MIAMIBEACH

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COMMISSION MEMORANDUM

TO: Mayor Dan Gelber and Members of the City Commission

FROM: Raul J. Aguila, Interim City Manager

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Raul J. Aguila
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DATE: January 13, 2021

2:20 p.m. Second Reading Public Hearing

SUBJECT: **AN ORDINANCE OF THE MAYOR AND CITY COMMISSION OF THE CITY OF MIAMI BEACH, FLORIDA, AMENDING CHAPTER 46 OF THE MIAMI BEACH CITY CODE, ENTITLED "ENVIRONMENT," TO CREATE ARTICLE IX THEREOF, TO BE ENTITLED "USE OF FERTILIZER," RELATING TO FLORIDA FRIENDLY USE WITHIN THE CITY OF MIAMI BEACH, PROVIDING FOR DEFINITIONS, APPLICABILITY, TIMING OF FERTILIZER APPLICATIONS, FERTILIZER FREE ZONES, FERTILIZER CONTENT AND APPLICATION REQUIREMENTS, AND MANAGEMENT OF VEGETATIVE MATTER, OUTLINING CERTAIN EXEMPTIONS, GOLF COURSE, ATHLETIC FIELDS, SPECIALIZED TURF AND GREENSPACE REQUIREMENTS, REQUIRING TRAINING AND LICENSING, PROVIDING ENFORCEMENT AND PENALTIES; AND, PROVIDING FOR REPEALER, SEVERABILITY, CODIFICATION, AND AN EFFECTIVE DATE.**

ADMINISTRATION RECOMMENDATION

The Administration recommends that the City Commission adopt the ordinance for second reading.

BACKGROUND

Biscayne Bay is critical to the environmental, recreational, cultural, and economic well-being of the community. The challenges facing the Bay are complex and regional in nature. At the beginning of August 2020, an unprecedented fish kill was reported in the northern basin of Biscayne Bay, concentrated in the area around the Biscayne Canal and the Little River. Over the course of a week, thousands of fish died from lack of oxygen. Following this event, a devastating algae bloom flourished throughout the Bay and surrounding waterways. These events are caused by multiple factors including extremely high-water temperatures, low-dissolved oxygen, increased freshwater flows, and an influx of nutrients. Nutrients enter the system from agricultural runoff, leaking septic tanks, fertilizers, pet waste, and yard clippings.

In 2019, Miami-Dade County Board of County Commissioners created the Biscayne Bay Task Force (BBTF) to study the causes of the degradation of the bay and develop recommendations on how to address these issues. In August

2020, BBTF released Report and Recommendations: A Unified Approach to Recovery for a Healthy & Resilient Biscayne Bay. The report focuses on three main areas: water quality, leadership, and education. It will take collaboration and long-term commitment from Municipal, County, State and Federal agencies as well as community organizations to restore the health of the Bay. The report recognizes the need for countywide and municipal legislation to prevent the negative secondary and cumulative effects of excess nutrients in Biscayne Bay caused by fertilizer runoff. The report also recognizes that water quality restoration of Biscayne Bay needs to be a budget priority for all governmental levels: federal, state, and local.

On December 10, 2020, Miami-Dade County released Report on Development and Implementation of an Annual Report Card Program on the Health of Biscayne Bay. The Report Card analyzed water quality and benthic habitat data, prioritized water quality and habitat characterizes. The Report noted the health of the Bay is largely driven by water quality. The Report card breaks down the Bay into 12 areas. Two of these areas, Southern North Bay A and B, are adjacent to Miami Beach. According to the 2019 Report Card, both areas were ranked poor for the parameters analyzed including: water clarity, phosphorus, nitrogen, chlorophyll-a, submerged aquatic vegetation, and sponges (Attachment A).

At the Commission meeting on September 16, 2020 the City Commission and Mayor adopted for first reading an ordinance amending Chapter 46 of the Miami Beach City Code, entitled "Environment," to create Article IX, to be entitled "Use of Fertilizer," relating to citywide Florida friendly fertilizer use, providing for definitions, applicability, timing of fertilizer applications, fertilizer-free zones, low maintenance zones, fertilizer content and application requirements, application practices, management of grass clippings and vegetative matter, exemptions, golf course, athletic fields, specialized turf and greenspace requirements, requiring training and licensing, and providing enforcement and penalties.

According to the 2019 Community Satisfaction Survey, only 37.1% of residents are satisfied with the City's efforts to reduce pollution from stormwater runoff.

