

Minnesota Irrigator

PUBLICATION OF THE IRRIGATORS ASSOCIATION OF MINNESOTA

SPRING/SUMMER 2022



Comments by the IAM President

Jake Wildman

Greetings IAM Members,

I hope everybody is doing well. As I write this, I was hoping that spring planting would be here shortly. Unfortunately, it looks like it's going to be one of those years where winter is sticking around a little longer than would like.

I want to start out by saying thank all of the IAM members, industry representatives and speakers for attending the annual meeting and convention back in February. It was great we were able to hold the event in-person once again. We as a board were very pleased with the attendance and how the day turned out. It was nice to see some old faces, as well as meeting some new ones. I know I had multiple people come up to me throughout the day to introduce themselves and tell me that this was the first time attending the IAM convention. That was great to hear and thank you for doing that. For those that attended, we hope you enjoyed the speakers and found the topics informative. I just want to say thanks again for your support of IAM and we look forward to seeing you again next year!

Moving on to some legislative items. Unfortunately this year IAM did not organize our annual Day on the Hill event. In the past, we have always liked to plan the event for in the beginning or in the middle of the session.

PRESIDENT continued on page 2

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Congratulations 2021-2022 MN Irrigator of the Year and Irrigation Service Award Winners



• **IRRIGATION SERVICE AWARD - MN Department of Agriculture and USDA RCCP GRANT** partners in Implementing Innovative Irrigation Practices to Protect Groundwater Quality and Quantity projects in 20 SWCDs.



Jeppe Kjaersgaard, MN Department of Agriculture, accepting award on behalf of the RCCP partners from IAM President Jake Wildman at the 2022 Annual Convention.

• **IRRIGATOR of the YEAR Award**
Anna Bregier – Prairie Farms from Rice, MN. IAM president Jake Wildman sharing IAM Board's sincere appreciation for her efforts over the past 2 years for chairing the Alan Peterson Scholarship project, updating the IAM website and Facebook page, and becoming the Vice President of IAM Board.



See page 3 for more photos and highlights from the 47th Annual Convention at Freeport Community Center

New Well Interference Flow Chart

By Carmelita Nelson, DNR Water Conservation Consultant

The summer of 2021 was a record year for well interference complaints submitted to the Minnesota Department of Natural Resources (DNR). We heard from irrigators that the process is confusing and that a simple flow chart would be very helpful. The process is fairly complex and

various options can occur throughout the timeline. We have distilled the process down to six major steps that are common to most complaints. In the Well Interference Flow Chart below, red indicates that the case stops.

FLOW CHART continued on page 9

MDA Expanding Regional Access to Local Weather Data in Partnership with Local SWCD

<https://www.mda.state.mn.us/central-minnesota-ag-weather-network>

Daily crop water use data (also known as evapotranspiration) is a crucial piece of information that irrigators need to efficiently manage water. Weather station information is required to precisely estimate water use of the growing crop.

The MDA partnered with the East Otter Tail Soil and Water Conservation District (SWCD), Wadena SWCD, Pope County SWCD, Benton County SWCD and Dakota County SWCD to install weather stations across central Minnesota. The weather stations are placed in agricultural settings with the intent to provide data for agricultural producers and those involved with atmospheric research in this environment.

Daily crop water use estimates for a particular field can be viewed online with the Irrigation Management Assistant. <http://ima.respec.com/>

Additional Weather Stations

Across Minnesota there are now 29 weather stations incorporated into the NDAWN weather station network providing a reliable real-time source for ag weather data across Central and northwestern Minnesota.

Through a partnership with the North Dakota Ag Weather Network

WEATHER DATA continued on page 11



Welcome to the MN Irrigator's Winter Newsletter

Jerry Wright, IAM Membership Secretary

Welcome to the Minnesota Irrigator's Spring Newsletter.

This newsletter comes to you thanks to the support of advertisers, current IAM members, Industry Sponsors and Extra Mile Member Supporters.

The Directors on the IAM Board welcome and encourage you to become a member if you have not already joined. Last year we ended up with only 467 members.

Everyone benefits from each other's ideas, experiences, and

partnership in IAM activities each year including keeping a watchful eye on MN Irrigators' Water Rights; telling personal stories about benefits of irrigation with local Legislators as well as representing the interests of irrigation practices across the state.

To become a member, simply return the sign up form included on the last page of this newsletter or easier yet do it online at the IAM Website <https://mnirrigators.org/>. As a member, you can also be placed on the IAM Email Alert list if you submit your email address.

PRESIDENT continued from pg 1

Well at that time, COVID restrictions were still in place at the capital and we weren't quite sure how the event would look. Some of the restrictions were lifted as session progressed, but we felt planning something this late in the session would not provide the most value compared to earlier in the year . With that being said, you can pretty much mark your calendars now for our Day on the Hill event next year. As long as it is somewhat back to normal in St.Paul, we will be there.

