

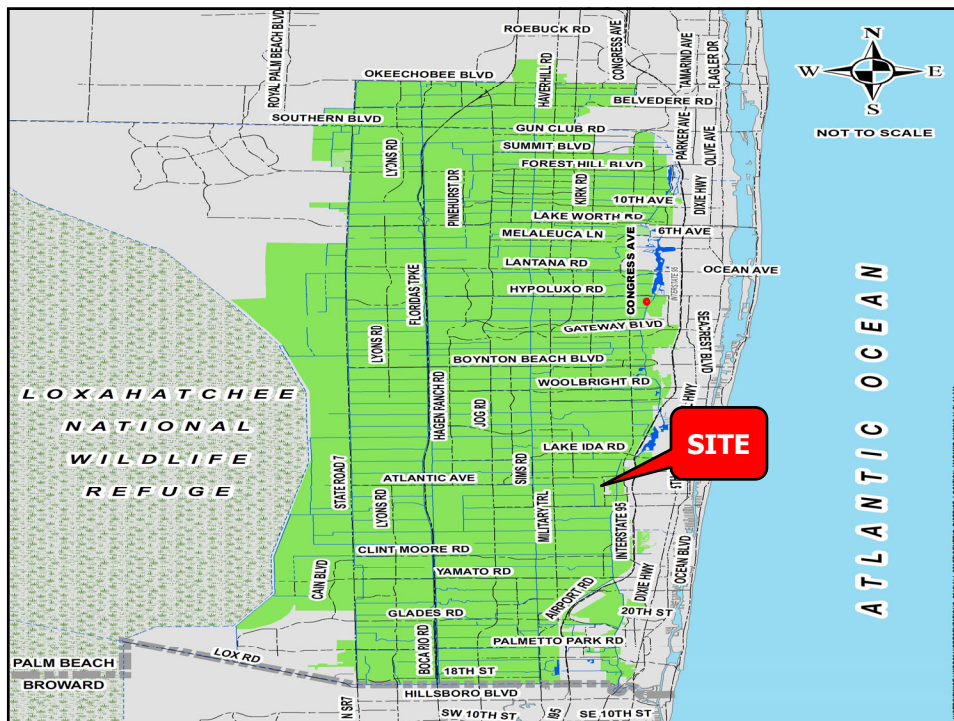
## City of Delray Municipal Golf Course - request for an existing .5-acre Banyan Tree to remain within the west right-of-way of the E-4 Canal.

Project #RW-26-0011

Nicole Smith, Permit Supervisor  
 Board Meeting – February 11, 2026  
 Agenda Item #**DRAFT**



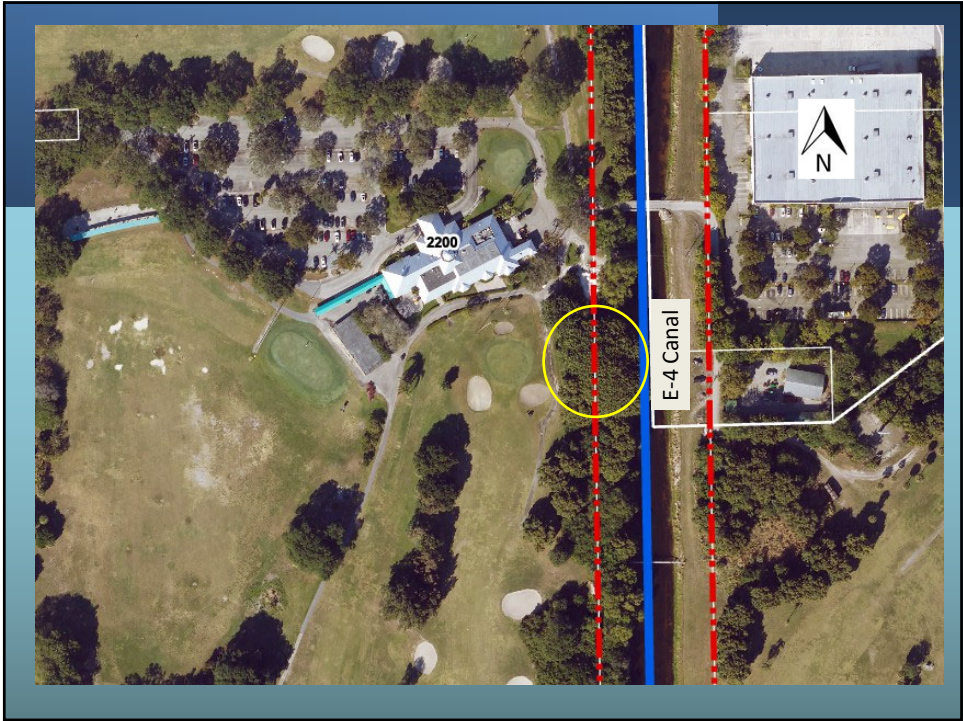
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## Golf Course History:



- **May 1994:** City of Delray Beach appeared before the LWDD's Board to enter into a License Agreement for the existing Employee Parking and Golf Tee to remain within the right-of-way. Staff recommended the Parking to remain until other arrangements are made, subject to removal of the Tee and Tree Encroachments as soon as possible.
- **August 1994:** Susan Ruby, Esq. City of Delray Beach Attorney sent letter to LWDD
  - Letter requested changes to the Encroachment Agreement approved at the May board meeting
  - Request the golf tee and tree encroachments to remain in the E-4 Canal Right-of-Way until LWDD required removal, at the City's expense
  - Requested edits required board approval and was scheduled for the September 1994, board meeting
- **September 1994:** LWDD's Board of Supervisors approved the City's request to allow the encroachments to remain in the right-of-way until LWDD requires their removal; as stated in condition of the Encroachment Agreement
- **October 1994:** LWDD and City of Delray Beach enter into an Encroachment Agreement (ORB 8474, PG 1286) for an existing Golf Tee and Employee Parking
  - City of Delray Beach agreed to have the Golf Tee and Tree Encroachments removed from LWDD's Right-of-Way within ninety (90) days of written notice from LWDD at their expense
- **March 1996:** Encroachment Agreement was extended for One Year (ORB 9254, PG 786, dated April 23, 1996) from March 13, 1996, to March 13, 1997

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## Golf Course History (cont.):



- **January 1997:** LWDD and City of Delray Beach enter into a Second Amendment to Encroachment Agreement (ORB 9697, PG 1355, dated February 25, 1997) extended the agreement for Three Years from January 15, 1997, to January 15, 2000
- **March 2001:** David Harden, City Manager sent letter to LWDD
  - Requesting a ten (10) year extension for the twenty (20) parking spaces and golf tee
- **April 2001:** Board approved a five (5) year extension instead of the requested ten (10) years
- **June 2001:** LWDD and City of Delray Beach enter into a Third Amendment to Encroachment Agreement (ORB 12678, PG 1847) extended the agreement for Five Years from April 11, 2001, to April 11, 2006
- **February 2003:** Robert Barcinski, Assistant City Manager sent letter to LWDD
  - City executed contracts for golf course renovations
  - Relocated the first tee box out of right-of-way, but not the parking lot
  - Requesting a permanent encroachment agreement for the employee parking lot within the right-of-way
- **April 2003:** Board approved employee parking lot to remain until LWDD notified the City of its removal. LWDD will start excavation of the E-4 Canal ~May 2003
- **May 2003:** LWDD and City of Delray Beach enter into a Fourth Amendment to Encroachment Agreement (ORB 15269, PG 1718)
  - Per April 2003 Board approval condition was added that the parking lot will remain until such a time that LWDD may reasonably require removal

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## Delray Golf Course Redevelopment



- **January 2025:** Pre-app meeting held to discuss permitting
- **June 2025:** City of Delray Beach applied for Right-of-Way Permit for the Repair and Replacement the Two (2) bridges (RW-25-0136 - Issued)
  - Under this permit, the City was to clear all vegetation from the west right-of-way of the E-4 Canal
  - During removal of the vegetation, the City decided they wanted the Banyan Tree to remain
- **August 2025:** City of Delray Beach applied for Right-of-Way Permit for an Irrigation Connection (RW-25-0193 - Issued)
- **August 2025:** City of Delray Beach applied for Right-of-Way Permit for Utilities (RW-25-0194 - Issued)
- **November 2025:** City of Delray Beach applied for Right-of-Way Permit for a Drainage Outfall Connection and to provide LWDD with maintenance access (RW-25-0281 - Pending)
- **January 2026:** City of Delray Beach applied for Right-of-Way Permit for the Banyan Tree to remain (RW-26-0011 – Pending)

