FINAL

MINUTES OF THE MEETING
of the
HARRIS CHAIN OF LAKES RESTORATION COUNCIL

February 6, 2004

The regular meeting of the Harris Chain of Lakes Restoration Council (Council) was held at 9:00 AM on February 6, 2004 at the Lake County Board of County Commissioners' Chambers, 315 West Main Street, Tavares, Florida.

Members Present	**Members Absent**
Hugh (Dave) Davis II, Chairman	Thomas A. Cook, MD, Secretary
Skip Goerner, Vice Chairman	Rick Powers
W. Thomas Brooks	
Charles C. Clark	
Keith Farner	
Robert Kaiser	
Don Nicholson	

1. CALL TO ORDER

Chairman Dave Davis called the meeting to order at 9:04 AM.

2. INVOCATION AND PLEDGE OF ALLEGIANCE

The Invocation was given by Councilman Robert Kaiser, followed by the Pledge of Allegiance.

3. ROLL CALL

Chairman Davis called roll. All members were present except for Secretary Tom Cook and Councilman Rick Powers.

4. WELCOME AND OPENING REMARKS

Chairman Davis introduced Mr. Robert Kaiser, P.E., the former Citizen Advisor to the Council, as a new member of the Council. Councilman Kaiser was appointed by the Florida Delegation to fill a vacant position on the Council that had been vacant since the resignation of Bill Pearce in 2002. Mr. Kaiser will represent the engineering element of the

Council, as did Mr. Pearce. Chairman Davis also received approval from the Council for the Councilman Kaiser to continue in his capacity as liaison to the City of Leesburg.

5. APPROVAL OF MINUTES

Due to the fact that some of the Council members had not had the opportunity to review the draft minutes for the January 9, 2004 meeting, a motion was made and passed to discuss the January minutes at the March 2004 meeting.

6. DISCUSSION ITEMS

Councilman Thomas Brooks gave a brief update on the Council budget and the 12/31/03 Quarterly Report. He explained that the current balance is $40,000 and that there were miscellaneous expenditures of $695. Councilman Brooks said he will provide a breakdown of those expenditures at the next meeting.

7. PRESENTATIONS

Charles Mesing, Biologist; Current Research on Largemouth Bass Stocking

Bill Johnson of the Florida Fish and Wildlife Conservation Commission (FWCC) introduced Charles Mesing, a biologist with FWCC to discuss the research and information he has assembled on the stocking of largemouth bass. Mr. Mesing gave a PowerPoint Presentation® on research that he has conducted primarily on Lake Talquin, near Tallahassee in the panhandle. He explained that the project focused on three aspects of the lake including drawdown, habitat enhancement and stocking. Every seven years they perform a drawdown of the 8,500 acre lake to improve aquatic plant management. Immediately after the drawdown, sport fish populations experience substantial growth which subsides over time. Mr. Mesing felt that stocking fingerling bass had not been successful, primarily due to predatory species in the lake feeding on the fingerlings. He said they are currently working with hatcheries in central Florida to produce "advanced fingerlings" that will be sufficiently matured to be released into the lake in early spring, as the spawning season begins. In the past these hatchlings were spawned three months prior to the natural fish which put them developmentally ahead of the fish spawning naturally in the panhandle lakes. Therefore he said, their survival and growth rates are much better than the natural fish. Mr. Mesing stressed that the success of the stocking program also relies on habitat and proper aquatic vegetation for the bass to survive.

In an effort to better prepare the advanced fingerlings, Mr. Mesing said that the hatchlings were fed a diet of zooplankton as opposed to commercially manufactured foods. He explained that this gave the fingerlings an advantage over the fish spawned naturally in the lake in that their increased size made them more able to feed on the shad hatchlings in the lake. This in turn has helped to control the shad population in the lake. When comparing the size of the natural fish to the hatchery fish of similar age (less than one year) the hatchery fish were three to four times larger because of their ability to feed on the shad fry as opposed to the insects that the natural hatchlings would eat.

Mr. Mesing also explained that approximately 10% of the fingerlings were tagged prior to being released into the lake. He said that sampling is conducted by electro-fishing and that estimates of populations and survival rates were made using the tagged fish. He also discussed the differences between block netting and electro-fishing. Block netting involves throwing out a net with rotenone (an insecticide) in it, which kills the fish. He said that this was very time consuming and they no longer use this method. Electro-fishing allows the fish to be shocked, weighed, measured, and then returned to the lake.

