

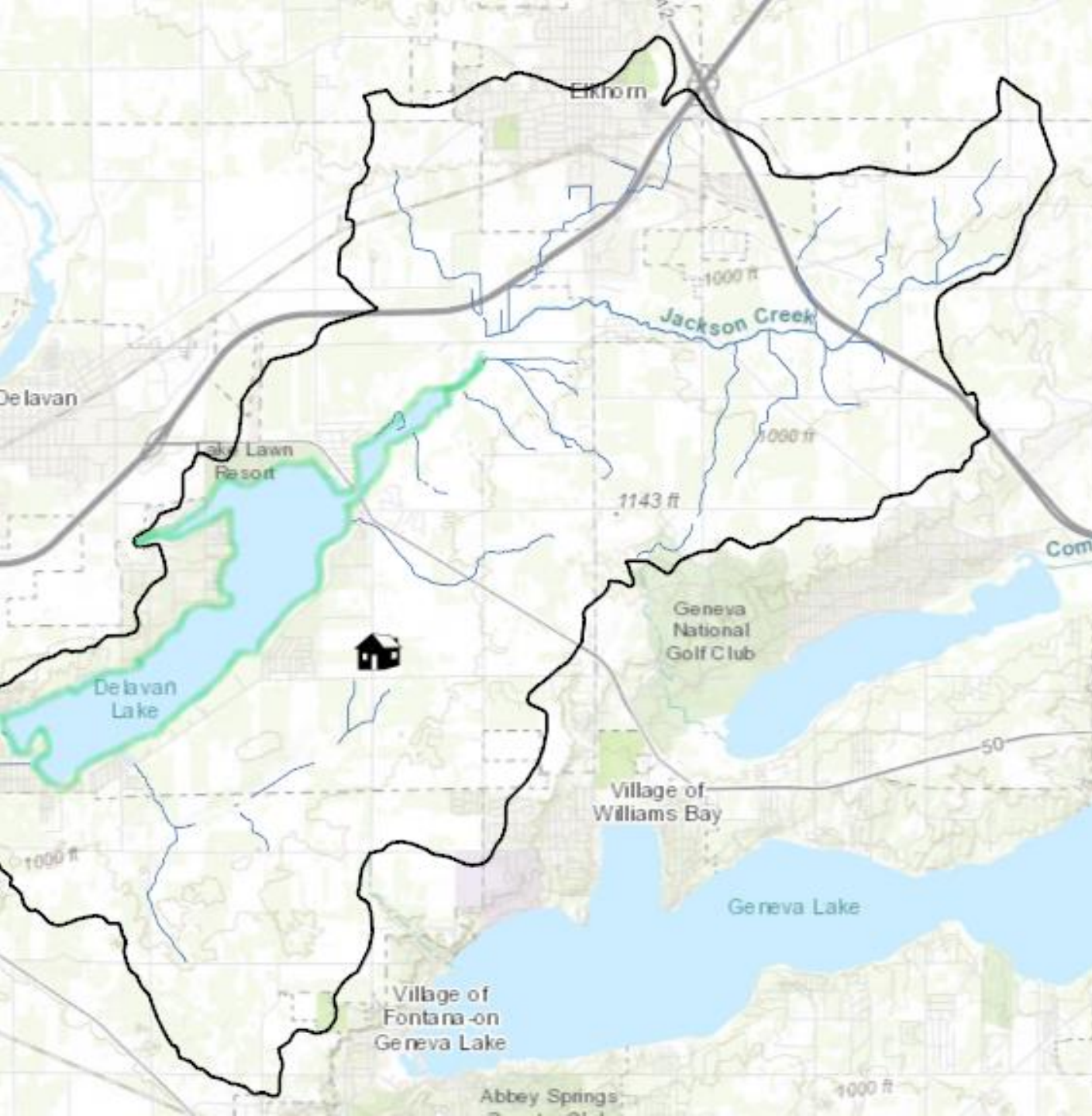
MOUND ROAD BASINS DREDGING PROJECT

IMPORTANCE AND UPDATE

Mary Knipper

Town Supervisor, Lake Committee Chair





GENERAL OVERVIEW OF LAKE

WHAT DRIVES THE QUALITY OF THE LAKE
DE LAVAN LAKE IS CLASSIFIED AS A DRAINAGE LAKE. ITS WATER QUALITY IS A DIRECT FUNCTION OF THE WATER THAT FLOWS INTO IT.