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## Permitting Considerations



- Risk and extent drainage impacts
- Liability – Indemnification & Insurance
- Prioritization of removal – canal v. other public infrastructure
- Timeframe for removal
- Regular maintenance

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## City of Delray Beach Response:



- **Any arborist report** prepared for the City of Delray Beach regarding the Banyan Tree
  - Tree Preservation Assessment was provided (01/27/2026) via email; report did not evaluate risk of location on canal bank
- **Contingency Plan** for Emergency Tree Removal the City of Delray Beach will have in place prior to a storm event
  - The City will use existing contracts already in-place with certified debris removal companies
- **24-hour emergency contact information** including names, titles, 24-hour contact details for individuals with authority and the capability to remove obstructions or otherwise implement emergency measures necessary to restore canal design flow at any time, 24 hours a day, 7 days per week
  - Michael Karali, Deputy Director of Public Works, 561-504-7511 (mobile), [karalim@mydelraybeach.com](mailto:karalim@mydelraybeach.com)
- **A description of specific protocols** the City will implement to ensure an adequate level of flood protection during the removal of the Banyan Tree from the E-4 Canal in a storm event including mitigation of flooding upstream of the blockage. The plan should also provide specific means and methods for providing continuous uninterrupted design channel flow capacity during the entire removal process.
  - The City will use existing contracts already in place with certified storm debris removal companies. Their approach is dictated by their means and methods
- **A detailed outline of the steps and processes** the City will use to remove the Banyan Tree from the E-4 Canal during a storm event, including but not limited to, specific equipment (models, sizes, lifting capacity, pump capacities, etc.), location of staging areas, disposal sites, etc.
  - The City will use existing contracts already in place with certified storm debris removal companies. Their approach is dictated by their means and methods

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## Recommendation



- *Denial of right-of-way permit application submitted by the City of Delray Beach requesting approval to keep an existing ½ acre Banyan Tree within the right-of-way of the E-4 Canal*
- *LWDD will require the Banyan Tree and all other encroachments to be removed within 30 days*

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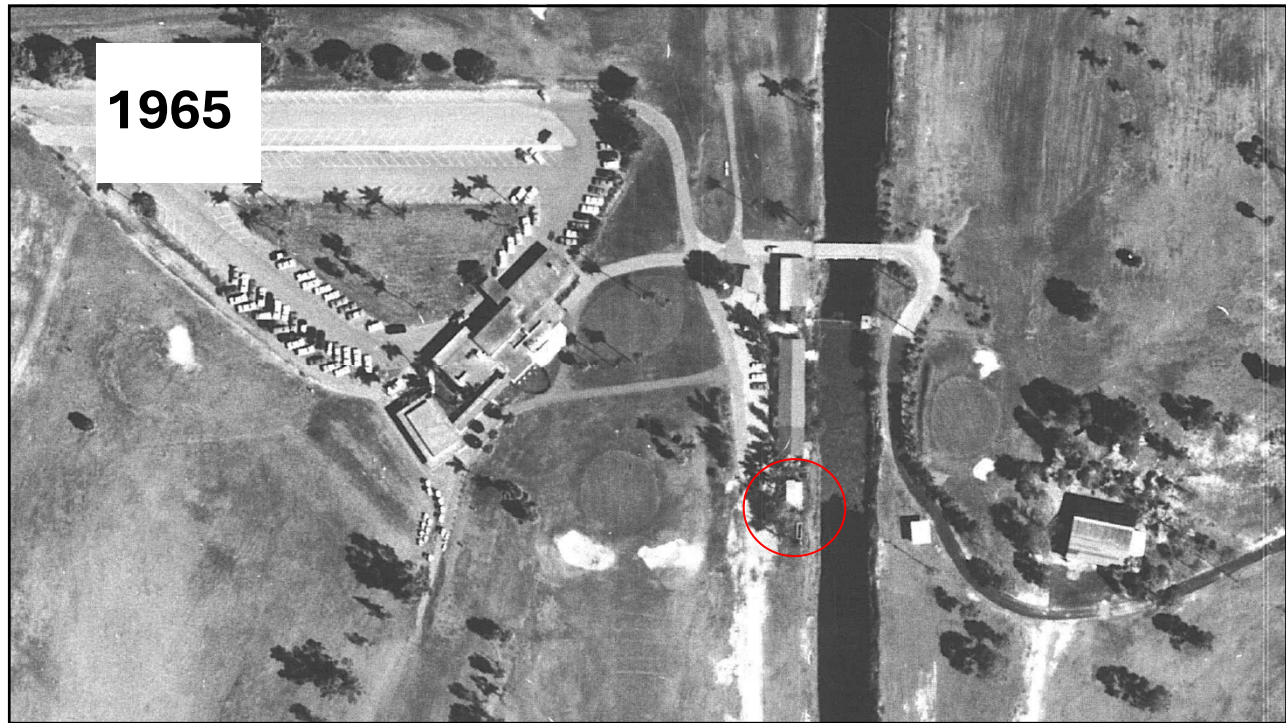
## Tree Risk Assessment

Tommy Strowd



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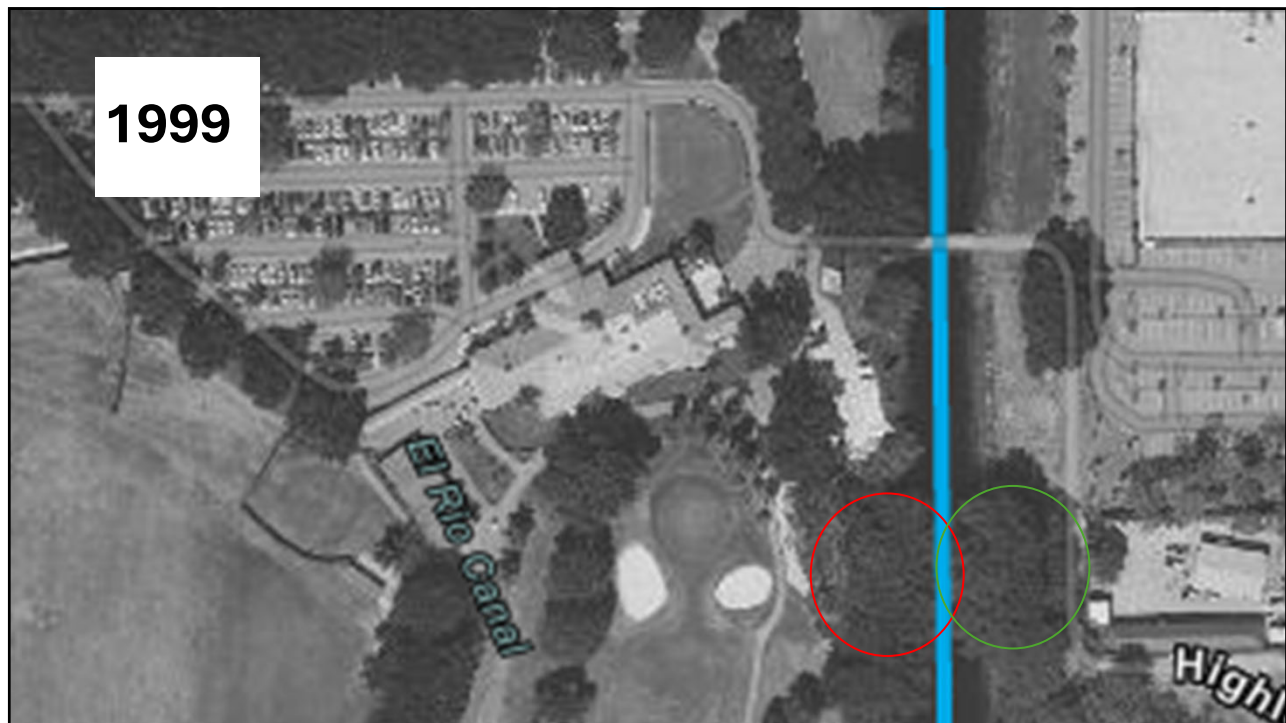
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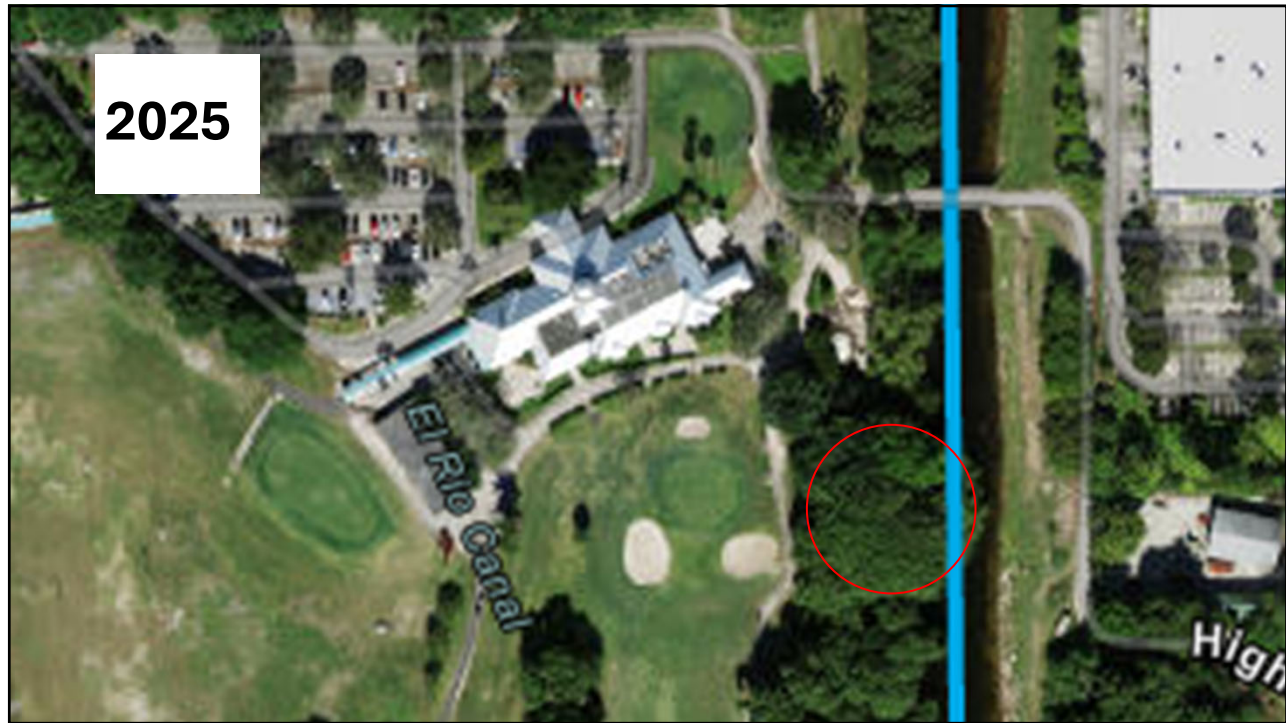