Even thou we did not host our Day on the Hill, IAM has still tried to participate in committee hearings when our lobbyist see a bill come up that could possibly affect us as irrigators. Throughout the session, our lobbyist have been doing a great job giving the board updates, as well as informing us on when it would be appro-

priate for IAM to provide testimony on specific bills.

There is one bill in particular that we are monitoring very closely and when the bill came up for the first time we took the opportunity to testify in front on the Environment committee in the House, as well as the House judiciary committee. From our testimony, IAM had the opportunity to be interviewed for an article by Minnesota Public Radio (MPR) news. Here is the link to the article and I encourage you to check it out in you have a minute. <https://www.mprnews.org/story/2022/03/25/bill-would-toughen-penalties-for-water-violators>

The bill is centered around a very controversial topic that occurred in the state and IAM has many concerns with the language proposed in the bill.

Staying on the legislative topic, IAM is again planning a legislative farm tour this summer. This event has been a great success over the last couple of years and we look forward to it again this year. It gives IAM an excellent opportunity to educate both legislators and agency people on the positive impacts irrigation has throughout the state. We in the very beginning stages of planning, but if you are interested in attending, there will be more details in the newsletter later this summer.

With that, I just want to say thank you for all of your support. Your membership to IAM is what allows us to organize these events and participate in committee hearings in St.Paul . Without you, we would not be able to do these things. In 2021, we saw an increase in membership which got us somewhat close to that 500 mark. I made

a comment at the annual meeting about making it a goal of reaching 500 members in 2022. We are fairly close again and I think by the end of the year we can definitely get there. So if you are not a member, I just encourage you to think about it and hopefully we can make that goal of 500 a reality.

As always, if there are any irrigation issues that come up in your area, please reach out to myself or any of the IAM board. It is important we are made aware of the issues and if necessary, work together to try and get them resolved. I hope everybody has a safe and successful spring planting season and I will talk to you again in few months.

Jake Wildman
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If you are not interested in receiving future newsletters from Irrigators Association of Minnesota (IAM), please send a note to wrightsj@charter.net or IAM, 24 S. Edquist St., Appleton, MN 56208

If you have a topic that you would like to see discussed in a future issue, drop a note to IAM president, Jake Wildman at jakewildman@outlook.com. Articles for the newsletter are solicited and gathered by the IAM officers and Membership Secretary, Jerry Wright whom can be contacted at jerrywright1970@gmail.com. Crow River Media in Hutchinson manages the advertiser space and edits, prints and mails the newsletter.

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IAM'S 47TH ANNUAL CONVENTION AT FREEPORT COMMUNITY CENTER

Over 190 irrigators, industry representatives and others enjoy a tasty dinner at the 47th annual Convention. Thirty exhibitors surrounded the meeting hall and gave the farmers many opportunities to answer questions and check out the latest technology, consulting offerings, financial, water wells and other technical assistance.



IAM Speakers the annual Convention consisted of:

- Commissioner Thom Petersen, Mn Department of Agriculture
- ✓ IAM Lobbyist Douglas Carnival from McGrann Shea Carnival
- ✓ Drought and Well Interference Jason Moeckel & Ellen Considine, MDNR Groundwater Technical Unit
- Jeppe Kjaersgaard, MDA, 2022 RCCP grant partnership with 20 county SWCD to Demonstrate and Implementing Innovative Irrigation Practices to Protect MN Groundwater Quality and Quantity



- U of MN Irrigation Research by Vasudha Sharma, UM Extension Irrigation Specialist



- Fertilizer Market Update, Josh Linville, StoneX Financial Inc. FCM Division, Missouri
- Steve McCoon, Nelson Irrigation on Variable Rate Irrigation & other Emerging Technologies



Long time IAM members from Dairyland Irrigators Association: Frank Marshall, Grove City; Jack Kaschmitter 1997 IAM President-St Martin, and Tony Nistler, Grove City.

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IRRIGATING RELATIONSHIPS

By: Monica Kramer McConkey, LPC, Rural Mental Health Specialist, Eyes on the Horizon Consulting

Most people I talk to are under the impression that as a farm counselor the calls I get are all about the stresses of uncontrollable like markets and weather. They are surprised when I share that the number one reason farmers call me is conflict and unhappiness in relationships. Sometimes it is relationships between spouses, or with children, parents, or farming partners such as a sibling.

What do we do when the decline in our relationships leads to unbearable stress? Let's contrast relationship problems with a field that needs irrigation.

Irrigation ensures plant growth. Without it seeds would not sprout and/or plants would wither. Without irrigation on certain soil types, yields would be poor at best. Think about that field like a relationship that is struggling. It's no longer a relationship of bounty and happiness, but a relationship of lack and conflict.

Here are 3 key strategies to consider when making effort to repair a damaged relationship.

1. Identify your source. Much like

the water that is needed to irrigate, people in a relationship need a common point of unity. What brings you together? What do you agree on?



What was different when your relationship seemed better? What common beliefs and values do you share? Focus on these commonalities as a steppingstone to growth.

