

# Final Abstract

Final Report Approved on December 1, 2025

## M.L. 2022 Project Abstract

For the Period Ending June 30, 2025

**Project Title:** Aggregate Resource Mapping

**Project Manager:** Heather Arends

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**Funding Source:**

**Fiscal Year:**

**Legal Citation:** M.L. 2022, Chp. 94, Sec. 2, Subd. 10a

**Appropriation Amount:** \$500,000

**Amount Spent:** \$328,089

**Amount Remaining:** \$171,911

### Sound bite of Project Outcomes and Results

The DNR's Aggregate Resource Mapping Program completed mapping for Yellow Medicine County, advanced work in St. Louis County, and initiated Lyon and Murray Counties, producing high-quality maps and GIS datasets that guide local land-use decisions, support sustainable infrastructure, and reduce costs and carbon impacts for Minnesota communities.

### Overall Project Outcome and Results

The Minnesota Department of Natural Resources' Aggregate Resource Mapping Program (ARMP) is directed by the legislature (MN Statute 84.94) to provide local governments with accurate, accessible information on the location, quality, and extent of aggregate resources. This information is essential for supporting environmental stewardship as it pertains to local land use planning and infrastructure development.

During this project period, the DNR completed aggregate resource mapping for Yellow Medicine County. The DNR produced comprehensive maps and GIS datasets that identify sand, gravel, and crushed stone potential at a 1:50,000 scale. Datasets include field observations, aggregate potential assessments, and an inventory of active and historic

gravel pits, which include reclamation status. Substantial progress on mapping efforts in southern St. Louis County, an area roughly equivalent to three average-sized Minnesota counties, has also been made. The DNR also initiated mapping in Lyon and Murray Counties. These efforts together represent significant progress toward reducing the statewide backlog of counties awaiting mapping.

The published GIS datasets and maps provide a foundation for environmentally informed decision-making. By integrating aggregate data with other natural resource layers, such as groundwater, wetlands, surface waters, and sensitive habitat, counties can evaluate potential land use trade-offs and guide development in a way that sustains both economic and ecological resilience. These tools enable planners to identify areas where extraction can occur with minimal environmental impact, ensure reclamation supports habitat restoration, and coordinate long-term land use with conservation goals.

### **Project Results Use and Dissemination**

Each aggregate map is distributed in multiple formats—PDF, printed maps, GIS data files, and interactive web maps—available through the DNR website and Minnesota Geospatial Commons. Completed counties have dedicated webpages linking all formats. Dissemination includes county board presentations, meetings with county staff, and free public access to maps. At these meetings, which occurred in July and September, the products are described, access to the products is explained, and examples of applications of the products to common resource management situations are demonstrated.



## Environment and Natural Resources Trust Fund

M.L. 2022 Approved Final Report

### General Information

**Date:** December 2, 2025

**ID Number:** 2022-295

**Staff Lead:** Lisa Bigaouette

**Project Title:** Aggregate Resource Mapping

**Project Budget:** \$500,000

### Project Manager Information

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### Project Reporting

**Final Report Approved:** December 1, 2025

**Reporting Status:** Project Completed

**Date of Last Action:** December 1, 2025

**Project Completion:** June 30, 2025

### Legal Information

**Legal Citation:** M.L. 2022, Chp. 94, Sec. 2, Subd. 10a

**Appropriation Language:** \$500,000 the second year is from the trust fund to the commissioner of natural resources for continued mapping of the aggregate resource potential in the state of Minnesota and to make the information available in print and electronic format to local units of government for use in planning and zoning.

**Appropriation End Date:** June 30, 2025

## Narrative

**Project Summary:** DNR aggregate resources maps/datasets provide vital information to local governments to support informed land-use decisions and natural resource management. This proposal will complete and start projects for 2-3 counties.

**Describe the opportunity or problem your proposal seeks to address. Include any relevant background information.**

The Minnesota Legislature passed Statute 84.94 directing the DNR to map aggregate resources for local governments. Aggregate is a term for sand and gravel as well as crushed stone resources. Aggregates are not evenly distributed across the state or within a county. As a result, some of Minnesota's counties face natural scarcity issues and are in dire need for information about the distribution of quality construction aggregate.

