

Summary of Public Comments, Responses, and Plan Modifications to the Draft 2021 South Carolina Aquatic Plant Management Plan

Positive: 5

Negative: 112 (multiple messages from the same person were treated as one 'vote' against)

Neutral: 4

Comments:

From: T.G.

Subject: Cary Lake should be added

Date: Fri 1/22/2021 1:32 PM

Hi,

We just reviewed your list of proposed sites to receive assistance with nuisance aquatic plants. We have been living on Cary Lake for 20 years and the aquatic plants have been worse than ever since the 2015 flood. We live on the north cove which is just below Decker Blvd. and would really appreciate help in trying to get this under control.

Please feel free to contact us at any time. Thank you,

T.G. & M.G.

From: T.R.

Subject: Aquatic plants

Date: Fri 1/22/2021 2:16 PM

I believe that public awarenesses is key to handling invasive plants as the public can unknowingly proliferate the problem.

From: D.C.

Subject: Aquatic Plant Management Plan Comments

Date: Wed 1/27/2021 8:18 AM

To whom it may concern: Once again, I have read your draft Aquatic Plant Management Plan and fully support your actions. I live on the shores of Lake Marion and am an avid boater and fisherman. Your efforts over the past few years have prevented the spread of nuisance plants in our lakes and river systems ensuring a safe and enjoyable body of water for everyone's use. Boaters, fishermen, hunters and water enthusiasts of all types benefit from your goals of controlling these invasive weeds. I know you spend an enormous amount of time preparing a plan to benefit everyone and I for one appreciate your in-depth research in this area and your team's hard work putting this plan into action. The old adage "you can't please everyone" applies, but the majority of property owners around the lakes surely benefit from your efforts in providing a clean waterfront, free of weeds and other invasive plants. As for fishermen and hunters, the fish were and always have been in the lakes, they just may be harder to locate without patches of weeds in which to hide. Likewise, the duck hunters have plenty of swamp and backwaters in which to ply their skills, no overgrowth of navigable waters is needed to attract birds. Keep up the good work.

D.C.

From: D.G.

Subject: Invasive Plant Plan

Date: Mon 2/1/2021 3:58 PM

You guys do so much for the residence that live on the shores of Lake Marion and the folks that fish our lakes along with the recreational users. I support your plan!

From: M.A.

Subject: 2021 Aquatic Plant Management plan

Date: Mon 2/1/2021 7:14 PM

As a home owner on Lake Marion I wish to express my support for the 2021 Aquatic Plant Management Plan. Is there a way to get advance notice of when weed control spraying in Potato Creek will take place so I can improve SCDNR access to my shoreline by moving boats?

M.A.

From: E.G.

Subject: 2021 DRAFT S.C. Aquatic Plant Management Plan

Date: Wed 2/3/2021 1:50 PM

I am writing to support the 2021 Draft S.C. Aquatic Plant Management Plan as presented.

I am a resident of Clarendon County and live on Lake Marion. I do not want to see our lakes faced with the problems of the past caused by invasive weeds.

Thank you in advance,

E.G.

From: A.D.

Subject: Aquatic Management Plan

Date: Fri 2/5/2021 12:55 PM

To whom it may concern,

This will be my first of many emails. This email is regarding lake Greenwood and the treatment of both slender naiad and val. I hope the committee will think twice of treating native species in the lake. What little is left on Lake Greenwood is needed as many plants and animals depend on such grasses for a healthy ecosystem as well as the benefits it provides to water quality and clarity. I would strongly urge the council to reconsider using grass carp in Lake Greenwood as the health of the overall carp population is indicated to be low as the fish appear small in size due to lack of food already. Overstocking and killing off native vegetation is a concern. I urge the council to use sound judgment and scientific reasoning as both indicate that saving these plants far outweigh any negative effects that these could have.

I have many other areas of the plan that show a lot of concern. The amount of grass on Greenwood is minimal at best and any should be treated with the utmost care transplanted to other areas of the lake vs being treated and killed.

I also urge the council to rethink listing hydrilla as a nuisance plant as the plant has been in SC and many parts of the south for many many many years. The plant itself if controlled to a certain level provides many benefits to an ecosystem and the benefits of this far outweigh any negative effects. I also suggest

this as open space in an ecosystem will eventually be filled and it seems Giant Salvinia is filling that void once filled by Hydrilla.

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A.D.

From: A.D.

Subject: Hydrilla

Date: Fri 2/5/2021 1:08 PM

Hydrilla has been around since before the 1960s in America. I believe and would like to see the eradication of this plant stop. I for one believe it is time to move this species to the native list and come to terms that it is here to stay. Over the past years in the name of eradication we have killed off many beneficial aquatic plants and continue to do so every year. Thus creating holes that things like Giant Salvinia has begun to take over (which is much worse). The benefits of controlling hydrilla vs eradication is far greater than killing off the entire ecosystem.

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A.D.

From: D.D.

Subject: Stop destroying our state.

Date: Fri 2/5/2021 4:12 PM

To anyone involved in state management plans and budgets,

Every single one of you should be ashamed. You clearly do not have the integrity to complete your jobs for the benefit of common South Carolina residents. Your focus all of your time and effort to please the wealthy all while completely ignoring the public land the rest of us have access to.

The states lakes are complete garbage and would be better off without you people. There is zero grass cover and little structure to support an actual fishing habitat and food chain.

Then come the waterfowl hunters you seem to despise with a passion. Again the lakes have absolutely zero food or cover for waterfowl so naturally they hold no waterfowl aside from resident geese on occasion. Then comes the cat 1 and 2 waterfowl management areas where other than the SCR, you literally only have ONE management technique. That one is banning hunters from using the areas unless its in the posted few hours you've chosen. Again there are no ducks in these areas because they have NO food to eat, the same as 98% of the states public lands.

Then comes the deer and turkey. On private land in SC, both can be plentiful. On public land however, one can spend an entire season searching through thousands of acres of useless pine trees and never find a single track.

Congratulations, you've wiped out most of the states useful hardwoods and released them with useless pine trees to protect a tree pecker that no one cares about. At the same time you've stocked carp and sprayed poisonous chemicals into the lakes at such a high rate, you've ruined them also.

Now on top of the money you've wasted to kill all the SAVs in the lakes, you have to waste even more to stock fish back into the waterways to please the fishermen.

You absolutely suck at everything except pleasing the wealthy. I will be spending my future in SC advocating to other outdoorsman and women to stop buying licenses in order to defund all of your jobs.

Sincerely,

D.D.

From: J.D.

Subject: Aquatic Management Plan

Date: Fri 2/5/2021 7:39 PM

I am writing to voice my opinion on the draft of your aquatic management plan and seemingly total lack of consideration of the comments of waterfowl hunters and anglers who see the benefit of SAV and native grasses. The PDF I was emailed recently is absolutely full of people asking you to halt stocking of grass carp, halt spraying chemicals, and consider other methods to remove invasive species that may actually cause issues rather than completely eradicating all of it as is especially the case in upstate lakes. Yet it is all continuing at a destructive pace.

To make things worse, I am seeing copper as a solution for some species of plants while noting that in the recommended amounts to use for the body of water that it could be toxic to fish. We feel that not allowing SAV to grow has already done enough damage to the fish population and do not want anything added that would kill more.

We feel that the threat of these plants is being exaggerated greatly and the state of South Carolina should let that ecosystem behave as it naturally would. I mean, look at how devastating all the SAV growing in Guntersville has been to their bass fishing and duck hunting. Right?

