

**Appendix 3. Excerpts from Monthly Meetings
November 9, 2005 – October 13, 2006**

Excerpts from the meeting minutes including presentations, discussion items and agency updates which were pertinent to water quality, lake restoration, and habitat improvement discussed during the monthly meetings are provided below.

NOVEMBER 9, 2005

Presentations

No formal presentations were scheduled to be made at the November Council meeting.

Agency Updates

Bill Johnson of the Florida Fish and Wildlife Conservation Commission (FWCC) gave a brief update saying that they began creel counts in the past two weeks on lakes Beauclair, Dora, Eustis and Griffin. He said they will also be conducting trawl sampling of crappie populations on lakes Beauclair, Dora, Eustis, and Griffin, and most likely on Lake Apopka. Mr. Johnson also explained that the FWCC will begin tagging crappie in January 2006 in an effort to evaluate exploitation by anglers and by-catches of commercial fishermen using gill nets.

Councilman Bob Kaiser gave an update on his research on the use of alternative energy sources such as wind-generated power at the Lake Apopka Marsh Flow-way (LAMF) and/or the Lake Beauclair Nutrient Reduction Facility (NuRF). In his web-based research of the Siemens Corporation it was determined that the smallest windmill they produce generates 1.5 megawatts of power which is enough electricity to light the City of Tavares. Councilman Kaiser explained that an 11 mile per hour (mph) wind is required to run the windmill and the wind data collected at the surface of Lake Apopka is somewhat less than that. However, Councilman Kaiser believed there may be sufficient wind at the elevation where the 75 to 80 foot blades of the windmill would be operated. With respect to the excess power generated, he explained that the electricity could be sent directly to the local power grid at which point it could be sold back to the SJRWMD or Lake County Water Authority (LCWA) for use on their projects at approximately 10% of the base cost of electrical power. In summary, Councilman Kaiser believed that although wind-generated power greatly reduces pollution to the environment as compared to conventional power plants, it may not be practical in this application.

Councilman Keith Farnier asked if Councilman Kaiser had also researched the use of hydro-electric power. Councilman Kaiser said that the volume of water flowing through the Apopka-Beauclair Canal would not be sufficient to make hydro-electric power practical.

Patrick Hunter, Recording Secretary to the Council forwarded an update to the Council provided by Dr. Larry Battoe (SJRWMD) via email. The update was on the status of SJRWMD projects in the UORB. No discussion of this information was held.

No further agency updates were provided.

DECEMBER 2005

No Council meeting was held in December 2005.

JANUARY 6, 2006

Discussion Items

Election of Officers for Council Years 2006 and 2007

Chairman Davis made a Call for Nominations for Council Officers. Councilman Don Nicholson nominated Skip Goerner for the position of Chairman. Mr. Goerner accepted the nomination. The nomination of Mr. Goerner to serve as the Council Chairman was approved by unanimous vote.

Chairman Goerner made a Call for Nominations for the position of Vice (V) Chairman of the Council. Councilman Dave Davis volunteered for the position of V. Chairman which was seconded by Councilman Kaiser. The nomination of Mr. Davis to serve as the V. Chairman of the Council was approved by unanimous vote.

Chairman Goerner made a Call for Nominations for the position of Secretary of the Council. Councilman Rick Powers volunteered for the position of Secretary of the Council. The nomination of Mr. Powers to serve as the Secretary of the Council was approved by unanimous vote.

Chairman Goerner made a Call for Volunteers for the position of Treasurer of the Council. Councilman Ted Woodrell volunteered for the position of Treasurer of the Council.

Welcome and Seating of New Council Members

Chairman Goerner welcomed and briefly introduced the two new Council members; Dr. Schlein and Mr. Woodrell.

Acknowledgement and Recognition of Former Council Members

Chairman Goerner put forth Resolution 2006-1; A RESOLUTION OF THE HARRIS CHAIN OF LAKES RESTORATION COUNCIL ACKNOWLEDGING AND COMMENDING *MR. CHARLES CLARK* FOR HIS EFFORTS IN ENVIRONMENTAL PROTECTION AND ENHANCEMENT IN LAKE COUNTY, FLORIDA, BY SERVING AS A MEMBER OF THE COUNCIL AND WORKING TO IMPROVE THE OVERALL SURFACE WATER QUALITY THROUGHOUT THE HARRIS CHAIN OF LAKES. Mr. Clark was present at the meeting and V. Chairman Davis read, then presented the Resolution and a plaque commemorating his service on the Council, to him personally.

Two additional resolutions; 2006-2 and 2006-3 were prepared for former Council members Dr. Thomas Cook and Mr. Thomas Brooks, CPA. Councilman Kaiser made a motion to approve Resolutions 2006-1, 2006-2, and 2006-3. The resolutions were approved by unanimous vote. Chairman Goerner asked that Gene Caputo of the St. Johns River Water Management District (SJRWMD) send the additional commendations to Dr. Cook and Mr. Brooks. Mr. Caputo agreed.

Chairman Goerner requested a motion to also recognize Dave Davis for his work with the Council while serving as Chairman for the past two years. Councilman Nicholson made the motion which was seconded then passed by unanimous vote.

Presentations

Request for Funding Assistance to Conduct a Local Government Charette/Workshop on Low Impact Development and its Benefits to Surface Water Quality – Dr. Pierce Jones, University of Florida

Dr. Pierce Jones, Ph.D., Director of the Program for Resource Efficient Communities at the University of Florida (UF) reminded the Council that he had made a presentation to them previously on reducing nutrient-rich runoff from property under development. He went on to say that since that time he had made additional presentations in Lake County including one to the Ocklawaha River Basin, Total Maximum Daily Load (TMDL) Working Group. A copy of that May 2005 presentation is provided as Appendix 15 of this annual report.

Chairman Skip Goerner explained that if Dr. Jones was making a request for funding to the Council, that they only receive funding through Legislative requests at the end of the year. He asked if Dr. Jones was requesting funding prior to that timeframe. Dr. Jones said that he was requesting funding for the short term.

Dr. Jones went on to say that he had been asked by representatives of Lake County government to put on a workshop for County Planners to initiate a program that encourages developers to reduce negative impacts on the lakes from properties they develop. He explained that he had worked with Alachua County government to overturn an ordinance which required curb and gutter design in a particular subdivision under construction. Dr. Jones said that curb and gutter in that subdivision had the potential to discharge excessive nutrients and runoff into a nearby lake. By allowing the stormwater runoff to collect and percolate into the ground naturally, it had reduced the runoff into the lake. Dr. Jones went on to say that this is just one example of how Low Impact Development (LID) could better manage stormwater as opposed to discharging it directly into area lakes. Overall, his work at the UF is to educate local governments to encourage developers through both reward and deterrent, in an effort to expand the use of LID.

Councilman Bob Kaiser said that he supports Dr. Jones' efforts and would like to see more LID in Lake County.

Councilman Richard Royal said that he also agrees with the concepts of LID and suggested that the Lake County Water Authority (LCWA) would be the logical entity to approach with this program.

Chairman Goerner explained that the Council would receive Legislative funding for projects of this nature through a Community Issue Budget Request (CIBR). He also said that the Legislature does not even consider a CIBR unless it includes a partner to provide matching funds in the request.

Councilman Keith Farner asked how much funding Dr. Jones was requesting. Dr. Jones responded that he was requesting \$7,500 for the program.

Gene Caputo of the St. Johns River Water Management District (SJRWMD) addressed the Council saying that the District had been working with Dr. Jones to develop a manual of LID guidelines for use by local governments. He said they had provided \$25,000 to initiate the project.

Chairman Goerner believes that it is not appropriate to utilize administrative funds of the Council for this purpose.

Councilman Farner agreed and suggested that the Council support Dr. Jones and request funding from the LCWA. Chairman Goerner asked Dr. Jones to continue with his presentation.

Dr. Jones had provided two handouts to the Council members and continued with his presentation on the Program for Resource Efficient Communities:

Florida Growth Indicators

Florida Population:

- 1980 there were approximately 10 million residents
- 2005 there were approximately 17 million residents
- 2030 there are projected to be 28 million residents

Building Permits:

- 2002 approximately 127,000 permits were issued
- 2003 approximately 155,000 permits were issued
- 2004 approximately 185,000 permits were issued

Low Impact Development

Madera Subdivision, Gainesville – Reduced impact site design

- 88 homesites required a 7 – 8 acre park to manage stormwater
- No curb and gutter which allows more infiltration of stormwater

- Driveway paver blocks to allow infiltration as opposed to concrete driveways which simply discharges stormwater
- Reduced impact design of landscaping
 - Assistance through the Florida Yards and Neighborhoods (FYN) Program
- Infiltration tanks can be used to store and release stormwater
 - Rain gutters of the house discharge to the tank

River Forest Subdivision, Bradenton

- Utilizes roadside swales as opposed to curb and gutter

Madera Subdivision – Low Impact Lot Design

Design Outcomes:

- Reduce (minimize) nutrient / chemical loading to waterbodies
- Reduce (minimize) stormwater runoff
- Increase (maximize) recharge to the Floridan Aquifer

Lake County Growth Indicators

Single Family Building Permits:

- 2002 approximately 3,677 permits issued
- 2003 approximately 4,376 permits issued
- 2004 approximately 5,214 permits issued
- 2005 approximately 5,569 (through November)

Harris Chain of Lakes Restoration

Challenges:

- Minimize chemical and nutrient loading
- Minimize stormwater runoff
- Maximize recharge to the aquifer
- Others – including improved practices, incentives to developers and improved design

Chairman Goerner said that a booklet published by the UF called “Living on the Lake” discusses several of the issues presented by Dr. Jones. He suggested that increasing distribution of the booklet could be beneficial for development.

Councilman Farner asked what kinds of incentives are available to developers to encourage use of LID. Dr. Jones explained that if County Planners review soil maps and suggest to developers that curb and gutter may not be beneficial for a particular subdivision, the developer would be able to see substantial cost savings from not installing curb and gutters.

Councilman Kaiser suggested that additional attention needs to be paid during the construction of roads without curbs to provide for adequate hardening of the road edges. He said this is required otherwise the edges have the potential to deteriorate.

Councilman Royal suggested that the Council offer their support of Dr. Jones' program to the LCWA. Chairman Goerner agreed and suggested the Council write a letter to the LCWA that recommends they listen to Dr. Jones' presentation.

Dr. Dan Canfield of the UF and member of the Technical Advisory Group (TAG) to the Council offered to provide Dr. Jones with the \$7,500 he was requesting for his program. Dr. Canfield said that he could use a portion of the Institute of Food and Agricultural Sciences (IFAS) funds that he receives from the university. Chairman Goerner thanked Dr. Canfield for his generous offer and suggested that Dr. Jones still give his presentation to the LCWA.

Catherine Hanson of the Lake County Board of County Commissioners (BOCC) expressed her opinion that Dr. Jones' workshop would be a great benefit to Lake County and it would be important for the LCWA and others to get involved. She said that the concepts had been discussed at the County level for a couple of years and now is a time for action. Ms. Hanson also said that she would like to see the City Council and County Commissioners work together to incorporate these concepts into their Land Development Regulations (LDRs). She then offered her appreciation for the Council's support in this issue and said the BOCC would cooperate with Dr. Jones in moving forward with the workshop.

Dr. Jones said that he has been in contact with the BOCC and hopes to have the workshop in March. Chairman Goerner asked if the funds Dr. Jones was going to receive from Dr. Canfield would be used exclusively for Lake County. Dr. Jones said yes and they are also going to work closely with FYN and offer the workshop to other counties in the area.

Councilman Don Nicholson asked about LID for coastal areas. Dr. Jones suggested that the Sea Grant Program may have information because he does not work directly with development along the coast.

Mr. Caputo urged the Council to encourage the support of the LCWA to become involved with Dr. Jones' program to the benefit of all of Lake County. He offered the "in-kind" funding support of the SJRWMD to the LCWA for those efforts.

Agency Updates

Dr. Larry Battoe (SJRWMD) said that this year he would like to send out his Agency Updates a few days before the Council meetings, so the members would have a chance to review it prior to the meeting. He then provided an update on the Lake Apopka Marsh Flow-way (LAMF) saying that is still on the positive side of removing phosphorus (P) and is successful in removing Total Suspended Solids (TSS) and nitrogen (N). For the benefit of the new Council members, he gave a brief overview of the flow-way operation explaining that water flows into the treatment cells through the Apopka-Beauclair (A-B) Canal near the northwest corner of Lake Apopka via gravity. The cells then provide treatment of the water to remove TSS, P and N. The treated water then flows into a basin where it is pumped back into the A-B Canal where it flows to downstream lakes through a dam or returns back into Lake Apopka.

Dr. Battoe also provided updates on three projects utilizing handouts prepared by Dave Walker (SJRWMD):

1. Rough Fish Harvest

- 300,000 pounds of gizzard shad harvested in Lake Apopka through last November
- Began harvesting of shad in Lake Griffin on 12/12/05
- Currently suspended because of excessive bycatches of black crappie
- They are conducting experimental gill net sampling in lakes Griffin and Apopka to measure the effects of shad harvesting

2. Upper Ocklawaha River Basin (UORB) – Harris Bayou Project

- A flow-way from Lake Harris into Lake Griffin

Chairman Goerner interjected that he had recently heard that the SJRWMD Projects and Land Committee had decided to not construct a canal around the Harris Bayou and to drain water directly from Lake Harris into Lake Griffin. Dr. Battoe said that was correct because a subsurface geologic study indicated that the soils would not support a canal. He said water coming from Lake Harris will drain through the bayou before discharging directly into Lake Griffin.

Chairman Goerner requested a formal presentation on the Harris Bayou projects. Dr. Battoe said that he would arrange for a presentation on the subject and then went on with his updates.

3. Sunnyhill

- Army Corps of Engineers (ACoE) went “bankrupt” in 2005, therefore the SJRWMD will fund a scaled down version of the project
- The SJRWMD intends to close off a bypass canal in the UORB to allow water to flow through natural channels and rehydrate wetlands

- Dr. Battoe offered to arrange a presentation to update the council on the project.

Dr. Battoe discussed Dr. Gian Basili's (SJRWMD) email on the Zellwood / Mt. Dora Christmas Bird Count where over 170 species of birds were reported by the 54 people who participated. If this number holds true, Dr. Battoe said it would be the second largest number of species ever recorded at events similar to this all over the country. The largest number ever recorded was at the Zellwood / Mt. Dora event in 1998 where a total of 174 species of birds were counted. He speculated that the North Shore Restoration Area (NSRA) of Lake Apopka may hold the most diverse populations of birds in North America.

Dr. Battoe then said that in response to Councilman Royal's request for costs per pound of P removal by various methods, he is working with the LCWA and others to assemble that information. He explained that although the numbers are readily available for the LAMF and Lake Beauclair Nutrient Reduction Facility (NuRF), it will take more effort to calculate the costs from aquatic plant harvesting and lake dredging. The difficulty in calculating the cost from lake dredging is that virtually all of the P in the Harris Chain of Lakes (HCOL) is found in the top eight centimeters (cm) of sediment, therefore it's more difficult to make accurate calculations. He said a report should be completed by March.

Councilman Farner asked about the pesticide levels in the NSRA. Dr. Battoe explained that further review of their sampling methods and calculations was conducted to verify the nearly 50% decreases they had seen in pesticide levels over the past five or six years. After this review and additional sampling, they determined that their previous data was in error. Dr. Battoe said they currently believe the reduction in pesticide levels to be more on the order of 10 – 15%. He described their error as being analytical.

Councilman Farner asked if there were graphs available comparing the levels of various pesticides five years ago to those in the recent sampling. Dr. Battoe said that information is readily available and he will provide it to the Council. He also said that the SJRWMD is planning a remediation project for the pesticides at the NSRA, which is scheduled to begin in either 2006 or 2007.

Chairman Goerner asked about recent discharges from the Emerald Marsh and whether they are treating the discharges with alum. Dr. Battoe explained that they are treating the discharges going into Haines Creek and they are adjusting the proper dosages in order to maximize the P reduction.

Chairman Goerner also asked about the increases in total phosphorus (TP) that are noted in the graph provided by Dr. Battoe, particularly in Lake Griffin which had increased from 50 to 60 micrograms per liter ($\mu\text{g/L}$) between August and October 2005. Additionally, Council Schlein asked why the TP of Lake Eustis was so low when compared to the other lakes. Dr. Battoe explained that the different lakes cycle the water differently and there could be additional filtering of the water as it moves through the downstream lakes of Beauclair and Dora before it enters Lake Eustis.

With no further questions, Dr. Battoe concluded his updates.

Dr. Canfield provided an update on the 2004 study of Lake Apopka where they studied largemouth bass populations and aquatic macrophytes (plants). With respect to the bass counts, they noted the same catch rates as recorded by the Florida Fish and Wildlife Conservation Commission (FWCC) in the 1980s and early 1990s. When it comes to aquatic plant coverage they measured less than 2% coverage by surface area (Lake Apopka = 30,000 acres) where fishery experts believe it should be 10 – 15% for optimum fisheries habitat.

Dr. Canfield said they also assessed the populations of *Vallisneria sp.* or eel grass for the lake and determined that there is currently 900 meters² (m²) of this keystone aquatic plant where in 1988-1989 there was 11,000 m². He speculated the dramatic decrease may be due to drought and other factors, including the large volume of fluid muck which does not support the plant. Dr. Canfield also cautioned that when there are reports of new colonies of *Vallisneria*, they usually consist of just a few sprigs of the plant. He said the important measure of aquatic plant populations is the total area of coverage.

Dr. Canfield also discussed the implied success of the LAMF. He explained that although the flow-way is removing 1,000 kilograms per year (kg/yr) of P, the NSRA is inputting 14,000 kg/yr into the lake. When it comes to sediment removal from the lake he said that albeit the flow-way is successful in removing sediments and TSS from the lake water, in order to meet the goal of removing the top eight cm of sediments his group has calculated that it would take up to 300 years. Dr. Canfield added that the top eight cm of sediments could be removed in about ten days of dredging.

Councilman Farner expressed his desire that the Council be presented with information on projects before the end of the year, when their budget request is due to the Legislature.

Dr. Canfield then outlined four steps to improving Lake Apopka:

1. The Florida Legislature should make the FWCC the ultimate oversight of lake restoration for the next ten years.
 - Mandate that various government agencies work with the FWCC for fisheries management
 - Using the SJRWMD Surface Water Improvement and Management (SWIM) funding of approximately \$3 million / year for the next ten years
2. Increase large mouth bass restocking through relocation and increasing production of bass at the Richloam State Fish Hatchery.
 - Greater numbers of bass will increase revenue for local economies
3. Improved comprehensive aquatic plant management program through the FWCC

- Increase near-shore plant coverage to 10 – 15% of the lake’s surface area
- Manage hydrilla as a beneficial plant as opposed to eradication
- Use submerged brush and trees as fish habitat in the near-shore areas to protect against wind and wave action

4. Enhanced lake level fluctuations

- Use the land beyond the dikes in the NSRA to lower the lake level in November and raise it in March
- This will enhance fish populations including black crappie
- More fish mean more fish camps and increased revenue to the area

Councilman Ed Schlein asked how far the lakes would be lowered. Dr. Canfield explained that it may be a little more than one foot.

Councilman Royal asked why the water that would be held in the NSRA should be pumped back into the lake, as opposed to allowing the increased rainfall to raise the lake’s level. Dr. Canfield explained that if the intent is to restore the marshes in the NSRA, then the water would have to be pumped out, otherwise all you would accomplish is increasing the size of Lake Apopka.

