Trout Valley Association
Pond 7 Dredge Project
2/8/2021

Scope of the project:

Pond 7 is the last of the large ponds in the system that has yet to be dredged. The pond is approximately 5000 square feet of surface area and currently has a maximum depth approximately 12 inches. There is currently no vegetation and very few fish in the pond. Maximum depth once the silt is removed will be approximately 3 to 4 feet. Once the silt is removed Chara (good weeds) from upstream ponds will be established in the pond. The Chara will provide both habitat for small fish to hide and grow as well as a good source of oxygen for the pond. Bass primarily from Tom Sawyer will be introduced into the pond as well as fat head minnows from the stocking program. The ultimate goal to transform pond 7 from its current lifeless state into a clean water healthy pond full of life and vigor!

Project funding:

The estimated cost of dredging the pond to a depth of three to four feet is $10,000 and is proposed to be funded by an alliance of the Restoration Society (via a private donor) contributing 50% of the funding and the Association and Village having each a 25% stake in the project. Currently the Village and the individual donor have committed to the project.

	Original	Committed	
Society	$ 5,000	$ 5,000	
Association	$ 2,500	$ 1,050	
Village	$ 2,500	$ 2,500	Subject to Society and Association
Total	$ 10,000	$ 8,550	

Dredging Techinques:

There are three basic techiniques to dredge a pond

1. Mechanical via a back hoe
    a. This method is not desirable for two reasons. The first being incodental damage to the pond clay liner and the second being access to the pond.
2. Hydroloc dredging
    2 Vactor Truck sucking out of the silt.

a. This is a good method as it protects the pond clay liner but is the most expensive methof to deploy. The cost of the vactor truck is $375 per hour

3. Dredging with a large pump and a 100' sock (dredging that was done in Tom Sawyer)

a. This is a good method as it protects the pond clay liner but is problematic with two aspcets

a. Agreeing on a loction for the sock

b. Location of the dried material.

3. Bacteria Program

a. The majority of pond setimant is comprosed of ORGANIC material that can be effectivally controled with bacteria.

b. A bacteria program is a more long ter solution and is comprised of two phases

1. First phase is a 3 ish year program where heaver loads of bacteria are used to breakldown years of sediment

2. After the first phase a bacteria program minimizes the muck load by consuming it as it happens

Recommended Program:

After a lenghty discussion with Kevin Dahm of Enviormental Aquatic Management (our Pond guy), we agreed that the most cost effective method of addressing our onging muck issues would have two phases

Phase one - Treat pond 7 with muck eating bacteria for the nexe 3+ years to substancially reduce the muck. Plus hydrolicly dredge the pond for a single day to clear the edges and the head water of inorganic sediment that has accululated ofer the years. The first year cost of this program would be $ $945 for the Bacteria application plus $400 for pond testiung to determine if the sediment is os a high enough percentage of organic material. Additionally, hydracally dredging via a vactor truck the pond edgses for a single day or approximately $ 3,000.

The Material removed by the vactor truck would be placed in the following locations.

The culvert at Golf and Fox Harbor where we diposited the small amout of material sucked out of the silt basins in 2020

Two locations at 218 River Drive

The area behind the mailbox off of River Drive that holds water after every rain. This will allow rain water to flow unimpeeded to the Fox River

At the end of the drive way at the back of the property where two loads of marina dredgings were place two years ago. This will also allow rain water that accumulates in the area to flow to the river,

Phase two - Instead of dredging all the ponds periotically and being required to find a place to deposit the dredgings, treat the ponds with the bacteria on an onging program to keep the accumulation of setiment to a miniminum.

Cost of this program

First three years while pond 7 is being treated would be $3,910 for ponds 1 thru 6 plus Tom Sawyer

Year 4 and beyond the program would cover ponds 1 thru 6, Tom Sawyer and pond 7 and would cost $4,420.

Cost Sharing:

Item	Year	Associaion	Village	Society	Total
Pond 7 intensive silt reduction					
Pond 7 dredging	2021	$ 750	$ 750	$ 1,500	$ 3,000
Pond 7 Bacteria	2021	$ 300	$ 334	$ 668	$ 1,335
Total		$ 1,050	$ 1,084	$ 2,168	$ 4,335
Pond 7 Bacteria	2022	$ 293	$ 293	$ 750	$ 1,335
Pond 7 Bacteria	2023	$ 293	$ 293	$ 750	$ 1,335
Pond 7 Bacteria	2024	$ 293	$ 293	$ 750	$ 1,335
Total for pond 7		$ 1,928	$ 1,961	$ 4,418	$ 8,340
Ongong setiment reduction					
Ponds 1-6 plus Tom Sawyer	2021		$ 1,416	$ 2,494	$ 3,910
Ponds 1-6 plus Tom Sawyer	2022	$ 1,303	$ 1,303	$ 1,303	$ 3,910
Ponds 1-6 plus Tom Sawyer	2023	$ 1,303	$ 1,303	$ 1,303	$ 3,910
Ponds 1-6 plus Tom Sawyer	2024	$ 1,303	$ 1,303	$ 1,303	$ 3,910
Subtotal		$ 3,910	$ 5,326	$ 6,404	$ 15,640
Ponds 1-7 plus Tom Sawyer	2025	$ 1,473	$ 1,473	$ 1,473	$ 4,420
Ponds 1-7 plus Tom Sawyer	2026	$ 1,473	$ 1,473	$ 1,473	$ 4,420
Ponds 1-7 plus Tom Sawyer	2027	$ 1,473	$ 1,473	$ 1,473	$ 4,420
Annual financial commiment					
	2021	$ 1,050	$ 2,500	$ 4,661	$ 8,245
	2022	$ 1,596	$ 1,596	$ 2,053	$ 5,245
	2023	$ 1,596	$ 1,596	$ 2,053	$ 5,245
	2024	$ 1,596	$ 1,596	$ 2,053	$ 5,245
	2025	$ 1,473	$ 1,473	$ 1,473	$ 4,420
	2026	$ 1,473	$ 1,473	$ 1,473	$ 4,420
	2027	$ 1,473	$ 1,473	$ 1,473	$ 4,420