

Trippe and Cravath Drawdown Project

Final Report by Eric Boettcher, Parks Director, City of Whitewater

December 5th, 2022

Lake Project History

In June of 2017 a meeting was held between Whitewater City Staff and the Wisconsin Department of Natural Resources to discuss options for a lakes improvement project that would consist of a drawdown of both lakes in Whitewater (Trippe and Cravath). This would allow for

Public Meetings

July 12, 2018

December 12, 2018

March 16, 2019

September 17, 2019

February 2, 2020

July 16, 2020

February 24, 2021

August 17, 2021

October 6, 2021

October 16, 2022

Council Meetings

On March 5, 2019, Whitewater Common Council approved the Lakes Drawdown and Dredging project. This began a lakes project that would take more than 3 years to complete.

Drawdown

The Lakes Drawdown project started on July 8, 2019. The lakes were drawn down 1-2 inches per day. By the end of fall in 2019, Cravath Lake has been drawn down approximately 3 ½ to 4 feet while Trippe had been drawn down approximately 3 feet.

At this time, it was noticed that help was needed to bring the lakes down further. Removal of a rock ledge on Cravath lake was needed to complete the drawdown of Cravath and installations of three syphons was needed to help bring down Trippe Lake.

Rock Ledge and Syphons

Removal of a rock ledge in Cravath Lake was completed in May of 2022. This allowed for Cravath to be completely drawn down. The water level was drawn down by 5 ½ feet to 6 feet in some areas. Due to the location this removal was done by hand.



Siphons

Siphons were installed over the spillway of Trippe Lake. Three siphons approximately 12 inch diameter and approximately 150 feet long were added to increase water flow over the spillway. The success of this over the winter in 2020/21 was very successful. In spring of 2021 the siphons became problematic with fish and wildlife getting stuck within the siphon.





Lessons Learned

The siphons were designed with butterfly valves and the post in the middle of the valve did not allow for large materials to flow through. Valves were removed to eliminate this problem however it became an issue to restart the siphons if they lost pressure. For any future use these butterfly valves would be replaced with gate valves to eliminate this problem.

Drawdown Rate and Maintenance

The initial start of the drawdown started out slow. The rock ledge removal and additions of the siphons helped in year two by allowing better control of the drawdown. The idea of 1-2 inches per day was more like 3-5 inches per week and depending on precipitation levels. The lake levels once lowered in year two were easier to maintain however large amounts of water would raise the

Pre-dredge Preparation

In August of 2021 a few measures were taken to prepare for the dredging as well as the refill in spring of 2022.

Chemical Treatment

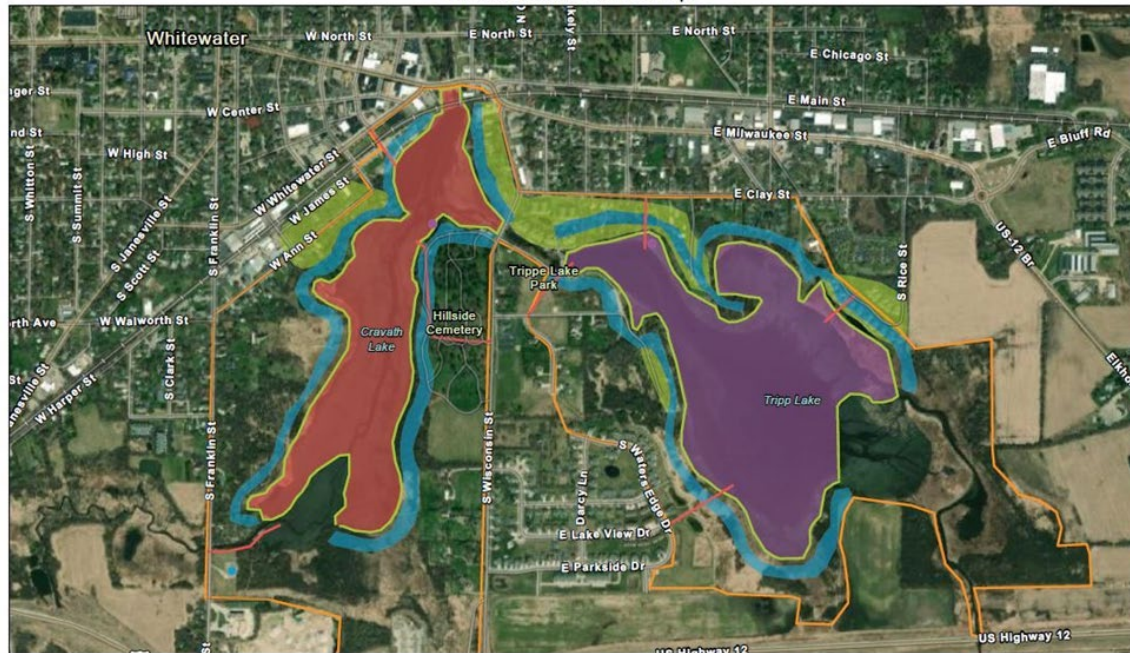
Chemical treatment of the vegetation was planned for the first week of September. Due to public process the timing was delayed. Due to this delay and drought conditions, chemical treatment was cancelled. Since plants had gone to seed early the decision was made to move to mowing and prescribed burning for the fall.

