Pelican Harbor Marina

Leadership Project

Improved Public Access Waterfront Access and Development

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Table of Contents

Executive Summary

The ULI Leadership Project (ULILP) Team has been tasked by the Client Miami-Dade County Parks, Recreation and Open Spaces (MDC-PROS) Department to conduct research on the Pelican Harbor Marina (PHM) and provide recommendations on how to redevelop the park. PHM is an 18.03 acre park consisting of notable motorized and non-motorized water access to the Intercoastal Waterway, Biscayne Bay, and Atlantic Ocean. PHM faces many challenges that we have analyzed. We have outlined our research and recommendations in this report.

Existing Features

North

- Marina
- Dockmaster building
- Jet Ski rentals
- Kayak rentals
- Miami-Dade County Fire Department
- Pelican Harbor Seabird Station
- Sailboat mooring field
- Picnic and parking areas
- Fuel dock

South

- Boat ramps
- Surface parking
- Public art
- Boat trailer parking

Challenges

- Current parking conditions
- Water accessibility
- Incohesive aesthetics
- Signage and pedestrian accessibility
- Tenant mix
- Current marina layout
- Limited revenue
- Connectivity to adjacent municipalities
- Water quality and runoff
- Sustainability

Recommendations

- Improve pedestrian and vehicular circulation
- Develop a cohesive masterplan
- Introduce new amenities
- Dry storage and marine operations
- Programmed activities
- Marine services
- Fishing piers
- Water-based activities
- Recreational areas
- New boat slips
- Mooring fields

Figure 1: Local art greeting visitors to the marina

Figure 2: Existing conditions

Introduction

Located off the 79th Street Causeway in the middle of Biscayne Bay, the Pelican Harbor Marina (PHM) and Pelican Island offer a unique departure point for boating adventures and family activities. Easy access to the Intracoastal Waterway and the open ocean via Haulover Inlet makes Pelican Harbor Marina a popular launching spot for South Florida boaters. Situated just a few hundred yards from the marina, Pelican Island is a bird sanctuary and nature preserve easily accessible by boat, kayak or standup paddleboard. Any given sunny day, you can spy pelicans, cormorants and marine life, or simply go for a swim in the bay, play a game of volleyball, even enjoy a picnic using the onsite barbecues.

Uniquely situated west of North Bay Village and just East of North Miami. Pelican Harbor Marina splits into North and South sides divided by the NE 79th Street Causeway.

Figure 3: View south to Miami skyline

Data Gathering and Findings

The reduction in the supply of available waterfront access areas in Miami-Dade County has created a particularly acute problem along Biscayne Bay, where the finite amount of developable waterfront space has already limited the opportunities for existing or new public access to the water. Nearly 50% of water-use in our community does not involve a motorized boat nor a sailboat. Kayaks, canoes, swimming, walking along the Biscayne Bay waterfront, and fishing from a pier or the shoreline dominate public use of the waterways. Hence, the average person in our community has a different relationship to the water than the average boater. For these users, it is most important to have convenient physical access to destinations that include entertainment, recreation, dining and retail that incorporate shade, launch sites and bike and pedestrian facilities that are safe, affordable, and connected.

Signage and Pedestrian Accessibility

If you are unfamiliar with the area, the Pelican Harbor Marina can be challenging to find. Landscape overgrowth and lack of proper signage makes it difficult to spot and does not offer an inviting sight to new users. Parking is difficult to find during the busy hours of operation and if parking across from the Northern side of the Marina, the long pedestrian crossing can be challenging to navigate and on occasions dangerous due to causeway traffic. In the past there has been several accidents and fatalities resulting from the main crossing. Beyond the crossways, pedestrian accessibility and walkability is challenging without designated walkways and shade structures.

Figure 4: Pedestrian crossing on John F. Kennedy causeway

Parking

As previously mentioned, parking is a challenge during the peak hours of operations. Particularly parking on the North side of the Marina. This is partly due to the current parking lot configurations, but also directly impacted by the currently housed Fire Station 27 within the marina. Fire Station 27 belongs to North Bay Village and although there are plans for relocation, it currently occupies valuable square footage and a large count of parking spaces

Figure 5: Temporary Fire Station 27

Tenants, Aesthetics, and Site Configuration

As currently configured, the Pelican Harbor Marina presents opportunities to improve the amenities offered, visibility and profitability. As shown in the below image, the current north side amenities are limited to shaded areas, poorly landscaped water edge adjacent to the construction trailer compound occupied by Fire Station 27. Reconfiguring the North side of the island offers a terrific opportunity to introduce food and beverage into the revenue stream, new amenities, pavilions, and access points for water-based activities. The current kayak rental location obstructs amazing views and limits the natural flow of pedestrian access.

Figure 6: Beach on the northeast corner of the park

Connectivity to Adjacent Municipalities

Improving communication and collaboration with adjacent municipalities can aid in introducing partnership opportunities to foster community engagement and increase exposure to nearby patrons. Increasing the park capacity, introducing new amenities, activities and infrastructure, will undoubtedly also increase interest and demand for the park. Initiatives to introduce shuttle services, public transportation and car share stations can greatly reduce the need for onsite parking and service the newfound demand.

Revenue

Currently one of the largest revenue streams for the Marina are wet slips. There is great demand for boat storage in South Florida, therefore identifying areas to introduce new wet slips is paramount. Other ways to introduce new revenue was evaluated such as adding pavilions for rent and relocating the fuel pumps to increase usage and maximizing fueling income. Lastly, introducing food and beverage, retail, events, parking income, and fishing piers.

Figure 7: Existing occupied wet slips

Land Use

The existing land use is compatible with the improved vision for the Pelican Harbor Marina. The assessment to improve the overall park design, activity enhancement and sufficient parking implementation is to evaluate the current conditions, zoning regulations, park master plan and program operation plan. Pelican Harbor Marina is located within the City of Miami. This site's zoning designation is within the Civic Space Transect Zone.

Analysis of the City of Miami's Comprehensive Plan, Miami-Dade County "Resilience 305" Plan and if this proposed re-design is compatible as well as consistent, will be paramount in guiding implementation efforts with all stakeholders. As stated previously, to improve the Marina it will require legislative and procedural amendments. Miami21 Code states that this site is zoned Civic Space (CS). Article 5, Section 5.7.1.4 states that "In Civic Spaces, Buildings, Fences and walls shall conform to regulations of the most restrictive Abutting Transect Zone, except as shown by City of Miami's Parks and Public Spaces Master Plan or other master plans adopted by the City Commission. Other adjustments to the regulations shall be approved by process of Exception" (Exhibit CS Article 5.7 Miami 21 Code). Through discussions with the City of Miami Zoning Administrator, Daniel S. Goldberg, Esq, the most restrictive abutting Transect Zone would be T5 (Urban Central Zone).

