

FINAL

**MINUTES OF THE MEETING
of the
HARRIS CHAIN OF LAKES RESTORATION COUNCIL
April 7, 2017**

The regular meeting of the Harris Chain of Lakes Restoration Council (Council) was held at 9:01 a.m. on April 7, 2017 at the Lake County Board of County Commissioner Chambers, 315 West Main Street, Tavares, Florida.

Council Members Present

Robert Johnson, Chairman
Skip Goerner, Vice-Chairman
Don Nicholson, Secretary
Sid Grow
Keith Truenow
Stephanie Bishop
John Stump

Council Members Absent

Vacant, Attorney
Vacant, Physician

TAG Members Present

Rolland Fulton (St. Johns River Water Management District, SJRWMD)
Dennis Renfro (Florida Fish and Wildlife Conservation Commission, FWC)
Mike Perry (Lake County Water Authority, LCWA)
Kevin Coyne (Florida Department of Environmental Protection, DEP)

TAG Members Absent

Mark Hoyer (University of Florida, UF)

1. CALL TO ORDER

Chairman Johnson called the meeting to order at 9:01 a.m.

2. INVOCATION AND PLEDGE OF ALLEGIANCE

Councilman Nicholson gave the invocation. The Pledge of Allegiance followed.

3. COUNCIL ROLL CALL; REMINDER FOR OTHERS TO SIGN IN

Chairman Johnson called the roll.

4. REMINDER FOR OTHERS TO SIGN IN & FILL OUT SPEAKER CARDS

5. APPROVAL OF MINUTES

Minutes from March 3, 2017 were approved.

6. PRESENTATIONS / ACTION ITEMS

* Action items requested by council members are in bold.

A. Discussion of LCWA Response to Harris Council Letter Dated August 29, 2016, Dennis Renfro, FWC

Mr. Dennis Renfro, FWC, introduced Ryan Hamm, FWC regional fisheries administrator, Brian Hamm, then began discussion of the twelve questions sent to various agencies by the Harris Chain of Lakes Restoration Council. Mr. Renfro noted the FWC mission is to manage fish and wildlife resources for their long-term well-being and for the benefit of people. Mr. Renfro discussed a slide of the Harris Chain of Lakes area of interest, including Lake Apopka, Lake Dora, Lake Eustis, Lake Harris and Lake Griffin. The slide showed that lakes are on a ridge.

Mr. Renfro discussed question #1 from the Harris letter, pertaining to reconnection of the North Shore Restoration Area (NSRA). Mr. Renfro reported FWC supports the SJRWMD's response and defers to their analysis on reconnection.

Regarding question #2, dredging of the NSRA, Mr. Renfro noted the FWC supports the SJRWMD's response and defers to their expertise in this area.

Question #3 regarded proposals for establishing more aquatic plants. Mr. Renfro noted FWC agrees that aquatic plants are an essential component in lake management. It is a statewide challenging task of managing for the appropriate balance of emergent, floating, and submerged vegetation in public water bodies.

Mr. Renfro discussed the importance of aquatic plants and how they serve many purposes, including providing habitat for a multitude of species, reducing wave action and turbidity, and improving water quality through using dissolved nitrogen and phosphorus. Mr. Renfro noted when identifying areas that are appropriate for planting, suitable substrate for the roots to take hold are sought, as well as appropriate levels of dissolved oxygen, and sufficient sunlight to thrive. Mr. Renfro reported FWC has initiated a new process of using side scan technology to identify Submerged Aquatic Vegetation (SAV) in Florida Long Term Monitoring lakes. Lake Griffin and Lake Harris are included in this program. Mr. Renfro noted the program should allow for a detailed analysis of the vegetation coverage of numerous aquatic plants and help to identify areas that may benefit from additional planting. FWC will continue to work with partner agencies and the Council to improve in-lake habitat.

Mr. Renfro reported the submerged aquatic vegetation in Lake Apopka has shown a measurable increase; continued expansion of aquatic plants would be beneficial. Mr. Renfro discussed an FWC contract with Dr. Michael Allen, University of Florida, to conduct a habitat quality assessment to compare areas where restoration efforts have been conducted in comparison with unrestored shoreline habitats. The analysis will assess whether aquatic macrophyte plantings have expanded and improved aquatic habitat, with a comparison to high-quality habitat, and areas that lack substantial vegetation. This project should help inform future management efforts in the Harris Chain of Lakes.

