Harris Chain of Lakes Restoration Council
Technical Advisory Group

Meeting Notes
August 24, 2009 Meeting
Florida Fish and Wildlife Conservation Commission, Eustis Laboratory

Purpose: The Council has received authority to spend the remaining money appropriated by the Legislature on projects the Council believes shall positively impact the chain of lakes. The Council requested that TAG consider a range of projects for consideration by the Council for endorsement and price out projects for consideration with the understanding available funds are about $150,000.

Projects Council members suggested as important:

Item 1. Fish Attractors using limerock; and establishment of lime-rock reefs for protection of plants and fish.

Item 2. Fish Habitat at Hickory Point (SIMILAR TO ATTRACTORS AT LAKE EUSTIS FISHING PIER)

Item 3: New Earth Industries Watergoat Trash Collectors

Attending meeting:

Bill Johnson (Fish and Wildlife Conservation Commission - FFWC – Eustis)
Jason Dotson (FFWC - Eustis)
Dr. Dan Canfield (Florida LAKEWATCH - Gainesville)
Erika Thompson (Florida LAKEWATCH -Gainesville)
Marty Hale (FFWC - Ocala)
Kalina Warren (FDEP - Orlando)
Crystal Cook (FDEP - Orlando)
Walt Godwin (St. Johns Water Management District - Palatka)
John Benton (FFWC -Eustis)
Mike Perry (Lake County Water Authority – LCWA)
Barbara Bess (Concerned citizen, previously of FDEP)

SUMMARY

If the Council decides to initiate new projects, TAG concluded the best use of available funds would be the construction of: 1) Fish habitat at Hickory Point and other potential bank fishing areas (SIMILAR TO ATTRACTORS AT LAKE EUSTIS FISHING PIER), 2) fish attractors using limerock and trees, 3) lime-rock reefs for protection of plants and fish, and 4) Nuphar macrophyte beds in conjunction with the construction of fish habitat, attractors and reefs.

This type of project received support from all TAG members and visitors. FFWC further suggested that this project is important enough that they would be willing to contribute the $34,000 the Council previously allocated to FFWC. Florida LAKEWATCH agreed to direct the effort and with the assistance offered by FWCC, LWCA (boats and labor) and other TAG members it would be possible to optimize the amount of material placed in the lakes.

TAG also found out that New Earth Industries would rent for one year Watergoat Trash Collectors. The price was $220/month for trash alone and $245/month if the oil absorbent sock was included. TAG felt this approach could be important, but a future funding source could not be readily identified. TAG, therefore, concluded the best return on the investment would be the habitat construction.

Other projects such as dredging were discussed, but rejected because of insufficient funds. Cypress tree planting in the marshes around Lake Griffin was discussed, but SJRWMD indicated a source of funds was already tapped into so no new money was required.

Meeting called to order 9:02 am by Dr. Canfield.

DC: The Council called for projects to be proposal by Sept. 11, 2009 – ~$180,000 left to appropriate (after bass stocking program and return of allocation to FWCC).

Topics of interest in April 2009 TEAM public meeting (related by Dr. Canfield):

1. Creating artificial habitat
2. Reconnection of marsh
3. Bass stocking
4. Dredging (particularly system with genesis – dewatering to get rid of muck). Also discussion concerning Water Gulp ($220/month), using one at the boat ramp at Lake Dora.

JB: All storm-water lakes have been surveyed.

DC: Representing public request to put money toward creating artificial habitat

1. At the dock at Hickory Point
2. Random reef areas
3. Around the shoreline at Hickory Point

DC: Is artificial habitat valuable to the lakes of concern?

JB: What does encumbered mean?

MP: Encumbered means under contract. The monies for the restoration do not have to be encumbered because monies are in LCWA account.

JD: FFWC has proposed the use of brush pile attractors (5 acres) for artificial habitat on the Harris Chain of Lakes. However, FFWC can't put in attractors over ¼ acre, by law, without a dredge and fill permit from FDEP. Because fish attractors must be 100 ft apart, a diamond shaped patter of 20 total attractors clustered in 4's per ¼ acre is proposed. Brush attractors are primarily to provide habitat for crappie and large mouth bass. As of last year, the Lake County landfill offered to donate brush and transport the brush to the lake. The brush will have had to go to Hickory Point because it's close to landfill. Contract barges can be used to move brush. Dotson's proposal was written and submitted to Jim Estes (under the restoration budget) last year but it was tabled. Entire cost of the project was 110,000 (last year) using all private firms (low end cost). Monitoring and evaluation success can be performed by individually creels (independently funded) of each attractor vs. the rest of the lake.

DC: Where is the creel this year?

JB: Creel this year is on Apopka and Dora

DC: What do we need to do to make the brush project happen?