Dr. Canfield also said that he had recently met a gentleman at a conference in Madison, Wisconsin named Tom Barthalamay, who is a Drainage Manager for the Delaware Department of Natural Resources. He explained that Mr. Barthalamay manages the restoration of farmlands to marshes. Dr. Canfield suggested that the Council may want to consider having him make a presentation on his work.

Dr. Canfield then provided a brief update to the Council on the gizzard shad harvesting program saying the Mike Allen (UF) is continuing to review the data from the harvesting efforts and expects to have a final report completed by September.

He also said that the bass restocking efforts in Lake Griffin began again in December. To date they have relocated approximately 400 fish, 200 of which are in the two to eight pound range and approximately 100 are in the one pound range. Dr. Canfield said their goal is to stock a total of 4,000 fish in the lake by the end of April.

Dr. Canfield then notified the Council that the Florida Department of Health (FDOH) has contacted the Florida LAKEWATCH organization to work with them on evaluating the extent of toxic algae in Florida lakes. He said the FDOH also wants to work with Dr. JoAnn Burkholder and others on studying the human health effects of toxic algae on people in the HCOL. Dr. Canfield explained that federal funding for various projects has been reduced and they are uncertain where the money will come from for these studies. He said that if the \$250,000 the Council included in their Legislative request for the toxic algae study is approved, they will be prepared to move forward.

Dr. Canfield also said that there is some debate on what is considered an unsafe level of the algae toxin Microcystin. The World Health Organization believes it should be one µg/L in drinking water where other organizations believe it should be somewhat higher for exposure in lakes. He said that the debate and research continues but that the advice to not swim in water that is green due to an algal bloom, is good advice.

Councilman Farner requested that Dr. Canfield write a summary of the Lake Apopka restoration practices that he outlined previously in the meeting. Dr. Canfield agreed.

Chairman Goerner then announced that ESPN recently ranked the HCOL as the 5th best bass fishing destination in the world. He said that this is due to the efforts of all the agencies involved and those of the Council, which are proving successful. Chairman Goerner went on to say that in 1999 ESPN said they would not come back to the HCOL because of the poor results at that time and this year they have agreed to host six tournaments on the lakes.

Councilman Schlein added that many years ago he fished in major tournaments including those for the Bass Anglers Sportsmen Society or B.A.S.S. Masters and recalled when the HCOL was the top fishing spot in the country. He said he was very encouraged to see the lakes rebounding so well.

Bill Johnson (FWCC) gave a brief update on creel counts saying that they are continuing on lakes Beauclair, Dora, Eustis and Griffin. He said that gill netting began on Lake Dora on 1/3/06. Additionally, Mr. Johnson said they have tagged approximately 500 black crappie in Lake Dora, so their exploitation and mortality rates can be studied. Mr. Johnson said they had also completed their trawl sampling in lakes Beauclair, Dora, Eustis and Griffin that showed the numbers of black crappie are up in lakes Beauclair, Dora, and Eustis over last year and that the fish are larger. He said the same is true of red eared sunfish and bluegill.

Mr. Johnson also said that they are working with a graduate student from the UF on a crappie mortality study. He explained that they are currently maintaining crappie caught in gill nets in a confined area of the lake for three days to determine their short-term survival after being netted.

Councilman Farner asked how the renovations at the Richloam Fish Hatchery are progressing. Mr. Johnson said they are completed but he is not sure if they have begun fish production.

Chairman Goerner suggested that the Council should schedule a tour of the newly renovated facility. Several Council members agreed.

Barbara Bess of the Florida Department of Environmental Protection (FDEP) provided and update of the progress of the TMDL program saying that they are in the process of completing the Basin Management Action Plan (BMAP). She said they are meeting with local governments on 1/12/06 to discuss what additional efforts will be needed for lakes

Harris and Griffin to meet their TMDLs. Ms. Bess said that those lakes will not be able to meet their State standards with the projects already planned.

Councilman Nicholson asked Ms. Bess her opinion as to what may need to be done in order for those lakes to meet their goals. Ms. Bess speculated that improved stormwater management and retrofit projects will have to be implemented. She explained that the projects in place now are going what they are designed to do, but future development around those lakes is projected to make them exceed their TMDLs.

Councilman Royal asked if the problems in those lakes are due to point source contributors. Ms. Bess explained that there are only a few point sources discharging to the lakes and that it may take more effort from local governments. She thought that it will take improved stormwater management practices, including more stormwater ponds, with the increased development in the area.

No further agency updates were provided.

FEBRUARY 3, 2006

Discussion Items

Acknowledgement and Recognition of Immediate Past Chairman – Dave Davis

Chairman Goerner read Council Resolution 2006-4 acknowledging the efforts of Dave Davis while serving as Chairman of the Council.; A RESOLUTION OF THE HARRIS CHAIN OF LAKES RESTORATION COUNCIL ACKNOWLEDGING AND COMMENDING MR. HUGH “DAVE” DAVIS FOR HIS EFFORTS IN ENVIRONMENTAL PROTECTION AND ENHANCEMENT IN LAKE COUNTY, FLORIDA, BY SERVING AS CHAIRMAN OF THE COUNCIL FOR 2004 AND 2005 OF THE COUNCIL AND WORKING TO IMPROVE THE OVERALL SURFACE WATER QUALITY THROUGHOUT THE HARRIS CHAIN OF LAKES.

A motion to approve Resolution 2006-4 passed by unanimous vote.

Status of Burrell Lock and Dam on Creek

Dave Walker of the St. Johns River Water Management District (SJRWMD) said that the District is in the process of reviewing ownership and liabilities associated with the lock and dam and any erosion it may have caused to private property. He explained that they are reviewing the date the spillway was built and whether the seawall was built above or below the mean high water line. This was being done to assess any potential SJRWMD liabilities. Chairman Goerner said that the Council is concerned about the issues of erosion that may have been caused to private property, so they can determine how to resolve the issues.

Councilman Keith Farner requested an explanation of the issues involved in this matter. Mr. Walker displayed photographs showing a seawall located on private property, just northeast of the Burrell spillway.

Richard Howley, owner of Spillway Park in Lisbon, Florida adjacent to the Burrell spillway explained that the seawall on his property was beginning to collapse due to excessive erosion caused by the water discharging at the spillway. He said that during the 32 years he has owned the property, three sand bars have accumulated near the spillway discharge area. Mr. Howley further explained that his seawall was built 26 – 27 years ago and that the sandbars create an increase in both speed and energy of the water discharging. He believes this has caused erosion to his property and seawall. Mr. Howley also explained that the current structure was built many years ago and replaced a former structure that was about 70 feet closer to his property. He said that this structure used to discharge across his property. More recently, Mr. Howley has tried to shore up his seawall using 2” x 4” and 2” x 6” wooden boards, and placed rip rap at his property to help prevent further erosion. He said the rip rap has since been washed away.

Councilman Don Nicholson asked if the seawall was constructed using “deadmen” which are horizontal supports that are buried in the ground running perpendicular to the seawall. Mr. Howley said no and that when his seawall was constructed, it was set 1’ to 2’ into the hardpan of the creek bottom. He said this work was done during a time that the water level in Haines Creek was much lower and the creek bottom along his property was exposed. He believes that the flow from the structure has eroded away the hardpan and that is why his seawall is collapsing.

Councilman Kaiser suggested that installing rip rap consisting of 250 boulders or blocks, may prevent further scouring along his Mr. Howley’s property. He also suggested that the sandbars created at the discharge point of the spillway may be prevented if the channel leading away from the spillway was hardened with concrete. Councilman Kaiser said that this may also divert less water towards Mr. Howley’s property.

Several suggestions were made by Council members to help remedy the situation including the installation of rip rap in the channel, improved maintenance of the channel to remove the sediments that accumulate, and to extend the jetty between the spillway and Mr. Howley’s property. Mr. Walker said that he would contact a SJRWMD engineer to investigate the situation.

Mr. Howley stated he is of the opinion that his seawall was well built and the Burrell structure has caused the erosion.

Chairman Goerner said that the Council is going to work with the SJRWMD at the direction of Florida State Senator Carey Baker to find a resolution to the situation.

Councilman Farner asked for a copy of the original plans for the seawall to compare with how it was built and Mr. Howley said that he would try to locate them.

After further discussion Chairman Goerner reiterated that the Council would like to review Mr. Howley’s plans and discuss the various options with the District.

Vice (V.) Chairman Dave Davis asked Mr. Walker where this issue ranks in the District's priorities. Mr. Walker explained that they are reviewing the mean high water line of the area to assist in determining liability. He said the issue ranks fairly high as a priority.

Presentations

Harris Bayou – Status Report; Dave Walker (SJRWMD)

Mr. Dave Walker (SJRWMD) explained the modifications being made at the Harris Bayou saying the current the water level in Lake Harris is 63' above mean sea level (msl) and 59' above msl in Lake Griffin. He said that the project will involve installing an inflow structure at Lake Harris, allowing the water to flow through the bayou, then discharge into Lake Griffin through two 10' x 10' box culverts to be installed under US Highway 441. Since his last update to the Council, Mr. Walker said that the SJRWMD has resolved the lease agreements for easements with property owners to allow for the construction of the discharge channels. He went on to say that the material (sediments) dredged for construction of the channels will be placed in the bayou to act as a cap for contaminated sediments that exist in the bayou. Mr. Walker provided the Council with copies of an electronic presentation of the project.

Chairman Skip Goerner expressed his concern of the pesticide contaminated sediments at the Harris Bayou being discharged into Lake Griffin. He asked if the increased flow through the bayou will cause the discharge of contaminated sediments. Mr. Walker said no because they are going to cap most of the contaminated sediments with up to one foot of dredge material.

Councilman Bob Kaiser asked how flow through the bayou will be controlled. Mr. Walker explained that an overflow weir will be constructed at the inlet site that can be raised or lowered both remotely using telemetry equipment and manually.

Chairman Goerner asked if there was any water quality data available for the bayou. Mr. Walker said he did not know of any recent data. Mike Perry, Executive Director of the Lake County Water Authority (LCWA) also said he was not aware of any recent sampling of the bayou.

Chairman Goerner requested that water quality sampling be conducted in the Harris Bayou. V. Chairman Davis asked if there would be boating access to the bayou and also if there is a formal plan as to when water would be released into Lake Griffin. Mr. Walker said that boating in the bayou would be restricted by using possibly a chain and buoys or by some other method. With respect to the discharge plan, he explained that a formal plan has not been prepared but it will depend on the water quality in lakes Eustis and Harris. Mr. Walker said that when they discharge water into the bayou, the water discharged would come from which ever of the two lakes had the better water quality.

David Douglas of the Florida Fish and Wildlife Conservation Commission (FWCC) said they had not conducted water quality sampling in the Harris Bayou. Chairman Goerner asked if there is any information as to whether contaminants in the bayou have been found in fish or birds. Mr. Douglas said that they have identified levels of contaminants

in both fish and birds, but the mechanism of how these contaminants are transferred is unknown.

Chairman Goerner expressed his concern for the fish released into Lake Griffin during the restocking program becoming exposed to pesticide contamination

Councilman Keith Farner suggested that now may be a good time to conduct a creel count of the fish in the Harris Bayou to determine if there are any abnormalities.

Chairman Goerner asked Dr. Dan Canfield of the University of Florida (UF) and member of the Technical Advisory Group (TAG) to the Council, what the Council should be concerned about with respect to the contamination issues. Dr. Canfield said that much of the foregoing discussion was hypothetical in nature and he believes there are no major environmental concerns in the operation of the bayou.

Agency Updates

Mr. Douglas gave a brief update on activities of the FWCC saying that they are continuing the creel counts on lakes Griffin, Eustis and Dora. He said they are also conducting fish sampling on lakes Griffin, Eustis, Dora and Beauclair in addition to the gill netting activities in Lake Dora.

Councilman Kaiser asked about the status of the Richloam State Fish Hatchery. Mr. Douglas said that they are still trying to learn how to work the plumbing and the facility is not yet producing fish. He also gave an update on some of the other FWCC activities saying they are conducting near shore aquatic planting in lakes Dora, Beauclair, Yale and Carlton. He said they are also proposing to conduct plantings at the Lowrie Brown property.

Chairman Goerner offered the Council's assistance to the FWCC with the aquatic plantings through a budget request to the Legislature. He also asked if the legislative appropriations had been received by the LCWA. Mr. Perry said he did not believe so. Mr. Walker said that an agreement has been reached for the Lake Griffin canal dredging but did not believe any of the invoices had been paid. Mr. Walker also said that they are working on an agreement for the \$300,000 in legislative funding for aquatic habitat restoration.

Chairman Goerner asked Mr. Douglas about reports of large bycatches of crappie during the commercial gill netting activities in Lake Dora. Mr. Douglas said that they are currently reviewing that data but added, the crappie fisheries (population) in Lake Dora is one of the best in the area.

Barbara Bess of the Florida Department of Environmental Protection (FDEP) provided no update to the Council

Dr. Canfield handed out a summary report “Restoring Sport Fishing at Lake Apopka – An Action Program.” He also explained that the UF is conducting a study of the bycatches of black crappie and the study should be complete by the end of September.

Dr. Canfield then updated the Council on the bass restocking efforts saying they are going very well and by the end of January they had moved over 1,000 largemouth bass into Lake Griffin. The bass he said were mostly in the 10” – 12” range. Additionally, Dr. Canfield said that they are using six acres of water at the United States Geological Survey (USGS) laboratory to conduct a program of producing advanced fingerling bass for release into the Harris Chain of Lakes (HCOL) next Spring. Dr. Canfield explained that this is a cooperative effort with Polk County, the city of Lakeland and the city of Orlando who are allowing the UF access to their water bodies to obtain fish. He added that all of the advanced fingerlings are being fed natural food as opposed to commercially produced feed.

Dr. Canfield also discussed the concentrations of phosphorus in Lake Okeechobee saying that phosphorus has been monitored in the lake since 1974 and a review of the data indicates that phosphorus loading has continued to increase even though \$5 billion has been spend on restoration efforts. He explained that the increased loading is partially attributed to increased rainfall and it appears the area is moving a period where they will experience increased rainfall more consistently. One of the management practices of the South Florida Water Management District (SFWMD) under consideration is to enhance water level control by discharging water through either the St. Lucie Canal or the Caloosahatchee River. However, Dr. Canfield explained that this plan is meeting with legal issues brought about by local environmental groups.

Councilman Rick Powers asked Dr. Canfield’s opinion of atmospheric deposition and loading of nutrients in relationship to the Total Maximum Daily Load (TMDL) Program. Dr. Canfield explained that larger bodies of water like Tampa Bay are more greatly affected by atmospheric deposition and in smaller bodies of water the effect is much lower. He expressed his concern that many of the TMDLs set for specific water bodies can never be met due to the biology of the water body. Dr. Canfield said that further issues will be created as TMDLs become law and then cannot be met.

Dr. Canfield also discussed the issues of contaminants in sediments saying they contain the highest concentrations of contaminants and more research is needed to determine how to handle them. He said that he had made some rough calculations on the pesticide Toxaphene in Lake Apopka and believes that the higher levels of this contaminant is not readily available in the water column and therefore may have a smaller effect on fish. He suggested that additional research that includes tissue sampling of fish should be conducted to better understand the bioaccumulation aspects of this and other toxins.

Mr. Perry (LCWA) then provided an update on dredging the canals on Lake Griffin saying seven canals have been completed and they are pleased with how smoothly it has been going. One concern they have is that more sand is being dredged then anticipated. He said they are reviewing that issue to ensure it does not affect the schedule.

Mr. Perry also gave an update on the Lake Beauclair Nutrient Reduction Facility (NuRF) saying that they have received the 90% design plans for the project from the consultants and the necessary permits from the US Army Corps of Engineers (ACoE). Additionally, they are responding to a Request for Additional Information (RAI) on the project from the FDEP and expect to have their responses submitted within two weeks.

Councilman Farner asked about the Lake Beauclair dredging project. Mr. Perry explained that they are still trying to identify a disposal site for the dredged material. At issue is the volume of material to be disposed is estimated at 1.5 million cubic yards, as opposed to the 390,000 cubic yards for the Lake Griffin access canal dredging.

Councilman Farner reminded Mr. Perry that the Council can only submit funding requests for approved projects. Mr. Perry assured the Council that they are trying to work out the issues for this project.

Mr. Perry also updated the Council on the latest activities of the Friends of Lake Apopka (FOLA) saying that they are continuing their opposition to the NuRF project. He suggested that perhaps their representatives could be invited to a Council meeting to openly debate the merits of the project.

Councilman Kaiser said that he would agree to representatives of FOLA attending a Council meeting. He also expressed his concerns with a proposed withdrawal of water from Lake Apopka for public use, based on the limited size of the watershed of the lake.

Chairman Goerner said that the Council would like to provide any support for the NuRF and would agree to having FOLA attend a Council meeting.

Mr. Walker added that the SJRWMD believes the location proposed is the only viable place to build the NuRF and they are in the process of finalizing operational plans and are working on the lease agreement for the project. He said that the SJRWMD Governing Board has approved the project and he expects the Executive Director to sign the lease agreement.

Mr. Walker also updated the Council on the shad harvests saying they have removed 400,000 pounds of gizzard shad from Lake Apopka since November 2005. Additionally, harvesting began in lakes Dora and Beauclair in January 2006 and they have removed 175,000 pounds of shad from those lakes. They have also removed 180,000 – 200,000 pounds of gizzard shad from Lake Griffin since late December 2005 and they are closely monitoring the bycatches of crappie. Mr. Walker added that they are currently working with the UF and the Institute of Food and Agricultural Sciences (IFAS) along with an additional scientist conducting research on the gizzard shad excretion project.

Mr. Walker went on to discuss the projects at Lowrie Brown saying that they intended to be working on restoration of the site which included reconnection to Lake Griffin, improved vegetative plantings and aquatic weed control. Due to the issues of breaches in the levees caused by the recent hurricanes, they are now working with the FWCC to accelerate the reconnection portion of the project. He explained that they may be able to

receive mitigation funds from the Florida Department of Transportation (FDOT) that when coupled with the FWCC funds should be adequate for the project. Mr. Walker said that prior to reconnection, there will have to be efforts to control hydrilla at the site.

Mr. Walker then briefly mentioned the Sunnyhill restoration project saying that because the ACoE has pulled out from the funding for the project, the SJRWMD is now in the process of preparing a scaled down version of the project to reduce the costs. He said that although less water will flow through the marsh, they intend to move forward with the project.

He then provided an update on projects in the Emeralda Marsh saying they are completing planting along the degraded levees at the Knight-North property which should be done by the end of the year. The SJRWMD is preparing the final plans to complete the restoration of other Emeralda projects including the SN-Knight South property, Long Farm, Matthews Farm, Walker Ranch and the Eustis muck farm.

Chairman Goerner asked about the schedule for reconnection at Lowrie Brown. Mr. Walker explained that they are including money in the next year's annual budget to complete the reconnection of the property to Haines Creek and Lake Griffin. He said that once the connection is complete there will be access for boating through the property.

No further agency updates were provided.

MARCH 3, 2006

In lieu of the regular Council meeting, site visits to the Burrell Lock and Dam, Lowrie Brown Restoration Site and Lake Griffin Canal Dredging Project were provided by the St. Johns River Water Management District. A summary of the tour is provided as Appendix 5 of the annual report.

