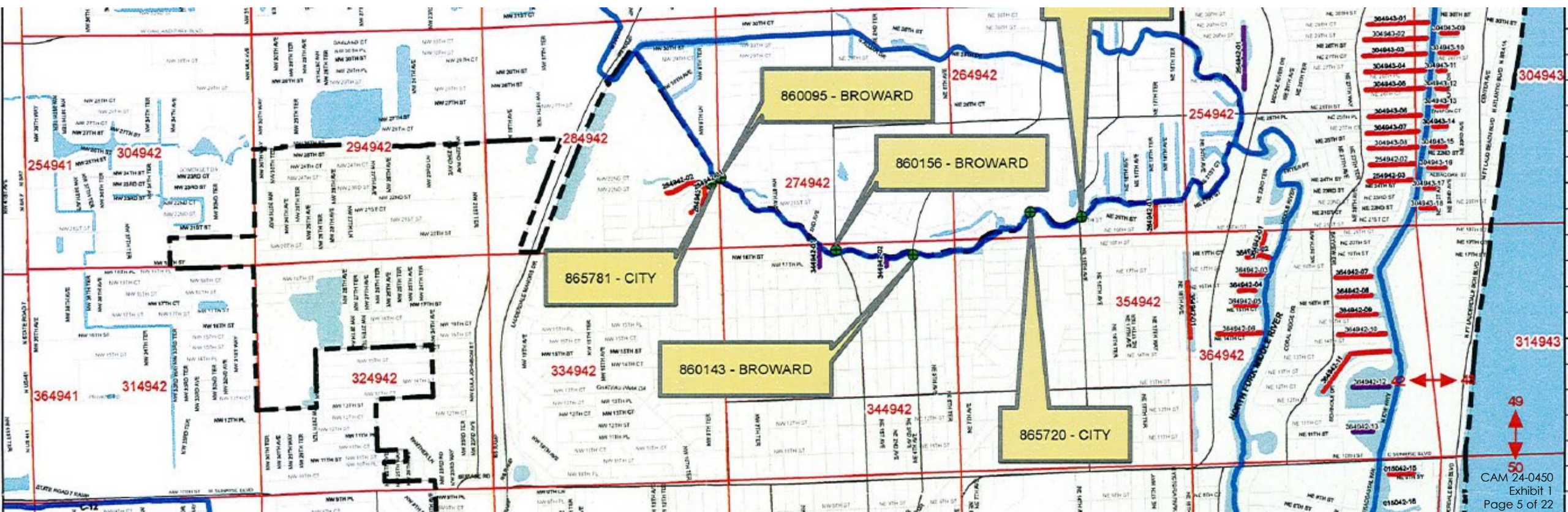
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BRIDGE # - OWNER



WATERWAY OWNERSHIP SOUTH OF SUNRISE AND NORTH OF 17TH STREET

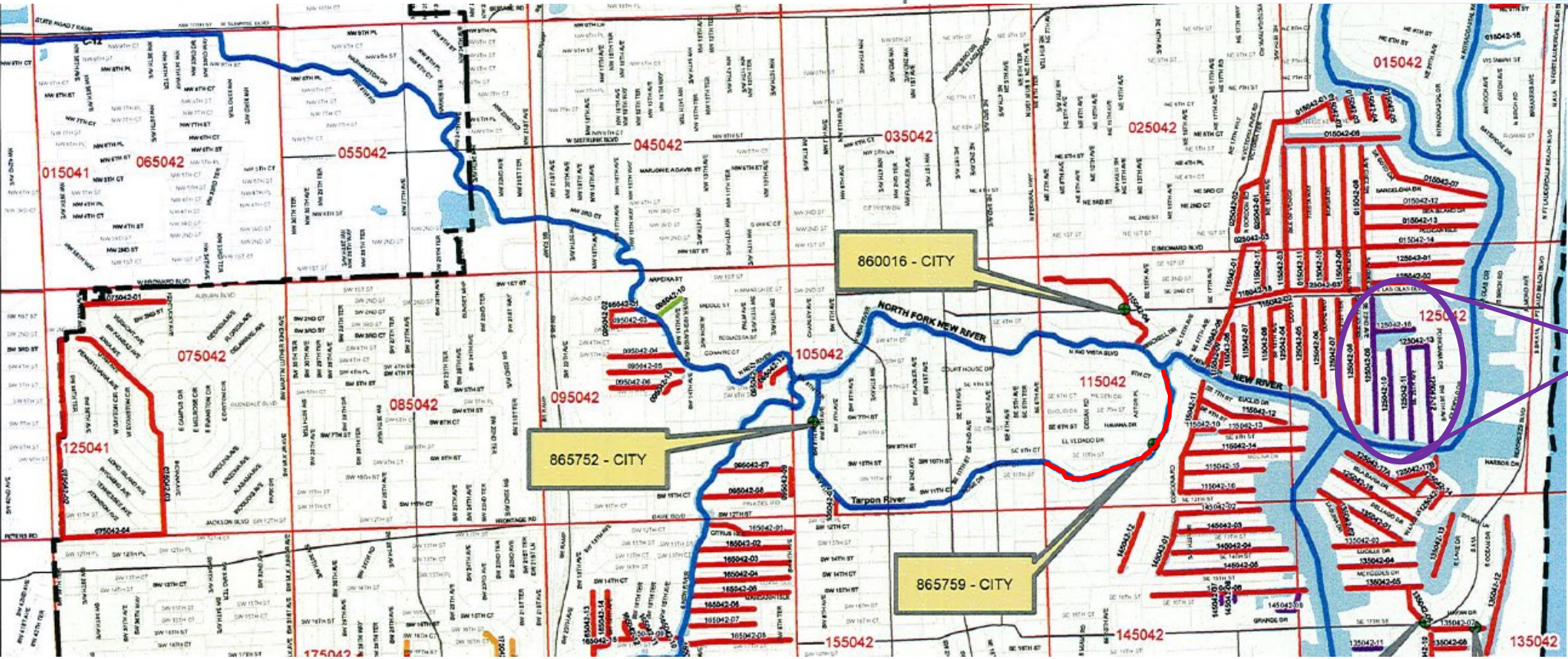
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BRIDGE # - OWNER



