FINAL

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

August 5, 2005

The regular meeting of the Harris Chain of Lakes Restoration Council (Council) was held at 9:00 AM on August 5, 2005 at the Lake County Board of County Commissioners' Chambers, 315 West Main Street, Tavares, Florida.

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

1. CALL TO ORDER

Chairman Dave Davis called the meeting to order at 9:00 AM.

2. INVOCATION AND PLEDGE OF ALLEGIANCE

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

It was determined that due to the fact a quorum of Council members was not present; no business could be concluded at the meeting. A motion was made to proceed with the meeting and to develop recommendations that they would take to the other Council members for a formal vote, if required. The motion was seconded and the meeting proceeded.

3. ROLL CALL

Chairman Davis called roll. Secretary Tom Cook and Councilmen Tom Brooks, Keith Farner and Don Nicholson were absent.

4. APPROVAL OF MINUTES

Due to the lack of a quorum, the discussion of the July meeting minutes was postponed until the September meeting.

5. DISCUSSION ITEMS

Quarterly Budget Reports – 2nd and 3rd Quarters 2004-2005, Councilman Tom Brooks
Due to the absence of Councilman Brooks, the quarterly budget report was not presented and was rescheduled for the September meeting.

Preliminary Draft of the 2005 Legislative Report
Recording Secretary Patrick Hunter explained the information he provided to the Council saying that in the previous meeting, Vice (V.) Chairman Skip Goerner had requested that he provide a summary of the issues the Council had discussed their support for since the 2004 Report to the Legislature. Mr. Hunter said he accomplished this by creating a summary of the technical issues discussed during that period utilizing the finalized meeting minutes, which will also become an appendix in the 2005 Report to the Legislature. He said that the Council had a consensus to support two issues:

1.) Request funding support for the construction of the Lake Beauclair Nutrient Reduction Facility (NuRF), and

2.) Passed a motion that the Council request funding from the Florida State Legislature to assist with cyanobacteria monitoring and research in the Harris Chain of Lakes.

Mr. Hunter further explained that the bulk of the report preparation will take place throughout August and September. He also reminded the Council that 30% of the meetings had not yet occurred therefore, the information discussed in those meetings will become available for inclusion in the annual report over the next two or three months.

2006 Council Plan, Programs, Projects, and Funding
Mike Perry, Executive Director of the Lake County Water Authority (LCWA) presented a brief table summary of the proposed allocation of the Legislative funding received by the Council for fiscal Year (FY) 2005-06, as requested by the Council during the July 2005 meeting. In that the summary did not include the specific allocations for the funding received for restoration projects, V. Chairman Goerner asked that Mr. Perry calculate those allocations to present later in the meeting.

Gene Caputo of the St. Johns River Water Management District (SJRWMD) notified the Council that the advertisement to fill the vacant position on the Council had begun running in the local newspaper. V. Chairman Goerner asked if Mr. Caputo had a copy of the advertisement for the Council to review. Mr. Caputo said no and he would mail a copy of it to the Council members in the next week or so.

6. PRESENTATIONS

Lakes Apopka and Beauclair – SJRWMD, Dr. Mike Coveney and Dr. Gian Basili

Dr. Mike Coveney, a Technical Program Manager with the St. Johns River Water Management District (SJRWMD) started out by saying that Dr. Gian Basili prepared information based on what he believed the Council requested. Dr. Coveney said that if the Council would like different or additional information, they would provide it. He went on with his presentation saying;

- Nutrient reduction strategies for the Upper Ocklawaha River Basin (UORB)
    - Two vegetative treatment programs have been in operation for years; the Lake Apopka North Shore Restoration Area (NSRA) and the Emeralda Marsh at Lake Griffin
    - Lakes downstream of those projects have shown significant reductions in phosphorus levels due in part to the water treatment within these wetland environments
- Convert farmlands to wetlands
    - Purpose is to reduce phosphorus and restore wetland habitat
    - Lake Apopka Marsh Flow-way (LAMF) was originally designed to be a much larger facility than is currently in operation
    - Pesticide residue levels on the Duda property have been reduced to levels that would allow flooding of the property
    - The permitted use of the organo-chlorine pesticide toxaphene, found on the Duda property, expired in 1990

Chairman Davis asked Dr. Coveney if the water held in the NSRA would be released during the permitted lake level fluctuations. Dr. Coveney said that currently there is no direct connection between the NSRA and Lake Apopka, therefore it is not currently included in the lake level fluctuations.