We are being told that it is necessary to kill all the SAV because it clogs the turbines on the dams and thus is an obstacle for hydroelectricity. Ok, why do other states manage to generate hydroelectricity just fine without poisoning the water? Look at all the TVA dams in Alabama, Tennessee, Kentucky, and a few other states. I used to live in middle Tennessee and our dams worked just fine. The reservoirs had plenty of native grasses. The public fishing and duck hunting there is far superior to that of South Carolina.

So, not to directly accuse anyone of lying, but I do have a very hard time believing that the clogging of the dams is the reason to kill all the SAV. Furthermore, I'm told by reputable sources that the only instances of this came after stocking grass carp because they caused huge mats to break off and float their way into turbines. Another great example of why to leave it alone and let the ecosystem do its thing.

Does Duke/Santee need to design a better solution? I don't mean that sarcastically, I'm serious. If TVA can do it, we should be able to as well. I am an electrical engineer and would be happy to devote some consulting time if I can be of assistance.

Please consider our opinions on the matter. I think you would be VERY hard pressed to find a state with worse public water duck hunting than South Carolina. That's not a sarcastic statement, that's

Commented [CWM1]: Mechanically harvesting has been considered on the Santee Cooper lakes, unfortunately the morphology of the system prohibits the use of mechanical harvesters. We currently have an IPM program that uses chemical control, biological control, and public outreach. We do not rely solely on one method.

Commented [CWM2]: We DO NOT treat native SAV on the Santee Cooper lakes except for a very small amount to allow public access around residential and commercial leases and SCDHEC designated swimming areas. 2021 total of native SAV treated on the entire Santee Cooper was 4.5 acres (Cabomba, pondweed, milfoil in residential canals). This info was presented to the council and public at the 01/21/21 meeting.

Commented [CWM3]: When BASS Elite series visit the Santee Cooper lakes Fall of 2020 following Guntersville the average weigh in was higher on Santee Cooper system vs Guntersville. "[110,000 and 60,000 acres respectively] These sister lakes could be considered elderly, as they were created in 1941. But, don't let their age fool you. The production of these fisheries rival any new lake on this list. Just last year, Santee Cooper ranked 9th in the nation on the heels of multiple limits over 30 pounds hitting the scales. Plus, 20-pound limits were not turning heads. In 2018, the fishery was ranked 6th in the nation following an 8th-place showing in 2017. So, these sisters have been producing for a hot minute. Had it not been for a tragic showing in 2014 (94th), there is little doubt Santee would have been much higher on this list. Still, the trend is solid for this year to again be stellar." -BASS website Best Bass Lakes of the Decade

Commented [CWM4]: This is a false statement and one that likely has been passed around the rumor mill. We must consider all stakeholders (recreational use—waterfowl hunting, fishing, boating, drinking water intakes, generation intakes, ag intakes, and navigation). Our goal has never been to kill all SAV. We actually use selective herbicides to protect our native SAVs when targeting invasive non-native species.

Commented [CWM5]: Unfortunately, these sources are incorrect. A series of summer storms broke lose a mat of hydrilla growing in Russellville flats that clogged the hydros at St. Stephens causing a large fish kill in the 90s. I forwarded the SCDNR fish kill report and an explanation from Chip Davis, supervisor at the time to Julie.

serious. Things would be so much better if the SAV could grow as I'm told it used to be. There has to be a better solution than what the state has been doing. As stated above, I'm willing to lend my expertise if it can be used. Many of my friends here are willing as well.

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Regards,
J.D.

From: T.N.
Subject: Aquatic Plant Management Plan
Date: Fri 2/5/2021 8:22 PM
To whom it may concern,

As a property owner and frequent user of Lake Greenwood I feel that the aquatic vegetation is managed very well. There is a great blend of vegetation present for wildlife but also water to use for recreation. I hope that the vegetation control remains the same or possibly increases with the Lauren's County water withdrawal plan.

Keep up the good work,
T.N.

From: H.S.
Subject: I oppose the 2021 Aquatic Plant Management plan Draft
Date: Fri 2/5/2021 9:43 PM

I am against the future stocking of Grass Carp in our Lakes. This practice is causing a severe reduction in our fisheries and causing harm to other beneficial wildlife. Please quit or drastically reduce this practice until the situation is reversed.

From: C.T.
Subject: Opposition of Vegetation Control Plan
Date: Fri 2/5/2021 10:07 PM

I do hereby formally oppose the proposals to continue stocking hybrid grass carp into the Santee Cooper lake systems and others at the rates presented and the further introduction of carp into the lake systems throughout our state of South Carolina.

M.T.

From: C.S.
Subject: I oppose the 2021 Aquatic Plant Management Plan Draft
Date: Fri 2/5/2021 11:11 PM

I do hereby formally oppose the proposals to continue stocking hybrid grass carp into the Santee Cooper lake systems and others at the rates presented and the further introduction of carp into the lake systems throughout our state of South Carolina.

At present, the effects of the carp stocking numbers have greatly altered the lakes as a whole habitat biome. Many species of fish and avian life that would normally thrive in such aquatic environments are neglected by such a plan.

Commented [CWM6]: We have been actively managing to avoid large scale grass carp stockings. We do not want to stock large numbers of fish. Nor do we target native vegetation.

Commented [CWM7]: Does the Greenwood plan specify that native veg would only be targeting where public access is impeded?

Commented [CWM8]: SCDNR's annual report would say otherwise. The fishery is actually doing very well.

Commented [CWM9]: VM is a disease that negatively effects waterfowl.

The importance of a balanced wildlife ecosystem ranging from invertebrates to vertebrates is greatly ignored to detriment when there are actions in play that eradicate even the native submerged aquatic vegetation. These native aquatic plant species, and yes even some beneficial invasive species are the very building blocks of a healthy and functioning aquatic ecosystem.

As noted, these overly aggressive stocking actions not only cause great detriment to many species of wildlife and general water quality but also gravely effect the rural economies that center around hunting and fishing and other outdoor activities.

In a time of concern over water quality and South Carolina's ever decreasing wildlife habitat it's well past time that the APMC recognize these detrimental actions towards wildlife and water quality. Further, to continually ignore the amount of taxpaying citizens that have opposed such actions both past and present speaks negatively as an affront to the majority of recreational users and our hunting and fishing cultures.

We as sportsmen and women should be stewards of the land and water to give back far more than we take from them. Humans have a destructive way of harming nature and it's natural balance. The natural vegetation that our lakes provide are what will keep our historical environment alive and well for many generations far into the future. It is vital that we take action to help protect the wildlife that call our great state home.

C.S.

From: M.D.

Subject: Invasive Weeds Action Proposal

Date: Sat 2/6/2021 12:30 AM

As 35 year resident of Lake Murray, in Lexington County SC., I have personally witnessed the original stocking of Asian Grass Carp into Lake Murray and the detrimental effects it has had on our Fishery and Wildlife System. Our Water and Eco Systems are extremely fragile and continued stocking of these Non-Native Fish is continually changing our Natural Resources at alarming rates, that take many years to rebuild.

I do hereby formally oppose the proposals to continue stocking hybrid grass carp into the Santee Cooper lake systems and others at the rates presented and the further introduction of carp into the lake systems throughout our state of South Carolina.

At present, the effects of the carp stocking numbers have greatly altered the lakes as a whole habitat biome. Many species of fish and avian life that would normally thrive in such aquatic environments are neglected by such a plan.

The importance of a balanced wildlife ecosystem ranging from invertebrates to vertebrates is greatly ignored, to detriment, when there are actions in play designed to eradicate even the native submerged aquatic vegetation. These native aquatic plant species, and yes, even some beneficial invasive species are the very building blocks of a healthy and functioning aquatic ecosystem.

As noted, these overly aggressive stocking actions not only cause detriment to many species of wildlife but also negatively effect the rural economies that center around hunting and fishing and other outdoor activities.

