

# Town of Highland Beach Notice of Public Meeting Protocol

The Town of Highland Beach is committed to serving the needs of the public while also working to ensure the safety and health of the town's staff, the community, and visitors alike.

The following information is guidance for preregistration for Zoom or telephone participation, and for viewing and providing public comments at the meeting:

#### **ZOOM PARTICIPATION:**

Online or Telephone Access – Access to the meeting will begin on the date and time of the meeting.

- To Join Meeting: All interested persons must preregister to participate by contacting Town Clerk Lanelda Gaskins at <u>publiccomments@highlandbeach.us</u> or by calling (561) 278-4548 no later than one (1) business day prior to the meeting date (e.g. by 4:30 P.M. on a Monday if the meeting is scheduled for that Tuesday; and by 4:30 P.M.).
- Meeting access information and instructions will be provided to those persons two hours prior to the meeting.
- The video camera display feature will only be enabled for Public Hearing Quasi-Judicial matters
  and during public comments only. The video camera display feature will be disabled for public
  use.

For additional information on using Zoom, please visit Zoom Support by click on the following link: <a href="https://support.zoom.us/hc/en-us">https://support.zoom.us/hc/en-us</a>.

**Viewing Only -** To view the meeting, preregistration is not required. The public can view the meeting on the following:

• Highland Beach TV Channel 99 online streaming on the Town's website and via Highland Beach YouTube at <a href="https://www.voutube.com/channel/UCTAGr8WCa44Y3Q2Bb6UN2mw">https://www.voutube.com/channel/UCTAGr8WCa44Y3Q2Bb6UN2mw</a>.

#### PROVIDING PUBLIC COMMENT:

Persons desiring to provide public comments must do so by one of the methods listed below. Public comments will be limited to five minutes (three minutes for special Commission meeting items only) per person during the designated section of the agenda. If an interested person desires to provide a written public comment, all comments must be directed to Lanelda Gaskins, Town Clerk as follows:

#### TO SEND COMMENTS IN ADVANCE VIA EMAIL:

- To submit public comments, click on the link <a href="https://mmportal6.teammunicode.com/">https://mmportal6.teammunicode.com/</a>/ to go to the Agendas and Meeting webpage. At the top of the page click on "Public Comments" to submit your comments, or
- Submit your comments to <u>publiccomments@highlandbeach.us</u>.
- The Town will receive such public comments no later than two (2) hours prior to the meeting. If timely received, Town staff will read the public comment at the meeting.

## Agenda – Natural Resources Preservation Advisory Board Regular Meeting Wednesday, August 10, 2022, 12:30 P.M.

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- Live Zoom Video Participation If attending via Zoom online, please follow Zoom instructions above. Once the meeting gets to the applicable public comment period, the host of the meeting will allow public participants (audio only) into the meeting from the waiting room, to provide live public comment.
- Live Zoom Telephone Participation If attending via Zoom by telephone, please follow the instructions above. Once the meeting gets to the appropriate public comment period, the host of the meeting will allow public participants into the meeting from the waiting room, to provide live public comment.

Should you have any questions, please feel free to contact the Town Clerk's Office at (561) 278-4548.

Published: 05.26.2021 / Updated 05.13.2022

## **AGENDA**

# NATURAL RESOURCES PRESERVATION ADVISORY BOARD REGULAR MEETING



Wednesday, August 10, 2022 At 12:30 P.M.

#### TOWN OF HIGHLAND BEACH, FLORIDA

3614 S. OCEAN BOULEVARD HIGHLAND BEACH, FL 33487 Telephone: (561) 278-4548

Website: www.highlandbeach.us

#### **TOWN HALL COMMISSION CHAMBERS**

- 1. CALL TO ORDER
- 2. ROLL CALL
- 3. PLEDGE OF ALLEGIANCE
- 4. APPROVAL OF THE AGENDA
- 5. **PUBLIC COMMENT** (limited to three (3) minutes per speaker)
- 6. PRESENTATIONS
  - A. None
- 7. APPROVAL OF MINUTES
  - A. February 02, 2022
- 8. UNFINISHED BUSINESS
  - A. None
- 9. **NEW BUSINESS** 
  - A. Update on the February 2, 2022 Board recommendations to the Town Commission.
  - B. Nomination of Chairperson and Vice-Chairperson

Wednesday, August 10, 2022, 12:30 P.M.

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#### 10. ANNOUNCEMENTS

August 11, 2022 - 9:30 P.M. Planning Board Meeting

August 16, 2022 - 1:30 P.M. Town Commission Meeting

August 25, 2022 - 12:00 P.M. Town Commission Special Meeting

September 06, 2022 - 1:30 P.M. Town Commission Meeting

September 06, 2022 - 5:01 P.M. Town Commission Special First Public Hearing Budget Meeting

September 21, 2022 - 5:01 P.M. Town Commission Special First Public Hearing Budget Meeting

November 02, 2022- 1:00 P.M. Natural Resources Preservation Advisory Board Regular Meeting

#### 11. ADJOURNMENT

Any person that decides to appeal any decision made by the Natural Resources Preservation Advisory Board with respect to any matter considered at this meeting, such person will need to ensure that a verbatim record including testimony and evidence upon which the appeal is based. (State Law requires the above Notice. Any person desiring a verbatim transcript shall have the responsibility, at his/her own cost, to arrange for the transcript.) The Town neither provides nor prepares such record. There may be one or more Town Commissioners attending the meeting.

In accordance with the Americans with Disabilities Act (ADA), persons who need accommodation in order to attend or participate in this meeting should contact Town Hall at (561) 278-4548 within a reasonable time prior to this meeting in order to request such assistance.

#### File Attachments for Item:

A. February 02, 2022



# TOWN OF HIGHLAND BEACH NATURAL RESOURCES PRESERVATION ADVISORY BOARD REGULAR MEETING MINUTES

Town Hall / Commission Chambers 3614 South Ocean Boulevard Highland Beach, Florida 33487

**Date: February 02, 2022** 

Time: 1:00 PM

#### 1. CALL TO ORDER

Chairperson Parks called the meeting to order at 1:00 P.M.

#### 2. ROLL CALL

Member Virginia Egan-Eastwood
Member Margarita Chappelear
Member Leonard Brenner
Member Nicole Stansfield
Vice Chairperson Nievecita Maraj
Chairperson Steven Parks
Administrative Support Specialist Ganelle Thompson

#### ADDITIONAL STAFF PRESENT

Town Planner Ingrid Allen

#### **ABSENT**

Member Diane Matthewman

#### 3. PLEDGE OF ALLEGIANCE

The Board Members led the Pledge of Allegiance to the United States of America.

#### 4. APPROVAL OF THE AGENDA

Chairperson Parks added Resource Management to the agenda as Item B.3. under Unfinished Business and Discussion of Vegetation on A1A as Item 9.A. under New Business.

Vice Chairperson Maraj requested to move Item 8.A., Discussion on Scheduled Meeting Times to Item 6.A.2. under Presentations.

**MOTION:** Maraj/Parks - Moved to approve to agenda as amended, which

passed unanimously on a 6 to 0.

#### 5. PUBLIC COMMENT

There were public comments.

#### 6. PRESENTATIONS

#### A. Marine Patrol Vessel- Chief Hartmann

Chief Hartmann provided an update on the Marine Patrol Unit and included timeline of the implementation schedule. Also, Officer Lai provided information related to the issuance of citations, education signage, boat handling, and training.

Member Chappelear discussed blind corners.

#### **A.2. Discussion on Scheduled Meeting Time** (This item was formally 8.A.)

Vice Chairperson Maraj proposed changing the meeting times to an earlier time.

**MOTION:** Chappelear/Eastwood-Egan - Moved to change the meeting times to 12:30 P.M., which passed unanimously 6 to 0.

# B. Update on the November 3, 2021, Board recommendations to the Town Commission and the previous recommendation pertaining to the palms located in the right-of-way along State Road A1A

Chairperson Parks read the title of Item 8.B.

Town Planner Allen provided an update on the NRPAB on November 03, 2022 recommendations to the Town Commission which included the Marine Patrol Vessel and the expanded obligations of Code-compliant Officers to the beach.

There were comments about the maintenance of the Palm Trees on State Road A1A. Chairperson Parks asked Town Planner Allen to find out about the cost to maintain the trees.

Member Stansfield proposed finding out what has been done in creating an educational approach in regard to taking care of the palm trees.

Vice Chairperson Maraj left the dais/meeting at 2:00 P.M.

# **MOTION:** Parks/Chappelear - Moved to engage the Services of Bartlett Tree Experts or a professional tree service company like Bartlett Tree Experts to facilitate the management and care of the palms situated on the right of way on State Road A1A which passed unanimously 6 to 0.

Date: February 02, 2022 Page 3 of 6

MOTION: Parks/Chappelear - Moved to include the Publication of the Bartlett

Tree report on the Towns website on the NRPAB webpage which

passed unanimously 6 to 0.

#### 7. APPROVAL OF MINUTES

A. November 03, 2021, Regular Meeting Minutes

**MOTION:** Chappelear/Brenner - Moved to approve the agenda as amended,

which passed unanimously 5 to 0.

#### 8. UNFINISHED BUSINESS

**A. Discussion on Scheduled Meeting Time** (This item was moved to Presentations as item A2.)

#### **B.** Board Member Updates

#### 1. Dune Restoration - Margarita Chappelear

Member Chappelear presented a PowerPoint Presentation on dune restoration.

Chairperson Parks proposed including the presentation on the Towns website.

Member Chappelear suggested providing a more robust presentation to include more information on the species that can be planted in the dunes and volunteered to do a seminar that would inform the Town residents of the different options of plants that could be planted on the dunes in Highland Beach.

