2024 Frog Pond Weed Management Plans

2024 FPPOA Annual Members Meeting: Agreement to Temporarily Take on Weed Management from WCID

Per FPPOA member vote to form WCID, the WCID is responsible for Frog Pond Lake dam and weed management. As a government body, the WCID is funded solely via annual property taxes and has no other vehicle for raising funds. The WCID finds itself in the unusual circumstance that dam repairs and weed management both need to be addressed with urgency, but does not have the funds to address both at this time and has had to prioritize dam repairs.

FPPOA is a 501(c)(4) organization and as such has the ability to collect donations from members and issue tax receipts. FPPOA annual dues are held separately and utilized to cover FPPOA related (annual, emergency) expenses related to the lake and member access lot.

A proposal was made by the FPPOA Board at the 2024 FPPOA Annual Members meeting for the FPPOA to temporarily volunteer to take over lake weed management to (1) enable the WCID to focus its funds on planned dam and weir gate repairs, and (2) utilize the FPPOA's ability to collect donations from Frog Pond Lake members. Members were supportive of proposal made, and eager to get the efforts started to tackle the West End weeds.

May 5, 2024, the FPPOA Board further discussed the taking on of weed management and the FPPOA would take this on for 2024 only, and any weed management activity (with exception of Giant Salvinia, per below) would be solely funded by donations from FPPOA members (no use of dues or fish fund donations), and would be revisited with the WCID in 4th quarter after the dam repairs have been made. Any plans for FPPOA to take over weed management permanently would need to be passed by a member vote at a FPPOA member annual meeting.

The FPPOA Board will circulate via email detailed plans to tackle the West End weeds, and request monetary donations to cover the cost. <u>FPPOA dues nor Fish Fund donations will be used for lake weed management.</u>

Additionally, the FPPOA Board will continue to:

- monitor for the invasive Giant Salvinia, which was discovered on the lake in June 2023;
- continue to provide guidance to residents on proper shoreline weed management (each lot owner is responsible for their own shoreline)
- entertain additional weed management requests from FPPOA members

FROG POND WEST END VEGETATION CONTROL PROJECT PROPOSAL

There are three main water feeds to the lake. Vegetation is restricting water flow, lake access, and causes loss of water acreage.

A. The main old creek closed by beavers and vegetation overgrowth
B. The new creek, shallow and formed with high water events
C. Culvert maintained by fresh water springs