Commented [CWM10]: Allowing native and invasives in a system is a balancing act. We are not managing for eradication of hydrilla which I'm sure he assumes is a beneficial invasive species.

Commented [CWM11]: Exactly why we are trying to avoid aggressive large stockings. 10,000 fish in 170,000 acre reservoir does not even replace mortality and is a far cry from the 100,000 fish stocking that occurred years ago when the council voted to stop stocking it allowed hydrilla to displace native veg

Commented [CWM12]: He is spot on with water quality issues being a concern, that is why we utilize herbicides to control harmful algae blooms like the ones they experience in Florida. He may be referring to taxes for all SC waters but it seems appropriate to note that **NO TAXES** fund lake management on the Santee Cooper lakes.

Commented [CWM13]: First paragraph he talks about Lake Murray but then opposes carp stocking on Santee Cooper lakes?

Commented [CWM14]: This is the same letter as the above letters. Must be the chain letter passed around by Carolina Wildlife Syndicate that wasn't fact checked.

Commented [CWM15]: I'd like to invite some of the commercial lease holders from the Santee Cooper lakes to speak on the negative impacts to their businesses when we had 40,000 acres of hydrilla on the system and no one could launch boats at their ramps. No one camped and no one bought bait. I know 2 landing operators who almost lost everything. This rural economy comment is one sided and doesn't not consider what actually happened in the 90s.

In a time of concern over water quality and South Carolina's ever decreasing wildlife habitat it's well past time that the APMC recognize these detrimental actions towards wildlife and water quality. Further, to continually ignore the amount of taxpaying citizens that have opposed such actions, both past and present, speaks negatively as an affront to the majority of recreational users and our hunting and fishing cultures.

With Kind Regards,

M.D.

From: H.T.

Subject: Less carp, more grass please...

Date: Sat 2/6/2021 1:40 AM

To whom it may concern:

Habitat for wading birds, waterfowl, and game fishes will continue to be severely lacking if the stocking of carp at proposed levels should remain.

Numbers for the aforementioned wading birds, waterfowl, and game fishes are all at such poor levels in South Carolina that carp would be like driving a nail in the coffin for hunting, fishing, and bird watching in and around the State.

Please consider allowing natural vegetation to reestablish itself on the lakes in order to bring wildlife back to stable numbers. The situation is nearly dire at the moment, and we can't afford to lose the rich heritage and cultural significance that comes with holding wild game on these bodies of water. Thank you in advance for your consideration in the matter.

H.T.

From: L.B.

Subject: Aquatic Management Plan

Date: Sat 2/6/2021 5:01 AM

To whom it may concern,

I do hereby formally oppose the proposals to continue stocking hybrid grass carp into the Santee Cooper lake systems and others at the rates presented and the further introduction of carp into the lake systems throughout our state of South Carolina.

At present, the effects of the carp stocking numbers have greatly altered the lakes as a whole habitat biome. Many species of fish and avian life that would normally thrive in such aquatic environments are neglected by such a plan.

The importance of a balanced wildlife ecosystem ranging from invertebrates to vertebrates is greatly ignored, to detriment, when there are actions in play designed to eradicate even the native submerged aquatic vegetation. These native aquatic plant species, and yes, even some beneficial invasive species are the very building blocks of a healthy and functioning aquatic ecosystem.

Commented [CWM16]: Same comment from another letter above. Chain letter for CWS.

Commented [CWM17]: I know of no published data that says wading birds or game fish are in poor levels in SC. Region IV surveys would say otherwise.

As noted, these overly aggressive stocking actions not only cause detriment to many species of wildlife but also negatively effect the rural economies that center around hunting and fishing and other outdoor activities.

In a time of concern over water quality and South Carolina's ever decreasing wildlife habitat it's well past time that the APMC recognize these detrimental actions towards wildlife and water quality. Further, to continually ignore the amount of taxpaying citizens that have opposed such actions, both past and present, speaks negatively as an affront to the majority of recreational users and our hunting and fishing cultures.

I grew up fishing Lake Marion in the grass. It's a sad sight today to compare the lack of wildlife today to the early 90s.

Sincerely,

L.B.

From: C.G.

Subject:

Date: Sat 2/6/2021 6:13 AM

I do hereby formally oppose the proposals to continue stocking hybrid grass carp into the Santee Cooper lake systems and others at the rates presented and the further introduction of carp into the lake systems throughout our state of South Carolina.

At present, the effects of the carp stocking numbers have greatly altered the lakes as a whole habitat biome. Many species of fish and avian life that would normally thrive in such aquatic environments are neglected by such a plan.

The importance of a balanced wildlife ecosystem ranging from invertebrates to vertebrates is greatly ignored, to detriment, when there are actions in play designed to eradicate even the native submerged aquatic vegetation. These native aquatic plant species, and yes, even some beneficial invasive species are the very building blocks of a healthy and functioning aquatic ecosystem.

As noted, these overly aggressive stocking actions not only cause detriment to many species of wildlife but also negatively effect the rural economies that center around hunting and fishing and other outdoor activities.

In a time of concern over water quality and South Carolina's ever decreasing wildlife habitat it's well past time that the APMC recognize these detrimental actions towards wildlife and water quality. Further, to continually ignore the amount of taxpaying citizens that have opposed such actions, both past and present, speaks negatively as an affront to the majority of recreational users and our hunting and fishing cultures.

Please stop RUINING our lakes so that people do not have to TOUCH weeds/grass.

C.G.

From: J.T.

Subject: I oppose the 2021 aquatic plant management draft

Date: Sat 2/6/2021 7:05 AM

Please no more carp. Our fisheries and waterfowl are at an all time low. They're are other lakes in bordering states that are hydro powered lakes with vegetation a plenty and the fisheries and waterfowl and economy's around the lake are thriving.

From: R.H.

Subject: Invasive weeds legislation

Date: Sat 2/6/2021 8:01 AM

I am sending this email to voice my opposition to the proposed invasive weeds legislation for 2021. I am a lifelong resident of South Carolina and avid outdoorsman. Please do not implement this legislation.

Cordially.....

R.H.

Murrells Inlet, SC

From: J.S.

Subject: Re: I oppose the 2021 draft weed control measures

Date: Sat 2/6/2021 9:40 AM

Leave the weeds alone..They are beneficial for wildlife fish and ducks.Stop putting grass carp into the lakes and dumping cancer causing chemicals into our lakes.We can use this money on other things. J.S.

From: B.H.

Subject: 2021 APMP

Date: Sat 2/6/2021 10:25 AM

Good Morning,

I wanted to send an email to offer a few comments regarding the 2021 APMP. I know there are a great deal of emails being sent that are basically copied and pasted blasting the council, DNR, etc. for invasive aquatic management, however this email will not parallel that sentiment.

I would like to premise the following with the fact that the most important area to me is Lake Marion, and it's upper flood plain. I am an avid waterfowl hunter, and for obvious reasons this lake is important to me, and many other recreational hunters. Also, the areas that I am familiar with are those north of I-95 because of this reason, so the following will be speaking with respect to that particular body of water. Lastly, I would also like to make it known that I have been very involved with the SCWA on multiple levels over the past 6-7 years, and am very aware of the other effects that flooded ag impoundments along the north eastern side of the lake have on waterfowl distribution.