JB: Must follow up to see if the landfill can still provide and transport the brush. If they can't then it will increase the cost of the project and the project probably won't be feasible.

DC: (to JB) What kind of artificial habitat did Steve Crawford create?

JB: Steve Crawford built treated wood frames 2x6/2x8, lined with mesh on one side, filled with pea gravel and sunk around the lake walk. Provided gravel beds for spawning. Found to be fairly cheap and easy to deploy.

BB: Would you eventually get any sedimentation to establish aquatic vegetation?

BJ: Yes, eventually they'll fill and can support plant growth.

MP: Have evaluated viable sites for artificial reefs at Hickory Point and determined Leesburg to be too mucky.

DC: (to JD) where have you determined to put brush attractors at Hickory Point?

JD: Top of brush must be at least 3 ft below water at driest conditions so they are looking for deeper areas.

DC: Would you be willing to use the brush attractors (to the group)?

MP: Yes, they (the Harris Chain of Lakes Restoration Council) are willing to use/look at any viable options.

JD: Important point is to determine whom you are improving the fishing for? Pea gravel would give fishermen better fishing along the shoreline. Brush attractors would improve fishing for those in boats.

DC: Suggests a lake-by-lake basis to determine which artificial habitat would be best. Also suggests that a Harvester or pontoon boats could be used to drop Lime-rock off to make a reef structure.

MH: Pontoon boats could be used to deploy brush attractors (1,000 lb payload). Anglers were getting a lot of hang-ups on the mesh (pea gravel beds) in artificial habitat in the past (things to consider when determining type of artificial habitat).

BB: How often do you get complaints when you choose one fish demographic over another (boat vs. bank fishermen)?

JB: Very little…. bank fisherman are not well organized so they have little voice. Brush attractors serve both groups fairly well.

MH: Those fishing on the banks are normally concerned with access.

DC: Suggests using larger rocks (lime-rock boulders) than pea gravel for spawning substrate. Suggests that pea gravel would be fine around docks, as long as bottom is coated to provide attractive substrate for fish.

JD: The initial artificial habitat proposal for Hickory Point initially proposed to add artificial habitat to 50 acre, but suggests that the area does not have to be that big. You could use 4 ¼ acres and see how it works.

DC: Suggests using a sweep of things (artificial habitats) across the board to please the public and focus on getting funding for bigger projects in the future. Stop talking about production because most of the fishing is catch and release.

BB: Does anyone catch fish to eat anymore?

General Consensus: No

JD: Varies by region and lake.

DC: Most mortality is from handling when fish are caught.

WG: Has anyone done any mortality studies?

JD: Yes, the mortality is variable lake to lake.

BB: How much money is available to spend on this artificial restoration project?

DC: $149,000 and fish and game is putting in $34,000 (FFWC) = approx. $183,000

MP: Mentions that one council member has pointed out that everything that the council has done appears to be fish/fishing related.

DC: There has also been a proposal to remove hydrocarbons in the chain as well.

BB: What does the legislation for the council say? Is it largely fishing oriented?

DC: The legislation for the council states that it's mission is to restore the lake(s) to the original condition, which was fishable.

WG: There is also a five -year plan to reconnect area 3 (of lake Apopka).

BJ: Money can be more easily found for project like that (DC agrees).

DC: Council may be prepared to send out a legislative request for reconnection of area 3 (to WG).

WG: There must be a gradual change to flood out marsh and change plants to marsh plants (cattail).

BJ: States that FWC would be likely to fund such projects.

MP: Council put money out for effort for cypress tree planting… but there doesn't appear to be a lot of interest.

WG: $150,000 of mitigation funding (to reestablish cypress and herbaceous marsh) for area 4 (Lowry Brown)…. Budgeting in land management budget to clear with machinery and herbicides. Want to reestablish nesting trees.

DC: Council originally gave 5,000.

Walt: Wetland emergence and trees budget = $180,000 (DOT mitigation funding) and FWC is putting in $30,000.

DC: Why are we talking about cypress trees (to MP)?

MP: Because council was concerned about reestablishing cypress marsh habitat.

JB: Cypress marsh doesn't really improve fish habitat.

JD: Unless water is deep it does not… if it's too shallow the water becomes too hot.

WG: Notes that volunteer tree planting just doesn't tend to work well.

JB: We really want to recover *Nuphar* fields, but can't find a way to get it established.

DC: If you were using clam-bags to establish vegetation, couldn't you use lime-rock boulders to protect the bags from upheaval until plants are established?

JD: Wouldn't you have to place the rocks so that they are greater than three feet under water to protect bags (violating FDEP rules)?

DC: I don't think so.

