

DAKOTA COUNTY PLANNING COMMISSION

Dakota County Western Service Center – Room L139
14955 Galaxie Avenue
Apple Valley, MN 55124
Thursday, June 23, 2022
7:00 PM – 9:00 PM

Agenda

I. Call to Order

II. Pledge of Allegiance

III. Public Comments:

Anyone wishing to address the Planning Commission on an item, not on the agenda may address the Planning Commission at this time (comments are limited to 5 minutes).

IV. Approval of the Agenda

V. Approval of Previous Meeting Minutes (May 26, 2022)

VI. Recommend approval of Lake Marion Greenway Natural Resources Management Plan – Action (Chris Klatt - Parks)

VII. Recommend approval of North Creek Greenway Natural Resources Management Plan – Action (Chris Klatt - Parks)

VIII. Recommend that the Agricultural Reduction Effort (ACRE) Plan be released for public review – Action (Valerie Neppi – Environmental Resources)

IX. New County Commissioner Districts for 2023 – Information (Kurt Chatfield, Planning)

X. Planning Manager Update and County Board Actions at Physical Development Committee

- Authorized acquisition of the McMenomy Woods property along the Vermillion Highlands Greenway in Rosemount
- Awarded bid for Thompson Oaks segment (former city golf course) along the River to River Greenway

XI. Upcoming Public Meetings – Community Outreach

County Road 26 (Lone Oak) Open House	Tuesday, June 28 th , 4:30pm-6:30pm Eagan Community Center
Veterans Memorial Greenway Interpretive Plan Open House	Wednesday, June 29 th , 4:30pm-6:30pm Inver Grove Heights Veterans Community Center
County Road 11/Burnsville Parkway Roundabout Open House	July 21 st , 4pm – 6pm (exhibits up until 9pm) Nicollet Plaza, Party on the Plaza, Pop-up tent at Nicollet Commons Park

XII. Topics for Next Meeting (Thursday, July 28, 2022)

- None at this time – Meeting may be canceled

XIII. Planning Commissioner Announcements/Updates

XIV. Adjourn

DAKOTA COUNTY PLANNING COMMISSION

Date: 6/23/2022

AGENDA ITEM: Lake Marion and North Creek Greenway Natural Resource Management Plans

PURPOSE

Provide Planning Commission:

1. *A summary overview of the Public Engagement activities, suggested comments and changes made to the final Drafts of the Lake Marion and North Creek Greenway NRMPs*
2. *A Request to recommend adoption of the Lake Marion Greenway NRMP to the County Board*
3. *A Request for direction as whether to adopt North Creek Greenway NRMP, or wait for additional review by municipal citizen advisory committees.*

BACKGROUND

Dakota County Staff seek recommendation for adoption of the Lake Marion Greenway NRMP. Additionally, Staff seek direction for adoption of the North Creek Greenway NRMP, pending consultation with municipal citizen advisory groups. An overview of the public engagement process for both plans will be discussed, and a summary of changes made to both the North Creek and the Lake Marion Greenway NRMPs will be presented.

ATTACHMENTS

Attachment A: [Lake Marion Greenway Natural Resource Management Plan](#)

Attachment B: [North Creek Greenway Natural Resource Management Plan](#)

QUESTIONS

The following questions are intended to help assist in review of the packet materials.

1. *Do you have recommendations for how the County should proceed with public engagement for future Greenway Natural Resource Management Plans?*
2. *What role could other government agencies (State, County, Soil and Water Conservation Districts, Water Management Districts/Organizations) play in implementing some of the recommendations in these Plans?*

DAKOTA COUNTY PLANNING COMMISSION

Date: June 23, 2022

AGENDA ITEM: Agricultural Chemical Reduction Effort (ACRE) Plan Release for Public Review and Comment
(*action*)

PURPOSE

Provide Planning Commission:

1. A brief update on the ACRE planning process, research, and engagement.
2. An overview of the draft Agricultural Chemical Reduction Effort Plan.
3. Request of the Commission: Recommend that the draft ACRE Plan be released for a 30-day public review and comment period from July 20-August 19, 2022.

BACKGROUND

The ACRE Plan is an initiative targeted at the 2021 Dakota County Groundwater Protection Plan goal of “groundwater and drinking water that are free from unhealthy levels of contaminants.” As introduced to the Commission at its May 2021 meeting, the ACRE Plan seeks to reduce harmful nitrate, pesticide, and chloride levels in drinking water through enhanced adoption of agricultural best management practices and partnerships with the Soil and Water Conservation District, state agencies, and watershed organizations.