V. Chairman Goerner asked if capping the land to seal in the pesticides was still an option being considered. Dr. Coveney said that the SJRWMD had hired a consulting company to review the levels of pesticides found on the muck farms in the NSRA and provide a summary of remediation technologies. One of the strategies suggested by the consulting firm was to cap portions of the NSRA.

V. Chairman Goerner also asked if Dr. Coveney could provide a comparison of conditions at the NSRA to the farms and property located around Lake Griffin. Dr. Coveney said that

he did not have specific data with him, but generally the nutrient levels at the Eustis muck farms should be comparable because they were both most recently used to farm row crops. He also believes that the nutrient levels at Knights-North and Lawrie Brown would be lower because they were most recently used for grazing which is generally less nutrient intensive than cultivating row corps. Dr. Coveney also said that they had treated both of those farms with alum, which has been effective in reducing nutrients in the runoff.

Councilman Don Nicholson asked how deep the pesticides at the NSRA are found. Dr. Coveney said that they are typically located in the upper one foot of land or the plow depth. Councilman Nicholson also asked if the pesticides would stay in the ground and be oxidized or if they can be released into the air. Dr. Coveney explained that the majority of the pesticides will remain in the soil however; toxaphene can evaporate to some small degree; although that would have already taken place because its use had been banned for 15 years.

V. Chairman Goerner asked if the organo-chlorines are the only pesticides of concern in the NSRA and other farms in the area. Dr. Coveney said yes because they are so long-lived and breakdown very slowly. He explained that is why they are no longer approved for use.

Dr. Gian Basili, a Senior Project Manager with the SJRWMD added that the only other chemical of concern with any of these farming operations is arsenic which can be attributed to nursery growing operations. He said there are only a couple areas where arsenic concentrations are higher than background levels.

Chairman Davis asked if flushing these farmlands could aid in reducing phosphorus levels and if water used to flush the farmlands could be sent to a reuse or water reclamation facility. Dr. Coveney said the farmlands could be flushed but that would cause problems downstream of the flushing. With respect to reuse he explained that the City of Apopka may be applying for a permit in the near future to augment their reclaimed water supply by pumping it out of the storage areas in the NSRA. Dr. Coveney said the SJRWMD is currently reviewing the level of treatment that would be required to make the water reusable.

Council Nicholson asked if sod farming would be a viable means of reducing phosphorus because the top 2” of soil are removed with the sod and over time the contaminated layers would be shipped out of the NSRA. Dr. Coveney said that when this option was reviewed, there was a concern of the pesticides in the soil being used in residential settings where people could come in contact with it. Dr. Basili added that they are reviewing its possible use for Florida Department of Transportation (FDOT) road projects or commercial projects.

Dr. Coveney then said that recent sampling of fish on the reflooded Duda property has shown very low concentrations of contaminants. He also said that they may propose flooding approximately 1,000 acres of the western portion of Unit #2 in the NSRA within

the next year because they are confident that pesticide levels in that area have been reduced. Dr. Coveney said that they will continue to flood other areas of the NSRA to increase water storage.

Dr. Coveney continued with his presentation;

- From a graph of phosphorus loading to Lake Apopka during the period of 1968 – 2002
    - 85% of the phosphorus loading is from current and former agricultural uses of the land
    - Atmospheric deposition accounts for approximately 8% of the phosphorus loading
    - After purchase of the farmlands by the SJRWMD in 1998 the phosphorus levels have steadily decreased
    - All water currently released into Lake Apopka is treated with alum
- Phosphorus loading reductions to Lake Apopka
    - 62.4 million grams/year historically discharged
    - 15.9 million grams/year discharged would be needed to meet the Total Maximum Daily Load (TMDL) for the lake
    - A 75% decrease phosphorus in runoff from agricultural lands is required to meet the TMDL
- Project phosphorus loading to accomplish 15.9 million grams/year
    - NSRA 37%
    - Atmospheric deposition 32%
    - Contributions from springs 6%
    - Contributions from tributaries 9%
    - Other sources 16%
- Phosphorus loading to Lake Beauclair (estimated)
    - Dominated by flow from Lake Apopka

- The TMDL was met in 2000 during the drought because only a limited amount of water was released from Lake Apopka

- Phosphorus loading to Lake Beauclair; Baseline versus Expected

  - With all of the treatment technologies being implemented, it will be difficult to meet the TMDL for Lake Beauclair

  - The Lake Beauclair Nutrient Reduction Facility (NuRF) may prove instrumental for meeting the TMDL for the lake

