

FINAL

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

January 9, 2004

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

Members Present

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

Members Absent

1. CALL TO ORDER

Vice Chairman Skip Goerner called the meeting to order at 9:04 AM. He thanked the Council for their support during his tenure as Chairman from the inception of the Council in September 2001 until December 2003 and passed the gavel to Dave Davis, the 2004 elected Chairman of the Council.

2. INVOCATION AND PLEDGE OF ALLEGIANCE

The Invocation was given by Mr. Robert Kaiser (Citizen Advisor), followed by the Pledge of Allegiance.

3. ROLL CALL

Chairman Davis called roll. All members were present except for Councilman Tom Brooks who arrived shortly after the start of the meeting.

4. WELCOME AND OPENING REMARKS

Chairman Davis welcomed all Council members. No other opening remarks were made.

5. APPROVAL OF MINUTES

The monthly minutes for November 7, 2003 were unanimously approved by the Council.

6. DISCUSSION ITEMS

Secretary Thomas Cook, MD updated the Council on the presentation of Resolution No. 2003-2 “A Resolution of the Harris Chain of Lakes Restoration Council Requesting the Florida Legislature to Require the Reporting of Toxic Algae Related Illnesses to County Health Officials” to the Lake County Legislative Delegation during the November 2003 meeting. Vice Chairman Goerner explained that Senator Cowin suggested that the Council gain more support of the medical community for the Resolution and added that there is strong support for it within the Delegation. He then explained that the last Delegation meeting of the Legislative Session will be held on 1/20/04 and it is essential that the Council be represented at the meeting to discuss budgets and funding.

Vice Chairman Goerner also mentioned the upcoming Lake County Days beginning 2/18/04 and said that this would be a good opportunity for the Council to meet with Legislators and others.

A motion was made to support the travel of Vice Chairman Goerner and Secretary Thomas Cook to attend Lake County Days in Tallahassee. The motion was passed unanimously. Secretary Cook cautioned the Council that this is the last opportunity that they will have to bring Resolution No. 2003-2 before the Delegation. He added that the resolution does have the support of many in the local medical community.

Chairman Davis discussed the changes in the Scope of Work (SOW) for the proposed Recording Secretary duties of Berryman & Henigar, Inc. (BHI) in 2004. He explained that the St. Johns River Water Management District (SJRWMD) guidelines would not allow for the overlapping of Purchase Orders (i.e. contracts) beyond their fiscal year which ends 9/30/04. The original SOW indicated that BHI's services would be contracted through 11/30/04 to include the submission of the Final 2004 Report to the Florida Legislature. The revised SOW presented by BHI included services to be completed through 9/30/04. Chairman Davis expressed his concern that the revised SOW does not include the Report to the Legislature. Recording Secretary Patrick Hunter of BHI assured the Council that the company would be available to complete the Report to the Legislature under an additional SOW / Purchase Order. The Council and Mr. Hunter agreed that the subsequent SOW should be presented at the June 2004 Council meeting.

Vice Chairman Goerner expressed his displeasure that the Council was not notified prior to restarting pumping through the Lake Apopka flow way. He stated that he had been contacted by reporters from the local newspaper and felt that the Council should have been notified directly by the SJRWMD. Vice Chairman Goerner requested that Gene Caputo (SJRWMD) notify the Council prior to the implementation of major events that the Council has discussed. Mr. Caputo agreed to the request.

7. PRESENTATIONS

SJRWMD – Dr. Larry Battoe, Shad Harvesting

Larry Battoe, a member of the Technical Advisory Group (TAG) to the Council representing the SJRWMD, discussed the progress of the Gizzard shad harvests / studies utilizing a PowerPoint Presentation® that was originally given at the North American Lake Management Society (NALMS) – Southeast Chapter in June 2003 meeting. The study they are conducting includes: (1) What the Gizzard shad eat; (2) What and how much do they excrete; and (3) How does the harvesting affect fish populations in the lakes? Dr. Battoe also discussed the “Top Down” and “Bottom Up” controls as forms of biomanipulation. Top Down implies the control of higher levels of the food web to influence the lower levels while Bottom Up implies the opposite where the control is placed at the lower levels of the food web to influence the higher levels. In the case of the Harris Chain of Lakes, they are controlling the nutrients (e.g. phosphorus) input to the lakes. He suggested that in Florida the Bottom Up Control appears to be more prevalent. He demonstrated the International Science support by presenting comments from reports on biomanipulation. The reports indicated that partial fish removal has shown water quality improvements in 90% of the cases. Secretary Cook asked if Gizzard shad excrete more phosphorus (P) than other fish. Dr. Battoe explained that Gizzard shad excretions are aqueous in nature which makes the P that they excrete more bio-available to the water column. He also explained that the fish are benthivorous, meaning they eat sediments from the bottom.