JD: It would be nice to get *Nuphar* reestablished.

WG: We have close to 800 acres in area 3 that they'd like to reestablish with *Nuphar*.

DC: Yes, but you have to clear it 1st, so it'll be in 5 years or so.

BJ: Yes, but you could work to get it established now.

WG: Have to control water levels to get it established. It's going to take a while.

BJ: It does take a while:

BB: Why is it so hard to establish?

W: It's a huge rhizome and it's very buoyant.

BB: Is there no way to bind it down?

BJ: We've used roofing nails with some success.

WG: You have to have fluctuations in water level for it to establish. We've used big socks as well in the past.

DC: It might be possible to do some experimental reestablishment with the council funds.

WG: I think the reestablishment of *Nuphar* is the future of these lakes.

DC: At Hickory Point, would it cause a problem with your fish area if you put down rock habitat and along with *Nuphar*?

MP: Don't think it'd be an issue… but signs can be posted to keep boaters off of the vegetation until it is established.

BJ: *Nuphar* can easily be knocked back if it does become a problem.

MP: Should I recommend that we abandon planting of cypress?

DC: Yes, because
1) Does not serve their need for water quality
2) Mitigation funding is coming in for marsh area
3) It is too long term a project to use for these monies (not worth effort)

WG: Need a fast growing, larger tree for nesting.

BJ: You are going to plant cypress for the long term (to WG)?

WG: Yes

BB: You will get more bang for your buck if you plant something herbaceous.

WG agrees

BB: You have to consider public perception. Use this as a potential marketing event… don't put money into so many projects that you are diluting the effectiveness of them. Choose projects so that it is immediate, something that the public will see.

DC: Yes but it also has to be something that we'll learn from. This can also be a research demonstration.

MH: From a management prospective, I'd like to see some brush attractors go in.

DC: Believes that this can be done by pooling resources (barges/harvester/pontoon boat and labor).

JD: On a small scale, this project wouldn't spend a lot of money on evaluation.

DC: Hard bottom is the key… if you get the plants established then you show improvement.

MP: Is sand more desirable than rock from a fishing perspective?

DC: Fish like sand because they spawn on it. Fish clear away much to spawn on sand (*Nuphar* roots, rock, etc….). Sand moves with waves so I suggest some rock bottom. You don't see plants on pure sand.

MP: So, what we're trying to do is harden the bottom and anchor vegetation?

DC: I think so…. This is the direction that we want to go with the council.

WG: Implementing long-term improvements in habitat.

BB: There are people who enjoy the aesthetics of the water. Can we present this project as an attempt to recreate habitat, fishery and scenery to please public? Is this an opportunity to make a kiosk to educate public?

DC: The council has a separate budget for educational kiosks.

BB: Thinks the public is more receptive to man made habitat if they are giving an explanation, such as a simple graphic of how the artificial habitat is created and all of the critters associated.

DC: What about Water Goat proposal for muck removal and trash removal? It's cost is approximately $220/month.

BB: Are there any outfalls that are particularly problematic?

JB: Lake Co. has done an evaluation of all of the Harris Chain lakes. Lake Harris does not meet its TMDL's.

DC: The Water Goat works so that any trash that comes in the lake gets trapped and removed with water piped into the lake…. And it's got an oil removal mechanism in the back.

WG: How often is the oil removal changed out?

DC: I'm not sure…. You can tell by hand when it needs to be changed. Put one down around the mall in Tampa and it filled within 1 week.

WG: It picks up all petroleum-based products?

DC: All hydrocarbons.

MP: Do we have any evidence that there is a big hydrocarbon load? Perhaps we could use money in a better way.

Walt: We've measured pH and the only problem we've had is at Herlong.

DC: The main thing with the Watergoat is the flotsam. We don't want to necessarily focus on the hydrocarbons flushed into the system as much as the trash that's washed into it.

BB: Is installation free?

DC: As far as he understands, yes.

MP: What is cost?

DC: $220/month and trash is picked up monthly.

WG: How fast are counties putting in cyclonic separators?

MP: Slowly because they don't get a nutrient reduction, per say.

DC: The public wants to see where tax money is going… so the county is all for it to boost public opinion.

BB: One or two Watergoats should be put in obvious locations so public can see them work.

MP: Suggests that we check to see what is actually in the ones that are already existing before moving forward.

DC: Flotsam is a big issue in the ocean (gets a lot of public attention)…. Asks FDEP if they have any good ideas today?

KW: Asks about budget for Watergoat from previous council meetings.

DC: Price has increased since company went from not profit to private.

DC: Are there any other issues? Dredging has issues because of the cost.

MP: How about plant harvesting?

DC: Problem with harvesting is that it comes in spurts and there aren't enough machines to deal with it when it's harvest time.