Prescribed Burning



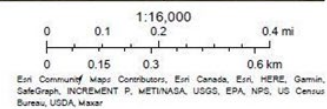
The areas highlighted in red (Cravath Lake) and purple (Tripp Lake) were the focus areas of the burn. Controlled burns aid in the lake rehabilitation process by reducing the amount of sediment that will settle in the lakes due to decaying vegetation once the lake is refilled. In areas designated for dredging, removal of the vegetation can also make the removal of lake sediment easier. This was done along with some mowing of the shoreline to create fire breaks.

Whitewater Burn Map



12/8/2021

- Whitewater Burn data - Point layer
 - Electrical Substation
 - Test Burn Location
- Whitewater Burn data - Line layer
 - Access Route
- Whitewater Burn data - Polygon layer
 - Burn Break
 - Secondary Control Line
 - Smoke Sensitive Area
 - Tripp Lake Burn Unit
 - Cravath Lake Burn Unit
 - Safety Zone



The dry fall weather and low precipitation in the winter allowed for a very effective burn. The burning in fall was successful however the burn planned for spring was not completed due to the wet conditions.



Dredging Time Line

January 12, 2022- City Signs Dredging Contract with A1 Excavating and Stout Construction

Staff worked with A1 Excavating and their subcontractor, Stout Construction to finalize a contract for services on Wednesday. The arrangement will allow Stout Construction to get started on the project within the coming week.

January 14, 2022- Lakes Dredging Project to Begin Monday, January 17, 2022

The dredging portion of the lakes project will begin on Monday, January 17, 2022. The City of Whitewater has contracted with A-1 Construction to perform the work. A-1 will have two teams (one for each lake) begin preparing next week with the hopes of starting to dredge material by the following week. The project is scheduled to take place over the next 5-6 weeks weather permitting. Construction work will be performed Monday through Friday from 7am - 7pm. The project sites at Cravath Lakefront Park and Trippe Lake Park will require the parking lot areas to be closed during this time. The dredged material will be stockpiled at our designated deposit sites. The plan is to create a navigation channel through the lakes and dredge around the park waterfront areas. The city received its permit from the Wisconsin Department of Natural Resources to remove up to 81,000 cubic yards of material from the lakes. The lakes will remain drawn down through this process and are scheduled to be filled back starting June 10, 2022.

Week of January 17, 2022

Work Schedule for week of January 17-21

- Monday & Tuesday 7am – 7pm

- Wednesday - Friday morning 24 hours
- Friday work to finish by 7pm

Prep Week! This week the contractor will be setting the stage for dredging. This includes laying out the wood matting as well as skinning off the snow and vegetation to allow for more frost to set into the lake bed. Our contractor will be working through the night Wednesday and Thursday to remove as much snow and vegetation from the lake bed surface. The colder temperatures through the later part of the week and weekend will allow for frost to work its way down creating a good base to work on. This will reduce the amount of matting needed to perform the project.

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Week of January 24, 2022

Work Schedule for week of January 24-28

- Monday & Tuesday - 10a Monday through the evening as needed
- Wednesday - Friday - 7am - 7pm - anticipate hauling in and out of Tripp Lake (weather dependent)

The first week of the dredging process was to prep the lakes and has been weather dependent. This week, in order to safely drive the hauling trucks and machinery on the lakes, the ground must have at least 18 inches of frost. Because of the cold weather we have been experiencing, we are very close to hitting that number and anticipate hauling trucks on the lake later this week. Crews may work later into the evening to benefit from the colder weather. If the ground has not frosted over enough to safely drive on, mats will be laid out for clearing and building additional routes. Tripp lake is freezing quicker than Cravath allowing for crews to work on Tripp this week and plan to begin working on hauling routes on Cravath in the upcoming week.