Approximately 50% of aggregates produced in MN supply publicly-funded projects. Access to local resources reduces the cost of construction for taxpayers as well as lower the carbon footprint of construction projects, both are vital in sustaining resilient communities. Therefore, the purpose of MS 84.94 is to ensure the orderly and environmentally sound development of aggregate resources and to give local governments information to make sound land use decisions. The passing of the Bipartisan Infrastructure Law in late 2021, the largest long-term investment in our infrastructure and economy in the Nation's history, will put local governments at the forefront of protecting the environment as well as spreading the burden of supplying the resources needed to repair our aging infrastructure.

**What is your proposed solution to the problem or opportunity discussed above? Introduce us to the work you are seeking funding to do. You will be asked to expand on this proposed solution in Activities & Milestones.**

Similar to how groundwater maps inform decisions about sustainable water use, aggregate resource maps inform decisions about the impacts of developing, or not developing, a potential resource. In this proposal, the DNR's Aggregate Resource Mapping Program (ARMP) will identify and characterize aggregate resources to produce final maps and dataset, as well as compile information for 2-3 counties. Final datasets will be widely available so that all stakeholders are better informed to protect, conserve, preserve, and enhance the state's natural resources. County Board of Commissioners of all counties on the ARMP waitlist have passed a resolution requesting this work. Despite the waitlist, nine counties have requested this work in the past three years.

ARMP uses a combination of remote sensing interpretation, geologic fieldwork, and GIS analysis to inventory aggregate resources and reclamation. Aggregate maps and associated GIS data can be layered with other natural resource layers to inform decisions on resource conservation and protection, infrastructure projects, and sustainable community development.

**What are the specific project outcomes as they relate to the public purpose of protection, conservation, preservation, and enhancement of the state's natural resources?**

This proposal will produce technical, yet easy to understand, aggregate resource maps showing the distribution and quality of sand and gravel and crushed stone resources compiled at a 1:50,000 scale. Associated GIS datasets include spatial database of aggregate resource potential, field observations, and an inventory of all current and historical gravel mines, noting the status of reclamation. This information provides all stakeholders detailed information that can be layered with other natural resource data. For this reason, the Minnesota Association of County Planners and Zoning Administrator's 2022 Legislative platform supports statewide, accelerated aggregate resource mapping.

## Project Location

**What is the best scale for describing where your work will take place?**

Statewide

**What is the best scale to describe the area impacted by your work?**

Statewide

**When will the work impact occur?**

In the Future

## Activities and Milestones

### Activity 1: Aggregate Resource Mapping

**Activity Budget:** \$500,000

**Activity Description:**

DNR geologists use county-scale geologic mapping techniques to identify sand, gravel, and crushed stone resources and characterize their relative quality. This information is foundational to natural resource stewardship and used by local governments and the public. The aggregate mapping process includes:

1. Compiling and evaluating gravel pit data, historic geologic information, GIS datasets, and remotely sensed layers (e.g. LiDAR).
2. Conducting fieldwork to describe and analyze deposits, survey gravel pits and bedrock quarries, and collect geologic observations.
3. Drafting aggregate resource potential maps based on office and field-based data, facilitating technical peer review, and gathering public comment.
4. Publishing county-specific data products including free GIS data packages, countywide PDF maps, and interactive aggregate map services.
5. Co-Sponsoring a workshop with local partners to educate users how to apply project data to local resource stewardship, while continuing to provide ongoing technical support.

DNR's Aggregate Resource Mapping Program coordinates with Minnesota Geologic Survey and Minnesota Department of Transportation, as well as local partners, to produce geologically accurate and publicly accessible maps and information.

**Activity Milestones:**

Description	Approximate Completion Date
Compile data for 2-3 counties	March 31, 2023
Conduct fieldwork, collect field observations, inventory active, inactive, and reclaimed pits/quarries, and collect samples.	November 30, 2024
Digitize draft lines and mapping units within mapped counties.	March 31, 2025
Complete and publish aggregate resource maps for 2-3 counties.	June 30, 2025

## Project Partners and Collaborators

Name	Organization	Role	Receiving Funds
MN Counties	MN Counties	County staff assist with the dissemination of materials upon the completion of an aggregate map, coordinate updates with the County Commissioner Board, and have obligations under MS 84.94 to include aggregate resources in comprehensive planning.	No
Minnesota Department of Transportation	Minnesota Department of Transportation (Mn/DOT)	The MnDOT is identified in MS 84.94 as cooperative agency. DNR works with MnDOT to obtain information about aggregate pits and quality data.	No
Minnesota Geological Survey	Minnesota Geological Survey (MGS)	MGS is listed as a cooperative agency within MS 84.94. DNR works with MGS to obtain the most recent geologic information to derive aggregate resource potential.	No