APRIL 7, 2006

Discussion Items

Status of Burrell Lock and Dam on Haines Creek

Chairman Goerner discussed flow through the Burrell spillway saying that he had requested and received the record of flow from the SJRWMD for 1997 to present at the spillway, which he said he had not yet had the opportunity to review. However, he did review flow data from the United States Geological Survey (USGS) which indicated that during the period of December 1997 to April 1998 there was flow on the order of 1,600 cubic feet per second (cfs). Chairman Goerner said that although the large majority of the time there are minimum flows through the structure, the maximum flows would create a whirlpool which could cause erosion in the vicinity of the structure.

Chairman Goerner also discussed peak flows through the spillway during the 2004 and 2005 hurricane seasons saying that in September 2004 there were flows of up to 1,300 cfs and the same was true for periods in 2005. Again he said that although these peak flows

are not the norm, extended peak flows may have caused damage near the spillway, in his opinion.

Councilman Rick Powers said that the peak flows are something that the spillway is designed for and not unexpected. He believes that the responsibility of maintaining seawalls in the vicinity of the spillway should be that of the property owners, not the SJRWMD.

Councilman Keith Farner suggested that perhaps the Council should review as to whether the Burrell spillway was properly build to the original plans. He said there may be questions as to the proper installation of rip rap downstream of the structure.

Chairman Goerner said that it was his understanding the design for peak flows through the spillway were for flows in the 1,200 cfs range and at times the flows are greater.

Councilman Ed Schlein said that over time a large sandbar has accumulated just downstream of the spillway and this sandbar causes eddy currents which affect the properties to the north of the structure, he believes that perhaps proper maintenance to remove the sandbar may have not been completed.

Councilman Kaiser explained that in any large engineering project there are two things taken into account; the economy of scale and the economy of budget. The design probably took into consideration that historically peak flows were 1,000 – 1,200 cfs, but it may not have been economically feasible to design for flows seen during the 1997/98 discharge event.

Councilman Kaiser also said that large discharge events are rare and may only occur once in many years. He added that erosion near the spillway is a normal thing and it would be difficult to determine what, if any additional erosion may have been caused by the peak discharges.

A review and discussion was then held on the “Master Plan of Burrell Lock and Dam; July 30, 1976” provided by the SJRWMD. Vice (V.) Chairman Dave Davis noted that within the recommendations for corrective actions, specific design criteria for the installation of rip rap are provided. Chairman Goerner said that it was his understanding that sufficient rip rap was not available and therefore not installed as designed.

Councilman Richard Royal asked Councilman Kaiser if the recommendations made in the plans had been properly followed, would that have solved the problems of sandbar formation and nearby erosion. Councilman Kaiser said that this is a matter outside the purview of his expertise in engineering and perhaps the Council should consider obtaining the opinion of someone more knowledgeable of these issues.

V. Chairman Davis also noted that in Plate-3 of the plans, the property immediately north of the spillway is depicted as having two fishing piers [docks] and he was curious as to whether the seawall was present at that property at the time of spillway modifications.

Councilman Royal asked if the seawall under review was designed to take into account the water that would be discharged from the spillway.

V. Chairman Davis asked if the fishing piers shown on Plate-3 of the plans are the same structures that were present prior to the spillway modifications. Richard Howley, owner of Spillway Park in Lisbon, Florida adjacent to the Burrell Lock and Dam said no and that the structures were all built on his property after the spillway modifications.

Councilman Farner made a motion that the Council hire a Civil Engineer to review this matter further and that the Council be provided an opinion of liability from the SJRWMD. No second was made to the motion.

Chairman Goerner suggested that the Council should also review any efforts made by the SJRWMD to remove the sandbar at the spillway discharge point.

Councilman Schlein noted that the pictures on Page 18 of the plans clearly show the undermining of the spillway structure in 1973 and thought it would be beneficial for the Council to review any available information of the repairs made to that area.

Mr. Howley explained that his seawall was constructed in 1984 after the modifications were made to the spillway. He went on to explain that he recently inspected the footers of his seawall and found gaps between the footers and creek bed which he believes were caused by the spillway.

Councilman Powers suggested that the cost of hiring a Hydraulics Engineer to render an opinion to the Council may far exceed the actual cost of repairs. He asked if Mr. Howley had an estimate for the cost of repairs. Mr. Howley said that he did not.

Councilman Farner agreed with Councilman Powers and withdrew his previous motion.

Councilman Royal made a motion that the Council make a decision on the matter after receiving and discussing a written opinion of recommended cause and repairs rendered by the SJRWMD and the cost estimate provided by Mr. Howley. The motion was seconded and after additional discussion, was passed by unanimous vote.

Councilman Don Nicholson asked if there were a permit issued for the construction of the original seawall that might still be available and if it would be prudent for the Council to request the permit. He explained that Mr. Howley may have submitted a set of plans with the application.

Chairman Goerner agreed.

Harvester Purchase and Status of Funding Transfer from the SJRWMD to the LCWA

Chairman Goerner reminded the Council that there are funds available from their Legislative request which could be used for the purchase of a mechanical harvester that could help manage weeds in the canals and around the lakes. He asked that Mike Perry

of the LCWA provide information on the status of the funds from the Council's Legislative Request.

Mr. Perry explained that of the \$1.3 million from their Legislative funding, \$1.0 million has been transferred from the SJRWMD to the LCWA to assist with the Lake Griffin access canal dredging. With respect to the remaining \$300,000, the LCWA has submitted a scope of services to Dave Walker of the SJRWMD for the other projects recommended by the Council. He said that Mr. Walker is in the process of reviewing that scope.

Chairman Goerner asked if the Council is required to request the transfer of the \$300,000 to the LCWA. Mr. Perry said no because Mr. Walker understands the desire of the Council for the transfer of the funds. Chairman Goerner asked if the Council were to decide on the purchase of a harvester, would they be required to take any action. Mr. Perry said that the scope of services submitted to the SJRWMD would need to be amended to reflect any changes in the expenditures.

Chairman Goerner then discussed the possible purchase of a harvester saying he had received information on used harvesters from Aquarius Systems in North Prairie, Wisconsin. He said that they are well known in the industry and offer used harvesters starting at under \$10,000. He went on to say that he has operated the older model of harvester which is maintained and used by Florida LAKEWATCH and that it works very well for removal of hydrilla.

Councilman Kaiser asked about the cost of maintenance for a harvester. Chairman Goerner said that the maintenance should be minimal and explained that in his many hours of operation of the LAKEWATCH harvester, he may have spent \$25 in repairs.

Councilmen Farner and Powers both questioned whether there was a public entity available that would take responsibility for the harvester.

Mr. Perry said that the LCWA contracts harvester for approximately \$15,000 annually and because of the limited amount of mechanical harvesting they conduct, the cost and logistics of purchasing one makes it non-viable for them. He added that mechanical harvesters are non-selective and remove all plant material and any associated animal life in its path.

Mr. Perry also mentioned another type of harvester which operates via suction and one benefit of those is that they not only remove the plants, but also the root stock of the plants so revegetation is much slower.

Councilman Royal asked Mr. Perry if there were citizens who required harvesting in their canals, could the LCWA provide a fee schedule for those services from the harvester contractor they use. He also asked if he knew of any companies in the aquatic plant control business that would be willing to shift their focus from herbicide application to mechanical harvesting if they were subsidized by the LCWA.

Mr. Perry explained that if the LCWA considered implementing a fee schedule that would put them in the position of competing with private businesses which they are not inclined to do. He also explained that companies who perform mechanical harvesting would require larger contracts for the work to be economically feasible.

Chairman Goerner suggested that the funds could be transferred to the UF or LAKEWATCH to operate the harvester.

Dr. Dan Canfield of the UF and member of the Technical Advisory Group (TAG) to the Council said that if a harvester were purchased for use on the Harris Chain of Lakes and it could be stored at a local public facility, that LAKEWATCH personnel would be willing to operate and maintain it. He cautioned that it could not be used to manage vegetation on entire lakes but rather small areas like canals. Dr. Canfield also said that it would be the responsibility of the Council to resolve any issues involving the granted access to private property for operation of the harvester.

Councilman Farner said that if a public agency would accept the liability to operate and maintain a harvester, he would support the appropriation of Council funds for this purpose.

Dr. Canfield explained that LAKEWATCH is a public program and would accept liability if a harvester were purchased on their behalf and transferred to the UF.

Councilman Kaiser made a motion to utilize a portion of the funding approved by the Florida Legislature for the purpose of "Lake County Mosquito and Aquatic Plant Management" be used to purchase a harvester for transfer the UF / LAKEWATCH. The motion was seconded and passed by unanimous vote.

Chairman Goerner asked if the funding approved by the Legislature for cypress tree plantings could be transferred to a public entity like the City of Leesburg for planting in the vicinity of Venetian Gardens. Mr. Perry said that it would not be an issue.

Presentations

No formal presentations were scheduled to be made during the April meeting.

Agency Updates

Mike Perry (LCWA) provided an update on the Lake Griffin access canal dredging saying that they continue to make good progress. However, the dredge has run into issues of moving more sand than anticipated in order to complete dredging to the design elevation. He explained that this is taking more time than anticipated and the dredge contractor is proposing an eight to nine month extension of the contract at no additional cost. A review of the capacity of the disposal area has determined that the additional volume of dredged material due to the sand is not an issue.

Mr. Perry went on to discuss the issue of an area near the southwest corner of Lake Griffin which was excluded from dredging in the original permit. At the time of permit application by the LCWA, that property owner had submitted a permit for routine maintenance of his canals and boat basin. Since that time the property owner Mr. Grizzard, has requested that the canals at his boat basin be included in the dredging project. Mr. Perry said that additional dredging would be performed at additional costs and the LCWA is very firm on the stand that they are not going to provide any additional funding for this project. He said that at this point, the Florida Department of Environmental Protection (FDEP) has approved a maintenance exemption to the LCWA permit to allow dredging of the canals leading to the boat basin and the SJRWMD appears only somewhat willing to provide funding to assist in the additional dredging.

Councilman Bob Kaiser asked if Mr. Grizzard would be willing to share in the additional cost for the dredging of his canals. Mr. Perry explained that the cost to dredge his canals would be approximately \$103,000 and he did not know if Mr. Grizzard would be willing to pay any of those costs. He also said that different sources of funding for additional dredging are being explored.

Chairman Skip Goerner believed that excluding the discussed canals was an oversight and the Council may consider assisting with the additional costs with their Legislative Funding Request. He also explained that it would be important that this area be dredged so it is not an issue [boating access] during the lake level fluctuations.

Councilman Don Nicholson asked if the elevation within the canals would require that they be dredged to facilitate lake level fluctuations. Mr. Perry said that he believed so and added that there is always the possibility that owners of other canals which were excluded from dredging, due to the fact that their canals had not been maintained or any of the other disqualifying factors, may come forward to request their canals be dredged.

Councilman Keith Farner asked why this issue was being brought before the Council. Mr. Perry explained that the LCWA Board of Trustees (Board) would most likely not approve any additional funds to include canals previously excluded from the dredging permit. He suggested that if the Council believes that additional dredging would be necessary, perhaps they could assist in funding through a Legislative Funding Request.

Chairman Goerner offered his opinion saying that dredging Mr. Grizzard's canals would be the right thing to do because he signed the Release Form and believed his canals were included in the dredging. He said that any additional requests for dredging should be considered on an individual basis.

Councilman Rick Powers then offered his opinion saying that he does not believe the Council should be involved in resolving conflicts between property owners and State or local agencies.

Councilman Ed Schlein said that he believes if Mr. Grizzard's canals met the original criteria for dredging, then they should be included.

Mr. Perry suggested that if he were so directed by the Council to go before the LCWA Board to request their review of including additional canals, with the understanding that the Council may assist in securing additional funding, that perhaps it will move the process along.

Chairman Goerner explained that the Council currently has three Community Issue Budget Requests (CIBRs) are moving through the Legislative budget process. He said one of them is a \$500,000 CIBR slated for canal dredging, but reminded the Council that none of the requests had been approved. Councilman Schlein asked if specific canals were designated in the budget request. Chairman Goerner said no, the request is to support the dredging project in general.

Councilman Richard Royal put forth a motion that the Council accepts the updated information as provided by Mr. Perry and that they take no action until the Council receives a formal request to seek funding. The motion was seconded by Councilman Powers.

Chairman Goerner said it was his belief that the Council should take action to support the dredging in the area being discussed. Mr. Perry added that one consideration of the dredging is the timing and that the contract would need to be amended prior to the dredge reaching that portion of the lake. He said that would occur in approximately six to nine months.

Councilman Schlein asked when the entire dredging project is anticipated to be completed. Mr. Perry said it should be completed in 19 to 24 months.

After further discussion on the matter, Councilman Powers withdrew his second on the Councilman Royal motion. The motion died in discussion.

Councilman Powers put forth a new motion that the Council supports the dredging of canals that meet the original criteria for dredging and if the LCWA approves of dredging additional canals, the Council will seek to assist with funding. Councilman Schlein seconded the motion.

Mr. Perry said that the LCWA Board is committed to completing the project as approved and may be reluctant to include any additional canals to the project without the support of the Council or other entities to provide the necessary funding.

After additional discussion, a vote to approve Councilman Powers' motion passed unanimously. Chairman Goerner asked if Mr. Perry thought he should go before the LCWA Board to present this motion. Mr. Perry said yes.

V. Chairman Dave Davis asked if timing of the Legislative session would allow for a Council Funding Request to be approved prior to the dredge reaching the southern portion of the lake. He also asked if the \$500,000 in the CIBR were approved, would that funding be available for dredging additional canals.

Mr. Perry said yes and explained that the State's fiscal year ends on June 30th and if approved, the funds could be available on July 1st. He also explained that the \$7.2 million in funding to complete the original dredging project has been approved and the \$500,000 could be used for the dredging of additional canals.

Chairman Goerner requested that Patrick Hunter, Recording Secretary to the Council prepare the motion and send it to the Council so it could be taken to the next LCWA Board of Trustees meeting on April 26, 2006. Mr. Hunter agreed.

Councilman Powers reminded the Council that he does not believe that they should become involved with private landowners and deciding whether their canals should or should not be dredged.

Chairman Goerner said that the Council operates under the direction of the Florida Legislature and would continue to comply with any future requests from the Legislature. Furthermore, the Council has approved the lake level fluctuation program as a method to improve water quality and fisheries habitat. He said that this would make it incumbent on them to do what is necessary to move forward with that program.

Bill Johnson of the Florida Fish and Wildlife Conservation Commission (FWCC) provided updates on their activities saying that their trawl sampling is complete and their creel counts of large mouth bass is moving along. He said that their fish counts on lakes Dora and Beauclair are winding down and they've received approximate 30% returns on tagged fish from anglers and 10-15% returns from commercial fishermen. Mr. Johnson also said that the creel sampling is nearly complete on lakes Griffin and Apopka as the season is coming to an end.

Councilman Farner asked if the FWCC was going to conduct fish counts in the Harris Bayou. Mr. Johnson said that there were no plans to do so.

Councilman Schlein asked if shad harvesting was being conducted on Lake Griffin. Mr. Johnson said that possibly one fisherman may still be working on that lake. He went on to say that the funding for that portion of the shad harvesting had recently run out.

Dr. Larry Battoe of the SJRWMD provided an update to the Council utilizing graphs and charts that were handed out to the Council members.

- 2005 / 2006 Gizzard Shad Harvest Update
 - 950,000 pounds harvested from Lake Apopka
 - 300,000 pounds harvested from lakes Beauclair and Dora
 - 280,000 pounds harvested from Lake Griffin
 - 1.6 million pounds total harvested

- Emeraldal Marsh
 - Alum treatment of runoff using an old SN Knight farm pond

- Alum flocculate was not able to settle due to excessive vegetation
 - Removal of vegetation was completed and clear water is being discharged to Creek
 - Average phosphorus concentration flowing into the pond from the Emeralda Marsh is 1,500 micrograms per liter ($\mu\text{g/L}$)
 - Average phosphorus discharge from the pond to Creek is 50-100 $\mu\text{g/L}$
 - Average phosphorus concentration of Lake Griffin is 50-100 $\mu\text{g/L}$
 - Water is only discharged when water levels in the pond go beyond a set elevation
 - At times the phosphorus concentration of water discharged is below that of Lake Griffin
 - Average phosphorus removal with alum is 90%
- Water Quality Report for Lake Apopka
 - Graph shows average decrease in phosphorus concentration between 1987 to present
 - 2004-2006 phosphorus concentration is beginning to reach the restoration concentration of 50 $\mu\text{g/L}$
 - While farms were in operation around the lake, phosphorus concentrations were as high as 220 $\mu\text{g/L}$
 - Current phosphorus concentrations are 80-90 $\mu\text{g/L}$
 - Chlorophyll reductions have been similar to phosphorus concentration reductions
 - Transparency (Secchi Depth) has also improved over the years
- Cost of phosphorus removal by various methods
 - Many assumptions were necessary to estimate costs
 - Lake Apopka Marsh Flow-way (LAMF) (assume 200 $\mu\text{g/L}$ phosphorus concentration in Lake Apopka) = \$8 / pound of phosphorus removed
 - Shad harvesting = \$20 / pound of phosphorus removed
 - LAMF (assume 80-90 $\mu\text{g/L}$ phosphorus concentration in Lake Apopka) = \$35 / pound of phosphorus removed
 - Algal Treatment System (ATS) = \$50 / pound of phosphorus removed. These costs were derived from a prototype system operated near Lake Okeechobee which reduced phosphorus in water that was allowed to flow over a blue-green algal mat.
 - Mechanical Dredging = \$68 - \$570 / pound of phosphorus removed. Typically the phosphorus in sediments which affect a lake are in the top 1.5 inches (4 centimeters) so if 3 feet (100 cm) of sediments are removed the credit for the entire amount is \$68 / pound. However if credit is only given for the top 1.5 inches (4 cm) of the 3 feet dredged, the cost is approximately \$570 / pound.

- Lake Apopka Nutrient Reduction Facility (NuRF) (assume 200 µg/L entering the system) = \$90 - \$100 / pound of phosphorus removed
- Mechanical Weed Harvesting = \$125 - \$250 / pound of phosphorus removed
- NuRF (assume 98 µg/L entering the system) = \$161 - \$185 / pound of phosphorus removed
- Alum treatment of Storage Treatment Areas (STAs) = \$206 - \$264 / pound of phosphorus removed. These systems are operated by the South Florida Water Management District.
- NuRF (assume 80 µg/L entering the system) = \$225 - \$ 250 / pound of phosphorus removed

Councilman Royal asked if the costs at the LAMF included alum treatment. Dr. Battoe said no because the LAMF was designed to function without chemical treatment.

Councilman Farner asked that based on the lower phosphorus concentrations currently seen in Lake Apopka and the higher costs for operation the NuRF at the lower concentrations, is the LCWA still moving forward with that project.

Mr. Perry said that they are and the project continues to move through the permitting stages. He also explained that in February they did some testing of the water in the Apopka-Beauclair canal where the intake of the NuRF is proposed to be constructed. What they determined was that at the time of testing, Total Phosphorus (TP) was 104 µg/L of which, 98 µg/L was in the form of dissolved phosphorus and the other 6 µg/L was particulate phosphorus. They treated the water with low doses of alum and had a 90% decrease in TP, including the dissolved phosphorus.