In addition, any improvements such as reallocation of parking spaces, addition of boat slips and floating docks as well as the incorporation of dry storage, will require an Exception and Non-Conforming Site Improvement Waivers; pursuant to the Miami 21 Code, to relieve practical difficulties in compliance with the Code because of site constraints. This is a public hearing process, where the proposed improvements are presented to the Planning, Zoning and Appeals Board.

With the approval granted initiation of Florida Inland Navigation District (FIND) Assistance Program Grant can improve Waterway Access and establish opportunities for waterway access. The ULI Team is aware that this program is vital to the improvement, modification, enhancement, and implementation of Pelican Harbor Marina.

(Land use map on next page)

Water Accessibility

The boat ramp to the South at the PHM is one of the most frequently used amenities at the Marina. During boating season, there is an average of 2,300 boat launches a month. 65% of these boat launches occur during the weekends. This means that there can be over 300 boat launches in a single day. During these peak boat launching hours, traffic builds up and the wait time to launch a boat increase.

Figure 8: Current land use map

Figure 9: Proposed vision plan

Recommendations

Design

MDC PROS should develop a comprehensive master plan for the project site. The master plan should consider factors in an interconnected way and focus on creating a cohesive aesthetic for the property. The master plan should be developed using current data in the form of marine resources surveys, boundary and topographic surveys, and geotechnical studies. PROS should perform robust public engagement and data collection utilizing a mixed methods approach to include both virtual and in-person workshops, website, online and paper surveys, and potentially a statistically valid survey to verify the facilities and activities the public would most like to participate in at the park. In addition to traditional design team members, PROS should engage the services of an activation, governance, and maintenance specialist to assist in developing a business model for the park. The focus of the study should consider the possibility of Private Public Partnerships to support maintenance and activation at the park.

The master plan should be generated based on what people want to do at the park and address the following design factors:

1. Proximity, access, and linkages – Address visibility from the distance, ease of walking in the park, clarity of wayfinding information and signage, Americans with Disabilities Act compliance, and lighting.
2. Comfort & Image – Focus on first impressions of the park, establishing a sense of safety, and incorporating comfort (shady places to sit, access to restrooms, etc.).
3. Uses, Activities and Sociability – Provide a variety of uses and activities and spaces for flexible programming.
4. Architecture – develop of cohesive design identity that reinforces the image of the park.

Improve Vehicular & Pedestrian Circulation

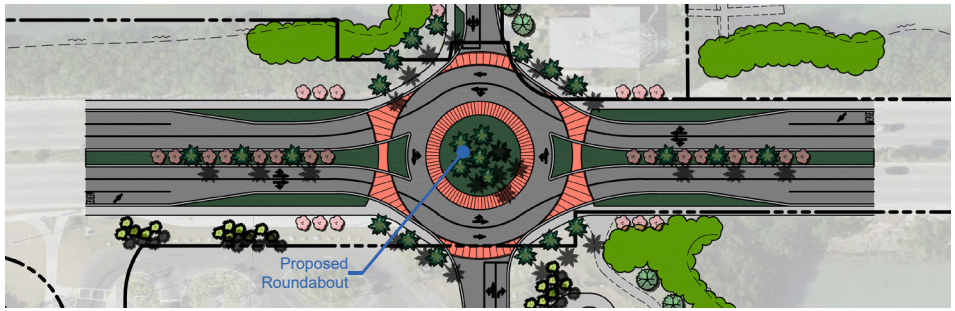

Figure 10: Proposed improvement to vehicular and pedestrian circulation

Understanding our client's needs, our team evaluated several possible solutions to improve pedestrian traffic, safety and NE 79th causeway accessibility and visibility. At first our group evaluated a connection bridge over the NE 79th causeway. This potential solution was deemed possible yet possibly expensive to accomplish. On the plus side it would offer a safe crossing pathway to and from both sides of the Marina Park. Another possible solution evaluated was the introduction of a round-about infrastructure at the NE 79th intersection. This solution, paired with a pedestrian pathway around the Harbor Marina offers a safe, yet relatively affordable solution by comparison to the crossing bridge. Accompanied by proper signage and signature features, the round-about configuration offers a safer configuration to the current crossing conditions while increasing park visibility.

Client Feedback:

• Facilitating access across NE 79th street is a needed and desirable improvement. Please consider further evaluating the feasibility of implementing a roundabout to improve access to the northern and southern halves of the park.

• The department supports the proposal of a more formalized park entrance at the northern portion of the park. This creates a desirable arrival experience which aligns with the program elements being proposed.

• Creating a pedestrian path connecting both halves of the park is ideal. The challenge is how we provide safe connections across the causeway. The department offers that a more protected crossing, perhaps under the roadway like Haulover Park's underpass traversing A1A, would be optimal, if feasible."

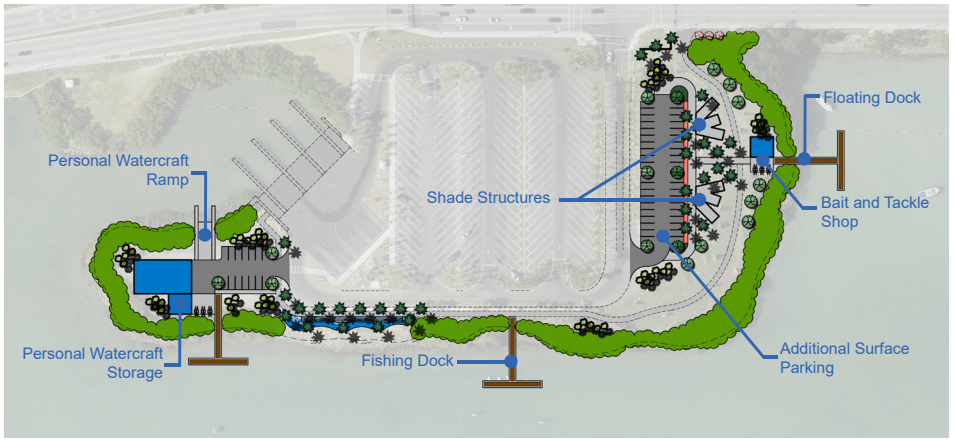

Figure 11: Proposed improvements to south side of the marina

Parking

By revising the parking areas highlighted below, the team was able to increase parking counts, improve vehicle circulation, and overall usage and demand. While maintaining all designated trailer parking for boating operations. Each parking area was introduced to satisfy newly introduced programming, retail, boating operations and restaurant parking demands.