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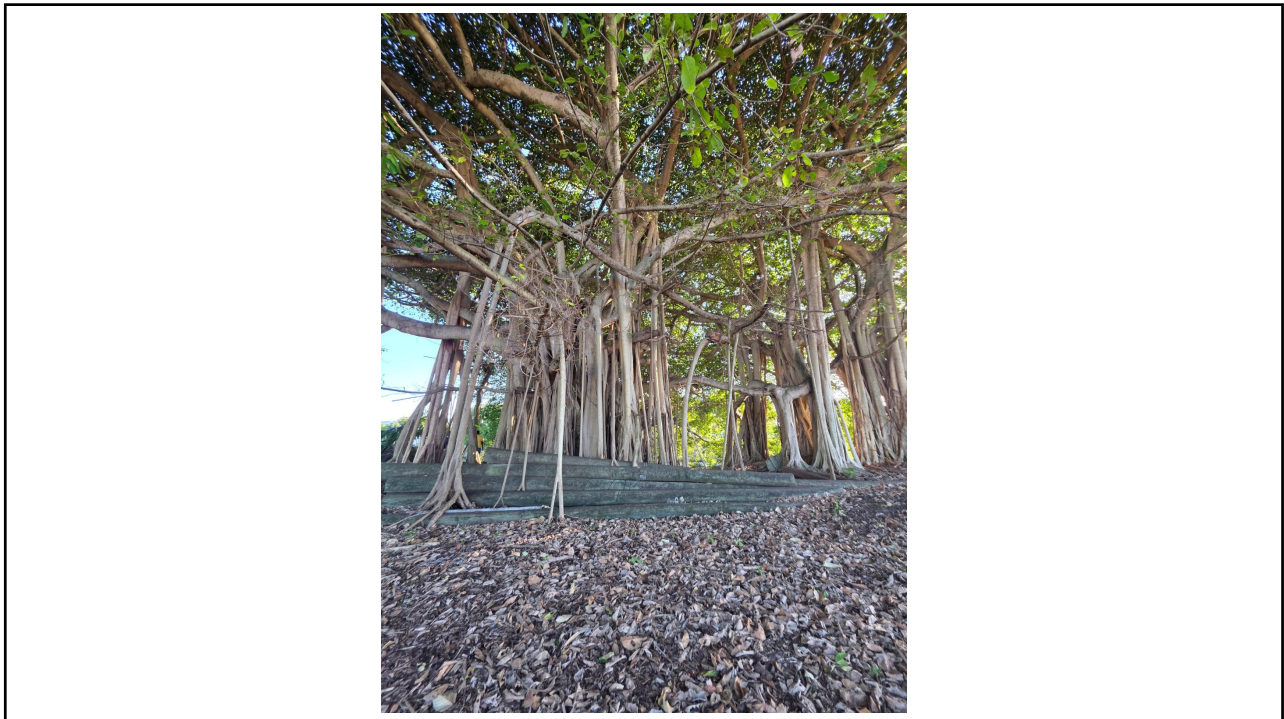


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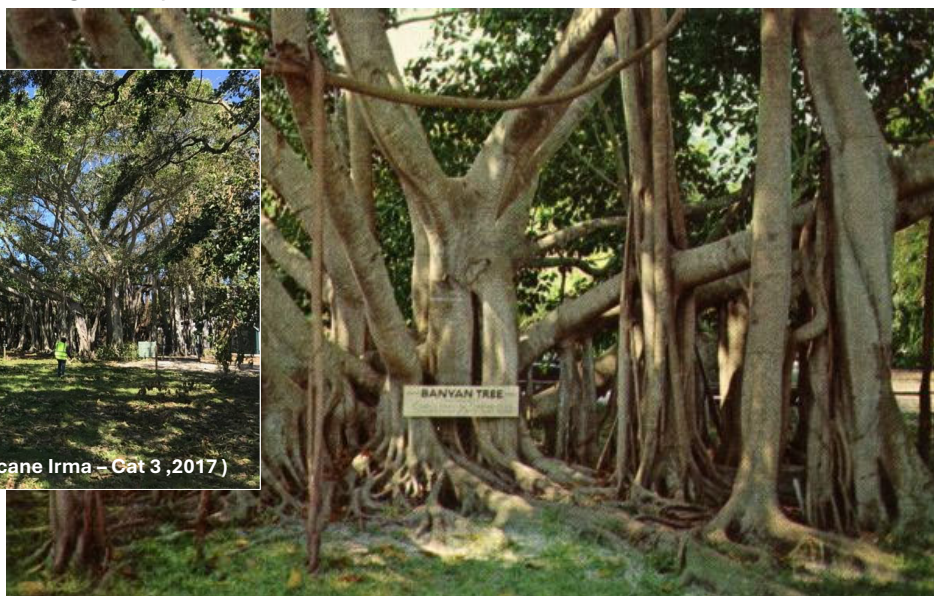
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## **'EDISON' BANYAN TREE – FT. MYERS**