Councilman Farner then asked if this project would be approved prior to the Council's next Legislative request, so perhaps they can assist with funding. Mr. Perry said that the Board is reviewing the 90% completed plans and it was his belief the construction of the project could begin before the end of December 2006.

Dr. Battoe added that the SJRWMD Legislative Funding Request includes funding to assist with the NuRF project, in addition to their donating the use of the land where the project will be built.

Barbara Bess of the FDEP provided a copy of a portion of the Upper Ocklawaha River Basin (UORB) – Basin Management Plan (BMAP) as a handout to the Council. She said the FDEP and others have determined that lakes Harris, Griffin and Yale in the Harris Chain of Lakes will not be able to meet their respective Total Maximum Daily Load (TMDL) target goals. Ms. Bess explained that they have done a good job controlling point sources of pollutants, but they are now going to start working on other pollutant reduction measures including:

- Additional stormwater treatment and management
- Septic tank maintenance and installation of sanitary sewer systems

- Review lawn maintenance regulation and public awareness to minimize the volume of chemicals used
- Begin working with local governments to better manage future growth that minimizes polluted runoff

Ms. Bess also discussed her previous involvement in the permitting of seawalls saying that although those records had been maintained in a warehouse, many of the older records had to be destroyed due to damage caused by roaches and mice. She also explained that Mr. Howley may or may not have been required to submit a permit application, depending on the level of work or maintenance he was proposing. Ms. Bess said that she would look for his original permit application.

Dr. Dan Canfield (UF) provided an update and other information to the Council.

- Bass Restocking
 - To date they had relocated 4,001 large mouth bass greater than 10 inches in Lake Griffin.
 - Their goal is to relocate 5,000 bass total.
 - Based on their FWCC permit, restocking will be discontinued when the water temperature reaches 27° C (80.6° F).
 - They have begun stocking five 1-acre ponds at the United States Geological Survey (USGS) laboratory in Gainesville, in preparation for next year. They expect the fish will breed and they will be able to produce advanced fingerlings for release next Spring.
 - Orlando International Airport has dug new retention ponds for their expansion that Dr. Canfield's program is stocking for an additional source of fish.
 - They are working on a stocking permit from FWCC in Lake Griffin for next year in the future.
 - Over 100 anglers have reported catching tagged bass from the restocking program.

- Toxic algae
 - The UF has recently purchased a piece of equipment to test for microcystin, a toxin produced by blue-green algae. Currently that equipment is scheduled for use in the area around Gainesville.
 - Drinking water standard for microcystin is 1 µg/L.
 - Recreational water standard for microcystin is 20 µg/L.
 - The Florida Department of Health (FDOH) is in the process of developing a test strip that can be used to determine if the level of microcystin is above or below 20 µg/L.
 - The FDOH has offered space in their laboratory for additional testing.

- Dr. Canfield is working with Dr. Ed Phlips (UF), Dr. JoAnn Burkholder (North Carolina State University) and others to move forward with a program of testing and public awareness.
 - Dr. Canfield is meeting with Andrew Reich (FDOH) on April 12th to discuss the program.
- Shad Harvesting Study
 - Dr. Canfield briefly mentioned that the UF is continuing to work with the SJRWMD on the study of the effects of shad harvesting in lakes.

Dr. Canfield also provided a letter from the SJRWMD expressing their disagreement with the summary of Lake Apopka restoration efforts that he provided to the Council during the February 2006 meeting. He explained that he was surprised by the amount of opposition the summary has received, but said that criticism was expected.

Councilman Farner said that he had recently been granted permission for access to ponds on the Mission Inn property in Howey in the Hills. He said that these ponds are located in an area forested with pine trees and appear to be a good source of bass. Councilman Farner said that his friend had offered the fish in these ponds as an alternate source to Dr. Canfield for his restocking efforts. Dr. Canfield said that he would be interested in going to take a look at the ponds and he appreciated Councilman Farner's efforts.

MAY 5, 2006

Discussion Items

Chairman Skip Goerner discussed the current budget requests being reviewed by the Florida Legislature saying that the Council has prepared three Community Issue Budget Requests (CIBRs). One of those requests for \$850,000 to assist the Lake County Water Authority (LCWA) with the Lake Griffin access canal dredging had been approved. He explained that another CIBR was submitted by the Council for \$750,000 to fund their combined initiative request for vegetative planting, aquatic weed control and fish restocking. He said that the Legislature had approved \$369,500 of that request. Chairman Goerner went on to say that the Council had submitted a third CIBR in the amount of \$250,000 to fund the toxic algae study in the Harris Chain of Lakes (HCOL) and that he has not been able to locate that request and was unsure of its status. Regardless, Chairman Goerner believes that the Council did very well in securing funding for the HCOL.

Councilman Bob Kaiser asked if the current funding received for the access canal dredging could be used for the additional dredging discussed during the April Council meeting. Chairman Goerner said yes and that the LCWA could use the \$850,000 as they see fit for the dredging project. He added that the LCWA had offered matching funds for the access canal dredging budget request which was instrumental in the approval of the request.

Status of Burrell Lock and Dam on Haines Creek

Chairman Goerner reminded the Council that at the April meeting they had requested a statement of liability from the SJRWMD and that Richard Howley obtain quotes to repair the seawall at his property.

Richard Howley, owner of Spillway Park located adjacent to the Burrell lock and dam structure explained that he had requested bids from two companies to make the necessary repairs to the seawall at his property. Mr. Howley contends that operation and excessive flows through the Burrell structure has caused his seawall to prematurely erode and begin to lean. He said that one of the companies, R.P. Hardinger had responded with a preliminary bid of \$12,000-\$14,000 to make repairs to the seawall at his property. Mr. Howley said that another company, Native Water Marine Construction was going to submit a bid within a week to install sheet pilings at his property to shore up his existing seawall. He explained that both of the contractors told him there is a void behind the seawall near his boat slips, where the dirt had washed away because the seawall is leaning.

Mr. Howley also mentioned that the sandbar which has accumulated downstream of the Burrell structure is only 18"- 30" below the surface of the water. He said this is limiting boats from being able to access his marina.

Chairman Goerner said that the water is near the lowest point of the regulation schedule which usually occurs around June 1st. He explained that this is a natural occurrence and after the rainy season starts, the water level will come up. Chairman Goerner said the Council will continue their discussion on the matter until the next meeting and requested Mr. Howley obtain at least one more quote for repairs. Mr. Howley agreed.

Councilman Kaiser said that he had been unable to locate historic aerial photographs of the area to examine the Spillway Park property prior to the improvements made to the Burrell structure. He also explained that the sandbar does influence currents in the vicinity of Spillway Park. Additionally, he determined that there does not appear to have been any construction activities in the embayment near Mr. Howley's property prior to construction of the spillway structure. Councilman Kaiser also said he has not determined what a solution would be to minimize the influence on currents due to the accumulation of the sandbar downstream of the structure. He added that John Richmond (SJRWMD) did not know of any dredging in the area since construction of the structure.

Chairman Goerner asked if the SJRWMD was going to respond on the issue. Larry Battoe, Ph.D. (SJRWMD) said they are in the process of preparing a response on the issue. Chairman Goerner then notified the Council that he will not be present at the June meeting and requested that further discussion on the matter be postponed until the July meeting. The Council agreed.

Harvester Purchase

Chairman Goerner said that he had contacted Aquarius Systems and was notified that currently there are no used harvesters available through that company. He explained that

used harvesters frequently become available and said that he will provide another update on the matter during the July meeting.

Status of Presentation to the Lake County Water Authority re: Dredging

Mike Perry, Executive Director of the Lake County Water Authority (LCWA) gave a brief update on the progress of the Lake Griffin access canal dredging project saying Chairman Goerner had made his presentation to the LCWA Board of Trustees (Board) and they agreed to discuss the issue further.

Chairman Goerner said that with the additional funding the Council is going to receive, they can assist the LCWA with the costs of additional dredging. Mr. Perry said that the Board would be more receptive to the additional dredging if the Council is able to assist with the funding.

Chairman Goerner also requested that the Board include the \$40,000 in funding for the operation of the Council in their upcoming budget. Mr. Perry assured the Council that their funding is included in the LCWA draft budget.

Presentations

No formal presentations were scheduled to be made during the May meeting.

Agency Updates

Mr. Perry provided updates on the proposed Lake Beauclair Nutrient Reduction Facility (NuRF), the status of Lake Beauclair, and the proposed withdraw of water from Lake Apopka.

- NuRF Update
 - LCWA Board approved moving forward with the 90% plans and final design of the project.
 - The Board will continue to review the project in steps prior to final approval for construction.
 - The LCWA will continue to review data from the Lake Apopka Marsh Flow-way (LAMF) to determine the necessity of the NuRF project.

- Status of Lake Beauclair
 - Based on LAKEWATCH data, Lake Beauclair is not receiving much benefit from the operation of the LAMF.
 - The water quality in Lake Beauclair is very poor.
 - The LCWA is concerned about meeting the Total Maximum Daily Load (TMDL) Target Concentration of 32 parts per billion (ppb) in Lake Beauclair, even if Lake Apopka meets its TMDL Target Concentration of 55 ppb.
 - There is a general concern that the NuRF may be necessary to assist in meeting the TMDL goals.

- Water withdrawal from Lake Apopka
 - The City of Apopka has proposed to withdraw 14 million gallons per day (mgd) from the lake.
 - There are additional proposals to withdraw 20 mgd from the lake.
 - Water is to be withdrawn from the North Shore Restoration Area (NSRA) of Lake Apopka.
 - The matter is still in discussion and no permits have been issued.
 - The LCWA is concerned about water availability to the downstream lakes.
 - No minimum flow levels have been established for Lake Apopka and the downstream lakes.
 - Withdrawals will be used to supplement reuse water, not for potable supplies.
 - Alternative water supplies must be developed to accommodate growth in the area.

Councilman Keith Farner suggested that the Council may want to hear a presentation by the SJRWMD on the surface water withdrawal issue.

Councilman Richard Royal discussed his knowledge of stormwater discharges and water management within the Zellwood Drainage District saying there is tremendous potential to utilize water stored within that system for reuse. He explained that currently the excess water is pumped into Lake Apopka and that the water is phosphorus rich. He believes the water could be utilized to supplement reuse supplies. Councilman Royal asked if the ditch systems in the Zellwood District are still intact.

Dr. Battoe said that they are and they're currently used to discharge water whenever it becomes necessary. He said the SJRWMD is currently required to keep the Zellwood farms dry and they have been allowed to flood the Duda farms to store excess water.

Councilman Richard Royal asked if the SJRWMD is required to keep the Zellwood farms dry because of the pesticide contamination and if so, how deep into the soils the organo-chlorines can be found. Dr. Battoe said yes and typically the pesticides are found in the top 12" of soil. Councilman Royal suggested that perhaps the top 12" of soil could be relocated to an area within the farms, in order to accommodate the construction of reservoirs to store water for reuse. Dr. Battoe said that it would involve the relocation of large volume of contaminated soils and that would be a major issue for the SJRWMD. Councilman Royal suggested that there may be a marketable use for the soils from those farms.

Councilman Bob Kaiser said that there isn't a very good market for contaminated soils. Councilman Royal explained that for years there were crops grown in those soils including carrots and that studies have never found residual pesticides in those crops.

Councilman Farner expressed his concern regarding the withdraw of water from Lake Apopka and asked about the permitting procedure to do so. Mr. Perry said that it is a permit application which is similar to a groundwater use permit application. Councilman

Farner suggested that the Council review more information about surface water withdraw from Lake Apopka, in the near future.

Chairman Skip Goerner asked if the design and approval process of the NuRF project will be far enough along that will allow the Council to include a request for funding assistance in their Community Issue Budget Request (CIBR) later in the year. Mr. Perry said that he believed the project should be approved sometime this summer.

Councilman Kaiser asked if funding sources have been secured for the NuRF project. Mr. Perry said that the Florida Department of Environmental Protection (FDEP) has offered \$500,000-\$750,000 to support the project and currently the LCWA is responsible for the balance of the costs. He added that the SJRWMD is donating the land on which the NuRF will be constructed. Mr. Perry said the estimated cost of the project is \$5.2 million.

Chairman Goerner and Councilman Farner both offered the support of the Council to request funding for the project upon final approval by the LCWA Board.

Councilman Farner asked if the LCWA is considering any other projects that the Council can assist through funding requests. Mr. Perry said that they are still working on the Lake Beauclair restoration project and are trying to resolve issues with that. He explained it is estimated that 1.5 million cubic yards (mcy) of material would need to be dredged from the lake and at a cost of \$10 per cubic yard, which would be \$15 million. He said that the sources of funding remain an issue, even though the project is more than one year in the future.

Charles Clark, a former Council member and attending the meeting as a private citizen, discussed his view of the withdrawal from Lake Apopka saying that if 20 mgd is withdrawn from the lake, it would be equivalent to 25,000 cubic feet per second (cfs) of water flowing down the Apopka-Beauclair (A-B) Canal. He explained that the annual average of flow down the canal is 40,000-50,000 cfs and the withdrawal could reduce that flow by as much one-half. Mr. Clark's concern is that the NuRF project requires large volumes of water to be successful and the withdrawal from Lake Apopka could jeopardize the success of the project. He said that he'd recently submitted an article to the Orlando Sentinel stating this opinion and suggested that the Council become involved in this issue.

Chairman Goerner agreed with Mr. Clark that even withdrawals of 4-5 mgd could reduce the flows down the A-B Canal, which would greatly affect the downstream lakes and the functioning of the NuRF. He said that he also agree with Councilman Royal that the withdrawal of water from the farms at the NSRA should be a consideration, as opposed to taking water from the lake.

Chairman Goerner also reminded the Council that at this point, the LCWA is not considering the withdrawal of water from Lake Apopka and that they are just taking applications as a possible source of reuse water.

Gene Caputo (SJRWMD) explained to the Council that the issue of water withdraw really begins with the Lake County Board of County Commissioners (BOCC) and the manner in which they approve land rezoning and development. He said that as they continue to approve new growth, new water supply sources have to be found. Mr. Caputo also reminded the Council that there is a Water Alliance where various local government entities meet to discuss these issues and that it is headed by Ray Sharpe of the City of Leesburg. He suggested that a representative of the Council may want to attend those meetings and get involved at the local level to help protect their resources.

Chairman Goerner said that in the past the Council has not become involved in water supply issues but now they should consider reviewing the issue of withdraw of surface water from Lake Apopka. He requested that Mr. Sharpe and the SJRWMD make presentations to the Council on the water supply and water withdraw issues. Mr. Caputo agreed and offered to arrange presentations at the July meeting. Mr. Perry also said that he is a member of the Water Alliance Board and he could report to the Council on their activities during his agency updates.

John Benton of the Florida Fish and Wildlife Conservation Commission (FWCC) provided an update to the Council on behalf of Bill Johnson saying they have completed their creel surveys on lakes Dora, Beauclair and Eustis, and they are collaborating with the UF on extending the counts on Lake Griffin to include a one year period. He also said they haven't completed analyzing the data collected from the current survey and will update the Council when they become available.

Mr. Benton went on to say that they conducted electro-fishing on all of the lakes in the Upper Ocklawaha River Basin (UORB) which included 20 sampling events in lakes Dora, Beauclair and Eustis and only two (2) sampling events in each of the other lakes. He said that these efforts will be sufficient to compare variances between the lakes and previous counts. When it comes to the frequency of bass, he said Lake Apopka is the lowest followed by Lake Beauclair and that the number of fish correlates to the quality of water in the lakes.

Chairman Goerner asked if Mr. Benton believes the bycatches during shad netting has affected crappie populations in the lakes. Mr. Benton said they are in the process of collecting data on bycatches and that he hasn't formulated an opinion on the matter.

Mr. Benton also provided an update on the progress of renovations at the Richloam State Fish Hatchery saying that they are currently in the process of moving into the facility. However, he said they are past the breeding season and fish production won't begin until next year.

Councilman Farner asked if the issue of the fish feed which produce problems with fatty livers in the fish had been corrected. Mr. Benton said that work on the issue has been ongoing and he is not sure if the problem had been solved.

Dr. Dan Canfield of the UF and member of the Technical Advisory Group (TAG) to the Council provided an update on the Lake Griffin large mouth bass restocking efforts

saying they have completed those efforts for this year and moved 5,033 bass greater than 8" into the lake. He said that they relocated over 6,000 pounds of bass into the lake including 21 that were over 10 pounds in weight. He also said they had tagged all of the fish they relocated. Dr. Canfield went on to explain that since January 30th they have received reports from 150 anglers catching the tagged bass including one report each from Jacksonville, Tampa and the Lake Panasoffkee Chain, which illustrates that anglers do move fish. Additionally, he equated the value of the relocated fish to a range of \$6,000-\$12,000 for the cost of fishing licenses to approximately \$2 million annual return from anglers using the lake, based on National averages. Dr. Canfield said that based on the FDEP regulatory guidelines, the bass would have a value of over \$167,000.

Chairman Goerner expressed his concern that the Legislative funding secured by the Council has not been transferred to the projects they have endorsed. He also asked for monthly updates on the disbursement of the funds.

Mr. Perry said that Dave Walker (SJRWMD) is working on contracts to transfer the \$300,000 in funds and he will ask Mr. Walker for an update. Additionally, he said that the \$1 million for the Lake Griffin access canal dredging has been transferred to the LCWA.

Dr. Canfield mentioned that the UF requires a new Purchase Order be sent from the LCWA before they can process the old Purchase order. Mr. Perry said that he would take care of that issue.

Councilman Farner said that he appreciates the value of the bass Dr. Canfield and his people have relocated because of the financial return to local businesses. Chairman Goerner added that the lakes are now known as one of the top bass fishing destinations in the world, where previously they were only known for dead alligators and algae problems.

Dr. Canfield continued his update saying he has been offered an additional source of fish in the 200-300 acres of new ponds that have been dug at the Orlando International Airport (OIA) and he has been stocking those ponds as a future source of fish. He also said that he is working with the City of Orlando and they have offered bodies of water in their jurisdiction as a possible source of fish. He explained that they are in the process of sampling those lakes to determine the viability of their use.

Dr. Canfield then said that he had Councilman Farner's friend at the Mission Inn in Howey in the Hills about possibly relocating fish from the ponds/lakes on their property. He said that his group would be sampling the water in the ponds to determine their viability as a source of fish.

Dr. Canfield also told the Council that in the future they are considering stocking Lake Dora with bass and may also move on to stock other lakes in the Chain. He said the issue with Lake Dora is that the SJRWMD is conducting studies on that lake and that he didn't want to interfere with their work. Dr. Canfield asked the Council for direction on restocking other lakes.

Chairman Goerner suggested that this issue needs more study and asked for guidance from the SJRMWD or the FWCC. Mr. Benton provided his thoughts on the matter saying that they are conducting shad studies on lakes Dora and Beauclair, and to stock those lakes would alter the data.

Chairman Goerner asked if the FWCC was going to continue shad harvests in those lakes. Mr. Benton said he believes the plan is to skip the gill netting in lakes Dora and Beauclair next year and reserve the right to conduct shad harvests the following year [2007].

The Council understood that it may be in the best interest of the shad studies to with hold restocking lakes Dora and Beauclair until the study is completed.

Dr. Canfield continued his update saying the UF has selected a new Director of The Water Institute, Wendy Graham and suggested that the Council may want to meet with her to better understand the program. He also said that Florida LAKEWATCH and the Florida Department of Health (FDOH) are still moving forward on the toxic algae study and he believes they will begin in June. Dr. Canfield explained that the FDOH has received funding from the Centers for Disease Control (CDC) to study the human health aspect of the issue.