## Dissemination

**Describe your plans for dissemination, presentation, documentation, or sharing of data, results, samples, physical collections, and other products and how they will follow ENRTF Acknowledgement Requirements and Guidelines.**

Every aggregate map is produced in portable document format (PDF), an interactive web map, as geographic information system files (GIS), and in printed form. The digital files are available to download from the Department of Natural Resources as well as the Minnesota Geospatial Commons. Each completed county as its own webpage that links to the above mentioned formats of dissemination:

[https://www.dnr.state.mn.us/lands\\_minerals/aggregate\\_maps/index.html](https://www.dnr.state.mn.us/lands_minerals/aggregate_maps/index.html). Each project culminates in a workshop hosted by the DNR for county staff, and any other interested parties; and a presentation to the county commissioners at a regularly scheduled board meeting. At these workshops, the products are described, access to the products is explained, and examples of applications of the products to common resource management situations are demonstrated. Printed copies are shared with the county, who in turn can distribute them to libraries, schools, townships, and other agencies. Any member of the public may request a map, free of charge.

The Minnesota Environment and Natural Resources Trust Fund (ENRTF) will be acknowledged through use of the trust fund logo or attribution language on project print and electronic media, publications, signage, and other communications per the ENRTF Acknowledgement Guidelines.

## Long-Term Implementation and Funding

**Describe how the results will be implemented and how any ongoing effort will be funded. If not already addressed as part of the project, how will findings, results, and products developed be implemented after project completion? If additional work is needed, how will this work be funded?**

Project results and associated data are published in portable document format, interactive web map, GIS files, and print. Digital files are available for download on DNR's website and Minnesota Geospatial Commons. Any member of the public may request a map, free of charge.

DNR will co-sponsor an aggregate workshop with completed counties so that staff and any other interested parties, can learn how to apply project data to local resource stewardship. DNR will also present all final products to County Commissioners. After the final data release, no additional funding is required.

## Budget Summary

Category / Name	Subcategory or Type	Description	Purpose	Gen. Ineligible	% Benefits	# FTE	Classified Staff?	\$ Amount	\$ Amount Spent	\$ Amount Remaining
<b>Personnel</b>										
Geologist 1		Project Geologist			28%	0.75	X	\$78,000	-	-
Geologist 2		Project Geologist			28%	2		\$200,000	-	-
GIS Specialist		Cartographer			28%	0.25		\$25,000	-	-
Geologist 3		Project Geologist			28%	1		\$128,500	-	-
							<b>Sub Total</b>	<b>\$431,500</b>	<b>\$283,118</b>	<b>\$148,382</b>
<b>Contracts and Services</b>										
							<b>Sub Total</b>	-	-	-
<b>Equipment, Tools, and Supplies</b>										
	Equipment	Field equipment such as augers, shovels, safety equipment and related services.	Equipment needed to conduct geologic fieldwork.					\$3,500	-	\$3,500
	Tools and Supplies	Supplies includes paper, ink for printing maps, fieldnote books, field clothing and boots.	Supplies for printing of maps, conducting fieldwork.					\$2,500	\$1,021	\$1,479
							<b>Sub Total</b>	<b>\$6,000</b>	<b>\$1,021</b>	<b>\$4,979</b>
<b>Capital Expenditures</b>										
							<b>Sub Total</b>	-	-	-
<b>Acquisitions and Stewardship</b>										
							<b>Sub Total</b>	-	-	-
<b>Travel In Minnesota</b>										
	Miles/ Meals/ Lodging	Lodging, meals, mileage for 200 days	Travel expenses for MN travel related to field survey in Activities 1 & 2. Travel					\$29,643	\$12,575	\$17,068



			expenses are subject to State of MN labor agreements and DNR policy. Most travel expenses are related to the 4-6 months of time when staff are conducting field work that requires food, transportation in seasonal DNR fleet vehicles, and lodging.							
							Sub Total	\$29,643	\$12,575	\$17,068
Travel Outside Minnesota										
							Sub Total	-	-	-
Printing and Publication										
							Sub Total	-	-	-
Other Expenses										
		Direct and Necessary Cost	To support DNR internal services associated with projects					\$32,857	\$31,375	\$1,482
							Sub Total	\$32,857	\$31,375	\$1,482
							Grand Total	\$500,000	\$328,089	\$171,911