2. Communication is key. Think of communication as the pipeline that brings the life-giving water to the field. It needs to be in good repair to do what it is meant to do. If left unmaintained,

water might be leaking out with no hope of reaching the ground that needs attention. Communication is much the same. It is critical to making re-

lationships work, however it must be in good repair for it to be successful. What does good communication look like? First and foremost, it looks like listening to hear and understand the other person. It looks like expressing care and concern. Good communication does not include blaming, disrespect, or put downs...that would be like leaky irrigator pipes.

3. Know what your relationship needs by knowing the other person. The water can be in the well, it can make it through the lines, but if the applicators on the irrigator are shooting and spraying in all the wrong directions it may help the yield, but not as much as it could if there are some simple adjustments. Pay attention to the person you are having difficulty with. What are they going through? How do they feel cared about and loved? If you don't know, ask! Often, we try to adjust and fix our relationship issues without seeking to understand the other half of the relationship.

And remember, irrigation issues do not fix themselves, it takes intentional upkeep and maintenance on a regular basis. What can you make a practice of intentionally doing to support your relationships? Not sure? Ask them!

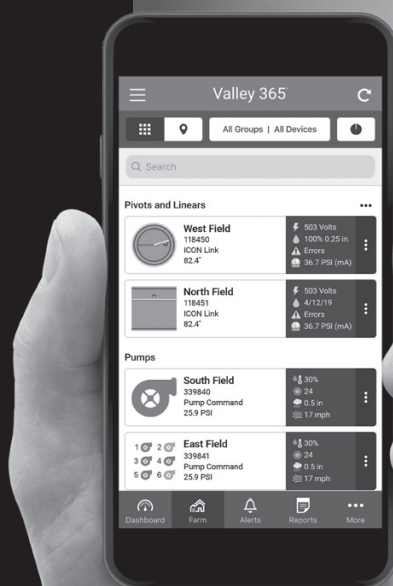
Monica Kramer McConkey is a Licensed Professional Counselor in MN and contracts with the MN Ag Centers of Excellence to provide counseling services to farmers and their families.

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Can Variable Rate Irrigation Combat Groundwater Issues in Minnesota?

By: Taylor Becker, Extension educator tlbecker@umn.edu and Vasu Sharma, Extension irrigation specialist vasudha@umn.edu

Did you know that more than 25% of groundwater in Minnesota is pumped for agricultural crops? This makes irrigation the second-largest user of groundwater in the state. Can variable rate irrigation (VRI) technology help Minnesota farmers save water without sacrificing yield?

Minnesota’s Central Sands region

Minnesota has over 600,000 acres of irrigated cropland, and many of these irrigated acres are in the state’s Central Sands region. The coarse-textured or sandy nature of the region’s soils means that they do not hold large quantities of water and have a rapid drainage rate to groundwater compared to high clay soils.



These soils present challenges in agricultural irrigation and nutrient management. It takes less precipitation to saturate these soils and they hold less plant-available water than loams. Low organic matter levels also mean that less ni-

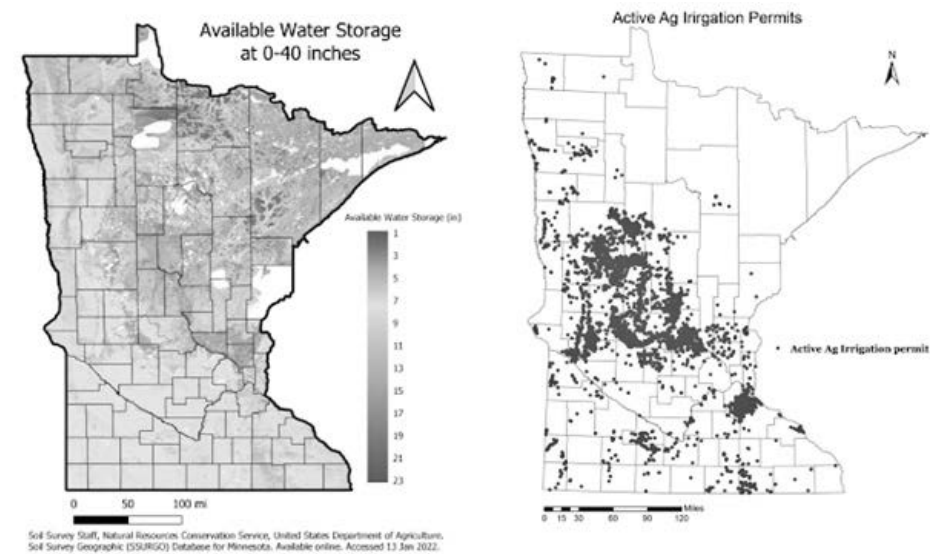
trogen is provided by these soils and higher rates of nitrogen fertilizer are required. Attaining economically viable yields requires careful irrigation and well-timed fertilizer applications.