Councilman Don Nicholson asked if he felt that due to the success rate of the hatchery fish, would they feed on and eventually replace the natural fish? Mr. Mesing said that he did not think that would happen. Councilman Keith Farner asked if and when the hatchery fish would be able to spawn? Mr. Mesing explained that they are pure (floridanus) bass and the males should be able to spawn at one year and the females by two years. He added that it is most beneficial to time the release of the hatchery fish to coincide to the time when the natural fish are going from eating insects to eating other fish. He also said that water quality is an important factor in the success of the hatchery fish and that stocking rate of 100 fingerlings per acre would produce the best results. The study shows that there is an approximate 50% mortality rate of the hatchery fish after being released to the lake.

Councilman Thomas Brooks asked if it would be feasible to stock the Harris Chain of Lakes. Mr. Mesing said that would depend on the water quality in the lakes and also the habitat for the fingerlings to avoid predation. Vice (V.) Chairman Skip Goerner made comments regarding the success of the fishermen at the recent bass tournament and his surprise at the number of fish caught in Lake Griffin. He also mentioned that the winner of the tournament fished Lake Harris exclusively.

Mr. Johnson reiterated that habitat is extremely important to the success of sport fish and stocking. He reminded the Council that the lakes in the chain don't currently have the recommended 10% coverage of aquatic vegetation to support the hatchery fish.

Dr. Daniel Canfield of the University of Florida and member of the Technical Advisory Group (TAG) to the Council explained that the lakes don't currently have the 15% of terrestrial and submerged aquatic vegetative habitat to make the stocking successful. He also discussed the role that fisheries play in this situation. Dr. Canfield said that the FWCC is currently interested in building more fisheries for the benefit of the fishing industry. He felt that if the public demanded more fish in the lakes, that money would be appropriated to stock the lakes. He also felt that the Council should move forward with improving habitat.

V. Chairman Goerner discussed the $500,000 request for funding that has been submitted to the Legislature that included not only fish restocking, but also habitat management. He felt that if the appropriation were approved, that there would be funding available for both. He asked the Council to continue to support those efforts.

Mr. Mesing provided additional discussion on the success of the hatchery fish that included reviewing fish caught in tournaments that had been tagged by the hatchery. Although relatively few tagged fish were caught, the ones that were caught were significantly larger than the natural fish of the same age. He also explained the importance of the otoliths (minute calcareous particles found in the inner ear of vertebrates) of the bass in providing the age of the fish, much like the rings in a tree. Mr. Mesing said that to stock the advanced fingerlings in the Harris Chain of Lakes (HCOL) they would have to be spawned out of season, in the December – January timeframe.

After extended discussions on the research and success of bass restocking, the Council was in general agreement that these efforts would be beneficial for the HCOL.

V. Chairman Goerner discussed the success of the recent BASS Masters Tournament and the economic benefit it has on the local economy. He said that it has been estimated that the tournaments already scheduled for this year will bring $5 million to the local economy. Councilman Farner asked if it would be more beneficial to stock the lakes with five pound bass as opposed to the fingerlings. Dr. Canfield explained that the larger fish do not relocate well; therefore the smaller fish are more suited to relocation. It is his belief that relocating bass in the 8" to 10" range would prove most successful. Mr. Mesing discussed the mortality rate of the stocked hatchery fish being up to 80% and felt that if 50% of the stocked fish survive their first year, then that would be considered successful.

Councilman Charles Clark reminded the Council that they had not yet voted on the fish restocking program. He also asked about the numbers of fish vs. the costs of restocking. He suggested a stocking density of 10 fish / acre and Lake Griffin being about 10,000 acres that would require 100,000 fish. Then he used a cost of $2.50 per fish saying that would be $250,000 per year. He asked Mr. Mesing if that number of fish would be available who replied that private hatcheries could produce that many fish if they had a contract for their purchase. Further discussion indicated that the work done by Mr. Mesing in Lake Talquin targeted stocking 25 fish per acre. Dr. Canfield also said that currently, 4" to 6" fingerlings could be purchased for $1 per fish. He also explained that studies indicate that stocking for four years in a row would produce the best long term program, provided the proper habitat was available for the fingerlings. When Mr. Johnson was asked if FWCC could produce 100,000 fingerlings for stocking, he said that they should be able to do so in 2005. When asked, Mr. Johnson did not feel that they could produce 250,000.