## Classified Staff or Generally Ineligible Expenses

Category/Name	Subcategory or Type	Description	Justification Ineligible Expense or Classified Staff Request
Personnel - Geologist 1		Project Geologist	<b>Classified :</b> This is a request to fund a classified position. The geologist has reached the limit, as specified by union contract, to be a temporary unclassified employee. Displaced work will be distributed to other staff.

## Non ENRTF Funds

Category	Specific Source	Use	Status	\$ Amount	\$ Amount Spent	\$ Amount Remaining
<b>State</b>						
In-Kind	General Fund	Supplemental funds for expenses not covered by LCCMR	Pending	\$15,000	-	\$15,000
In-Kind	General Fund	Employee salary for .75 FTE for 3 years for a total of 2.25 FTEs	Secured	\$240,000	\$47,722	\$192,278
			<b>State Sub Total</b>	<b>\$255,000</b>	<b>\$47,722</b>	<b>\$207,278</b>
<b>Non-State</b>						
			<b>Non State Sub Total</b>	-	-	-
			<b>Funds Total</b>	<b>\$255,000</b>	<b>\$47,722</b>	<b>\$207,278</b>

## Attachments

### Required Attachments

#### *Visual Component*

File: [c023a043-cfc.pdf](#)

#### *Alternate Text for Visual Component*

Status map of the DNR Aggregate Resource Mapping Program showing completed, in progress, and requested counties....

### Supplemental Attachments

#### *Capital Project Questionnaire, Budget Supplements, Support Letter, Photos, Media, Other*

Title	File
Yellow Medicine Aggregate Map	<a href="#">f5af7ed9-b9c.pdf</a>
DNR News Release - Yellow Medicine	<a href="#">cc7e0fac-4fa.pdf</a>
West Central Tribune	<a href="#">a5dbf9fc-965.pdf</a>
EIN Presswire - yellow medicine	<a href="#">857dc434-051.pdf</a>
Granite Fall News Release - Yellow Medicine Map Release	<a href="#">6209945f-801.pdf</a>

### Media Links

Title	Link
Department of Natural Resources to conduct aggregate mapping project in Yellow Medicine County	<a href="https://www.wctrib.com/news/local/department-of-natural-resources-to-conduct-aggregate-mapping-project-in-yellow-medicine-county">https://www.wctrib.com/news/local/department-of-natural-resources-to-conduct-aggregate-mapping-project-in-yellow-medicine-county</a>
Yellow Medicine Aggregate Resources Map	<a href="https://www.dnr.state.mn.us/lands_minerals/aggregate_maps/completed/aggregate-mapping-yellow-medicine.html">https://www.dnr.state.mn.us/lands_minerals/aggregate_maps/completed/aggregate-mapping-yellow-medicine.html</a>
DNR News Release	<a href="https://www.dnr.state.mn.us/news/2025/07/22/dnr-has-released-new-aggregate-resource-map-yellow-medicine-county">https://www.dnr.state.mn.us/news/2025/07/22/dnr-has-released-new-aggregate-resource-map-yellow-medicine-county</a>
Granite Falls News: DNR has released a new aggregate resource map of Yellow Medicine County	<a href="https://www.granitefallsnews.com/dnr-has-released-a-new-aggregate-resource-map-of-yellow-medicine-county/">https://www.granitefallsnews.com/dnr-has-released-a-new-aggregate-resource-map-of-yellow-medicine-county/</a>
Aggregate Mapper - Webmap of aggregate	<a href="https://arcgis.dnr.state.mn.us/portal/apps/experiencebuilder/experience/?id=86b2cf2f07474d8fb4b77b15afff4b9c">https://arcgis.dnr.state.mn.us/portal/apps/experiencebuilder/experience/?id=86b2cf2f07474d8fb4b77b15afff4b9c</a>

resource mapping	
EIN News: DNR has released a new aggregate resource map of Yellow Medicine County	<a href="https://world.einnews.com/pr_news/833338175/dnr-has-released-a-new-aggregate-resource-map-of-yellow-medicine-county-published-july-22-2025">https://world.einnews.com/pr_news/833338175/dnr-has-released-a-new-aggregate-resource-map-of-yellow-medicine-county-published-july-22-2025</a>
Yellow Medicine County Web Site	<a href="https://www.co.ym.mn.gov/highway">https://www.co.ym.mn.gov/highway</a>

## Difference between Proposal and Work Plan

*Describe changes from Proposal to Work Plan Stage*

No changes from proposal to workplan stage.

