

Memorandum



Date: February 18, 2022

To: Honorable Chairman Jose “Pepe” Diaz
and Members, Board of County Commissioners

From: Daniella Levine Cava
Mayor

A handwritten signature in blue ink that reads "Daniella Levine Cava".

Subject: Report on Action Items Pursuant to the Mayor’s Monarch Butterfly Pledge, Directive 212354

Executive Summary

On November 2, 2021, the Board of County Commissioners (Board) approved Resolution No. R-1065-21 from the prime sponsor Commissioner Raquel A. Regalado directing the County Mayor or County Mayor’s designee to join the Mayors’ Monarch Pledge and provide a report to the Board that, at a minimum, lists the action items outlined in the Mayors’ Monarch Pledge that have been accomplished, describes any other actions that the County has taken consistent with the goal of increasing the monarch butterfly population, and identifies whether any uncompleted action items in the Mayors’ Monarch Pledge can be accomplished and, if so, what actions are needed to do so.

Miami-Dade County Parks, Recreation and Open Spaces and the Regulatory and Economic Resources Department are already engaged with activities prescribed in the National Wildlife Federation Mayors Monarch Pledge and effective March 31 Miami-Dade County has officially signed the pledge. This report was prepared by the Parks, Recreation and Open Spaces Department (PROS) with input from the Department of Regulatory and Economic Resources Division of Environmental Resource Management’s (RER-DERM) Environmentally Endangered Lands (EEL) program and provides information regarding actions accomplished, plans, and potential solutions related to the Mayor’s Monarch Pledge.

Background

The National Wildlife Federation, a private nonprofit conservation education and advocacy organization, has established a Mayors’ Monarch Pledge, whereby Mayors and other heads of local and tribal governments pledge to take action to help save the monarch butterfly, whose eastern populations have declined by 90 percent in recent years. The National Wildlife Federation’s Mayors’ Monarch Pledge requires that Mayors that take the pledge commit to implement at least three of the 29 action items suggested by the National Wildlife Federation within one year of taking the pledge.

Implementation of Monarch Pledge

PROS’ mission of conservation and stewardship provides for education and awareness action initiatives. Parks are green spaces for people to connect, interact with nature, and develop shared environmental and conservation values. Much of what is included in this report’s action items has already contributed, and will continue contributing, to improving habitat for the monarch butterfly and pollinators, and to educating residents about the monarch butterfly population. These recommendations are guided by best practices, public education, and ongoing activities that support pollinators in our community year-round, conducted by PROS’ UF/IFAS, Zoo Miami, Natural Areas Management, Deering Estate, Fruit & Spice Park, Million Trees Miami’s tree planting program, and Environmental, Education and Conservation Outreach (E.E.C.O.) divisions. In addition, RER-DERM provides habitat acquisition, enhancement and protection for native pollinators including butterflies, through its

Environmentally Endangered Lands (EEL) program, Restoration and Enhancement (R&E) Section, Natural Resources Division’s habitat property tax incentive program, and Adopt-a-Tree program. PROS and RER-DERM, with other agencies, coordinate, co-manage and steward many programs and sensitive resources to support the implementation of the Monarch Pledge.

MONARCH PLEDGE ACTIONS

At the core of PROS’ mission is conservation and the preservation of natural resources and education, awareness, and action initiatives. PROS is composed of a myriad of dynamic ecological units, environmentally sensitive lands, urban and suburban transects, and human systems. There are nearly 130 natural areas in the County’s interrelated system of Parks and Preserves. Most of these environmentally sensitive natural areas have been managed and maintained by the PROS’ Natural Areas Management (NAM) Division since 1991, when the unit was established under PROS, and include lands under PROS, RER-DERM EEL, Special Taxing Districts, and FDEP jurisdiction.