Private waterways in Riviera Isles

WATERWAY OWNERSHIP SOUTH OF 17TH STREET



Riverland area with many private canals

Legend

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BRIDGE # - OWNER

864025 - CITY

860034 - STATE
148042-10

865775 - CITY



WHAT IS WATERWAY QUALITY?

- **Physical component**
 - Color
 - Temperature
 - Water Clarity
- **Biological component**
 - Algae
 - Bacteria
- **Chemical component**
 - Oxygen
 - Nutrients
 - Chlorophyll
- **Trash/Debris/Vegetation**



LAUDERTRAC

WATERWAY QUALITY UPDATE FORT LAUDERDALE
Tracking Progress on Commission Priorities for 2020

October/November 2020

UNDERSTANDING AND ADDRESSING WATERWAY QUALITY



Algae bloom

What is Waterway Quality?

The term water quality in the context of the City of Fort Lauderdale waterways means different things to different audiences. Water quality has chemical, physical, and biological components. Nutrients, like the nitrogen and phosphorus found in fertilizer, are an example of a chemical aspect of water quality. Temperature, clarity, and color are physical attributes of water quality. Fecal indicator bacteria represent a biological component of water quality. The navigable waterways in the City of Fort Lauderdale are designated by the Florida Department of Environmental Protection (FDEP) as [Class III with water quality criteria](#) established to protect fish consumption, recreation, and the propagation and maintenance of a healthy, well-balanced population of fish and wildlife.



Turbidity plume caused by an illicit discharge

What Influences Waterway Quality?

A typical water sample from our waterways is iced tea-colored from the tannins the water picks up as it travels through Everglades peat soils. This water also has a slightly basic pH due to exposure to our limestone geology, as well as elevated nutrients and bacteria from urban runoff – especially after a rain event.

Local waterway quality is primarily influenced by stormwater runoff, discharges into our waterways from the drainage canals to our west, the tides, and a variety of human and wildlife

activities. Most of the waterways throughout Broward County are considered impaired due to levels of bacteria exceeding the FDEP's Class III water standard. The source of this type of bacteria is generally considered non-point. This means that a variety of inputs (not a single point source) contributes bacteria to the waterway including urban runoff, pet waste, landscaping debris such as lawn clippings, septic tanks, boat discharges, and wildlife.

Who Monitors Waterway Quality?

Waterway quality is monitored by a number of different agencies. [Broward County](#) has an extensive network of sampling sites throughout its jurisdiction where water is collected and monitored for a broad spectrum of quality parameters on a quarterly basis. FDEP standards are applied to these urban waterways.

The City has historically conducted limited sampling at George English Park, a popular boat launch site, and in other areas in response to point source discharges of pollution where the source of the discharge and the type of pollutant is known, such as in the event of a broken sewer pipe. The [Florida Department of Health](#) monitors bacteria in the ocean twice a week and applies a stricter United States Environmental Protection Agency standard that reflects the potential risk of ingesting the water while swimming. Not-for-profit groups like the Surfrider Foundation's [Blue Water Task Force](#) also monitor the beaches for bacteria.