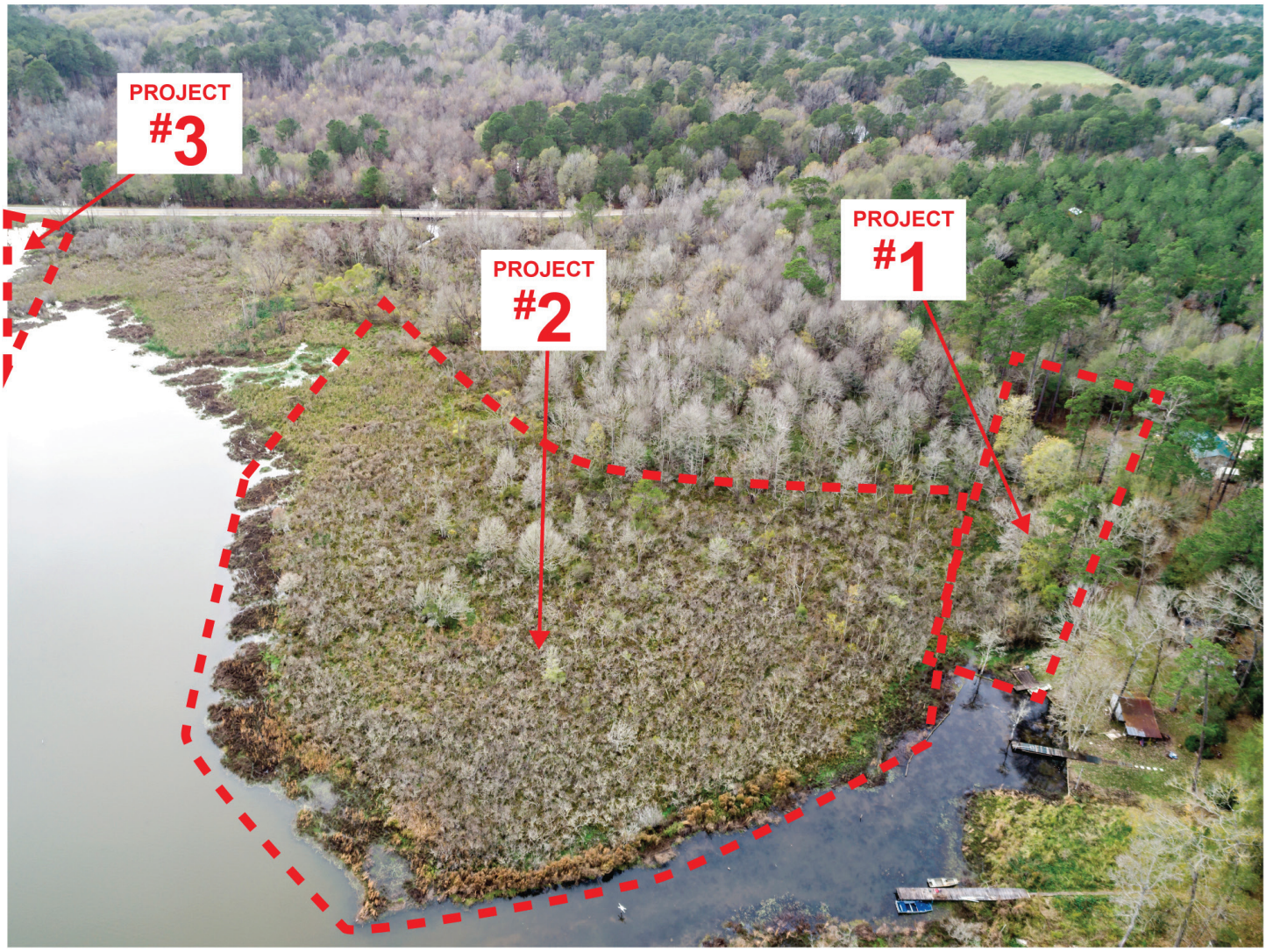
OPTIONS CONSIDERED TO OPEN WATER FLOW:

Clean Flo
Recommends aeration and muck pellets for the lake Cost= $100k+ *(upfront cost prohibitive)*

Pond Medics
Recommends spray and cut. A five acre cost = $26K *(too costly for such a small area)*

Aquatech (Phillip Spearman)
Recommends don't spray, dig and remove. $1,300 per day **(FPPOA chose this option)**
Maintenance after removal involves Muck pellets. These are cost prohibitive to purchase from a company. However they are more affordable if we buy direct.

WEST END PROJECT PROPOSAL



This plan does not have a timeline. It will happen as funds are made available. It is expensive but not as expensive as many of the bids we received, and we have the opportunity to work at our own pace.

#1 Area to be tackled first. It will take the longest and cost the most because Willows will need to be removed but, it is a way to recover the strong deep current of the original entry of Wolf Creek. Estimation 3 days @ $1,300 a day. We are aiming to raise $3,900 to complete section one and are already 43% there with $1,690.00 in donations since our annual meeting.

#2 This area is a thinner mat and predicted to go much faster.

#3 This is the culvert which is an important waterway for Frog Pond with its fresh water springs. The mat needs to be cut back and the area needs to be widened. This does not widen the culvert from the road and the improvement will not be seen from the highway

FAQs on Weed Control

1. **What happens if we do nothing?**
   Water will not flow into the lake and the water will be stagnant.

2. **How did it get this way?**
   We believe it is a combination of things:

- Where the creek meets the lake there is always sediment collecting
- The beaver damming the creek for years unhampered made the marsh conditions
- Neglected shorelines

3. **Can we expect the cost or the size of the job to change overtime?**
   We have no control over costs, we plan to tackle a small bit and a time and remove it so the job will get smaller each time we tackle it.