Week of January 31, 2022

Work Schedule for week of January 31-February 5

- No work scheduled for Monday or Tuesday due to warm temperatures and snow.
- Wednesday - Saturday - 24 hours
- Saturday work to finish by 7pm

*All work is dependent on weather and the worksite conditions.

Cravath Lake

Construction crews will continue to lay down matting on the lake bed to prep for dredging. Due to a few wet areas, mats have been put in a variety of places along the dredging area on Cravath. Dredging will start as soon as enough frost builds up in the ground along the dredging area to allow for work to commence. Once dredging starts, the hope is to work around the clock including some potential weekends in the near future. Dredged material will be removed through Cravath Lake Front Park boat launch area.

Trippe Lake

Mats have been put into place and dredging should start on Wednesday, February 2. Construction crews plan to work around the clock to start dredging. Dredged material will be hauled through the Southeast directly to HWY 12 over by the new Kwik Trip. The images below were taken of Trippe Lake on January 28, 2022 to show the dredging area.





Week of February 6, 2022

Work Schedule for week of February 6 - February 13

- Crews will work through the weekend (Feb 4-6), one crew on Sunday working Trippe Lake.
- No work is scheduled for Monday or Tuesday due to warmer temperatures and snow.
- Wednesday through Sunday, crews will plan to work 24 hours with most work occurring at night due to the cold temperatures.

*All work is dependent on weather and the worksite conditions. The ground must be frozen by 18" in order to allow large equipment to drive on and add dirt to loading trucks. Mats are laid on the ground that is not frozen enough to allow vehicles to drive on without sinking. If warmer temperatures and the sun begin to defrost the ground, work must stop to keep equipment from sinking and work can resume when the outdoor temperatures drop again.

Trippe Lake

Dredging started this past Wednesday and crews are working from the middle of Trippe Lake and moving south at this point. They will continue to remove sediment along the planned channel eventually moving north in the following week.

Cravath Lake

Dredging on Cravath started this past Wednesday, Feb 2nd. The dredge area at the south end of the lake and they will continue to work north towards the park over the next week.

Week of February 13, 2022

Work Schedule for week of February 13 - February 19

- The contractor continues to work when temperatures allow. For the most part, they are working at night and ending before noon while temperatures are below freezing. Conditions on Trippe Lake continue to be better than conditions on Cravath Lake. Trucks on Trippe Lake are able to haul $\frac{3}{4}$ to full loads while trucks on Cravath are only able to haul about $\frac{1}{2}$ full loads.
- Dredging is scheduled to continue this weekend and into next week (the week of Feb 14), again as the weather conditions allow. While sunny skies are nice this time of year, the sun is not helping in maintaining frozen surface conditions during the day.

Week of February 21, 2022

Work Schedule for week of February 21 - February 28

- The Dredging portion of the lakes project has been going strong. As of Sunday, February 20th approximately 65,000 – 70,000 cubic yards of material has been removed. The total amount to reach is 81,000 cubic yards. We are getting close!
- Here's what is scheduled to be happening on the lakes next week! Work will start up again on Wednesday weather permitting. The navigation channels are almost complete. Now the focus will be to complete the dredging in front of the park areas.
 - *No work scheduled for Monday or Tuesday due to warmer temps and snow*
 - *Crews will work Wednesday through the weekend.*
 - *Wednesday – Sunday 24 hours a day.*
 - *(Schedule dependent on weather and worksite conditions)*

Week of February 28, 2022

Dredging Project Finishing up!

The dredging portion of project has come to an end. With the warmer temperatures our contractor is now demobilizing and should be out of the lakes by Wednesday. The total estimated dredged out was close to 70,000 cubic yards of material. This was close to the 81,000 cubic yards that was originally planned. [Cravath Map \(PDF\)](#) and [Trippe Map \(PDF\)](#) of the area dredged.

Once the dredging portion was completed the restoration plan was started. This consisted of another controlled burn of the lake bed (Mid - March – April) along with revegetation of the shoreline along the park areas as well as along the dredged areas (Mid-April through May). The timeframe for this was April through the first week of June.



Shoreline Restoration