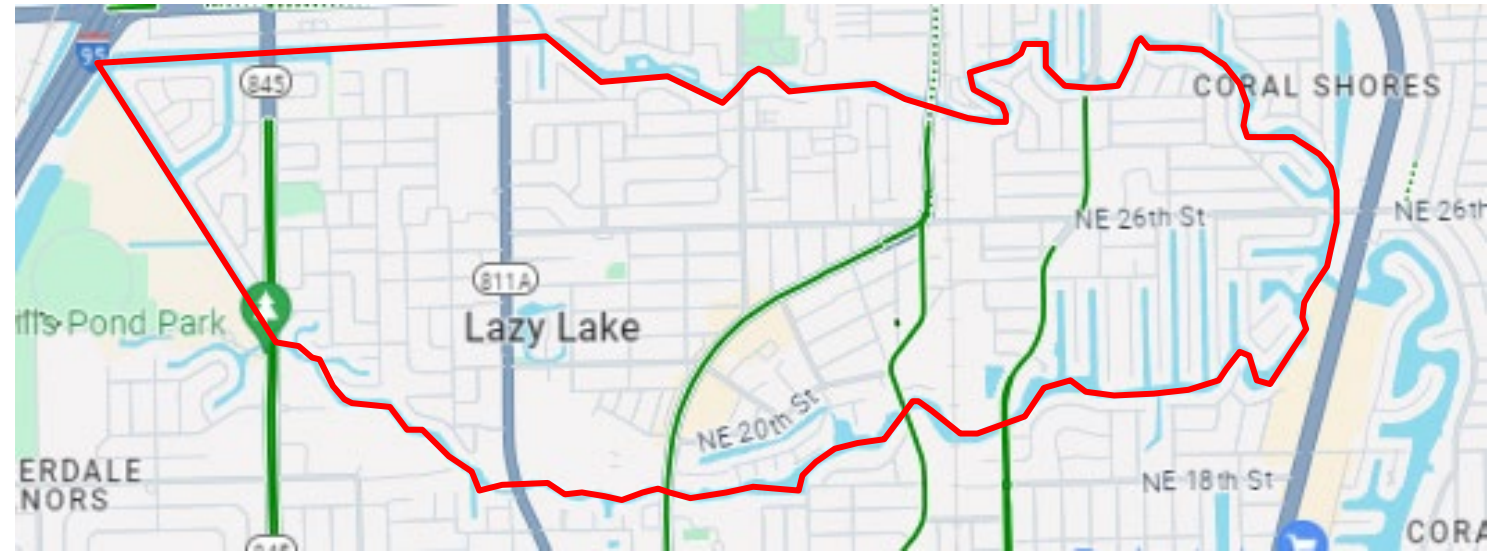
How is Fort Lauderdale Protecting Waterway Quality?

The City of Fort Lauderdale has taken aggressive action over time to address and reduce both point and non-point source discharges. The Waterworks 2011 Program eliminated septic systems in the City, especially near waterways. Pumpout stations were installed at all City marinas to provide convenient sewage disposal facilities for the boating community. Zoning district requirements were established compelling property owners renting to live-aboard boats to have pumpout facilities. The City has an ordinance for the control of pet waste and has installed pet waste stations in public spaces. The City Commission recently passed an ordinance prohibiting the application of fertilizers during the rainy season (June 1 to September 30) to reduce nutrient loading and prevent algal blooms.



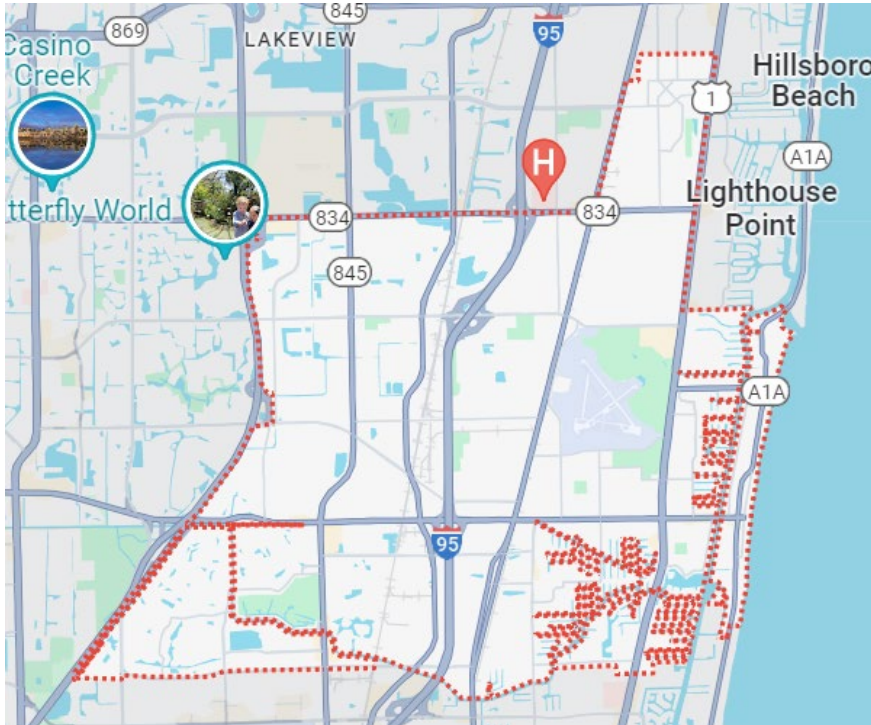
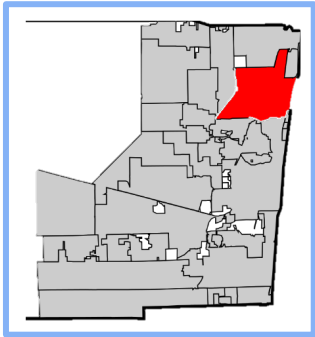
The City prohibits fertilizing in the summer (June 1 - September 30)

HOW DO OTHER CITY'S PERFORM THIS WORK?



- Internal Service
- 13 miles of waterway
- Two service boats - one large 24' flat bottom barge and one 15' jon boat
- Primary focus – **Trash and Floating Debris**
- Operation quarterly collections
- Estimated program cost - \$15,000

HOW DO OTHER CITY'S PERFORM THIS WORK?