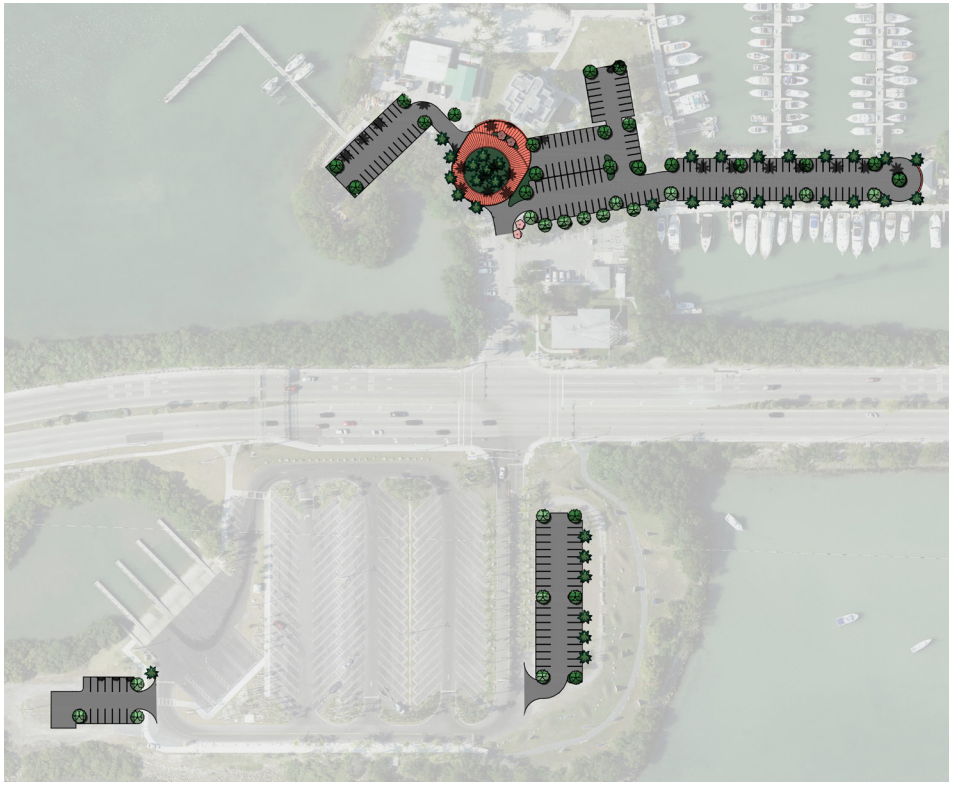

Figure 12: Proposed additions to parking

Complimenting of Adjacent Municipalities - Water Taxi

The ULILP Team has researched ways in which the Pelican Harbor Marina (PHM) can implement programs or activities that would complement from each other. North Bay Village (NBV) is the adjacent municipality to the east of PHM. NBV includes residential, apartments, condos, as well as retail. There are currently 10 restaurants located in the village with some development plans to make more. In addition, there is also an ongoing development of an Island Walk-- a .82-mile walking trail that passes by all the restaurants and retail that border the north shoreline, amenities that PHM does not have.

Vice versa, NBV is lacking in other amenities such as shoreline fishing, motorized and non-motorized boat rentals, nature watching, etc. The ULILP team interviewed Silvia E. Vargas, with FAICP regarding the feasibility of the water taxi program. In our discussion, she mentioned that a recent code restriction has prohibited fishing from NBV. She also supported the idea of a Water Taxi program that would connect NBV and PHM.