Chairperson Parks suggested that Member Chappelear present her presentation at the Town Commission meeting because more residents watch the Town Commission Meeting.

Town Planner Allen advised that the Florida Department of Environmental Protection (FDEP) needs to be contacted to obtain a field permit for the removal or replacement of plants in the dunes. She added that in addition to the Board's request to add Member Chappelear's presentation to the Natural Resources Preservation Advisory Board webpage, they consider the addition of the link to Palm Beach County's Environmental Resource Management page. She also mentioned the Board adding the FDEP link specific to dune restoration

Member Brenner the dais/meeting at 2:51 P.M.

Member Chappelear also recommended adding links on the webpage to inform residents about the different types of plants that can be planted in the dunes.

Town planner Allen also included information on how to mitigate issues from seawalls on dunes.

Chairperson Parks inquired about obtaining grants that would facilitate an initiative of dune restoration by planting noninvasive plant species in Highland Beach and further asked how that would work given the fact that the Beaches in the community are private.

#### 2. Bucket Tree Update - Nicole Stanfield

Member Stansfield presented her findings as they related to the bucket tree survey she conducted. She explained the Importance of education of the need and use of the bucket tree. She also displayed a PowerPoint Presentation that included pictures of a recent beach cleanup effort conducted by residents of the Highland Beach Club community

Chairperson Parks asked about the number of buckets that have had to be replaced since the bucket trees have been implemented.

Town Planner Allen mentioned that she has had previous conversations with Public Works Director Pat Roman who advised her that he has had to replace buckets. Town Planner Allen further explained that she will let the board know the exact number of replaced buckets at a later date.

**MOTION:** Parks/Stansfield - Approve the implementation of additional bucket trees to all associations along the beach that have authorized the use of the bucket trees which passed unanimously 4 to 0.

3. Beach Cleaning Management -Chairperson Parks (This item was added to the agenda)

Chairperson Parks presented this item and discussed

MOTION: Parks/Eastwood-Egan - Consider providing a code enforcement officer that routinely (once or twice a week) walks or rides on the beach to facilitate visual observation of any violations to Section 5-9 of the Town Code and address the issue as a code enforcement violation which passed unanimously 4 to 0.

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#### MOTION:

Parks/Eastwood-Egan Town Commission to address the beach raking issue at a special meeting and take into consideration the needs of the individuals that are utilizing these services and come up with a policy program or a mandate that will facilitate cleaning the beaches without destroying or damaging adjacent properties which passed unanimously 4 to 0.

Member Eastwood Egan exited the meeting at 3:25 P.M.

#### 9. NEW BUSINESS

#### **A. Water Resource Management** (This item was added to the agenda)

Chairperson Parks presented this item and suggested having a public awareness campaign to advise the residents that there are rain monitors that can be attached to the sprinkler system which would save residents a significant amount of money.

Town Planner Allen advised the Board Members that although water resource management is not in the Boards purview or powers and duties, she will speak with the Town Manager about putting an item together for the board's next meeting and suggested the possibility of one of the Board members volunteering to write an article to bring awareness to the residents.

Chairperson Parks mentioned that at the next meeting he would like to make a recommendation to the Town Commission to address the powers and duties and augment the ordinance or the code section that addresses water resource management.

#### **B. Vegetation on State Road A1A** (This item was added to the agenda)

Chairperson Parks presented this item and asked for clarification if this item was in the Boards Purview. Town Planner Allen advised him that this item was not a part of the Boards Purview. Chairperson Parks suggested that the individuals do a better job taking care of the vegetation on State Road A1A adjacent to their properties.

Member Stansfield volunteered to do the research necessary to determine who is responsible for keeping the mangroves adjacent to the properties clean and what can be done to enforce the cleanup of those areas. She will also look into the property lines in relation to the mangroves on the property appraiser's website.

Chairperson Parks asked Member Chappelear to do research on the impact and the effects of the lack of liter control as well as the effects of pollution on the manatees in relation to the mangroves.

#### **10. ANNOUNCEMENTS**

February 08, 2022 - 1:00 P.M. Code Enforcement Board Regular Meeting

February 10, 2022 - 9:30 A.M. Planning Board Regular Meeting (Cancelled)

February 15, 2022 - 1:30 P.M. Town Commission Meeting

February 21, 2022- Town Hall Closed in Observance of Presidents' Day

#### 11. ADJOURNMENT

Chairperson Parks adjourned the meeting at 3:47 P.M.

**APPROVED** at the August 10, 2022, Natural Resources Preservation Advisory Board Regular Meeting.

ATTEST:	Chairperson	
	Transcribed by Ganelle Thompson	
	Administrative Support Specialist	
	08/10/2022	
Ganelle Thompson, Administrative Support Specialist	Date	

Disclaimer: Effective May 19, 2020, per Resolution No. 20-008, all meeting minutes are transcribed as a brief summary reflecting the event of this meeting. Verbatim audio/video recordings are permanent records and are available on the Town's Media Archives & Minutes webpage: <a href="https://highlandbeach-fl.municodemeetings.com/">https://highlandbeach-fl.municodemeetings.com/</a>

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A. Update on the February 2, 2022 Board recommendations to the Town Commission.



# TOWN OF HIGHLAND BEACH AGENDA MEMORANDUM

**MEETING TYPE:** Natural Resources Preservation Advisory Board ("Board") meeting

MEETING DATE August 10, 2022

**SUBMITTED BY:** Ingrid Allen, Town Planner, Building Department

**SUBJECT:** Update on the February 2, 2022 Board recommendations to the Town

Commission.

#### **SUMMARY:**

On March 1, 2022, the Town Commission reviewed and considered the February 2, 2022 Board recommendations. The Board recommendations are provided below (in bold) along with corresponding Commission direction (*Note that the scheduled May 4, 2022 Board meeting was not held due to lack of quorum. A subsequent special meeting was proposed for June 1, 2022; however, this meeting was also not held due to lack of quorum*).

- 1. Consider employing a professional tree service company like Bartlett Tree Experts to facilitate the management and care of the palms situated in the right-of-way along State Road A1A. Consensus from the Town Commission was to have Bartlett Tree Experts implement a soil care and fertilization program, as provided on their February 10, 2022 estimate, at a cost of \$6000.00. The program will include five (5) separate treatments within a 12-month timeframe. The first and second treatments were applied on April 13, 2022 and July 7, 2022, respectively.
- 2. Approve the implementation of additional bucket trees to all Associations along the beach that have authorized their use. Consensus from the Town Commission was to "move forward" and construct and install additional beach bucket trees for those Associations who want them. Staff had a waitlist of six (6) condominiums who showed interest in acquiring a tree. As of the writing of this memorandum, the bucket tree status for each of these Condo Associations is provided in the table below:

Condo Name	Address	Status of Beach Bucket Tree
Highland Beach Club	3600 S. Ocean Blvd.	Installed
Regency Highland	3912 S. Ocean Blvd.	Installed
Coronado at Highland Beach	3400 S. Ocean Blvd.	Installed

Wiltshire House	2909 S. Ocean Blvd.	Association decided to not move forward with tree, they currently have a trash can on the beach and they find that to be adequate.
Penthouse Towers	3101 S. Ocean Blvd.	According to the property manager, they have no room for a bucket tree, but requested four (4) buckets to hang on existing hooks. Requested buckets were delivered to property.
Ocean Terrace North	3115 S. Ocean Blvd.	Installed but removed at the request of the property manager on behalf of the Condo Board and other community members because it obstructed view.

- 3. Consider providing code enforcement officer that routinely (once or twice a week) walks or rides on the beach to facilitate visual observation of any violations to Section 5-9 of the Town Code. Consensus from the Commission was that the recommendation is a low priority right now; however, they felt a more holistic approach regarding debris on the beach is needed. The Commission advised the Town Manager to look into this matter.
- 4. Consider at a special meeting or allocate time at its Commission meeting to address beach raking issue in a more detailed matter and take into consideration the needs of all residents of Highland Beach in regard to this particular process.

This recommendation was not presented to the Town Commission given pending litigation. It was determined by the Town Manager that the recommendation will not be discussed at this time.

Attached is the recommendation memorandum as it was presented to the Town Commission as well as the minutes from the March 1, 2022 Town Commission meeting.

#### **ATTACHMENTS:**

Board Recommendation Memorandum provided to the Town Commission on March 1, 2022. Town Commission minutes – March 1, 2022.