ANALYSIS

Nitrogen and phosphorus are primary nutrients in many fertilizers. When it rains, stormwater collects potential pollutants, including sediments, nutrients (from lawn fertilizers), bacteria (from animal waste), pesticides, metals (from rooftops and roadways), and petroleum by-products (from leaking vehicles). The excess of these nutrients can be detrimental to our waterways. Increased nutrients are one of the main pollutants degrading the water quality and health of Biscayne Bay.

Over 80 county and city governments in Florida have enacted fertilizer restriction ordinances to address improper fertilizer use on private properties. Manatee, Pinellas, Lee and Martin Counties and the cities of Miami, Melbourne and Cape Coral are examples of communities that have enacted a blackout period for fertilizer use during the rainy season.

The proposed ordinance (Attachment B) was developed using template language provided by the Florida Department of Environmental Protection (FDEP) and existing fertilizer ordinances that are in place in municipalities throughout Florida,

including the City of Miami. The proposed ordinance requires the use of best management practices which provide specific management guidelines to minimize negative secondary and cumulative environmental effects associated with the misuse of fertilizers. The ordinance regulates and promotes the following:

- Establishes a prohibited application period from June 1 through November 1 (accounts for rainy season and king tides)
- Establishes fertilizer-free zones 20 feet adjacent to waterways and storm drains
- Recommends low maintenance zones 10 feet adjacent to waterways and storm drains
- Establishes proper fertilizer application rates and methods outside of the prohibited application period
- Requires that grass clippings and other vegetative matter be kept free from storm drains and waterways
- Provides exemptions for golf courses, high impact areas in public parks and athletic fields
- Establishes minimum Florida-friendly landscape requirements for new golf courses and parks to reduce future fertilizer use and requires golf courses and parks to conduct periodic nutrient soil test and report quarterly the monthly fertilizer use for each site to the Environment & Sustainability Department
- Requires proper training of commercial and institutional fertilizer applicators
- Establishes training and licensing requirements for commercial and institutional applicators
- Establishes enforcement and penalties
- Establishes the Miami Beach Biscayne Bay Protection Fund

The ordinance establishes a prohibited application period from June 1 through November 1 to account for the rainy season and king tides that cause tidal flooding from approximately August through November. To reduce runoff from fertilizers, the proposed ordinance establishes a fertilizer-free zone 20 feet adjacent to waterways and storm drains and recommends a low-maintenance zone 10 feet from waterways or storm drains. The low-maintenance zone encourages the use of Florida-friendly landscaping that does not require maintenance and can help filter pollutants. In addition, fertilizers and grass clippings and other vegetative matter cannot be swept or blown into the street, stormwater drains or waterbodies to prevent direct discharges and high nutrient vegetated debris from being discharged into the Bay and surrounding waterways.

The proposed ordinance establishes fertilizer application rates for the period outside of the prohibited application period:

- Fertilizers containing nitrogen and/or phosphorous shall contain no less than 65% slow release
- Fertilizers containing nitrogen and/or phosphorous shall not be applied before seeding and shall not be applied for the first 30 days after seeding or sodding
- No more than two pounds of nitrogen per 1,000 sq ft shall be applied in a calendar year

- No more than 0.50 lbs of nitrogen per 1,000 sq feet shall be applied in one application
- Liquid fertilizer containing nitrogen are prohibited
- A soil test verifying a deficiency is required prior to the use of phosphorus fertilizer. Where a deficiency has been verified, phosphorous fertilizer shall not be applied at application rate that exceed 0.25 lbs of phosphorus per 1,000 sq ft per application and not to exceed 0.50 lbs of per 1,000 sq feet per year

It should be noted that private properties can apply to the Environment & Sustainability Department for an exemption if they can demonstrate a nutrient deficiency that is not being caused by high ground water, climate change, sea level rise, or disease. Recognizing that there may be extreme cases where it may necessary to utilize fertilizer during the prohibited application period, this exemption allows for flexibility in these cases.

The proposed ordinance sets forth a number of exemptions, including golf courses, high impact areas in public parks, and athletic fields. The year-around, high intensity use of turf areas in parks and golf courses require the use of fertilizers to keep these areas green and the turf strong. The proposed ordinance requires that a soil nutrient test be completed periodically, and report monthly fertilizer use per site to the Environment & Sustainability Department. This data will be included in the City's annual water quality report that is submitted to the FDEP as part of the National Pollution Discharge Elimination System (NPDES) annual report. Collecting fertilizer-use data will allow the City to track and monitor fertilizer-use to make science-based decisions and adjustments to the ordinance in the future.