Dr. Battoe went on to say that his research indicated that Gizzard shad greater than 1.5 inches in length can begin to eat sediment detritus and that the average size of the shad harvested from Lake Griffin was 15 inches. He explained that between 1993 – 2002 approximately 8.2 million pounds of Gizzard shad were removed from Lake Apopka and that the lake has seen an overall 30% decrease in P since 1995. In winter 2002, he said 981,018 pounds were removed from Lake Griffin and that lake has since seen a 50% decrease in P. Therefore, he concluded that the Gizzard shad in the lake are recycling the P from the sediments into the water column. Dr. Battoe felt that based on his research and literature review, that there is strong evidence to suggest that there are substantial P removal benefits as a result of the Gizzard shad harvesting. He believed that Lake Griffin could have seen a 13 – 23 ton increase in P in the water column, without the previous shad harvests.

Vice Chairman Goerner asked if it would be beneficial to stock the lakes with large game fish that would be predatory to the shad fry. Dr. Battoe did not believe so because of the size of the shad but felt he was not an expert in fisheries habitat and asked that the question be referred to another member of the TAG.

Councilman Clark asked if there would be a release or recycling of P from the sediments without the influences from shad harvesting. Dr. Battoe explained that only a portion of the P would enter the water column and it is a very slow process. Councilman Clark then asked what the percent of Gizzard shad by mass was in Lake Apopka. Walt Godwin, another TAG member representing the SJRWMD, explained that the harvests in Lake

Apopka produced 95 – 96% shad (as compared to other fish) by mass while the harvests in Lake Griffin produced 96% shad by mass. He also explained that the growth rate of the shad is very fast; therefore they are not a good candidate for predation. Mr. Godwin felt that the harvesting being conducted is interrupting their reproductive cycle by netting shad as young as one year in age and he explained that the females are not of spawning maturity until the end of their second year. Therefore, the number of spawning females is being reduced.

Bill Johnson, a TAG member representing the Florida Fish and Wildlife Conservation Commission (FWCC), explained that the harvests do not represent the entire population of the lakes. Although the gill netting may catch 90% shad by mass, he estimated that the most populous fish in Lake Griffin are crappie. Councilman Keith Farner asked what the optimum percentage of Gizzard shad would be for the lakes and Mr. Johnson suggested that 35% may be the best. Mr. Johnson believed that water quality in Lake Griffin has improved due to a number of factors including controlling the P flowing in and quite possibly from harvesting of the shad.

Dr. Battoe went on to suggest that since the shad harvests began, water quality in the lakes has improved dramatically and has been reduced to the Total Maximum Daily Load (TMDL) for Lake Griffin. He went on to say that future harvests should only be conducted as a reduction in water quality might indicate a benefit from the activity.

Vice Chairman Goerner endorsed the research efforts of both the SJRWMD and the FWCC and believed that there are gaps in the data. He will support their efforts to secure funding for future research. Councilman Clark thanked Dr. Battoe for his presentation and the information he has provided to the Council.

Dr. Daniel Canfield, a TAG member to the Council representing the University of Florida (UF) Institute of Food and Agricultural Sciences (IFAS), made a few comments to the Council. He explained that rough fish harvesting has been conducted for decades in lakes all over the country. One of the drawbacks is the fact that sport fish are removed from the lakes during the harvests, which is not popular with sport fisherman. He suggested that the economic benefit of restocking the lake with advanced fingerling bass would be immediate as opposed to studying the harvest issue for another 3 – 5 years.

Councilman Clark suggested that perhaps there are sufficient populations of game fish in the lakes. Councilman Farner expressed his thoughts on the economic value of well-stocked lakes. Councilman Tom Brooks suggested that some of the issues that were being discussed are departing from the issue of shad harvesting and should be put on agendas for future discussions. Mr. Johnson offered to have an expert, Charles Meising give a presentation at the February Council meeting. Chairman Davis agreed.