## TOWN OF HIGHLAND BEACH RECOMMENDATION MEMORANDUM

**TO:** Town Commission

**MEETING DATE:** March 1, 2022

**FROM:** Ingrid Allen, Town Planner, on behalf of the Natural Resources

Preservation Advisory Board ("Board")

**SUBJECT:** February 2, 2022 Board recommendations

#### **ACTION:**

At the February 2, 2022 Board meeting, the Board provided the following recommendations (in bold) to the Town Commission:

- 1. Consider employing a professional tree service company like Bartlett Tree Experts to facilitate the management and care of the palms situated in the rightof-way along State Road A1A. At the September 21, 2021 Town Commission meeting, the Commission considered a recommendation from the Board to hire "an arborist to facilitate a report back to the Board to evaluate the condition of the vegetation in the Town on public and private property adjacent to public streets." While the Commission indicated that the recommendation was low on the priority list, discussion among the Commission was to fertilize the palms. The Town did contract with Bartlett Tree Experts to conduct an assessment of the population of palms situated in the rightof-way along State Road A1A. A report was provided to the Town with several recommendations including proper irrigation, the removal of turf and installation of mulch, implementing a fertilization program, etc. (see Attachment No. 1). Staff advised the Board at their February 2, 2022 meeting that pursuant to Section 28-10(a) of the Town Code, the owner, and/or lessee of land shall be responsible for the maintenance of all landscaping located on their property and on adjacent public rights-of-way, which shall be maintained in good condition so as to present a healthy, neat and orderly landscape area which shall include, but not be limited to, weeding, mulching, fertilizing, pruning, mowing, and edging. However, the Board raised concerns that property owners may not properly maintain these palms even with the recommendations provided in the Bartlett report. Therefore, the Board suggests that professional help is needed to provide consistent maintenance of the palms. Bartlett Tree Experts has indicated to staff that a soil care and fertilization program will cost a total of \$6000.00 and will include five (5) separate treatments for the 100 royal palms located along State Road A1A.
- 2. Approve the implementation of additional bucket trees to all Associations along the beach that have authorized their use. On October 6, 2020, the Town Commission

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approved the placement of four (4) or less Town beach bucket trees. Town staff has constructed and installed five (5) bucket trees to date (Note that the additional bucket tree was approved by the Town Manager for placement just north of the 45 Ocean Condominium). At the September 21, 2021 Town Commission meeting, the Commission considered a recommendation from the Board to "approve additional beach bucket trees so long as associations are willing to accept them on their property." The Commission indicated that before considering the installation of additional Town beach bucket trees, feedback is needed from the Condominium HOA's on whether their current bucket tree is being utilized by residents, etc. The Commission requested that the Board make calls to these HOAs for their individual feedback on bucket tree usage. At the February 2, 2022 Board meeting, Board Member Nicole Stanfield (who volunteered to undertake the assignment at the Board's November 3, 2021 meeting) made a presentation to the Board of her findings (see Attachment No. 2). Staff currently has a waitlist of six (6) condominiums who have shown interest in acquiring a Town beach bucket tree.

3. Consider providing code enforcement officer that routinely (once or twice a week) walks or rides on the beach to facilitate visual observation of any violations to Section 5-9 of the Town Code. The Board made the following related recommendations which were considered by the Town Commission on December 7, 2021 and July 1, 2020, respectively:

<u>December 7, 2021</u>: "Expand the obligations of our current code compliance officer to walk the beach or do an evaluation of the beach so as to know what is or is not appropriately being done on the beach."

<u>July 1, 2020</u>: Hire an environmental maintenance employee "to traverse the beach and pick up debris."

Regarding the December 7<sup>th</sup> recommendation, consensus from the Town Commission was to thank the Board for their input and suggested scheduling a follow-up discussion early next year (2022). At the February 2, 2022 Board meeting, staff advised the Board of the Commission's direction and that the Commission will be discussing Town Strategic Priorities in February/March 2022. Regarding the July 1<sup>st</sup>, 2020 recommendation, the Town Commission adopted a hiring freeze during the state of local emergency declared as a result of the COVID-19 Pandemic (Reso No. 20-009), and therefore the recommendation was not considered (Note that the hiring freeze has since been lifted). The "littering" provisions of Section 5-9 of the Town Code are provided below.

#### Section 5-9. Littering.

(a) Definitions. The following words, terms and phrases, when used in this section, shall have the meanings ascribed to them in this subsection, except where the context clearly indicates a different meaning:

Beaches means that area abutting the Atlantic Ocean consisting of predominantly sand, whether below or above the mean high water mark.

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- (b) Prohibited. No person shall leave or deposit any trash, refuse or debris on any beach. Any such trash, refuse or debris shall be placed, when available, in a container clearly marked by the town for such purpose. If there is no receptacle, or if the receptacle is full, all trash or refuse must be removed from the beach.
- (c) Private beaches. In regard to that portion of the beach determined to be private property, no person shall place or deposit on any such beach any trash, refuse or debris. Further, the owner of the private property shall not allow trash, refuse or debris to remain on his property for a period of time greater than seven (7) days after notification by the town. Any such trash, refuse or debris located upon private beachfront property shall be properly disposed of in a manner otherwise provided by the codes and regulations of the town.
- (d) Violation. Any private property owner found to be in violation of this section shall be subject to the jurisdiction of the town's code enforcement ordinance, and subject to penalties prescribed by the code enforcement board for each day a violation is determined to exist.

#### **ATTACHMENTS:**

Attachment No. 1 – Bartlett Tree Experts report and fertilization treatment estimate

Attachment No. 2 – Natural Resources Preservation Advisory Board research on bucket tree usage

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#### ATTACHMENT NO. 1

November 3, 2021

Mr. Pat Roman Town of Highland Beach 3616 South Ocean Boulevard Highland Beach, Florida 33487



Re: Assessment of Roadway Palms

Mr. Roman,

I have performed a limited visual assessment of a population of palms situated in the rights of ways for the Town of Highland Beach. This report is being written per your request. My assignment is to assess the condition of the subject palms and provide recommendations for management. My assessment is limited to the condition of the palms as observed on September 27, 2021. The purpose of this report is intended as a tool to allow the tree owner to make an educated tree management decision. My assessment was performed from the ground. I did not climb any trees or use any aerial lift equipment. No tree risk assessment was performed as this was outside the scope of the assignment.

The subject palms are situated along the Town's rights of ways. This is a coastal community on the barrier island in South Florida. The properties along this stretch of road comprise of single family residences and condominumiums. These buildings vary in height. The palms are just a couple hundred feet from the ocean.

The majority of the roadway palms are comprised of royal palms (*Roystonea regia*). The palms range from a poor to good condition. Many of the royal palms are showing damage to the lower fronds. This damaged is expressed as discolored, frizzled palm fronds. The palms are also showing signs of nutrient deficiency, which is common in South Florida.

The site conditions for this area can be hostile to plant material. Salt spray can be pushed up over the dune and affect plants. The salt desiccates the foliage, creating a "burned" appearance. The soil is primarily sand. These soils lack the specific nutrients that palms prefer, they do not retain nutrients very well so the nutrients often leach deep down into the soil, and the soils are very alkaline and have a high pH.

Different plant species have varying tolerance to salt spray. Some plants have a high tolerance for salt spray and some plants have a low tolerance. Royal palms are reported to have "moderate" tolerance to salt spray. The Florida Native Plant Society list royal palm as having some tolerance to salty wind but not to direct salt spray. Anecdotally, I would suggest that this species of palm is not very tolerant to salt spray.

The exposure of these palms to direct salty winds varies based on its location along the roadway. Some of these palms are well protected by tall buildings. Other palms are very exposed to direct winds coming off the ocean. The direction of the winds also change throughout the year, with winter winds being predominately from the northeast direction. It is very common to observe plants with salt damage in winter along the South Florida coast. Even plants that are reported to have a high salt tolerance such as coconut palms (*Cocos nucifera*) or date palms (*Dactvlifera spp.*) show salt damage to the lower leaves.

I would suggest that the damage that can be observed on the royal palms is mostly due to salt damage. They are also showing signs of nutrient deficiency, specifically potassium. Potassium deficiency causes the lower fronds of palms to turn brown and die prematurely. Once the palm fronds are damaged or discolored, that particular palm frond will never recover. The frond will remain discolored or damaged until it falls off or is removed. Palms are genetically programmed to only produce a predictable number of palms fronds each year. It is important to keep the palms as healthy as possible to allow them to retain as many healthy fronds as possible at all times.

Salt damage can be difficult to mitigate. Management would start by selecting plant material that is very salt tolerant. Washing the leaves off with fresh water can mitigate salt burn, but this treatment is time consuming and would not likely be practical on the Town's palms. By promoting good cultural practices, it may be possible to increase the number of live and unaffected palm fronds in the crowns of these palms to improve appearances. Cultural practices would include proper irrigation, mulch over the roots of the palms, and proper fertilization.

Based on my observations I would recommend the following:

- Audit and ensure adequate irrigation based on current rainfall.
- Remove any turf and install a layer of organic mulch to create a tree ring around the palms. Mulch should be installed to a depth of 2 inches.
- Begin a fertilization program as recommended by University of Florida. This would include quarterly application of 8-2-12 or 8-0-12 palm special granular fertilizer applied at a rate of 1.5 pounds of granular per 100 square feet of palm canopy area. Applications should be made every three months and can be supplemented with a granular sulfur product to adjust pH.
- Or, affected palms can be removed and replaced with a species with higher salt tolerance such as coconut palms or date palms.

If you have any questions about my observations or recommendations, please contact me.

Regards,

Jonathan

Jonathan S. Frank
ASCA Registered Consulting Arborist #618
ISA Board Certified Master Arborist #FL-5250BT
FDACS Certified Pest Control Operator #JF283138

#### **Limits of the Assignment**

The tree assessment was performed from the ground for visual conditions. This tree inventory was not a tree risk assessment. As such, no trees were assessed for risk in accordance with industry standards, nor are there any tree risk ratings or risk mitigation recommendations provided within this report.

Care has been taken to obtain all information from reliable sources. All data has been verified insofar as possible; however, the consultant can neither guarantee nor be responsible for the accuracy of information provided by others.

Illustrations, diagrams, graphs, and photographs in this report, being intended as visual aids, are not necessarily to scale and should not be construed as engineering or architectural reports or surveys.

Information contained in this report covers only those items that were examined and reflects the condition of those items at the time of inspection. There is no warranty or guarantee, expressed or implied, that problems of deficiencies of the plans or property in question may not arise in the future.

There is no guarantee for the preservation of the trees contained in this report, however, the preservation plan is made with the best interest intended for the trees being preserved.



# Fertilization of Field-Grown and Landscape Palms in Florida<sup>1</sup>

Timothy K. Broschat<sup>2</sup>

Palms growing in Florida landscapes or field nurseries are subject to a number of potentially serious nutrient deficiencies. These deficiencies are described and illustrated in document ENH1018. Prevention and treatment of these deficiencies is the subject of this document. Chemical symbols used in this document are as follows: N=nitrogen, P=phosphorus, K=potassium, Mg=magnesium, Ca=calcium, Mn=manganese, Fe=iron, B=boron, Cu=copper, Zn=zinc.

