

**Lake Istokpoga Management Committee**  
**DRAFT Minutes – Thursday December 8, 2016**

Attendance:

Members:

Jim Reed (Lake Resident South)	Clay Shrum (SLID)
Bert Galloway (Lake Resident North)	Gary Albin (Business Community)
Paul Gray (Environmental Community)	Roberta Lake (Environmental Community alternate)
Bill Dwinell (Friends of Istokpoga primary)	Linda McCarthy (Professional Range Management)
Dick Reaney (Highlands County Lakes Association alternate)	Paul Phypers Jr. (Istokpoga Marsh Watershed Improvement District)

Staff / Liaison:

Commissioner Don Elwell	Steve Gornak (FFWCC)
Carly Althoff (FFWCC)	Kelle Sullivan (FFWCC)
Clell Ford (Highlands County)	

Visitors:

Don Hatcher	John Carson
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The meeting was called to order at 9:00 am.

- 1) Introductions - All in attendance introduced themselves and stated their affiliations.
- 2) Meeting minutes from June 24, 2016 and October 14, 2016 meetings were not available. They will be presented at the next meeting, scheduled for March 15, 2017.
- 3) Review of Action Items from October meeting:
  - a) Lake Drawdown Plan: Paul Gray described the plan to modify the lake regulation schedule that was developed more than ten years ago. Lake Drawdowns are part of that plan, but it has not been discussed or approved by the agencies.
  - b) Request for report from FDEP on small wastewater treatment plants in the Istokpoga Watershed: Staff have not yet contacted FDEP regarding information on the operations of these plants. This will remain an action item for the next meeting
  - c) Update on the status of TMDL development by FDEP: A meeting was held in October to present the integrated assessment results and a DRAFT watershed assessment for Group 4 Basin lakes in the Kissimmee – Fisheating Creek watersheds. This includes Lake Istokpoga. Paul Gray attended that meeting and provided a report on the results. The FDEP identified nutrients, biology and chlorophyll as causing impairment in Lake Istokpoga, and has placed the lake on the DRAFT Verified list as a category 5 lake, meaning that water quality standards are not attained. Istokpoga is impaired and requires the development of a Total Maximum Daily Load (TMDL) for nutrients and chlorophyll-a. However, FDEP only ranked Istokpoga as a medium priority for priority development, using the criteria established in rule 62-303.500. Both Paul Gray, writing for Audubon of Florida, and Gary Lamparelli, writing for the Friends of Istokpoga, have written letters commenting on this medium priority for development, given the significance of Istokpoga and the continued decline in water quality in the lake. A motion was made by Bill Dwinell, and seconded by Dick Reaney, suggesting that the LIMC also request that the BCC send a letter to the FDEP requesting that TMDL for Istokpoga be given a high priority. The motion was approved unanimously. Staff will prepare the agenda item for consideration at the December 20, 2016 Board of County Commissioners meeting.
- 4) Committee Membership:
  - a) The membership status of the committee is found on the back of the agenda. Clell welcomed the

newest member of the LIMC, Roberta Lake, who serves as alternate to Paul Gray representing the Environmental Professionals community. The Board of County Commissioners approved the membership of Gary Albin as Business Community representative, Bert Galloway as Citizen, Lake Resident North, John Ruggerio as Highlands County Lakes Association Primary representative and Dick Reaney as Highlands County Lakes Association alternate on November 15.

b) Consideration of membership application received:

Membership application was received from Paul Pypers as representative of the Istokpoga Marsh Watershed Improvement District. Staff will prepare an agenda item for action by the Board of County Commissioners.

5) Spring Lake Improvement District activities: Clay Shrum reported that the SLID stormwater treatment area is largely complete except for a few punch-list items and is looking very nice, though there has not been very much rainfall since its completion to fill it yet. SLID is considering a fourth phase of their stormwater treatment project, to serve as water storage and additional treatment. They are pursuing cooperative funding from SFWMD and other agencies for this work. Clay also reported on progress with other aspects of their drainage system.

6) Water quality update

a) Hydrologic conditions.