Mr. Renfro noted FWC planning efforts are predicated on a transparent process that includes the needs of the habitat and species but also strives to meet the expectation of all stakeholders. FWC looks forward to continuing to collaborate with partner agencies, the Council and the public to work collaboratively to enhance the native vegetation throughout the Chain.

Regarding the Council's statement on "geotubes", Mr. Renfro noted the FWC concurs with the SJRWMD. The use of "geotubes" in the lake may not be the most efficient or cost effective approach to expanding vegetation in the lake. FWC will continue to work with partner agencies on exploring ways to improve in-lake conditions to allow for colonization and growth of native vegetation.

Chairman inquired about the extent of aquatic vegetation in Lake Apopka. Mr. Renfro noted vegetation is a combination of both submerged aquatic vegetation (SAV) and emergent vegetation. Mr. Renfro estimated total coverage of less than 5%. Vice-chairman Goerner indicated the Council is most interested in SAV. Mr. Renfro noted SAV areas of both eelgrass and *Vallisneria* on the northwest side of Lake Apopka.

Question #4 regarded water quality improvements that have stagnated due to the lack of rainfall and flushing of the lake. Mr. Renfro noted FWC supports the SJRWMD's response and continues to collaborate with the SJRWMD on the development of projects to improve water quality in Lake Apopka.

The efficacy of gizzard shad harvesting was the focus of question #5. Mr. Renfro reported FWC supports the SJRWMD's response and defers to their lead on harvesting gizzard shad.

Question #6 regarded attracting anglers to the Harris Chain of Lakes, in which Mr. Renfro reported FWC is working closely with the Lake County Director of Tourism to promote fishing on the Harris Chain of Lakes including attracting major tournaments and major fishing shows. During 2017 three major tournaments will be held on the Harris Chain of Lakes: B.A.S.S. Southern Open in January, Big Bass Tour in February and Walmart Fishing League Worldwide (FLW) Tour in March. Mr. Renfro also reported FWC is working with the Lake Apopka Ecotourism Committee to promote fishing and related outdoor activities to encourage more people to enjoy the recreational opportunities that Lake Apopka offers.

Mr. Renfro reported routine long term monitoring and sampling are conducted to evaluate the population status of sportfish in the lakes. Based on this ongoing evaluation, most the lakes in the Harris Chain have good recruitment of Florida largemouth bass and therefore are not candidates for stocking. Mr. Renfro noted there is a research project that is in the initial stages that is intended to evaluate the potential benefits of out of season stocking in Lake Apopka.

Vice-chairman Goerner expressed interest in the results of the stocking effort. Mr. Renfro reported no data is available yet, as fish are too small. Mr. Renfro indicated FWC was going to wait a year before determining survival rates. Councilman Grow commented that Mike Allen, University of Florida, had previously estimated a 90% plus predation rate. Mr. Renfro discussed a revised strategy in which fish are more broadly distributed to avoid birds and provide better protection. Vice-chairman Goerner agreed with the new strategy and was looking forward to reviewing the results of the stocking effort.

Mr. Renfro discussed out of season stocking, a new, innovative technique where largemouth bass are spawned during September and stocked in late fall, several months ahead of what typically occurs naturally. In highly eutrophic lakes with ample forage, such as Lake Apopka, there may be benefit to stocking out of season to allow Phase I fingerlings to establish and acclimate to conditions outside of a hatchery. Based on the findings, this may be an approach that the FWC considers in other Central and South Florida lakes. Mr. Renfro expects FWC to update the Council at the regularly scheduled meetings as the project progresses. Beyond the Florida largemouth bass, Mr. Renfro noted another

popular fishery in the Harris Chain of Lakes is the Sunshine bass that are routinely stocked by FWC. Last year, approximately 310,000 sunshine bass were stocked in Lakes Harris, Eustis, and Apopka. These fish provide an alternative to the other sportfish that are found in the lakes and are highly targeted by many anglers. Currently putting fish in hickory point.