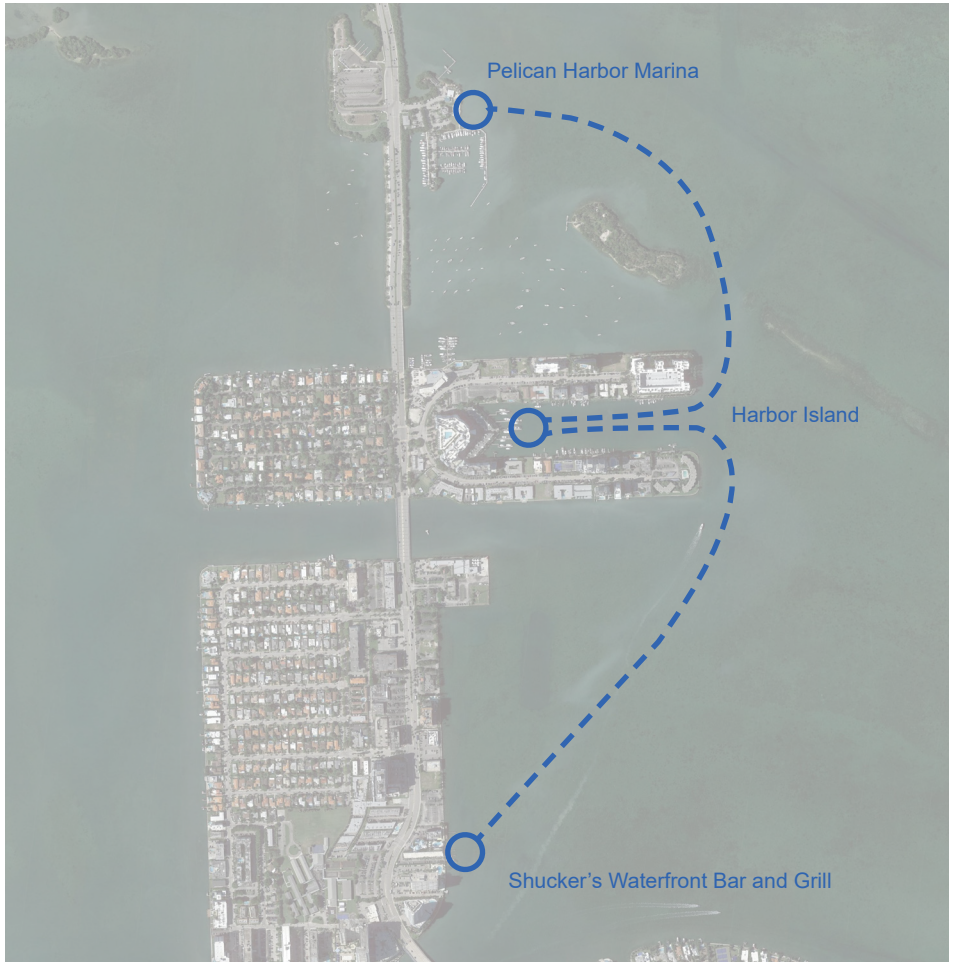

Figure 13: Proposed water taxi routes

The ULILP Team recommends implementing a Water Taxi program that would run to/from the north shoreline of NBV to the north shoreline of PHM. See Exhibit X. This water taxi program could run during peak hours of the weekends, and it would allow both NBV and PHM to compliment from each other.

Complimenting of Adjacent Municiplaities - Offsite Parking

PHM is severely limited on boat trailer parking spots and car parking spots with only 165 boat trailer spots and 15 car parking spots. The City of Miami is immediately west of PHM has several parcels of land that can be used as a temporary boat trailer parking. PHM and City of Miami and implement a Boat Valet service that would utilize, and offsite parking area located City of Miami. The valet program would work as follows:

1.Boat ramp user drops their boat off in the boat ramp at PHM and gives their keys to the valet.
2.The user would pay through an app.
3.The valet would drive their car with empty boat trailer to an offsite secured parking lot.
4.When the boat user is ready for pickup, they would notify valet through the app, and they can have the boat trailer ready for the boat.
5.A revenue agreement would need to be made with PHM and the offsite location.
6.The greater benefit to PHM is conservation of the onsite parking spots.

Figure 14: Example of a public fishing pier

Shoreline Fishing

PHM used to have fishing pier on the south side of the island, and it was demolished during Hurricane Wilma 2005. We recommend restoring the fishing pier to be in the same location. When presenting this idea to the client (MDPROS), they informed us that the Florida Inland Navigational District (FIND) has already reserved a grant for the restoration of the fishing pier. The ULILP Team also recommends including the following features on the new pier that would enhance the user experience:

Register the pier as a state-licensed fishing pier which would allow pedestrians to fish off the pier without a fishing license. PHM would be able to capture additional revenue by charging a small fee for pedestrians to access the pier. The new pier should include the following accessories rod holders, cleaning tables, & line recycling

Furthermore, the ULILP team recommends adding a Bait and Tackle shop on the south side of the island that can be used by both shoreline fishers and boat fishers.

Figure 15: Example of a bait and tackle shop

The ULILP team has also researched ways in which the PHM could increase the level of fish activity. One opportunity that we have identified is the addition of artificial underwater reefs and underwater lights. Man-made structures such has docks, piers and sea walls take most of Miami's intercoastal waterways and these structures are designed to limit the amount of natural growth so that it would slow the rate of decay. Therefore, there is a lack of marine life around these types of structures. Underwater artificial reefs, like the Mini Reef, can be used to bring back the marine life to your dock without damaging any manmade structures. As shown in the image below, the artificial reef can float under the dock and create its own self-sustaining ecosystem. Additionally, the use of underwater lights can increase the level of fish activity. Underwater light bulbs reflect off small particles and microorganisms that bring small bait fish to the area which in result will bring in larger predator fish such as snook and tarpon.

Figure 16: Under Dock Reef Mini Reef

Figure 17: Under Dock Reef Underwater Lights

Figure 18: Under Dock Reef Mini Reef

Amenities and Amenity-Based Activities

After researching the current conditions of PHM, the ULI Team found that there are opportunities to enhance the pedestrian experience by adding land-based amenities. We found that that the North part of the marina will better serve for these land-based amenities while the south part of the marina will better serve for water-based activities. Recommended land-based amenities include the following:

• Pavilions: We recommend the addition of new and improved pavilions that feature shaded areas, barbeques, picnic tables, and seating will enhance the family experience and bring more people to the park.

• Playgrounds: The Park does not have any kids-based amenities. We believe adding in playgrounds and/or splash pads will draw more families to the park.

• Regular programmed activities: The ULILP Team recommends implementing regular scheduled outdoor classes such as work out classes, yoga, etc. The activities can take place on a turf or grassy area adjacent to the pavilions and playgrounds on the north part of the marina.

Food and Beverage

The ULILP Team researched other marinas in the state and what made theme successful. A common factor that was persistent in contributing to other marinas success was the use of food and beverage. PHM already hosts a Food Truck Round-up every Wednesday from 5pm to 10pm and this event has been a success. After reviewing the site, we believe there is opportunity to compliment off this event by adding in food truck hook-up stations where food truck operators can tie their utility connections.

We also have found an opportunity to add a dine-in waterfront restaurant on the northeast part of the island. The feasibility of adding the restaurant is dependent on the parking capacity. We recommend converting the parallel parking that is on the strip of land between the wet boat slip to pull-in parking which will increase the amount of parking spaces. We also recommend adding a roundabout at the eastern side of the land for restaurant valet operations. The restaurant will be on a peninsula and can take advantage of the waterfront by having an outdoor dining on deck adjacent to the water.