Councilman Royal then provided his thoughts on the use of aquatic herbicides saying that repeated use to manage hydrilla in the lakes is making the plants more resistant to that class of chemicals. He suggested that a decreased use of those chemicals may make them more effective in the future. Councilman Royal also believes that non-target plants are rate tolerant and that repeated herbicide usage may weaken them. He suggested that this may hamper revegetation efforts in the areas where the herbicides are used.

Dr. Canfield said that the single action herbicide Fluridone is not used on hydrilla in Lake Apopka and that contact herbicides are being used, which are a different class of chemicals. He went on to suggest that the Council continue to review all methods of lake restoration available to them and not get caught up on debate over herbicide usage.

Dr. Battoe then provided a brief update to the Council saying that he had sent out a written update and asked that the Council review the information and then ask any questions they may have.

Chairman Goerner asked what the current phosphorus concentration is in Lake Griffin. Dr Battoe said that as of April the concentration is 59 ppb in Lake Griffin and in the other lakes is 118 ppb in Lake Beauclair, 71 ppb in Lake Dora, 46 ppb in Lake Harris, 41 ppb in Lake Eustis, and 26 ppb in Lake Yale.

Chairman Goerner requested that the Council be updated on the water quality in the lakes on a regular basis as they had been in the past. He added that water quality data is important as hurricane season approaches, so the effects can be determined. Councilman

Farner asked how often the lakes are sampled. Dr. Battoe said one to two times per month and that he would keep the Council updated on water quality.

V. Chairman Dave Davis asked if the protocols have been written for the fluctuation schedule of the lakes. Dr. Battoe said that they have not but the SJRWMD needs to begin developing the protocols. He also explained that Dr. Gian Basili has moved to a new department within the SJRWMD and that Dave Walker will be taking over duties of Project Manager for Lake Apopka and the HCOL. Dr. Battoe suggested that the Council may want to have Mr. Walker provide an update.

JUNE 2006

No Council meeting was held in June 2006.

JULY 7, 2006

Discussion Items

Harvester Purchase

Chairman Skip Goerner notified the Council that he had located a mechanical harvester for purchase. He explained the used harvester is diesel powered, hydraulically operated, constructed of stainless steel, and will cost \$20,000. Chairman Goerner said the trailer that comes with the harvester is configured with a conveyor system so the harvested material can be loaded directly onto the trailer.

Chairman Goerner said that the funds will need to be transferred from the SJRWMD to the Lake County Water Authority (LCWA) in order to complete the purchase. Mike Perry (LCWA) said that they are prepared to move forward with the purchase on behalf of the Council prior to the funds being transferred from the SJRWMD. Chairman Goerner said the Council should complete the purchase in the near future, before the owners of the harvester offer it for public sale.

Councilman Keith Farner asked who was going to own and operate the harvester. Chairman Goerner said that the harvester would be transferred to the Florida LAKEWATCH organization and they would own and operate it. Additionally, he said that the City of Leesburg has offered to allow the harvester to be stored at one of their Parks & Recreation facilities.

Councilman Bob Kaiser made a motion that the Council move forward with the purchase of the harvester utilizing Council funds. The motion was seconded.

Mr. Perry said that he would take this matter before the LCWA Board of Trustees (Board) at their July meeting.

Councilman Kaiser then modified his motion to include up to a \$5,000 retainer to hold the harvester prior to completing the purchase, if necessary. The modified motion was seconded.

Councilman Don Nicholson requested that the Chairman Goerner operate the harvester prior to completing the purchase to ensure that it is mechanically sound. Chairman Goerner said that he would operate it prior to making the purchase and that it would possibly need some minor maintenance like converting the petroleum-based oil to a vegetable-based oil and possible replacement of some of the hydraulic hoses. He added that the harvester had 1,400 hours of operation and that it is very good condition.

Dr. Dan Canfield of the University of Florida (UF) and member of the Technical Advisory Group (TAG) to the Council said that Aquarius Systems recommended this particular harvester for the Council. He explained that the Mission Inn located in Howey in the Hills, is the current owner and they will include the spare parts they have accumulated for the harvester. Dr. Canfield is of the same opinion that any repairs required would be minor. With respect to Councilman Farner's concerns, Dr. Canfield said that LAKEWATCH personnel would operate the harvester where ever they are directed to do so by the Council.

Vice (V.) Chairman Dave Davis asked if the Council was purchasing the harvester. Chairman Goerner said that the LCWA was purchasing the harvester on behalf of the Council.

A vote to approve the motion to purchase the harvester utilizing Council funds and to provide up to a \$5,000 retainer to hold the harvester prior to completing the purchase, if necessary, passed unanimously.

Spillway Park Marina Seawall at Burrell Lock – Letter from SJRWMD

Councilman Kaiser said that he agreed with the findings of the SJRWMD as outlined in a letter provided in the July meeting agenda package. He said that he believes the seawall was not originally constructed with the required tiebacks that would have prevented the seawall from rotating towards the water.

Councilman Richard Royal suggested that with the absence of Richard Howley, owner of Spillway Park, that the discussion on the matter be continued until the next Council meeting. The Council agreed.

Presentations

Rapid Infiltration Basins – David MacIntyre, P.B. Water

David MacIntyre of P.B Water gave a presentation on the growth and success of the Rapid Infiltration Basin (RIB) system known as Water Conserv II, in Orlando. Mr. MacIntyre's presentation is provided as Appendix 6 of the annual report.

Water Conserv II

- Jointly owned by the City of Orlando and Orange County

- Largest Water Reclamation Project in the world that combines Agricultural Irrigation and RIBs
- Current Capacity
 - Permitted Capacity = 51.93 million gallons per day (mgd)
 - Design Capacity = 68.30 mgd
 - Peak Flow Capacity (Maximum Daily Flow) = 81.13 mgd
- Current Project Focus
 - Primary focus is irrigation
 - RIBs are used to recharge the Floridan Aquifer with daily flows that are not needed for irrigation and manage excess wet weather flows
- Originally provided water for only citrus growers
 - Demands were seasonal (variable)
- Now has a varied customer base
 - Golf courses
 - Landfill irrigation
 - Nurseries
- Current Reuse
 - Current Annual Average Reuse Flow = 12.5 mgd
 - 42% of the Total Daily Flow Received
- Rapid Infiltration Basins
 - Used to recharge the Floridan Aquifer
 - Berms of the RIBs are protected from erosion by plastic liners
 - Current Annual Average RIB Flow = 17.6 mgd
 - 58% of the Total Daily Flow Received
 - Permeable soils are required for infiltration
 - RIB bottom maintenance to ensure percolation / infiltration is performed during Resting or Dry Cycles
- Applicability of RIBs to Other Areas
 - Competition with developers for available land
 - Local hydrogeological conditions to allow sufficient infiltration
 - Water quality issues include Dissolved and Suspended Constituents
 - Cost effectiveness

Councilman Kaiser asked if they performed soil borings prior to purchasing land for RIBs. Mr. MacIntyre said they use Ground Penetrating Radar (GPR) which is a superior method of producing subsurface characterization for permeability.

Councilman Farner asked about the quality of water discharged from the system. Mr. MacIntyre explained that the water discharged is non-potable and is not required to meet

drinking water standards. He said it was secondary use water, however; the water discharged from the system meets Primary and Secondary Drinking Water Standards.

Councilman Farner also asked if there was a potential use for RIBs to manage excess runoff in the vicinity of the Harris Chain of Lakes (HCOL). Mr. MacIntyre explained that this could be a possible method to manage runoff.

Councilman Ed Schlein asked how these systems are affected by evaporation rates. Mr. MacIntyre said that the evaporation rates are extremely low as compared to the infiltration rates.

Councilman Royal asked if the water were being used for residential and golf course irrigation, wouldn't the constant need for that water allow for reduced RIB area; as opposed to the need to store treated waste water used for irrigation. Mr. MacIntyre said that is correct.

Councilman Don Nicholson asked if there are setbacks of RIBs to surface water. Mr. MacIntyre explained that RIBs are required to be located 200 – 500 feet from surface water bodies to minimize lateral seepage of reuse water to surface waters or wetlands. He said that the quality or nutrient concentrations can also affect the permitting of the RIB. With respect to Water Conserv II, Mr. MacIntyre explained that discharge to surface waters has been less than 1%.

Councilman Nicholson then asked whether injection into the Floridan Aquifer is a replacement technology for the RIBs. Mr. MacIntyre said that RIBs are a replacement technology to injection into the aquifer. He explained that to inject water into the aquifer it must meet Drinking Water Standards and reuse quality water does not meet those standards. Although ultra and nano filtration can achieve the water quality necessary for injection, Mr. MacIntyre said that no one has received a permit to do so, to the best of his knowledge.

Chairman Goerner asked whether there are injection wells in Orange County. Mr. MacIntyre explained there are approximately 400 – 450 stormwater drain wells in use throughout Orange County however, they were permitted in the 1940s through the 1960s. He said that approximately 50 mgd of stormwater on an annual basis flow to the aquifer via these wells. Mr. MacIntyre further explained that additional wells could not be permitted today due to government regulations and the poor quality of urban stormwater runoff, even though there does not appear to be any negative impacts due to those activities. He went on to say that scientists are recognizing that the Floridan Aquifer is a very active biological system that is evidenced by the occurrence of crustaceans; primarily shrimp and crayfish, present in the Floridan wells. Mr. MacIntyre said that in order for these creatures to exist there must be a sufficient oxygen supply and food source. He also said it is believed that nutrients are carried down into the aquifer and biological processes are occurring, which support active communities that are endemic to the aquifer. Mr. MacIntyre went on to say that Orange County and the United States Geological Survey (USGS) have co-funded a study of the denitrification rates in the aquifer to better understand these processes.

Chairman Goerner asked if similar activities are taking place in the lower Floridan Aquifer, where injection wells have been proposed. Mr. MacIntyre said yes and it is especially true in central Florida where there are many connections between the upper and lower aquifers.

Bill Johnson of the Florida Fish and Wildlife Conservation Commission (FWCC) asked how deep the drainage wells were into the Floridan Aquifer and whether there was any measurement of contaminants at that depth. Mr. MacIntyre explained that these wells are typically in the top 700 feet of the upper aquifer although some are in the lower aquifer. With respect to water quality testing, he said there has been sampling conducted at various distances from the aquifer injection wells that demonstrate decreasing levels of nutrients and bacteria, which indicates there is cleansing of the water occurring within the aquifer.

Chairman Goerner asked what an average flow rate is through the aquifer. Mr. MacIntyre explained that there are great variations of flow rate through the aquifer because of varying porosity and solution conduits. He said the range of flow rates would be from a few feet to hundreds of feet per year, although accurate characterization of flow is very difficult.

Councilman Nicholson asked if RIBs near the coast could help alleviate saltwater intrusion into the aquifer, which could increase with rising sea levels. Mr. MacIntyre said that they could, depending on the local hydrogeology and whether there is sufficient porous material above the water table. He explained that the stored water in the RIB could create enough head [pressure] to drive the saltwater wedge back towards the ocean.

Mr. MacIntyre asked if the Council had any additional questions. None were asked. Chairman Goerner thanked Mr. MacIntyre for his presentation.

Water Supply Planning – Withdraw of Surface Waters

Ray Sharpe of the City of Leesburg Environmental Services Division and the Lake County Water Supply Alliance made a presentation to the Council.

Summary – 2003 Water Supply Assessment and 2005 District Water Supply Plan

- Water Supply Alliance
 - Membership includes representatives from 13 cities within Lake County
 - Formed by interlocal agreements to address regional water supply issues and local water use needs
 - Leesburg is the administrative home of the Alliance
 - Reviewed potential withdraw from Lake Monroe and the lower Ocklawaha River, downstream of Silver Run
 - Exploring sources of reuse water including stormwater and brackish water withdraw for irrigation and non-potable uses

- Received \$350,000 from the SJRWMD to study regional water supply issues

Chairman Goerner asked what the impacts of surface water withdraw and pumping from the aquifer would be on the HCOL. Mr. Sharpe explained that the City of Leesburg is making \$17 million in modifications to the Canal Street Waste Water Treatment Plant (WWTP) and when operated in conjunction with their Turnpike facility to produce reclaimed water, they will be able to offset 1 mgd of withdraw that is currently pumped from surface waters and the Floridan Aquifer. He added that it is important to work with developers to require they include systems that will utilize reuse water for irrigation, which is approximately 60% of all water used by Lake County.

Chairman Goerner asked what the demand is versus the permitted cap for withdraw from the Floridan Aquifer. Mr. Sharpe said that currently there is just under a 6 mgd demand and the permitted cap is 9.31 mgd. He added that a 16.4 mgd permit application has been submitted to provide for future growth.

Councilman Kaiser pointed out that Mr. Sharpe had been instrumental in upgrading the City of Leesburg WWTPs to eliminate discharges and runoff, which was an original duty required by the Legislature in formation of the Council. He thanked Mr. Sharpe for his presentation.

Barbara Vergara, P.G. (SJRWMD) gave a presentation on the SJRWMD Water Supply Planning. A copy of that presentation is provided as Appendix 7 of the annual report.

- History of Water Supply Planning
 - SJRWMD began involvement with water supply planning in 1990
 - Initially assessed water supply needs and sources
 - Developed a Water Supply Plan through 2025
- Review of Water Uses (in millions of gallons)

Category	Actual		Projected
	1995	2000*	2025
Public Supply	453.26	563.45	835.56
Domestic and Other Small Public Supply	71.09	64.50	100.68
Agricultural Irrigation	584.31	601.59	522.11
Recreational Irrigation	99.13	104.60	156.44
Commercial/Industrial/Institutional	133.68	122.36	129.30
Thermoelectric Power Generation	22.18	29.77	41.86
Total	1,363.65	1,486.27	1,785.95

(Table courtesy of the SJRWMD)

- Projected 2025 Needs
 - Tools utilized include Water Use Data, Groundwater Flow Models, water resource constraints which is Geographic Information Service (GIS) based
 - Developed regional groundwater model boundaries
 - Projected changes in the Potentiometric Surface of the Floridan Aquifer 1995 through 2025 (The preferred source of public water supply is the Floridan Aquifer)
 - Projected changes in surficial aquifer water levels 1995 through 2025

- Water Resource Constraints
 - Identified limits of water level change at which unacceptable impacts are likely to occur
 - Reviewed impacts to natural systems including native wetland vegetation, lakes, springs, and minimum flows and levels
 - Reviewed groundwater quality including salt water intrusion
 - Based on current projections some small, isolated lakes may be impacted by aquifer withdraws
 - Minimum Flow Levels of springs have been calculated and a decrease of 15% from the historical flow would be considered unacceptable

Chairman Goerner asked what the permitted withdraw from the aquifer is projected to be. Ms. Vergara said the City of Leesburg is permitted for 28 mgd of withdraw by 2025 and currently there are five (5) additional permits pending in the area.

Councilman Nicholson asked if Gourdneck Springs could be impacted by unacceptable flow based on these withdraws. Ms. Vergara said that it could.

Chairman Goerner asked if the Council could be provided the historic spring flow data. Ms. Vergara said she would provide the information to Mr. Caputo. She then continued with her presentation:

- Priority Water Resource Caution Areas (PWRCA) were developed in 2003
 - Includes approximately 39% of the area within the SJRWMD

- 2005 District Water Supply Plan (DWSP)
 - Focus: Identify water supply development projects, water resource development projects, and other strategies that if implemented would solve or avoid problems in identified PWRCA
 - Components of the Plan include:
 - Minimum flows and water levels
 - Water supply development
 - Water resource development

- Water Supply Development Projects
Definition: Projects that include planning, design, construction, operation, and maintenance of public or private facilities for water collection, production, treatment, transmission, or distribution for sale, resale or end use.
 - 60 alternative water supply development projects identified in the 2005 DWSP
 - Eligible for Water Protection and Sustainability Program funding

- 60 projects currently in the 2005 DWSP include:
 - 6 surface water projects
 - 6 brackish water projects
 - 3 seawater projects
 - 38 reuse of reclaimed water projects
 - 5 reuse augmentation projects
 - 2 agricultural irrigation projects

- Water Resource Development Projects (WRDPs)
Definition: A project that contributes to the formation and implementation of regional water resources management strategies.
 - 16 WRD projects identified in the 2005 DWSP
 - None in northeast Florida

- Major conclusions in the 2005 DWSP
 - Water use is projected to increase by approximately 20% to 1,774 mgd from the years 2000 to 2025
 - Public supply accounts for approximately 90% of the increase
 - The Floridan Aquifer is the source of choice and cannot supply all of the increased demand without unacceptable environmental impacts
 - Approximately 200 mgd in new alternative water supplies in east-central Florida will be needed by 2025; the majority are required in the “near” future
 - Alternative water sources are available

Chairman Goerner asked if the Projected Use figures being presented are based on the volume of water currently being used or on the volume of withdraw which is permitted. Ms. Vergara explained that the projected figures are based on 2000 water use data of water actually being used.

Councilman Farner asked if the Projected Use figures include the water conservation efforts currently being implemented and what some of those efforts are. Ms. Vergara explained that current conservation efforts are included and she hopes that these efforts will increase over time. She went on to explain that every Consumptive Use Permit includes conservation measures that must be implemented, such as identifying and correcting losses within water transmission lines, and water conservation rate structures where higher water usage results in higher rates / costs for the water.

Councilman Schlein asked if there is a State mandate to reduce losses in public supply lines. Ms. Vergara said that the State may require these efforts but reiterated that the SJRWMD requires it with every Consumptive Use Permit.

Chairman Goerner requested the data for Lake County of permitted versus actual usage. Ms. Vergara said that she would provide that information to Mr. Caputo, then continued with her presentation:

- Status of 2003 Water Supply Assessment (WSA) and 2005 DWSP
 - Approved by the SJRWMD Governing Board on February 7, 2006
 - Final documents are available on the SJRWMD website
 - Implementation is underway

- Current Priorities
 - Complete the 2008 WSA
 - Implement the Water Supply Development Projects (WSDPs)
 - St. Johns River / Taylor Creek Reservoir Project
 - Implement WRDPs
 - Upper St. Johns River Basin Project
 - Gain sponsors for specific WSDPs
 - County level planning efforts
 - Review problems at model boundaries
 - The Villages area

Councilman Nicholson asked if there have been studies on replenishing the Floridan Aquifer via natural sources such as closing off springs that discharge to salt water off the coast. Ms. Vergara explained that the majority of the springs off the coast discharge saline water, not fresh water and that blocking off any spring would cause increased flows in other springs, possibly increasing leakage between the upper and lower Floridan Aquifer. She said that the USGS would have information on this issue and Charles Tibbles has authored documents that provide a resource of information on groundwater and hydrogeologic issues in east-central Florida.

Chairman Goerner thanked Ms. Vergara for her presentation.

Phosphorus Removal – Mike Coveney, SJRWMD

Mike Coveney (SJRWMD) provided a presentation on various elements of phosphorus removal. A copy of that presentation is provided as Appendix 8 of the annual report.