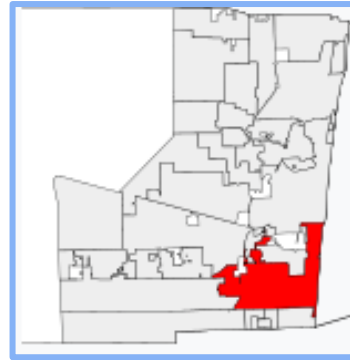


Michael Laughlin / Sun Sentinel

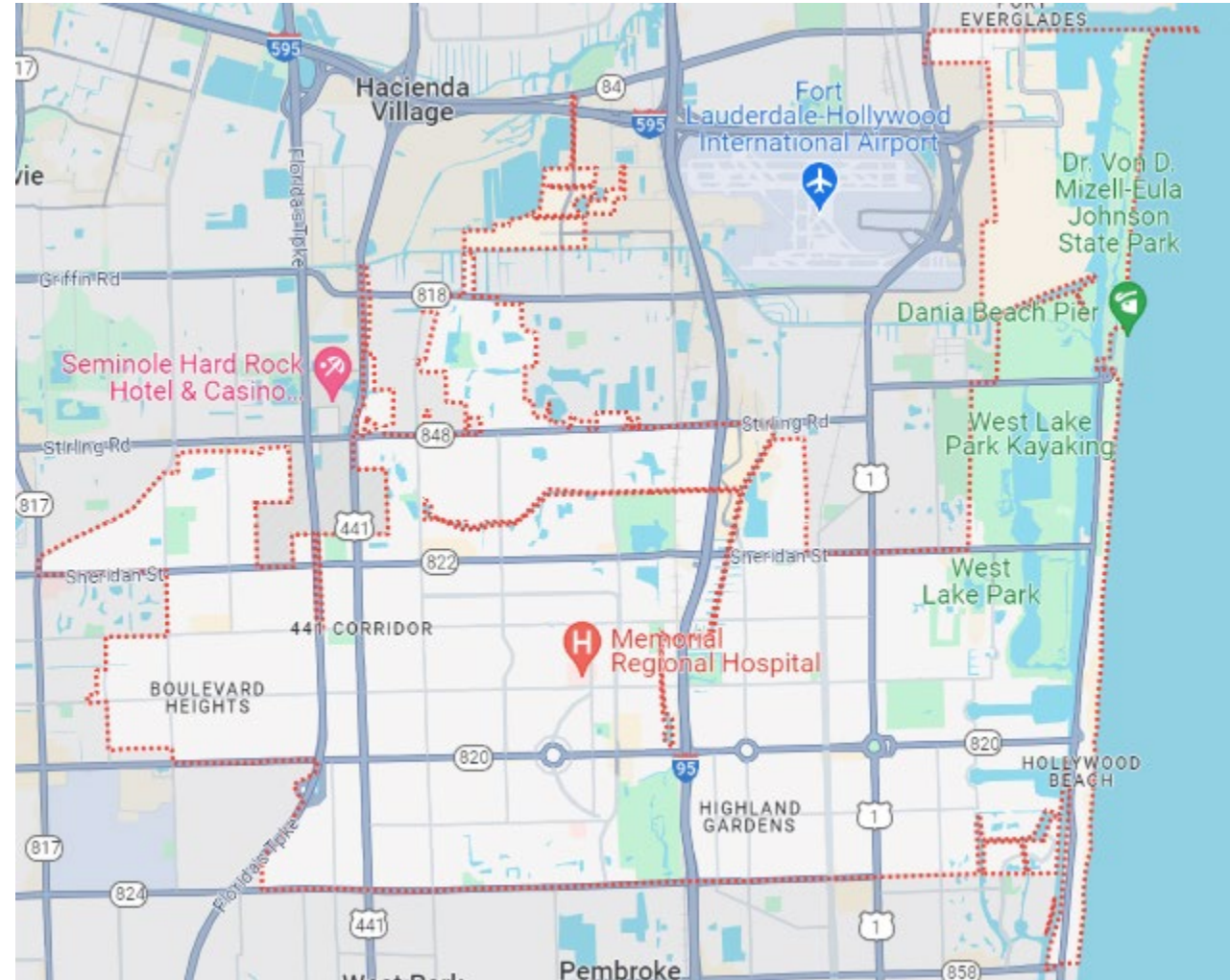
Pompano Beach city worker Jerry Burke, left, and Supervisor Eric McLamore look for debris in a Pompano Beach canal. Right now, the canal trash clean-up effort is a one-boat effort that patrols 27 miles of canal waterway on the hunt for trash. Pompano is doubling the effort with a new boat. Picture taken, Wednesday, November 16, 2016.

- Internal Service
- 27 miles of waterway
- Primary focus: **Trash and floating debris**
- Primarily run one service boat
- Operation typically runs 4 days per week
- Program cost - \$200,000

HOW DO OTHER CITY'S PERFORM THIS WORK?