With that said, the two species that stand out the most to me from this plan are hyacinth and salvinia. Particularly along the eastern back waters of the lake, north of 95, these two types of vegetation have everything locked up; not only from boat access, but from any open water as far as I can tell, In particularly the shallower areas that could be accessible by boat in the hickory top WMA. I do support the management of these species to a significant extent because of the lack of accessibility and detrimental habitat effects that result. I know, at least hyacinth, grows at an alarming rate, however is it this plan's goal (if even achievable) to completely eradicate the vegetation, or reduce numbers to a percentage (70%-80%)? I think a certain amount can certainly be beneficial to waterfowl populations, if managed properly (again, if feasible). Also, I notice that the species specifically targeted under "Hickory

Commented [CWM18]: ?

Top WMA" do not include hyacinth, or salvinia; is this area only referring to the impounded green tree reservoir?

Additionally, I see where water primrose is listed as one of the plant species to be managed in 2021, and I am aware of some stands of this currently, however I have never come across a area where I would have considered it to be an issue. I ask this again because of the nutritional benefit of primrose to waterfowl populations.

Additionally, I have have misread somewhere, but basically the annual monetary cap for these management plans is \$30,000 per area, however specifically the Lake Marion plan totals in \$600,000. Does this essentially mean that nothing significant will be done, or the funding will be provided by other sources than state/federal (Santee Cooper)?

In regards to hydrilla and the grass carp, I personally have never noticed any issues that have been caused by SAVs like hydrilla, from a recreational standpoint. I know it can be a viable nutrient sources for many pochards and other waterfowl, however is the management provided by the grass carp eliminating the hydrilla completely (to the extent where the current hydrilla density can only sustain these carp) or is there a "surplus" that is still available to sustain other wild life populations? I understand without the carp there would be an excessive surplus of hydrilla, but I see so many comments regarding the matter it is difficult to distinguish fact from hearsay.

In conclusion, I believe the management of this vegetation is important and reasonable to certain extents in areas where needed. I know there is a lot of opposition to this management, and would recommend and request (for my own edification as well) more publicly accessible/regularly published information regarding the matter (where, when, why, etc.). I am not speaking necessarily to huge publications, but for example, a short article regarding the benefits and detriments of water hyacinth in its current distribution in and around the northern portions of Lake Marion. I believe many individuals would benefit from this information being broken down like this into specific areas to see exactly why this type of management is necessary.

Thank you very much for your time, and I look forward to hearing from you soon. Have a great weekend.

B.H.

From: B.O.

Subject: I oppose the 2021 Aquatic Plant Management Plan Draft

Date: Sat 2/6/2021 10:25 AM

I do hereby formally oppose the proposals to continue stocking hybrid grass carp into the Santee Cooper lake systems and others at the rates presented and the further introduction of carp into the lake systems throughout our state of South Carolina.

B.O.

From: S.T.

Subject: Comments on the APMC Plan - no more grass carp in the Santee Cooper system.

Date: Sat 2/6/2021 11:14 AM

Commented [CWM19]:

Commented [CWM20]: This gentleman is on to something.

Prior to 1995 or so the Santee Cooper system, Lakes Marion and Moultrie, was a healthy, thriving ecosystem that was covered with terrestrial life and inundated with aquatic diversity. Small and relatively unknown species like blackbanded sunfish, flier, and bluefin killifish were so abundant that they could be caught, literally by the dozens, simply by dipping a 5-gallon bucket into the then plentiful submerged aquatic vegetation (SAV) and letting water and life rush in. Of course, with the foundation of the ecological pyramid so firmly in place, populations of higher order and more economically important species flourished too.

Striper fishing was phenomenal. Largemouth bass and catfish were abundant. There were enough bream and crappie that anyone who ventured out in the spring with a bucket of minnows or a tube of crickets was treated to the Lowcountry's best. This healthy ecosystem extended out of the lakes, into the air, and onto the riparian surroundings. Birds, especially migratory species in the fall and winter, flocked to our systems of lakes. The open areas provided safety for their numbers while the compatible biomass sustained their physical needs. Birds that would otherwise have to extend their migrations much further south found a pleasant winter home in South Carolina. They returned north in greater numbers and in better health because of the abundance of the famed Santee Cooper system. Santee Cooper became a self-fulfilling prophecy as these healthy and numerous species along with their progeny returned the following autumn in even greater numbers. There was no doubt – The Santee Cooper system's fame was well deserved and well earned.

Then came the idea of grass carp. The awkward and bumbling early use of hundreds of thousands of grass carp destroyed the bio-diversity of the lakes. Sport fish died off and, because of the sterile condition on the lakes, couldn't reproduce themselves. Migratory birds were forced to continue further south exposing themselves to greater predation during longer and more physically-depleting migrations. The over use of this one method of control has replaced what was once the most common denizens of the lake, fish and birds, with pontoon boats freely piloted over what is a literal aquatic desert. Trading a healthy ecosystem for easier navigation was not worth the cost - not even close.

I don't fault anyone for these early attempts, however. We were dealing with something so unknown and alien that there were bound to be some mistakes. I do fault the decision makers for the continued decades of unrelenting use of grass carp to fight a problem that hasn't existed for 20 years. The cliché about doing the same thing and expecting different result is so apposite that it is maddening to those of us who have patiently waited for these few decision makers to finally come to terms with the damage and reverse course. The damage caused in the mean time, may be irreparable.

The absence of SAVs and the over application of grass carp have made Santee Cooper the perfect environment for invasive species that aren't on the grass carp's menu like crested floating heart and water hyacinth. White marsh has taken over shallower areas and turned fertile, useful lake into impenetrable marsh that even rails won't use. Open flats that used to be covered with SAVs and filled with invertebrates and now barren flats with unfolding cypress trees that are already starting to block enough sun that SAVs may never grow again. We won't easily reclaim these areas but we can limit any further damage.

There is only one sane decision that can be made at this point: stop using grass carp anywhere on the Santee Cooper system – period and forever. I do not and will never again support the use of grass carp on the Santee Cooper System.

S.T.

From: C.M.

Subject: Draft Plan

Date: Sat 2/6/2021 11:18 AM

I strongly oppose the use of grass carp in any lake in South Carolina. The APMC knows full and well their destruction to all submersed vegetation.

From: B.W.

Subject: 2021 APMP

Date: Sat 2/6/2021 10:25 AM

I oppose the 2021 Aquatic Plant Management Plan Draft due to the stocking of grass carp. These carp cannot distinguish between beneficial aquatic plants and nuisance plants. I only approve of selective spraying. I also disagree with the target goal of aquatic plant percentage covers. The percentage goals are much too small to benefit wildlife.

The only benefactor of stocking carp is the growing populations of Cormorants as this makes finding their meals much easier.

From: B

Subject: 2021 Aquatic Plant Management Plan

Date: Sat 2/6/2021 11:38 AM

I strongly oppose the use of grass carp in the Santee Cooper lakes system.

From: B.M.

Subject: I oppose the 2021 Aquatic Plant Management Plan Draft

Date: Sat 2/6/2021 11:51 AM

To who it may concern,

I do hereby formally oppose the proposals to continue stocking hybrid grass carp into the Santee Cooper lake systems and others at the rates presented and the further introduction of carp into the lake systems throughout our state of South Carolina.

At present, the effects of the carp stocking numbers have greatly altered the lakes as a whole habitat biome. Many species of fish and avian life that would normally thrive in such aquatic environments are neglected by such a plan.

The importance of a balanced wildlife ecosystem ranging from invertebrates to vertebrates is greatly ignored to detriment when there are actions in play that eradicate even the native submerged aquatic vegetation. These native aquatic plant species, and yes even some beneficial invasive species are the very building blocks of a healthy and functioning aquatic ecosystem.

As noted, these overly aggressive stocking actions not only cause great detriment to many species of wildlife and general water quality but also gravely effect the rural economies that center around hunting and fishing and other outdoor activities.