Groundwater issues

At the same time, many communities in this region depend on groundwater as their drinking water source. Balancing agriculture’s economic needs while protecting rural drinking water supplies leads to two critical challenges in agricultural watershed management:

- 1. Maintenance of groundwater quality: Water percolates through the soil profile quickly in coarse-textured soils, taking some agricultural nutrients from applied fertilizers with it. In particular, leached nitrogen poses environmental, human health, and economic risks to communities that use groundwater for drinking. Nutrient loss also represents a financial loss to the farmer as some of the nutrients they paid for are lost beyond the root zone.

GROUNDWATER continued on page 7





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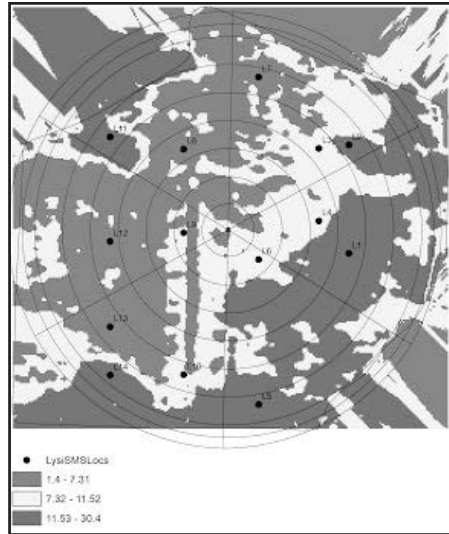
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2. Overall availability of groundwater: High groundwater withdrawals during the crop growing season can temporarily reduce the discharge of groundwater into nearby streams and lakes, impacting aquatic life and recreational activities on waterways, and leading to water supply shortages for nearby private and municipal wells.

Field map representing different irrigation zones.

Different colors indicate different electrical conductivity range.



Variable rate irrigation on-farm study

A meaningful way to address these issues is by implementing proven advanced irrigation management techniques and technologies such as variable rate irrigation (VRI). With funding from the AGRI Sustainable Agriculture Demonstration Grant from the Minnesota Department of Agriculture (MDA), we are currently evaluating the ability of precision irrigation technology to address both

groundwater quality and water quantity issues. The study is being conducted on a grower's field in Stearns County.

The project is focused on evaluating the impact of VRI technology on water savings, corn yield, and nitrogen (N) leaching in comparison to uniform water management. VRI technology addresses the reality that soil physical properties can vary significantly within a single field — from rapidly draining sandy soils to poorly drained clays.

GROUNDWATER continued on page 13

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New Study Shows Economic Impact of the Irrigation Equipment and Services Industry

By: Arianna Elnes, Communications Specialist (+1) 402.472.5512 aelnes@nebraska.edu - February 14, 2022

THE DAUGHERTY WATER FOR FOOD GLOBAL INSTITUTE (DWFI) AND NATIONAL DROUGHT MITIGATION CENTER (NDMC) - COLLABORATED ON ASSESSMENT SHOWS HEALTHY GROWTH IN THE IRRIGATION INDUSTRY

LINCOLN, Nebraska, USA – A new study measured the economic impact of the irrigation industry in the United States in 2020 and found that it has been growing by 2% per year since 2010. It also found the industry has a direct economic impact of nearly \$9 billion and indirect impacts of \$23.3 billion, creating more than 70,000 direct jobs — 167,000 jobs when secondary impacts are included.

The study includes agricultural, commercial, residential, and horticultural irrigation and provides an update on the industry's growth since a similar study completed in 2010. Renata Rimsaite, a postdoctoral research associate with the Daugherty Water for Food

Global Institute and National Drought Mitigation Center at the University of Nebraska, collaborated on the study, which was conducted by the Headwaters Corporation on behalf of the Irrigation Association and the Irrigation Innovation Consortium.

Gathering information for the assessment presented a challenge, as much of the data is not publicly available. However, the study was able to reveal industry trends by using economic analysis tools to piece together publicly available data from the U.S. Department of Agriculture and conversations with industry members.

According to the Irrigation Association, quantifying the economic impact of the irrigation industry is important in order to document irrigation's output, increase its credibility and provide insights for business planning.

"This assessment provides a tool for the irrigation

industry to show that they are not just implementing water-conserving technology," said Rimsaite, "but are valuably contributing to the economy as well."

More information on the study can be found here.

<https://www.irrigation.org/IA/Advocacy/Research-Reports/Economic-Impact-Study/IA/Advocacy/Economic-Impact-Study.aspx>

About the Daugherty Water for Food Global Institute

The Daugherty Water for Food Global Institute at the University of Nebraska was founded in 2010 to address the global challenge of achieving food security with less stress on water resources by conducting scientific and policy research, using the results to inform and advise policymakers, and educating future water for food leaders. Learn more at waterforfood.nebraska.edu/.