- Lake Apopka Marsh Flow-way (LAMF) Phase I
 - 4 treatment areas / cells
 - Phosphorus removal by settling of sediments and recycling of soluble reactive phosphorus (SRP) or ortho-phosphorus (PO₄)

- Total Phosphorus (TP) = Particulate Phosphorus + Dissolved Organic Phosphorus + PO₄
 - All phosphorus is bio-available in the water column
- All phosphorus is estimated to be recycled in Lake Apopka in approximately three (3) days
- Linear relationship between chlorophyll (algal mass) and particulate phosphorus
 - No relationship between chlorophyll and PO₄ or dissolved phosphorus

Chairman Goerner asked about the Lake Beauclair Nutrient Reduction Facility (NuRF) and the ability of alum to remove dissolved phosphorus. Mr. Perry explained that jar testing conducted at the site in February 2006 was approximately 95% effective for removing both dissolved and particulate phosphorus.

Mr. Coveney continued with his presentation:

- Cumulative removal at the LAMF from November 2003 through May 2006
 - 125% of Lake Apopka's volume has been treated
 - Phosphorus removed = 5.6 metric tonnes (6.2 tons)
 - Nitrogen removed = 267 metric tonnes (294 tons)
 - Solids removed = 9,718 metric tonnes (10,690 tons)
 - Treatment cell B-1 (southwest corner of the LAMF) is the most efficient for reasons unknown
- Lake Apopka North Shore Restoration Area (NSRA)
 - Convert farmlands to wetlands to reduce phosphorus inputs to Lake Apopka and to restore habitat
 - West Marsh, LAMF and Duda Farms to be reflooded
 - Unit 1 and Unit 2 to be kept dry

Chairman Goerner asked if alum treated water discharged from the NSRA into Lake Apopka is adding to phosphorus to the lake. Mr. Coveney said there is some phosphorus released to the lake but the majority of phosphorus is adsorbed by the alum floc. He added that the basin where the floc is stored after treatment is not effectively holding the material and additional maintenance is required in that retention basin.

Councilman Royal asked if the United States (U.S.) Fish and Wildlife Service (FWS) is opposed to creating additional reservoirs within the NSRA to store water instead of releasing it. Mr. Coveney explained that the FWS is not necessarily opposed to the construction of additional reservoirs but they are required to approve any reservoir construction. He said that the SJRWMD is currently studying the science involved in moving forward with additional water storage within the NSRA.

Mr. Coveney continued with his presentation:

- Lake Apopka phosphorous loading [Concentrations]
 - Phosphorus loading ranged from 120 metric tonnes per year (mt/yr) in 1989 (132 tons) to approximately 30 mt/yr (33 tons) in 2002
 - Total phosphorus concentrations ranged from 0.25 milligrams per liter (mg/L) in 1988 to approximately 0.12 mg/L in 2002
 - The Total maximum Daily Load (TMDL) Phosphorus Loading target is 15.9 mt/yr
 - TMDL Total Phosphorus Target Concentration is 0.055 mg/L

- Lake Apopka Chlorophyll and Secchi Depth
 - Chlorophyll ranged from a high of 120 micrograms per liter ($\mu\text{g/L}$) in 1994 to approximately 20 $\mu\text{g/L}$ in 2005
 - Secchi Depth ranged from a low of 20 centimeters (cm) in 1994 (7.9 inches) to approximately 40 cm (15.7 inches) in 2005

- TMDL Baseline Changes
 - Phosphorus concentrations have been reduced by 56%
 - Chlorophyll concentrations have been reduced by 46%
 - Secchi Depths have increased by 60%

Dr. Larry Battoe (SJRWMD) briefly explained how he arrived at the cost of \$35/pound for phosphorus removal at LAMF using the figures presented by Mr. Coveney. He said that the 56 metric tonnes (62 tons) of phosphorus removed was divided by the operating costs, primarily electricity, for running the flow-way.

Dr. Canfield noted from Mr. Coveney's presentation that approximately 2.2 mt/yr of phosphorus have been removed by the LAMF however, natural phosphorus loading to Lake Apopka is approximately 12 mt/yr and approximately 7 mt/yr of phosphorus were released from the NSRA. He said that in order to meet the TMDL goals, an additional 4 – 5 mt/yr would need to be removed and asked how the SJRWMD is going to accomplish this goal.

Mr. Coveney explained that the NSRA is a work in progress and if they are able to flood an additional 9,000 acres of the former farms, they should be able to reach their goal of 1 kilogram (kg) per hectare per year. He said that through remediation of the farms and alum treatment, and if they meet this goal then Lake Apopka should reach the TMDL Target Concentration of 55 $\mu\text{g/L}$.

Councilman Royal asked how much of the 14,000 acres of the old Zellwood Drainage District [NSRA] is considered to be a problem by the FWS. Mr. Coveney explained that after the bird mortality issues of 1998-99 [due to pesticide contamination], the SJRWMD agreed in a Memorandum of Understanding with the U.S. Department of Justice (DOJ) and the FWS that all of the property in question is considered to be a problem. He said that the SJRWMD is working with the DOJ and FWS in strict consultation on approving

certain portions of the property for reflooding. Mr. Coveney believes that approximately 1,000 additional acres will be approved by the end of the year, while other areas will require remediation before approval.

Chairman Goerner expressed his concern that Lake Apopka will not meet its TMDL goals and asked Mr. Coveney how the lake will meet the goals when phosphorus is continually being discharged [from the NSRA]. Mr. Coveney assured the Council that they are making good progress and he is confident Lake Apopka will meet those goals.

Councilman Royal pointed out that although there has been significant reduction in phosphorus from 1998 to present, the majority of phosphorus loading reduction to Lake Apopka occurred prior to 1998, when the SJRWMD purchased the farms in the NSRA and closed them down.

Councilman Farner expressed his appreciation of the efforts by the SJRWMD in the restoration of Lake Apopka.

Agency Updates

Mr. Perry provided the following updates to the Council:

- **LCWA / Council Budget for Fiscal Year 2006-2007**
The LCWA Board is in the process of reviewing the \$40,000 per year that they provide to the Council and on the average, the Council utilizes approximately \$20,000 of those funds. He said the Board is considering whether \$40,000 is the proper amount to budget for the Council, although the \$40,000 is currently in their proposed budget.
- **Projects Under Consideration**
The LCWA Board had moved additional funding for the NuRF project to make it more readily available to be spent on the project. Mr. Perry said that this could be an indication to the Council they the project is more likely to move forward and perhaps they could consider including funding for the project in the Council's Legislative Request.
- **Lake Griffin Access Canal Dredging**
The LCWA Board approved a no-cost extension to complete the dredging due to the issues of sand and harder materials that have been encountered. Additionally, the Board approved dredging of the additional canal near the southwest portion of the lake, if the Council is able to provide the funding. Mr. Perry reminded the Council that they had offered to provide the approximate \$110,000 to dredge this area.

Chairman Goerner explained that the Council had already passed a motion to assist with the funding to dredge additional canals. He also said that the Legislature had recently approved \$850,000 of the \$2.1 million in the Council's Funding Initiative Request.

Chairman Goerner said that a portion of that money could be used to support the additional dredging.

Councilman Farner said that he thought the Council had approved a motion to seek funding for additional canal dredging [through a new funding request]. Councilman Schlein said that he recalled the motion was to use funding already requested, if received, to assist with the additional canals.

After an extended discussion it was determined that the Council could use a portion of the \$850,000 to fund additional canal dredging and the balance would be used to fund other elements of the Council's Funding Initiative including bass restocking, aquatic vegetation enhancements and cypress tree plantings.

Bill Johnson (FWCC) provided an update to the Council on recent peak fish counts on the lakes. He said that black crappie counts in Lake Eustis during the November-April timeframe had increased from 9,000 last year to 29,000 this year. Likewise, the counts in Lake Dora had increased from 22,000 last year to 29,000 this year. Mr. Johnson noted that in this year's count approximately one-half of the fish were caught by commercial fishermen and one-half by anglers where last year commercial fishermen caught less than one-third of the crappie caught by anglers. He also said that the ratio of gizzard shad caught in the gill nets had gone down from 88% last year to 80% this year, indicating a reduction in their population. In Lake Dora it was estimated that there were 550,000 pounds of shad last year and Mr. Johnson believed they had removed approximately 290,000 pounds this year.

Dr. Dan Canfield provided updates to the Council on the following issues:

- Mission Inn property to provide access to their lakes for bass to be used in restocking efforts next year.
- City of Orlando continues to allow the harvesting of bass for restocking from their lakes.
- Florida LAKEWATCH is working with the FWCC to assemble creel counts for the whole year, not just counts during the peak season.
- Toxic algae sampling is being conducted on the HCOL through a cooperative effort between the LAKEWATCH and Florida Department of Health (FDOH). Dr. Canfield also said that the U.S. Environmental Protection Agency (EPA) is funding a toxic algae survey in lakes around the State. He asked if there are any reports of algae blooms on area lakes, that he be notified so the blooms can be sampled.
- The UF is still interested in stocking bass in Lake Dora however, they do not want to interfere with the shad study being conducted on the lake by the FWCC.

Chairman Goerner asked for a report from Dr. Canfield on lakes Dora and Beauclair so the Council can discuss the inclusion of funding in their Legislative Request for restocking. Mr. Johnson told the Council that the shad study in those lakes will continue through next year and any restocking should be conducted the following year [2008].

Dr. Battoe then provided a brief update to the Council using graphs he provided at the meeting.

- Mean Monthly Total Phosphorus (TP) for Ocklawaha Lakes
 - Currently TP for all lakes is below 0.050 mg/L except for lakes Apopka and Beauclair
- Mean Monthly Chlorophyll-a (Chl-a) for Ocklawaha Lakes
 - Lake Dora has the highest Chl-a concentration at approximately 125 milligrams per cubic meter (mg/m^3)
 - Lake Yale has the lowest Chl-a concentration at approximately $10 \text{ mg}/\text{m}^3$
- Mean Monthly Secchi [Depth] for Ocklawaha Lakes
 - Lake Yale has the best transparency at just over 1.4 meters (4.6 feet)
 - Lake Beauclair has the least transparency at approximately 0.3 meters (1.2 feet)

Chairman Goerner asked about the status of Legislative funding the Council received from last year's request. Dave Walker said the SJRWMD is working on amendments to the agreements with the LCWA to fund the projects supported by the Council.

A brief discussion was held on the motion previously passed by the Council on seeking additional funding to assist with the dredging of canals in Lake Griffin, which have been added to the current project. Chairman Goerner asked when the additional canal at the southwest portion of the lake would be dredged. Mr. Perry said that it would probably be dredged early in the next calendar year.

Councilman Schlein put forth a motion that the Council provide funding for the dredging of additional canals in Lake Griffin from the \$850,000 recently approved by the Legislature. The motion passed with Councilman Farner casting a dissenting vote.

AUGUST 7, 2006

Discussion Items

Spillway Park Marina Seawall at Burrell Lock – Letter from SJRWMD

Initially the discussion on the seawall at Spillway Park was postponed due to the absence of Chairman Skip Goerner. Later in the meeting Councilman Bob Kaiser expressed his

opinion that the discussion of issues should not be postponed because Chairman Goerner is not present at a meeting.

Councilman Richard Royal suggested that Council members should be involved with the issues that Chairman Goerner is working on and it was decided to discuss the seawall issue at the meeting.

Councilman Kaiser said that he agreed with the findings of the SJRWMD as outlined in a letter provided in the August meeting agenda package.

Councilman Kaiser explained that he had recently visited the Spillway Park property and it would be difficult to determine the actual cause of the seawall rotating towards the water. He believes that the seawall may not have been constructed as well as it could have been originally. He also suggested that the SJRWMD could do a better job of maintaining the spillway leading from the discharge structure, by removing the sandbar that has accumulated and to provide improved hardpan [velocity dissipation] downstream of the structure.

Councilman Ed Schlein said that he and Councilman Ted Woodrell had also recently visited the area and noted that the sandbar which has accumulated downstream of the discharge structure has grown considerably over the past few years and this has dramatically changed the flow patterns of water. Councilman Schlein is of the opinion that the Council has reviewed the matter and it is really an issue between the property owner and the SJRWMD.

Councilman Kaiser said that part of the issue is that the rip rap originally installed downstream of the structure was not of sufficient size to manage the flows through the structure. He suggested that either concrete or larger boulders be installed to better manage the flow through the spillway.

Councilman Schlein added that perhaps the spillway [apron] could be more funnel-shaped so as to increase the velocity of the water in the center of the spillway, which may inhibit formation of sandbars in the future.

V. Chairman Dave Davis expressed his opinion that the Council is not in a position to refute the findings of the SJRWMD as outlined in their letter [dated May 10, 2006]. He then asked if there was a motion on the matter.

Councilman Kaiser presented a motion that the Council has reviewed the information in the letter provided by the SJRWMD and that the issue should be resolved by the property owner and the SJRWMD.

Councilman Schlein seconded the motion saying that there has been a scientific review of the matter and the Council does not have the ability to take this issue any further.

Councilman Keith Farner reminded the Council that the property owner, Red Howley was not satisfied with the actions of the SJRWMD and that is why Florida State Senator Carey Baker had requested that the Council review the matter.

Councilman Rick Powers suggested that the Council agree with the findings presented in the letter, but also recommend the SJRWMD take remedial actions within the spillway channel.

Councilman Schlein then suggested that although an opinion has been rendered by a SJRWMD Professional Engineer (P.E.), it may preferable to have an opinion of an independent P.E. He went on to say that he was uncertain as to the capacity or financial ability of the Council to hire an independent engineer.

Councilman Kaiser explained that hiring a private engineer to study the issue would be very expensive and it would be extremely difficult for anyone to be able to justify the limits of liability, when it comes to how much damage to the seawall can be attributed to the poor construction of the seawall and how much to the operations at the spillway.

Councilman Powers expressed his opinion that the Council has been put in a difficult situation because the qualified SJRWMD engineering staff have reviewed the issue and rendered an opinion. At this point he said; it is a matter to be decided between the property owner and the SJRWMD, and it is not the Council's responsibility to make any further decisions.

Councilman Woodrell said that to date, the Council has not been presented any evidence that warrants further action by the Council and unless the property owner presents such evidence, the Council has nothing further to act upon.

Councilman Schlein said that he believes the SJRWMD engineer based his opinion on the initial design of the flow characteristics [through the structure] and that over time flows have changed, adding that the Council just doesn't have enough information to formulate an opinion.

Councilman Powers said that in response to the V. Chairman's question, the language of the opinion is fine in that P.E.'s express their opinions all the time.

Councilman Schlein offered his opinion saying that if the spillway was properly engineered and operated, large sandbars would not be forming [at the discharge]. He said that he understands the position of the SJRWMD but that the opinion offered may not be the best way to resolve the dispute.

Councilman Kaiser added that perhaps if the seawall [at Spillway Park] had been properly designed and constructed, the outcome of the seawall and ramp would have been different. He went on to say that if Mr. Howley were to hire and outside engineer [to review the issue], then perhaps he would have the basis for further action.

Dr. Dan Canfield of the UF and member of the Technical Advisory Group (TAG) to the Council suggested that perhaps the Council should be looking at the “big picture” in that the Legislature formed the Council to improve the overall recreational value and ecological balance of the Harris Chain of Lakes (HCOL). He further suggested that maybe the Council should consider whether to recommend modifications to the lock and dam structure to eliminate sandbars in the future. Dr. Canfield reminded the Council of the debate they had as to whether it would be appropriate to dredge private canals in Lake Griffin [utilizing State funds]. Ultimately he said, it was determined that an enhanced fluctuation schedule would benefit the lakes and dredging the canals would be necessary for the lake fluctuations. Dr. Canfield went on to ask that with respect to the spillway structure, would modifications eliminate sandbars and allow for improved manipulation of flows through the structure for the greater good of the HCOL. He added that in his opinion, it may not be in the best interest of the lakes to drop this matter at this time, because he believes there are problems with sandbar accumulation.

Councilman Farner recalled that the Council’s review of the Burrell Structure indicated that the spillway was not constructed exactly to plan and the rep rap proved to be not sufficient [to manage flows].

Councilman Kaiser said that the rip rap used in construction [of the spillway] was too small and was washed away. He also said that he disagreed with the opinion of the SJRWMD that flows from the spillway did not cause damage to the seawall, but that is an issue between Mr. Howley and the SJRWMD.

Dr. Canfield said that perhaps the rip rap was not of sufficient size and the sandbar may have caused problems with Mr. Howley’s seawall, but suggested the Council keep in mind that modifying the spillway structure may preclude problems like this in the future.

Councilman Richard Royal requested that Councilman Kaiser alter his motion to include a recommendation that the SJRWMD make changes to the [spillway] structure in order to improve navigation in Haines Creek.

Councilman Kaiser said that he may modify his motion to include that the SJRWMD obtain an outside engineer at their expense, who specializes in low head river flow to examine the situation.

Councilman Schlein said that he agrees with Dr. Canfield and whenever a river or channel enters an open body of water, sandbars build up and require dredging. He suggested that the SJRWMD may want to develop a plan and provide funding for continuing maintenance to ensure the spillway at Creek operates as designed and not cause any collateral damage [in the area].

Councilman Farner expressed his belief that even if Mr. Howley hires and outside engineer, that this will eventually become a legal matter between the property owner and the SJRWMD. He also believes that there is fault on both side of this issue that can be argued.

Councilman Kaiser then modified his previous motion to include a request for the SJRWMD to hire an outside engineer to review the matter. Councilman Schlein seconded the modified motion.

Councilman Farner said that perhaps the SJRWMD will review the motion and decide to offer Mr. Howley one-half of the estimated \$15,000 to repair the seawall would be cheaper than hiring an outside engineer.

Councilman Schlein said that he agreed with Councilman Farner that perhaps the SJRWMD will find it cheaper to pay \$7,500 to repair the seawall. He also agreed with Dr. Canfield that Senator Baker may find a benefit in the recommendation for the SJRWMD to maintain the channel at the spillway.

Dr. Canfield said that perhaps Senator Baker will view this issue as part of the whole program of lake restoration, to maintain the lock and dam structure will improve flow through the channel and in the process Mr. Howley's seawall may be repaired.

Councilman Kaiser then withdrew his motion.

Councilman Powers asked if the SJRWMD plans to perform any maintenance in that channel. Dave Walker of the SJRWMD said that they do perform maintenance on a scheduled basis, but it is not currently planned at the Burrell Structure. Councilman Powers asked if Mr. Walker would check with his engineers and determine if any maintenance is scheduled. Mr. Walker agreed.

Bill Johnson of the Florida Fish and Wildlife Conservation Commission (FWCC) reminded the Council that during a drawdown in 1984, the SJRWMD hauled away many truckloads of sand that had accumulated in the channel and he understands during that time, Mr. Howley erected his seawall. He added that in general, no cinder block seawall will last forever.

Dr. Canfield reiterated his opinion that the Council should ask the SJRWMD whether this lock and dam needs to be improved and through the improvements and regular maintenance, many of the other problems will go away over time. With respect to Senator Baker he said; the Council should decide that proper operation of the lock and dam is important to the overall restoration of the HCOL.

V. Chairman Davis asked if there was a new motion.

Councilman Kaiser put forth a new motion that the Council recommends the SJRWMD continue to review the situation to decide further if the sandbar is causing a problem and that funds be made available to remove the sandbar and maintain the channel at the spillway, so as not to become a nuisance to nearby property owners. Councilman Schlein seconded the motion.

V. Chairman Davis expressed his opinion that with respect to the seawall, it is not the responsibility of the Council to make a decision of liability saying that it is a matter between the property owner and the SJRWMD.

After further discussion, a vote to approve the motion passed unanimously.