Our most species-rich and sensitive natural areas are the EEL preserves which include marine and freshwater wetlands, mangrove forest, tropical hardwood hammock forest, and globally imperiled pine rockland habitats. Established in 1990, the EEL Program has funded and coordinated management of these areas in partnership with PROS. There are approximately 2,800 acres of EEL designated lands within 18 County parks, and over 27,000 acres of natural areas within 84 different preserves which comprise much of the Monarch habitat in Miami-Dade County.

PROS’ environmental literacy programming is essential to create resilient, healthy communities that protect and conserve land, water, and wildlife, including the monarch butterfly. PROS monarch butterfly/pollinator actions fall into the following categories: education and awareness programs, implementation strategies, and partnerships:

PROS actions to implement the Monarch Pledge are as follows:

Education and Awareness Programs:

1. Continue providing pollinator workshops and public learning programs monthly, in season, and annually at designated parks. Completed 12 butterfly program in 6 months with an attendance of 247 participants through PROS EcoAdventures and Nature Center Programs:
 - A.D. Barnes Park - Pollinator Workshop Program, A.D. Barnes After Dark, and Public Pollinator kits
 - Arch Creek - Plant Propagation workshop
 - Castellow Hammock - Butterfly and Bird Day (pre-pandemic), Birds and Beans Program hosted at this site
 - Continue providing K-12 STEM+ Arts Learning Programs at the following parks:
 - A.D. Barnes - Pollinator education in camp programs, included as topic in homeschool program, hosted Girl Scout Pollinator Bioblitz, and included as topic in Nature Tots program
 - Arch Creek - Pollinator education in camp programs, included as topic in Nature Tots program, and hosted Girl Scout Pollinator Bioblitz
 - Bill Sadowski Park- hosted a Girl Scout Pollinator Bioblitz
 - Castellow Hammock - Things with Wings learning program, Pollinator education in camp programs, Homeschool program topic, included as topic in Nature Tots program, and hosted a Girl Scout Pollinator Bioblitz
 - Camp OB - Kid Projects: Summer Camp 2021 butterfly garden project

2. PROS’ UF/IFAS Extension Office staff will continue conducting in-person and virtual educational programs to the community on pollinators, including education on Monarch butterflies, and providing pollinator plants for schools and for pollinator gardens at parks. In recognition of this program specifically, PROS was awarded the 2020 National Association of Counties (NACo) Achievement Award for the program titled “Innovative Approaches to Educate Community about preserving Habitats for Pollinators at Parks.”
3. PROS’ Deering Estate team conducted butterfly tours at Deering, with 64 community members total in attendance within a four-month span.
4. PROS’ staff at Deering Estate dedicated one week of summer camp at Deering to the theme of Pollinators, with 74 kids in attendance. The children in this summer camp helped maintain one of PROS’ Deering Estate’s butterfly gardens, experienced a virtual reality butterfly game, participated in nature photography with a focus on identifying pollinators, hiked the Pine Rocklands looking for coontie and the Atala Butterfly, and made butterfly feeders.
5. “Parks for Pollinators” interpretive signage has been installed at the following Nature Center pollinator gardens: Arch Creek Park, A.D. “Doug” Barnes Park, Bill Sadowski Park, and Castellow Hammock Park. “Parks for Pollinators” is a national campaign focused on raising public awareness of the current pollinator crisis by encouraging local action and positioning parks as a national leader in advancing pollinator health and native habitat. As part of the roll-out of the PROS Interpretive Signage Improvement Project, this signage will be expanded to 20 additional parks over between 2022-2028.

Implementation Initiatives:

1. Between 2020 and 2022 PROS’ Million Trees Miami initiative installed pollinator gardens at MLK Park, Lake Stevens Park, and the Leadership Learning Center at St. John Bosco Church in Miami’s Little Havana neighborhood.
2. Million Trees Miami and Keep Miami-Dade County Beautiful, both programs housed in PROS, will continue to include the increasing of pollinator habitat as a formal goal of these two initiatives.
3. PROS Procurement Division will find a solution to procuring the correct non-pesticide grown, native Milkweed through the Miami-Dade County procurement process.
4. PROS E.E.C.O. staff installed pollinator gardens/butterfly gardens, including native plants with larval and nectar resources, planted during the South Florida rainy season to allow them to establish and flourish, at the following PROS Nature Centers, with plans to expand this pollinator/butterfly garden planting strategy throughout the parks system.
 - Arch Creek Park - Xeriscape project, Pollinator garden surrounding museum, and Natural area provides pollinator habitat/preserve
 - A.D. “Doug” Barnes Park - Pollinator Gardens: A.D. Barnes North, in nature center atrium, and in canoe planter, natural area, provides pollinator habitat/preserve, and restoration of natural areas
 - Bill Sadowski Park - Pollinator garden next to Nature Center, natural area, provide pollinator habitat/preserve
 - Castellow Hammock Park - Pollinator garden in front of Nature Center and natural area provides pollinator habitat/preserve
 - Crandon Park - South Beach: Crandon Gardens and area surrounding the South Beach concession and North Beach: Nature Center and Bear Cut Preserve
5. PROS E.E.C.O. staff planted Coastal Goldenrod, a favorite nectar plant of monarch butterflies, at Crandon, Haulover and Pelican Harbor Parks. The Department includes the larval host plants specific to South Florida Monarchs in all gardens it creates for pollinators.

6. PROS’ UF IFAS Extension’ Office staff utilized National Recreation and Park Association (NRPA) funding (the Arcola Lakes Bioretention Grant) to install a rain/pollinator garden at Arcola Lakes Park, including pollinators that thrive in a freshwater aquatic edge setting well. This garden is strategically located to prevent stormwater runoff.
7. PROS staff at Zoo Miami staff continue to collaborate with PROS’ NAM teams on pine rockland habitat restorations on zoo grounds that specifically include vital host and nectar plants for many imperiled pollinator species.
8. The Butterfly Bunker, a dedicated laboratory at PROS’ Zoo Miami, includes a full-time staff member who conducts life history research on imperiled Lepidoptera.
9. Zoo Miami staff, monitor and collect native milkweed seeds in the zoo pineland preserves in partnership with Fairchild Tropical Botanic Garden for the purpose of propagating them.
10. PROS’ staff at Deering Estate maintained three pollinators and a community butterfly garden on-site at Deering. Several have coontie within them to help the Atala Butterfly populations.
11. PROS’ staff at Deering Estate planted torchwood at Chicken Key to help reestablish the Schaus' swallowtail.
12. As part of countywide Earth Day special events on Friday, April 22, 2022, PROS’ Fruit and Spice Park, the only public tropical botanical garden of its kind in the national and a Miami-Dade County-designated Heritage Park, will host a pollinator garden installation.

Partnerships:

PROS is committed to working with partners in preserving, protecting, and managing parks as well as historic and natural areas by teaching, advocating, and implementing sustainable stewardship practices that enhance resiliency and the well-being of our community.

1. Every March, in partnership with the Dade Chapter, Florida Native Plant Society, PROS hosts “Native Plant Day,” a full day of educational programs, walks, displays, and plant sales, to the public. To ensure equitable distribution of this conservation action throughout the community, this annual event is hosted on a rotating basis by Bill Sadowski Park (south zone), A.D. Barnes Park (central zone) and our partner City of North Miami Beach Elaine Gordon Park in the northern end of Miami-Dade County.
2. PROS’ Zoo Miami is a founding member of the American Association of Zoos and Aquariums’ AZA Safe: Saving Animals from Extinction North American Monarch Program, which facilitates increased conservation efforts across zoos, aquariums, their professional networks, and their communities nationwide.
3. On November 2, 2021 Zoo Miami Conservation and Research staff implemented the first annual tropical milkweed cutting back event for Monarchs in collaboration with BioTECH at Richmond High School, including a social media awareness campaign that was shared nationally over 1400 times. This event raised awareness about how commonly sold non-native tropical milkweed can be harmful to monarchs due to an accumulation of a parasite if it is not cut back to the ground every fall. All tropical milkweed at Zoo Miami is cut down with BioTECH students, and the event is shared via media channels to raise community awareness to do likewise at their homes and schools.
4. PROS’ team at Zoo Miami was awarded a \$300,000 grant from the Institute of Museums and Library Sciences (with co-awardees the University of Florida’s McGuire Center for Lepidoptera and Biodiversity) that will be funding a series of workshops over two years which will convene conservationists, marketing professionals and educators to develop effective and behavior changing national marketing strategies to benefit Monarchs and other pollinators.