- No waterway cleaning services
- Most City waterways are NOT under City jurisdiction

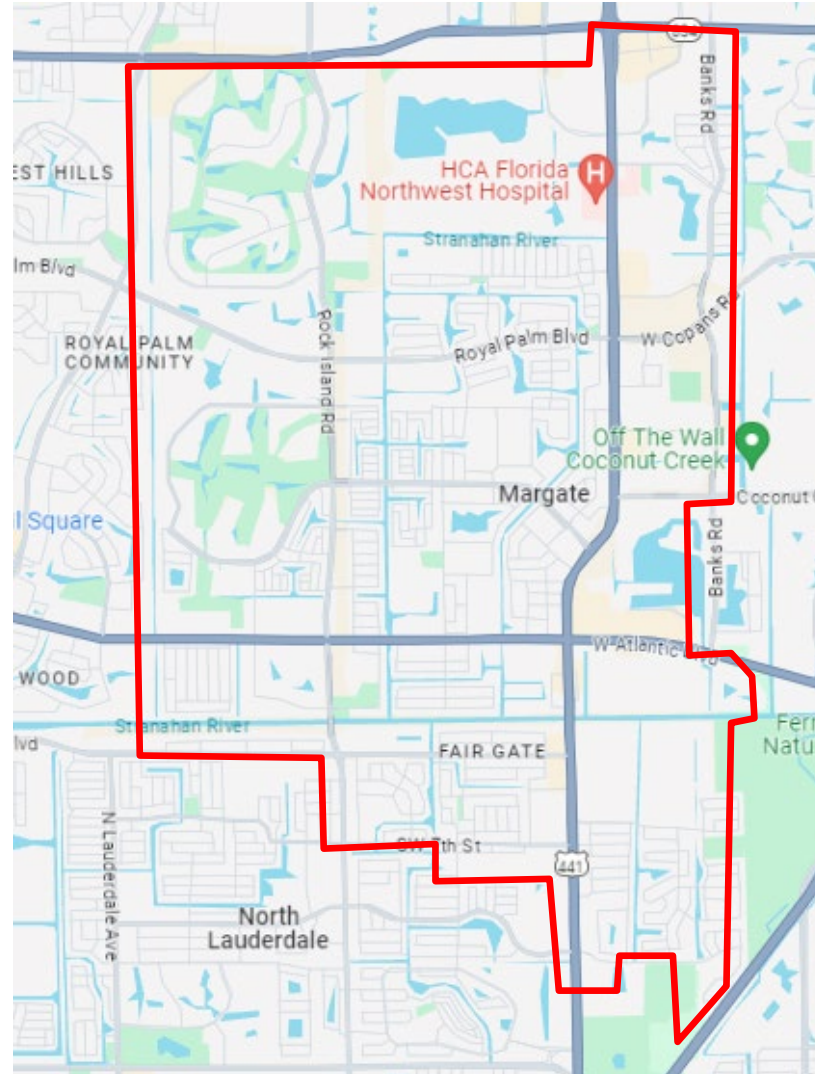


HOW DO OTHER CITY'S PERFORM THIS WORK?



MARGATE
Florida

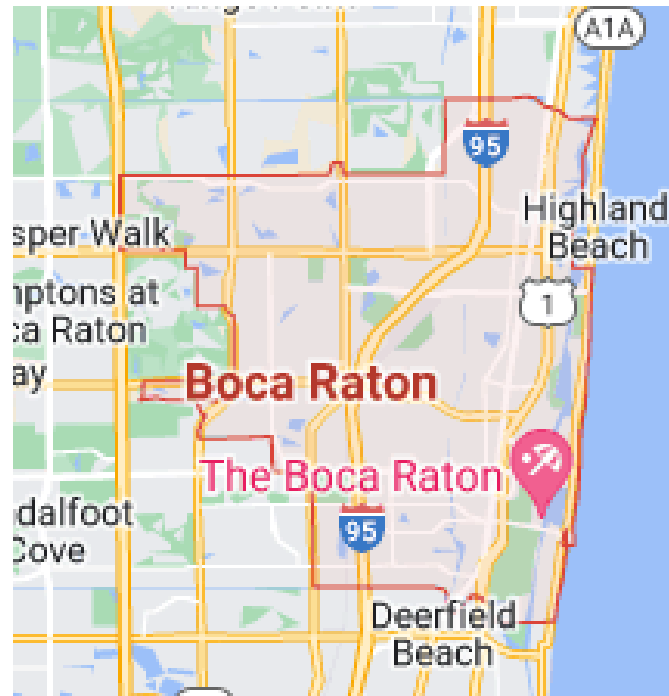
- Internal Service
- Primary focus: **Aquatic weed control**
- 55 miles of freshwater waterway/canals
- Run two harvester



HOW DO OTHER CITY'S PERFORM THIS WORK?



- Contract Service
- Number of boats – Four (4) with only one operated at a time
- Operates three (3) days per week
- Primary focus: **Non-organic trash**
- 10 miles of ICW + navigable channels connected to ICW
- 7.5- 10.5 tons collected annually
- \$156,000 annually



HOW DO WE PERFORM THIS WORK?



