

## Harris Chain of Lakes Restoration Council – February 2019

### Project Updates

#### 1. Lake Apopka North Shore Levee Improvements:

- a. The budget for this project is \$1,160,000, and it is funded by District sources.
- b. An update for this project was provided at the October 2018 council meeting
- o Project Overview:
  - This project is to design and construct improvements to the Lake Apopka North Shore lake levee (levee that separates the lake from the NS) to raise the levee from the existing elevation, ranging on average from 68 to 69 feet, to elevation 70 and provide additional levee protection with rip-rap
- o Benefit:
  - This levee is an operational necessity for the management of water on the NS
  - Allows the continued use of the levee and North Shore for public recreational uses (hiking, biking, and wildlife drive)
- o Status:
  - The project is slated to begin construction in late February or early March, pending approval from the Governing Board
  - The project is expected to be complete in the Summer 2019

#### 2. Lake Apopka Innovative TP Removal (was listed as the project placeholder):

- a. The budget for this project is \$1,160,000 and is funded by DEP through legislative appropriations
- b. An update for this project was provided at the November 2018 council meeting
- o Project Overview:
  - This is a “pay-for-performance” project
  - The contractor will utilize an innovative treatment technology, and the District will pay a pre-negotiated rate of \$115 for each pound of TP removed from Lake Apopka’s water column
- o Benefit:
  - Removal of up to 10,000 LB TP from Lake Apopka over a two-year period
- o Status:
  - This project was approved at the November Governing Board meeting, and a contract was awarded to Phosphorus Free Water Solutions, LLC
  - The vendor will continue permitting with appropriate agencies and is beginning site assessments. Facility planned to begin operation October 2019

#### 3. Lake Apopka SAV Restoration:

- a. This project is funded by DEP through legislative appropriations, and the budget for this year is \$250,000. The total project cost is \$750,000 because this project has a three-year duration with a budget of \$250,000 a year

- b. This contract with the University of Florida was approved at the October 2017 Governing Board Meeting
- o Project Overview:
  - The overall goals are to re-establish viable beds of submerged aquatic vegetation (SAV) within nearshore areas of the lake, to document viability and growth of the beds, and to assess conditions that promote or limit establishment, persistence, and expansion of the SAV.
- o Benefit:
  - A primary goal for restoring a healthy lake is re-establishing dense SAV beds. This helps to stabilize sediments, improve water clarity, and provide nursery habitat and forage sites for fish, turtles, and benthic organisms. Gaining a better understanding of how SAV can be reintroduced successfully and what environmental conditions limit growth and survival of SAV under Lake Apopka conditions is paramount for in-lake restoration efforts.
- o Status:
  - Year 2 of a 3-year contract.
  - Ongoing work:
    - In-lake plantings
    - Testing planting techniques
    - Monitoring plantings for survivorship
    - Assessment of the seedbank of Lake Apopka
  - The completion date is September 2020

**4. Lake Apopka Unconsolidated Floc Removal:**

- a. This project has been funded by FDEP and FWC through legislative appropriations, and the budget for this year is \$562,000 for Phase 4. The total project cost is \$2,463,041
- b. The contract for this project was approved at the August 2014 Governing Board meeting, and the contract was extended at the July 2017 Governing Board meeting.
- c. You may remember, Bob Naleway presented this project to the Council during the October 2017 meeting. An update was also provided during the October 2018 council meeting.
- o Project Overview:
  - The goal is the removal of unconsolidated flocculent sediment from Lake Apopka using a pumped system
  - The target areas for the pumping have been along the shore of the NS in areas where SAV has a high growth potential
  - Currently on Phase 4 (have completed 3 phases)
- o Benefit:
  - Removal of unconsolidated floc, which is easily resuspended into the water column
  - Floc impedes light availability for aquatic resources and reduces the expansion of submerged aquatic vegetation, which provides critical fisheries habitat
- o Status:
  - Phase 4 to begin in February and will be completed by July 2019

## **5. Lake Apopka Vegetation Restoration:**

- a. This District project is funded by FWC through legislative appropriations for \$200,000
- b. An update for this project was provided at the November 2018 Council Meeting
- o Project Overview
  - The purpose of this project is to restore aquatic habitat in Lake Apopka by planting floating-leaved emergent plants, including spatterdock, white water lily, and American lotus.
- o Benefit
  - As with the SAV Restoration project, a primary goal for restoring a healthy lake is re-establishing aquatic habitat to help stabilize sediments, improve water clarity, and provide nursery habitat and forage sites for fish, turtles, and benthic organisms. Natural aquatic habitats support the greatest abundance and richness of species and support local fisheries. Emergent plants also reduce wave action, which provides additional levee protection.
- o Status
  - This project was approved at the December Governing Board meeting, and the contract was signed in January. The contractor is beginning work on the planting plan.
  - Completion date is September 2019

## **6. North Shore Infrastructure Improvements:**

- a. This project is funded by DEP through legislative appropriations. The budget for FY19 is \$1,050,000, and the total budget for this project is \$2.1 M
- b. Once the design is complete, the Request for Proposals will be advertised. Award of contract requires governing board approval.
- o Project Overview:
  - The purpose of this project is to design and construct improvements to the North Shore infrastructure to allow the storage of more water on the North Shore and reduce the discharge of phosphorus-rich water from the NS to Lake Apopka
  - Specific improvements include:
    - Raising roads around the 2,000-acre Phase 4 portion of the North Shore
    - Improving access to the existing pump station and lake levee
    - Construction of a pump station to pump excess water from the other 7,000 acres of the North Shore into the Phase 4 area
- o Benefit:
  - These improvements are an operational necessity for the management of water on the NS
  - Improve the management of water within the NS to encourage desirable wetland vegetation
- o Status:
  - The project is currently being designed and permitted

- Completion date is the end of 2020

#### **7. Lake Apopka Sump Dredging:**

- a. This project is funded by FWC through legislative appropriations. The budget for this year is \$1.9M, and the total project cost is \$4,455,270
  - b. The contract for this project was approved at the August 2014 Governing Board meeting, and the contract was extended at the July 2017 Governing Board meeting.
  - c. You may remember, Bob Naleway presented this project to the Council at the July 2018 meeting and October 2017 meeting.
- Project Overview:
    - Dredging of a sump in the northwest portion of Lake Apopka to capture unconsolidated flocculent sediments. Also includes dredging a connection between the sump and the mouth of the AB Canal, which will help improve access to the lake.
  - Benefit:
    - The sump is intended to be a catchment sump to collect unconsolidated floc for future removal
    - As mentioned before, the floc is easily resuspended into the water column, impedes light availability for aquatic resources, and reduces the expansion of submerged aquatic vegetation
  - Status:
    - Sump dredging is complete. The navigation dredging will begin upon permit issuance from the Corps and is expected to be completed by July 2019.