Dr. Battoe then presented a map with GPS locations of hydrilla and explained that it is mostly found in the canals leading to the lake. The map also delineated the locations of several other species of aquatic plants including coontail, eelgrass, Illinois pond weed,

southern naiad, stonewort, and Egyptian paspalidium. He also offered his apology for not notifying the Council prior to initiating the Lake Apopka flow way. Dr. Battoe then presented a graph which showed the performance of the flow way and he explained that during the initial start-up of the system in November 2003, it discharged a net increase of 45% in P. He said this was expected however, the system has reached the point where there is no net discharge of P and cells within the flow way have begun to reduce P. Dr. Battoe believed that this result is several months ahead of schedule.

Vice Chairman Goerner discussed his conversation with Dr. Robert Marzoff and the approximate 1,000 pound discharge of P from the Apopka-Beauclair canal and again offered his displeasure with the operation of the flow way. He gave the illustration that using stormwater P removal techniques at a cost of \$1,400 per pound, it would cost about \$14 million to remove the volume of P already discharged from the flow way. Vice Chairman Goerner believed that the water entering the flow way should be treated with alum to remove the P and prevent its discharge into the lake.

Chairman Davis suggested that a full presentation be given to the Council at the March meeting. The other councilman and Dr. Battoe agreed. Vice Chairman Goerner also suggested that the Council receive weekly updates on flow way operation and Dr. Battoe agreed to provide updates.

Ann Griffin – Possible Relationships Between Herbicide Spraying and Toxic Algae in the Harris Chain of Lakes

Ann Griffin (speaking as a lakefront owner) expressed her concerns about herbicide spraying for aquatic weed control. She discussed the effects of the spraying that she has seen at her property, which included large quantities of eelgrass that had washed up and cloudy green water which is indicative of algae blooms along with what she has learned from her research. She also presented her correlations between spraying events and the sharp increases or spikes in microcystins or cyanobacteria.

Ms. Griffin's concerns are that excessive amounts of herbicides are being used to control aquatic weeds including the bullrush in Lake Griffin. She reported that there are indications that although applicators are required to properly post warning signs where they are spraying, that very few signs are seen. Her concern is that many of the chemicals used are harmful to fish and animals; and that people may catch and eat fish that have those chemicals in them.

Ms. Griffin explained that she would like to see research to determine the correlation between herbicide applications and toxic algae; alligator deaths; immune and reproductive system problems in fish and wildlife; the effects on benthic organisms, invertebrates, crustaceans, and frogs; and other parts of the food chain. Ms. Griffin came before the Council because she felt that they are the watchdog group. When asked by Chairman Davis what it is she would like the Council to do for her; to which she replied that she believed a letter should be sent to the various agencies that are involved with the spraying.

Following Ms. Griffin's comments, Mr. Kaiser suggested further study on the effects of herbicide application could be conducted by the Lake County Water Authority (LCWA).

Mike Perry, Executive Director of the LCWA and a TAG member, defended the efforts of aquatic weed control and said that there is a committee whom is overseeing the spraying. Mr. Perry explained that he believed they were using the best practices available and are applying the least amount of herbicide required to manage the vegetation.

Dr. Ronald Ney, PhD (from the audience) explained that there are a lot of concerns with many of the additives and surfactants in herbicides. He explained that he had formerly worked as a scientist for the Environmental Protection Agency (EPA) and that he had vast experience with herbicides. Dr. Ney cautioned the Council if they do any sampling for herbicides, the analyses should also include the inert ingredients.

Councilman Don Nicholson thanked Ms. Griffin for her information gathering efforts and agreed that all the lakefront owners on the Council have the same concerns. Councilman Farner expressed his concerns for the number of herbicide spraying permits that are being issued and the possible violations that may be committed by those who are inexperienced and have been issued permits. He requested that these issues be researched by the Council so that recommendations could be made.

Chairman Davis requested that these issues be added as an agenda item in possibly the April meeting. The Council agreed. Vice Chairman Goerner added that the Council supported the efforts of improved aquatic plant management, including the use of harvesting equipment. He explained that the Council included a request for \$150,000 from the Legislature for these efforts.