Potential new strategies and tactics were presented to the Commission at its January 2022 meeting and reviewed and refined with stakeholders from the agricultural community. A draft ACRE Plan has been prepared with strategies and tactics that recognize the diversity of farm types, farm operators, and farm-related businesses in Dakota County. The ACRE Plan approaches focus on 1) improved data analyses through enhanced data collection and modeling, 2) education and engagement on agricultural water quality practices that reduce contaminant levels, 3) technical assistance to farmers to facilitate conversion to preferred practices, and 4) equitable financial incentives that encourage ongoing use of water quality practices. Potential regulatory approaches are held in reserve for future consideration if shallow groundwater quality trends do not improve over a five-year period. The implementation cost of the ACRE Plan will vary depending upon which tactics are implemented. Program implementation will be subject to County Board approval; budgets will be amended through the annual budgeting and Department work planning process as needed. The draft plan is located on the ACRE Project Website: [Draft ACRE Plan](https://www.co.dakota.mn.us/Environment/WaterResources/Agriculture/Documents/ACREPlanDraft.pdf)
(<https://www.co.dakota.mn.us/Environment/WaterResources/Agriculture/Documents/ACREPlanDraft.pdf>)

ATTACHMENTS

1. Draft ACRE Plan Executive Summary
2. Presentation

QUESTIONS

The following questions are intended to help assist in review of the packet materials.

1. What are the Commission’s thoughts on the overall draft ACRE Plan strategies and tactics?
3. Are there any gaps in the draft plan?
3. Is the draft ACRE Plan ready for public review and comment?



Agricultural Chemical Reduction Effort (ACRE)

DRAFT Plan for County Board Consideration

June 2022



Executive Summary

Sufficient high-quality groundwater is critical for Dakota County's future and the health and wellbeing of its residents, businesses, and ecosystems. The 2020-2030 Dakota County Groundwater Plan (Groundwater Plan), adopted in January 2021, identified a wide range of issues related to groundwater quality in both rural and urban areas of the county, from a variety of sources, and described the county's strategies and tactics for addressing those issues.

One of the topics of the Groundwater Plan is agricultural chemicals -- especially nitrate, crop herbicides, and chloride -- which are significant, persistent drinking water issues for much of rural Dakota County. The Groundwater Plan identified reduction of agricultural chemicals (Strategy 1B1) and development of an Agricultural Chemical Reduction Effort (ACRE) Plan (Tactic 1B1B) as a priority.

The goal of the Dakota County Agricultural Chemical Reduction Effort (ACRE) is to reduce agricultural chemicals in groundwater to levels that no longer pose threats to human health or the environment.

A. Plan Purpose

The focus of ACRE is to reduce agricultural related nitrate contamination in groundwater, and address other agricultural contaminants (e.g., pesticides and chlorides) where practical to protect human health and the environment. At the same time, the Minnesota Department of Agriculture (MDA) is working on addressing nitrate in the Hastings Drinking Water Supply Management Area (DWSMA). Dakota County and MDA are working together to coordinate efforts, use resources efficiently, and learn from each other's experiences. ACRE builds on the MDA's implementation of the Nitrogen Fertilizer Management Plan (NFMP) and Groundwater Protection Rule (GPR), but there are several differences to include 1) ACRE Plan's outcome measures are results-based (contaminant reduction) rather than performance-based (practice adoption, the standard for the MDA Groundwater Protection Rule); 2) ACRE includes all of rural Dakota County, not just the Hastings DWSMA; and 3) ACRE considers the health of private drinking water wells, not just public water supply wells. More details are provided in Chapter 2: Planning Overview.

B. Agricultural Chemicals of Concern

Nitrate

Nitrate contamination is a well-documented problem in Dakota County drinking water and is the most common contaminant to exceed health guidelines in groundwater in the county. Although low levels of nitrate (zero to 3 milligrams per liter [mg/L]) may occur naturally in water, high levels of nitrate in groundwater usually come from human activities. In the Upper Midwest, the major source is nitrogen fertilizer used on agricultural crops, although septic systems and feedlots are lesser sources.

Although a necessary nutrient for plants, high nitrate levels in people can harm the respiratory and reproductive system, kidney, spleen, and thyroid in children and adults. In particular, consumption of drinking water exceeding the Minnesota Department of Health (MDH) guideline of 10 mg/L nitrate can lead to a health problem called methemoglobinemia or "blue baby syndrome" in infants younger than 6 months. The condition is characterized by a reduced ability of the infant's blood to deliver oxygen and can lead to death if untreated. Numerous studies suggest that the guideline of 10 mg/L may not be protective of health for people of all ages and it fails to address the chronic, low level exposure of nitrate's effect on health (Ward et al, 2018).