**Largest Banyan Tree in the Continental United States**

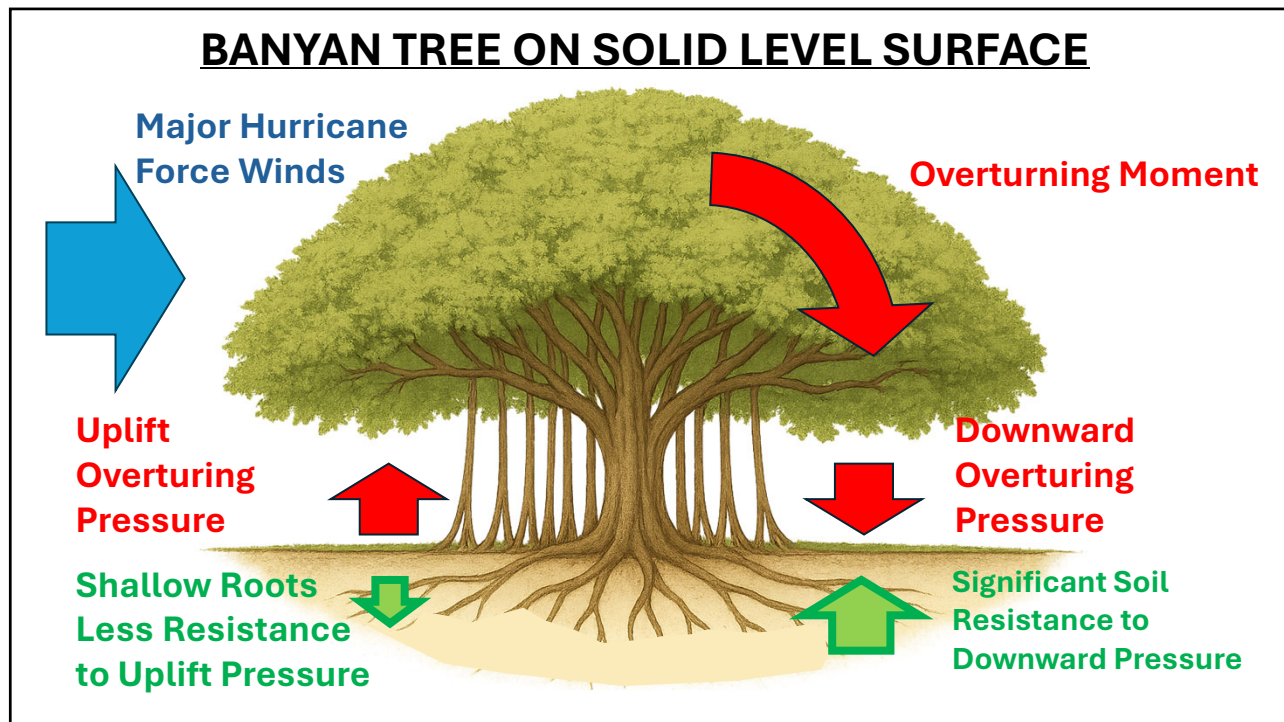


Minimal Damage After Hurricane Irma – Cat 3 ,2017)

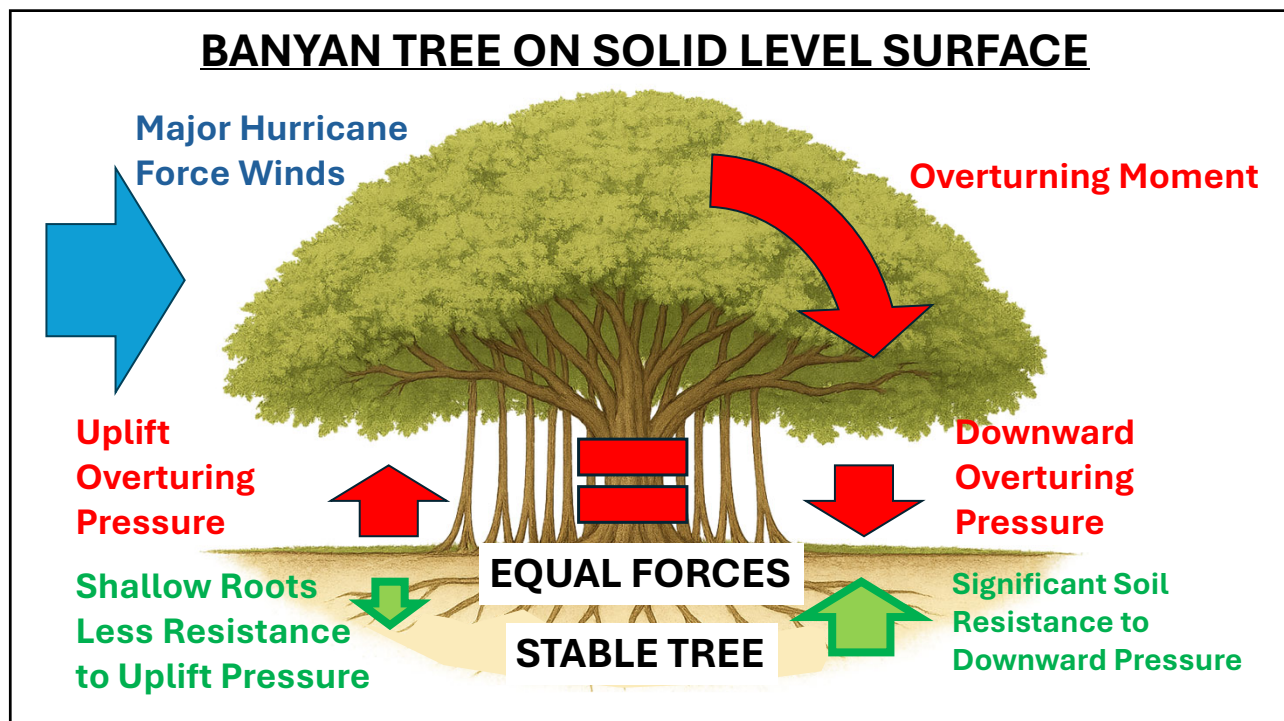


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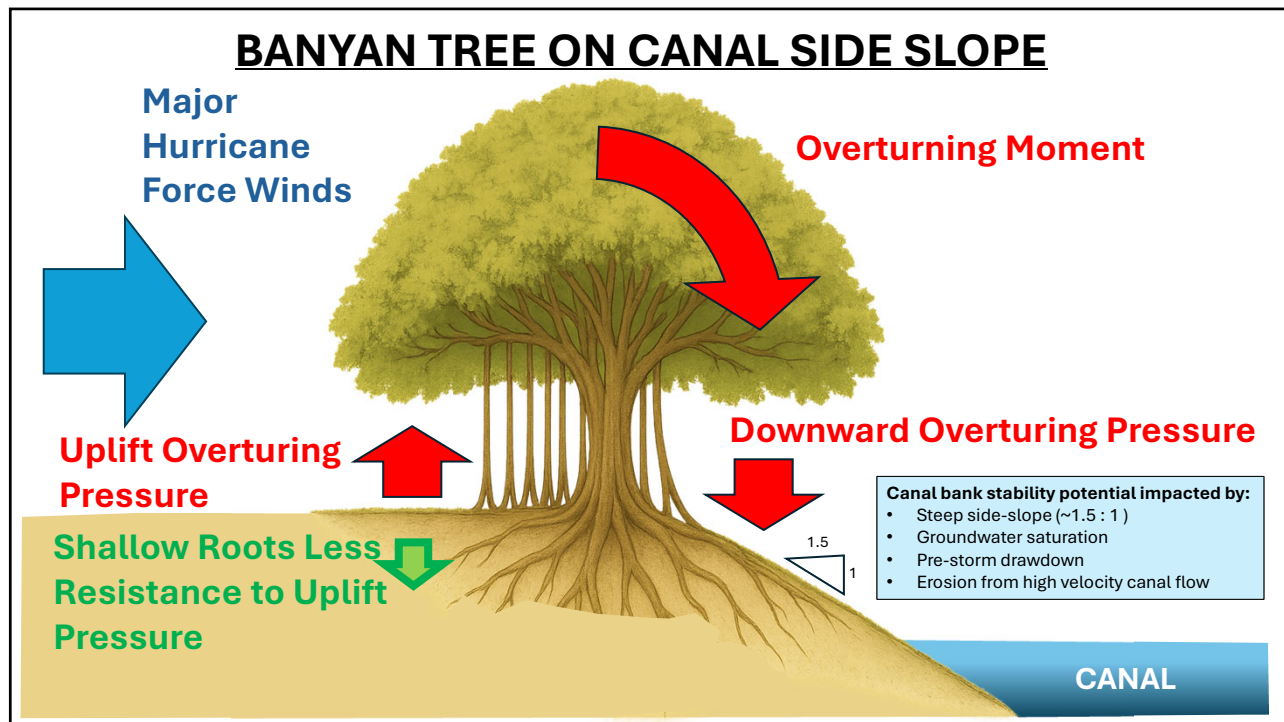