Chairman Davis called for a recess at 12:00 PM.

Chairman Davis called the meeting to order at 12:15 PM.

Dr. Ronald E. Ney, Jr. PhD – Review of Pesticide Levels

Dr. Ney gave a presentation on pesticides / herbicides and provided his resume along with a handout. Although his work has been in pesticides, he said that the terms pesticides / herbicides are interchangeable. He explained that there is a lot of information on the labels of herbicides including Restricted Uses; Environmental Hazards; Application Instructions / Cautions; Health Issues; Storage and Disposal Methods; and other information. Dr. Ney then mentioned the importance of the Material Safety Data Sheets (MSDS) and the information contained on them. He also implied that there is some information that has never been released to the public by the EPA and he was not at liberty to discuss anything that has not been published in the past.

Vice Chairman Goerner asked Dr. Ney his opinion as to whether the muck farms which have been treated with benomyl could be polluting the lakes. Dr. Ney believed that they could but that it would be indirectly through the residues of the chemicals being found in

tissue of plants grown in the muck. He explained that if animals eat the plants, they could be affected by the chemicals.

Mr. Godwin explained that the SJRWMD has tested the runoff from muck farms in the area and not found the presence of herbicides. He believed that was because the herbicide compounds may be so organically bound to the sediments.

Councilman Farner asked Dr. Ney if there are any restrictions to the application of more than one herbicide to the same area. Dr. Ney explained that there are no EPA restrictions on the application of multiple chemicals, so long as they are registered for that intended use.

Vice Chairman Goerner and Councilman Nicholson both requested that Dr. Ney return in April when the presentation on herbicides is to be given. Dr. Ney agreed. Vice Chairman Goerner then asked Dr. Ney his opinion as to whether the continued use of 2-4,D could be a health hazard. Dr. Ney believed that direct exposure and continued use could pose a health risk.

Agency Updates

Mr. Perry mentioned an article in the current issue of the Florida Specifier that talked about \$3 million being available to the Florida Department of Health offering to educate doctors in the evaluation and diagnoses of algae borne illnesses. He suggested that efforts could be made to get a portion of the available funds locally.

Barbara Bess, of the Florida Department of Environmental Protection (FDEP) and a TAG member said that the FDEP is progressing with a Basin Management Plan for the Ocklawaha Basin. Also, the FDEP issues the spraying permits through their Bureau of Invasive Plant Management, for the application of pesticides and herbicides. She suggested that the Council invite Robby Lovestrand, a biologist for the FDEP to speak at the April meeting.

Mr. Johnson provided a brief update saying that the creel fishing survey is lakes Griffin and Harris is continuing and that he will update the Council in the future. He also said that the FWCC will be conducting electric fishing in all of the lakes in the chain starting in a couple of weeks. This will be done to aid in estimating fish populations. He went on to say that the FWCC has not applied herbicides to Lake Griffin since September and endorsed the aquatic plant management efforts.

Councilman Clark asked about the signage requirements when spraying herbicides. Dave Douglas (FWCC) believed that all signage requirements were being met. Signs had been posted at public access points on the lakes and at canals that were sprayed.

Councilman Clark asked Dr. Canfield about the reservations the Army Corps of Engineers (ACoE) has regarding the access canal dredging project. Dr. Canfield explained the idea of dredging by the ACoE has fallen into disrepute since the 1960s. Currently they have the

ability to oppose any dredging project that has received unfavorable comment. Therefore, he believed that sometimes it may be necessary to have someone in upper management at the ACoE to be in agreement and be willing to help, in order to move the process along. Mr. Perry reminded the Council that everything required to get the permit approved by the ACoE has been submitted and that the LCWA cannot put the job out to bid until the permit is received.

8. COUNCIL MEMBER COMMENTS

Vice Chairman Goerner mentioned that the BASS Masters Fishing Tournament is returning to the area at the end of January. He thanked the LCWA for their financial support in getting the tournament to return and that it will be a big economic boost to the area.

Chairman Davis briefly mentioned the agenda items for the February meeting which included; sport fish restocking, a report on dredging, an update on lake level fluctuations, and an update on the flow way operation.

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 12:55 PM.

Respectfully submitted by:

Hugh “Dave” Davis II, Chairman

Dr. Thomas Cook, Secretary