

July 13, 2018

Members of the Harris Chain Council,

Thank you for the opportunity to address your meeting during the public comment section.

Chairman Grow had noted concerns about phosphorous levels increasing from grass carp converting plant tissue phosphorus into available P in the water in the form of fecal matter. The last link (Fresh from Florida) addresses this question under the water quality section. I will let you draw your own conclusions but also pay attention that over half of ingested phosphate is accumulated in the fish flesh which would be removed from the system when harvested for free by bow fishing.

As I noted in my questions and suggestions, based on success in other areas it would be prudent to revisit establishing a working balance of grass carp and hydrilla in Lake Yale as an alternative to Alum applications.

Hydrilla is already present in Lake Yale so there are no "introduction issues"

Hydrilla has been shown to coexist and even enhance the populations of native vegetation and bass with a good management plan (See attachments Orange Lake in Marion County and others)

Grass Carp were previously permitted for Lake Yale so that should not be a huge obstacle.

Grass carp were used to effectively control hydrilla in Lake Yale, *the problem was not the method but the population of grass carp. This does not mean the concept chosen was wrong it just means it needed adjusting.* Use of biological control agents to manage invasive species requires a learning curve, and it is fair to say that a lot of progress has been made in use of carp in the last few years. Use of staggered releases and more intensive monitoring of vegetation to keep the desired balance of these remediation tools has more to offer the citizens of Lake and Marion County than proposed alternatives do.

Agencies have defended the expensive and questionable benefit of harvesting gizzard shad from Lake Apopka for nearly 2 decades. In sharp contrast, harvesting of excessive grass carp can be done by recreational bow fishing (see attachments) . Reducing grass carp populations can actually be turned into recreational opportunities for residents and tourists. A review of the attached articles indicates positive benefits to the community and management of the population with bow fishing tournaments.

Instead of Alum and NURFs and flow ways, fund a FWC, LCWA or university biologist to monitor vegetation, this will indirectly track the grass carp populations and any need to add to or reduce the population of this biological control agent based on hydrilla and native plant populations. With a greater understanding of the desired balance between hydrilla and carp along with proven methods for getting carp populations back in check this approach can provide both long term water quality improvements and expand sporting opportunities for Lake Yale.

Use the biological agents already present in the ecosystem and come up with a flexible integrated management plan--- the basis of which is good scouting/monitoring. Farmers and wildlife managers do this all the time. It is not a novel idea, everything proposed has been done successfully before, and will

benefit residents who would rather bass fish around hydrilla beds and bow fish for carp than sit on the shore watching their tax dollars settle on the lake bottom in a layer of coagulated organic matter.

I urge you to investigate this and give it serious consideration.

Richard Royal

<https://fishgame.com/2016/10/bowfishing-grass-carp-solving-overpopulation-problem/>

<http://www.wideopenspaces.com/new-bowfishing-world-record-grass-carp-shot-alabama-pics/>

<http://www.hannapub.com/content/tncms/live/>

<http://balancingthebasin.armylive.dodlive.mil/2017/10/25/corps-uses-grass-eating-carp-to-tame-hydrilla-at-thurmond/>

<http://myfwc.com/fishing/freshwater/sites-forecast/nc/orange-lake/>

<https://www.freshfromflorida.com/content/download/5661/97358/A-Risk-Analysis-Triploid-Grass-Carp.pdf>