A copy of the SFWMD hydrologic conditions update for November 2016 was provided. All parts of SFWMD reported well below normal rainfall for the month and dry conditions are expected to continue for the remainder of the year. Lake Istokpoga remains at full pool and is expected to remain that way even with the dry weather, until February or March. Clell reported that this is drier than normal and if these conditions continue into the spring, the lake level can be expected to drop even without the normal drawdown that is mandated by the SFWMD in April.

b) Water quality update

i) Update on harmful algal bloom sampling.

Monthly sampling continues at six stations throughout the lake. No new reports, since the October meeting, have been received from FDEP. So far, no harmful algal blooms have been observed, though the algae that cause those blooms is present in the lake. Clell explained that the type of algae that forms those blooms does not grow well under windy conditions because of the mixing of the water. The project will continue until June of next year and a full report from FDEP will be prepared after all the samples are analyzed.

ii) Arbuckle Creek water quality conditions:

Clell presented an update on water quality conditions in Arbuckle Creek showing that the annual average concentration of phosphorus is consistently much higher, between 100 and 120 ug/L, for the two downstream stations on Arbuckle Creek (at approximately Arbuckle Creek Road and the US 98 bridge) than for the upper portion of the creek near SR 64, which is consistently around 40 ug/L; this suggests that any work to reduce the concentration of phosphorus in the creek needs to be focused between Lake Arbuckle and Arbuckle Creek Road. The actual loading of phosphorus, which combines creek flow and phosphorus concentration to calculate the total amount of phosphorus entering Lake Istokpoga from Arbuckle Creek has increased steadily since the drought years of 2006 through 2010, and was above 40 metric tons per year in 2015, the last year for which complete data

are available. A member of the committee asked when the problems were reported at the Avon Park Correctional Facility's waste water treatment plant. Clell responded that this was last documented in 2003 and the system has been upgraded since that time; the volume of water that might potentially reach Arbuckle Creek from this plant is of the waste water treatment plant is about 1% of the average annual flow of the creek.

iii) Dr. John Carson handout:

A handout of information compiled by Dr. John Carson was presented. Dr. Carson is a retired organic chemist, fisherman and birdwatcher who is also a winter resident on the lake. This information related his concerns about four changes to Lake Istokpoga that he has observed. These include a decline in sport fishing, a marked decrease in open water bottom vegetation, a marked decrease in the numbers of certain species of birds and a disappearance of bull frogs. Dr. Carson attributes at least some of these declines to the use of the herbicide Clearcast® (active ingredient Imazamox) which has increased in recent years on the lake. Also part of Dr. Carson's handout was a chemical fact sheet for Imazamox from the Wisconsin Department of Natural Resources. Dr. Carson highlighted information about the degradation and persistence of this herbicide in Wisconsin lakes, specifically that herbicide breakdown doesn't occur in deep, poorly -oxygenated water where there is no light; under those conditions, Imazamox tends to bind to sediments rather than breaking down and has a half-life of approximately two years. Dr. Carson stated that though Lake Istokpoga is not deep, it is dark and it is poorly oxygenated, and under those conditions, Imazamox could be serving as an "eternal herbicide". He called for a study to see if Imazamox is persistent in the lake.

Jim Reed asked Clell about dissolved oxygen (DO) readings in the lake, and was told that for open water stations where the lake water is well mixed, DO levels are almost always high; there might be a very small portion of the water at the bottom of the lake with low DO, but that is true for all lakes. Dr. Carson countered that the previous fall he had measured low DO levels in an area of the lake that had recently been sprayed. Clell replied that Highlands County staff had done extensive monitoring in the area sprayed for Hydrilla in the fall of 2015 and that the DO readings were high throughout. He stated that he did not doubt Dr. Carson's findings, and that there certainly were areas of the lake with low DO, particularly in shallow, marshy areas with a lot of actively decomposing organic matter.