HOW IS LAKE QUALITY MEASURED

- **Phosphorus:** Is a nutrient that contributes to excessive aquatic plant and algae growth.
- **Chlorophyll:** A measure of the concentration of algae in the lake.
- **Secchi Depth:** A measure of water clarity

WHAT ELSE IS TAKEN INTO CONSIDERATION

- **Lake Weed Harvesting:** Removing the weeds removes excessive Phosphorus in the water (as well as navigation and recreation benefits)
- **Removal of detrimental fish species:** Fish (such as carp) eat food needed by the more desirable fish species. Carp also “stir-up” P which has settled to the lake bottom.

PARTNERSHIPS AND STAKEHOLDERS

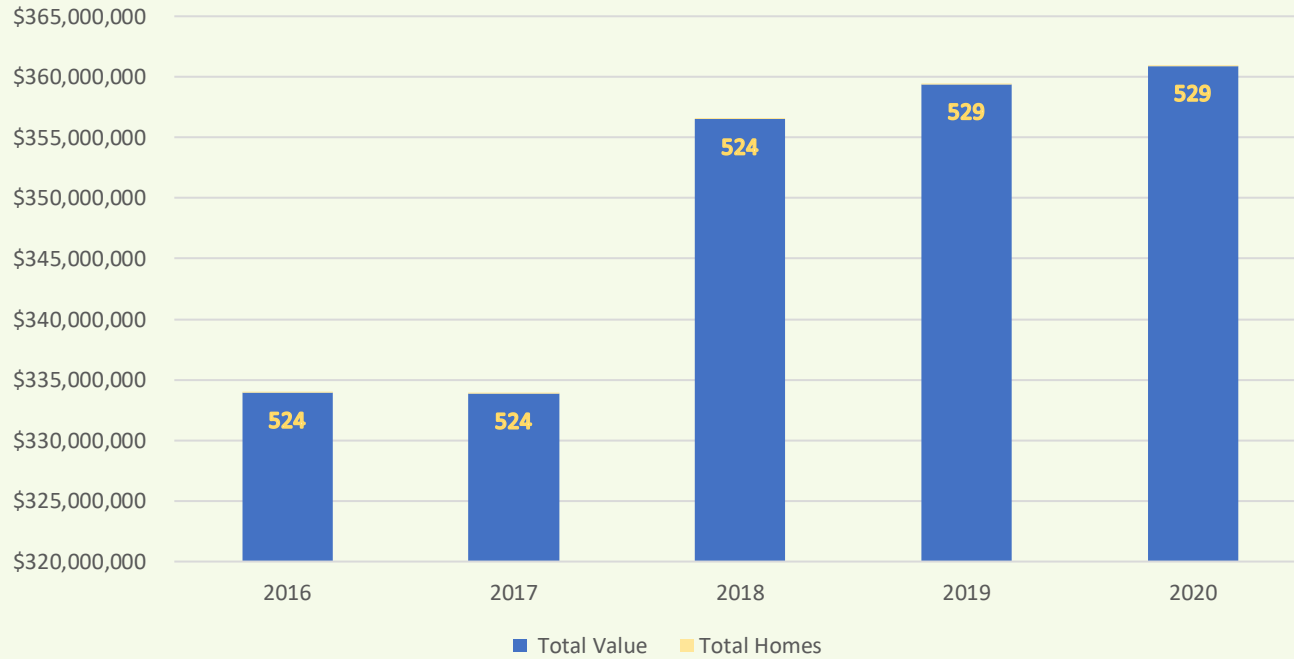


- **Town of Delavan**
- **Wisconsin Department of Natural Resources**
- **United State Geological Service**
- **Delavan Lake Sanitary District**
- **City of Delavan**
- **City of Elkhorn**
- **Walworth County - Land Use and Resource Management**
- **Delavan Lake Improvement Association**

Thank You To All Of Our Committed Partners and Stakeholders!!

THE FINANCIAL IMPORTANCE

Lake Front Home Assessments



2021 TOD General Property Revenue ~\$3.6M

Additionally, the lake provides opportunity to our local retail and services businesses. These businesses also provide revenue to the Town.

- Sales Tax Revenue
- Hotel Tax Revenue
- Park Revenue
- Permits/licenses

THE DELAVAN LAKE DRIVES MUCH OF OUR LOCAL ECONOMY

- Tourism (*Hotels, Restaurants And Shopping*)
- Local Businesses (*Marinas, Bait, Gas, Beverages/Snacks*)
- Services (*Insurance, Construction, Landscaping, Residential Maintenance*)

IMPACT ON DELAVAN TAX REVENUES

- Property taxes account for estimated 60% of total revenues to town.
- Estimated that Lake home properties account for ~38% of total Property Revenues

WHAT ARE THE PONDS? WHY DO THEY EXIST?