4. **Why can't we just spray like we always have?**
   The dead vegetation was adding to the muck. Muck is a combination of dead vegetation, fish, bird poop, and this all forms fertilizer which feeds more weeds

5. **How do we know that what we do will solve the problem?**
   Pirates cove was dug out by hand over a year ago, bucket by bucket, and it has not come back.

6. **Are property owners responsible for their own shorelines?**
   Yes we say corner to corner and 50 ft out.

7. **Is there a cheaper way to tackle the problem?**
   We have researched a lot and only find more expensive options..

8. **Giant Salvinia, are we sure we have it?**
   There are conflicting opinions and reports. We believe we have gotten it all. Some say it was common salvinia and not Giant salvinia. We will do our best to identify the plant and kill it.

9. **Can I spray it myself?**
   Yes, you can, and we encourage it. See the Texas A&M handout of approved chemicals.

10. **Does the FPPOA spray everyone's shorelines?**
    We will no longer use Lochow to spray unless we find we cannot keep up with the vegetation ourselves. The money you paid Lochow for your personal shoreline will buy a lot of chemical. Follow the labels when mixing and get help from a neighbor or board member if you need help or hire an individual to spray for you. It will still be cheaper to be pulled out after they die.

11. **Does one chemical do it all?**
    Please read the handout for suggested chemicals and use the chemicals responsibly, following the directions exactly. Different sprays kill different plants.

TEXAS A&M AGRILIFE EXTENSION

Table 1. Treatment Response of Common Aquatic Plants to Registered Herbicides

Aquatic Group & vegetation	bispyribac	carfentrazone	copper & copper complexes - *alaecides*	copper complexes - *herbicides*	diquat	endothall	fluridone	flumioxazin	glyphosate	imazamox	imazapyr	penoxsulam	sodium carbonate peroxy-hydrate	triclopyr	2,4-D	Grass Carp[9]
	Aquatic Herbicide[1]															
Algae																
Chara/Nitella	P		E		P	G[2]-P[3]	P	P	P						P	G
filamentous			E		G	G[2]-P[3]	P	G	P				G[6]		P	F
planktonic			E		P	G[2]	P	F	P				G[6]		P	
Floating Plants																
azolla		G	P		G		E	E	F			E			F	
duckweeds		E	P		G	P	E	E	P		P	E			F	F
salvinia	F	G	P		G		E	E	G	E		E				P
water hyacinth	E	G	P	G[4]	E		P	P	G	E	E	E		E	E	P
watermeal	F	G	P		F		G	E				G			F	P
water lettuce	E	E	P	G[4]	E		G	E	G		E	E		G	F	
Submerged plants																
coontail	P		P	G[4]	E	E	E	G							G	F-G
elodea			P	G[4]	E	F	E	E				G				E
fanwort			P	P	G	F	E	G				G			F	F
hydrilla	E		P	G[4]	G	G	E	G		G		E				E
milfoils	G	E	P	G[4]	E	E	G	G		G		E		E	E	F
naiads			P	G[4]	E	E	E	E				G			F	E
parrotfeather			P	P	E	E	E	G		G	G[5]	G		G	E	G
pondweeds	G		P	G[4]	G	E	E	G		E	G[5]	G			P	E

[1]E= excellent control; G= good control; F= fair control; P= poor control; blank= unknown or no control
[2]Hydrothol formulations
[3]Aquathol formulations
[4]Specific copper complexes only- Nautique, Komeen, etc.
[5]Spray only emergent portion
[6]Best on blue-green algae
[7]E for sedge
[8]F for rushes
[9]Permit required from Texas Parks & Wildlife