Paul Gray asked FWC staff what it would take to test for Imazamox. Kelle Sullivan replied that she would look into what is involved in testing for Imazamox residuals and specific breakdown products, since the results of a general test for organic compounds in water high in tannins, like Lake Istokpoga, would result in a wide variety of results. Dr. Carson added that there are a lot of analytical laboratories that are capable of doing this sort of testing. Clell replied that the issue is funding of such a study and designing it in such a manner that the results would be meaningful; possibly this could be included in the FDEP's investigation of TMDLs for Lake Istokpoga. Paul stated that since the FWC is using the material, he requested that they determine what would be involved in testing for it. He requested that before the next meeting, FWC staff check into what is required to measure Imazamox in lake ecosystems. Kelle said that it was a better question for FDEP, but that she would ask.

Bert Galloway asked when Clearcast® was first used on the lake. Kelle replied that she thought it was in 2012, but that was only as a limited trial basis on two plots; FWC was evaluating how well it

worked, on what plants it was most effective and under what conditions. Kelle thought that they began using it on floating and emergent vegetation in late 2013 or early 2014; this type of application uses a lot less chemical than if they were using it on submerged vegetation and had to treat the entire water column. Dr. Carson requested that this investigation include all herbicides used on Istokpoga. Paul wrapped up the discussion of possible Imazamox residuals in the lake by requesting that Kelle make the request about analysis to FWC staff, and that Clell would contact FDEP regarding any information or interest that they had regarding collecting data to help with this question.

A general discussion on water quality followed. Kelle brought up the important issue of deadly AVM (Avian Vacuolar Myelinopathy) infecting birds on the lake. Research has confirmed that the cyanobacteria found growing on aquatic vegetation on the lake produces the toxin that causes AVM. No affected birds of prey (Snail Kites, Eagles, Osprey) or large animals have been found. Kelle sampled coots on the west side of Istokpoga where Hydrilla is persistent and found that five of the seven coots sampled had brain lesions consistent with AVM. This had not been confirmed before for Istokpoga. In other parts of the country, the impact of AVM is more wide spread and observed because when birds of prey eat infected coots, they also have gotten AVM and died. The difficulty is finding the birds of prey within 24 hours of their death to collect the sample of its brain matter. Kelle recently attended a conference about AVM and the ongoing research into it and one of the results that has been found is that the cyanotoxin that causes AVM also affects many other species including amphibians and other vertebrates. Anything that eats the plant that the cyanobacteria is growing on can develop lesions and then it can be bioaccumulated and biomagnified up the food chain. Kelle pointed out that since Istokpoga is impaired for nutrients and that there are many species of algae present in the lake that can produce cyanotoxins, a low level continuous release of these toxins may be occurring. This might result in a persistent weakening impact on many different organisms such as fish and birds, increasing their susceptibility to other threats. Kelle also stated that AVM is now found on lakes throughout the Kissimmee Valley. Discussion included the nutrient requirements of the cyanobacteria, the importance of algae growing on the plants for removing nutrients from the water, the location of Hydrilla in the lake and that more aggressively managing Hydrilla is among the possible actions which might be taken. Along these lines, of critical concern for Istokpoga is that when invasive snails, which are the preferred food of snail kites, feed on Hydrilla, they could pass the AVM on to the kites.

Gary Albin asked who determines what type of herbicide is sprayed by the County or contracted crews. Kelle said it was either her or Carly Althoff who were responsible for making that determination, based on what they feel is the best chemical for weed being sprayed, and the habitat that it is associated with. Gary then asked Kelle how she would rate the threat of AVM on Istokpoga at present. She replied that she felt the threat was real but was guarded about potential impacts because the amount of Hydrilla in the lake was so low. Gary noted that he had observed that the population of coots on the lake had dramatically declined. Paul replied that coots favor Hydrilla and their population numbers track the presence of Hydrilla in lake systems. Bert Galloway tied this discussion back to the earlier discussion of TMDLs to reduce nutrient levels going into the lake, pointing out that if reducing nutrient levels reduces bluegreen algae blooms, that would be a good thing. He suggested that this would also be a good thing to bring to the attention of FDEP when considering the need for higher priority in TMDL development for the lake. Clell stated that he would add that information to the comment letter that he was preparing for FDEP on their DRAFT Verified list of impaired waters.