The City of Hastings had to take multiple actions to maintain safe nitrate levels in their water supply, including a \$3 million nitrate removal system. In addition, 20 to 30 percent of the households in Dakota County that rely on private drinking water wells have well water that exceeds the nitrate health guideline of 10 mg/L. For them, an effective drinking water treatment system may cost \$1,500 to \$4,000 for a professionally installed system, plus ongoing maintenance costs.

The map to the right shows the estimated nitrate levels in shallow groundwater throughout the Dakota County, based on private drinking water well sampling results. The darker the red, the higher the estimated concentration of nitrate. As shown, many areas of the county have shallow groundwater nitrate levels that are above the MDH drinking water guideline of 10 mg/L, especially in the south/ southeastern part of the County. ACRE intends to address nitrate contamination to achieve concentrations below 10 mg/L throughout the county.



Farmer spraying chemicals on soybean field

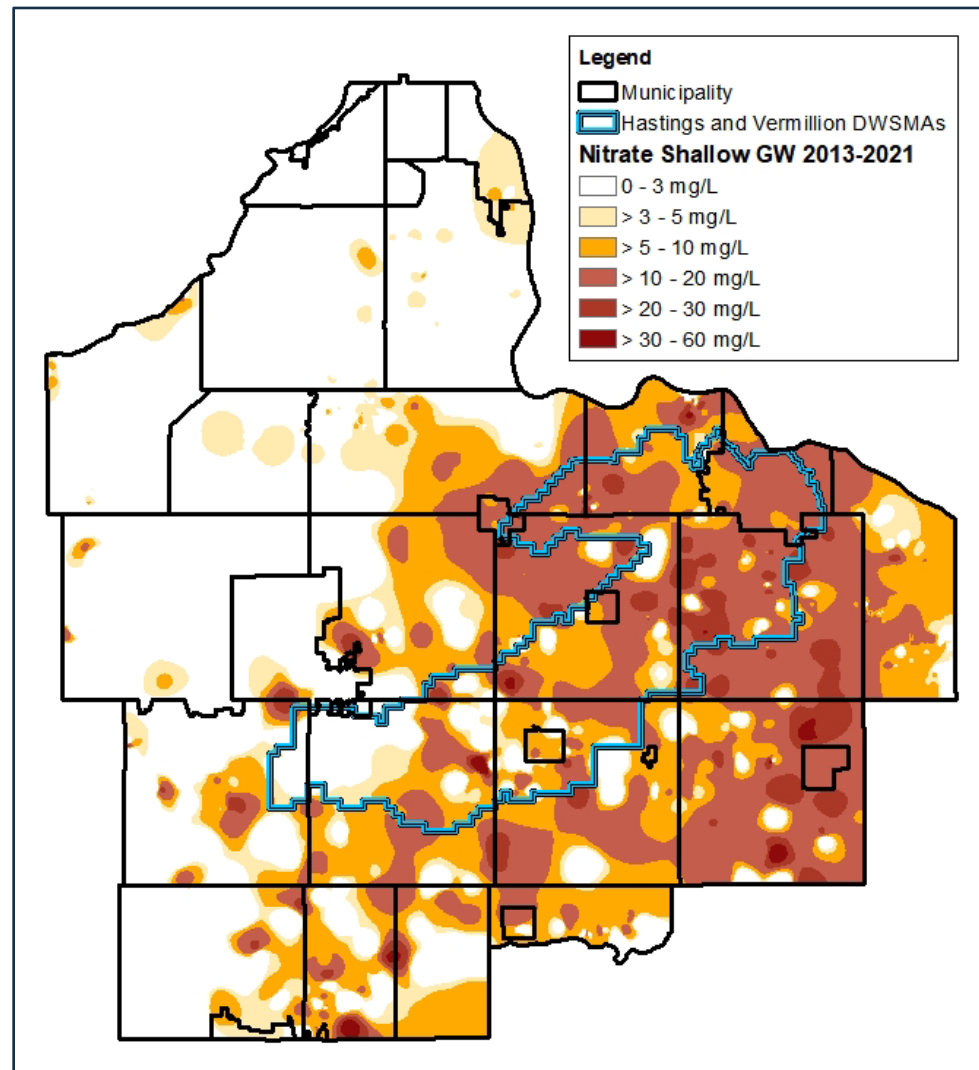


Figure 1. Interpolation of Shallow Groundwater Nitrate Concentrations

Crop Pesticides

Pesticides are a group of chemicals developed and used to kill or control pest species. In addition to the county's nitrate problem, numerous pesticides – specifically, crop herbicides and their breakdown products -- are widely detected in the groundwater in rural parts of the County. Most of the herbicides that have been detected have been at concentrations below health risk standards, but cyanazine and its breakdown products exceeded the MDH drinking water guideline of 1.0 micrograms per liter (µg/L) in 22 percent of the wells sampled in Dakota County.