PART OF LAKE RESTORATION

Extensive algae blooms in 1983 and subsequent lake quality issues led to the drawdown, rehabilitation and restocking of the lake during the years 1989 through 1992.

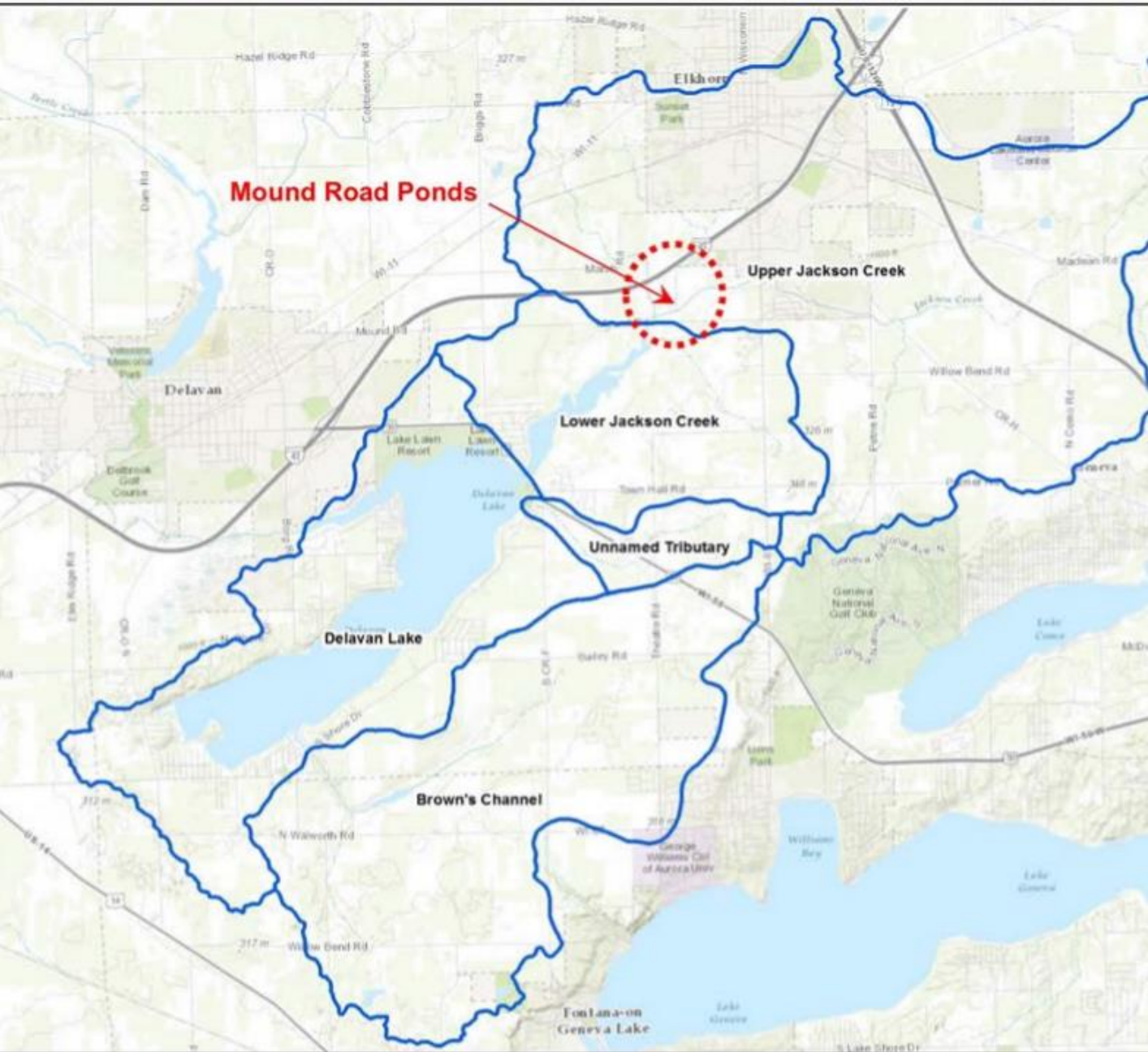
This, at a cost of \$7.1M.