Steve Gornak asked if there was any evidence of AVM being transmitted to fish. Kelle and Carly related a study where grass carp were fed Hydrilla; it found that after consumption of the Hydrilla, there was toxin

present in the fish intestines, but as to whether the grass carp develop AVM is not known. There is a possibility that if a predator fish, such as large mouth bass or crappie, eat a bait fish or a tadpole that is infected with the cyanotoxin, they could develop AVM, though it has not been observed yet. A lot more research is being done on this issue.

Jim Reed had three items to bring up under the general umbrella of water quality. First, he reported that the current work plan for aquatic plant management on all lakes in Highlands County is available on the FWC web site (<https://public.myfwc.com/HSC/PMARS/waterbodySchedule.aspx>). Jim stated that it can also be found by searching for “PMARS” in the search box from the MyFWC.com home page. It is updated regularly. Second, Jim sends out a weekly update on FWC activities, primarily focused on the fishing tournament schedule but including other activities, to anyone who is interested in that information. Finally, Jim reminded the Committee that the LIMC has a Watershed Management Master Plan that has been in the works for quite a while and that the Committee needs to get that plan in shape to share with the FWC because they are beginning their own large-scale planning activity for the lake, and it would be better to try and shape the FWC plan rather than reacting to it.

7) Long Term Plant Management Objectives for Habitat Management Objective #1 of the LIMC Watershed Management Master Plan. Changes from October meeting were handed out. An action item was given to Clell to set up a workshop on the Watershed Management Master Plan in January.

8) Project updates

a) FWC Aquatic Plant Management, IPM update:

Kelle indicated that most of her update was related to the AVM discussion captured earlier. She indicated that Hydrilla is really not coming on anywhere on the lake, though it is persisting on the west side of Bumblebee Island. The whole-lake point-sample and Lowrance survey was completed on the lake. FWC staff are working to put the collected data together to build a new map of vegetation on the lake. Preliminarily the vegetation cover looks very similar to what it did last year. FWC also did a more detailed sample grid survey of the western shoreline marsh roughly from the top of Henderson’s point to Rutledge canal. This yields a more detailed map than the larger scale whole-lake grid, and the additional survey effort is warranted because of the extra work being done in this area; this survey will catalog both the increase in more desirable species and better control of the less desirable species. Paul asked when the raw data used for these maps would be available and Kelle replied that she would provide him with that. She added that these maps are being generated by FWC, not by a contractor, so they will have more control over the production of the maps. Gary asked about how much of an effort is spent doing maintenance control on Istokpoga. Kelle replied that on average this effort required two airboat crews working six hours a day for five days, but for maintenance control, most of the effort is spent surveying for things to spray, rather than applying herbicide. Dr. Carson request that spraying not be done during the spawning season; staff responded that water hyacinths and water lettuce grow year-round and that suspending such spraying would violate the mandate to keep levels of these invasive exotics at or below maintenance control levels.

b) FWC Habitat Management - AHRES – update:

Carly provided an update on the activities of the habitat restoration section. Most of the activities are focused on planning and submitting requests for funding of work to be done next fiscal year, with these projects spread throughout the County. They have made a request for new planting along the western shoreline, and an update on that will be presented at the next meeting. She gave a general update on the

successes and challenges of previous revegetation efforts.

c) FWC Spoil Island Removal – update:

Carly reported that the spoil island removal had been wrapped up as far as the surveying and the geotechnical work. Steve Gornak presented an update on the effort to remove spoil islands from Lake Istokpoga. He presented the Committee with the rubric that FWC is using to actually score each of the islands in terms of their suitability and desirability for removal. He presented a map labeled with each of the permitted spoil islands on the lake. Those stations labeled with an LIH are those where harvested material has been disposed of in the past. Those with an LIS are those that were built during the 2001 drawdown and consist of material scraped from the shoreline by excavators and bulldozers. FWC has put together a manual on these spoil islands that includes a description of the islands, their locations, their sizes and other pertinent factors. The manual also includes the rubric to grade each of the islands as to its suitability for removal. Steve asked the Committee for input on riparian impairment relative to land use adjacent to the islands; this has been presented to and discussed by the Committee in an earlier meeting. The present rubric rates islands adjacent to commercial property as having the greatest chance of being removed, ranking their priority as higher than for residential property. After discussion of the need to protect the property values for both commercial and residential properties, Commissioner Elwell suggested a simplified scoring rubric for riparian impairment with both commercial and residential scoring a five, agricultural property scoring a three and public property scoring a one. The Committee supported that change and Steve said he would modify the rubric accordingly. In response to a question, Steve said that FWC does not expect to be building any new spoil islands, but will continue to use the existing ones largely due to permitting issues.