In a time of concern over water quality and South Carolina's ever decreasing wildlife habitat it's well past time that the APMC recognize these detrimental actions towards wildlife and water quality. Further, to continually ignore the amount of taxpaying citizens that have opposed such actions both past and

present speaks negatively as an affront to the majority of recreational users and our hunting and fishing cultures.

I've lived here all my life, 50 years. I've hunted and fished our Santee Cooper lakes my entire life. My grandparents owned a home on lake Marion. At one time the waterfowling on lakes Marion and Moultrie were exceptional! Then the introduction of carp and spraying EVERYTHING, ruined our lakes. The hydrilla and most other SAV's are gone, along with the ducks. As I get older I pray that one day. People will see and experience what I did on our lakes. All us old guys have now are stories of good times. Please help us and our lakes become great again.

Sincerely,
B.M.

From: S.W.

Subject: S.W.

Date: Sat 2/6/2021 12:33 PM

I do hereby formally oppose the proposals to continue stocking hybrid grass carp into the Santee Cooper lake systems and others at the rates presented and the further introduction of carp into the lake systems throughout our state of South Carolina.

From: J.A.

Subject: Grass carp

Date: Sat 2/6/2021 12:49 PM

Grass carp are contributing to the problem more than they are helping in Santee. I do NOT support anymore grass carp in the Santee Cooper System!

From: J.W.

Subject: 2021 aquatic weed mgmt plan

Date: Sat 2/6/2021 1:10 PM

I read over the 2021 plan for Santee Cooper lakes, Marion and moultrie. I am adamantly opposed to the release of grass carp, ever again in this lake.

The destruction that has been caused over the past 25 years with grass carp, from which it may never recover.

Please focus on the crested heart and water hyacinth that has been allowed to proliferate due to the lack of native vegetation.

J.W.

From: H.T.

Subject: Aquatic plant management

Date: Sat 2/6/2021 2:04 PM

I oppose the 2021 aquatic plant management plan draft the continuous introduction of grass carp to the lakes are taking food for all aquatic wildlife because there is no management plan in place for them and they become over populated

From: C.H.

Subject: DNR Aquatic Management Concerns

Date: Sat 2/6/2021 3:18 PM

The introduction of grass carp on the Santee Lake and River systems has wrecked havoc on what used to be a thriving, diverse ecosystem. I need not explain how and why, as your organization, the South Carolina Dept. of Natural Resources, already knows how and why grass carp have had a negative impact our native vegetation and wildlife.

I am an outdoorsman. My interests revolve around hunting, fishing, and hiking. As I have already stated, the introduction of grass carp has negatively impacted a variety of our states native habitat and wildlife, however the most noticeable impact has been the gross disappearance of migratory waterfowl during the winter months on our river and lakes. Grass carp have decimated the food source that waterfowl need to STAY in our state. I have witnessed on many occasions, large numbers of migrating waterfowl appear and leave within 24 hrs, due to lack of food on the lakes and rivers, that used to hold and sustain waterfowl before the introduction of grass carp.

This begs to have the question answered... What does DNR wish to protect? The interests of private companies? Or the interests of our natural resources and outdoorsmen? If DNR wishes to continue to bring in the revenue generated from hunting and fishing licenses from South Carolinians, I sure hope to see a change in priorities and manage the resources for the benefit of wildlife, and the people who use our natural resources. We love many things about the state of South Carolina, however, the reduction in quality outdoor hunting and fishing opportunities due to mismanagement of the natural resources at the interest of privatized organizations, has our family considering moving elsewhere.

Commented [CWM21]: Santee Cooper is not private, and manages for many users.

Again, I ask, where do SCDNR's priorities lay?

From: W.P.
Subject: Carp
Date: Sun 2/7/2021 8:34 AM
No carp please

From: B.T.
Subject: Aquatic Management Plan
Date: Sun 2/7/2021 10:25 AM
All efforts should be directed at spraying the Giant Salvania, along with lower winter levels to help.

Adding more carp to the system isn't the answer.

Do they even eat Salvania?

Sincerely,
B.T.

From: B.E.
Subject: DNR Aquatic Management Plan
Date: Sun 2/7/2021 3:36 PM
Concerning aquatic management on SC waterways. You messed up. You took thousands of acres of pristine wildlife habitat and turned it into barren deserts of water, only to suffice recreational boaters. This, along with our state's joke of a deer management program, has made this state an outcast in terms of wildlife resource management compared to so many other success stories in other states. You messed up. You're still messing up. There is time to fix it. Please, fix it. Thank you for your time.

B.E.

From: D.C.

Subject: Information email about carp.

Date: Sun 2/7/2021 5:14 PM

I oppose anymore carp in our bodies of water, ie: santee lakes. Thank you D.C.

From: P.T.

Subject: 2021 Aquatic Management Plan Input

Date: Sun 2/7/2021 8:44 PM

Hello C!

I hope you are doing well!

I want to voice my opposition for stocking grass carp in SC lakes. We desperately need vegetation in our lakes. Grass carp don't discriminate when it comes to what they eat, sure they might prefer hydrilla but once it's gone they essentially eat everything, invasive and native. My latest observation has been the decline of Vallisneria beds on Lake Murray. I know Vallisneria is low on the preferred food for grass carp but I'm afraid they have predated it here on Lake Murray. The beds of grass looked horrible this past Fall and the lake bottom was barren where we once had flourishing beds of grass. Or has Dominion or DNR applied a herbicide to it? I was sick when I saw it.

We need SAV in our waterways, I am witnessing seemingly unfettered development all around Lake Murray. As you know, this development is creating nonsource point pollutants and SAV helps filter these pollutants. Folks on Lake Murray need to be educated about the benefits of SAV, reduce shoreline erosion benefits for fish, waterfowl and wildlife, water quality and clarity....rather than seeking to eradicate SAV.

Thank you!

P

From: C.T.

Subject: I I oppose the 2021 Aquatic Plant Management Plan Draft

Date: Mon 2/8/2021 9:51 AM

(No text in body of email.)

From: B.B.

Subject: Opposition to the 2021 Aquatic Plant Management Plan Draft

Date: Mon 2/8/2021 10:16 AM

I formally oppose the proposal to continue stocking hybrid grass carp into the Santee Cooper lake systems and other bodies of water at the rates presented. A balance must be found, as the current overly aggressive stocking scheme has rendered these lakes a barren desert, removing even native vegetation that fish and waterfowl depend on.

B.B.

N. Charleston, SC

From: R.W.

Subject: invasive weed control

Date: Mon 2/8/2021 10:53 AM

My experience is at Lakes Marion and Monticello.

I have never had a serious issues with weeds at Monticello. Perhaps they have been kept in control at that lake all along but I would also thing the continuous fluctuations of the lake levels has a lot to do with it also.

In Marion, I know about the old weed problems but that came with fishing and hunting. The weeds were there as were the fish and ducks. The lake now seems sterile. Maybe an occasional lost duck is seen. The fishing is nothing like it used to be.

There is obviously argument for the weed control but not total destruction of the habitat which is what it seems to be going to. I am aware that some areas still hold weeds but it does not seem to be enough for necessary food and habitat.

R.W.

From: J.M.

Subject: I Oppose the 2021 Aquatic Plant Management Plan

Date: Mon 2/8/2021 11:13 AM

I oppose the stocking of grass carp into the Santee Cooper lake system. These overly aggressive stocking actions are detrimental to many species of wildlife, as well as negatively affecting the communities surrounding the lake that depend on a healthy aquatic ecosystem.

Thank you,

J.M.

From: A.D.