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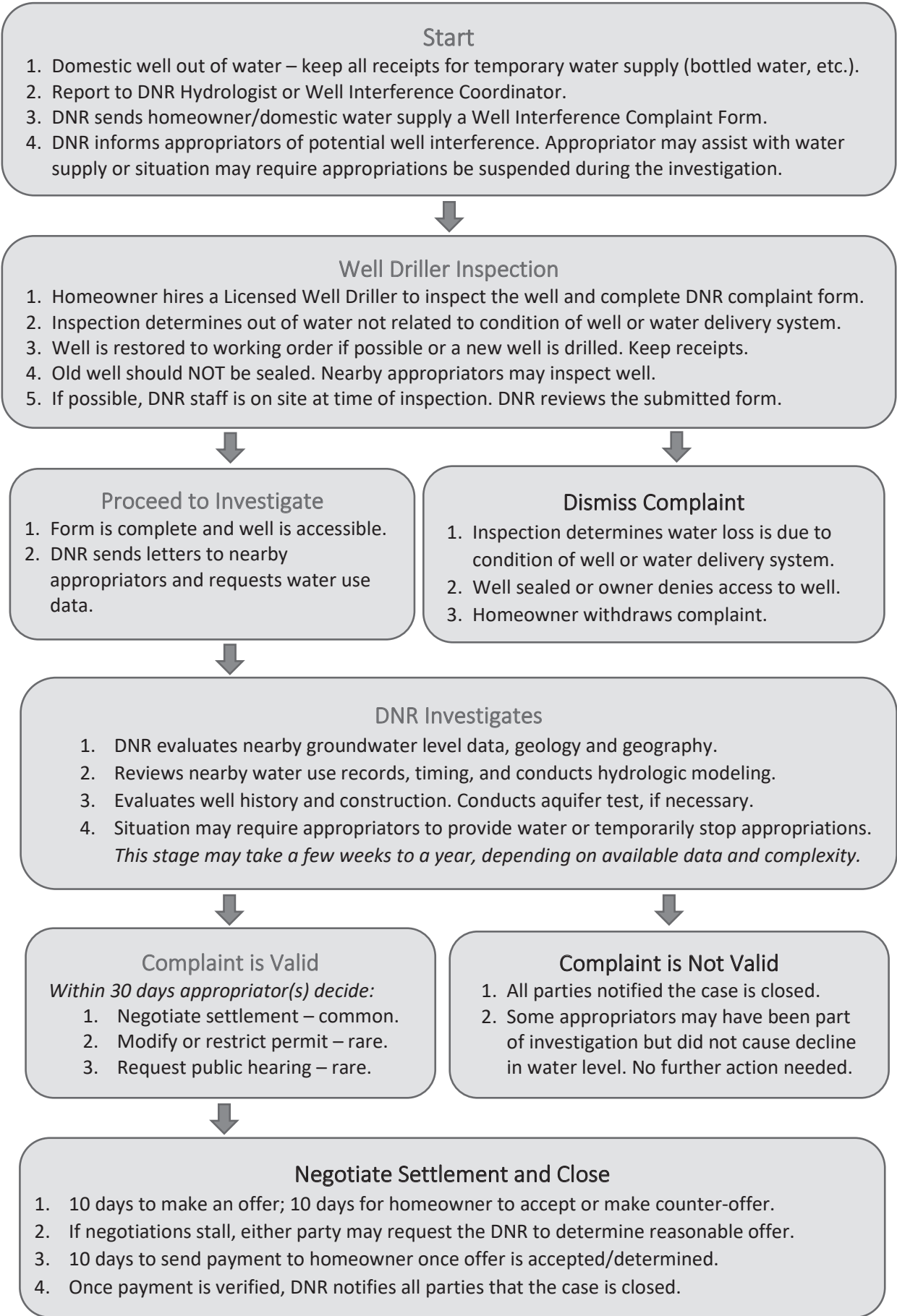
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Otherwise, the process continues to the next step.

Early in the complaint process, the DNR hydrologist will contact appropriators to inform them there is a potential well interference with a nearby domestic well. The appropriator(s) may need to assist with providing potable water to the affected domestic well owner during the investigation or the appropriations may need to be temporarily suspended until the water supply is restored. At the end of the process, if a well interference cannot be resolved after notice and opportunity for a hearing, the DNR will deny, modify or terminate the permit involved. This rarely occurs, however.

Wildman sharing IAM Board’s sincere appreciation for her efforts over the past 2 year for chairing the Alan Peterson Scholarship project, updating the IAM website and Facebook page, and becoming the Vice President of IAM Board.