Vice-chairman Goerner inquired about the hybridization of the sunshine bass. Mr. Renfro described the sunshine bass as a cross between white bass and striped bass that produce sterile fish that grow fast and are aggressive feeders. Councilman Nicholson noted sunshine bass stocked in Lake Apopka did not thrive due to a parasitic infection.

Mr. Renfro reported the sunshine bass grow to 3-5 lbs. quickly and provide good table fare. They are a popular fish to catch on Lake Harris. Kevin Coyne, DEP, reported the Florida record for sunshine bass in 16 lbs.

Hydrilla (*Hydrilla verticillata*) was the focus of question #7, in which FWC is responsible for control of the invasive exotic plant. Mr. Renfro noted improving water quality conditions in the Harris Chain of Lakes has resulted in greater light penetration into the water column. This positive shift has stimulated the production of hydrilla in the Harris Chain of Lakes. This plant can very quickly grow and colonize the entire water column, excluding native submerged aquatic vegetation species. The ongoing treatment of this plant is very expensive and best managed when populations are first detected.

Over the past few years excessive growth of hydrilla has occurred in Lake Harris, Lake Eustis and Lake Griffin. Lakes Harris and Eustis have exhibited a rapid growth of greater than 1,000 acres of hydrilla. Mr. Renfro showed slides of acres treated and expenditures of more than one million dollars in each lake. FWC recognizes that hydrilla does provide some beneficial habitat for many species and is actively working to find a balance between allowing it to remain in some areas while not letting it get out of control and negatively impacting native vegetation and navigation. Councilman Nicholson inquired whether any studies had been completed comparing chemical to mechanical aquatic plant control. Mr. Renfro reported several such studies had been completed. The major problem with mechanical harvesters is plants are broken up during harvesting which can expand growth as bits and pieces of the broken plants are dispersed in the water body.

Regarding the issue of phosphorus (P), question #8, Mr. Renfro noted FWC supports the LCWA's and the SJRWMD's response. FWC routinely provides comments to the SJRWMD during the process of developing and updating MFLs; and will continue to collaborate with the District on this effort.

Regarding toxicology, question #9, Mr. Renfro reported FWC supports the SJRWMD's response and defers to their lead on the toxicology analysis. FWC continues to support the collection and analysis of fish and waterfowl on the NSRA. Vice-chairman Goerner inquired about the current results of pesticide testing of waterfowl. **Mr. Renfro agreed to check on status of waterfowl testing.**

Regarding aquatic vegetation in downstream lakes, question #10, Mr. Renfro reported that as mentioned in the response to Issue 3, FWC has begun using side scan technology to identify SAV in lakes that are included in the Long-Term Monitoring program. As FWC continues to improve the technique, this program should allow for a detailed analysis of the vegetation coverage and help to identify areas that would benefit from either an increase or diversity of submerged vegetation. FWC

strives to manage vegetation in a manner which provides quality habitat and improves the overall health of the system.

Chairman Johnson noted there was no FWC budget item for planting vegetation, despite reports that vegetation is needed to clean water and provide habitat for fish. **Councilman Grow suggested inviting Nathalie Visscher (FWC) to update Council on vegetation management.**

Mr. Renfro further noted through the aquatic plant management program, FWC coordinates invasive aquatic plant control efforts in the state's 1.25 million acres of public waters. Active management occurs statewide to ensure that public water bodies are navigable while continuing to provide the necessary habitat for a multitude of freshwater species, migratory birds, wading birds and waterfowl. FWC issues no-cost permits for individuals to manage their own privately owned docks, shorelines, and dead end canals utilizing chemical or mechanical treatment methods to ensure safe ingress and egress from private upland properties. FWC will utilize state funds to treat Category 1 floating invasive plants, such as water hyacinth and water lettuce, in canals that connect to public waters to maintain the lowest feasible level of these plants and decrease long-term costs.

Mr. Renfro suggested the effort must be focused on encouraging and managing for desirable native species and not to encourage exotic invasive species to become established and to flourish, not on using hydrilla. The current LCWA Board supports and defers to the FWC, SJRWMD and Lake County Mosquito & Aquatic Plant Management Division's efforts to manage hydrilla at the lowest feasible level in lakes in the Upper Ocklawaha River Basin. As water transparency increases, hydrilla infestation is increasingly likely. Control of hydrilla lessens competition with native and non-invasive submersed plants.