- Contract Service
- Run one service boat
- Operates 5 days per week
- Service all 165 miles of waterway + inland lakes once per month
- Remove 100+ tons debris annually
- Program cost: \$374,400



GPS Track

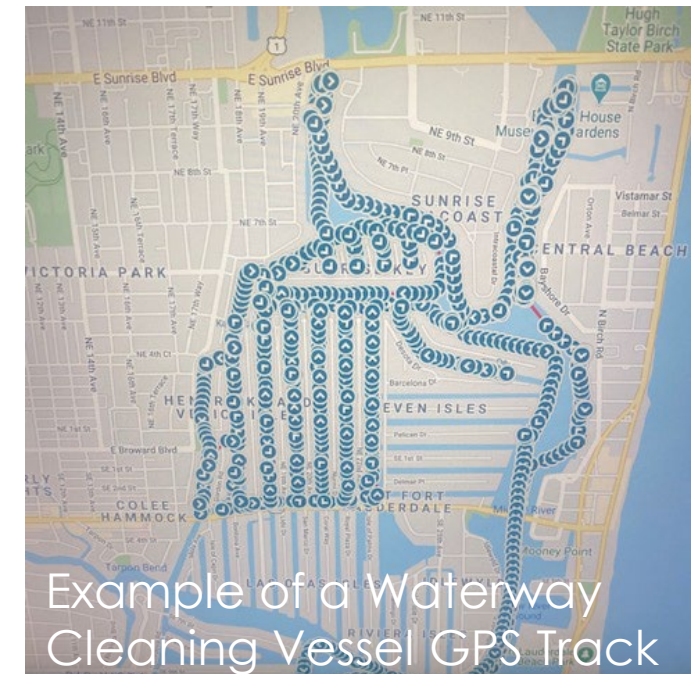
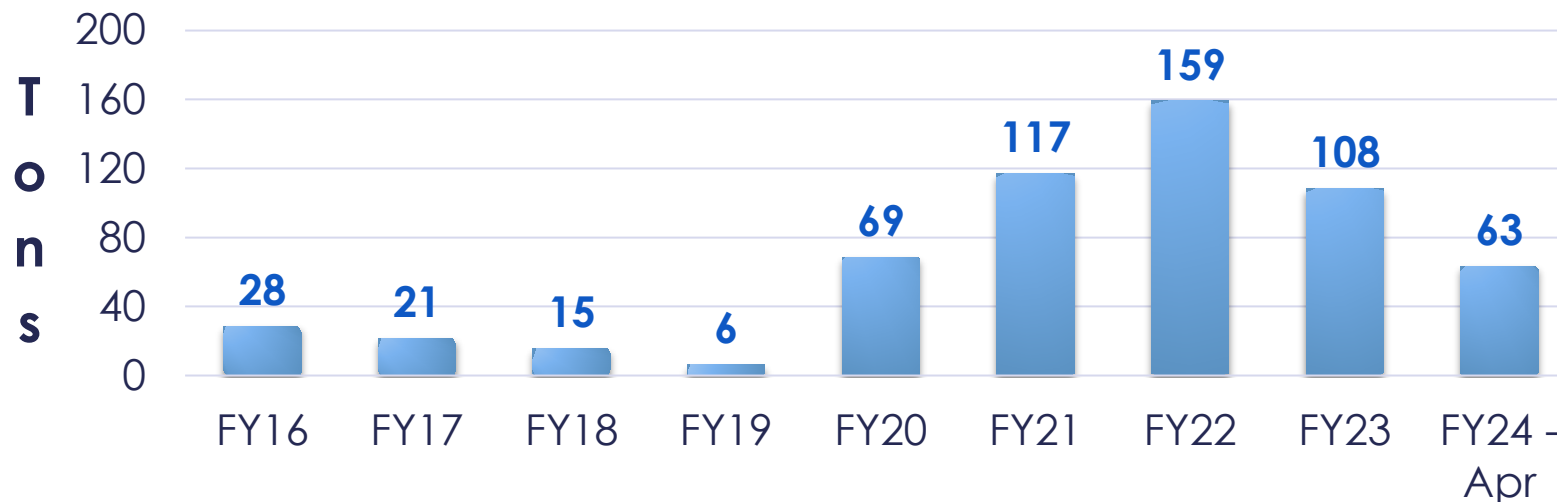
WATERWAY CLEANING

The City has substantially increased its effort to remove debris* from our waterways.