### **Fertilizer Formulation**

Nutrient deficiencies are more easily prevented than corrected once they occur. Correction of nutrient deficiencies can take as long as 2 or 3 years for some elements. Research at the UF/IFAS has shown that regular use of a fertilizer having an analysis (the three numbers on all fertilizer labels which refer to their N-P<sub>2</sub>O<sub>5</sub>-K<sub>2</sub>O content) of 8N-2P<sub>2</sub>O<sub>5</sub>-12K<sub>2</sub>O +4Mg with micronutrients can correct mild to moderate deficiencies and prevent their recurrence in most soil types in south and central Florida (Broschat 2015b; Broschat et al. 2008). However, not all fertilizers that have an analysis of 8N-2P<sub>2</sub>O<sub>5</sub>-12K<sub>2</sub>O+4Mg with micronutrients are effective and, if improperly formulated, may be worse for palm health than no fertilizer at all.

It is essential that 100% of the N, K, and Mg in such a fertilizer be in slow release form. Since Florida's soils have very low capacities to retain these elements in the root zone during periods of heavy rainfall or irrigation, the only

effective way to keep these elements readily available to plants during the 2 to 3 month interval between fertilizer applications is to use slow release sources (Broschat 1996; Broschat 1997). A water-soluble source applied one day could be completely leached out of the root zone the next day by a heavy rainfall, and the palm would receive no benefit from the application. Controlled-release fertilizers are not greatly affected by rainfall or irrigation intensity. Since they release more slowly than water-soluble fertilizers, they are also less likely to burn plant roots during periods of drought.

Unlike the macronutrients N, K, and Mg that should be in slow release form, most micronutrients need to be in a water soluble form. However, granular slow release forms of boron are safer and more effective for Florida landscape soils.

Effective sources for N include sulfur-coated urea, urea-formaldehyde, resin-coated urea, and resin-coated ammonium salts. Of all the slow-release K sources tested, sulfur-coated potassium sulfate was found to be the most effective and economical (Broschat 1996). Prilled kieserite (a more slowly soluble form of magnesium sulfate than Epsom salts) is an effective and low-cost slow release form of Mg. Coated Mg products tend to release too slowly to be effective (Broschat 1997; Broschat and Moore 2006). Slow release B sources, such as Granubor, are less affected by leaching than the water soluble B sources often used in landscape fertilizer blends (Broschat 2008). The only

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recommended Mn, Zn, and Cu sources are the sulfate forms of these elements (Broschat 1991). Since iron sulfate is rather ineffective on most Florida soils, granular chelated products such as Trachelene Fe are preferred for blending into palm maintenance fertilizers (Broschat 2005).

Another reason why 100% of the N, K, and Mg must be in controlled release form is that the release rate of a nutrient source can determine the "effective analysis" of the blend. If heavy rainfall or irrigation occurs, any water soluble nutrients will be rapidly leached out of the root zone, while controlled-release sources are still releasing nutrients into the soil. This differential leaching of soluble vs controlled-release nutrient sources can alter the effective ratios among the various elements, often with detrimental effects on palm nutritional health. The soil N:K, N:Mg, and K:Mg ratios are very important for palm health, and it is essential that all three elements have similar release rates in order to keep these ratios constant over time.

## **Fertilizer Application**

How you apply a fertilizer can also determine whether the application will be effective or not. Concentrating fertilizer in holes, as spikes, or in bands around the trunks of palms is less effective than spreading the same amount of fertilizer uniformly throughout the area under the canopy. This is because nutrient movement is almost exclusively downward in direction, and thus only that small proportion of the palm root system directly under concentrated fertilizer will ever be exposed to these nutrients. A concentration of fertilizer is also much more likely to burn palm roots than fertilizer spread out over a larger area. Injecting water-soluble fertilizers into the "root zone" of palms is never recommended because 1) water-soluble fertilizers are readily lost to leaching, 2) lateral movement of injected fertilizer is minimal, and 3) injecting any nutrients deeply enough to avoid turfgrass roots will also miss the majority of the palm's fine feeder roots, which tend to intermingle with turf roots near the soil surface.

Although trunk injection of micronutrients such as Mn has been shown to be effective (Broschat and Doccola 2010), this method is not recommended for palms except in cases where soil applications have been ineffective in alleviating chronic micronutrient deficiency symptoms. Since palms lack a vascular cambium and, thus, the ability to heal over wounds in the trunk, any holes created in the process of injecting palm trunks will remain as permanent scars and may provide entry sites for diseases or insect pests.

The  $8N-2P_2O_5-12K_2O+4Mg$  with micronutrients maintenance fertilizer blend described above should release nutrients for up to three months, and thus a three-month application interval is recommended. The suggested application rate for south Florida landscapes is 1.5 lbs of the  $8N-2P_2O_5-12K_2O+4Mg$  with micronutrients fertilizer (not N) per 100 sq. ft. of palm canopy area, bed area, or landscape area. Field nurseries typically apply twice that amount to maximize growth (Broschat 2015b). For landscapes in central and north Florida, winter applications can be omitted and lower application rates may also be adequate, although field nurseries in those regions will probably benefit from the higher south Florida application rates.

## Fertilization in Areas where Summer Applications of N and P Are Prohibited

Some counties or municipalities in Florida prohibit the application of P fertilizers unless soil tests demonstrate that P is deficient. In addition, all N and P-containing fertilizers may be prohibited during the rainy months of June through September. Since this is a period when palm nutrient demands and leaching of existing soil nutrients are the greatest, proper fertilization is essential. However, earlier studies have suggested that N may not be as limiting during this warm wet season due to higher rates of natural organic matter decomposition. A recent study has shown that P fertilization may not be necessary at all under most Florida landscape conditions and an 8N-0P<sub>2</sub>O<sub>5</sub>-12K<sub>2</sub>O+4Mg was as effective as the traditional 8N-2P<sub>2</sub>O<sub>5</sub>-12K<sub>2</sub>O+4Mg formulation (Broschat 2015a). This study also showed that if the 8N-0P<sub>2</sub>O<sub>5</sub>-12K<sub>2</sub>O+4Mg product was applied in February, May, and November, but the August application received a similar controlled release palm fertilizer that contained no N or P, then the resulting palm quality was as good as for those palms that received the 8N-0P<sub>2</sub>O<sub>5</sub>-12K<sub>2</sub>O+4Mg product for all four applications. These no N or P palm fertilizers have an analysis of 0N-0P<sub>2</sub>O<sub>5</sub>-16K<sub>2</sub>O+6Mg plus micronutrients. Contact your county Extension agent for information about the availability of these products in your

The  $8N-0P_2O_5-12K_2O+4Mg$  fertilizers described above are suitable for all palm species growing in all soil types found within the state of Florida except for the muck soils of the Everglades Agricultural Area. In those soils, sufficient N is released naturally to provide more than enough N for optimum palm growth. However, if the standard  $8N-0P_2O_5-12K_2O+4Mg$  fertilizer is used on these soils, the additional N from the fertilizer combined with that released from the

soil can result in excessive N relative to K, Mg, and other elements and could make deficiencies of those elements more severe. In those soils, the  $0N-0P_2O_5-16K_2O+6Mg$  formulation described above is recommended.

## **Use on Entire Landscape**

While the 8N-2P<sub>2</sub>O<sub>5</sub>-12K<sub>2</sub>O+4Mg with micronutrients maintenance fertilizer described above was developed primarily for the nutritional requirements of palms, other types of plants, including broadleaf trees, shrubs, herbaceous ornamentals, fruit trees, and even turfgrass growing in the same soil are subject to the same inherent nutritional deficiencies in these soils (Broschat et al. 2008). Since palm nutritional requirements are higher than those for other types of plants, a fertilizer that is suitable for palms will be more than suitable for other types of plants. Comparative trials at the UF/IFAS Ft. Lauderdale Research and Education Center have shown that St. Augustinegrass fertilized with the above palm maintenance fertilizer had quality equal to that produced by a high quality turf fertilizer (Broschat et al. 2008).

Use of the above 8N-2P<sub>2</sub>O<sub>5</sub>-12K<sub>2</sub>O+4Mg with micronutrients fertilizer is recommended for use on the entire landscape. This not only simplifies fertilization by having to use only a single product, but eliminates a serious problem encountered when high N turf fertilizers are applied to turf areas with palms growing nearby. Roots of large palms typically extend out 50 feet or more from the trunk in all directions and will take up whatever fertilizers have been applied to the turfgrass. The high N:K ratio and the lack of any Mg in most turf fertilizers forces rapid growth in palms, but without sufficient K or Mg to support that growth, this growth dilutes the existing K and Mg reserves within the palm and induces or exacerbates K and/or Mg deficiencies in the palms. High N fertilizers applied to turfgrass, even 30 feet away from a palm on one side only, have been known to kill palms from induced K deficiency. Given the high value of most specimen palms, applying high N fertilizers to the palms or to nearby turfgrass is no bargain, no matter how much less it may cost.