Fisheries in Downstream Lakes, question #11, is an FWC responsibility, and as Mr. Renfro noted, like many things, the success of fisheries can fluctuate over time. Most of the lakes in the Harris Chain have good recruitment of Florida largemouth bass and therefore are not stocked on a regular basis. Mr. Renfro reported FWC will continue to monitor population levels to ensure a sustainable fishery is available to meet the recreational expectations of the public. Should there be a need to enhance the sportfish population through stocking efforts then FWC will ensure that native fish are stocked at appropriate levels.

Vice-chairman Goerner inquired about the success of the 10" rule for black crappie in Lake Griffin. Mr. Renfro reported it is a 5-year project that is not yet complete, but that preliminary results could be provided. Vice-chairman Goerner inquired about enforcement. Mr. Renfro noted both visual and undercover enforcement takes place on the Harris lakes. Vice-chairman Goerner suggested increasing enforcement in the area.

The final question (#12) regarded dredging in downstream lakes, and FWC currently has no plans for dredging projects in the Harris Chain of Lakes but will continue to work with partner agencies.

Mr. Renfro noted FWC has not developed a long-term management plan for the Harris Chain of Lakes; instead follows an adaptive management approach in collaboration with our partner agencies, local governments, and the public. Collectively, all agencies manage the lakes to allow for optimum use of fish and wildlife. In response to the Council request for an audit of expenditures related to the Harris Chain of Lakes, FWC can provide an estimate of certain expenditures over the last three years.

However, MR. Renfro noted that, except for Legislative appropriations for Lake Apopka, the management of the Harris Chain of Lakes occurs within FWC's normal operating budget.

Mr. Renfro presented a slide of the FWC annual management operations costs, noting the projects that were supported by the legislative appropriations to FWC were conducted in collaboration with the FDEP and the SJRWMD. Together, the three agencies have worked to identify innovative approaches to the management and restoration of Lake Apopka. Mr. Renfro then provided updates on those projects in which funds had been appropriated in FY 2012-2013 (\$4,800,000), 2013-2014 (\$2,000,000), and 2014-2015 (\$3,000,000).

Councilman Grow inquired about the status of the V-Clear project listed under FY2012-2013. **Mr. Renfro and Mr. Coyne agreed to provide details on the FWC V-Clear project.**

Chairman Johnson inquired about the FWC budget of public tax money for Lake Apopka restoration since 1998. **Mr. Renfro agreed to inquire about providing FWC budget information for Lake Apopka since 1998.**

Chairman Johnson asked if there was a breakdown on the costs to establish spadderdock or *Vallisneria*. **Mr. Renfro noted the costs for establishing SAV could be provided.**

Councilman Truenow inquired about the use of sawgrass as a vegetation alternative. Mr. Renfro noted previous tests had shown it was not a viable alternative. Dr. Fulton noted sawgrass was historically present in marshes around lakes, but recent attempts to establish sawgrass have met with limited success. It is difficult to re-establish, because it grows so slowly it tends to become overgrown by other plants (particularly cattails) in high nutrient areas.

Chairman Johnson requested FWC projects be included on the Harris Council project list.

COUNCIL & AGENCY QUESTIONS & ANSWERS

A. Agency Updates

Dr. Rolland Fulton, SJRWMD, updated Council on Lake Apopka sump dredging, noting an archaeological survey had been completed, though a report had not yet been sent. On the report is submitted the U.S. Army Corps of Engineers has 45 days to review. Dr. Fulton did not have a current update on lakewide dredging, though he did note the committee had selected 2 contractors.

Dr. Fulton noted the Beauclair would be closed for repairs. The fact that repairs will take place during the rainy season was unintentional, the start date in April was dictated by when a completed contract was approved.

Dr. Fulton reported the SJRWMD Governing Board issued a water shortage warning for Lake and Marion county at the March Governing Board meeting. Dr. Fulton also reported the SJRWMD contracts office had opened a Request For Qualifications for Lake Apopka SAV enhancement and recovery, and had advertised an Invitation To Bid for rehabilitation of lake Apopka inlet structures.