## Additional Acknowledgements and Conditions:

The following are acknowledgements and conditions beyond those already included in the above workplan:

**Do you understand and acknowledge the ENRTF repayment requirements if the use of capital equipment changes?**

N/A

**Do you understand that travel expenses are only approved if they follow the "Commissioner's Plan" promulgated by the Commissioner of Management of Budget or, for University of Minnesota projects, the University of Minnesota plan?**

Yes, I understand the Commissioner's Plan applies.

**Does your project have potential for royalties, copyrights, patents, sale of products and assets, or revenue generation?**

No

**Do you understand and acknowledge IP and revenue-return and sharing requirements in 116P.10?**

N/A

**Do you wish to request reinvestment of any revenues into your project instead of returning revenue to the ENRTF?**

N/A

**Does your project include original, hypothesis-driven research?**

No

**Does the organization have a fiscal agent for this project?**

No

**Do you understand that a named service contract does not constitute a funder-designated subrecipient or approval of a sole-source contract? In other words, a service contract entity is only approved if it has been selected according to the contracting rules identified in state law and policy for organizations that receive ENRTF funds through direct appropriations, or in the DNR's reimbursement manual for non-state organizations. These rules may include competitive bidding and prevailing wage requirements**

N/A

## Work Plan Amendments

Amendment ID	Request Type	Changes made on the following pages	Explanation & justification for Amendment Request (word limit 75)	Date Submitted	Approved	Date of LCCMR Action
1	Amendment Request	<ul style="list-style-type: none"> <li>• Other</li> <li>• Budget - Personnel</li> </ul>	Due to a personal change - we have salary savings and I am able to hire geologist for the next year. This has not changed the budget - but just the staffing distribution within the budget.	July 8, 2024	Yes	July 24, 2024

# Status Update Reporting

## Final Status Update August 14, 2025

**Date Submitted:** December 1, 2025

**Date Approved:** December 1, 2025

### Overall Update

During this grant period, the DNR completed and published aggregate resource mapping for Yellow Medicine County, including full GIS datasets, field-verified observations, and user-friendly map products. Mapping in the southern half of St. Louis County, an area comparable in size to three average Minnesota counties, is nearing completion, with extensive field data collection, material quality testing, and GIS analysis almost finalized. The DNR also initiated aggregate mapping for Lyon and Murray counties, completing early data compilation and surveys of active and historic gravel pits.

All work followed the full 1:50,000-scale aggregate mapping workflow: evaluating pit and quarry records, historical geologic data, LiDAR, and GIS datasets; conducting field verification; assessing resource quality; and producing aggregate potential maps and interactive GIS services. Updated inventories include current and historic pits with reclamation status.

These outputs provide counties and local governments with technical yet accessible data to support land-use planning, infrastructure decisions, and resource stewardship. This work directly advances statewide goals for accelerated aggregate mapping and aligns with the Minnesota Association of County Planners and Zoning Administrators' continued call for consistent, high-quality aggregate resource information across Minnesota.

### Activity 1

This activity is complete. The DNR advanced its goal of accelerating aggregate resource mapping to support natural resource stewardship and land-use planning. Mapping for Yellow Medicine County was finalized and published. Significant progress was made in southern St. Louis County, a geographically large area in northeastern Minnesota, bringing that effort closer to completion. Initial data compilation and mapping also began in Lyon and Murray counties.

Work completed under this activity followed the full aggregate mapping process: evaluating pit and quarry records, historical geology, GIS datasets, and LiDAR; conducting extensive fieldwork; analyzing material quality; and drafting aggregate potential maps before producing final map products and interactive GIS data services. All products are freely available to the public.

The program presented information publicly and continues to support counties as they apply the data. Coordination with the Minnesota Geological Survey, MnDOT, and local governments ensured data accuracy, integration, and usability.