Aquatic Group & vegetation	bispyribac	carfentrazone	copper & copper complexes - *alaecides*	copper complexes - *herbicides*	diquat	endothall	fluridone	flumioxazin	glyphosate	imazamox	imazapyr	penoxsulam	sodium carbonate peroxy-hydrate	triclopyr	2,4-D	Grass Carp[9]
	Aquatic Herbicides[1]															
Emergent Plants																
alders			P		F	P	P		E		E			E	E	
alligatorweed	E	F			P		F	G	G	G	E			E	F	
arrowhead	E		P		G	G	E	G	E	E	E				E	
buttonbrush			P		F	P	P		G		G				F	
cattails	P		P		G	P	F	P	E	E	E				F	
common reed			P		F		F	P	E	G	E				F	
frogbit	E			F[4]	E			G	F	E	E			E	E	
pickerelweed	F			F[4]	G		P	P	F	E	E			G	G	
sedges & rushes	F		P		F		P	F	G		E[7] F[8]	G			F	
slender spikerush			P		G		G	P	P		F					
smartweed	G		P	F[4]	F		F	P	E	E	E	G		E	E	
southern watergrass			P				G		E		E				P	
waterlilies	F		P		P		E	F	G	G	G	G		G	E	
water pennywort	G		P		G		P	G	G		E	G		E	G	
water primrose		F	P		F	P	F	G	E	E	E			E	E	
watershield			P		P		G	G	G	G	E				E	
willows	P		P		F	P	P	P	E		E			E	E	

Active Ingredients	Commonly Available Trade Names
bispyribac	Tradewind
carfentrazone	Stingray
copper & complexes	Copper Sulfate, Cutrine, Cutrine Plus, K-Tea, Captain, Agritec, EarthTec, Clearigate
copper - herbicides	Komeen, Nautique
diquat	Reward, Harvester, Tribune, Tsunami DQ, Diquat SPC2L, Weedtrine D
endothall	Aquathol K, Aquathol Super K, Hydrothol 191
flumioxazin	Clipper
fluridone	Sonar, Avast, WhiteCap, Restore

Active Ingredients	Commonly Available Trade Names
glyphosate	Rodeo, Aquamaster, AquaNeat, Eraser AQ, Refuge®, others
imazamox	Clearcast
imazapyr	Habitat, Arsenal, Poloris
penoxsulam	Galleon
sodium carbonate peroxyhydrate	Green Clean, PAK 27, Phycomycin
triclopyr	Renovate, Navitrol, Ecotriclopyr
2,4-D	Navigate, Weedar 64

***Texas A&M University & Extension does not endorse any trade name herbicide

Table 2. Aquatic Vegetation Herbicide Control Water Use Restriction[1] (number of days after treatment before use in private waters only)

	Human Use			Livestock	Irrigation	
Common Name	Drinking	Swimming	Fish	Watering	Turf	Crops
bispyribac	0	0	0	0	30	30
carfentrazone	0 - 1[2]	0	0	0 - 1[2]	0 - 14[2]	0 - 14[2]
copper complexes [3]	0	0	0	0	0	0
diquat	1-3[3]	0	0	1	1-3[4]	5
endothall[5]	7-25	1	0	7-25	7-25	7-25
flumioxazin	0	0	0	0	0-3[4]	5
fluridone[6]	0	0	0	0	7-30	7-30
glyphosate[7]	0	0	0	0	0	0
imazamox	0	0	0	0	1	1[8]
imazapyr	*[9]	0	0	0	120[10]	120[10]
penoxsulam	0	0	0	0	0	*[11]
SCP[12]	0	0	0	0	0	0
triclopyr	*[13]	0	0	0	0[14]	120[15]
2,4-D	*[16]	*[16]	*[16]	*[16]	*[16]	*[16]

[1] Aquatic vegetation control can result in period of low dissolved oxygen which can stress and/or kill fish. It is best to treat most aquatic vegetation early in the growing season, when the plant is rapidly growing. Treating small areas (e.g. 1/4) of pond at a time at 10-14 day intervals will allow for decomposition usually without causing oxygen depletion.

[2] Varies if 20% or more of surface area is treated

[3] If water is for drinking, the elemental copper concentration should not exceed 1.0 ppm (i.e. 4.0 ppm copper sulfate).

[4] Depending on formulation or rate - **Read label**.

[5] Length of use restriction for endothall varies with concentration used. **Read label**.

[6] Do not apply within 0.25 mile of a functioning potable water intake.

[7] Do not apply within 0.5 mile of a functioning potable water intake.

[8] Do not use treated water to irrigate greenhouses, nurseries, or hydroponics

[9] Greater than 1/2 mile from potable water intake

[10] Or until <1.0 ppb

[11] Do not use water from any treated site for food crop irrigation until residues are determined to be less than or equal to 1 ppb.