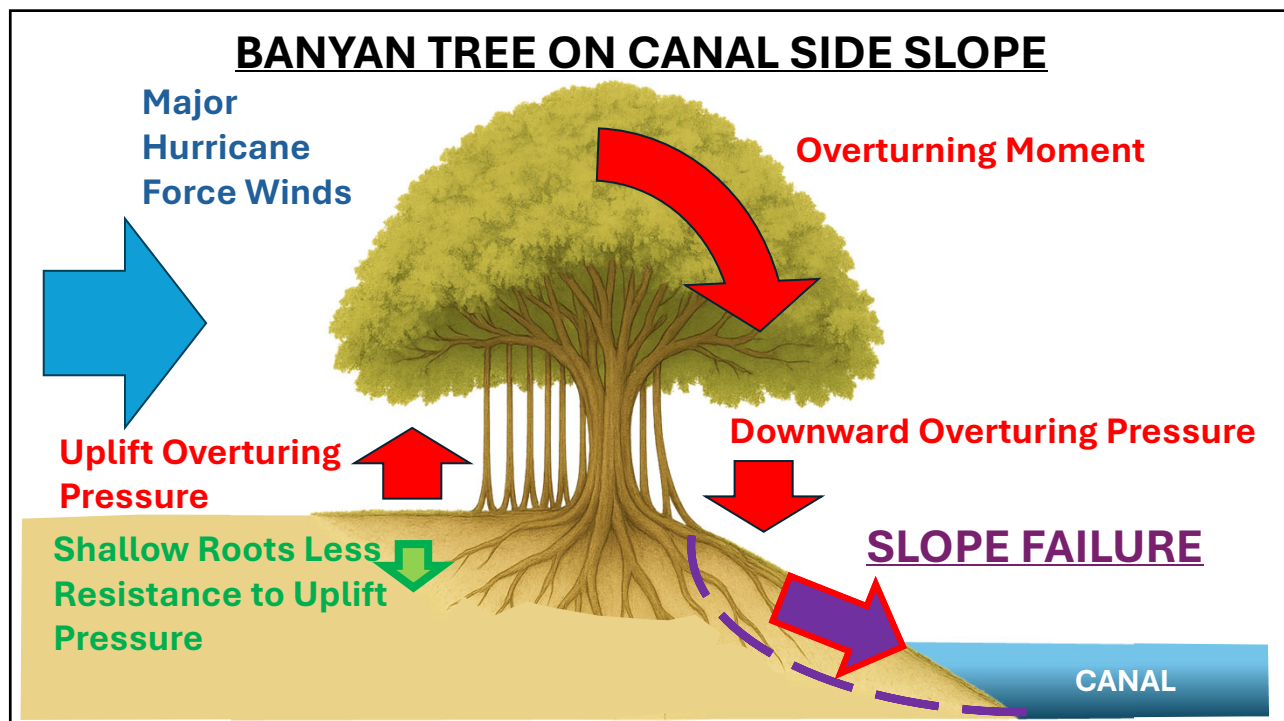
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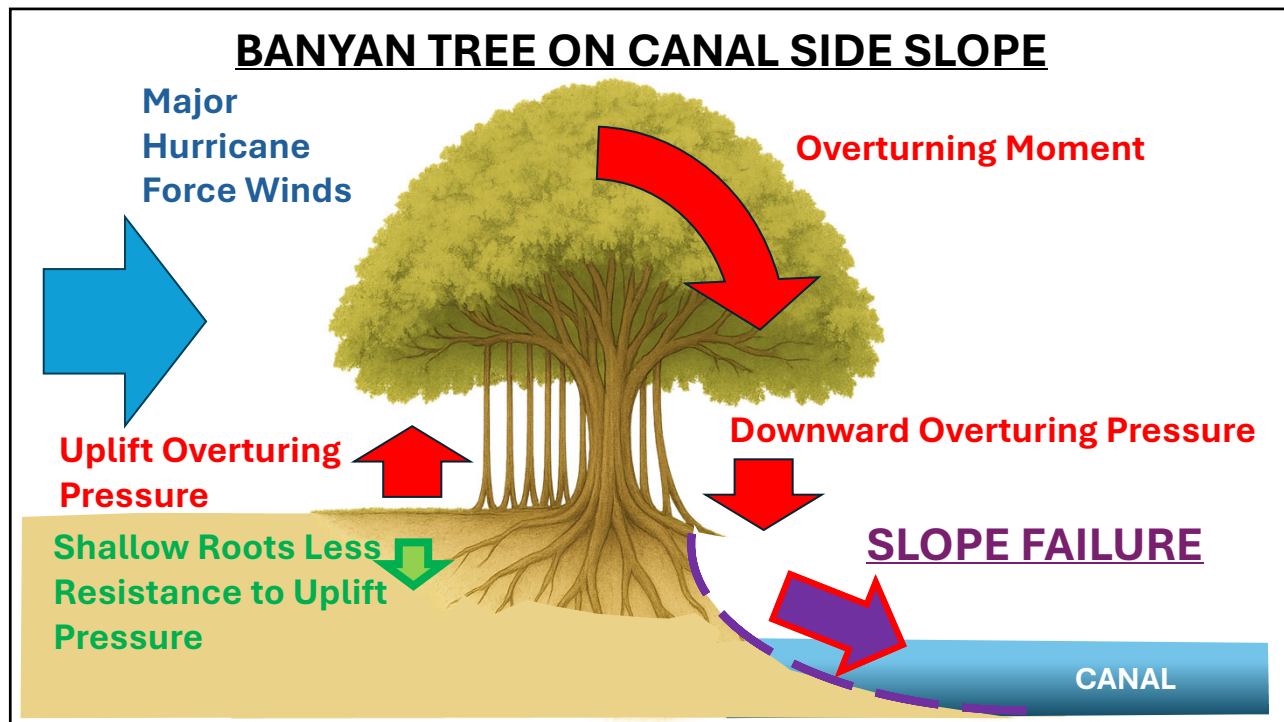


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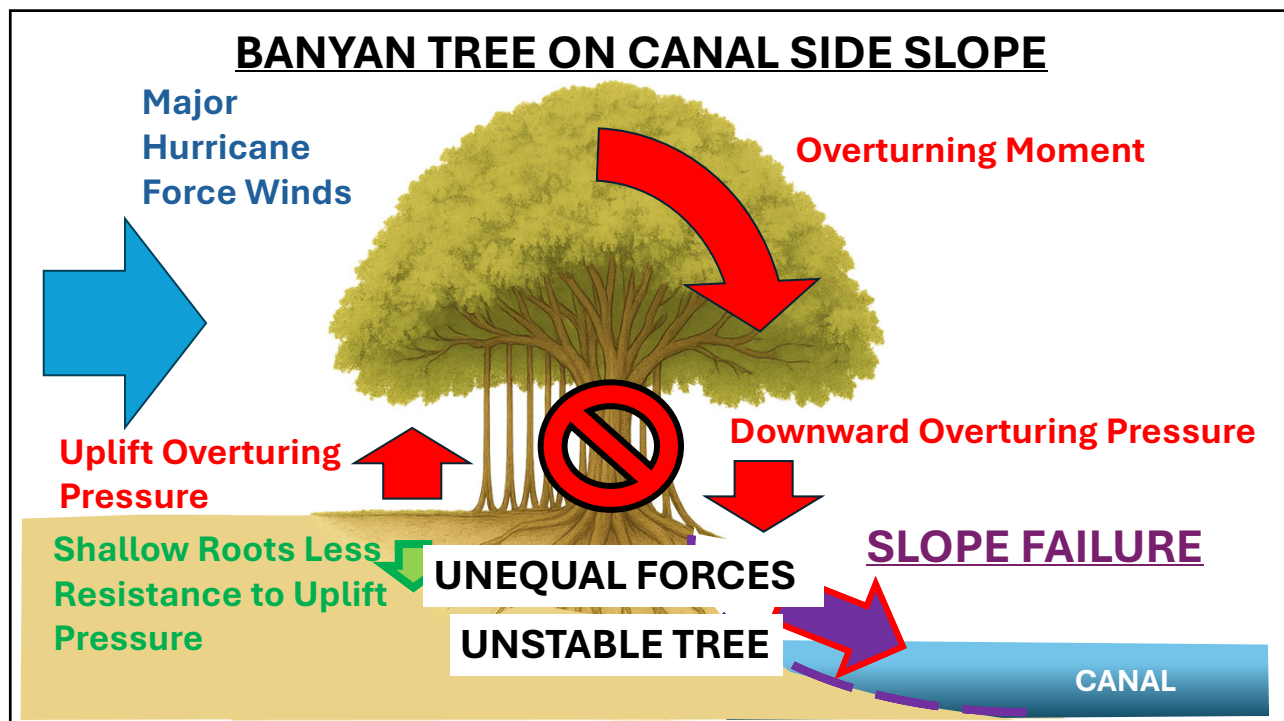