SERVE AS THE LAKES PRIMARY FILTER OF HARMFUL NUTRIENTS

Created along with surrounding wetlands, the ponds trap nutrients and sediments flowing from Jackson Creek which negatively effect lake quality.

THE PONDS NEED TO BE DREDGED EVERY 5-6 YEARS

As designed, the soft sediments in the ponds need to be dredged when the measured sediment levels demonstrate diminishing trapping capability.



Delavan Lake Watershed

0 0.5 1 2 3 4 Miles



THE DREDGING PLAN



Dredge each individual pond with a hydraulic dredge which will pull sediment off the pond bottom, increasing its future efficiency.



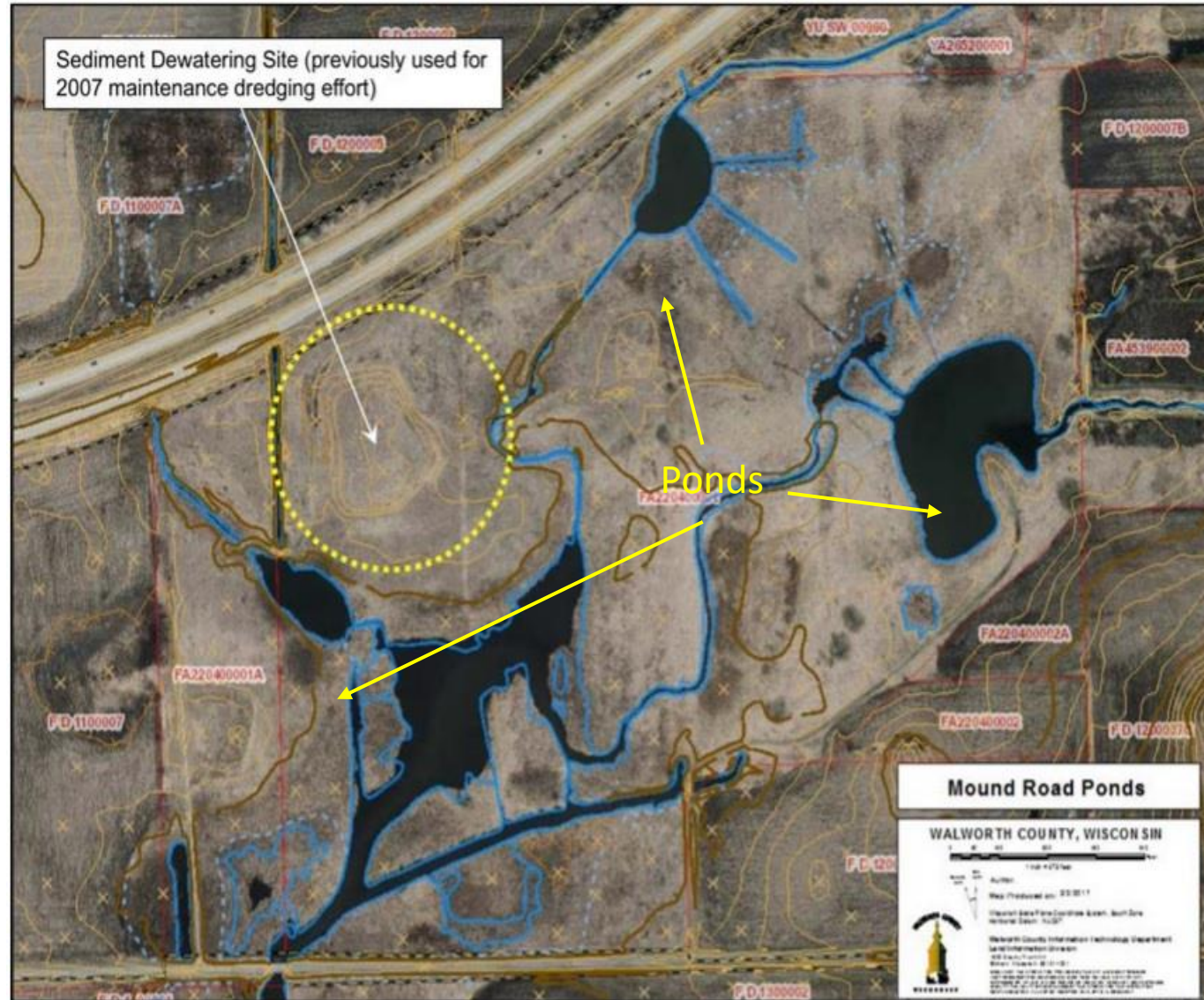
Pump sediment from dredge to GeoTextile dewatering tubes via piping and pumps to the designated dewatering site.