** majority is landscape materials*



Canal Cleaning Program Tons Collected by Fiscal Year



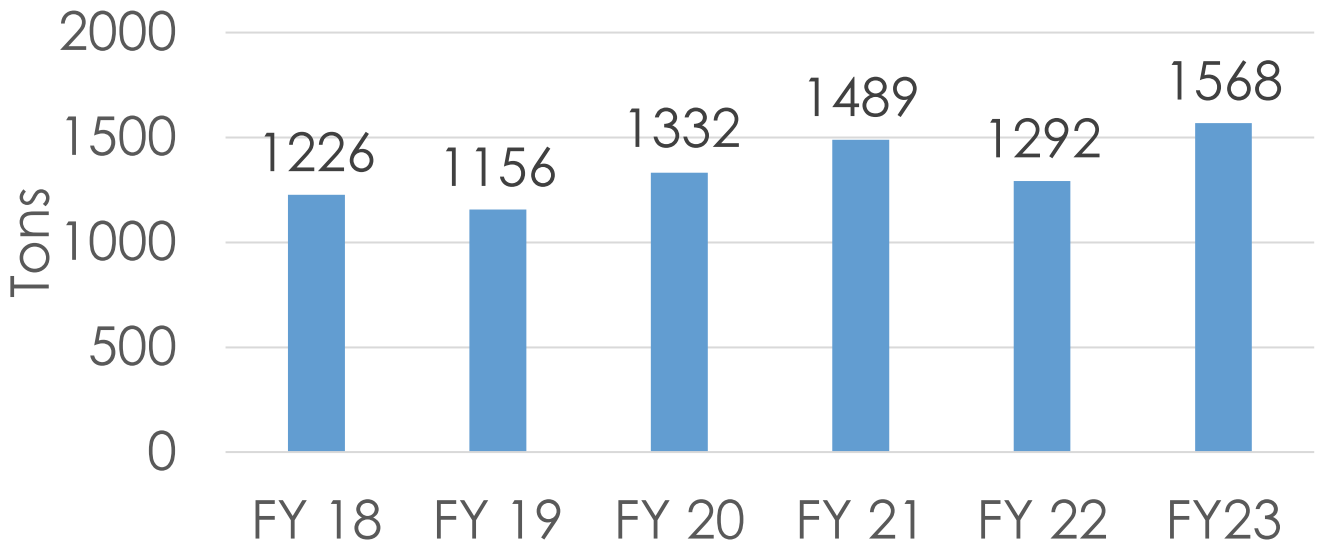


FY 2023 STORMWATER OPERATIONS POLLUTION PREVENTION ACTIVITIES

Proactive maintenance of the stormwater system helps prevent pollutants from being discharged into waterways.

- ▶ **17,500** Proactive Inspections conducted:
 - ▶ Generates repair work orders
 - ▶ Generates catch basin cleaning work orders
- ▶ **~5125** Catch basins cleaned and **>22,000** miles street swept annually
 - ▶ **Over 1,550** tons of debris captured
- ▶ Four (4) cleanings of the City's Pollution Control Devices

Street Sweeping and Catch Basin Cleaning Disposal by Fiscal Year



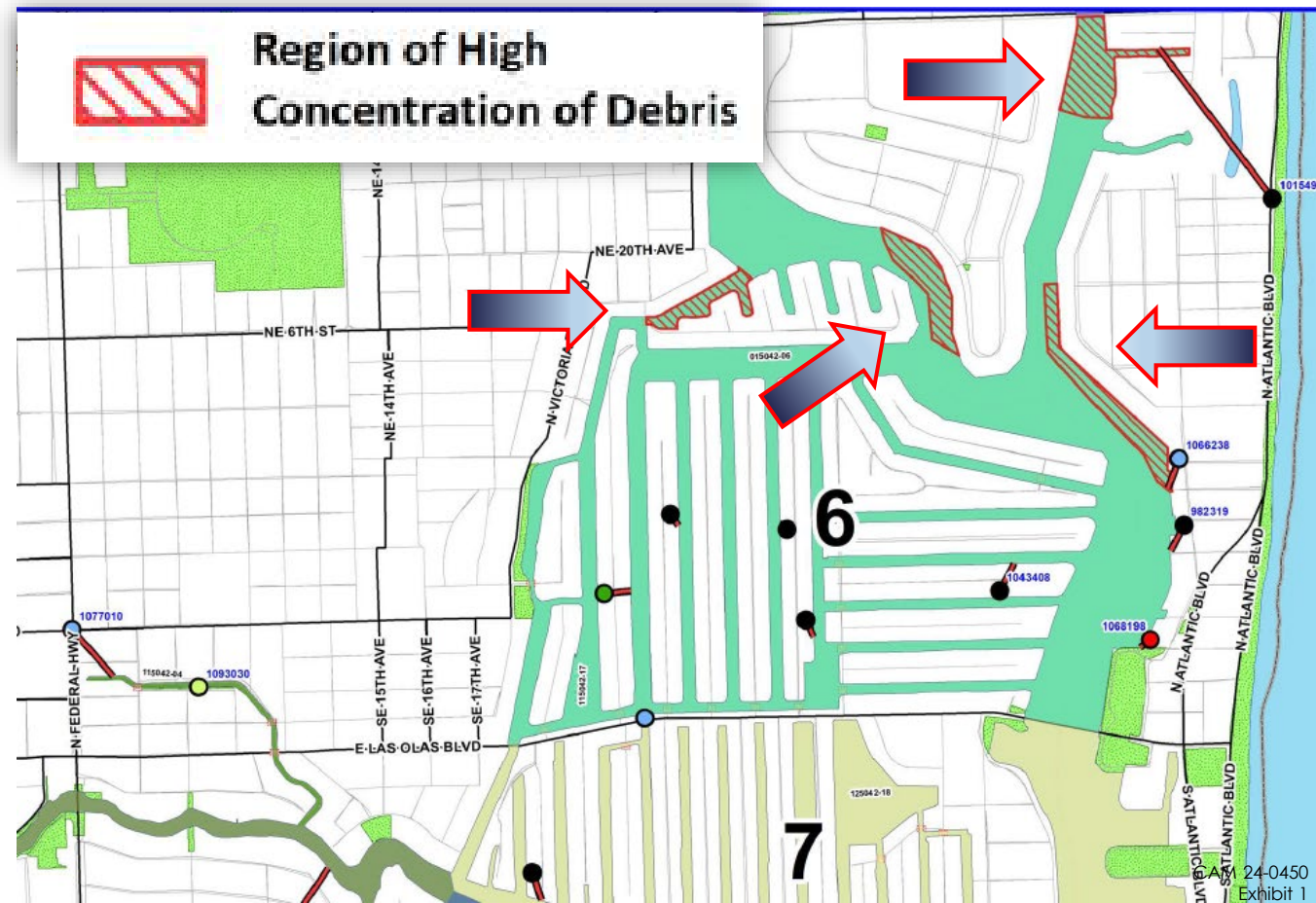
WATERWAY QUALITY STRUCTURES – RIVER OAKS