It should be highlighted the City's Parks and Recreation Department and the Public Works – Greenspace Management Division apply Florida-friendly landscaping principles and best management practices for fertilizer application on all public properties. All City landscaping contractors are required to follow industry practices and standards found in the FDEP's "Florida-Friendly Best Management Practices for Protection of Water Resources by the Green Industries". This ordinance will require these same standards for commercial landscapers operating on private property that are not currently required to abide by these standards. The ordinance requires all commercial and institutional applicators of fertilizer to complete the six-hour training program in the "Florida-Friendly Best Management Practices for Protection of Water Resources by the Green Industries" offered by the FDEP through the University of Florida Extension program every five years.

Site design is an important component to reducing nutrient run-off. The proposed ordinance requires that golf courses, athletic fields and high impact areas in parks incorporate the following design elements into all new future projects or renovations exceeding 50% of its total area:

1. Incorporate "Best Management Practices for Enhancement of Environmental Quality on Florida Golf Courses" and BMPs for the use of Florida-friendly trees, shrubs, and ground cover landscaping; and

2. Provide the use of Florida-friendly trees, shrubs, and ground cover landscaping in more than 80% of the total areas designated for non-play golf course areas; and
3. Incorporate low-impact design and green infrastructure elements into the drainage design; and
4. Provide minimum ten-foot low maintenance buffer adjacent to watercourses, seawalls, and storm drain inlets; and
5. Provide a management plan with fertilizer strategies to reduce nitrogen and/or phosphorus-related nutrient load.

The proposed ordinance allows exceptions to the design requirements if a project demonstrates that a good faith effort was made to achieve substantial compliance with the applicable design requirements. The exception must be approved in writing by both the Environment & Sustainability Director and the City Manager.

The proposed ordinance includes training and licensing of commercial applicators and golf course operators every five years. Commercial applicators are required to complete the six-hour training program "Florida-Friendly Best Management Practices for Protection of Water Resources by the Green Industries" offered by FDEP and golf course applicators are required to complete the "Florida Golf Course Best Management Practices Certification Training" offered by the University of Florida.

The proposed ordinance includes enforcement and penalties that apply to both commercial applicators and individual property owners. The penalty schedule is as follows:

1. First Violation within a 12-month period - $150.00
2. Second Violation within a 12-month period - $300.00
3. Third or subsequent violation within a 12-month period - $500

Fines collected shall be deposited into the Miami Beach Biscayne Bay Protection Trust fund dedicated to further water conservation, nonpoint pollution prevention activities, water quality improvements, and marine and coastal ecosystems enhancements. Establishing this fund is an important step in projecting Biscayne Bay. The County's Biscayne Bay Task Force Recommendations highlighted the need to prioritize funding for the protection of water quality and health of Biscayne Bay.

At the September 16, 2020 Commission Meeting, Commissioner David Richardson requested more details as to why the State's guidance has not been codified into State law. In 2015, FDEP released an updated Model Fertilizer Use Ordinance, 403.9337 Fla. Sta to be used as a guiding document by counties and municipalities to limit the amount of fertilizer applied to the landscape to reduce the risk of nutrient enrichment of surface and ground waters. A state bill requiring all counties and municipal governments to adopt the model ordinance has been introduced as recently as last year's legislative session, but it has not successfully moved past the Agriculture or Agriculture and Natural Resources Subcommittees. It should be noted that Florida Statue 403.9337(2) requires counties and municipal governments within the watershed of a nutrient-impaired water body to adopt, at

minimum, the FDEP model ordinance. The proposed ordinance is outlined form FDEP's model ordinance and has been modified to meet the specific conditions in Miami Beach and strengthened to provide greater protection of Biscayne Bay.