5. PROS’ staff at Zoo Miami staff will continue to work University of Florida, Fairchild, FWC and the USFWS agency in conducting population surveys and habitat assessments for the federally endangered Miami blue and Schaus’ swallowtail butterflies.
6. PROS’ Deering Estate staff, joined by community volunteers, participated in NABA butterfly count in Summer 2021, with 30 species identified and 464 butterflies seen.
7. In 2022, in partnership and with sponsorship from TD bank, PROS’ Million Trees Miami initiative will add a projected total of four pollinator gardens to its Growing Green Playground projects.

RER-DERM actions to implement the Monarch Pledge are as follows:

1. Continue working to acquire the 34,000 acres of endangered lands still in private ownership on Miami-Dade County’s EEL acquisitions list and identify funding mechanisms that allow Miami-Dade County to continue both acquisition and management of these lands.
2. Continue to enforce and update the state-approved EEL Arthropod Control Plan in partnership with the County’s mosquito control program that minimizes aerial adulticide (pesticide) spraying on EEL managed lands. This action eliminates the killing of millions of insects, including Monarchs and native pollinators.
3. RER-DERM along with the University of Florida, Fairchild, and the United States Fish and Wildlife Service (FWS) is entering into the planting phase of a project to plant 1,000 torchwood plants (from local seed sources) on public lands along the coastline. Torchwood is the larval host plant for the critically endangered Schaus swallowtail butterfly.
4. RER-DERM’s EEL Covenant program continues to assist local homeowners with tax incentives and guidance on managing their environmental lands to ensure the sites are maintained and the existing environmental conditions are improved. In the past year, new EEL Covenants were added to the already large list of participants.
5. RER’s Resiliency Office in coordination with RER-DERM is working to update the County’s resilience policies and documents to include the preservation and enhancement of habitat important for Monarchs.

PROS and RER DERM Coordinated Actions to implement the Monarch Pledge are as follows:

1. Continue to increase native habitat acreage by restoring degraded areas through RER-DERM’s EEL Program’s Restoration and Enhancement (R&E) Section, and PROS’ NAM and Zoo Miami divisions. Examples of some recent pollinator-oriented restoration projects in EEL sites, some within or adjacent to Parks, include: Crandon Park and Gardens, Calderon Pineland, Zoo Miami, the Deering Estate, and Florida City Pineland, among others. Additionally, the DERM’s R&E Section and PROS’ Zoo Miami continue to partner with the Fish and Wildlife Conservation Commission to enhance habitat with rare pollinator plants within the Bill Sadowski Critical Wildlife Area at Virginia Key and at Zoo Miami. This is accomplished with on-the-ground support from PROS’ NAM field crews.
2. Led by the RER-DERM’s R&E Section, continue to enhance and maintain islands in Biscayne Bay, including the enhancement of Osprey Island, the Picnic Islands, Little and Big Sandspur, and a major restoration project: Chicken Key at the Deering Estate, accomplished with the support of PROS staff, as well as many others. RE-DERM’s R&E section is also responsible for restoring many public lands throughout Miami-Dade County, using best-in-class restoration techniques that benefit pollinators.