Allow the material in the GeoTextile tubes to discharge water and dry the sediments by spring of 2023.



Remove dried sediment from GeoTextile tubes and “grade” onto the surface of the dewatering site. Add plantings to restore the site per DNR requirements.



16,430 Cubic Yards of Sediment to be Removed
(based on the 2015 survey data)

ESTIMATED PROJECT COSTS

Description	Units	Estimated Unit Cost	Estimated Total Cost
Engineering and Permitting (separate, see below)			
Temporary Erosion Control	1 LS	\$10,000	\$10,000
Mobilization & Site Prep	1 LS	\$60,000	\$60,000
Dredging and Dewatering – Soft Sediment *	16,200 CY	\$20.00	\$324,000
Geotextile Tubes w/ drainage liner	1 LS	\$60,000	\$60,000
Flocculants (Polymers/Coagulants)	1 LS	\$50,000	\$50,000
Riprap Return Water Channel (12' by 50'), w/ non-woven fabric	25 CY	\$100.00	\$2,500
Plastic Drainpipe 10" Diam. And Flared Inlet	750 LF	\$5.00	\$3,750
Gravel Parking/Staging Area (40 by 60') w/non-woven fabric	270 SY	\$15.00	\$4,050
Post Dredge Survey	1 LS	\$10,000	\$10,000
Post Dredge Site Grading and Stabilization (native grass seed)	1 LS	\$50,000	\$50,000
Subtotal Pond Dredging Cost			\$574,300
Estimating Contingency (10%)			\$57,430
Total Estimated Cost including Contingency			\$631,730
Engineering and Permitting	1 LS	\$50,000	\$50,000
Lab costs for Effluent samples (~12 weekly samples)	1 LS	\$6,000	\$6,000

Notes:

- *Researched costs based on Feb 2022 current market conditions*
- Estimated costs have been collected through research with local dredging consultants and our environmental planning partners.
- *Final costs will be updated after contractor quotes*