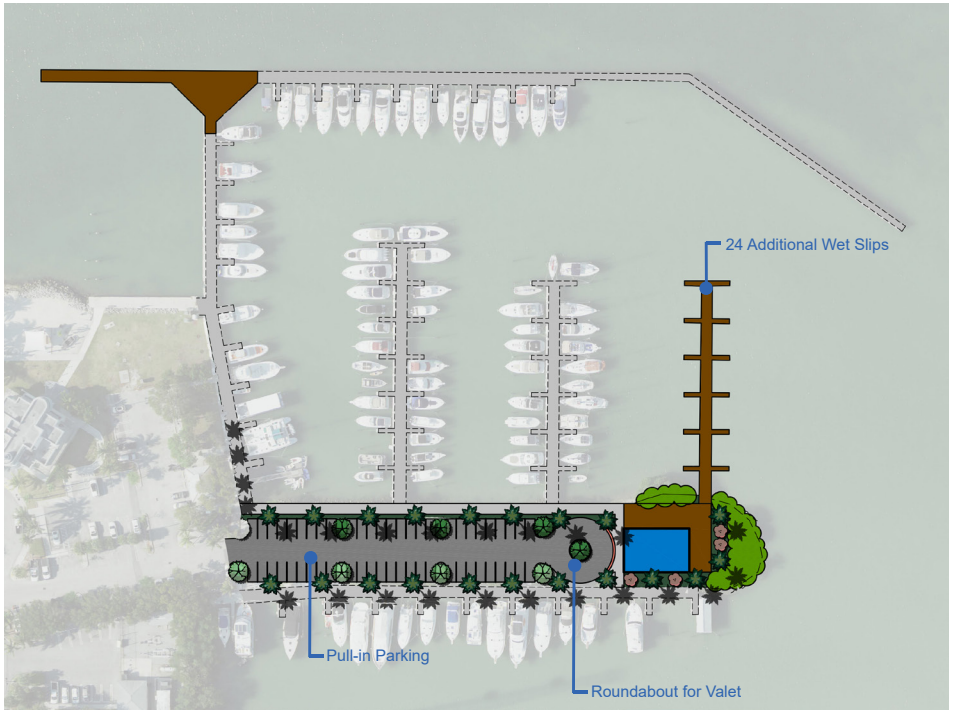

Figure 19: Proposed improvements to wet slips

Dry Personal Watercraft Storage

The ULILP Team recommend adding a dry Personal Watercraft (PWC) storage unit on the southwest portion of the marina. We studied the size and scale of the Personal Watercraft dry storage at the Rickenbacker Marina and believe that this concept would be well received at the PHM for several reasons. First is the number of people that use the boat ramp to get their PWC's in and out of the water. The ratio of PWC's to Boats is 3:1 and this adds to the overcrowding of the boat ramp and trailer parking spots.

Secondly, dry dock storage is in high demand and the amount of revenue that can be generated from this program can be significant. Furthermore, PWC's are small, compact, and can be easily transferred form dry storage rack to the water via forklift. The addition of a small day dock adjacent to the dry storage would be needed to help facilitate the forklift operation. We estimate that nearly 100 PWC's can be stored in a 3-story dry rack that would fit only in a small corner of the site. For these reasons, we recommend PHM to take advantage of this opportunity and include PWC storage on the marina.


Figure 20: Example of personal watercraft storage

Marine Operations

To aid in maximizing Marine Operations to the South of PHM, Dry Racks are proposed to improve the use of space. Other recommended Marine Operations are Jet-ski Storage, Hurricane Storage, Parts and Fueling Services beyond what is currently being offered.

It is recommended that through P3's - (Public Private Partnerships) local operators can aid in offering services and it can greatly improve the cash position of the Marina and increase services offered.

- Dry Storage
- Jet Ski Storage
- Hurricane Storage
- Fueling Services
- Parts and Services

Scheduled and/or Custom Preventative Maintenance and Performance Packages

- Washing/Waxing/Detailing/Bottom Painting
- Inboard/Outboard mechanical
- Fiberglass repair
- Marine electronics
- Canvas and Marine Upholstery

Boat Slips and Mooring Fields

PHM currently has 112 boat slips and 27 mooring balls. The west slips are currently 98% occupied and the mooring fields are 85% occupied. Wet slips and mooring fields capture over 50% of the total revenue generated by PHM. There is a very high demand for wet slips. The ULILP Team recommend increasing the number of wet slips by adding another finger dock on the northeast part of the island, as shown in the diagram to the right. This dock would add an additional 24 wet slips and would have the potential of generating over $100K of revenue per year.

The 27 mooring balls are currently located off the shore of the northeast part of the island. We believe there is opportunity to add additional mooring balls on the southeast portion of the bay. Adding a day dock to the southeast side of the island would provide opportunity to access the additonal mooring field.

Water-Based Activities

PHM currently houses a stand-up paddle board (SUPB) and kayak rental and launch, as shown in the below image. Kayaks are the number one selling watercraft in the USA. The main constraint that minimizes the potential of this program is the absence of visibility from the causeway. The ULILP team recommends relocating this program to the south part of the island to compliment other water-based activities on that side of the island.

A common attraction to PHM is the personal water craft (PWC) rentals because many other marinas located in Miami are located within national parks that restrict PWC. This high demand for PWC rentals creates an opportunity that PHM can take advantage of. PHM currently houses a PWC rental location on the north side of the marina. The ULILP team recommends relocating the PWC rental to the south side of the marina to consolidate water-based activities and the recommended PWC dry storage unit and marine operations.

Public Policy

There are several public policy opportunities that maybe implemented that increase public access at Pelican Harbor Marina through public private partnership, civic engagement, and stakeholders. These opportunities can range from grant development, local and state legislative initiatives and federal initiatives.

The first phase to improve PHM is by increasing public access through the following initiatives.

1.Establishing partnership with neighboring stakeholders such as the City Miami and North Bay Village to discuss increasing connectivity.
2.Collaboration that can foster community engagement effort by creating workshops and charettes that create expert panels and advocacy planning that will allow total citizen participation on policy and practice.
3.Creating an advocacy group that enlist residents, activist, environmental preservationist, that surveys the needs of the residents and surrounding communities to gauge the progress of the park access improvements. District Commissioners can appoint advisors to a board dedicated to improving walkability, accessibility through walkways, traffic calming measures, and comprehensive plans as well as park activities that serves all patrons equitably.

Establishing a partnership with Florida Department of Transportation (FDOT), Florida Planning Association, the Metropolitan Planning Organization (MPO) and Florida Fish and Wildlife Commission on Boating Access Improvements by obtaining grants can improve access for public and private marina sites is key. These agencies have continual project developments objectives, where they will engage with local agencies to provide program implementation guidelines, to assist with recreational enhancement goals.
Through site visits, it became apparent that that one issue was the excess of cars over the NE 79th Causeway, which delays traffic on certain days. This is caused by inefficient parking, inadequate program management of water activity availability and Level of Service (LOS) of roadway capacity.

Marinas can greatly reduce the excess traffic along the causeway. This can be accomplished through a Request for Proposal (RFQ) or Request for Qualifications (RFQ) to companies that can create an efficient boat rental and program management tool, to assist with effective operation of watercraft, boat slips and kayak rentals. This is opportunity is aligned with the Recreational and Cultural Goals and Objectives found in exhibit “2020-Strategic Planning”.