These efforts directly support ENRTF's mission by providing foundational data that improves understanding of Minnesota's aggregate resources and supports wise, long-term natural resource management for generations.  
*(This activity marked as complete as of this status update)*

### Dissemination

Dissemination of project outputs followed the strategy outlined in the original proposal. For Yellow Medicine County, all mapping products (PDF maps, GIS data packages, and interactive web maps) were published and are freely available on the DNR's Aggregate Mapping webpage: [https://www.dnr.state.mn.us/lands\\_minerals/aggregate\\_maps/index.html](https://www.dnr.state.mn.us/lands_minerals/aggregate_maps/index.html).

To increase public visibility, a press release was issued on July 22, 2025 on the DNR website and was picked up by



multiple outlets including Granite Falls News, EIN Presswire, and the West Central Tribune.

As planned, a technical presentation was delivered to Yellow Medicine County officials, and printed maps were provided to the county for local distribution. All materials include ENRTF attribution in accordance with program guidelines.

# Status Update Reporting

## Status Update March 1, 2025

**Date Submitted:** March 15, 2025

**Date Approved:** May 9, 2025

### Overall Update

The project is making significant progress toward achieving its stated outcomes. Milestones 1 and 2 of Activity 1 have been completed, with all existing geological, topographic, and land-use data compiled. During this past fall field season, extensive fieldwork was conducted in Yellow Medicine County and the southern half of St. Louis County. Geologists are currently working on Milestone 3, which involves delineating and labeling mapping units based on field data, geologic interpretations, and remote sensing analysis. This step is critical in developing aggregate resource maps at a 1:50,000 scale, showing the distribution and quality of sand, gravel, and crushed stone resources. Additionally, GIS datasets are being developed, including spatial databases of aggregate resource potential, field observations, and gravel mine inventories, which will be available for stakeholders.

### Activity 1

Milestones 1 and 2 of Activity 1 have been successfully completed. All existing geological, topographic, and land-use data has been compiled.

During this past fall field season, comprehensive fieldwork was conducted in both Yellow Medicine County and the southern half of St. Louis County. In Yellow Medicine County, 212 field observations were recorded, and 434 gravel pits were inventoried. For southern St. Louis County, 425 field observations were completed, and 1,670 gravel pits were cataloged and assessed. These observations provide critical insights into deposit quality and material composition.

Currently, geologists are working on Milestone 3, which involves delineating and labeling mapping units based on field data, geologic interpretations, and remote sensing analysis. Once completed, this data will be incorporated into the final aggregate resource potential maps to support land-use planning and infrastructure development. Progress remains on schedule, and the team is working toward the next project milestones with a focus on refining mapping accuracy and preparing data for stakeholder review.

### Dissemination

The program was invited to speak about the status and funding of mapping to at the Minnesota Aggregate Ready Mix Association (December 3, 2024); Minnesota Asphalt and Paving Association (December 10, 2024); and a conference on Transportation Materials (February 11, 2025). Most of our dissemination efforts occur when the project is completed and final products are made publicly available.

# Status Update Reporting

## Status Update September 1, 2024

**Date Submitted:** September 4, 2024

**Date Approved:** October 22, 2024

### Overall Update

Significant progress has been made to map southern St. Louis County, which is the equivalent size of 2-3 average sized counties in MN. Over 1000 gravel pits have been inventoried, with over 30% of them visited in the field. Digitizing lines for the county has begun as well as creation of mapping units. Only 15% of the southern section of the county needs to reconnaissance level field work.

Yellow Medicine county is nearly completed for field work. This county has less than 10% left to be completed for field work and is expected to be done by this fall. About half of the county is digitized. The geologist who started this project took a permanent classified position with MNDOT in March. We have hired a new geologist in August and he will finish all fieldwork this fall.

### Activity 1

For both southern portion of St. Louis and Yellow Medicine Counties, steps 2 and 3 (field work and map drafting) are still underway. Field work is expected to be completed this fall for both counties. Drafting of lines and map production will occur this winter and conclude in the spring of 2025.

### Dissemination

No dissemination occurred during this time. Dissemination will occur this spring as we finalize and present maps.