PROJECT FUNDING

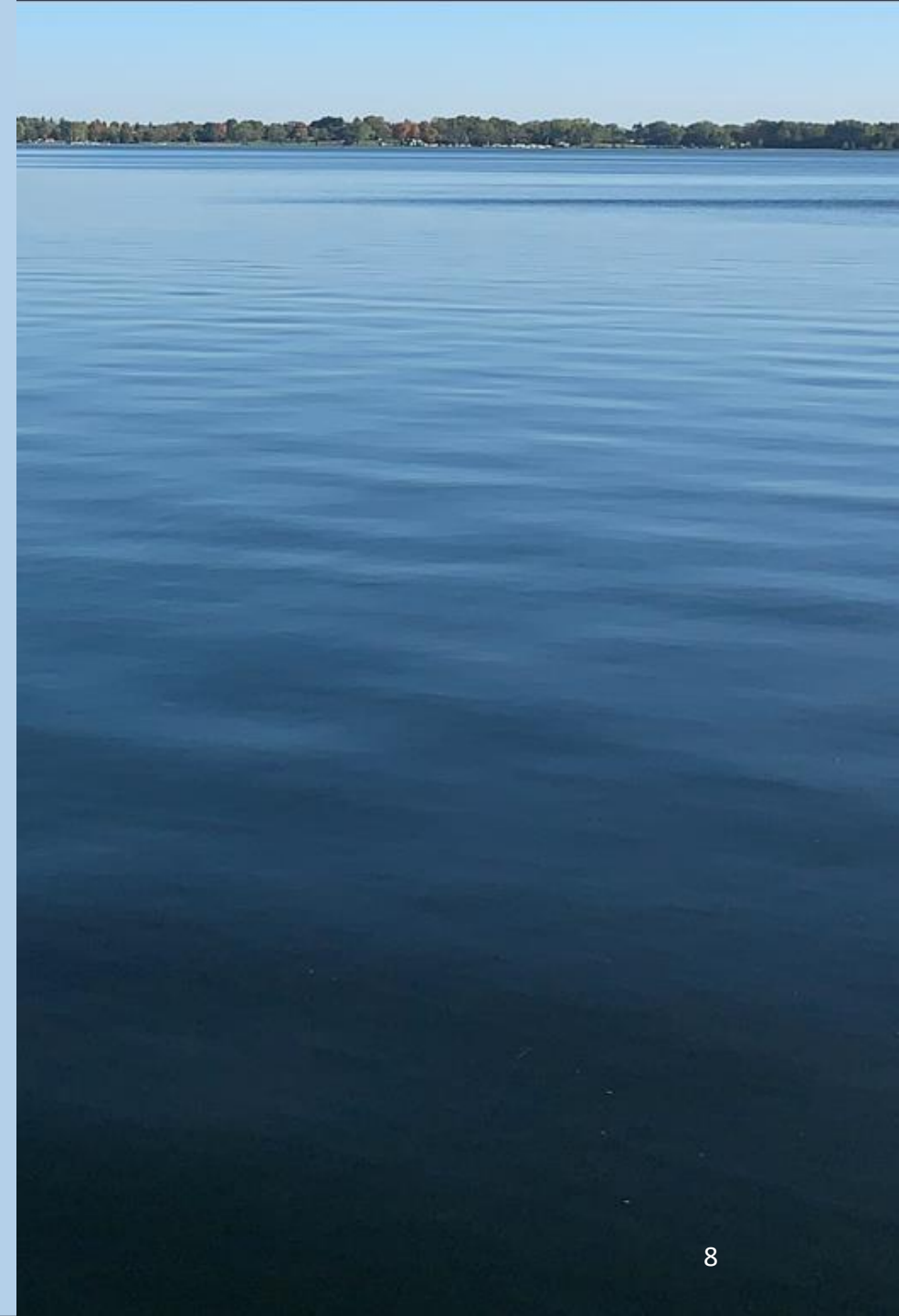
THE TOWN BOARD APPROVED THE FOLLOWING FUNDING FOR THE DREDGING PROJECT

MARCH 22 TOWN BOARD MEETING

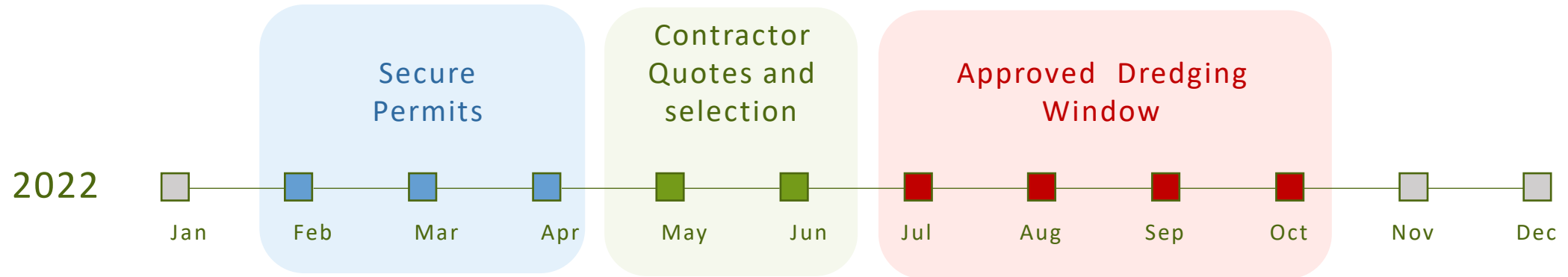
ALLOCATION FROM THE FOLLOWING (NOT
TO EXCEED \$800)

- *\$112K FROM GENERAL FUND*
- *\$180K FROM GENERAL (WESTSHIRE FUNDS)*
- *\$268,139 FROM FIRST BANK CD*
- *\$300K REMAINING FROM BOND**

**THE BOND MONEY MUST BE SPENT BEFORE SEPTEMBER 1ST 2022*



DREDGING PLAN OVERVIEW



✓ Steps Completed

- ✓ •Obtain WDNR Permit Approval – October: 2021
- ✓ •Contract Services of Lake Professional: January 2022
- ✓ •Funding for 2022 Dredging: March 2022
- ✓ •Fund Approval, Engineering Collaboration: March 2022

☐ Next Steps

- ☐ Complete DNR and Walworth County Permits
- ☐ Publicize Contractor RFQ
- ☐ Finalize dredging contractor selection
- ☐ Begin the dredging process to conclude in Fall 2022

SUMMARY

SOUND GOVERNMENTAL POLICY AND STEWARDSHIP IS NEEDED TO MAINTAIN DELAVAN LAKE, OUR TREASURED ECONOMIC AND NATURAL ASSET, FOR GENERATIONS TO COME!