Sometimes it may not be possible to control what kinds of fertilizer are applied within the area covered by a palm's root system. For example, you may have a large palm relatively close to your property line. While you may be properly fertilizing your palm and lawn with the recommended 8N-2P<sub>2</sub>O<sub>5</sub>-12K<sub>2</sub>O+4Mg, your neighbor may be fertilizing his lawn with typical turf fertilizers that will negatively affect the health of your palm. A recent study has shown that if the turfgrass near a palm has been fertilized with a

typical high N:K ratio turf fertilizer, the negative impacts can be prevented by fertilizing the area under the canopy of the palm with the no N or P 0N-0P<sub>2</sub>O<sub>5</sub>-16K<sub>2</sub>O+6Mg fertilizer discussed above instead of the usual 8N-2P<sub>2</sub>O<sub>5</sub>-12K<sub>2</sub>O+4Mg (Broschat 2015a). This approach may also be more cost effective than fertilizing the entire landscape with 8N-2P<sub>2</sub>O<sub>5</sub>-12K<sub>2</sub>O+4Mg for mixed landscapes containing palms and turfgrass.

## **Treatment of Severe Deficiencies**

Finally, while the palm maintenance fertilizer described above is suitable for prevention of all nutrient deficiencies and correction of mild to moderate deficiencies, what can be done to correct existing severe deficiencies? For severe N deficiency, this palm maintenance fertilizer will be adequate by itself, and re-greening of the foliage should occur within a month or two.

When applying K fertilizers to correct a severe K deficiency, it is important to also apply about 1/3 as much Mg to prevent a high K:Mg ratio from causing a Mg deficiency problem. For severely K-deficient landscape palms, broadcast a 3:1 blend of slow release potassium sulfate and prilled kieserite uniformly to the soil under the canopy at a rate of 1.5 lbs per 100 sq ft of canopy area. A slow release palm fertilizer like the 0N-0P<sub>2</sub>O<sub>5</sub>-16K<sub>2</sub>O+6Mg mentioned above works well for this purpose and is more readily available than slow release potassium sulfate and kieserite. This application should be repeated in three months. Three and six months after that, a 1:1 mixture of the 0N-0P<sub>2</sub>O<sub>5</sub>-16K<sub>2</sub>O+6Mg and a 8N-2P<sub>2</sub>O<sub>5</sub>-12K<sub>2</sub>O+4Mg palm maintenance fertilizer should be substituted at the rate of 1.5 lbs of fertilizer per 100 sq ft of canopy area. After one year, use only the 8N-2P<sub>2</sub>O<sub>5</sub>-12K<sub>2</sub>O+4Mg palm maintenance fertilizer at the same rate.

Treatment of K deficient palms typically requires from one to three years or longer, since the entire canopy of the palm will need to be replaced with new, symptom-free leaves. Potassium-deficient palms support fewer leaves in their canopies than K-sufficient palms, and the symptomatic older leaves will not be eliminated until a full, rounded canopy of leaves has been produced (Broschat and Gilman 2013). Removal of discolored older K-deficient leaves on a regular basis has been shown to accelerate the rate of decline from this disorder and can result in premature death of the palm (Broschat 1994).

Treatment of severely Mg-deficient palms can require a year or more and is accomplished by broadcasting a controlledrelease magnesium source (prilled kieserite is an excellent source) at rates of 2 to 5 pounds per tree 4 to 6 times per year to the area under the canopy. This treatment is to be considered as a supplement to regular applications of a balanced  $8N-2P_2O_5-12K_2O+4Mg$  palm maintenance fertilizer. To reduce the potential for salt injury, Mg and maintenance fertilizer applications can be offset by six weeks.

For Mn-deficient palms, soil applications of manganese sulfate are effective, but spraying the foliage with this product may achieve more rapid, though short-term, results, especially on alkaline soils. This should be considered as a supplement to soil applications, not as a replacement. Manganese sulfate solutions to be applied to the foliage can be made by mixing 3 lbs of this product in 100 gals of water.

Soil application rates are dependent on palm species, soil type, and severity of Mn deficiency. These rates will range from as low as 8 oz for a small palm or one growing on an acid sand soil to 5 lbs for a large species growing on a limestone soil. Broadcast this product over the soil under the palm canopy. Applications can be repeated every 2 to 3 months, depending on the severity of the problem and soil type, but a response may not be seen until 3 to 6 months after applications. Avoid using composted sewage sludge or manure products near palms (Broschat 1991). Excessive Mn applications normally result in an induced Fe deficiency, with its characteristic new leaf chlorosis.

For treatment of Fe deficiencies, soil applications of iron sulfate are generally less effective than some of the chelated compounds such as FeDTPA, FeEDDHA, or FeHEEDTA, because free Fe<sup>++</sup> ions are rapidly oxidized under most soil conditions to the less soluble Fe<sup>+++</sup> form. On alkaline soils, FeEDDHA is the most effective product, followed by FeHEEDTA and FeDTPA (Broschat and Elliott 2005). FeDTPA is the most effective product for foliar application, but it is important to note that all of these chelates can be phytotoxic to palms and other plants when applied at high rates. Follow application guidelines on the label for these products. Keep in mind that most Fe fertilizers can cause brown staining, so take precautions to keep them away from non-target objects.

Fertilization to correct or prevent B deficiency in palms is problematic at this time. The most common B sources used on palms are water soluble sodium borates. In high rainfall climates, such as that of Florida, an application of water-soluble B can be completely leached out of the root zone with a single heavy rain shower. Slow release B fertilizers such as Granubor are an obvious solution to this problem because they release over a 3 to 4 month period (Broschat 2008). However, appropriate application rates for this product on

palms have yet to be determined. It is extremely important not to overdose palms with B fertilizers since the difference between deficiency and toxicity levels of B is rather small, and correction of a B toxicity caused by over-application of slow-release B fertilizers could be very difficult.

Current recommendations for correcting B deficiencies in palms are intentionally conservative because of the potential for toxicity. Dissolve about 2–4 oz of Solubor or Borax in 5 gallons of water and drench this into the soil under the palm canopy (Dickey 1977). Do not repeat this for at least 5 months because it will take this long to see the results of the first application.

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## Not All Landscape Palm Fertilizers Are Created Equal<sup>1</sup>

Timothy K. Broschat<sup>2</sup>

Palms are widely planted in Florida landscapes throughout the state, especially in the central and southern parts, for their aesthetic effects. Their bold leaf textures create a tropical or Mediterranean look that is highly desired by residents and tourists alike. However, palms have very high nutritional requirements (see *Nutrient Deficiencies of Landscape and Field-Grown Palms in Florida*, http://www.edis.ifas.ufl.edu/ep273), and deficiencies of any nutrient element can result in highly conspicuous and unattractive symptoms on their large leaves.

Sixteen elements are required by palms for normal growth: carbon (C), hydrogen (H), oxygen (O), nitrogen (N), phosphorus (P), potassium (K), calcium (Ca), magnesium (Mg), sulfur (S), iron (Fe), manganese (Mn), zinc (Zn), copper (Cu), boron (B), molybdenum (Mo), and chlorine (Cl). Of these, N, K, Mg, Fe, Mn, B, and occasionally P often are deficient in Florida's sandy, calcareous, and organic soils and must be added as fertilizers to prevent or correct deficiencies in landscape or field-grown palms (see Fertilization of Field-Grown and Landscape Palms in Florida, http://www.edis.ifas.ufl.edu/ep261). One of the problems encountered when fertilizing plants is that some nutrient elements are antagonistic to others, so that too much of one element could induce or exacerbate a deficiency of another.

The optimum amounts and ratios in fertilizers of the seven frequently deficient elements for landscape palms in Florida have been experimentally determined to be 8N-0 or  $2P_2O_5$ - $12K_2O$ -4Mg plus about 2% Mn and Fe (0.1-0.2% if

chelated), and 0.15% of B, Cu, and Zn (hereafter referred to as 8-2-12-4Mg), but note that 8-0-12-4Mg also is acceptable (Broschat 2009, 2015). However, just because a fertilizer has this analysis does not mean that it will be effective. The source of each individual element is just as important. Landscape fertilizers are mixtures or blends of 8 or more individual nutrient elements, and a number of different sources of each of these elements are available. Some of these sources are completely insoluble, some are slowly soluble or controlled release, and some are completely soluble. Thus a large number of possible combinations of these various elemental sources could be created. Some of these blends could do great things for your palms, some might do nothing at all, and some might induce or exacerbate deficiencies rather than correcting them and possibly kill the palm over time.

Plant nutrients must be in a water-soluble form for plant roots to be able to take them up, and their solubility often is regulated by soil pH. For example, the solubility, and thus plant availability, of micronutrients such as Fe and Mn drops off rapidly as pH increases (Lindsay 1972). Under these conditions, the most effective fertilizer sources for these elements are the most water-soluble ones. For Fe, Mn, Zn, and Cu, sulfates are commonly used and are effective, but chelates of Fe such as EDTA and DTPA are even more effective than the sulfate form (Broschat 1991; Broschat and Elliott 2005). Unfortunately, due to their lower costs, some fertilizer manufacturers use oxides or sucrates (essentially molasses-coated oxides) of these elements. These compounds have been shown to be almost completely insoluble

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in neutral to alkaline soils, and even in acid soils they are solubilized so slowly that they do not provide adequate amounts of these elements to palms (Broschat 1991; Broschat and Elliott 2005).

On the other hand, many commonly used fertilizer sources of N, K, Mg, and B are highly soluble in water and are thus highly leachable through Florida's sand and calcareous soils which lack significant cation-exchange capacity. For these elements, slow-release (slowly soluble compounds) or controlled-release (coated soluble compounds) sources help keep these nutrients available to the plant over a longer period of time under leaching conditions (see Controlled-Release and Slow-Release Fertilizers as Nutrient Management Tools, http://www.edis.ifas.ufl.edu/hs1255). For difficult-to-treat deficiencies such as K deficiency, simply increasing the amount of water-soluble K applied has not been effective, since large amounts of water soluble K are just as quickly lost to leaching as are smaller amounts. The only way that K deficiency can be eliminated in most Florida landscape soils is through the use of controlledrelease K sources like sulfur-coated potassium sulfate. While resin-coated fertilizers generally are considered to be superior to sulfur-coated materials, the release of K and Mg from resin-coated sulfates has been shown to be too slow to be effective, compared to N sources prepared with the same coating (Broschat and Moore 2007).