Steve summarized the content of the remainder of the manual and said that when it was complete that he would be bringing a copy for each member of the committee and would provide an electronic version if requested. Linda McCarthy requested that a map providing locations of all the spoil islands be provided. Steve stated that the general procedure for island removal would be to take both the island and approximately 150 of accumulated material around the island in order to remove anything that may have eroded off of the island since its construction. Steve presented a summary of the islands and how they rank relative to being removed. Steve inquired about the possibility of storing the material derived from removing the island designated as LIS18 on County owned property at Istokpoga Park. Commissioner Elwell indicated that he would consider that and would have a staff meeting to discuss the possibility. Steve discussed the process of removal and remediation at this particular site.

An AHRES funding application was submitted for removal in the current year and the project ranked high enough to be considered as a project, but funding ran out before FWC could fund the project. A possible drawdown was discussed in order to both perform habitat management activities and facilitate the removal of these spoil islands, which effectively will enhance aquatic plant habitat, but that may not be possible for a few years; this is tied to downstream water requirements. Steve reported that funding for the spoil island removal was submitted again as an AHRES project which will be evaluated in January and February of next year. FWC staff will know by the end of April or maybe May and definitely by the end of June if this will be funded in the FWC's 17-18 fiscal year, which begins on July 1, 2017.

d) Istokpoga Habitat Management Plan from FWC:

Eric Johnson, who was not able to attend this meeting, is now the point person on the FWC Istokpoga

Management Plan. Look for invitations to meetings on this and an update on this next year.

e) Updates on other projects:

A brief presentation was made by Paul and Linda on the status of the Lake Okeechobee Watershed Project Delivery Team work, being coordinated by the U.S. Army Corps of Engineers. Istokpoga Marsh Watershed Improvement District has broken ground on the first above ground impoundment.

9) Items from Committee members: There were no items brought forward by Committee Members.

10) Public comment - Members of the public wishing to discuss items not on the agenda are requested to limit their comments to 3 minutes. Dr. Carson requested an update on the results of the that FWC had put out last year to Friends of Istokpoga members regarding attitudes concerning the lake. Kelle responded that they are still receiving the surveys back from those polled. They are going to continue to compile these results until the end of the year and they will compile the results in the spring and present it at the spring aquatic habitat management public meeting.

Review of new action items from this meeting.

- Present LIMC request to the BCC for a letter to the FDEP requesting that the TMDL for Istokpoga be given a high priority. (Clell Ford).
- Determine what is required to measure Imazamox residuals in Lake Istokpoga (Kelle Sullivan and Clell Ford).
- Propose a date for a workshop on the Istokpoga Watershed Management Master Plan (Clell Ford)

11) Announcements: LIMC information is now available on-line:

[www.hbcc.net/departments/parks\\_and\\_recreation/limc\\_lk\\_istokpoga\\_mgmt\\_committee.php](http://www.hbcc.net/departments/parks_and_recreation/limc_lk_istokpoga_mgmt_committee.php)

[http://www.hbcc.net/departments/parks\\_and\\_recreation/limc\\_lk\\_istokpoga\\_mgmt\\_committee.php](http://www.hbcc.net/departments/parks_and_recreation/limc_lk_istokpoga_mgmt_committee.php)

Meeting schedule for 2017(Resolution 14-15-47, sec. 5, paragraph A)

1) March 15, 2017

2) Spring: within 7 business days following FWC spring aquatic habitat management public meeting

3) Summer: within 7 business days following FWC summer aquatic habitat management public meeting

4) Fall: December 7, 2017

Note that per Resolution 14-15-47, changes to this prescribed schedule shall be advertised pursuant to County requirements.

Meeting adjourned at 11:30