MN DNR WELL INTERFERENCE RESOLUTION PROCESS



Thank you 2022 IAM Industry Supporters

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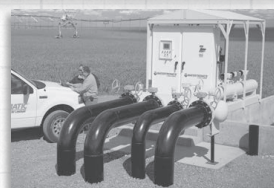
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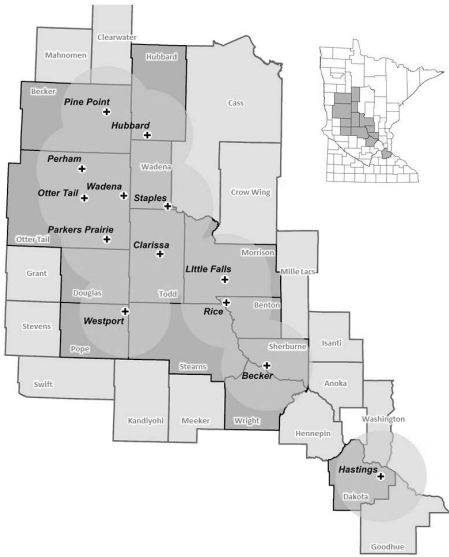
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WEATHER DATA continued from pg 1

(NDAWN), these central Minnesota weather stations are now integrated into the NDAWN crop modeling, crop ET, air temperature inversion, potato blight, and mapping applications.

<https://ndawn.ndsu.nodak.edu/>

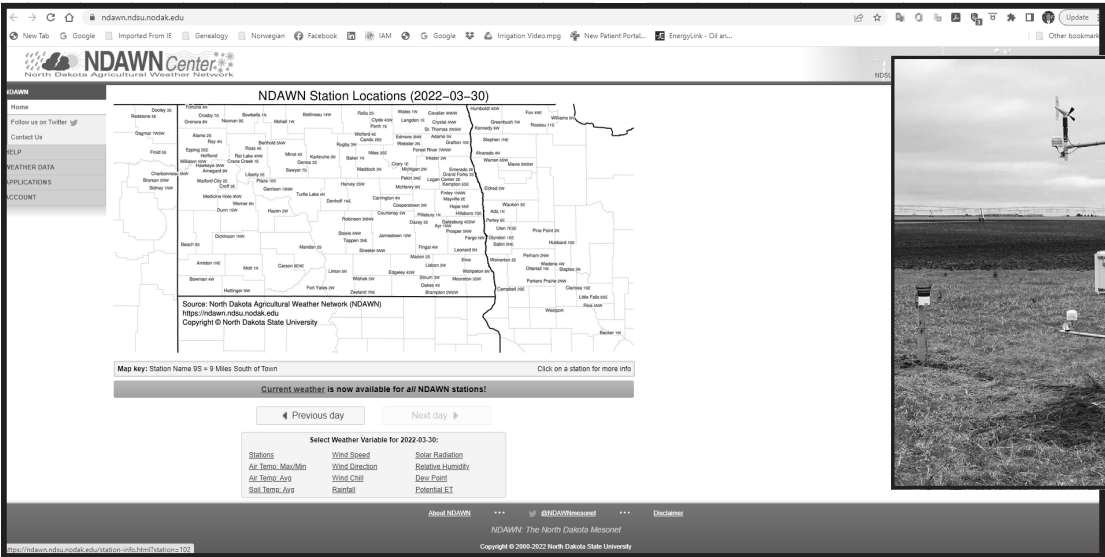
In addition, weather information from the stations is now available in real-time (5-minute interval) via the NDAWN website and mobile application. The mobile application is called "NDAWN Inversion" and provides basic real-time weather information and air temperature inversion alerts. It



is free to download at both the App Store (iOS) and Google Play (Android).

Weather station data available includes:

- Daily Rainfall
- Air Temperature (Max/Min)
- Air Humidity (Max/Min)
- Dew Point
- Wind Speed (Max/Min) and Direction
- 4-inch Bare Soil and Turf Temperature



**DAILY CROP “ET”
INFORMATION
AVAILABLE FOR 2022**

**Central MN Ag Weather
Network**

<https://www.mda.state.mn.us/central-minnesota-ag-weather-network>

**North Dakota Ag Weather &
Crop ET**

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<https://ndawn.ndsu.nodak.edu/>

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WELL CONSTRUCTION continued from pg 4

assist with this work across the state. The goal of monitoring water levels through water appropriation permits is to protect groundwater resources where water is used. The DNR also has a comprehensive observation well network to monitor background (non-pumping) conditions throughout the state.

Since early 2021, the DNR has been making groundwater level data submitted by permit holders accessible to all. By making this information available, the DNR is providing additional information to groundwater users to manage resources locally so decisions can be made locally. Groundwater level data can be viewed and downloaded through the DNR Cooperative Groundwater Monitoring webpage: www.dnr.state.mn.us/waters/cgm/index.html).

Water level data submitted by permit holders is not yet available for all locations, but new sites are being added to the webpage regularly. If you are required to submit groundwater

level data associated with your water appropriation permit, reporting templates and submission locations were updated in Spring 2021. Please visit the DNR water use permits webpage <https://www.dnr.state.mn.us/permits/water/index.html> water level and flow monitoring tab for additional information (www.mndnr.gov/permits/water).

The DNR is responsible for managing the water resources of the state for all users for drinking water, agricultural uses, and commercial and industrial purposes. The DNR is required to balance use of the water while protecting the natural resources that depend on that same water and maintaining supplies for current and future generations.