- Recent water quality data for the Harris Chain of Lakes (HCOL) for the period of June – July 2005

  - Reduced levels of phosphorus since the hurricanes of 2004

  - Increased levels of chlorophyll in Lake Griffin

  - Water flowing from Lake Eustis and into Lake Griffin has much lower chlorophyll levels

V. Chairman Goerner expressed his concerns with the availability of organic phosphorus and whether water was treated with alum prior to being released from farms around Lake Griffin. Dr. Coveney said that one explanation may be that cylindrospermopsis has a higher chlorophyll content and the algal communities may have shifted more towards that species. He said they are awaiting results from water samples that were recently collected and that the data may show the increased chlorophyll is a result of heavy phosphorus loads to Lake Griffin because of the hurricanes. Dr. Coveney added that the development of beneficial aquatic plants in the lake has not been diminished by the increased chlorophyll.

Dr. Coveney then explained three methods of alum treatment;

1.) Alum treatment of the Duda farms prior to flooding the land

  - The alum used is a residual of potable water treatment process obtained from the City of Melbourne

2.) Alum treatment of water being discharged

  - Dosing water as it is being discharged

  - They utilize a settling basin to retain the alum floc and phosphorus after dosing

3.) Treating restoration areas with various alum products

- Knights South has been treated with liquid alum to bind phosphorus with the soil

Dr. Coveney said they are currently using a portable alum treatment system, where the alum dosing pump is powered by solar panels. He explained that this system gives them the ability to provide treatment at a wide variety of locations.

With no further questions, Dr. Coveney concluded his presentation.

Dr. Basili provided an update on the LAMF;

- The LAMF reduces Total Suspended Solids (TSS) by 95% in the water treated from Lake Apopka

- During the total period of operation of the LAMF (11/2003 – 7/2005) the flow-way has provided the following cumulative reductions while treating approximately 80% of the volume of Lake Apopka;

  - 1.7 metric tonnes (1.8 tons) of phosphorus

  - 176 metric tonnes (194 tons) of nitrogen

  - 6,221 metric tonnes (6,857 tons) of TSS removed

- Installing a 5th discharge pump to increase flows from the flow-way

Dr. Basili then discussed the Lake Beauclair dredging project;

- They have identified the proposed dredge disposal site

  - Approximately 600 acres in the NSRA

  - They are conducting a feasibility study on the environmental benefits of dredging the Apopka-Beauclair (A-B) Canal

  - The disposal site includes areas to deposit material dredged from the A-B Canal

Dr. Basili also gave an update on the NSRA schedule for restoration of up to 6,000 acres through FY 2007;

FY 2004-05

- Remediation feasibility study complete
- Bioaccumulation study complete
- Dredging feasibility study phase I complete

FY 2005-06

- Pilot field-scale remediation project which includes turning the soil to move the contaminated layers deeper in the soil profile; and also vertical blending of the soils to dilute the concentration of contaminants near the surface
- Implementation of restoration on approximately 1,500 acres in the NSRA
- Dredging feasibility study Phase II complete
- Planning and permitting

FY 2006-07

- Implement restoration on Lake Beauclair and the A-B Canal
- Implement dredging of Lake Beauclair and possibly the A-B Canal

Dr. Basili presented graphs of various water quality parameters in Lake Apopka which indicated that total phosphorus (TP) and chlorophyll concentrations have been reduced during the period of 1987 – 4/2005 and the water clarity (Secchi Depth) has increased. He explained that due to the improved water clarity, the populations of aquatic plants have increased. Dr. Basili said they had recently completed a submerged plant survey in Lake Apopka where they identified 69 new colonies of eel grass (Vallisneria americanum) and also a similar number of hydrilla colonies. He went on to say that the SJRWMD is in the process of staffing two full-time positions to aid in the management of hydrilla.

Agency Updates

Barbara Bess of the FDEP did not provide an update to the Council. She did notified the Council that in response to their request for her to identify funding sources for the projects that the Council supports, saying that it is not within her responsibilities to identify funding sources. Ms. Bess further explained that her position on the Technical Advisory Group (TAG) is one of a Biologist.

Dr. Dan Canfield of the University of Florida (UF) and member of the TAG provided comments on the SJRWMD presentation given earlier in the meeting by Dr. Coveney saying that the former muck farms are the largest source of phosphorus to Lake Apopka.