Since oxides and carbonates of Mg are too insoluble to be useful sources of Mg, and resin-coated magnesium sulfate releases Mg too slowly, the best controlled-release source available at this time is kieserite, a naturally-occurring, slowly soluble form of magnesium sulfate (Broschat 1997). While soluble forms of B such as Borax® or Solubor® have been used in blended fertilizers, their high solubility makes them readily leachable under typical Florida landscape conditions. Furthermore, these materials are powders that quickly settle to the bottom of the bag when blended with granular fertilizers. This means that fertilizer taken from the top of the bag could contain too little B, while that taken from the bottom of the bag could contain toxic amounts of B. Studies evaluating a number of slow-release forms of B have identified Granubor® as the best material for blending since it has a granular form and releases over a three-month period, like sulfur-coated potassium sulfate (Broschat 2008).

While it is important to have the correct ratios of the various elements in a blended palm fertilizer, if the wrong sources are used those ratios can change over time due to differential leaching of the more soluble components. For example, an 8-2-12-4Mg palm fertilizer having N in

controlled-release form but K in water-soluble form might initially have the correct N:K ratio, but over time the water-soluble K will be leached out of the root zone while the controlled-release N source continues to provide N to the palm. This N will stimulate new growth, but since there eventually will be no new K to support that new growth, the amount of K already in the palm will be diluted among a larger number of leaves, thereby reducing the concentration of K and resulting in more severe K deficiency symptoms than prior to fertilization. A similar situation could occur if the K source is controlled-release but the Mg source is water soluble. Over time, the water-soluble Mg will be leached out of the soil but K will still be available from its controlled-release source, upsetting the effective K:Mg ratio in the soil. Thus it is essential not only to provide the correct elemental ratios initially, but also over time by matching the release rates of the controlled-release sources of the N, K, Mg, and B (Broschat 2009).

How can you tell if you have an effective 8-2-12-4Mg palm fertilizer? Unfortunately, examination of fertilizer labels can be more misleading than helpful due to the terminology used and the types of testing done on fertilizers by state regulatory laboratories, all required by Florida fertilizer laws. For example, a fertilizer containing only coated N or K will appear on a Florida fertilizer label as being 100% water soluble due to the fact that water-soluble sources are enclosed within the coating and the coatings are crushed in the laboratory testing procedure.

Our research has shown that the most effective fertilizer has 100% of the N, K, Mg, and B sources in slow-release or controlled-release form and all of the Mn, Fe, Zn, and Cu sources should be water soluble (generally these will be sulfates, except for Fe, which can be chelated with EDTA or DTPA) (Broschat 1991a, 1996, 1997, 2009; Broschat and Elliott 2005). To determine if a fertilizer contains the correct nutrient sources, examine the ingredients section of a fertilizer label (it may be called "derived from" or something to that effect). Look for any source of N, K, Mg, or B that is water soluble. If any are present, then 100% of those elemental sources cannot be slow release and thus the fertilizer does not meet our specifications. Although activated sewage sludge is considered a slow-release form of N, it should never be used in palm fertilizers as it can induce severe Mn deficiencies in palms and other ornamental plants (Broschat 1991b). For the remaining micronutrients, look for water-soluble sources such as sulfates or chelates, but avoid oxides or sucrates if they are the sole or primary source of Mn and Fe. Table 1 lists the most effective sources

for the seven critical elements in Florida landscape palm fertilizers.

For Mg, it can be difficult to tell if the magnesium sulfate listed on the label is the slow-release form called kieserite (magnesium sulfate monohydrate) or the very soluble form known as Epsom salts (magnesium sulfate heptahydrate) unless the manufacturer indicates this somewhere on the label. If this information cannot be obtained from the manufacturer, a simple visual examination of the material will reveal the presence of kieserite, since it will constitute a significant proportion of the blend. Kieserite is creamy white and is the largest granule in the blend, making it very conspicuous (Figure 1).



Figure 1. A sample of an 8-2-12-4Mg landscape palm fertilizer showing the conspicuous granules of kieserite, a slow release form of magnesium sulfate.

Credits: T. K. Broschat, UF/IFAS

Similarly, it can be difficult to determine if a powdered, water-soluble form of B like Solubor® or Borax® is used or if the product contains the slowly soluble Granubor®. All of these materials are sodium borates, so one must inquire about which form is included if the label does not indicate the source.

Finally, it should be apparent from the above discussion that 8-2-12-4Mg palm fertilizers can be formulated in more than one way. Unfortunately, the most effective sources of most of the critical elements in palm fertilizers also are more expensive, so some fertilizer companies make products which superficially meet our specifications (e.g., have the correct analysis), but upon closer examination do not. They have substituted some or all of the required controlled-release N, K, Mg, or B with water-soluble sources and have used insoluble micronutrient sources like oxides or sucrates to reduce costs. Thus if you request bids for the lowest-cost 8-2-12-4Mg palm fertilizer you likely will end up buying a formulation that will not be effective

and may make your palms look worse than if they had never been fertilized. The only way to ensure that you will be getting an effective fertilizer is to specify that 100% of the N, K, Mg, and B sources are slow release and that the Mn, Fe, and other micronutrients are present in sulfate or chelated form.

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Table 1. Effective fertilizer sources for blending Florida landscape palm fertilizers with three-month release rates.

#### Element Recommended Sources<sup>1</sup>

N Sulfur-coated urea, resin (or polymer)-coated urea or ammonium salts, urea-formaldehyde

P Superphosphate, triple superphosphate, coated diammonium phosphate K Sulfur-coated potassium sulfate (may have additional polymer coating)

Mg Kieserite (magnesium sulfate monohydrate) granules

Mn Manganese sulfate

Fe Iron sulfate, FeEDTA and/or FeDTPA

B Granubor® (sodium borate)

<sup>&</sup>lt;sup>1</sup> Based on data from Broschat (1991, 1996, 1997, 2008) and Broschat and Elliott (2005)



Client: 6319146 Printed on: 2/10/2022

Created on: 2/10/2022

Town of Highland Beach Attn: Mr. Pat Roman 3616 South Ocean Boulevard Highland Beach, FL 33487 Bartlett Tree Experts Jonathan Frank - Representative 560 Northeast 42nd Court Oakland Park, FL 33334

E-Mail Address: proman@highlandbeach.us

Mobile Phone: 561-856-2963

E-Mail Address: jfrank@bartlett.com Business: 954-561-9514 x 6176

#### NOTICE TO CLIENT:

Bartlett Tree Experts has entered this property for the specific purpose of writing this proposal, pursuant to the owner's request. Bartlett Tree Experts makes no warranties and accepts no responsibility regarding the potential risks involving any trees on this property. Bartlett Tree Experts recommends having a qualified arborist inspect your property periodically to assist you in identifying potential risks or hazardous conditions related to your trees and shrubs. THIS IS NOT AN INVOICE.

#### **EXECUTIVE SUMMARY:**

Work Group	Recommendation	Number of Trees	Amount
Soil Care and Fertilizati	Soil Treatment	100	\$6,000.00
	TOTAL FOR 'Soil Care and Fertiliz	100	\$6,000.00
	TOTAL AMOUNT:	100	\$6,000.00

#### Soil Care and Fertilization:

#### Soil Treatment

Species Location

100 Royal Palms Town rights of ways

Apply Bartlett Boost Palm Granular Blend 8-0-12, Micronutrient treatment, and pH Adjustment to the following plant and location to promote vitality and improve resistance to disease and stress.

• 100 Royal Palms located at the Town rights of ways

Provide 5 treatments at 1,200.00 per treatment.

Estimated Treatment Dates: 3/1/2022, 6/1/2022, 9/1/2022, 12/1/2022, 3/1/2023.

Total for 'Soil Care and Fertilization' Amount: \$6,000.00

Client: 6319146	Printed on: 2	/10/2022
	Created on: 2.	/10/2022
	Total Amount: \$0	6,000.00
SCHEDULE OF WORK PROPOSED:		
	ts will coordinate all job planning and scheduling; equipment requirements, professional execution of the service or services offered.	and
Upon acceptance of this proposal, this work can b 3/1/2022 and should be completed by 3/31/2023.	e scheduled to take place during the week/weeks of	
SCHEDULE OF PAYMENT:		
Bartlett Tree Experts offers to perform the work s	pecifications at the work location listed above at the following rates:	
Own	er agrees to pay a total price of: \$6,000.00	) -
after the date of the acceptance of this proposal.  Tree Experts, in writing of your intent to do so, ref  ADDITIONAL TERMS AND CONDITIONS:  After reviewing the terms and conditions attached the enclosed envelope. In the event that the client be incorporated into this agreement. In the event	, which become part of this agreement, please sign the enclosed copy and r t should issue additional work authorization terms, if agreed upon, such ter that such terms conflict with this agreement, then the terms of this agreen ginal document should be retained for your reference. Should you have an	Bartlett return in rms will nent
OFFER: Bartlett Tree Experts will perform the above reference regulations, and industry standards governing tree Bartlett Representative Signature:	enced service in a safe, professional manner, in accordance with all laws, rul care.	les,
Date:	2/10/2022	
Printed Name:	Jonathan Frank	

Client: 6319146		Printed on: 2/10/2022
		Created on: 2/10/2022
AUTHORIZATION TO PROCEED:		
	n the above services. Unless otherwise agreed upon in wr	ting by Bartlett Tree
Experts, I agree to make total payment of the esti	mated costs and all authorized additional costs upon comp	letion of the work.
Client's Signature:		
Cheffe & Signature.		
Date:		
Dutate d Name		
Printed Name:		



Client: 6319146 Printed on: 2/10/2022

Created on: 2/10/2022

Town of Highland Beach Attn: Mr. Pat Roman 3616 South Ocean Boulevard Highland Beach, FL 33487 Bartlett Tree Experts Jonathan Frank - Representative 560 Northeast 42nd Court Oakland Park, FL 33334

E-Mail Address: proman@highlandbeach.us

Mobile Phone: 561-856-2963

E-Mail Address: jfrank@bartlett.com Business: 954-561-9514 x 6176

#### NOTICE TO CLIENT:

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Provide 5 treatments at 1,200.00 per treatment.