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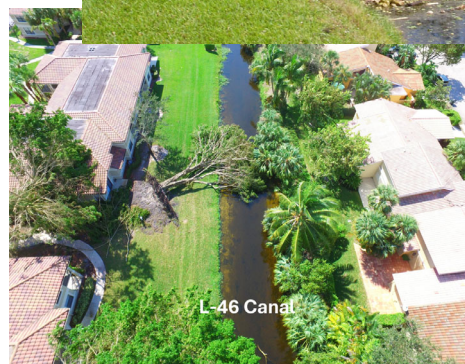
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## Fallen Trees Impose a Huge Flood Risk in South Florida Canal Networks

- Hurricanes impose the **combined risks** of...
  - Excessive wind
  - Excessive rain
- The blockage of canal flows during heavy rainfall events is a primary concern in a post-storm storm response
  - Maintenance crews can't respond until Tropical Storm force winds have subsided
  - Mobilization of heavy equipment may be delayed due to flooding, downed trees, electrical transmission facilities, etc. in streets and rights-of-way
  - Removal of submerged vegetation and other debris is hampered by high flows
  - **Flooded areas could take days to recover from high stages caused by blocked canals**



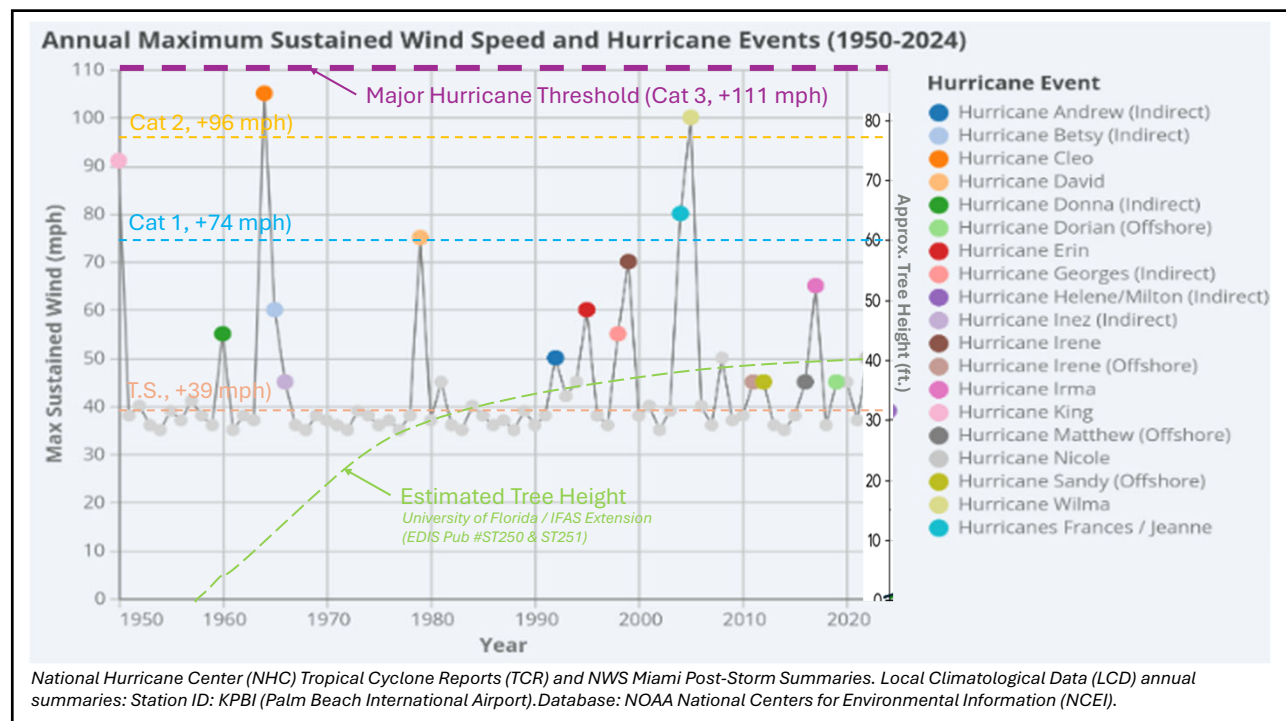
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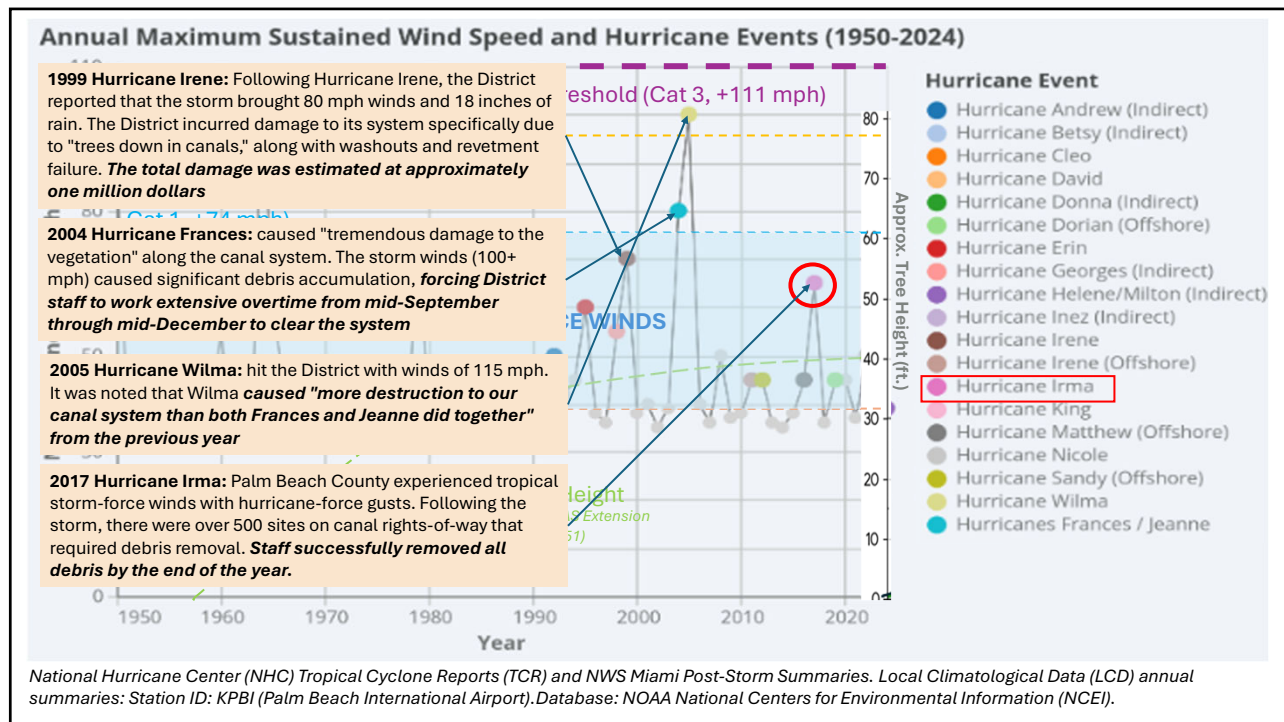
## History of Hurricane Force Winds in S.E. Palm Beach County

- Based on records from the National Oceanic and Atmospheric Administration (NOAA) and the National Weather Service (NWS), **no hurricane since 1950 has officially verified sustained Category 3 winds (111+ mph) or greater, specifically within Southeast Palm Beach County (Boca Raton, Delray Beach, Boynton Beach).**
- While several "Major Hurricanes" (Category 3 or higher) have made landfall in Florida and impacted the region, the official sustained wind speeds recorded in Southeast Palm Beach County for these storms have historically fallen into the Tropical Storm, Category 1 or Category 2 range.