He explained that annually they discharge 29 metric tonnes of phosphorus where the TMDL for the lake is approximately 14 metric tonnes and that the LAMF is only designed to remove 2 metric tonnes of phosphorus annually. Dr. Canfield explained that there is going to be issues with phosphorus in Lake Apopka for a long time to come. He noted that although there are new colonies of eel grass identified in the lake. However, the UF recently completed a survey of submerged plants utilizing data from a 1999 study on the lake, and concluded that the lake currently has 900 square meters (m^2) of eel grass where in the past it has had as much as 11,000 m^2 of the aquatic plant. Dr. Canfield pointed out that the fisheries habitat has not significantly improved over the past several years, which is the goal of the restoration.

Dr. Canfield also suggested that Council purchase a copy of the Canadian water quality standards which provides the background as to how the United States Environmental Protection Agency (USEPA) determined the US water quality standards. He felt it would be beneficial for the Council to have that background information.

V. Chairman Goerner asked what Dr. Canfield's opinion was on the recent increase in chlorophyll seen in Lake Griffin. Dr. Canfield suggested that the issue may be related to excess nitrogen being released due to the increased rainfall the area had had this year. He reminded the Council, that in the past when there were increased levels of algae in Lake Griffin, there were also elevated levels of nitrogen in the lake. Dr. Canfield also suggested that the Council carefully evaluate the amount of money being spent on phosphorus removal, where additional in-lake restoration projects will be required to restore the fisheries habitat.

V. Chairman Goerner also asked if Dr. Canfield believes that the wetlands of the NSRA would ever be reconnected to Lake Apopka. Dr. Canfield explained that oxidation of the soils in the NSRA has caused them to consolidate which has lowered the ground level to 4 or 5 feet below the surface level of the lake. Therefore, if reconnection were made the wetlands would simply be flooded. He suggested that the proposed dredging projects may help to raise the ground elevation in the wetlands and someday make it possible to reconnect to them to the lake.

Bill Johnson of the Florida Fish and Wildlife Conservation Commission (FWCC) was not present to provide an update to the Council.

Mike Perry, Executive Director of the Lake County Water Authority (LCWA) provided the Council with an update of their activities saying that "the dredge is dredging" with respect to the Lake Griffin access canal dredging project. He said they are currently preparing a map and other information for release to the media.

Councilman Don Nicholson asked how the dredge deals with submerged objects. Mr. Perry said that as of yet, they have not run into any significant objects.

Mr. Perry went on to say they were submitting 60% plans for the NuRF to their Board of Trustees during their August meeting. He also suggested that the Council may want to consider a request for funding to support for the Lake Beauclair dredging project which could cost as much as $10 million and currently the LCWA only has $1.5 million in available budget for the project. Mr. Perry also said that their research has determined that the spoil material from the dredging is not an economically marketable product.

Mr. Perry briefly noted that the $40,000 the LCWA provides for the operation of the Council is in the proposed budget which will be voted on during their September meeting. He also discussed the current issue with channeled apple snails, saying that in certain lakes throughout Florida their populations have grown exponentially. He said one to the major problems with the snails is that they eat the desirable aquatic vegetation and if uncontrolled, they have the potential to denude the lake of all vegetation. Mr. Perry explained that there is no known natural predator of the snails nor is there a chemical treatment which is successful in their control. He suggested one method of control is to destroy the bright pink eggs whenever they are found. Mr. Perry noted that a limited number of these snails have been found in Lake Griffin and further suggested that the Council may want to consider having a presentation made on the snails by an Florida Department of Environmental Protection (FDEP) expert.

V. Chairman Goerner then discussed a possible funding request to the Florida State Legislature that includes additional funding to complete the Lake Griffin access canal dredging. Mr. Perry felt that it may be more beneficial for the Council to consider future projects in their funding request because sufficient funding has been secured for the canal dredging. V. Chairman Goerner expressed his concerns for supporting projects that have not yet been approved. Mr. Perry said that the LCWA Board of Trustees will take action to approve the NuRF project in this month's meeting and it may be appropriate for the Council to request funding for that project. V. Chairman Goerner also suggested that the Council develop a funding initiative which would cover a variety of restoration projects including the bass restocking efforts. He also felt that they should request additional funding for the canal dredging project.