Subject: 2021 Draft

Date: Tue 2/9/2021 8:44 AM

I am emailing the council in regards to the 2021 draft. I would like to urge the council to reconsider placing native vegetation on the list of nuisance plants. I fish, hunt, and joy ride on many lakes in South Carolina and enjoy open water as much as the next guy. I believe a balance between vegetation and a healthy ecosystem is vital and the eradication of beneficial plants has occurred at the pressure of legislature and homeowners. I lived on Lake Greenwood for almost 10 years and even the small amount of vegetation left should be protected. The Southern Naiad and Val should be left alone and not treated as these grasses benefits far outweigh any negative effects. I have been in and out of almost every cove in Greenwood and have never had an issue with grass and those claiming to have any are being misleading. I urge the council to remove any native vegetation from the nuisance list from any lake as well rethink the carp stocking to allow native vegetations to fill holes that over treating has created in the past. Now would be a good time to replace native vegetation in many lakes with planting programs. I for one would love to volunteer for such a program. Thanks for your time!

--

A.D.

Commented [CWM22]: SCDNR annual reports prove the fishery is thriving o the Santee Cooper system. Duck counts are down across the east coast.

From: J.G.

Subject: No more grass carp please.

Date: Tue 2/9/2021 4:46 PM

Once again this year I am writing to oppose the release of additional grass carp into lakes in SC.

Since the introduction of grass carp into our lakes fishing, hunting, and general lake enjoyment for me has decreased greatly.

Areas where there used to be nice grass beds are now mud or sand.. The lake bottom is barren with the only vegetation present being invasive species grass carp will not eat.

Areas that do not support waterskiing, jet skis, and other pleasure boat traffic should be allowed to grow native SAV.

Removing native and other beneficial vegetation has allowed floated crested heart, giant Salvinia, hyacinths and other invasive carp do not eat to take over large areas of Santee lakes and other lakes will not be far behind.

Please reduce amount of carp stocked into our lakes in this and future years to a level that allows areas of natural SAV to live.

I support control of hyacinths, crested floating heart, giant Salvinia, saw grass, and other recent invasives.

I am opposed to control of native SAV, elodea, eelgrass, and hydrilla.

Not a scientist, but I know how much more enjoyable the lakes were before introduction of grass carp and strongly oppose their continued introduction into our lakes in SC.

J.G.

Orangeburg SC

From: A.D.

Subject: Draft 21

Date: Wed 2/10/2021 11:12 AM

To whom it may concern,

I am emailing in regards to the current 21 aquatic management draft. I would like to urge the council to reconsider using grass carp as a way of controlling aquatic vegetation as health indices indicate that overstocking is occurring on many bodies of water in SC. I understand the need but I also understand a balance between SAV's and a healthy ecosystem is virtually important for our fisheries as well as many migrating birds that use SC as a winter home. As I am sure many at DNR understand as home ownership rises around lakes and rivers the pressure to treat these grasses has increased as well. I urge to use sound science to teach and educate those that would see these lakes turned into swimming pools. I also am opposed to any stocking of grass carp into any Cat 1 or Cat 2 waterfowl areas or areas that may feed into these places. It is important again to maintain a balance and as overstocking continues native vegetation suffers. I would also like any native species of grass to be removed from any

nuisance list and physical removal vs treatment with chemicals. Opening of areas of travel can be achieved through many different means and physical removal vs harmful chemicals seems to be a much better option. I would even volunteer to assist in the physical removal of unwanted vegetation in areas needing to be opened vs treating with chemicals. The removal of the unwanted vegetation could also be used to feed or fertilize fields, Thanks!

--
A.D.

From: J.B.

Subject: Thoughts and Consideration

Date: Wed 2/10/2021 9:12 PM

I strongly oppose the proposals to continue stocking hybrid grass carp into the Santee Cooper lake systems and other bodies of water at the rates presented and the further introduction of carp into the lake systems throughout our state of South Carolina.

At present, the effects of the carp stocking numbers have greatly altered the lakes as a whole habitat biome. Many species of fish and avian life that would normally thrive in such aquatic environments are neglected by such a plan.

The importance of a BALANCED wildlife ecosystem ranging from invertebrates to vertebrates is greatly ignored to detriment when there are actions in play that eradicate even the native submerged aquatic vegetation. These native aquatic plant species, and yes even some beneficial invasive species are the very building blocks of a healthy and functioning aquatic ecosystem. Tennessee and Alabama are two close states that have a variety of beneficial SAVs on bodies of water that are used to generate power. The fishing and hunting industry in these areas are thriving and having a substantial impact on the respective economies in these areas.

As noted, these overly aggressive stocking actions not only cause great detriment to many species of wildlife and general water quality but also have a tremendous effect on the rural economies that center around hunting and fishing and other outdoor activities.

In a time of concern over water quality and South Carolina's ever decreasing wildlife habitat it's well past time that the APMC recognize these detrimental actions towards wildlife and water quality. Further, to continually ignore the amount of taxpaying citizens that have opposed such actions both past and present speaks negatively as an affront to the majority of recreational users and our hunting and fishing cultures.

Thanks,

J.B.

From: S.R.

Subject: Aquatic vegetation.

Date: Wed 2/17/2021 1:20 PM

I am most definitely on board with having aquatic life in SC WATERS. Gator grass, eel grass etc. Clark's Hill is in dire need of this. Taking grass out of the lake is like taking a grocery store from humans.

From: G.C.

Subject: Invasive Weed Comments

Date: Wed 2/17/2021 1:20 PM

Good morning,

Everybody has their comments on the invasive aquatic vegetation that can be found on SC lakes, but as an avid outdoorsman I do have mine for what they are worth. As a duck hunter of SC, I believe the SC DNR killing off the subaquatic vegetation has slowly and steadily decreased our success as a whole state. The few birds that we do get to migrate to our state, have absolutely no reason to be here when all the "food" that they would eat, has been killed off. That is why duck hunting even 10 years ago was loads better than it is now. Especially for us upstate hunters, we don't have big money impoundments around our lakes to hold birds, what holds our birds is what y'all kill every year. Also, fishing on our lakes would be better, not that I complain, but the aquatic vegetation is not only substantial habitat for fish, but also adds nutrients to the water to grow healthier fish. Clark's Hill is a prime example of this. The summer time hydrilla used to be an excellent way to catch fish offshore, and good fish! Now you cannot even have this option, and neither do the fish for their summertime movements. I do hope that other outdoorsmen have voiced their opinions and I hope that y'all thoroughly think about the effects that the invasive weed plan has on our state outdoorsmen.

Thank you for your time,

G.C.

The following text was received from 74 people. The list of senders is below the text. Anyone who forwarded the "Call to Action Alert" from Carolina Wildlife Syndicate in its entirety, but did not add any text is included in this list. Anyone who added to this text is listed separately above. The dates of receipt were from 2/5/2021 thru 2/14/2021.

I <name>, do hereby formally oppose the proposals to continue stocking hybrid grass carp into the Santee Cooper lake systems and others at the rates presented.