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Total for 'Soil Care and Fertilization' Amount: \$6,000.00

The F.A. Bartlett Tree Expert Company

Client, 6210146	Dati	ntod on, 9/10/9099
Client: 6319146		nted on: 2/10/2022 ated on: 2/10/2022
	Clea	11eu OII. 2/10/2022
		mount: \$6,000.00
SCHEDULE OF WORK PROPOSED:		
	ets will coordinate all job planning and scheduling; equipment reque, professional execution of the service or services offered.	irrements, and
Upon acceptance of this proposal, this work can be 3/1/2022 and should be completed by 3/31/2023.	e scheduled to take place during the week/weeks of	
SCHEDULE OF PAYMENT:		
	pecifications at the work location listed above at the following rate	es:
Own	ner agrees to pay a total price of:	\$6,000.00
after the date of the acceptance of this proposal. Tree Experts, in writing of your intent to do so, ref ADDITIONAL TERMS AND CONDITIONS:  After reviewing the terms and conditions attached the enclosed envelope. In the event that the clien be incorporated into this agreement. In the event	d, which become part of this agreement, please sign the enclosed of the should issue additional work authorization terms, if agreed upor that such terms conflict with this agreement, then the terms of the tiginal document should be retained for your reference. Should yo	copy and return in n, such terms will his agreement
OFFER: Bartlett Tree Experts will perform the above reference of the second sec	enced service in a safe, professional manner, in accordance with a e care.	ll laws, rules,
Date:	2/10/2022	
Printed Name:	Jonathan Frank	

Client: 6319146		Printed on: 2/10/2022
		Created on: 2/10/2022
AUTHORIZATION TO PROCEED:		
I hereby authorize Bartlett Tree Experts to perform	n the above services. Unless otherwise agreed upon in wri	ting by Bartlett Tree
Experts, I agree to make total payment of the esti	mated costs and all authorized additional costs upon comp	letion of the work.
Client's Signature:		
onene o organicare.		
Date:		
Date.		
Printed Name:		
Timed wanie.		

#### ATTACHMENT NO. 2

## Highland Beach Bucket Tree Use Initial Research Findings

НОА	HOA Contact Information	Property Management Contact	Feedback / Survey Participation Notes
Bel Lido	President: Ron Brown Tele. No.: 561-266-0299 Email: rdbrown1@aol.com	NA	Reached out to Mr. Ron Brown 3 times via email. Provided background information and survey link. No response as of 1/23/22
Highlands Place (2901 S. Ocean Blvd.)	President: David Stern Tele. No.: 561-702-3655 Email: highlandplace@bellsouth.net	Heather Rubin Campbell Property Management 561-276-4722 HRubin@campbellproperty.com	Property manager shared survey with community after board approval. See survey results documents for more information.
Toscana (3701 S. Ocean Blvd.)	President: Bart Satsky Tele. No.: 973-985-7043	Virgil Teca First Service Residential 561-272-2269 Virgil.teca@fsresidential.com	After multiple calls and emails inquiries was finally able to speak with Mr. Virgil Teca over the phone on Friday, 1/21/22. He verbally reported that his beach club attendants claim that the bucket tree is never utilized. He also shared that 3 of the of the 4 original buckets were missing, a fact that I confirmed myself by walking by. Was not sure if board would approve survey link distribution.
Trafalgar (2917 S. Ocean Blvd.)	President: Deborah Hurd Tele. No.: 561-706-7114	Anna Thomas Castle Group 561-276-1949 athomas@castlegroup.com	Property manager shared survey with community after board approval. See survey results documents for more information.

1/23/2022

# Highland Beach Bucket Tree Use

Please take a moment to complete the following questions regarding the use of the Highland Beach Bucket Tree found at your community. All responses are COMPLETELY CONFIDENTIAL and do not have any name(s) associated with them.

#### **Survey Questions**

Please indicate in which community you reside



1. I am aware that there is a town sponsored bucket tree available on the beach access for my community.  $^{\star}$ 

1 2 3 4 5

Strongly Disagree O O O Strongly Agree

2. I understand the purpose of the town sponsored bucket tree on the beach access for my community. \*

1 2 3 4 5

Strongly Disagree O O O Strongly Agree

3. I have used the buckets on our bucket tree to collect trash on Highland Beach. *								
	1	2	3	4	5			
Strongly Disagree	0	0	0	•	0	Strongly Agree		
4. I believe that the bucket tree program is a beneficial program that helps keep Highland Beach clean. *								
	1	2	3	4	5			
Strongly Disagree	0	0	0	0	•	Strongly Agree		
5. I encourage others in	5. I encourage others in my community to use the buckets found on the bucket tree. *							
	1	2	3	4	5			
Strongly Disagree	0	0	0	0	•	Strongly Agree		
6. I would like to see additional bucket trees installed at other communities along the beach. *								
	1	2	3	4	5			
Strongly Disagree	0	0	0	0	•	Strongly Agree		
Comments - anything else you would like to share								

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Page 38

D	4		la		I=	la	la
Please indicate in					-	6. I would like to see	Comments - anything else you would like to share
which community	is a town sponsored			bucket tree program is a			
you reside				beneficial program that		trees installed at other	
	the beach access for my	on the beach access for	trash on Highland	helps keep Highland	found on the bucket	communities along the	
	community.	my community.	Beach.	Beach clean.	tree.	beach.	
Highlands Dlags	-	_	1	_	_	-	
Highlands Place	5	5	4	5	5	5	
Highlands Place	5	5	2	1	. 1	. 1	
							I have not seen one of the three buckets ever moved from the tree. So I can make an intelligent
							assumption that these buckets are not being used and therefore have not impact on the community.
							I never even knew what they were there for until this emailjust ugly buckets hanging on a "tree"
utalida ada <b>n</b> la a			_				
Highlands Place	2	1	1	1	3	1	in front of our unit.
Highlands Place	5	5	1	5	5	5	
Highlands Place	5	5	5	5	5	5	
Highlands Place	5	5	1	3	1	. 3	
Highlands Place	5	5	1	5	1	. 5	
Highlands Place	5	5	1	1	1	1	
inginarias i lacc			<del> </del>		1	<u> </u>	
							I would love to see representatives from buildings to spend 15 minutes to walk along beach and pick
Highlands Place	5	5	5	5	5	5	up trash on their walk and deposit in their buckets.
_	1		1		5		Who empties the buckets?
Highlands Place	1	3	1	3	3	3	who empties the buckets:
Highlands Place	1	2	1	3	3	4	
Highlands Place	5	5	1	5	5	5	
Highlands Place	5	5	5	5	5	5	Really great initiative!
Trafalgar	2	1	1	4	. 2	4	A flyer that explains the program would be nice to hang in our mailroom.
	5	5	1	5	1	. 5	
							at trafalgar there is a garbage can adjacent to the tree as a result I do not believe I have seen
Trafalgar	1	1	1	3	3	3	anyone use the tree
Trafalgar	4	3	1	5	5	5	
Tuefaleen	_	_	_	_	_	_	
Trafalgar	5	5	5	5	5	5	Soooo much better than a baggy and with the nice trash receptacle their is great. Thank you
							We have a large garbage can right underneath the tree where everyone puts their garbage. So far
Trafalgar	5	5	1	3	1	1	Trafalgar it is unnecessary
Trafalgar	5	5	5	5	5	5	,
	<u> </u>	J	2	<u> </u>	, J	, J	
Trafalgar	5	4		5	5	5	
_	5	4	5	5	5	5	
Trafalgar	4	5	5	5	1	. 5	People may be hesitant to pick up trash with Covid circulating
Trafalgar	5	5	5	5	5	5	
							Diagon have not some and at hearth worth to the following a constitution of the control of the c
							Please have gut removed at beach next to trafalgar it encroaches on trafalgars property and is an
							eyesore and blocks view of many residents. It is never used or maintained and doesn't belong at
Trafalgar	4	4	4	4	3	3	that location
Trafalgar	5	5	5	5	5	5	
Trafalgar	1	1	1	1	1	. 1	
Trafalgar	2	2	2	3	3	3	
	<u> </u>	<u> </u>	<u> </u>		†	†	
							I love using the bucket when I clean up trash daily on the beach. I think having long handled tongs
							would be very helpful and much easier on my back.
							I am also wondering if along side of our garbage can there could be a recycling can as well. Thank you
Trafalgar	5	5	5	5	5	5	for your efforts in helping the environment.
				<u> </u>			1 - 7

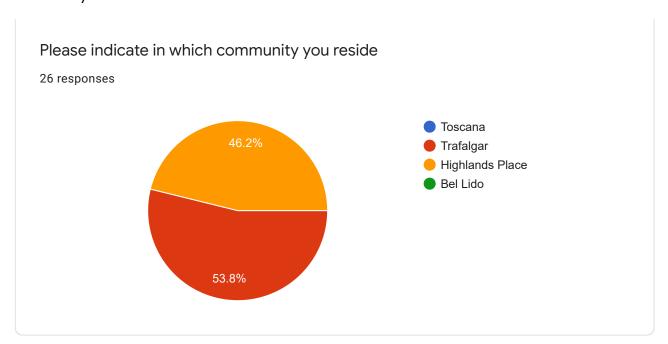
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# Highland Beach Bucket Tree Use

29 responses

**Publish analytics** 

## **Survey Questions**





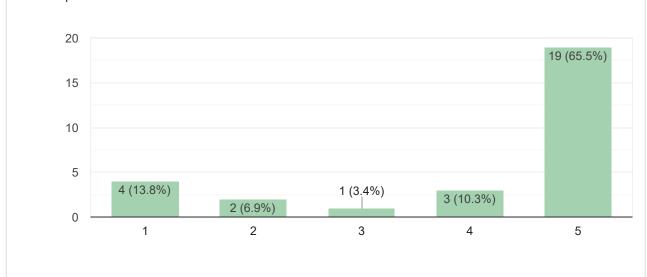
1. I am aware that there is a town sponsored bucket tree available on the beach access for my community.