Figure 21: Interstate 95 exit towards Pelican Harbor Marina

The “Miami Dade County Strategic Planning and Resilience Goals for 2020” focuses on resilience and strategic efforts that will create results that will and deliverables that will benefit the County and surrounding municipalities for years to come. One of the many performance measures is Recreation and Culture. A few objectives of strategic goals that the ULI Team was able to distinguish as it relates to this project under Recreation and Culture Goals and Objectives were:
• RC1: Inviting recreational and cultural venues that provide world-class enrichment opportunities throughout Miami-Dade County.

• RC1-1: Ensure parks, libraries, cultural facilities, programs, and services are accessible to growing numbers of residents and visitors.

• RC1-2: Ensure parks, libraries, cultural venues are compelling destinations that are expertly programmed and operated, attractively designed, and safe.

Resiliency and Sustainability

A significant part of Miami-Dade's strategic plan involves ensuring that future development activities incorporate resiliency into the design. Miami is often considered the most exposed US metropolitan area to sea-level rise and climate change impacts. Issues such as beach erosion, flooding, reef biodiversity, sustainability and pollution runoff should be at the forefront of any and all urban planning. The 305-resiliency plan specifically outlines key areas of focus that we address below:

- Preserve and Restore Biscayne Bay
- Build Reef Biodiversity
- Expand Nature Based Infrastructure
- Expand Renewable Energy
- Create Mobility Hubs

Preserve and Restore Biscayne Bay

Biscayne Bay recreational activities are an important part of the Miami-Dade County's economy, contributing $3.8 billion in economic output, $2.1 billion in incomes, and 57,000 jobs.

However, the water quality and supported habitats in some portions of the Bay exhibit signs of human impact. Water quality testing across parts of the Bay show that no area can be qualified as having "good" water quality and portions of urbanized areas are designated by the State of Florida as "impaired." At Pelican Harbor, rainfall constantly washes away the dirt and pollution of our parking activities. This pollution can include litter, oil and other vehicle fluids, and any other chemicals that are on the ground. This water is not filtered or treated before being discharged and can contaminate Biscayne Bay and eventually the Atlantic Ocean.

Our goal is to create a filtration system within the parking lot that removes heavy oils and contaminates before being released into Biscayne Bay. The project includes designing a chain of interconnected infiltration rain gardens and planter areas around the parking lot, as well as areas of porous pavement and sand filters. Stormwater is filtered through rock-filled trenches dug beneath the surface of the lot. The trenches support the growth of trees. Under the system, the trees are rooted in a rock medium that allows room for their roots to grow. A series of swales, catch basins, and drains direct runoff water into the trenches, where the phosphorus is absorbed by the trees. The rock layers also help clean the water before it reaches an under-drain that connects to the storm-sewer system and ultimately to the Bay.

Build Reef Biodiversity

Reefs are a $6.3 billion Florida economic driver supporting more than 70,000 local jobs. The health of the Florida Reef tract, which serves as a coastal buffer from wave energy and storm surge (Florida Department of Environmental Protection), has been declining sharply. In some areas, the state's coral species have declined by more than 90 percent and some species have lost more than 97 percent of their populations (Mote Marine Lab).

Coral reefs are biodiversity hotspots. While these reefs cover only a small fraction of the ocean floor, they provide habitat for 25 percent of the world's fish species. These coral reefs adjacent to GM&B warrant further protection and enhanced restoration as part of Resilient305. Our Artificial Reef Program will seek to further enhance nearshore recreational benefits, provide additional habitat structure, and look for opportunities to further reduce storm-related coastal impacts.

Expand Renewable Energy

In Miami-Dade County, energy use in buildings accounts for 37 percent of the County's energy use and climate pollution; these buildings waste an average of about 30 percent of their energy and water use due to building inefficiencies. To help mitigate these issues, the use of rooftop solar panels on all Pelican Harbor buildings is recommended. Any capital improvements should also consider energy efficient features to reduce energy use.

Figure 22: Example of a solar panel system

Create Mobility Hubs

Mobility Hubs consist of physical improvements that seamlessly integrate different modes of transportation together. Mobility Hubs are a crucial component of expanding access to public parks and can serve as “last-mile” options, including bus, micro transit, transportation network companies, and car-share. In order to facilitate additional public access to the park, we recommend a ride-sharing transit circle to better facilitate trips to the park while reducing parking needs.

Figure 23: Miami-Dade public bus

Since 2013, electric vehicle (EV) ownership in Miami-Dade County has increased by 450 percent. After California, Florida leads the country in number of registered electric vehicles; by 2030, Florida is expected to reach 30 percent market penetration. However, one perceived barrier to greater deployment and use of EVs is an inadequate network of publicly available chargers. To prepare for and catalyze the growth of the EV market, we recommend adding several electric vehicle charging stations to the site. These stations will also provide EV owners with prioritized parking spots providing incentives to the EV market while showing Miami-Dade’s commitment to the renewable energy market.

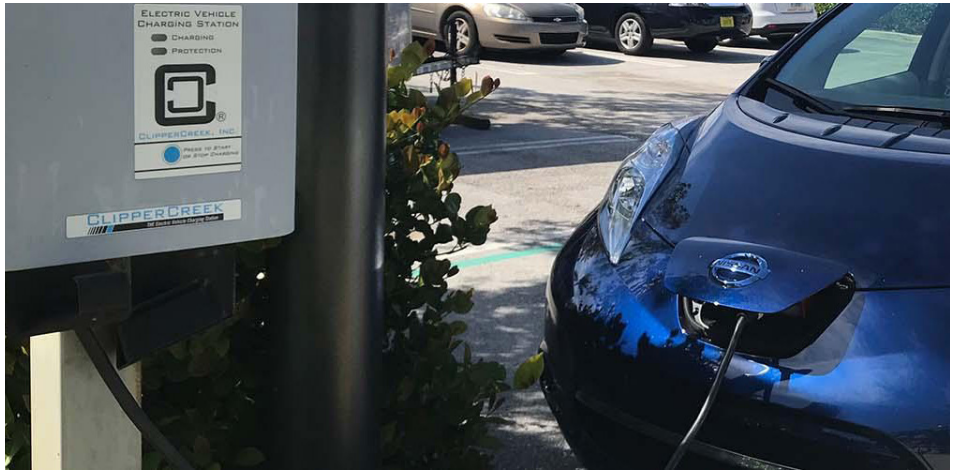

Figure 24: Electric car charging station in south Florida

Figure 25: View south towards Pelican Harbor Marina

Conclusion

Pelican Harbor Marina and Pelican Island offer a unique departure point for boating adventures and family fun; however, the area is greatly underutilized due to a number of existing restrictions on the site. Challenges include parking availability, deteriorated public spaces, and government facilities that occupy prime water-front areas. This report highlights various ways to improve the site for public benefit by enhancing access and site uses. All public projects should maintain a focus on accessibility for average residents. Miami may be known for it's populace, but it's our community members that steer our economic vehicles and are most deserving of high class amenities. We hope that our vision and recommendations can be implemented in a manner that most benefits our community while conforming to greater Miami-Dade development plans.