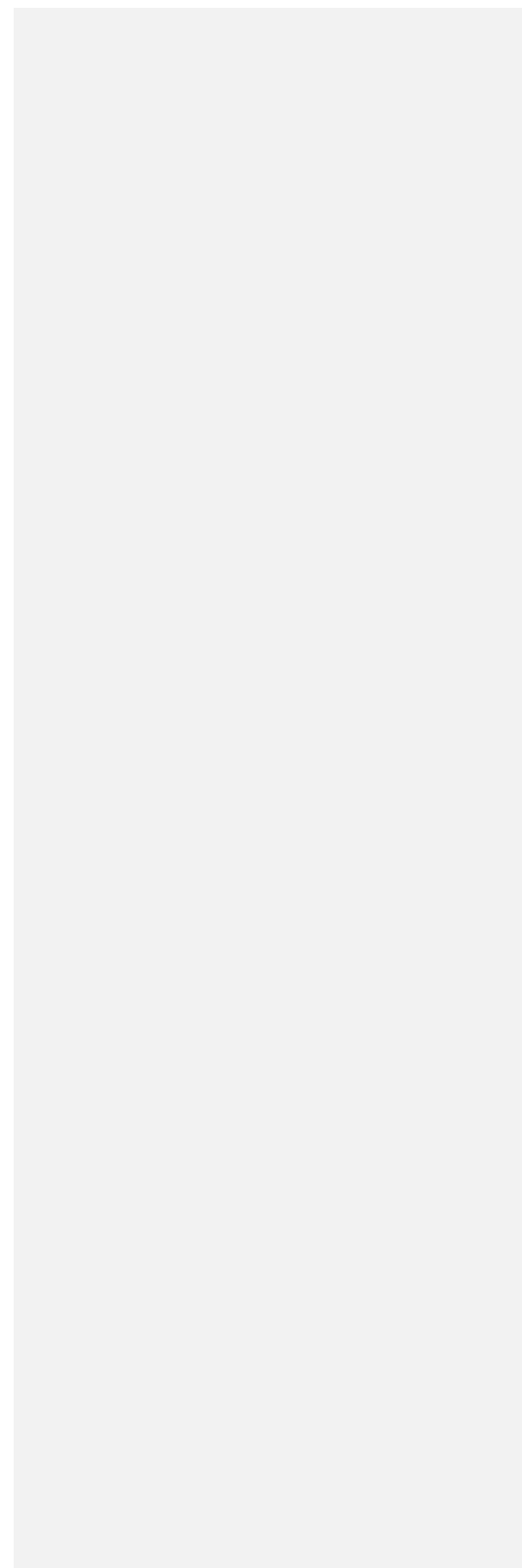
At present, the effects of the carp stocking numbers have greatly altered the lakes as a whole habitat biome. Many species of fish and avian life that would normally thrive in such aquatic environments are neglected by such a plan.

The importance of a balanced wildlife ecosystem ranging from invertebrates to vertebrates is greatly ignored to detriment when there are actions in play that eradicate even the native submerged aquatic vegetation. These native aquatic plant species, and yes even some beneficial invasives are the very building blocks of a healthy and functioning aquatic ecosystem.

As noted, these overly aggressive stocking actions not only cause detriment to many species of wildlife but also negatively effect (or affect) the economies that center around hunting and fishing and other outdoor activities.

In a time of concern over water quality and South Carolina's ever decreasing wildlife habitat it's well past time that the APMC recognize these detrimental actions towards wildlife and water quality. Further, to continually ignore the amount of taxpaying citizens that have opposed such actions both past and present speaks negatively to the majority of recreational users and our hunting and fishing culture.

D.S.
M.B.
N.B.
P.M.
M.P.
T.B.
R.R.
R.J.
A.H.
C.S.
T.R.
C.D.
P.M.
A.D.
N.H.
M.C.
R.M.
M.M.
A.B.
S.M.
Z.R.
M.W.
J.M.
C.M.
M.D.
C.J.
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M.C.
A.H.
T.Z.
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D.M.
I.S.
C.M.
A.W.
C.H.
C.C.
H.P.
L.M.

Several people used an extended portion of the "Call to Action Alert" from Carolina Wildlife Syndicate. The list of senders is below the text. The dates of receipt were from 2/5/2021 thru 2/7/2021.

Stockings have proven to be beyond prescribed numbers in aquatic solutions by experts in this field. The results of these continued stockings are barren lakes devoid of any aquatic vegetation which represent the basic beginning elements of the food chain in an aquatic system. Wildlife species such as Great Blue Herons, Snowy Egrets, Osprey, waterfowl of all types , Bald Eagles and even Swallows benefit from aquatic vegetation. Of course our recreational fisheries are dependent upon such vegetation as well.

Further, the economies and cultures driven by waterfowl hunting, fishing and even bird watching, that help boost and sustain rural community economics, are further decimated by such stockings.

I do hereby formally oppose the proposals to continue stocking hybrid grass carp into the Santee Cooper lake systems and others at the rates presented and the further introduction of carp into the lake systems throughout our state of South Carolina.

At present, the effects of the carp stocking numbers have greatly altered the lakes as a whole habitat biome. Many species of fish and avian life that would normally thrive in such aquatic environments are neglected by such a plan.

The importance of a balanced wildlife ecosystem ranging from invertebrates to vertebrates is greatly ignored to detriment when there are actions in play that eradicate even the native submerged aquatic vegetation. These native aquatic plant species, and yes even some beneficial invasive species are the very building blocks of a healthy and functioning aquatic ecosystem.

As noted, these overly aggressive stocking actions not only cause great detriment to many species of wildlife and general water quality but also gravely effect the rural economies that center around hunting and fishing and other outdoor activities.

In a time of concern over water quality and South Carolina's ever decreasing wildlife habitat it's well past time that the APMC recognize these detrimental actions towards wildlife and water quality. Further, to continually ignore the amount of taxpaying citizens that have opposed such actions both past and present speaks negatively as an affront to the majority of recreational users and our hunting and fishing cultures.

A.F.
C.M.

Response:

1) Grass carp stocking objections.

All triploid (sterile) grass carp stocked in South Carolina waters, private or public, are required to be tested to ensure they are triploid before being released. This is done to prevent breeding, which has caused problems with other carp species in other states. If the load being tested shows any evidence that all the fish are not triploid, the whole load is either dumped in a pit at the test site or escorted back to the state line.

Maintenance stocking of carp in public lakes which have *Hydrilla*, even if there are low acreage numbers or it is mixed in with native vegetation and not easily observable, is being done to ensure those acreage numbers remain low. The turions and tubers produced by *Hydrilla* can remain dormant for several years and sprout when the conditions are right. *Hydrilla* can produce up to 6000 tuber per square meter. *Hydrilla* can grow rapidly and quickly outcompete the native vegetation. If that occurs, larger stockings of carp are needed to effectively control the *Hydrilla*. Those larger stockings tend to cause problems because the fish start eating native vegetation once they have consumed the *Hydrilla* and it is almost impossible to remove the carp once they are put in a system. By doing smaller maintenance stockings, we can ensure lower numbers of carp in each waterbody to control *Hydrilla* and limit the impact on native vegetation. Carp prefer to eat soft vegetation like *Hydrilla* and *Elodea*. They will seek those types of plants out first before they will eat most of our natives, especially the more fibrous species like water lilies and Eurasian milfoil. There is no evidence of carp eating eelgrass, which is more likely to be eaten by turtles. Carp also do not eat giant salvinia, which is why Santee Cooper wants to introduce salvinia weevils. These weevils will only eat the salvinia and are unlikely to overwinter.

The 10,000 triploid grass carp scheduled to be stocked into the Santee Cooper Lakes this year are below the mortality rate for that system. The overall number of grass carp there continues to

Commented [CWM23]: On the Santee Cooper system we are not recommending a true maintenance stocking (which we define as replacing mortality). We are recommending to stock less than the mortality rate to slowly lower the grass carp population. We believe a consistent low stocking provides better data and avoids reactive stocking events like the one that occurred in 2012 and 2013.

decline. The Council decided four years ago to stock 10,000 carp per year for five years. This was done to slow the loss of carp through mortality while having yearly age class of fish to take their place. Having multiple ages classes in the system takes advantage of the higher feeding rate of the younger fish, which can also get into shallow water to consume newly sprouted *Hydrilla*. This will allow the population to be diverse in age while slowly reducing the total numbers. The goal is to have multiple age classes in the system with an overall coverage of 1 triploid carp for every 5-6 surface acres. At that point, we can make small adjustments to the annual mortality stocking rate to account for any changes in the *Hydrilla* population, which is being seen mixed in with native plants across the system. This decision was more favorable than introducing hundreds of thousands of triploid carp into the system periodically as a reaction to increasing numbers of hydrilla.