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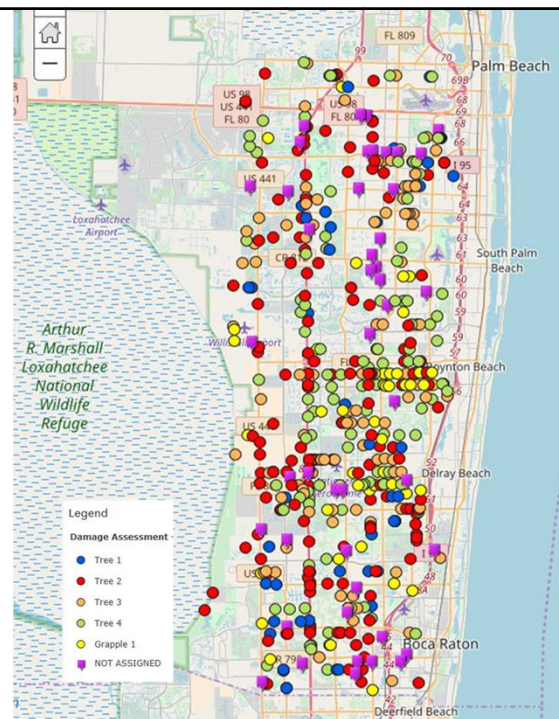
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## Fallen Trees Impose a Huge Flood Risk in South Florida Canal Networks

- Hurricane Irma (Sept. 2017) resulted in 500 fallen trees / vegetation due to tropical storm force winds in LWDD
- The blockage of canal flows during heavy rainfall events is a primary concern in a post-storm emergency response
- Recovery operations took approximately 4 months to complete



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## Impacts of Deferred Maintenance

- **FEMA Funding Eligibility:** Following the recovery from Francis, Jean & Willma, the Federal Emergency Management Agency (FEMA) and the Natural Resources Conservation Service (NRCS) indicated that future reimbursement for debris removal would be jeopardized if the District did not maintain clear rights-of-way.
  - **The District was advised that it must demonstrate a proactive maintenance program to remain eligible for federal disaster assistance**
- In response, LWDD initiated the '*Critical Path Program*' in 2006 to clear ROW of vegetation
- Efforts were accelerated in 2014 with the implementation of the '*Canal Rehabilitation Program*'
  - Phase I - Tree Removal (completed in 2025)
  - Phase II - Canal Reconstruction (ongoing)

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What could happen *IF* a Cat 5 storm hit southeastern Palm Beach County?....



A.I. Generated Image of Possible South Florida Hurricane Damage (CAT 5 ~Dorian, 2019)



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## Hurricane Andrew 1992

- Cat 5 Force Winds
- Miami-Dade County

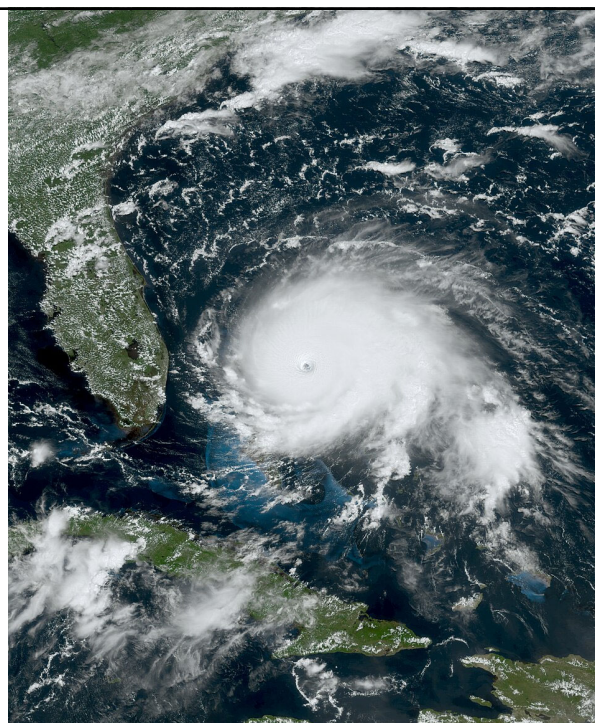


Source: SFWMD

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## Hurricane Dorian (2019) Category 5

- The most intense hurricane on record to strike the Bahamas.
- It is tied with the 1935 Labor Day Hurricane and Hurricane Melissa in 2025 for the strongest landfall in the Atlantic basin in terms of maximum sustained winds.

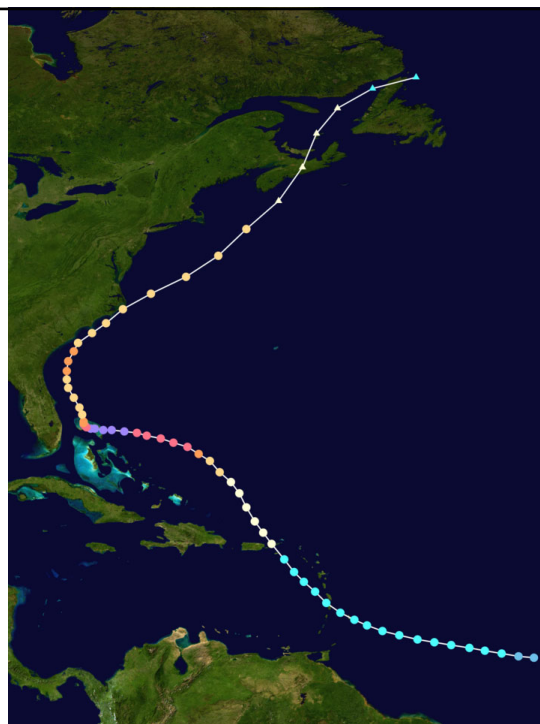


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## Hurricane Dorian (2019)

- Slow moving, Category 5 Major Hurricane impacting the Bahamas.
- Storm stalled over the Bahamas for over 48 hours
  - 185 mph sustained winds
    - Gusts reaching 220 mph
  - 23 – 24 inches of Rainfall
- Was on a direct track to impact S.E. Palm Beach County
  - The 'Bermuda High' collapsed as the storm moved westward off the coast of the Bahamas causing an abrupt course shift to the north



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## Hurricane Wilma - Okeechobee



Source: SFWMD

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## Hurricane Irene (2011) - Tropical Storm Force Winds



Source: SFWMD  
Miami-Dade County: C-7 tree removal.

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## Hurricane Irene (2011) - Tropical Storm Force Winds



Source: SFWMD  
Miami-Dade County: C-7 tree removal.

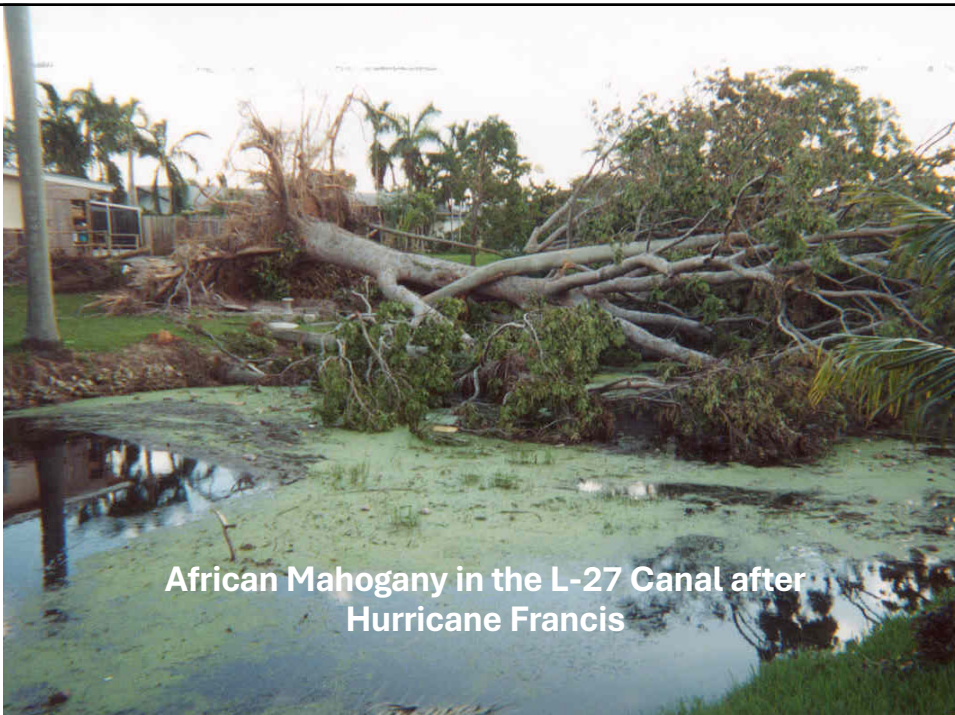
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## Hurricane Irene (2011) - Tropical Storm Force Winds