ENHANCEMENT OF WATERWAY CLEANING SERVICES

Existing Contract	New Enhanced Contract (7/1/24)
1 service boat	2 service boats
All waterways once per month	All waterways once per month plus hot spots every 2 weeks
\$374,400/year	\$684,000/year
100+ tons debris annually	Expected to increase by at least 50%
	Additional services to support waterway maintenance



Example of Areas with High Concentration of Debris

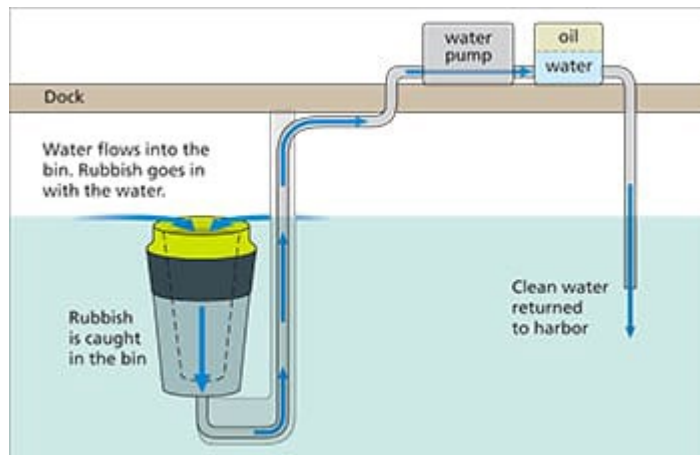
Seabins

Trash Skimmers designed for marinas and other protected water bodies



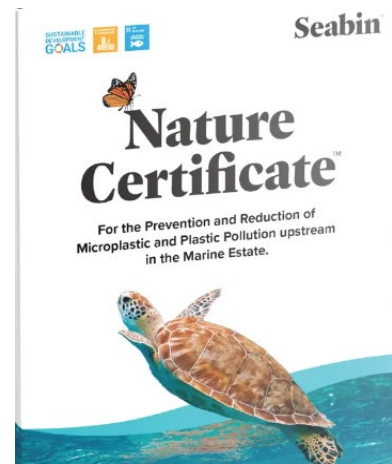
<https://seabinproject.com/>

<https://www.youtube.com/watch?v=ySp7HKD7jaw>



REQUIRED SITE CONDITIONS

1. Staff to maintain Seabin on a daily basis
2. A power outlet. Seabin comes with a 20ft (6 m) electric cable and a plug.
3. Voltage: 110V and 220V
4. Freeboard range: 12.6" to 32.3" (320 to 800 mm)
5. Maximum water current speed: < 4 knots
6. Maximum wave height: < 1ft (0.3 m)
7. Water level > 4.4 ft (1.34 m) on the lowest astronomical tide



Seabins have fundamentally changed their business model from selling technology to selling environmental benefits through Nature Certificates.

OTHER TRASH REMOVAL ACTIVITIES

Code Enforcement on the Waterways



Waterway
Enforcement
Hours of Operation:

Mondays & Wednesdays
8:30 AM to 12:00 PM
(Holidays and Severe Weather may affect Hours/Time.)

Marine Advisory Board Initiative
On Cleaner Waterways



OTHER TRASH REMOVAL ACTIVITIES

VOLUNTEERS NEEDED

Bill Keith Preserve
Shoreline Cleanup on
Saturday, March 16, 2024
8:15 am - 10:15



Beach CleanUp

SATURDAY, APRIL 13TH

WHERE:
• B Ocean Resort- 1140 Seabreeze Blvd, Fort Lauderdale, FL 33316

SCHEDULE:
• 8 AM: Free HIIT Workout Class
• 9 AM: Free Yoga Class
• 10AM: Beach Clean Up

The Local Octopus Foundation | OutFit | ROCK THE OCEAN | LAN Infotech



HOME ABOUT ▾ PARTICIPATE ▾

STUDENTS ▾ SUPPORT ▾



**SAVE THE DATE:
SATURDAY
MARCH 2ND,
2024**

ONE WORLD QUEST

FLORIDA BEACH CLEAN-UP!

CLEAN OUR BEACHES IN HONOR OF EARTH DAY!

Come together to join our community event to clean up our beautiful environment!

APRIL 13TH
8AM-11AM

A1A AND LAS OLAS BLVD
FORT LAUDERDALE, FLORIDA

FOR MORE INFO:
INFO@ONEWORLDQUEST.ORG
WWW.ONEWORLDQUEST.ORG

BROWARD'S LARGEST & LONGEST-RUNNING ENVIRONMENTAL EVENT

QUESTIONS?

To report pollution
concerns



954/828-8000