Upper Ocklawaha River Basin (UORB) Draft Legislative Funding Initiative; Dave Walker

Mr. Walker discussed the UORB State Funding Initiative and provided a handout to the Council. Below is a summary of the projects proposed in the initiative.

- In-lake Nutrient Reduction via Rough Fish Harvest
 - Gizzard shad harvesting will continue in lakes Apopka and Griffin
 - Lakes Dora and Beauclair are experimental lakes and no harvesting will be conducted in those lakes next year
 - Approximately \$200,000 to \$250,000 will be requested

- Restoration of the North Shore of Lake Apopka
 - Remediation and reflooding projects to store more water are underway
 - Approximately \$1 million will be requested

- Control of Nuisance Aquatic Vegetation
 - The SJRWMD will provide support to the Lake County Mosquito and Aquatic Vegetation Control Department
 - Approximately \$200,000 will be requested
 - Funding to be used in the HCOL excluding Lake Apopka which is already managed by the SJRWMD

- Apopka-Beauclair Canal Nutrient Reduction
 - The Apopka-Beauclair Nutrient Reduction Facility (NuRF) continues to move forward
 - Engineering plans are near 100%
 - Approximately \$500,000 will be needed for construction

- Nutrient Loading Reduction
 - Potential purchase of alum for treatment prior to discharges to lakes Apopka and Griffin
 - Approximately \$200,000 will be requested

- Lake Beauclair Aquatic Enhancements
 - Includes a project to dredge accumulated sediments at the mouth of the Apopka-Beauclair Canal in Lake Beauclair
 - The SJRWMD is working on finalizing a site to dispose dredged material
 - The dredged material may be used to cap contaminated soils on 300 acres in the Lake Apopka North Shore Restoration Area (NSRA)

V. Chairman Davis asked if the dredge material from Lake Beauclair would be used to cap highly contaminated sites in the NSRA. Mr. Walker said they are going to target a moderately contaminated site with the material.

Councilman Royal asked why the material would not be used to cap highly contaminated sites and how much of the NSRA is considered to be highly contaminated. Mr. Walker explained that capping the moderately contaminated sites is really a pilot project to determine the effectiveness of capping pesticide contaminated sites. With respect to the amount of highly contaminated property in the NSRA, Mr. Walker said it was several hundreds of acres. He also said they have completed some experimental remediation projects at the NSRA including blending the top four (4) feet of soil to dilute the contaminants or by flipping the top three (3) feet in an effort to bury the contaminated soils. Mr. Walker explained that the blending or tilling of soil would be the most cost effective method of remediation and they have seen up to a 70% reduction of contaminants using this method.

V. Chairman Davis requested a presentation on the remediation efforts at the NSRA. Mr. Walker agreed.

Councilman Farner also requested a formal presentation on the final design of the NuRF. Mr. Walker said he would make arrangements with the Lake County Water Authority (LCWA) for that presentation and continued with his current presentation:

- Wetland and Aquatic Habitat Restoration
 - The FWCC has completed aquatic planting in the HCOL
 - The SJRWMD would like to conduct wetland planting in the Emeralda Marsh
- Habitat Restoration-Planting of Desirable Vegetation on Lake Apopka
 - Approximately \$10,000 to \$25,000 will be requested
- Silver River / Half Mile Creek Comprehensive Watershed management Plan
 - This project is outside the geographical bounds of the HCOL
- Assessment Subprojects
 - Support of Pollutant Load Reduction Goals (PLRGs) of the Total Maximum Daily Load (TMDL) program for the HCOL
 - The Basin Management Action Plan for the Upper Ocklawaha River Basin (UORB) Chain of Lakes in the final approval stage by the Secretary of the Florida Department of Environmental Protection (FDEP)
 - Discharges from the NSRA are the largest nutrient contribution to Lake Apopka
 - Approximately 35,000 pounds per year of phosphorus discharge to the lake, which is the entire TMDL loading goal; therefore that load must be reduced

V. Chairman Davis noted that there are no large scale projects in the SJRWMD initiative requiring \$1 million or more, as in previous years. Mr. Walker explained that funding has been secured for the larger projects in the UORB, including the Harris Bayou project

which should begin construction by October of this year and both the Sunnyhill Farm Restoration and Emerald Marsh projects. He said that the restoration of the NSRA is the largest project for which they are seeking additional funding.

Dr. Canfield asked if the SJRWMD has discussed aquatic plant management plans with the FDEP Bureau of Aquatic Plant Management to determine their participation in funding those efforts on the HCOL. Mr. Walker said he was not sure and would look into the matter.

Councilman Farner asked about the status of funding for aquatic vegetation received by the Council, a portion of which will be used to purchase the harvester. Mr. Walker explained that the agreement between the LCWA and the SJRWMD to transfer the funds received through the Council's Community Issue Budget Request (CIBR) was approved at the recent LCWA Board meeting, although the funds have not yet been transferred. He said that those funds are to be used for the initiatives approved by the Council including bass restocking, aquatic plant management, cypress tree plantings, aquatic vegetation plantings, and purchasing the harvester. Mr. Walker went on to explain that these funds are from the Council's previous CIBR and that they are working on an agreement with the LCWA to transfer the funds from their most recent CIBR.

Presentations

No formal presentations were scheduled for the August meeting.

Agency Updates

Mr. Johnson provided an update for the FWCC saying that for the past month, they have been preparing reports and that no fish sampling has been conducted.

Councilman Farner said that recently he had seen some dead and dying fish floating by his dock and asked if he could collect a couple of them for study [as to the cause of their death]. Mr. Johnson said yes and that they would prefer live fish or freshly dead fish so they can perform necropsies, either at the UF or the FWCC laboratory in St. Petersburg. He explained that fish mortality is normal, especially in warmer waters but if Councilman Farner does collect any fish, that he call him to have them picked up.

Dr. Canfield provided an update to the Council saying that the UF is working with the FWCC in a study of the economics of bass restocking in Lake Griffin. He said they continue to receive calls from anglers who catch tagged bass [previously relocated to the lake].

Dr. Canfield also said they are in the process of algae sampling and asked the Council to notify him of any known algal blooms. He reminded the Council that he is working with Mike Allen (UF) on the gizzard shad removal study in lakes Apopka and Griffin and that effort would continue for another year and will include Lake Dora.

Dr. Canfield then discussed budget issue requests of the Council saying that the funds of the current \$500,000 request are to be utilized for both the UF fish restocking program and the FWCC fish hatchery to produce advanced fingerlings. He said that the restocking program costs approximately \$300,000 to \$350,000 per year and they are working on permits to stock the other lakes beside Lake Griffin. When it comes to the economic value of the bass fisheries in Lake Griffin, he said the UF has estimated the value at \$1.2 to \$2 million.

Mr. Walker provided an update on behalf of the SJRWMD saying that Dr. Gian Basili (SJRWMD) had been promoted to a new position and that now he [Mr. Walker] will be the Program Director of the Lake Apopka and UORB projects. He then continued with his presentation.

- Restoration Projects in the UORB
 - Several major projects are nearing the construction phase
 - Harris Bayou Restoration is proceeding with the construction of the culverts under US Highway 441 and a contract to begin construction in the bayou should be completed by October.
 - Sunnyhill Restoration Project should be completed by the next fiscal year
 - The infrastructure for alum treatment of all water released from the Emerald Marsh should be in place by next year.
 - The SJRWMD continues to work with the UF Institute of Food and Agricultural Sciences (IFAS) and the FWCC on the gizzard shad removal study and that as the sport fish population continues to increase, the bycatches become greater, therefore at some point the shad harvests will have to stop.

Councilman Farner asked if there is a bycatch issue in Lake Apopka and Mr. Walker said there is only a limited bycatch at this time. He also said that they are pleased to see bass tournaments returning to Lake Apopka after many years. He then continued his presentation:

- The Lake Apopka Marsh Flow-way (LAMF) is currently operating at 150 to 160 cubic feet per second (cfs) and the phosphorus concentration at the outfall is 56 micrograms per liter ($\mu\text{g/L}$).
 - The entire Duda property in the NSRA has been flooded and they have plans to reflood approximately 1,000 acres in Unit 2, although the water levels in Lake Apopka are below desirable levels and they will wait for the Summer rains before pumping additional water into the NSRA.
- Article in upcoming Orlando Sentinel on Lake Apopka
 - A major story about the restoration of Lake Apopka and development around the lake will appear in an upcoming edition of the Orlando Sentinel.

V. Chairman Davis asked if there have been any problems with low dissolved oxygen (D.O.) in the Apopka-Beauclair Canal (A-B Canal) [as a result of discharges from the LAMF]. Mr. Walker said he was not aware of any recent problems.

Barbara Bess (FDEP) provided an update to the Council on the development of the Draft Basin Management Action Plan for the TMDL Program. A copy of the information she presented is provided in Appendix 13 of the annual report.

- Basin Management Action Plan (BMAP)
 - The final draft of the BMAP has been developed
 - Many of the local governments in the UORB have passed resolutions to support the BMAP

- Total Maximum Daily Loads (TMDLs)
 - A map of the basin indicated the estimated results of implementing the BMAP (A copy of that map is provided as Appendix 14 of the annual report.)
 - Lakes in blue and pink will meet their TMDL goals for Total Phosphorus; however the FDEP does not believe it will happen in the first 5-year cycle of the TMDL Program.
 - Lake Harris is not expected to meet its respective TMDL goals at any time in the near future due to growth in the area. The FDEP believes that Total Phosphorus will continue to increase over the next several years.
 - Local governments will have to face the growth issues [and effects on the lakes].
 - Modified and new stormwater rules must be written in the next few years to include more treatment of the water released.
 - The FDEP would like to see local governments review their water quality data and implement regulations to improve the quality of stormwater discharges.
 - TMDL goals may be modified over time based on new or updated information.

Mr. Walker said that he has been the SJRWMD representative for the past two (2) years during development of the BMAP and the SJRWMD is requiring that new development conform to the Impaired Water Rule, such that water discharged from developments does not adversely affect the water quality of surface waters or add to their nutrient loads. He also said that tributary inputs to the HCOL are the primary contributors to nutrient loading and cited that 93% of the nutrient load in Lake Beauclair comes from Lake Apopka. Additionally, he said that 90% of the nutrient load in Lake Dora comes from Lake Beauclair. Mr. Walker explained that the nutrient load contributions from stormwater are relatively minor when compared to the tributary contributions. He also said that the restoration projects at the NSRA, Harris Bayou and Emerald Marsh will substantially reduce nutrient loading.

Ms. Bess said that the FDEP closely reviews all water quality data within the lakes and examine the upstream lakes as a source of impairment. She went on to say that Eric Livingston of the Lake County Mosquito and Aquatic Vegetation Control Department has 319 Funding available to local governments, to assist with water quality improvement projects targeted for impaired water bodies. Ms. Bess explained that there are \$10s of million available annually and in some instances the local governments are required to

provide matching funds for their projects. She believes that entities within Lake County have done a good job of identifying beneficial water quality projects.

Councilman Schlein said that he is a member of the Planning and Zoning Board in Leesburg which is an area experiencing a lot of growth. He said that they are at the forefront of managing growth and believes that new developments will not add to the problems of lakes in the area.

Councilman Powers asked Ms. Bess if she has seen any budgets from local governments that include the economic impacts of conforming to the TMDL program. Ms. Bess said that she has not seen any specific budgets however, she is encouraged by the active participation of local governments at the TMDL meetings over the past two years and they understand that actions must be taken to meet the goals of the program.

Mr. Caputo agreed with Ms. Bess that the responsibility of the TMDL program falls on local governments. He then reminded the Council of the presentation they heard on Low Impact Development (LID) by Dr. Pierce Jones of the UF and that initially, Dr. Canfield provided funding assistance through the LAKEWATCH organization. Since that time, the acceptance of LID has been tremendous with both local governments and developers. He said that due to the success of that program, funding for additional workshops is being provided by Eric Livingston, the FDEP, SJRWMD, and the US Environmental Protection Agency (EPA).

Mr. Caputo went on to say that Dr. Jones is meeting with the City of Leesburg later in the week to discuss not only how to include LID in their regulatory process, but also how to provide incentives to developers for implementing LID. He added that the SJRWMD is providing funding for a LID workshop to be attended by representatives of St. Johns, Flagler, and Putnam counties on August 24th. Mr. Caputo said that next year the SJRWMD plans to provide funding for five (5) additional workshops and the FDEP is offering funds to assist with the development of products that come from the workshops. Additionally, he explained that IFAS is working with the EPA to provide funding for the tools local governments need to implement the LID program.

Mr. Caputo suggested that the Council may want to visit the Madera Subdivision in Gainesville, which is the model for LID. He said the developers of that subdivision have incorporated many innovations to make it more environmentally friendly by abandoning the traditional engineering designs, such as curb and gutter [to manage stormwater flows]. He said that with the tremendous success of the program in Lake County, the UF has developed the Program for Resource Efficient Communities which is acting as a springboard to get other local governments involved.

SEPTMEBER 15, 2006

Upper Ocklawaha River Basin – Draft Legislative Funding Initiative; Dave Walker

Mr. Walker of the SJRWMD discussed the Draft Upper Ocklawaha River Basin (UORB) State Funding Initiative provided to the Council. Below is a summary of the projects proposed in the initiative.

- In-lake Nutrient Reduction via Rough Fish Harvest
 - To provide for the continuation of gizzard shad harvesting
 - Budget Request: \$200,000

- Restoration of the North Shore of Lake Apopka
 - Focused on remediation in order to complete restoration
 - Total cost of restoration is estimated at \$10 million
 - Budget Request: \$1 million

- Control of Nuisance Aquatic Vegetation
 - Primarily to provide support to the Lake County Mosquito and Aquatic Vegetation Control Department
 - Includes monitoring patches of hydrilla utilizing Global Positioning System (GPS) technology
 - Budget Request: \$200,000

- Nutrient Loading Reduction
 - The north shore of Lake Apopka is the largest contributor of nutrients to the lake
 - Funds to be used for alum treatment of water being pumped into lakes Apopka and Griffin
 - Budget Request: \$30,000

- Apopka-Beauclair Canal Nutrient Reduction
 - Includes the Lake Beauclair Nutrient Reduction Facility (NuRF) in conjunction with the Lake County Water Authority (LCWA)
 - There is also the possibility of utilizing funds from the Florida Total Maximum Daily Load (TMDL) Fund
 - Budget Request: \$500,000

- Lake Beauclair Aquatic Enhancements
 - Dredging the western portion of Lake Beauclair
 - Working with the LCWA on the design of the disposal facility in the Lake Apopka North Shore Restoration Area (NSRA)
 - This project may take two (2) years or longer to complete and may cost more than \$10 million
 - Budget Request: \$500,000

- Wetland and Aquatic Habitat Restoration
 - Supports other restoration projects
 - Includes the [largemouth] bass restocking
 - Budget Request: \$50,000

- Habitat Restoration-Planting of Desirable Vegetation on Lake Apopka
 - Budget Request: \$25,000

- Silver River / Half Mile Creek Comprehensive Watershed management Plan
 - This project is outside the geographical bounds of the Harris Chain of Lakes (HCOL)
 - Included to assist Marion County in seeking funding
 - Budget Request: \$50,000

Assessment Subprojects

- Support of Pollutant Load Reduction Goals (PLRGs) of the TMDL program for the HCOL
 - Monitoring water quality and the overall health of the lakes within HCOL
 - Budget Request: \$25,000

Programs/Priorities – Funding Distribution; Dave Walker

Mr. Walker explained that the SJRWMD is in the process of providing the \$300,000 received from the Council’s Fiscal Year (FY) 2005-2006 Funding Initiative to the LCWA for the bass stocking and other projects supported by the Council. He said they are also awaiting direction from the Council for distribution of the \$369,500 received from the Council’s FY 2006-2007 Funding Initiative. Mr. Walker reminded the Council that last year they passed a resolution directing how those funds would be utilized. He said that Mike Perry of the LCWA drafted a Statement of Work (SOW) with the SJRWMD for last year’s work and that document can be amended to complete next FY’s work. He asked that the Council provide some direction to the SJRWMD or to possibly work with the LCWA to prepare a new SOW.

V. Chairman Davis suggested that the LCWA email the existing SOW to the Council for their review and discussion.

Presentations

Channeled Apple Snail; Barbara Bess

Barbara Bess of the Florida Department of Environmental Protection (FDEP) provided a presentation on the channeled apple snail. A copy of her presentation and additional information is provided as Appendix 9 of the annual report.

Channeled Apple Snail

- Impacts of invasive species
 - Out-compete native species
 - Reduce native species populations
 - Reduce or destroy habitats
 - Economic damage caused by invasive species
 - o \$138 billion annually to manage and control
 - o Approximately \$100 million spent annually on aquatic weed control
- Threats from the channeled apple snail
 - They are voracious and eat many different species of aquatic plants
 - They reduce plant biomass in lakes

- Some slight reduction in water quality
- Potential environmental impacts
 - Reduction of macrophyte (aquatic plants) diversity
 - Outcompete native species of snails
 - Extensive macrophyte grazing
 - Potential water quality deterioration
- What has been seen thus far
 - They are located in Lake Griffin, a canal leading to Lake Apopka, and possible sightings in the Emeralda Marsh

Ms. Bess explained that the channeled apple snail can be distinguished from native apple snails by the groove in their spirals and their eggs which are much smaller; grit sized and pink. Additionally, she said the adult is much larger than the native species of apple snail.

- How do we get rid of them
 - Molluscicides
 - High costs and non-target species mortality
 - Predators
 - Some are present but not enough to substantially affect their populations
 - Physical removal
 - Will help somewhat, especially by destroying their eggs, but probably of limited effectiveness
 - Education
 - Best strategy to prevent their spread
- What can be done to control them?
 - Scrape them from the substrate and drop them in the water. (The fish will eat them.)
 - Put in clear plastic bag to smash or freeze the adults
 - Carefully check your boat hull every time you remove it from the water. Check the trailer too.

Councilman Keith Farner expressed his concern of the threat posed by channeled apple snails and asked how serious the State is on controlling this species. He also suggested that perhaps bass fishermen could start destroying the eggs when they see them. Ms. Bess said that the FDEP has an invasive species division however; there are limited funds available for these efforts.

Councilman Rick Powers asked what the climate range is for the channeled apple snail. Ms. Bess explained that they have been found as far north as North Carolina and in the St. Mary River between the Florida and Georgia border. She asked that the Council suggest any methods of getting information to people or groups who could help with this effort.

Councilman Farner suggested that perhaps the Council could request funding to support the efforts to control the channeled apple snail.

Overall, Ms. Bess was emphatic about the importance of managing channeled apple snails and that education may be the most beneficial method of accomplishing this invasive species.

Lake Apopka North Shore Restoration; Dave Walker

Mr. Walker provided an update on the status of Lake Apopka restoration activities. A copy of his presentation is provided as Appendix 10 of the annual report.

Mr. Walker outlined the various properties of the NSRA and said that the Natural Resources Conservation Service (NRCS) contributed substantial funding to purchase some of the former farmland. He said that the NRCS has provided a long-term lease of their lands to the SJRWMD and that additional coordination of restoration activities with the NRCS is required.

Mr. Walker explained that the UF and the Florida Fish and Wildlife Conservation Commission (FWCC) have completed a study of concentration of the insecticide Toxaphene, in the top 12' of soil at the property and he displayed a map of the concentrations that they created. (Appendix 10) He went on to say that they had flooded the Duda property of the NSRA approximately 2 - 3 years ago and have recently received approval to flood Unit 2 of the Zellwood property.