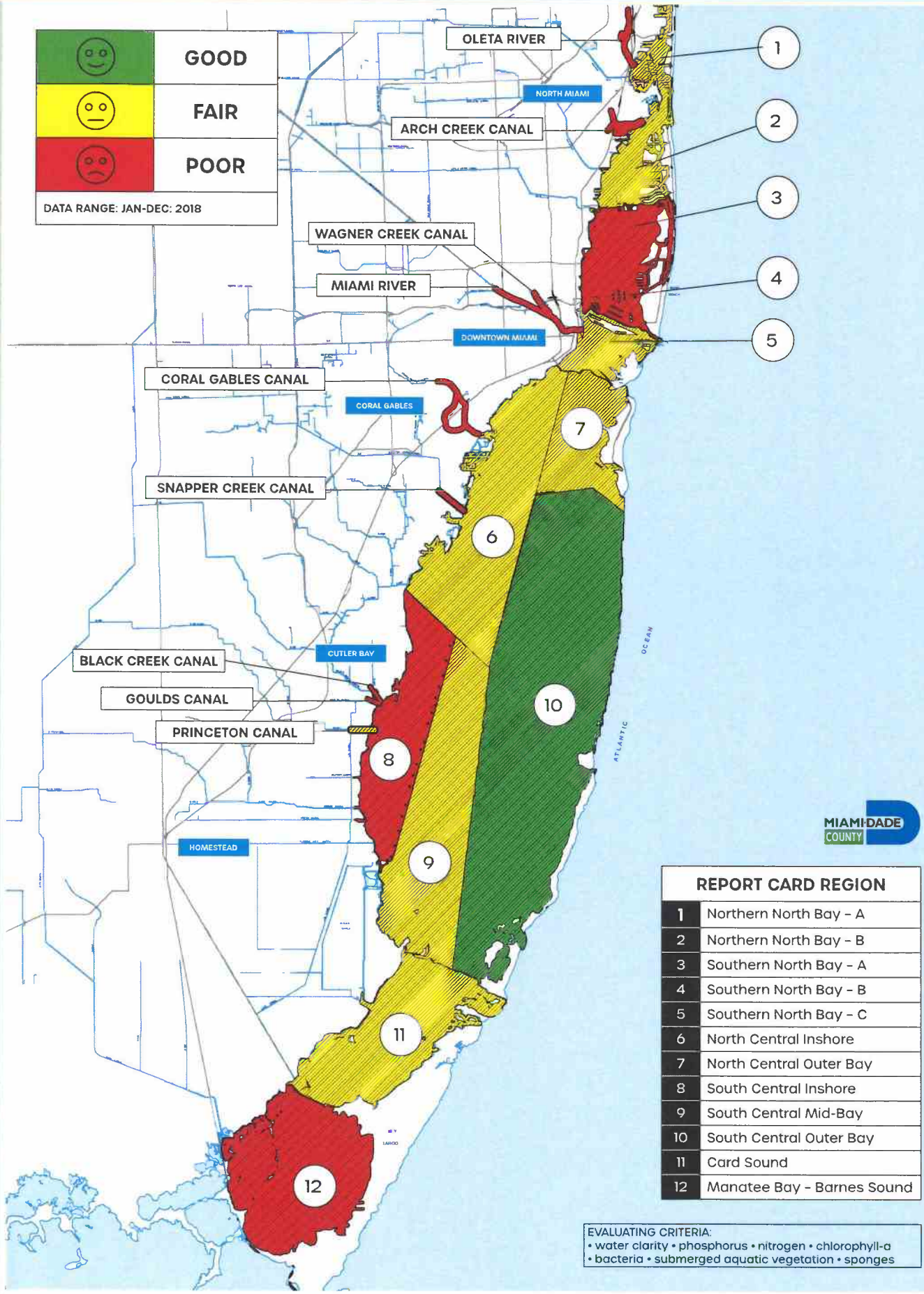
For the implementation of the policy, the Environment & Sustainability (E&S) Department will work with local non-profits such as the Miami Waterkeeper and the Ocean Conservancy to develop an outreach campaign for the community and landscaping commercial contractors. The Miami Waterkeeper has worked with the City of Miami on the development and implementation of their fertilizer policy and outreach campaign. The Miami Waterkeeper was recently awarded an environmental grant from the City of Miami Beach to educate the community and landscape commercial contractors about fertilizer use. One of the main goals of the Ocean Conservancy's 'Shores Forward' partnership with the City is to improve water quality and reduce pollutants such as fertilizers in our waterways. The Environment & Sustainability Department will work with both non-profits to develop trainings and virtual workshops for the community and landscaping commercial contractors. Furthermore, the Marketing and Communication's Department will be developing a multi-tiered fertilizer campaign to educate residents leading up to and during the rainy season. The proposed ordinance shall take effect on the 1st day of June, 2021.

CONCLUSION

The Administration recommends the Mayor and City Commission approve the ordinance for second reading.

Attachments:
A – Miami-Dade County Biscayne Bay 2019 Report Card
B – Use of Fertilizer Ordinance

2019 BISCAYNE BAY REPORT CARD



REPORT CARD REGION	
1	Northern North Bay – A
2	Northern North Bay – B
3	Southern North Bay – A
4	Southern North Bay – B
5	Southern North Bay – C
6	North Central Inshore
7	North Central Outer Bay
8	South Central Inshore
9	South Central Mid-Bay
10	South Central Outer Bay
11	Card Sound
12	Manatee Bay – Barnes Sound

EVALUATING CRITERIA:
• water clarity • phosphorus • nitrogen • chlorophyll-a
• bacteria • submerged aquatic vegetation • sponges