In drinking water, different pesticides and their breakdown products can be health risks to different endpoints in the human body, at different concentrations. Dakota County's monitoring of pesticides in private wells has focused on herbicides used on crops, for two reasons: 1) the County has monitored for the pesticides that MDA has most commonly detected in its statewide monitoring program, which are crop herbicides, and 2) the County's monitoring program has found the sum total of breakdown products of cyanazine, a crop herbicide no longer in use, persistently above cyanazine's health risk guidance values. The United States Environmental Protection Agency (USEPA) lists cyanazine as "a probable human carcinogen" and ended its registration in 2002 because of health concerns.

Herbicide breakdown products are generally less toxic than their parent compound; however, the health effects of mixtures of pesticides and their breakdown products, such as the County's monitoring has found, have not been evaluated. Some of the most common breakdown products, such as acetochlor ethanesulfonic acid (ESA), alachlor ESA, or metolachlor ESA, have their own health guidance values. When these chemicals are found, they are compared to the breakdown product guideline. For many herbicide breakdown products, such as those of cyanazine, no separate health risk standards have been established. In those cases, based on MDH guidance, the health risk is evaluated by comparing the concentration of the breakdown product(s) to the drinking water standard for the parent compound.

Chloride

Chloride levels in groundwater in the county are increasing (as they are in most metropolitan areas) and potassium chloride (potash) fertilizer is one source of chloride in Minnesota waters. As a result, the County will encourage farmers to follow best management practices for potassium fertilizer use, although chloride reduction will be a secondary concern in the ACRE Plan.

At high levels, chloride is a pollutant for both drinking and surface waters. The drinking water guideline for chloride is 250 mg/L; the US EPA does not consider chloride a threat to health, and this a secondary, not health-based guideline for aesthetics. The water will start to taste salty at a level of 250 mg/l.. Chloride in surface water can be toxic to fish, aquatic bugs, amphibians, and plants at 230 mg/l. Chloride corrodes road surfaces and bridges and damages reinforcing rods, increasing maintenance and repair costs. Since nearly all surface water features in the county interact with groundwater; pollution of groundwater can degrade surface water quality and pollution of surface water can degrade groundwater quality.

C. Plan Goals, Strategies, and Proposed New Activities

As stated above, the goal of the Dakota County Agricultural Chemical Reduction Effort (ACRE) is to reduce agricultural chemicals in groundwater to levels that no longer pose threats to human health or the environment.

County staff and their consultant, Environmental Initiative, used a variety of approaches to engage with the agricultural community and other stakeholders to develop, consider, and refine the ACRE Plan's strategies and tactics. This included consulting with farmers, farm advisors, other rural residents, state and

regional agencies, municipal water suppliers, township representatives, watershed management organizations, and non-governmental organizations. County staff used this process to 1) listen, 2) add and test ideas, and 3) refine plan actions.

Utilizing stakeholder engagement feedback (Appendix G) and technical research findings (Appendix E), the County developed four strategies focused on enhanced information-gathering, education and outreach, technical assistance, and financial incentives. Many of the tactics are continuations or expansions of existing county or SWCD activities. The strategies and proposed new activities are listed below.

Table 1. ACRE Plan Strategies and Proposed New County Activities

Strategy	Proposed New Activities
Strategy 1: Collect Information for Decision Making	<ul style="list-style-type: none"> • Develop and update a Dakota County groundwater nitrate model to evaluate scenarios for different patterns of agricultural practice adoption.
Strategy 2: Communicate and Educate	<ul style="list-style-type: none"> • Create a permanent Agricultural Advisory Group. • Advocate for agricultural water quality practices with service providers such as agronomists, co-ops, retailers, irrigation installers and associations, other ag advisors, and lenders. • Advocate for improved internet access throughout rural Dakota County. • Provide in-person updates, news items, and helpful information to townships and cities on a regular basis.
Strategy 3: Provide Technical Assistance	<ul style="list-style-type: none"> • Partner with UMN Extension to conduct large-scale plant tissue nitrogen testing projects. • Explore ways to assist landlords and renters implement water quality practices on rented farmland. • Assist beginning and “emerging” farmers to access resources. • Educate farmers about potassium fertilizer Best Management Practices.
Strategy 4: Provide Financial Incentives	<ul style="list-style-type: none"> • Provide ongoing incentives to farmers for <u>maintaining</u> water quality practices. • Provide one-time or ongoing incentives to farmers for completing the MN Agricultural Water Quality Certification. • Partner with the State of Minnesota, UMN “Forever Green” initiative, or other organizations to explore price support or other guaranteed-financial-return programs.