Meet the Team

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Cristobal Betancourt, PLA, AICP provides planning and landscape architecture design solutions for public and private sector clients. Cris is passionate about delivering open space projects focused on user comfort and developing a high-quality public realm. He has designed projects throughout the USA and Caribbean for the last 25 years. Mr. Betancourt is a graduate of Cornell University and The Royal Danish Academy of Fine Arts, School of Architecture where he studied urban design under noted urbanist, Jan Gehl. He currently serves as the Director of Landscape Architecture/Planning for Chen Moore and Associates (CMA). Cris is also a shareholder and practice leader at CMA. He lives in West Palm Beach with his domestic partner and two children.

Stephen Fike

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Stephen leads a team of Risk Management professionals helping the commercial real estate and construction industry develop efficient risk financing strategies. His role is to advocate for executives and owners by analyzing risk exposures, determining appropriate program structures, and negotiating with lenders to optimize the total cost of risk.

Prior to joining Marsh, Stephen served as a lead engineering consultant for a global insurance company focused on evaluating the exposures to complex accounts while helping underwriters price risk and deploy capacity. His background as a Civil Engineer enables him to break down complex problems into simple solutions.

Stephen serves as a global client advocate for Marsh tasked with leading sales in the real estate and construction industry for the Southeast. Education and Credentials Stephen is a graduate of Pennsylvania State University with a Bachelor of Science degree in Civil & Environmental Engineering. Stephen also minored in Economics and is a licensed Property & Casualty Broker domiciled in Florida.

Tamara Frost

Assistant Director, Office of Zoning
City of Miami
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Tamara Allen Frost is the Assistant Director of the Office of Zoning, for the City of Miami. Ms. Allen Frost is responsible for overseeing staff within the permitting, business license, and administration divisions

With over 15 years of experience within multiple municipal governments, Tamara has managed projects that comprised of the design and construction of a new regional park, community center, city hall, and amphitheater while with the City of Riverdale, Georgia. Additionally, Tamara has extensive experience in drafting code amendments, grant writing, land acquisitions, and reviewing high density development projects. Her passion lies at the intersection of urban redevelopment and social, economic and civic improvements for underserved communities.

Ms. Allen Frost received her Bachelor's degree in Political Science, with a minor in African American Studies from Florida A&M University and her Master's degree in Public Administration from Nova Southeastern University.

Alec Muñoz

Director of Business Development
Suffolk Construction
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Alec serves as the Director of Project Development at Suffolk's Miami office in the Southeast Region. Leveraging his 8 years of industry experience, including an operational background, Alec takes a proactive and collaborative approach in developing the project delivery plan and is responsible for coordinating various operational resources to contribute their expertise. Alec serves as the client's advocate and is a primary point of contact during a project's early stages.

Prior to joining Suffolk, Alec has had a diverse and impressive background. He served eight years in the Marine Corps and reached the rank of (E-5) sergeant. Alec attained a bachelor's degree in Civil Engineering at Florida Atlantic University and obtained his master's degree at the NSU. Wayne Huizenga College of Business and Entrepreneurship, with a focus on Real Estate Development. Through construction, Alec is able to pursue his passion for bettering communities.

He is a huge advocate of giving back to his community and supports the company's philanthropic efforts through Suffolk Cares. From volunteering at dog shelters, visiting local hospitals, and participating in fundraising efforts, Alec is always finding ways to give back.

Evan Southern

Development Coordinator
ZOM Living
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Based out of Ft. Lauderdale, FL, Evan Southern has an extensive background across the Real Estate industry from construction to development and is currently a Development Coordinator at ZOM Living. In his current role, Evan helps manage over $300 million of multifamily and senior-living development projects in the South Florida region. Some of Evan's responsibilities include obtaining entitlements, project permitting, coordinating designers and consultants, construction oversight, and facilitating in leasing and marketing. Evan joined ZOM in 2017 as an Investment Analyst and was integrally involved in market research, underwriting multifamily development projects, debt and equity pursuits, financial forecasting, and sale of apartment communities. Prior to joining ZOM, Evan graduated from the University of Florida with a Bachelor of Science degree in Construction Management and a Master of Science degree in Real Estate from the Warrington College of Business. Throughout his college career, he gained experience in the construction industry by completing a combined seven internships with Baker Concrete Construction, Balfour Beatty Construction, and Stiles Construction. Evan is the third generation of Southern builders, and having been interested in the industry since young, is eager to continue to grow his footprint as a renowned Developer in the field. Outside of work, Evan is passionate about basketball, diving, spearfishing, and spending time with his family, friends and Golden Retriever puppy.

Appendix

Existing Data Summary Sheet

Please find below a list of relevant planning studies and reports provided relevant to Pelican Harbor Marina and Park.