[12] Sodium Carbonate Peroxyhydrate

[13] Minimum setback distances from potable water intakes required and laboratory tests to determine < 0.4 ppm for use. **Read label**.

[14] No restriction on irrigating established grasses but do not harvest hay for 14 days after application. **Read label**.

[15] Or until non-detectable concentration in immunoassay analysis

[16] Water restrictions on 2,4-D vary with formulation, location, rate, and time of year. **Read label.**

ONLY PRODUCTS LABELED FOR AQUATIC USE may be used in, over, or near the water

Additional information is available through the following references and websites – **aquaplant.tamu.edu**, **srac.tamu.edu**, & **wildlife.tamu.edu**

Aquatic Vegetation Indentification Card Deck - Pub. #B6095, produced by Dr. Michael P. Masser are for sale for $12.00 + taxes & shipping, order for 10 or more or $7.00+ Plus taxes & shipping, order from the Texas AgriLife Bookstore, <agrilifebookstore.org> or fax 979/458-0172

*srac.tamu.edu website publication numbers, SRAC 0360-0369; 3600-3699

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Next, discussion of plans to open the west end creek (fundraising, scheduling). Review of document prepared by Kate, outlining the 3 options and recommendation, as discussed at the March 2024 FPPOA Members Annual Meeting.

- Chad and Loretta Hood volunteered use of their property for dumping of dredged muck and weeds. As discussed at the annual members' meeting, FPPOA members will receive an email with weed management plan details and a request for donations to a separate fund that will be setup for this effort. All monies donated will be eligible for a charitable tax donation receipt, on a request basis. Work in the west end will take place in phases as donated funds become available.

Giant Salvinia

On June 7 2023, during annual lake weed spraying, an aggressive invasive species, giant salvinia, was found on the northwest side of Frog Pond Lake. Giant salvinia, also known as Salvinia molesta, is an aquatic fern native to South America. It is considered one of the most invasive aquatic plants in the world, and has been spreading across Texas and Louisiana bodies of water with devastating effects.

Giant salvinia has small floating leaves that form dense mats on the water's surface, obstructing sunlight and reducing oxygen levels in the water, which can harm fish and other native aquatic species. Giant salvinia is capable of rapid growth, and has the ability to double its coverage area in as little as two weeks. Prevention and early detection are crucial in managing its spread.

Due to the potential environmental and economic damage caused by giant salvinia, it was important to take urgent emergency action to eradicate the plant and raise awareness with FPPOA members about its invasiveness and to take appropriate measures to prevent further introduction into our lake. As such, the Frog Pond Property Owners Association Board took the following decisions, and communicated this decision to the FPPOA Members via email:

1. Hiring of Lochow Ranch Pond & Lake Management to **spray a targeted chemical spray for giant salvinia** where the plant was found and the surrounding 2 acres on Frog Pond Lake. FPPOA Board held an emergency vote on June 11 2023 to authorize this action, which is confirmed to take place on June 21 2023. Documentation of FPPOA Board emergency vote can be found at www.frogpondlake.com

2. **Effective immediately, all residents must clean and drain all boats, canoes, kayaks, trailers, live wells and pumps, ensuring they are clean, free of any visible plants, mud or debris, before entering Frog Pond Lake.** This critical action must be taken to ensure no further species from surrounding bodies of water are introduced into our lake.

Further information on giant salvinia and any further actions taken to combat this invasive species will be shared on www.frogpondlake.com and our Frog Pond Lake Facebook group. All residents were asked to keep an eye out for signs of giant salvinia or any other invasive species, and to report any sightings to the Frog Pond Property Owners Association Board at frogpondlake@gmail.com.

May 5, 2024 - FPPOA Board and members to continue to conduct surveillance on the lake, and FPPOA Board to address as needed

Weeds Throughout Frog Pond Lake

April 2024, the FPPOA Board received a member suggestion to leverage a TPWD program to stock Grass Carp to tackle weeds blooming throughout the lake.

- Stocking of Triploid Grass Carp for management of weeds throughout Frog Pond Lake - HOW WILL WE FUND THIS? Cost of addition to the dam + cost of fish + TPWD Permit Fees (Application $16 + $2/fish)