Mr. Perry then provided the breakdown of how the Council's Legislative $300,000 funding will be divided between the supported projects by adjusting the amounts received by the percentage of the original funding request:

Restoration Projects

Stocking of largemouth bass		$187,500
Revegetation with native vegetation		$ 37,500
Control of exotic and invasive plants		$ 56,250
Planting of cypress trees		$ 18,750
	Total	$ 300,000

V. Chairman Goerner suggested the LCWA should consider purchasing a mechanical harvester utilizing a portion of the $56,250 for aquatic plant control. His experience was that the harvesters were very successful in removing hydrilla and a used harvester may only cost $10,000. Mr. Perry cautioned the Council that the mechanical harvesters are very non-selective in that they also remove desirable vegetation in addition to any animals living in the hydrilla.

Dr. Coveney provided clarification on two of the issues that Dr. Canfield had discussed from his presentation. He explained that prior to securing funding through the SJRWMD to purchase Unit 2 and the Duda properties, they were required to submit a draft restoration plan to the Natural Resources Conservation Service (NRCS) and other partners in the project. In that plan, the SJRWMD proposed operating the properties as wetlands for a period of 10 years prior to reconnection to Lake Apopka. Dr. Coveney said therefore, reconnection was always in their plan, however, the discovery of pesticides on the property that could be hazardous to wildlife have them revisiting their draft restoration plan.

Dr. Coveney also clarified the issue of eel grass coverage in Lake Apopka, saying that since the study that was conducted in 1999 to which Dr. Canfield referred, the drought in 2000-2002 severely lowered the water level in the lake by as much as 70%, exposing the eel grass beds. He said this profoundly reduced their populations which partially accounts for the more limited populations in the lake currently. Dr. Coveney asked that this information be included in the final assessment of this issue.

No further agency updates were provided.

7. COUNCIL MEMBER COMMENTS

Council Member Comments

V. Chairman Goerner expressed his concerns about the possible approval of the Blue Ways Program on the HCOL and the difficulty he has had trying to obtain additional information about the organization sponsoring the program. It is his understanding that if implemented, it would restrict boating which may include a no wake zone within 100 yards of the entire shorelines of the lakes. V. Chairman Goerner believes that this may prove a hindrance to the sponsors of the local bass and crappie tournaments. Mr. Perry said that the Lake County Attorney had make a formal public information request earlier that week to the organization sponsoring the project so it could be evaluated further.

Dr. Canfield added that the Blue Ways Program is proposed for several lakes in Alachua County and he did believe that it contained specific boating restrictions on the lakes. He cautioned the Council that the sponsors of the program are gathering strength in Florida and it has also been difficult for him to obtain information about the program or its sponsors.

V. Chairman Goerner also expressed his concerns about sediment accumulation at the spillway at Haynes Creek and into Lake Griffin saying that the sand bar that has

accumulated greatly affects the flow of water entering the lake and is eroding a portion of the shoreline in that area. He said that pervious efforts to correct that issue were not successful and he felt the Council should get involved in reviewing an effective repair. V. Chairman Goerner requested that this issue be discussed at the September Council meeting.

V. Chairman Goerner then suggested the Council may want to discuss possible amendments to their enacting legislation which may include term limits for the appointment of members to the Council, because currently they are appointed for the duration of the Council which should span many years into the future. He requested that this issue also be discussed in the next Council meeting.

Additionally, V. Chairman Goerner requested a general discussion of appointing Richard Royal as Ex-officio to the Council. He believes Mr. Royal would be a great benefit to the Council based on his extensive background in agriculture.

There were no additional comments made by the Council.

Discussion of September 9, 2005 Meeting

Mr. Caputo reminded the Council that the September meeting had been moved to September 9th due to the Labor Day holiday. He also mentioned to the Council that Councilman Rick Powers had requested that the September meeting either be held on 9/2 or 9/16 because of the water conference being held the second week of September. The attending Council members agreed that it was too late to change the September meeting date. Mr. Caputo then provided a summary of scheduled agenda items for the September 9th Council meeting including:

- A discussion / approval of the July Meeting Minutes
- A discussion / approval of the August Meeting Minutes
- Quarterly budget report – Councilman Tom Brooks
- A discussion of the draft annual report
- A discussion of the 2006 council Plan, Programs, Projects, and Funding
- A presentation on channeled apple snails
- Further discussion on funding requests
- Discussion on possible term limits for Council members
- Discussion on Council involvement in the modifications at Haynes Creek
- Discussion on appointment of Richard Royals as Ex-officio

8. PUBLIC COMMENTS

No public comments were made.

9. ADJOURNMENT

The meeting was adjourned at 12:10 PM.

Respectfully submitted by:

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Chairman Dave Davis

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Secretary Thomas Cook, M.D.