29 responses



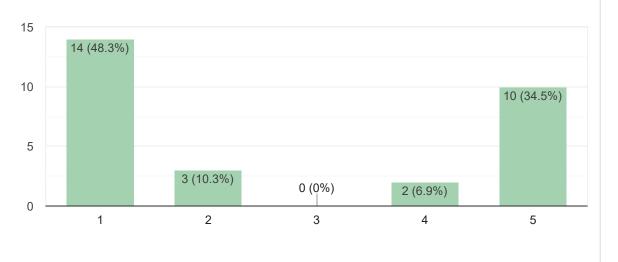
2. I understand the purpose of the town sponsored bucket tree on the beach access for my community.

29 responses

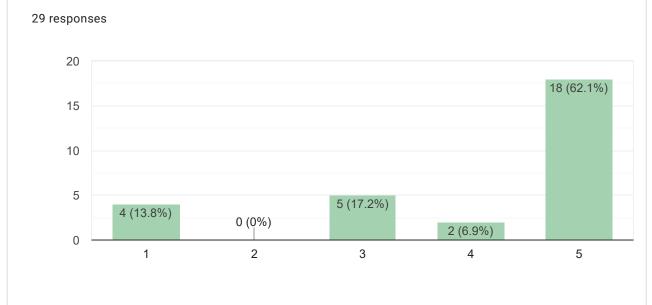


3. I have used the buckets on our bucket tree to collect trash on Highland Beach.

29 responses



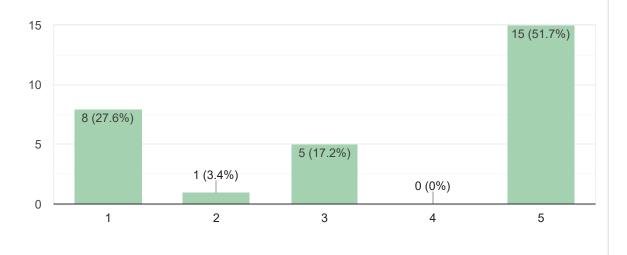
4. I believe that the bucket tree program is a beneficial program that helps keep Highland Beach clean.





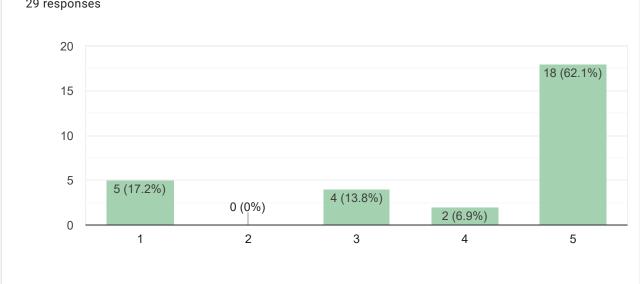
5. I encourage others in my community to use the buckets found on the bucket tree.

29 responses



6. I would like to see additional bucket trees installed at other communities along the beach.

29 responses





#### Comments - anything else you would like to share

11 responses

Soooo much better than a baggy and with the nice trash receptacle their is great. Thank you

I love using the bucket when I clean up trash daily on the beach. I think having long handled tongs would be very helpful and much easier on my back. I'm also wondering if along side of our garbage can there could be a recycling can as well. Thank you for your efforts in helping the environment.

at trafalgar there is a garbage can adjacent to the tree-- as a result I do not believe I have seen anyone use the tree...

People may be hesitant to pick up trash with Covid circulating

Please have gut removed at beach next to trafalgar it encroaches on trafalgars property and is an eyesore and blocks view of many residents. It is never used or maintained and doesn't belong at that location

A flyer that explains the program would be nice to hang in our mailroom.

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Google Forms



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Vice Mayor Moore spoke about a letter that her husband received from the Committee to Save Highland Beach about the referendum ballot questions. She presented this matter to the Town Commission for discussion to determine if any action should be taken to correct the misinformation about the ballot questions. Discussions followed regarding this matter and the Town's approach to clarify the misinformation and rumors.

**MOTION:** David/Moore - Moved to direct staff to send an email clarifying the misinformation and rumors, which passed unanimously 4 to 0.

#### **11. NEW BUSINESS**

A. Update on the November 3, 2021, Board recommendations to the Town Commission, and the previous recommendation pertaining to the palms located in the right-of-way along State Road A1A

Mayor Hillman read the title of Item 11.A.

Town Planner Allen talked about February 2, 2022, Natural Resources Preservation Advisory Board recommendations as follows:

- 1) Consider employing a professional tree service company like Bartlett Tree Experts to facilitate the management and care of palms situated in the right-of-way along State Road A1A.
- 2) Approve the implementation of additional bucket trees to all Associations along the beach that have authorized their use.
- 3) Consider providing a code enforcement officer that routinely (once or twice a week) walks or rides on the beach to facilitate visual observation of any violations to Section 5-9 of the Town Code.

The Town Commission's recommendation was to 1) hire a professional tree service to facilitate the management and care of the palm trees situated in the right-of-way along State Road A1A and 2) commence with the remainder of the bucket trees from the list of the interested condominium.

Mayor Hillman indicated he would like a combined brainstorming meeting with the Natural Resources Preservation Board to discuss a more holistic approach.

B. Update on Florida Power & Light and Sea Turtle Lights - Commissioner Gossett Seidman

Town Manager Labadie stated that he and Public Works Director Pat Roman are scheduled to meet with Florida Power & Light (FP&L) on Thursday about the turtle lighting and keeping the vegetation/debris away from the lighting.

File	Atta	chm	ents	for	Item:
ıııc	$\Delta$ LLQ		CIILO	101	ILCIII.

B. Nomination of Chairperson and Vice-Chairperson



# TOWN OF HIGHLAND BEACH AGENDA MEMORANDUM

MEETING TYPE: Virtual Natural Resources Preservation Advisory Board Regular

Meeting

**MEETING DATE** 08/10/2022

**SUBMITTED BY:** Ganelle Thompson, Administrative Support Specialist

SUBJECT: Nomination of Chairperson and Vice-Chairperson

#### SUMMARY:

As of February 03, 2022, Ms. Nievecita Maraj resigned from her role as a member and Vice-Chairperson of the Natural Resources Preservation Advisory Board. Mr. Steven Park's term as a member of the Natural Resources Preservation Board expired on April 30, 2022, along with his role as Chairperson. The Board will need to nominate a Chairperson and Vice-Chairperson.

According to Resolution No. 19-029 R, - Advisory Board and Committees Appointment Process Policy, Section 9, it should be common practice that no member shall serve as chair until he or she has served for one full year on the advisory board unless no existing member is willing to serve as chairperson or vice-chairperson.

SCA	\ I	IN/I	$D \Lambda I$	CT.	
3 C. F	<b>1</b> L	IIVII	$-$ A $^{\circ}$	<b>⊶</b> .	

None.

#### **ATTACHMENTS:**

**Board Members List** 

#### **RECOMMENDATION:**

Staff recommends the nomination of a Chairperson and a Vice-Chairperson to serve for one year, ending August 10, 2023.

## TOWN OF HIGHLAND BEACH

# Town Commissioners Advisory Board Members Contact Information

## NATURAL RESOURCES PRESERVATION ADVISORY BOARD

Regular Meetings held Quarterly - February, May, August & November (as needed)
1st Wednesday at 1:00 PM

	Addresses	Home Numbers	Cellular Numbers	Email Addresses	Date of Appointment	Date Term End
Diane Matthewman	1109 Bel Air Drive Apt. #5 Sub Div: El Dorado	None	954-240-6268	Dmat7200@bellsouth.net	6/15/2021 Reappointed	4/30/2024
Virginia Eastwood-Egan	1011 Bel Air Drive Sub Div: Lloret De Mar Condo	None	561-543-1234	gini1011@gmail.com	6/15/2021	4/30/2024
Margarita Chappelear	1015 Bel Air Drive, #1 Sub Div: Casa Del Lago Condo	None	571-438-2299	maggiechappelear@gmail.com	6/15/2021	4/30/2024
Leonard Brenner	4748 S Ocean Blvd, #1003 Sub Div: Dalton Place Condo	570-459-1734	570-578-2486	Lennybrenner@gmail.com	6/15/2021	4/30/2024
Nicole Stansfield	3604 S Ocean Blvd, #101 Sub Div: Highland Beach Club	None	970-481-3528	stansnikki@outlook.com	9/21/2021	4/30/2024
Joshua Davison	1015 Russel Dr #D Sub Div: Shamrock I Condo	None	305-984-3625	idavison0815@gmail.com	5/17/2022	4/30/2025
Vacant (Unexpired Term Ending 04/30/2024)						

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