Organization	Report	Notes	Electronic Copy In Folder (Yes/No)	Weblink
Article By The Conversation	Blue' space: Access to water features can boost city dwellers' mental health	-	Yes	https://theconversation.com/blue-space-access-to-water-features-can-boost-city-dwellers-mental-health-122995
City of Miami Beach	City of Miami Beach Blueways Master Plan	-	Yes	https://www.miamibeachfl.gov/wp-content/uploads/2017/08/Blueways-Master-Plan.pdf
Florida Inland Navigation District	Economic Analysis Update of the District Waterways for Miami -Dade County	-	Yes	N/A
Florida Inland Navigation District	FIND Commercial Industrial Access Miami-Dade County Potential Sites			N/A
Miami-Dade County	The Home Rule Amendment and Charter (As Amended Through 11/6/18)	Please review Article VII.	Yes	https://www.miamidade.gov/charter/library/2018-11-06-home-rule-charter.pdf
Miami-Dade County	Pelican Harbor Marina - PROS Property Management Summary_11-04-2020	This is an internal, property management summary produced in Nov. 2020 based on a review of the title search and property files, as well as grant related restrictions. Please note that the red, and highlighted text is for emphasis.	Yes	N/A
Miami-Dade County	MDC PROS Grant Projects - Pelican Harbor Marina 1-28-2021	This is an internal summary of grant-based projects at Pelican Harbor Marina. The summary was created on 1/28/21.	Yes	N/A
Miami-Dade County	Miami-Dade County Parks and Open Space System Master Plan	-	Yes	http://www.miamidade.gov/parksmasterplan/library/osmp_final_report_entiredocument.pdf
Miami-Dade County	Pelican Harbor Marina General Plan	Approved in 1987 by the Miami-Dade Board of County Commissioners through resolution R-927-87.	Yes	N/A
Miami-Dade County	Pelican Harbor Marina Resolution Approval R-927-87	-	Yes	N/A
Miami-Dade County	Interdepartmental Agreement with MDC Police Department	-	Yes	N/A
Miami-Dade County	Interdepartmental Agreement with MDC Fire Rescue Department 2008-2011	-	Yes	N/A
Miami-Dade County	Pelican Harbor Marina Fire Rescue Permit - Interdepartmental Agreement Extension 2012	-	Yes	N/A
Miami-Dade County	R-684-20 MOU with North Bay Village for Fire Rescue Station	-	Yes	http://www.miamidade.gov/govaction/legistarfiles/MinMatters/Y2020/201276min.pdf
Miami-Dade County	Pelican Harbor Marina - PROS Property Management Summary_11-04-2020	Internal notes.	Yes	N/A
Miami-Dade County	Pelican Harbor Marina Sea Level Rise Study	Study is currently in development at 25% as of 1/15/21 and completion is expected in March. Once the report is available, Stephanie Cornejo (MDPROS) will send it to ULI	No	N/A
Miami-Dade County	Water Recreation Access Plan	Study is currently in development and a draft of the report is expected in Feb./Mar. 2021. Once the draft report is available, Stephanie Cornejo (MDPROS) will	No	N/A
Miami-Dade County	Pelican Harbor - Lease Agreement with State Dept. of Natural Resources R-310-76	-	Yes	N/A
Miami-Dade County	Pelican Harbor Seabird Station BCC Reso R-789-90 and Lease Agreement (1990)	-	Yes	N/A
Miami-Dade County	Miami-Dade County Park Structure and Landscape Pattern Book	-	Yes	https://www.miamidade.gov/parks/library/park-pattern-book.pdf
Miami-Dade County	Miami-Dade County Recreation Program Plan	-	Yes	https://www.miamidade.gov/parks/library/recreation-program-plan.pdf
Miami-Dade County	Miami-Dade County Parks, Recreation & Open Spaces Department Conservation Plan	-	Yes	https://www.miamidade.gov/parks/library/conservation-plan-2019.pdf
Miami-Dade County	Biscayne Bay Task Force Webpage (2019 - Present)	-	No	https://www8.miamidade.gov/global/government/taskforce/biscayne-bay-task-force.page
Miami-Dade County	Biscayne Bay Task Force's Draft Report and Recommendations (June 2020)	Recommendations in the report have not been adopted by the Miami-Dade County Board of County Commissioners, and are pending approval at this time.	Yes	N/A
Miami-Dade County	Manatee Protection Plan (1995)	-	Yes	https://www.miamidade.gov/environment/library/reports/manatee-protection-plan.pdf
Miami-Dade County	Manatee Protection Plan Updates: Miami-Dade Manatee Protection Plan Data and Information Collection Final Report (July 2009)	-	Yes	https://www.miamidade.gov/environment/library/reports/july-09-data.pdf
Miami-Dade County	Resilient 305	N/A	Yes	http://www.mbrisingabove.com/wp-content/uploads/Resilient305_final.pdf
Miami-Dade County	Recreational Boating Activity in Miami-Dade County Report (2009)	-	Yes	https://www.miamidade.gov/environment/library/memos/mote-boating-study.pdf

Miami-Dade Transportation Planning Organization	North-South Transportation Needs for the Coastal Communities Feasibility Study Report (2020)	The North Bay Village Study Area is adjacent to this study area. Click this cell to access the Executive Summary.	Yes	http://www.miamidadetpo.org/library/studies/coastal-communities-north-south-transportation-needs-feasibility-study-report-2020-06.p
North Bay Village	NBV100 Master Plan: Resiliency Fact Sheet	-	Yes	https://northbayvillage-fl.gov/vertical/sites/%7B48839024-F186-41FB-922B-31F0A62CDE56%7D/uploads/nbv100-resiliency-fact-sheet.pdf
North Bay Village	NBV Water Recreation Image/Access Outline	-	Yes	N/A
Southeast Florida Regional Compact on Climate Change	Southeast Florida Regional Compact on Climate Change: Updated Sea Level Rise Projections (2019)	N/A	Yes	https://southeastfloridaclimatecompact.org/announcements/the-compact-releases-its-3rd-regionally-unified-sea-level-rise-projection/
State of Florida	Biscayne Bay Aquatic Preserve Management Plan (2013)	-	Yes	http://publicfiles.dep.state.fl.us/cama/plans/aquatic/Biscayne-Bay-AP-Management-Plan.pdf
State of Florida	Statewide Comprehensive Outdoor Recreation Plan - Southeast Regional Report (2019)	-	Yes	N/A
U.S. Army Corps of Engineers	DRAFT U.S. Army Corps of Engineers MDC Back Bay Coastal Storm Study (May 2019)	The Little River Focus Area overlaps with the study area. This plan is still in development.	Yes	https://www.saj.usace.army.mil/MiamiDadeBackBayCSRMFeasibilityStudy/
Miami-Dade County	2020 Strategic Plan	Recreation and Culture Goals and Objectives	Yes	https://www.miamidade.gov/performance/library/strategic-plan/2020-strategic-planning-book.pdf
City of Miami	Miami 21 Code	Civic Space Transect Zone Requirements Article 5.7	Yes	https://codehub.gridics.com/us/fl/miami
City of Miami	Miami 21 Code	Article 4 Table 3 Permitted Uses Civic Space (CS)	Yes	https://codehub.gridics.com/us/fl/miami
City of Miami	Miami 21 Code	Article 7.1.2.6 Exception Process	Yes	https://codehub.gridics.com/us/fl/miami