

4-Lakes Committee Budget-2021

Project Expense Items	2021 Budget	2020 Actual Costs		2021 Total
1. Lake Water testing 1-Tests	\$1,130.00		\$0	\$1,130
2. Fish Screen Material-Heron Lk	\$150.00		\$0	\$150.00
3. Herbicide/Algae Treatment: Eagle & Osprey Lakes +Bufflehead Lk.	\$11,350.00		\$2,305	\$11,350.00
A. Yearly Permit: \$700.00	\$700.00		\$682.00	\$700.00
B. Bubbler Fountain	\$27,760.00			
4. Excavation of Beaver Dirt Debris at Lake outfalls & misc. materials	\$0		\$117.00	\$0
5. Tree Protection	\$0.00			\$0
6. Lake Name Signs	\$600.00			\$600.00
5. 2022 Fish for Lakes: 200- 10" fis Grass Carp- Lks. 4-5	\$0 \$0			\$0
7. Contingency	\$100		\$0	\$100
8. Mallard Lk. Lily Pad Trtmnt.	\$455			\$455.00
			\$3,104	
			(18,200 Budgeted)	
			Total:	\$14,485.00

Cost Details: 2-20-21

- 1. Osprey Lake weeds
2-Treatments @ \$2225 ea. \$4,450.00
- 2. Bubbler Fountain:Algae trtmnt \$28,570
- 3. Eagle Lake Herbicide
1- Treatment \$3,500.00
- 4. Mallard Lake Herbicide
1- treatment for Lily pads \$455.00
& Algae
- 5. Bufflehead-Heron Lk. Weeds \$3,400.00
(Bufflehead: \$2600)
(Heron: \$800)



*NOTE: All costs are per AquaTechnex treatment plan Oct. 2020
and fountain proposal 12-19-20*

Future Bubbler Fountain: \$28,570.00

4-Lakes 2021 Budget Comments

1. Most of our expenses will go toward Chemical Treatment of the lakes
 - A. Herbicides- Invasive plants
 - B. Algaecides

2. The Treatment plan is based upon AquaTechnex, our chemical applicator, recommendations.
 - A. Osprey lake summer algae blooms are our main focus for treatment.
 - B. Heron, Osprey, Mallard, Eagle, and Bufflehead lakes will get treated this year.

3. Treatment amounts are defined in the Cost Details.

4. Accomplishments:
 - A. 2020 lake treatment was delayed last summer due to Covid affecting personnel at AquaTechnex, so treatment was late.
 1. Lakes Treated: Heron, Mallard, Osprey, Eagle, Bufflehead
 - B. We've done Lake water testing this year to refine our treatment plan for our lakes.
 - C. Lake Name signs are in production by a 4-Lakes volunteer.
 1. Wood signs will be like the one on Eagle Lake.
 - D. Research on an Aeration fountain, a new technology that introduces oxygen into the water that kills algae and prevents the build-up of "muck" at the lake bottom.
 - E. Installed some temporary "NO FISHING" signs on three lakes that attract non-resident fisher-people.
 1. NOTE: All non-residents who want to fish must be accompanied by a resident when fishing.

Osprey Lake Fountain Comments

1. We are researching a new technology, an aeration fountain, to treat the algae blooms in Osprey Lake, that don't seem to respond to the chemical treatment we've been using.

A. You can see this technology by going to the U-Tube video Link:

<https://youtu.be/iQNQfefhFQ6>

NOTE: We are not using this exact system, but a similar aeration system called Clear150, by Moleaer

B. We will try this system on Osprey Lake and monitor its results for two years. If the results are positive, we'll install another one on Eagle Lake.

C. Besides eliminating algae, the other benefit of this system is that through its hyper oxygenation of the water, it creates an environment that eats away at the "muck" at the bottom of the lake that is filling in all our lakes. This will be a less expensive way of deepening the lakes, compared to dredging them.

D. The Klahanie community is going to install a Clear 150 system in one of its lakes this summer, so we can go and monitor it over this summer and see how it actually works.

2. This fountain is part of our 10 Year Plan for the community, and will be discussed in more detail when those plans are presented to the community, later this year.

Osprey Lake Fountain

Aeration Fountain Cost Details: 2-20-21

Bubbler Fountain: Algae treatment.

(Spring-Summer: April-Oct.)

A. Fountain & installation:

Fountain: \$16,500 \$20,250

Installation: \$1,900

Tax: (10%)=\$1850

B. Yrly. Maint.:

3-site visits @ \$250 \$750 x 2 yrs.

Replacement parts: \$60 x 2 yrs.

C. Elect./Power Install: \$6,000

Per local Electrician+ we dig trench.

D. Yrly. Power cost:(Estimt \$200

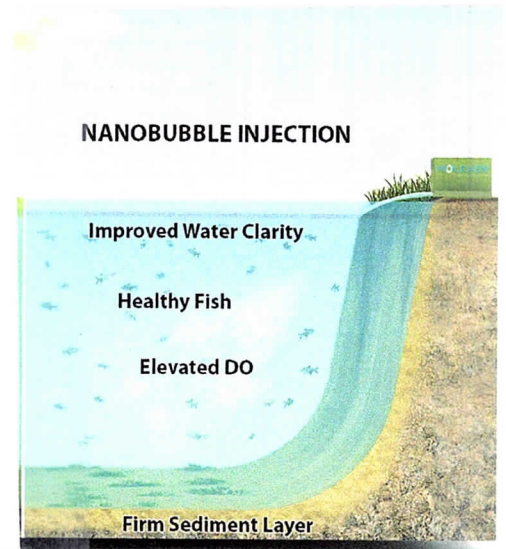
E. Security 5'-Fence: \$500

Total: \$28,570

NOTE: 1. All costs are per AquaTechnex fountain proposal 12-19-20

2. Typical algae chemical yearly treatment cost = \$4,675

3. U-Tube Video <https://youtu.be/iQNQ6fefhFQ>



MOLEAER

Moleaer Solution

Nanobubbles directly break down algae cells and reduce algae toxins thereby reducing the need for addition of chemicals

Nanobubbles enable beneficial bacteria to outcompete algae for available food

Increase water clarity and quality