Hydrilla has been treated with herbicides in Lake Marion, Lake Moultrie, Lake Greenwood, and Lake Murray in 2018 and 2019 and in Lake Marion and Lake Moultrie in 2020.

2) Objection to treating native species.

Native species are only treated in limited instances where lake access or navigation is impeded, or water intakes are blocked. Santee Cooper treated 12 acres of native vegetation last year on a system that is 170,000 acres, which calculates out to less than 0.01% of the total acreage. In contrast, their hyperspectral imagery survey indicated there are 21,348.9 acres (13.38% coverage on 159,900 acres surveyed) of native species on their lakes, providing food and cover for fish and waterfowl. This does not account for any vegetation that was under tree cover.

One exception to this is in areas where cutgrass (aka white marsh) has taken over an area and created a monoculture which is unusable by most animals because it is extremely thick and is not a food source. In these cases, openings are created in those areas to allow other native vegetation to move back in and create a diverse habitat that will support fish and wildlife, as well as to allow access for hunters and fishermen. This type of action has been supported by the South Carolina Waterfowl Association and Ducks Unlimited. The former provided money a couple years ago to help fund that work and the latter is looking to do the same in the near future.

Our goal is to control the invasive species and let the natives continue to grow and expand, unless they fall in the limited instances listed above. We do not change this goal based on how rich or influential a requestor is. We follow science in making our decisions. Santee Cooper and SCDNR have worked to expand the natives by doing plantings of native species in areas that could support it. Santee Cooper has done that the past two years with eelgrass and water shield.

To get to this goal, an integrated management plan that includes herbicides, and biological control is needed. One commentor said we should follow the lead of the Tennessee Valley Authority (TVA) and their Guntersville Lake. Looking at the TVA lake management plan, they use all these things, plus mechanical control and lake drawdowns. We generally do not use mechanical control because it is slow, expensive, and not selective. It also tends to have lots of bycatch, including invertebrates and small fish. Mechanical control and lake drawdowns are also not possible on Santee Cooper due to the lake's morphology. Lake drawdowns are used on other waterbodies within the state.

3) Stop spraying poisonous chemicals/herbicides.

Aquatic herbicides are safer, and far less toxic than terrestrial herbicides. There are no aquatic herbicides which are classified as restricted use, as there are with terrestrial herbicides. When used properly, including those that are copper based, they are safe and effective. There have been some

Commented [CWM24]: Spot on, and addresses my comment above

Commented [CWM25]: This 80 was residential areas that included alligator weed and primrose. The breakdown for native veg was 4.5 acres of submersed native species, 5 acres of water willow and 2.5 acres of duckweed. Check out my treated slide from the last council meeting presentation, the residential emergent has the species listed.

Commented [CWM26]: The area provided by Remetrix was 21,348.9 acres of native beneficial veg / area they calculated of (159,500 surface acres) = 13.38% I presented 13.43% at the last council meeting which was a calculation error. We are using only the numbers provided by Remetrix to calculate the percent native beneficial veg which is the spreadsheet I sent you guys last week.

claims of aquatic herbicides causing cancer, but those claims have been scientifically disproven. The newer formulations of herbicides introduced to the market in the last 10 years are even more environmentally friendly. The product ProcellaCOR SC was formulated to California registration standards, is specific to crested floating heart and *Hydrilla*, and can be utilized to specifically control those invasives without affecting many natives.

4) Let ecosystem behave as it naturally would.

There are very few natural lakes in South Carolina. Most of them are oxbow lakes and Carolina Bays. Mother Nature's tendency is to try to return our man-made lakes to the rivers they once were by filling the lakes in. We have to work against that tendency by doing lake drawdowns, which dry and pack the soil along the edges. This controls some vegetation and provides good spawning areas for fish. Having an excess amount of vegetation, especially invasives, leads to stiller waters where sediment is deposited as well as more dead vegetation that degrades and helps to fill the lakes in.

5) Remove *Hydrilla* from nuisance species list or consider it native.

Hydrilla is a Federally listed invasive species which is included in 33 individual state's regulations and listed in Canada. It is very problematic if not controlled. No matter how long it is here, it will never be considered a native because it came from another part of the world.

6) Carp stockings are feeding the growing cormorant population.

Typically, double-crested cormorants eat fish that are less than 6 to 8 inches. See page 12 of https://www.aphis.usda.gov/wildlife_damage/reports/Wildlife%20Damage%20Management%20Technical%20Series/Cormorants-WDM-Technical-Series.pdf. The grass carp being stocked are 12" or larger.

7) Vegetation clogging hydropower and drinking water intakes is due to carp feeding and cutting mats loose.

The hydrilla mats that clogged the Santee Cooper hydroelectric intakes were before the introduction of grass carp. There have been a few minor issues over the years with other vegetation mats clogging water intakes. Mats of vegetation breaking loose is usually due to high water flows, not carp feeding activities as they generally eat from the top down.

8) Management is damaging the economy.

The Santee Cooper lakes have been listed in the top 25 by Bassmaster for the past 10 years and are number 23 on their recent list of best lakes of the decade (<https://www.bassmaster.com/best-bass-lakes/slideshow/best-bass-lakes-2010s#slide48>). Lake Murray, Strom Thurmond Reservoir, and Lake Hartwell fall in their "Best of the Rest" list for the southeast.

In 2017, it was estimated that the total economic contribution, of fishing hunting and wildlife viewing to South Carolina was \$2.74 billion and the collective economic contribution of South Carolina's natural resource-based sectors had grown by 15% over the previous seven years (<https://www.dnr.sc.gov/economic/index.html>). Although this is slightly dated and doesn't show the direct impacts to areas around the waterbodies, there have been recent reports of increases in outdoor activities during the COVID-19 pandemic, including boating, hunting and fishing.

9) Can invasives be eradicated?

In most public waterbodies, it is unlikely that invasives will be eradicated. They can usually be controlled so that they are not problematic. They can sometimes be eradicated in small or private waterbodies.

Commented [CWM27]: Santee Cooper lakes have been listed in the top 25 for the past 10 years

10) Educate the public so they don't proliferate the problem.

SC DNR's Aquatic Nuisance Species Program works to educate the public by attending SEWE and the Sportsmen's Classic, working with boat dealers to encourage new boat owners to clean their boats after using it, providing information online

(<https://www.dnr.sc.gov/water/envaff/aquatic/index.html>), and answering phone calls.

Santee Cooper has a YouTube channel where they have published several videos addressing natives and invasive species. They visit homeowner associations, fishing tournaments, boat clubs and have invited individuals and special interest groups to their office to discuss management strategies.

Unfortunately, some people misconstrue things we say or don't believe what we say because they think they have a better source of information.

Commented [CWM28]: Santee Cooper has a youtube channel where we have published several videos addressing natives and invasive species. We visit homeowner associations, fishing tournaments, boat clubs and have invited any individual or special interest group to our office to discuss our management strategies

11) Does cost sharing limit what is done on Santee Cooper lakes?

No. Santee Cooper has their own budget to manage their lakes. SCDNR works with them on some projects.

12) Cary Lake should be added to the plan.

The plan does not cover privately owned lakes that do not provide public access. Cary Lake falls in that category.

13) Hyacinth and salvinia should be added to the Hickory Top WMA section.

This was an oversight during the work on the draft plan. It will be discussed at the meeting to approve the final plan.