If you have any questions about preliminary well construction assessments or groundwater/well water level monitoring data, contact your local DNR area hydrologist or water appropriation hydrologist (https://files.dnr.state.mn.us/waters/area_hydros.pdf).

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Uniform rate irrigation (URI) does not account for this variability, leading to potential over- or under-application of irrigation water and subsequent negative impacts on crop yields.

By addressing in-field variability with VRI, we can optimize irrigation, maximize crop growth, and minimize negative environmental consequences. For this project, management zones for VRI management were created based on soil electrical conductivity (EC), soil type, elevation, and previous yield. An irrigation rate of 100% was applied across the entire URI plots regardless of the soil variability.

2021 study results

After a single year of the project, we found some interesting results. Overall, because of very dry conditions during the 2021 growing season, greater irrigation in URI plots did not cause any significant grain yield loss as the water use by the crop was high. However, if precipitation had been in the normal range, we would have expected higher yields in VRI plots and lower yield in URI. On average, the VRI treatment used 43% less water compared to URI while

still producing very high corn yields. The water savings achieved with VRI amounted to 16 million gallons of water (5 inches of water per acre on a 120-acre irrigated field), a substantial environmental impact. The URI treatment produced an average of 258 bu/ac and VRI produced 242 bu/ac while using 11.6 inches and 6.6 inches water respectively. These results indicate that VRI could be beneficial in terms of saving water and reducing nutrient loss. *

Analysis of soil water samples did not show a statistically significant difference between the nitrate-N concentrations in the VRI and URI zones. Averaged across the entire season, soil water in the VRI treatment contained 59 ppm while the URI treatment contained 54 ppm nitrate-N. Although the nitrate concentrations in the VRI zones were slightly higher, this could be explained by the fact that the VRI zones received less irrigation than the URI zones. Since the nitrate levels are a concentration measurement, less water entering a system with the

same amount of nitrogen in the soil would be expected to have higher concentrations of nitrate in the water leaving that system. The volume of water percolating through the soil in the URI system is much higher and might have a reduced concentration of nitrate, but the net nitrate loss would be higher under URI.

We look forward to continuing this work in 2022. Special thanks to the AGRI Sustainable Agriculture Demonstration Grant and MDA for funding this research and to our farmer cooperator for collaborating on this project.

You can also learn more about this study and other U of M irrigation and nitrogen management research in this February 2022 presentation from Extension irrigation specialist Vasu Sharma. <https://www.youtube.com/watch?v=pf0j2ZtmdKo>

** Table 1 below: 2021 on-farm study results comparing URI and VRI (Stearns County, Minnesota)*

	Uniform rate irrigation (avg)	Variable rate irrigation (avg)
Irrigation (inches)	11.6	6.6
Yield (bu/ac)	257.7	242.4
Irrigation water productivity (bu/ac-in)	22.2	36.7

For the latest nutrient management information, subscribe to Mn Crop News email alerts:

<https://mcphzdmd56g8qjv0xcx4wnrpccm.pub.sfmc-content.com/k0nz2zsg2m4>

or visit Website:

<https://extension.umn.edu/crop-production#nutrient-management>

Support for Minnesota Crop News nutrient management blog posts is provided in part by the Agricultural Fertilizer Research & Education Council (AFREC).

IAM WEBPAGE UPDATE

If you have not visited the NEW IAM website <https://mnirrigators.org/> and Facebook page recently it's time you do so! At IAM, our mission is to "support new science-based research on irrigation management and provide advocacy at the state and local level for the right of farmers to irrigate." This website highlights our work in this area, and we'll provide updates and events via our Facebook page.



"The impact of irrigation on Minnesota's economy not just to the farmer, but also the rural communities where irrigation takes place in Minnesota is significant. IAM wants to spread the message that farmers who irrigate are working hard to be good stewards of our natural resources."
- ALAN PETERSON, FORMER IAM PRESIDENT



The website also allows you to join/renew your membership online with credit card as well as register for the 2022 Convention and make other donations to IAM projects.

There is also a place for farmers to find irrigation resources from research farms across the state and access the latest copy of IAM's Minnesota Irrigator newsletter.



CHECK OUT THE IAM FACEBOOK PAGE and BECOME A FOLLOWER!!!



Thanks to IAM Board member Anna Bregier and technical staff at Central Lakes College for upgrading and organizing the website layout and creating a Facebook page.

SAVE THE DATE!

Friday, August 26, 2022

Central Lakes College Ag and Energy Field Day!

Time: 9:00—3:00

Luncheon Program: 12:00-1:30

***Event free of charge**



Central Lakes College Ag and Energy Center

26505 County Road 2

Staples, MN 56479



LIVING LEGACY GARDENS

Living Legacy Gardens is a public garden located at Central Lakes College's Ag & Energy Center in Staples, MN. The garden was established in 2000 for the purpose of demonstration and education in regard to Zone 3 and 4 plants for the home gardener.