Councilman Powers asked if this is the first time that the federal government has participated in a study of bioaccumulation of Toxaphene. Mr. Walker said he believes this may be the first large-scale study of this nature.

Councilman Farner asked how often [soil] samples are collected at the NSRA and recalled that initially the Council was told that these chemicals [insecticides] don't breakdown over time, while the more recent data show that they do.

Mr. Walker explained that there is not set schedule of sampling however, there has been extensive sampling in the areas they want to flood and they are also sampling to determine the effectiveness of their remediation efforts. He said with respect to a breakdown of the chemicals, there is a reduction in concentration over time.

Mr. Walker then continued with his presentation saying that the SJRWMD continues to manage water levels and vegetation throughout different portions of the NSRA. He explained that all water released from the NSRA is treated with alum and the particulate matter is allowed to settle prior to the water being pumped out. Mr. Walker said that their goal is to store more water in the NSRA and to release less. He said that due to the increased rainfall over the past couple of years, the nutrient load of the water released has been equal to the entire goal of the TMDL Program for Lake Apopka.

Mr. Walker then briefly discussed the Lake Apopka Marsh Flow-way (LAMF) saying that they have begun alum injection testing to see if they can better control the spikes of

phosphorus they've had in the water discharged from that facility. He said that the alum is very effective in removing both dissolved and particulate phosphorus. Mr. Walker went on to say that the SJRWMD has stockpiled residual alum from drinking water filtration that they will use as a soil amendment in the NSRA.

Councilman Farner said it is his understanding that although alum treatment works well, the SJRWMD can not effectively treat all of the water released from the NSRA after heavy rainfall. Mr. Walker said that is correct however, their ultimate goal is to remediate all of the NSRA to store the excess stormwater and not release it.

Dr. Dan Canfield, a professor at the UF and member of the Technical Advisory Group (TAG) to the Council asked if the SJRWMD ever plans to remove the dikes and allow the marshes in the NSRA to become directly connected to Lake Apopka. He also asked if so, how far into the future that might occur.

Mr. Walker explained that they are currently working on a plan to remediate the NSRA and then to reflood the marshes. Beyond that he said they do not have any specific plans to connect the marshes to the lake.

Mr. Walker then continued with his presentation and discussed their remediation efforts. He said one method they are testing is tilling or flipping the top 3 feet of soil to bury the contaminants. The other method they are testing is the blending of the top 3 feet of soil and that preliminary results indicate an approximate 50% decrease in contaminant levels using either method. He also explained that they continue to evaluate these remediation techniques to determine, among other things, their effect on the release of phosphorus in discharges.

Councilman Powers asked that even though the preliminary results of their remediation efforts indicate a decrease in concentration, the actual mass of the contaminants has not changed. Mr. Walker agreed.

Councilman Kaiser asked if oxidation has an effect on concentration of the toxins. Mr. Walker explained that the UF is studying the effects of both flooding and oxidation on the contaminants. He suggested that possibly a combination of these two factors may prove the most beneficial means of remediation. Mr. Walker went on to say they also plan to test the effectiveness of capping the more contaminated soils with the dredge material from the Lake Beauclair project, when that dredging takes place.

Councilman Richard Royal asked about depths of tilling versus blending. Mr. Walker explained that in the tilling method they go down approximately 3 feet where the blending method they typically go down 3 – 4 feet; although they report it as 3 feet.

Agency Updates

Mr. Walker provided an update on behalf of Dr. Larry Battoe of the SJRWMD and presented a handout to the Council, indicating the proposed location of fish attractors on Lake Apopka. He suggested that this project could benefit from additional funding, if the

Council included it in their funding initiative. Mr. Walker also said that the SJRWMD had recently published stories in Lake County and Orlando newspapers about the channeled apple snail and why controlling them is so important. He further explained that all of the SJRWMD personnel and their contractors are trained in recognizing and destroying the snails themselves or their eggs, when they see them.

Mr. Walker also said they are moving forward with the Harris Bayou project and they anticipate being able to put the construction of the project out to bid sometime in the Fall, with construction possibly beginning in the Spring.

Mr. Walker then provided the following update on water quality in the HCOL. The data is from the August sampling event and the units include micrograms per liter ($\mu\text{g/L}$) and centimeters (cm).

Lake	Total Phosphorus ($\mu\text{g/L}$)	Chlorophyll A ($\mu\text{g/L}$)	Secchi Depth (cm)
Apopka	70	43	33
Beauclair	61	100	33
Dora	40	100	30
Eustis	33		
Griffin	31	45	48
Harris	32		60
Yale	34	14	100+

Dr. Canfield provided the following updates to the Council:

- With respect to the Purchase Order for the mechanical harvester he explained that he is working out the legal issues of the Florida LAKEWATCH organization taking control of the harvester and expects the purchase to be completed in the next few months.
- With respect to fish [bass] relocation/stocking he said they are preparing to begin stocking fish in Lake Griffin again and that they have received reports from anglers who have caught tagged fish [previously stocked] in some of the other lakes in the chain. Dr. Canfield also said that the FWCC plans to start stocking Lake Apopka and the HCOL next year with advanced fingerling bass, currently being produced in their hatchery.
- With respect to fish attractors he reminded the Council of his suggestion to utilize trees knocked down by hurricanes in the past two (2) years to construct fish attractors in Lake Apopka. He said that after further review by the FWCC, it may be possible to do so however, according to the FDEP regulations they must remain a certain number of feet below the surface. Dr. Canfield said now the UF is reviewing the Lake Apopka fluctuation schedule to determine the viability of utilizing the trees as a fish attractor.

- With respect to monitoring for the [potentially] toxic algae *Microcystis*, Dr. Canfield explained that sampling is being conducted by the UF and the Environmental Protection Agency (EPA) on the HCOL and other lakes in the State. He said the concentrations found in the HCOL are between 1 and 4 µg/L; where the drinking water standard for *Microcystis* is 1 µg/L and the recreational standard is 20 µg/L. Therefore, the concentrations in the HCOL are well below the recreational standard.
- With respect to the gizzard shad removal study in Lake Dora, they continue to study the effects of harvesting on water quality.
- Dr. Canfield also said that the UF is involved in the chemical monitoring of the NSRA to assist with those restoration efforts.

Lance Lombard provided the following update on behalf of Mike Perry of the LCWA:

- \$40,000 for the operation of the Council is contained within the LCWA 2006-2007 Annual Budget
- The LCWA will track the expenditure of the funds received by the Council through their Legislative requests including the \$300,000 received from their 2005-2006 request and the \$369,500 received from their 2006-2007 request.

Status of Projects

- Lake Griffin access canal dredging has been completed through Channel #13 and they continue to work their way south as planned

Councilman Kaiser asked about the status of the additional canals and basin to be included in the dredging project. Mr. Lombard said that they have received the signed releases from the property owners involved and the LCWA Board of Trustees (Board) has approved the additional work.

Councilman Powers asked if there was an estimated completion date for the dredging. Mr. Walker explained that he is working with the LCWA to amend the dredging contract which presently ends on September 30, 2007 and to extend it until March 31, 2008.

Mr. Lombard then continued with his presentation.

- Apopka-Beauclair Nutrient Reduction Facility (NuRF)
 - Permitting Issues
 - They are working with Lake County to approve the site plan
 - In response to the Friends of Lake Apopka (FOA) letter, they are working with the FDEP on the delineation of up to one (1) acre of wetlands that may be impacted at the site and are offering mitigation with the FDEP utilizing LCWA Conservation Easements.

- The Army Corps of Engineers Permit was approved/issued a few months ago
- They are working on the lease agreement with the SJRWMD, but it can not be completed until all necessary permits have been approved
- The LCWA board has approved proceeding to final plans

Councilman Royal asked what the estimated costs of construction and operation would be for the NuRF facility. Mr. Lombard explained that estimated construction cost is \$5.3 million and approximately \$1 million in annual operation costs. He then continued with his agency update.

- Lake Beauclair Restoration Project is progressing and they are prepared to give BCI Engineers the approval to move forward with designs for the disposal facility which is located at the NSRA, approximately eight (8) miles from the lake.

Councilman Kaiser asked if all of the accumulated sediments at the mouth of the Apopka-Beauclair Canal in Lake Beauclair are going to be removed. Mr. Lombard said they are primarily interested in removing the muck which has accumulated in that area. He added that the footprint of the area to be dredged is approximately 300 acres in size. Mr. Lombard said that once the dredging is complete, that area will be fairly level and very close to the lake's natural bottom elevation. Additionally, he believes that if everything continues to move along as it is, they may take the project to the LCWA Board in March 2007 to request approval to proceed with 60% plans.

Mr. Lombard then discussed a vegetation management project near Venetian Garden in Leesburg, to remove floating tussocks just north of the boat basin. He said that this could be a cooperative effort and suggested that the Council could possibly approve the use of their [soon to be purchased] mechanical harvester to complete this work. After extended discussion it was determined that this could be an approved use of the harvester with support from the City of Leesburg and Florida LAKEWATCH.

Bill Johnson (FWCC) then provided an update for the Council saying they had just completed net block fish sampling on the HCOL and that shad harvests will begin again on lakes Apopka and Griffin on November 6th. He also said that the Richloam State Fish Hatchery is now in operation and they would be willing to provide a tour of the facility whenever the Council would like.

Besides her presentation on channeled apple snails, Ms. Bess (FDEP) did not provide any further updates to the Council.

OCTOBER 13, 2006

Funding Request to the LCWA, Status; Skip Goerner

Mike Perry, Executive Director of the Lake County Water Authority (LCWA) said that the LCWA Governing Board (Board) had given final approval for their Fiscal Year (FY)

2006-2007 Budget and that funding provided by them for operation of the Council was approved. He explained that at the end of their fiscal year, the LCWA sends a purchase order to the SJRWMD for an amount not to exceed the \$40,000 received for the Council operating expenses minus the \$10,000 provided by the SJRWMD and the in-kind funding match. Mr. Perry said that for the past fiscal year, that amount was approximately \$18,000. Chairman Goerner offered his appreciation to the LCWA Board for their continued funding support.

Chairman Goerner then discussed the funding received by the Council from their 2005-2006 Funding Initiative from the Florida Legislature. He provided the following summary of that funding:

<u>Requested</u>	<u>Purpose</u>	<u>Received</u>
\$300,000	Largemouth Bass Restocking	\$147,800
\$300,000	Revegetation of Aquatic Habitat/Cypress Tree Planting	\$147,800
<u>\$150,000</u>	Invasive Aquatic Plant Management	<u>\$ 73,900</u>
\$750,000		\$369,500

Chairman Goerner explained that when the Council made their request for funding from the Legislature, that it was a lump sum request for \$750,000. He said that it is up to the Council to decide how that money is spent. Chairman Goerner asked Mr. Caputo to prepare a resolution for the Council to transfer the \$369,500 they received to the LCWA for the projects as outlined. Mr. Caputo said he would provide the resolution at the next Council meeting.

Chairman Goerner went on to say that of the \$2 million requested by the Council in their 2005-2006 Funding Initiative to assist with the Lake Griffin access canal dredging, they received \$850,000. He then asked if that money had been transferred to the LCWA. Mr. Perry said they are moving forward with an agreement from the SJRWMD to transfer those funds.

Councilman Richard Royal asked if the LCWA has any flexibility as to how the money transferred to them is spent. Mr. Perry said that how the funds are spent is outlined in an agreement with the SJRWMD and approved by the Council, therefore there is limited flexibility. One of the areas of flexibility he discussed included the installation of gravel beds at Venetian Gardens to improve aquatic habitat. Mr. Perry said that a portion of the funding received could be used for that effort.

Chairman Goerner also notified the Council that although it was approved by the Legislature, Governor Jeb Bush vetoed the \$250,000 requested by the Council to assist in funding a toxic algae study in the Harris Chain of Lakes (HCOL).

Presentations

Draft Review – 2006 Legislative Report; Patrick Hunter

Chairman Goerner opened the discussion of comments and edits to the draft annual report. The edits focused on three main topics of the report including Legislative funding received, the Council's 2006-2007 Funding Initiative, and their level of support for various restoration projects on the HCOL.

During the discussion of the draft annual report, Bill Johnson of the Florida Fish and Wildlife Conservation Commission (FWCC) said that they are gearing up the Richloam State Fish Hatchery to begin stocking various lakes in the Harris Chain. He said they are considering stocking Lake Apopka in addition to other lakes. Mr. Johnson suggested that if the Council were to request funding for bass restocking, the FWCC may consider offering matching funds for those efforts. Chairman Goerner and the Council members present agreed to include \$500,000 in their 2006-2007 Funding Initiative for bass restocking.

Mr. Johnson also mentioned that the Florida Department of Environmental Protection (FDEP) has funds available for revegetation efforts that the FWCC could request, which could offset funds received by the Council for aquatic revegetation. He suggested that the Council could then use funding received for other projects, including the sport fish restocking.

Mr. Johnson then discussed the success of gravel beds to improve aquatic habitat. He explained that the City of Eustis has constructed gravel beds that have worked very well in improving aquatic habitat. He said that Steve Crawford of the FWCC has been reviewing that work and has more information, if the Council is interested in learning more about the matter. Chairman Goerner also mentioned that the City of Leesburg has offered matching funds to install gravel beds in some of their lakes. After additional discussion, Chairman Goerner and attending Council members agreed to include \$250,000 in their 2006-2007 Funding Initiative for the combined efforts of revegetation, aquatic habitat improvements and cypress tree plantings.

Mr. Johnson also notified the Council that recently the FWCC in conjunction with the University of Florida (UF) had collected a large number of fish on which they intend to perform tissue sampling to determine any effects from toxic algae. After additional discussion on the efforts of Florida LAKEWATCH volunteers and the Florida Department of Health (FDOH) to sample and monitor for potentially toxic algae in the lakes, the attending Council members agreed to include \$250,000 in their 2006-2007 Funding Initiative to assist in those efforts.

There was also discussion of the Total Maximum Daily Load (TMDL) Program during which Councilman Royal asked; when the FDEP developed the individual TMDLs for each lake, did they differentiate between external [nutrient] loading to the lake versus the loading coming from upstream lakes. Barbara Bess of the FDEP said that he was not certain and would get an answer to the question prior to the next Council meeting.

After extensive discussion of edits and comments to the annual report, the Council decided to provide additional comments to Mr. Hunter via email.

Agency Updates

Other than the issues discussed during the review of the draft annual report, Mr. Johnson (FWCC) said that he did not have any additional updates for the Council.

Mr. Perry (LCWA) provided an update to the Council saying that due to reduced rainfall during the Summer, the lake levels are lower than desired as they move into the dry season and provided the following data:

<u>Lake</u>	<u>Current Level</u>	<u>Minimum Desirable Level</u>	<u>Regulatory Schedule</u>
Apopka	55.6 feet	66.5 feet	67.2 feet
Eustis	61.6 feet	62 feet	63.1 feet
Harris	61.6 feet	62 feet	63.1 feet
Dora	61.6 feet	62 feet	63.1 feet
Griffin	58 feet	58 feet	59.1 feet

Mr. Perry went on to say that the experts are predicting an El Niño influenced Winter which will be wetter and warmer than normal. Councilman Powers asked if the dredging schedule on the Lake Griffin canals will be affected by the lower lake levels. Mr. Perry said he had spoken with the dredging contractor and they do not anticipate any delays due to the drier conditions. He added that the area HCOL is approximately 16 inches below their average annual rainfall.

Councilman Royal asked if the lower lake levels are a benefit to the planting of near shore aquatic vegetation. Mr. Perry said that it is easier to plant aquatic vegetation but the elevation of the planting areas must be determined so the plants are not drowned when lake levels return to normal.

Mr. Perry also mentioned that the Clairmont Chain of Lakes had experienced blue-green algal blooms earlier this Summer and that samples were collected and sent to Dr. Daniel Canfield's laboratory at the UF for analysis. He said that one of the blooms was determined to include Microcystis and the toxin Microcystin was present at 3 micrograms per liter ($\mu\text{g/L}$) which is above the 1 $\mu\text{g/L}$ concentration for drinking water but well below the concentration standard for recreational use. Councilman Kaiser asked if there is any airborne hazard by this toxin. Mr. Perry said that does not appear to be a problem.

With respect to the Lake Griffin access canal dredging Mr. Perry said that they had completed Channel 13 and were moving forward with Channel 14. He also discussed issues of water quality and turbidity within the disposal area saying that possibly due to the alum and polymers injected in the water as it is discharges, the installed turbidity barriers appear to be experiencing deterioration. He said that water quality at the site remains within the parameters set forth in their permit to operate the disposal site. Mr. Perry said they will continue to monitor that situation. He also said that the dredging

contract had been extended until November 2007 and expects the project will be completed by that time.

Mr. Perry then discussed the Lake Beauclair dredging project saying that they have agreed on a “footprint” of the disposal facility and they are authorizing BCI Engineers to complete the engineering plans for the project. He said that they continue to review alternative technologies to complete this work; one of which involves a conveyor press that reportedly can dewater sediments onsite, prior to being trucked to a disposal facility. Council Powers said he was familiar with that technology and understands that the volume of sediments that can be processed is not sufficient as might be needed for large scale projects. Mr. Perry said that he had heard that and they intend to allow the dredging contractor to pump at a greater rate than is being pumped in the Lake Griffin canals.

Chairman Goerner noted that he had recently read an article in the Orlando Sentinel which said the SJRWMD was not going to assist in the funding for the Lake Beauclair project. Mr. Perry explained that the LCWA is continuing to review the issue of sediments in the Apopka-Beauclair Canal and have requested an analysis of the velocity of water that would be required to move sediments down the canal and into Lake Beauclair. He said once that information is received, they may reinstate talks with the SJRWMD on dredging the Apopka-Beauclair Canal.

Chairman Goerner expressed his concern that if velocities of discharges down the canal are in the 1,000- 1,500 cubic feet per second range, as they were during the hurricanes of 2005, that large quantities of sediments will flow into Lake Beauclair from the canal.

Councilman Powers also suggested that dredging the Apopka-Beauclair Canal should be a consideration in conjunction with the Lake Beauclair dredging because the permitting of such a project is very difficult. He believes that including that dredging now in the current permit application may save a lot of time and effort in the future.

Ms. Bess (FDEP) provided a handout and brief update on the Channeled Apple Snail by answering questions posed by Council members during her presentation at the September Council meeting. With respect to the issue of the rat lung parasite asked by Councilman Kaiser, she said that it can also be found in other host creatures besides the channeled apple snail. Ms. Bess also addressed a question by Councilman Keith Farner as to why the issue of channeled apple snails was not addressed when first discovered in Florida lakes in the 1970s. She explained that at the time they were not expected to spread as much as they have. Ms. Bess went on to say that more study of the bilge water released by ships is going to be conducted by the U.S. Environmental Protection Agency because it may be the source of other exotic species that are entering the state, such as the zebra mussel.

Ms. Bess also mentioned an article in the Orlando Sentinel saying that another variety of channeled apple snail exists in south Florida. She said that representatives from the FDEP may attend an upcoming meeting on the new species of snail in the near future.

Ms. Bess also briefly discussed the progress of the Total Maximum Daily Load (TMDL) program saying there is ongoing review of the Basin Management Action Plan (BMAP) being conducted and finalizing the plan has been postponed while they continue to discuss various actions that can be taken to meet the goals of the program.