CITY OF
FORT LAUDERDALE

All-America City

Memorandum

Memorandum No: 20-093

Date: October 2, 2020

To: Honorable Mayor and Commissioners

From: Chris Lagerbloom, ICMA-CM, City Manager

Re: **Understanding and Addressing Waterway Quality**

Waterway quality is a Commission top priority for 2020. Recent discussions at Commission meetings have highlighted the desire for the public to have a better understanding of what constitutes waterway quality and how the City is addressing it. To help facilitate better awareness of the extensive efforts the City is undertaking to reduce pollution impacts and improve our waterways, the October Laudertrac on Waterway Quality (attached) is dedicated to an overview of this topic.

Attachment: October 2020 Laudertrac on Waterway Quality

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Jeffrey A. Modarelli, City Clerk
John C. Herbst, City Auditor
Department Directors
CMO Managers

LAUDERTRAC

WATERWAY QUALITY UPDATE FORT LAUDERDALE

Tracking Progress on Commission Priorities for 2020

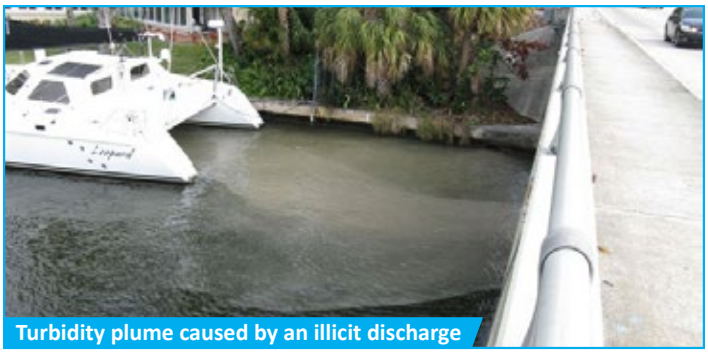
October/November 2020

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?

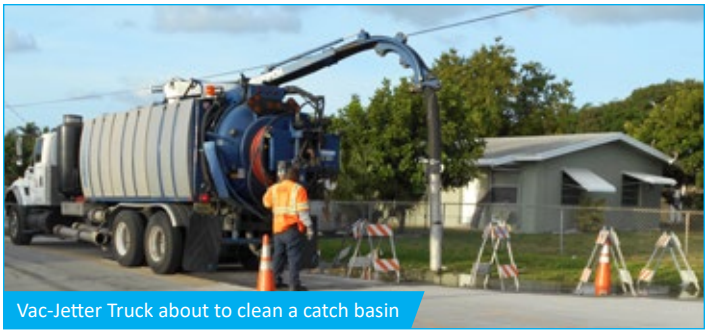
Waterway quality is monitored by a number of different agencies. Broward County has an extensive network of sampling sites throughout its jurisdiction where water is collected and monitored for a broad spectrum of quality parameters on a quarterly basis. FDEP standards are applied to these urban waterways.

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

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.


Vac-Jetter Truck about to clean a catch basin

To reduce the impacts of urban runoff, the City established a stormwater utility in 2012. Stormwater Operations has a water quantity function to reduce flooding but also an important water quality function. Regular inspection and cleaning of the City's 9,000 stormwater catch basins reduces sand, silt, and pollutants from entering our waterways. Many catch basins contain a pollutant-retardant baffle, a device that allows grit to settle in the basin and prevents trash from being discharged to the outfall. Street sweeping is also conducted to prevent debris from ever reaching catch basins.

During the first six months of 2020, catch basin cleaning and street sweeping prevented more than 1,000 tons of debris from entering our waterways. During the same time period, 27 tons of waste were collected from our waterways and disposed of properly through the City's canal cleaning program. In addition, the City holds a National Pollutant Discharge Elimination System (NPDES) permit that mandates certain activities and outreach to reduce non-point sources of pollution and monitor water quality. The current permit requires the development of a bacterial pollution control plan for the North Fork of the New River basin, identified as the City's most impaired water body. Neighboring municipalities also hold NPDES permits and any waterway quality improvement efforts they make upstream influence the condition of our waterways.

Over the past five years, the City has experienced numerous sanitary sewer breaks that have discharged wastewater into our waterways. While the waterway quality returns to baseline within days after the discharge ceases and the bacteria naturally die off, preventing future discharges has become paramount.

The City has embarked on an ambitious infrastructure improvement program to replace a number of sewer force mains and we've changed our operational protocols to replace full sections of pipe rather than just the damaged piece. The City is also using smoke testing of gravity sewer mains to identify breaks in both public and private sewer pipes and we are performing pipe lining to seal leaking gravity sewer mains in a number of basins. These activities reduce inflow and infiltration of groundwater into the sanitary sewer system and prevent wastewater from entering the environment. In addition, the City revised the ordinance on pretreatment facility requirements to increase the frequency of grease trap cleanouts at restaurants in an effort to reduce blockages that cause sanitary sewer overflows.

What is the Future of Waterway Quality in Fort Lauderdale?

Cleaning a catch basin containing a pollution control baffle

Looking forward, the City recently entered into a contract to install 57 new pollution control baffles. We are also proactively replacing swales in six neighborhoods to improve the quality of stormwater runoff.

As the City implements the Stormwater Master Plan, we will install 11 water quality structures to treat urban runoff. We also have funding to establish weekly water quality testing for fecal indicator bacteria within key recreational areas and post easy-to-understand results online.

Finally, the City is reviewing a number of methods to reduce the potential for algal blooms including aerators, oysters, and bubble curtains.

Fort Lauderdale is the Venice of America. Its 165 miles of waterways provide beautiful views, marine commerce, habitat for wildlife, and recreational opportunities. Our waterway quality is critical to our way of life and the City is dedicated to protecting it.

GET INFORMATION AND UPDATES

CITY OF FORT LAUDERDALE

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