# Status Update Reporting

## Status Update March 1, 2024

**Date Submitted:** March 1, 2024

**Date Approved:** June 21, 2024

### Overall Update

The final outcome for this project is to produce aggregate maps published at 1:100,000 scale and GIS data compiled at 1:50,000 scale for local governments. We are in progress to produce this information for southern St. Louis and Yellow Medicine Counties. We have completed the data compilation portion of both projects, nearly completed the gravel pit inventory for all of Yellow Medicine County and Southern St. Louis County.

### Activity 1

Overall we have completed activity 1, nearing completion of activity 2, and phasing into activity 3. For Yellow Medicine County, all of the gravel pits have been surveyed either remotely or field visited. The gravel pit inventory database is near completion. Approximately 170 observations have been collected through field work and lines for ~60 percent of the county have been delineated. For St. Louis County, we are mapping the southern portion. This is equivalent 3 average sized counties in Minnesota. Gravel pits in approximately 75% of this area have been inventoried remotely or with field work. Approximately 214 field observations have been collected. We have delineated approximately 60% of the county. Both project areas are on track for completion.

### Dissemination

There have been no media or dissemination activities during this time.

# Status Update Reporting

## Status Update September 1, 2023

**Date Submitted:** September 1, 2023

**Date Approved:** October 24, 2023

### Overall Update

The final outcome for this project is to produce aggregate maps published at 1:100,000 scale and GIS data compiled at 1:50,000 scale for local governments. We are in progress to produce this information for southern St. Louis and Yellow Medicine Counties. We have completed the data compilation portion of both projects and have phased into surveying gravel pits and conducting field work.

### Activity 1

Only part 1 of Activity 1 is complete. We have phased into part 2 - which is Conducting fieldwork to describe and analyze deposits, survey gravel pits and bedrock quarries, and collect geologic observations. In St. Louis County, 2,285 gravel pits have been identified, 600 have been observed with 66 observed on site, 88 from road 88, and 450 observed in air photo with attempt to visit in the field. A total of 173 field observations have been made. In Yellow Medicine County, 343 gravel pits have been inventoried with 17 observed on site, 76 observed from road, 21 observed in air photo with an attempt to visit in the field. A total of 101 field observations have been made. Geologists are planning for potential drilling this fall.

### Dissemination

On April 25, 2023, the DNR Aggregate Resource Mapping Program (ARMP) presented at a the Yellow Medicine County Commissioners meeting to discuss the project, LCCMR funding, and project timelines. ARMP also met with Yellow Medicine County staff. West Central Tribune published a story about the aggregate mapping of Yellow Medicine County on May 1, 2023. On 6/5/2023, ARMP met with Region 4 DNR staff to inform them of the project.

# Status Update Reporting

## Status Update March 1, 2023

**Date Submitted:** March 3, 2023

**Date Approved:** April 6, 2023

### Overall Update

With the completion of Redwood, Swift, Kandiyohi, and Sibley counties, the DNR Aggregate Resource Mapping Program (ARMP) has transitioned to mapping southern St. Louis Counties and Yellow Medicine counties. DNR is working through a backlog of mapping, prioritizing counties who have been waiting ~20 years. Since the size of St. Louis is nearly 10 times the median-sized county in Minnesota, DNR is splitting the county in half and prioritizing the southern half where population densities are higher.

ARMP reached out to St. Louis County to inform them on the initiation of this project. St. Louis County was very receptive and helpful in the data compilation efforts.

ARMP is welcoming a new geologist, who starts March 2nd, and will serve as project lead for Yellow Medicine County. DNR plans to outreach to Yellow Medicine County staff and county board before the field season begins in June. Outreach efforts are further described in the Dissemination Update.

### Activity 1

The DNR Aggregate Mapping program completed the data compilation phase of this project. Gravel pit information, wells, existing maps and geologic data from the Minnesota Geologic Survey, soils, LiDAR and other elevation data, MNDOT aggregate quality have been gathered for St. Louis and Yellow Medicine counties. It is important to note that data compilation is an on-going effort throughout the project; however, the information sets represent the bulk of information needed to begin fieldwork and collection of observations points for fieldwork this summer.

*(This activity marked as complete as of this status update)*

### Dissemination

DNR AMRP gave a presentation to the St. Louis County Commissioners on November 1, 2022, and provided an introduction to aggregate mapping, discussed LCCMR funding, and outlined project timelines and final products.