Agency Updates

Lake County Water Authority (LCWA) – Dredging Status Report

Mike Perry (LCWA) provided an update of the canal dredging process including an inventory of the canals, the status of the Army Corps of Engineers (ACoE) and any threatened or endangered species in the area. He said that the dredging had been approved by the Florida Department of Environmental Protection (FDEP) but that the ACoE had not completed their review of the permit application and had not responded to the LCWA. The ACoE had advertised the pending permit on 1/8/04 and were awaiting public comment

based on that advertisement. The ACoE is obligated to allow 30 days for the public to comment. The LCWA has received over 98% of the indemnification letters (releases) from the canal front owners. He said that as many as 13 have said "no" to the dredging while an additional 12 or 13 have not responded. He explained that several of those who said "no" live in Marion County and Mr. Perry felt that those canals may be removed from the list to be dredged.

Councilman Brooks made a motion to submit a letter from the Council to the Florida Legislature in support of the canal dredging efforts and their desire to see the permitting process move along in an expeditious manner. Chairman Davis agreed to draft the letter and forward it to the Council members for their review and comments within five days. Gene Caputo of the St. Johns River Water Management District (SJRWMD) then reminded the Council of Sunshine Law proprieties when it comes to drafting of the letter to the Legislature. Chairman Davis explained; in that there will not be a vote by the Council on the final version of the letter, then it would be exempt to that element of public disclosure in the Sunshine Law. The motion passed unanimously.

Councilman Nicholson then said that he felt the LCWA did a great job of clearing vegetation at Herlong Park. Mr. Perry explained that the harvester is very "non-selective" and removes all plants and animals in its path. He added that they are currently using an outside company (i.e. a rented harvester) to conduct the vegetation removal. The LCWA believes that this is more economical at this time than purchasing a harvester.

St. Johns River Water Management District (SJRWMD) – Lake Level Fluctuation and Flow Way Operation

Dave Walker (SJRWMD) discussed the District's efforts toward canal dredging. He said that the SJRWMD has applied to the FDEP for permit coverage to utilize the Eustis muck farm as a disposal site for the dredge material. The site has been prepared by applying alum treatments to reduce available nutrients and the water level at the site has been lowered by 2' to accommodate the dredge material. In the event that the site is not capable of holding all of the material / water, the surplus would be pumped across the canal to a neighboring site. Any water at that site would be treated by alum injection prior to discharge into Haynes Creek. He also discussed the biological assessment they have conducted for submission to the U.S. Fish and Wildlife Service (FWS). He felt the FWS may request additional sediment samples but does not believe that would be an issue for the District. Mr. Walker was confident that they would receive the FDEP approval within 30 days. He also felt that the ACoE will wait until there is approval from FWS before they approve the dredging permit.

Councilman Clark then asked about the phosphorus levels in the dredge material and the proposed alum treatments. Mr. Walker responded that previously the site had concentrations up to 2,500 parts per billion (ppb) and after recent alum treatments, the phosphorus concentrations were reduced to 30 – 60 ppb prior to discharging into Lake Griffin.

Mr. Walker went on to explain lake level fluctuations and said that the District does not have plans to implement interim fluctuations prior to completion of the access canal dredging. He also gave a brief update of water quality in lakes Apopka and Griffin. Water quality in Lake Apopka had improved dramatically where the most recent phosphorus level in the lake was 49 ppb. In Lake Griffin the phosphorus levels had dropped to 36 ppb and he reminded the Council that the Pollutant Load Reduction Goals (PLRGs) for Lake Apopka is 55 ppb and for Lake Griffin is 32 ppb. Additionally, water clarity in Lake Griffin has improved to where the average Secchi Depth is 1 meter (approximately 39") and the chlorophyll level is 20 ppb. All of these are dramatic improvements over the past.

Councilman Clark inquired about the Trophic State Index (TSI) no longer taking into account the clarity of the water. Mr. Walker explained that the TSI is now calculated differently and does not include clarity. He said that comparisons of the new TSI to the old TSI could only be made if one were to recalculate the old TSI to the current standards. He did not believe that these calculations had been made for previous data.

Chairman Davis asked about the discharge from the Harris Bayou and whether it would be via culverts or overland flow? Mr. Walker explained that it would be discharged into Lake Griffin via culverts, both under the roadway and also buried underground. Mr. Walker also reminded the Council of the public presentation on the Lake Apopka Marsh Flow-way on the evening of Thursday, 3/4/04. He said that there would also be a tour of the flow-way the next day on Friday, 3/5/04. He said that both will provide a lot of information and there will be the opportunity for questions to be answered.