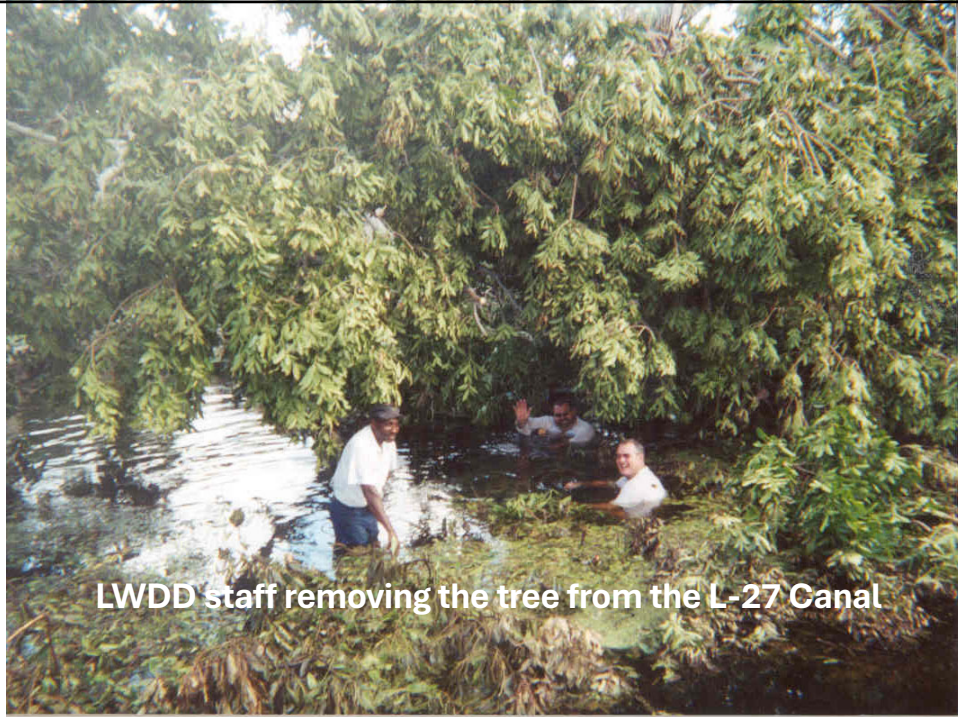


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LWDD staff removing the tree from the L-27 Canal

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E-3 Canal, North of L-38 Canal

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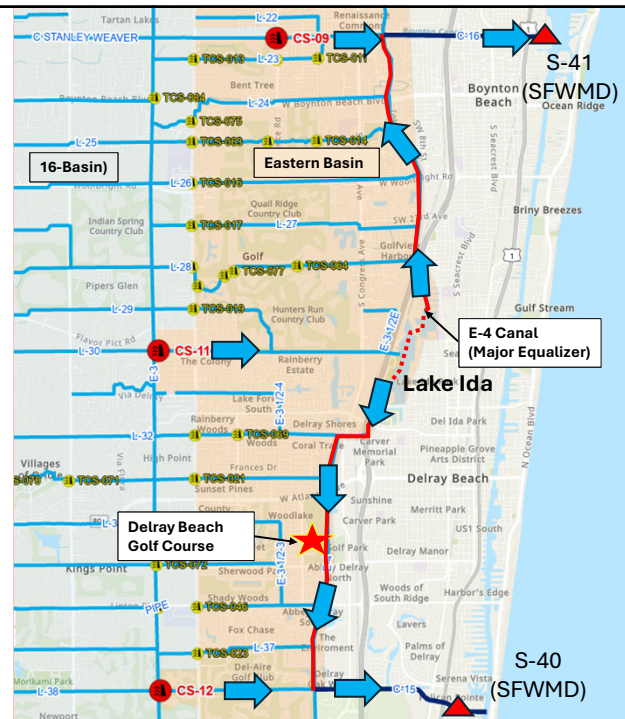




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## **LWDD FLOOD CONTROL SYSTEM**

- Eastern Basin along I-95 Corridor
- Primary LWDD Outfall: E-4 (Equalizer Canal)
- Coastal Discharge: SFWMD C-15 & C-16 Canals (S-40 & S-41 Control Structures)
- Receives significant stormwater inflow from LWDD 16-Basin

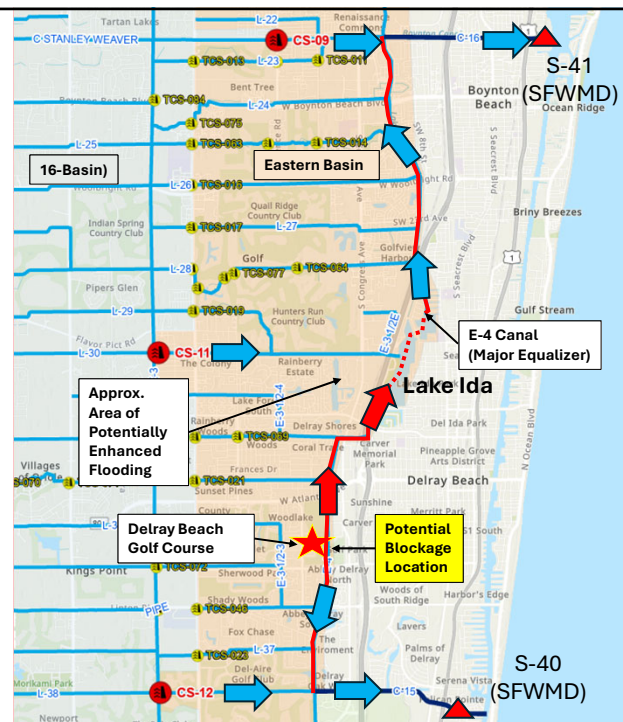


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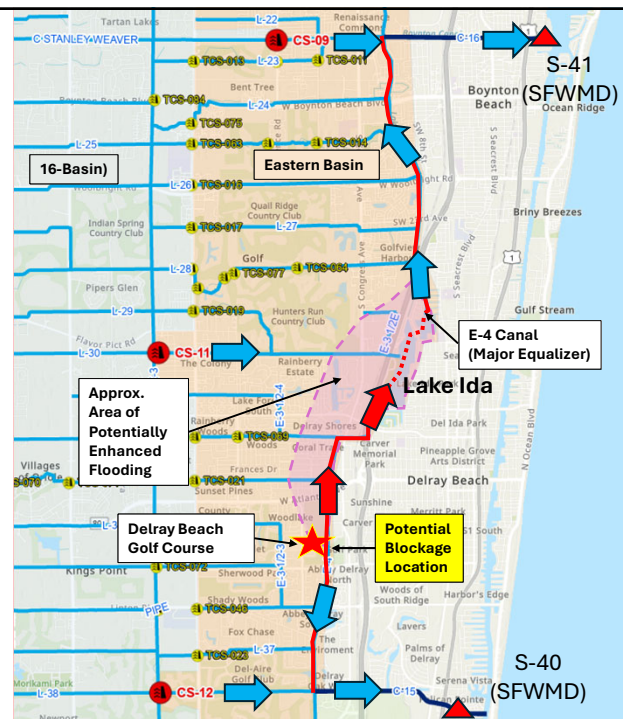
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- Blockage in the E-4 would force flood flows to take a longer northward conveyance route, increasing the flow path and associated flood stage gradients -- **potentially worsening flood impacts to adjacent communities in the Eastern Basin.**



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