DC: Big issues at Lake Beauclair – plants in the back needs to be removed and muck in the front needs to be dredged…. Genesis thing was supposed to be used for little canals.

MP: The city of Tavares is concerned about the narrows on Lake Dora. We want to remove sediment out of the bottom of the lake for navigation.

JB: At the end of deer point (to MP)?

MP: Yes…. Does the council want to get involved with navigation issues?

DC: Thinks the council does but the issue is how are you going do it? He believes the dewatering process could be used. Sites that dredging at Lake Panasofkee was a great success.

MP: The muck used in Lake Panasofkee was really calcium carbonate. St. johns won't be involved with navigation issues.

DC: Dredging of lake was sold because, biologically, lake flux is needed and boaters needed access when water was down.

MP: The district has already made it clear that dredging the canal is not going to be of much interest to them

DC: Thinks that it will have to be sold, legislatively, to be done.

BB: What is in the canal?

MP: Sand and some roots. We also need to determine if it's doable to dredge canal without undermining trees lining the bank. Sounds like council should not be involved?

DC: The legislature may be more willing to designate money to get rid of muck and do some dredging. He doesn't know which way the council will go on this.

KW: Is there a deadline to submit the proposal to the council?

DC: We have to deliver proposal to council on September 11th, 2009.

KW: Questions about looking at the removal of nutrients with floating islands.

DC: Knows a little about the process. Floats are made out of recycled plastic and they are a little expensive. Would be aesthetically appealing and fish like to hang out under them.

DC: Thinks that it's reasonable to try it out in certain spots to see how it works.

WG: You'd want them moored.

DC: Yes, very securely

KW: Offer to gather more information on the subject

DC: Agrees that the council may be interested in looking at this.

DC: Any other ideas on the floor?

BB: Should suggestions as to artificial habitat be given in priority order?

MH: Should we prioritize 'x' amount of brush attractors, 'x' amount of rock piles, etc….?

BB: Suggests that we give the council a list with what we believe would be the best way to spend money and why.

DC: All of this should be wrapped into one thing, artificial habitat at Hickory Point (shoreline oriented), brush attractors. #1 objective; start with plant establishment – then begin to identify where you want to push brush attractors.

JD: Do you have any idea with how much area we'd need to put rock down to reestablish *Nuphar* beds? Would you have grad students, volunteers, etc… for the work?

DC: He thinks there are ways to do it where the costs are reasonable. You have to do it in ¼ acres, maybe even smaller than that. The main thing would be getting a coating done in front of the peers. *Nuphar* would have to be found that could be ripped up to use for reestablishment.

BB: It will cost $220/month for installation and maintenance for water goat? One on 5 lakes is $13,200/ year.

DC: Yes.

MP: If there really is a benefit where public can see it maybe we can defer some of the cost to the storm water folks.

WG: How may attractors could you build for that?

DC: The cost is labor for the attractors… you could put up quite a few if you can reduce cost for labor/and installing attractors. We can propose to council to take 'x' amount off for water goat, we can have more artificial habitat added.

BB: Maybe tell the council that the Watergoat is not a bad idea, but suggest that the money is spent now.

DC: The council needs to make a recommendation to the legislature.

MP: Does the council have an obligation to put money into the hatchery?

BJ: They were going to give FFWC money for stocking, but we have since determined that they have grants and other monies for hatchery purposes.

JB: would rather have council monies go to habitat work (DC agrees).

DC: If the council approves this, can you identify sites for artificial habitat (to MH) and FDEP won't interfere if sites stay less than ¼ acre in size.

MH: Yes (on both accounts).

DC: Any other suggestions? Everyone agree to focus on near shore habitat and planning?

Group shows agreement.

JB: I will check with Bill Caton's group to check with off shore reef placement.

JD: Should you fence off lily pads until they are established so that boaters don't tear up plants?

DC: Boats do tear up plants, but maybe we could play the odds. In other words, put out attractors to get fishermen around them and then establish the plants away from the attractors.

JD: I will contact landfill to determine if county will provide brush and transport.

BB: If the landfill won't cooperate, will they trash project or reduce the size?

JD and BJ: Significantly reduce the size.

DC: What size trees are you after (for brush attractors)?

JB: Oak tops.

JD: We're looking for complex habitats.

BB: How long do they last?

JD: At least 5 years, and that is on the lower limit.

WG: What tree species do you use?

JD: Oak scrubs…. Some use Christmas trees, but that has the most short-term (5 years) effect.

DC: There is nothing to say that we can't have rock structure and oaks in there too….we can put out scrub and see what happens. Call for any other issues, suggestions, thoughts.

Meeting adjourned 11:10 am.