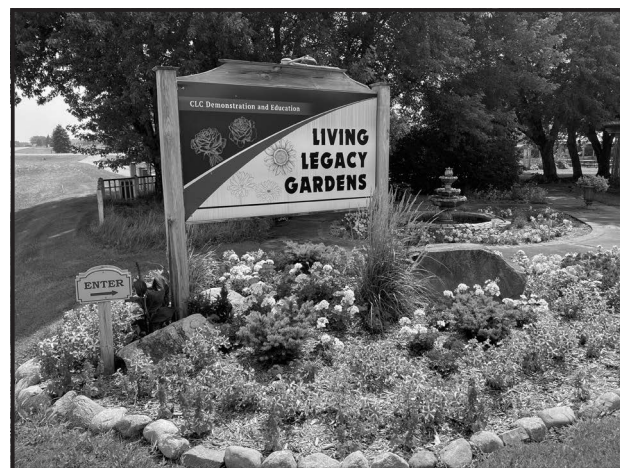
The garden covers approximately

two acres and consists of a shade garden, perennials, an herb garden, a pond and waterfall. These areas are all connected via brick paver pathways.

Living Legacy Gardens benefits greatly from an in-ground sprinkler irrigation system that was installed during the garden design 20 years ago. The sprinkler system is set

up into eight different zones which are programmed to water each night, anywhere from 20 to 45 minutes, depending on plant needs in that area. There is also a more recent addition of a drip line irrigation system that waters pots and hanging baskets in the gazebo and courtyard. Without these automated systems it would be virtually impossible to maintain a garden of this size without having a huge expense of time and labor hours.

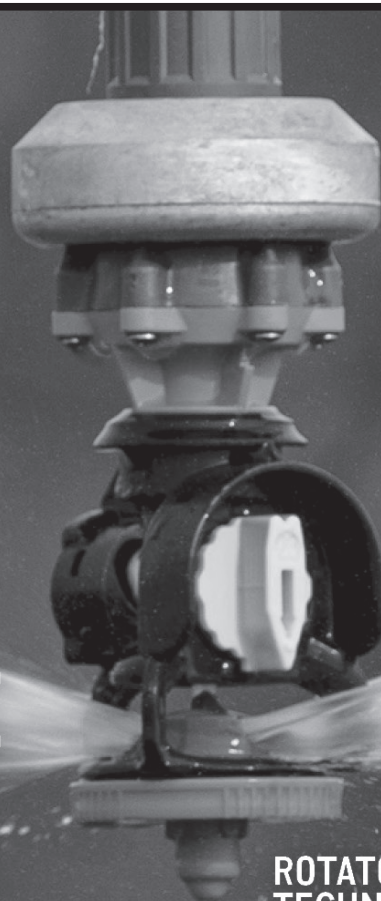
Last season Living Legacy Gardens hosted approximately 3600 visitors. The garden is open 24/7 and admission is free. It is also the site for a summer children's gardening program.



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ANHYDROUS SAFETY SHOULD BE TOP CONCERN THIS SPRING

April 6, 2022: MDA offers safety tips for those maintaining equipment and applying and transporting NH3

St. Paul, MN: Many farmers and applicators will soon apply anhydrous ammonia (NH3) prior to planting or sidedress after planting. Even with a rush against time and weather, safety should never be compromised. Accidents involving anhydrous ammonia have proven how dangerous and deadly the chemical can be when not handled properly.



The Minnesota Department of Agriculture (MDA) is providing the following tips to farmers and applicators so they can safely apply anhydrous ammonia.

- Always wear appropriate goggles and gloves. Never wear contact lenses.
- Be sure to have a clean, adequate emergency water supply of at least 5 gallons.

- Exercise caution when making connections and disconnections as if lines contain anhydrous ammonia.
- Stand upwind when connecting, disconnecting, bleeding lines, or transferring NH3. Also, close, bleed, disconnect, and secure valves and transfer lines when taking breaks or disconnecting lines, and be sure to handle the hose end valve by the valve body.



- Position equipment away and downwind from homes, people, and livestock.
- Safety is also key to those maintaining anhydrous ammonia equipment. Never assume NH3 lines are empty, always wear proper protective equipment, and have access to safety water.
- When towing a nurse tank down the road, drive sensibly. Do not go any faster than 30 miles per hour, display a slow-moving vehicle (SVM) emblem visible from the rear, and be sure the tank is secured to the tractor or truck with two separate, independent chains that supplement the hitch pin/clip.

If an accident or spill occurs, immediately call 911 and then the Minnesota Duty Officer at 1-800-422-0798 or 651-649-5451.

You can find more safety, storage, and transportation information on the MDA's website at www.mda.state.mn.us/nh3. Contact: Allen Sommerfeld 651-201-6185 allen.sommerfeld@state.mn.us



Renew Membership on the IAM WEBPAGE
<https://mnirrigators.org/>
See page 13 for more website information

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