



## Lake Mitchell Information

- Lake Mitchell was constructed in 1928. It has taken over 95 years to accumulate what is now present in Lake Mitchell. When constructed it was estimated to have a lifespan of 100 years.
- Toxic blue-green algae blooms have caused the lake to be placed in several safety watches and warnings in the summer months. The high phosphorus levels in our lake provide optimal growing conditions for toxic blue green algae which results in unsafe conditions at the lake which result in lake closures.
- About 70% of Lake Mitchell shore is public access. This can only be changed by a city-wide public vote.
- Lake Mitchell is impaired with zebra mussels. These zebra mussels will not help solve the algae problem as they consume green algae before consuming blue-green algae. It is unclear what effect the dredging project will have on the zebra mussels. To date, the zebra mussels have not exploded in population. It is thought that our lake may not be the best environment for them as they latch onto hard surfaces and our lake bottom is mostly soft bottom.
- The lake jetty and boat slip project on the west end **bid has been approved on 4/1/2024**. This is a budgeted project that is partially funded by a \$1 million grant. Construction to tentatively start November of 2024.
- Typical lawn fertilizers contain **zero** phosphorus and would not contribute to the phosphorus load in the lake.
- Algae likely always will be (and has been) present in our lake. We can improve the situation by limiting the available food (phosphorus).
- [City of Mitchell, Lake Mitchell Information link](#)

## Dredge Project Information

- [Resolutions that will be on the ballot link](#)
- The ballot issue, if passed, would allow the City of Mitchell to apply for a State Revolving Fund (SRF) low-interest loan from the SD DANR to finance \$16.8 million of the dredging project over 30 years. This loan can **only** be used on this specific dredging project.
- The proposed dredge plan was not developed “overnight”. The City of Mitchell and other supporting organizations have been working many years with various engineering firms, subject matter experts and testing out different methods have led to this solution being the most effective for the money spent. Two totally separate engineering firms, the Department of Agriculture and Natural Resources, and the Game Fish and Parks all



highly approve of and recommend the proposed dredging plan. The dredge project has received approval from South Dakota GF&P and DANR.

- To reduce phosphorus it **must** be physically removed from a lake or chemically bound. It doesn't go away (aka "bubble off") or change into something else without intervention. Plants and organisms use phosphorus as nutrients, then die in the water, and it is released back into the system to be used over and over again unless removed or chemically changed.
- Drawing-down the water level and mechanical dredging (scooping out) will remove phosphorus rich soft sediments. Mechanical dredging has been selected as it is a low cost and effective approach for our lake when compared to other methods. Technology advances will greatly improve the effectiveness of dredging with a targeted approach.
- The lake would be drained relatively slowly over the course of month(s). Lake walls and structures shouldn't be adversely affected if the lake water level is lowered correctly.
- The lake will not be completely drained, it is estimated to drop the water level by about 20 feet. This will leave the original Firesteel Creek channel with water to flow through in storm events. This will expose a majority of the lake to target phosphorus-rich soft sediment removal. This means that certain areas high in phosphorus will have higher quantities of sediment removed compared to other areas that don't contain high concentrations of phosphorus-laden sediment.
- The SD GF&P has stated that they would restock the lake with appropriate fish species at no cost to the city. The city would work closely with the SD GF&P through this project.
- A lake maintenance program will be needed in the future. Alum could be used as part of that maintenance. Maintaining and cleaning the wetlands and sediment traps are items that will need to continue well into the future, however the maintenance program and its associated costs have not been fully defined and developed. The city is conservatively planning for this in the future.
- [City of Mitchell Lake Update Presentation 3-19-2024](#) - see preliminary lake dredge details details on pages 12-17
- [City of Mitchell Project Information Web Page, questions request and FAQ Link](#)
  - Questions can be submitted directly to the city via this webpage.

## Finance Information

- **This project will not raise taxes.** Through careful budgeting and saving, the City of Mitchell can take on this project without raising taxes.
- [City of Mitchell Lake Financials Presentation 4-03-2024](#)



- The City of Mitchell will still have enough saving reserves and bond capacity for other large-scale projects in the future. General budget funds will become available with the completion of two debt service bonds in 2029 & 2032
- The project's total cost is \$25 million.
- The debt service will be paid for out of the City's annual operating budget, which is largely funded by sales taxes collected.
- The dredge project's debt service payment is estimated annually at \$941,856.
- The City has a debt item that will be completed in the near future. It is the 2012 Community Project which was used for the Corn Palace remodel, the Library remodel and the 2nd ice rink. This will be fully paid in 2030. The current annual payment is about \$886k. This is paid for out of the City's annual operating budget.
- Friends of the Firesteel is working to privately raise **\$3 million** to help fund the project and further reduce the debt. To date, they already have close to **\$1 million** in commitments **if this specific project is approved**. This fundraising is not currently included in the City's finance plan and would aid in the debt service payments.

## Watershed Information

- To repair and maintain our lake's water quality we must work in both the watershed and in the lake to reduce phosphorus. The work in the watershed must be ongoing and continue indefinitely. It is not a project which has a targeted completion date such as dredging. That is why we cannot wait until the watershed is fixed before we start dredging.
- Farming practices have vastly improved in the last 95 years reducing sediment, phosphorus runoff and other contaminants into the water. The EPA wasn't formed until 1970. That is almost 50 years of little regulations.
- Wetlands are being created on the former Kelly property. This project design has been completed and bid approved. The **build will start in August 2024** and be completed in November 2024. This will create wetlands to include sediment traps and strategic vegetation that can filter and improve the water flowing into Lake Mitchell. The wetlands will require periodic maintenance to clean out sediment traps and harvest the vegetation. The lake draw-down is an integral part of this maintenance strategy.
- The watershed for Lake Mitchell is about **550 square miles**. A typical watershed for a lake the size of Lake Mitchell is around 63 square miles. That means the rate of accumulation of sediment/nutrients in our lake has been nearly ten times the typical rate.
- The per-acre phosphorus levels in the watershed soils are relatively low. But, our watershed is very large leading to a higher phosphorus intake due to the large scale.



- The City of Mitchell is forming a watershed committee to guide and drive future work. They will work with farmers/ranchers and organizations such as DANR, Ducks Unlimited, NRCS, etc. to drive improvements and water quality awareness in the watershed.
- The City of Mitchell continues to work with partners in the watershed to help identify targeted areas to improve, agencies to partner with, grants and other funding sources to complete the work. This work has been going on for decades and will continue in the future as a part of maintaining Lake Mitchell.
- The City of Mitchell entered into a purchase agreement for 17 acres of land just west of the lake. This land could be used to construct more sediment traps, wet lands or other means to reduce sediment and nutrient flow into the lake. The project is in the planning phase.
- [City of Mitchell Watershed work presentation 03-11-2024](#)

## More information

Campaign Website: [www.savelakemitchell.org](http://www.savelakemitchell.org)

Campaign Email: [info@savelakemitchell.org](mailto:info@savelakemitchell.org)

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