Dr. Larry Battoe (SJRWMD) updated the Council on Lake Apopka Marsh Flow-way operation at the northwest quadrant of Lake Apopka. He explained that water flows via a canal from Lake Apopka and into one of four "cells" where it receives treatment prior to being discharged into the Apopka-Beauclair Canal. The most recent data indicated that phosphorus levels in the lake were very close to the PLRG of 55 ppb, which was adopted for the lake by the SJRWMD. Current operation is Phase I of the project and the District plans on adding more treatment cells in the future. Dr. Battoe said that currently the system discharges 150 cubic feet per second (cfs) and the ultimate goal is to pump 500 cfs of treated water from the project. Preliminary data indicated that the flow-way is currently removing phosphorus and Dr. Battoe believed that by March, the flow-way should have removed the volume of phosphorus it had discharged during the initial start-up of operations in November 2003.

V. Chairman Goerner asked about the dissolved oxygen (DO) of the water from the flow-way. Dr. Battoe did not have the actual data but explained that when the water is pumped in the Apopka-Beauclair Canal, the discharge pipes are bent to the left and pointed slightly upward. He felt that this should provide good aeration to the water. He also said that he would forward the DO data to the Council when it becomes available.

Councilman Clark provided rough calculations he had made regarding phosphorus discharges during initial flow way operation. He calculated that 11/19/03 – 12/22/03 the

operation increased phosphorus in the lake by 2.25 ppb (515 kilograms), then 12/22/03 – 1/7/04 increased 0.25 ppb. He also requested that additional data be provided to the Council to which Dr. Battoe agreed to supply the data. Councilman Clark also mentioned an article he read stating that alum treatments are not effective on phosphate (dissolved phosphorus). He understood that dissolved phosphorus is more readily available to the algae in the lakes.

V. Chairman Goerner expressed his opinion that although the increase of 2.5 ppb of phosphorus to the lake was considerable, he commended the District on the apparent success of the flow-way.

Dr. Battoe also mentioned a study which indicated that eagles apparently had died after eating coots that had fed on hydrilla which contained toxic algae. He said that there had been a study where coots were fed the algae and some of them also died. The deaths were caused by Avian Vacuolar Myelinopathy and he said there is information available about it on the Internet.

Dr. Canfield discussed the dissolved oxygen content of the water and other factors that should be monitored during flow way operation. He explained that during initial operations of the flow-way in the early 1990s, that the flow-way discharged water with a DO below the FDEP standard of 5 milligrams per liter (mg/l). He said that the DO in the summer months was as low as 1 mg/l and only discharged water above the state standard in the winter months. V. Chairman Goerner asked about the fish kills he had seen in association with the operation of the flow-way. Dr. Battoe explained that they could be the result of fish being taken in by the pumps but it could also be caused by low oxygen. He said that the pumps discharging at the upward angle at the flow-way should help increase the oxygen level in the water. He added that marshes and swamps in Florida typically exhibit low oxygen in their water and Dr. Battoe felt that if the DO in the Apopka-Beauclair Canal is found to be too low, the District can make adjustments to the system to correct it. V. Chariman Goerner requested that Dr. Battoe provide the DO and other operational data to the Council when it becomes available. Councilman Farner also expressed his interest in obtaining the data.

Mr. Johnson then gave a brief update of the first phase of their current electro-fishing program. He said that recent efforts have produced creel, bass and crappie, and that the bass spawning appears to be good.

Other

Mr. Caputo discussed the Governing Board and Projects and Land Committee meeting to be held on 3/4/04 at the Mission Inn in Howie-in-the-Hills, and encouraged the Council to attend. Additionally, there will a tour of the Lake Apopka flow way on 3/5/04. A motion was made and passed to attend the flow way visit on 3/5/04 and conduct any Council meeting business at that time.

Mr. Caputo also asked if the Council wanted to replace Mr. Kaiser's position of Citizen Advisor. Chairman Davis felt that the position is not necessary at this time and the Council agreed.

Mr. Caputo also mentioned the costs associated with the name tags (in addition to the name placards recently purchased) and asked if the Councilmen were interested in the District purchasing either business cards or letterhead for the Council. The Council agreed that both items were not necessary. Chairman Davis said that he would produce letterhead for the Council on his home computer.

Dr. Canfield provided the Council with a variety of materials on aquatic plant management including VHS tapes, handouts, etc. He stated that he did this to assist the Council in focusing their questions / interests so that he could be better prepared to provide guest speakers on the topic in the future, as the Council had requested.

8. COUNCIL MEMBER COMMENTS

No additional Council member comments were made.

9. PUBLIC COMMENTS

No public comments were made.

10. ADJOURNMENT

Chairman Davis called for meeting adjournment. A motion to adjourn was made, seconded, and passed. The meeting was adjourned at 1:00 PM.

Respectfully submitted by:

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Hugh "Dave" Davis II, Chairman

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Dr. Thomas Cook, Secretary