Kevin Coyne, FDEP had no updates for the month, but noted he had provided project management worksheets, and other information to Denis Frazel to review and compare with the Harris projects

spreadsheet. Mr. Coyne noted contract numbers could be included in the Harris list, and are a good source for information.

Mr. Coyne noted Lake County had recently adopted a fertilizer ordinance covering the urban sector. The model ordinance was developed collaboratively with industry, UF, DEP and urban communities.

Councilman Nicholson inquired about septic issues in the Indian River lagoon. Mr. Coyne confirmed there is a directive to address septic tanks in both the Indian River Lagoon and Charlotte Harbor. Mr. Coyne discussed septic tanks throughout the region, noting septic tanks in lakes is an issue. Dr. Fulton noted nutrient loading from septic tanks on downstream lakes was part of the nutrient budget, not on Lake Apopka because septic tanks influences were considered negligible. With reduced nutrients in the lake, septic tanks may now be more of an issue in Apopka, hence the proposed project on the spreadsheet.

Mr. Renfro noted most tussocks had been removed from Emerald marsh. Currently, cypress trees were being planted on scraped berms. The next phase of the project is breaching the levees once permits are received.

7. PUBLIC COMMENTS

Russ Melling former worker with the Florida Department of Health, noted the first modern code for septic tanks was 1983. Most septic problems are with systems built before 1983, with a failure rate of about 2% in Lake County. Lake County is now working to develop new systems to get to 5 mg/L nitrogen with new drainage medium below tanks. New systems may cost \$10,000 more than a standard system. Vice-chairman Goerner noted that might be acceptable for new construction but pricey for existing homeowners.

8. COUNCIL MEMBER COMMENTS

Chairman Johnson requested hard copies of Erich Marzolf funding forms be provide to Council. Chairman Johnson also requested copies of an email letter sent by Alan Hays to Dr. Anne Shortelle be provided to Council members.

Chairman Johnson inquired whether SJRWMD has a base budget to work on the Harris Chain of Lakes. Dr. Fulton reported a specific line item for the Harris Chain is not provided, as the SJRWMD budget for activities such as those in the Harris Chain are project oriented.

Chairman Johnson discussed the Harris Council project spreadsheet approving of columns listing start dates and estimated completion dates. Vice-chairman Goerner discussed the lack of hard copies of Council agenda packets being received in time for adequate review. Susan Davis agreed to mail out hard copies of agenda packets as soon as possible, and Council agreed to bring those hardcopies to the monthly meetings.

Council discussed the schedule to update the projects list, generally agreeing to have the list updated monthly with new items highlighted in italics.

Councilman Grow suggested creating name tags to identify Council members at public gatherings or forums. The name tags will be funded from the Council's budget. Chairman Johnson

made a motion to prepare name tags. The motion was seconded by Vice-chairman Goerner and unanimously approved.

Councilman Grow re-iterated his request for a description of the \$5 million in projects as an action item.

Chairman Johnson read a letter of thanks for supporting the school science fair, noting funds for awards came from funds provided to Council by the LCWA.

Councilwoman Bishop was unsure how effective the project list would be for incorporation into the annual report this year, and anticipated seeing presentations on projects next year.

9. REQUESTS FOR ACTION

- *Mr. Renfro agreed to check on status of waterfowl testing.*
- *Councilman Grow suggested inviting Nathalie Visscher (FWC) to update Council on vegetation management.*
- *Mr. Renfro and Mr. Coyne agreed to provide details on the FWC V-Clear project.*
- *Mr. Renfro agreed to inquire about providing FWC budget information for Lake Apopka since 1998.*
- *Mr. Renfro noted the costs for establishing SAV could be provided.*
- *Chairman Johnson requested FWC projects be included on the Harris Council project list.*
- *Chairman Johnson requested hard copies of Erich Marzolf funding forms be provide to Council.*
- *Chairman Johnson also requested copies of an email letter sent by Alan Hays to Dr. Anne Shortelle be provided to Council members.*
- *Councilman Grow re-iterated his request for a description of the \$5 million in projects as an action item.*
- *Councilman Grow requested name tags for council members.*

10. ADJOURNMENT

The meeting adjourned at 11:32 AM.