3. Advocate for dark sky best management practices to be implemented, particularly near natural areas and wherever there is documented wildlife utilization that could benefit from these practices.
4. Continue to educate the public and local governments on conservation measures related to native habitats through implementation of conservation related regulations, county policies, forest management practices, and restoration and enhancement projects completed by RER-DERM.
 - From 2020-2022, RER-DERM educated over 3,000 members of the public through its outreach events on native pollinators, native wildlife, local imperiled habitats, debris-impacting sensitive resources, planting natives to support local conservation and resilience efforts, invasive species, and their impacts on imperiled species (including many species of butterflies), and extinction of native species due to lack of proper management
 - From 2020-2022, PROS UF/IFAS Extension Office educated over 7,100 community members through its outreach events on native pollinators, Florida friendly landscaping, water conservation and rain barrel workshops, composting workshops, invasive species and biological control, and the benefits of planting natives.
 - The above outreach programs were conducted both in-person and virtually in response to the pandemic.
5. Continue to distribute native plants to the public, including rare species that are important for pollinators, via RER-DERM’s Adopt-a-Tree events and PROS’ Million Trees Miami Volunteer Plantings and Tree Giveaway events, hosted in Parks and throughout the County. This program strives to provide a variety of plant families that are not always available from the landscape industry to diversify pollinator plants in the community. To date, Million Trees Miami has distributed 217,991 trees to Miami-Dade County residents.
6. PROS and RER-DERM continue to collaborate with Fairchild's “Connect to Protect Network,” a citizen science program that enlists South Florida residents to plant native plants to connect the few remaining isolated fragments of pine rockland - our community’s critically imperiled global ecosystem. Fairchild provides the public with native milkweeds and education on local conservation efforts, with particular emphasis on environmentally sensitive species and habitats, including leading K-12 field study trips to Parks and EEL Preserves. PROS built pollinator gardens in multiple County Parks, including at Zoo Miami, Arch Creek Park, and A.D. “Doug” Barnes Park (with more planned elsewhere). These pollinator gardens were built as part of PROS’ conservation and stewardship education programs and are used as demonstration laboratories for camps and afterschool programs. Zoo Miami maintains a colony of atala hairstreak butterflies that serve as a source for reintroductions across the county through a partnership with Fairchild’s Connect to Protect program, and through public release events on zoo grounds.
7. The National American Butterfly Association (NABA), the University of Florida’s Maguire Center for Lepidoptera Research & Biodiversity, and the Imperiled Butterflies Working Group partner with RER-DERM and PROS staff, including at Zoo Miami, to conduct surveys of parks and preserves to help monitor the populations of native pollinators and to implement restoration efforts that improve habitat to allow struggling populations to recover. The annual NABA count in our Parks and EEL preserves records long-term data going back more than a decade; 92 species of butterfly are recorded in Miami-Dade County. City Nature Challenge (CNC) is a fun, worldwide, collaborative, citizen science bioblitz that takes place in cities across the globe—including in Miami-Dade County. Implemented by the Community Science teams at the California Academy of Sciences and the Natural History Museum of Los Angeles County, the

CNC is an annual four-day global bioblitz at the end of April that encourages citizens to find and document wildlife in their cities. In Miami-Dade, pollinators and plants are key species documented during RER-DERM’s EEL Program and PROS’ participation in this annual event. Miami-Dade County’s coordinated agencies continue to be recognized among the event’s list of most observations and species documented in South Florida. In 2019 (prior to the pandemic), Miami-Dade County as a whole made 12,127 observations; of those, RER-DERM’s EEL Program documented 11,445 of the observations. Miami-Dade County documented 1,956 species, of which RER-DERM’s EEL Program documented 1,888 species. Due to these coordinated and collaborative efforts, Miami was ranked in 25th place nationwide in observations and 17th place in species, from over 160 participating cities across the globe.

8. PROS’ UF/IFAS Extension Office and NAM divisions and RER-DERM maintain nurseries which grow imperiled species (including key pollinator-supporting species) that are not available commercially. PROS and RER-DERM teams install these pollinator plants in parks and EEL Preserve restoration areas

This memorandum will be placed on the next available Board meeting agenda in accordance with Ordinance No. 14-65. If additional information is needed, please contact Maria I. Nardi, Director, Miami-Dade County Parks, Recreation and Open Spaces Department at 305-755-7903.

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