

MEETING AGENDA

● SUBCOMMITTEE ON MINNESOTA WATER POLICY: NOVEMBER 14, 2023

- CALL TO ORDER- SENATOR WEBER PRESIDING
- APPROVAL OF OCTOBER MINUTES
- PRESENTATION: METRO AREA WATER SUPPLY PLANNING PROCESS AND TIMELINE, OUTLOOK, AND UPDATES: JUDY SVENTEK, WATER PROGRAM MANAGER, METROPOLITAN COUNCIL
- SUMMARY OF DISCUSSIONS REGARDING DRINKING WATER IN SE MN (JIM STARK)
- QUESTIONS FROM MEMBERS TO ENVIRONMENTAL ORGANIZATIONS AND AGENCY STAFF
- TESTIFIERS
- FIFTY-YEAR WATER PLAN, ANDY ERICKSON, UNIVERSITY OF MINNESOTA
- BRIEF OVERVIEW OF WATER ISSUES IN MINNESOTA: JIM STARK
- BRIEF OUTLINE OF A SUBSET OF BILLS FOR CONSIDERATION BY THE SUBCOMMITTEE: JIM STARK
- ADJOURN

SUBCOMMITTEE MEMBERS

SENATE MEMBERS

SENATOR WEBER*

SENATOR HAWJ

SENATOR KUPEC

SENATOR LANG

SENATOR PUTMAN

SENATOR WESENBERG

HOUSE MEMBERS

➤ REPRESENTATIVE HEMMINGSEN-JAEGER*

➤ REPRESENTATIVE JACOB

➤ REPRESENTATIVE FISCHER

➤ REPRESENTATIVE REHM

➤ REPRESENTATIVE SHULTZ

➤ REPRESENTATIVE SKRABA

➤ * CO-CHAIRS

PRESENTATION

- **PRESENTATION: METRO AREA WATER SUPPLY PLANNING PROCESS AND TIMELINE, OUTLOOK, AND UPDATES**
- **JUDY SVENTEK, WATER PROGRAM MANAGER, METROPOLITAN COUNCIL**

SUMMARY OF PRESENTATIONS BY MCEA AND MNWOO



Recap of October Meeting (MCEA and MNWOO)

“EPA retains emergency powers to abate.....contamination of a public water system or underground source of drinking water if it receives information that contamination may present an imminent and substantial endangerment to the health of persons and appropriate State and local authorities have not acted to protect the health of such persons.”

PETITIONERS (MCEA, MNWOO, AND OTHERS)

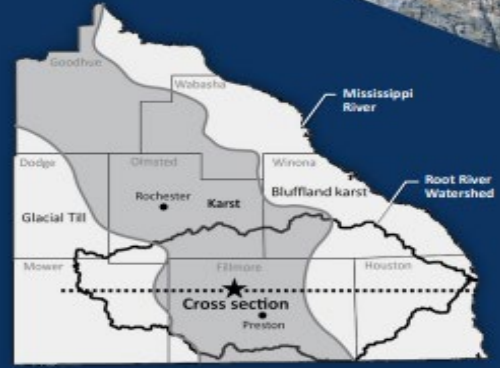
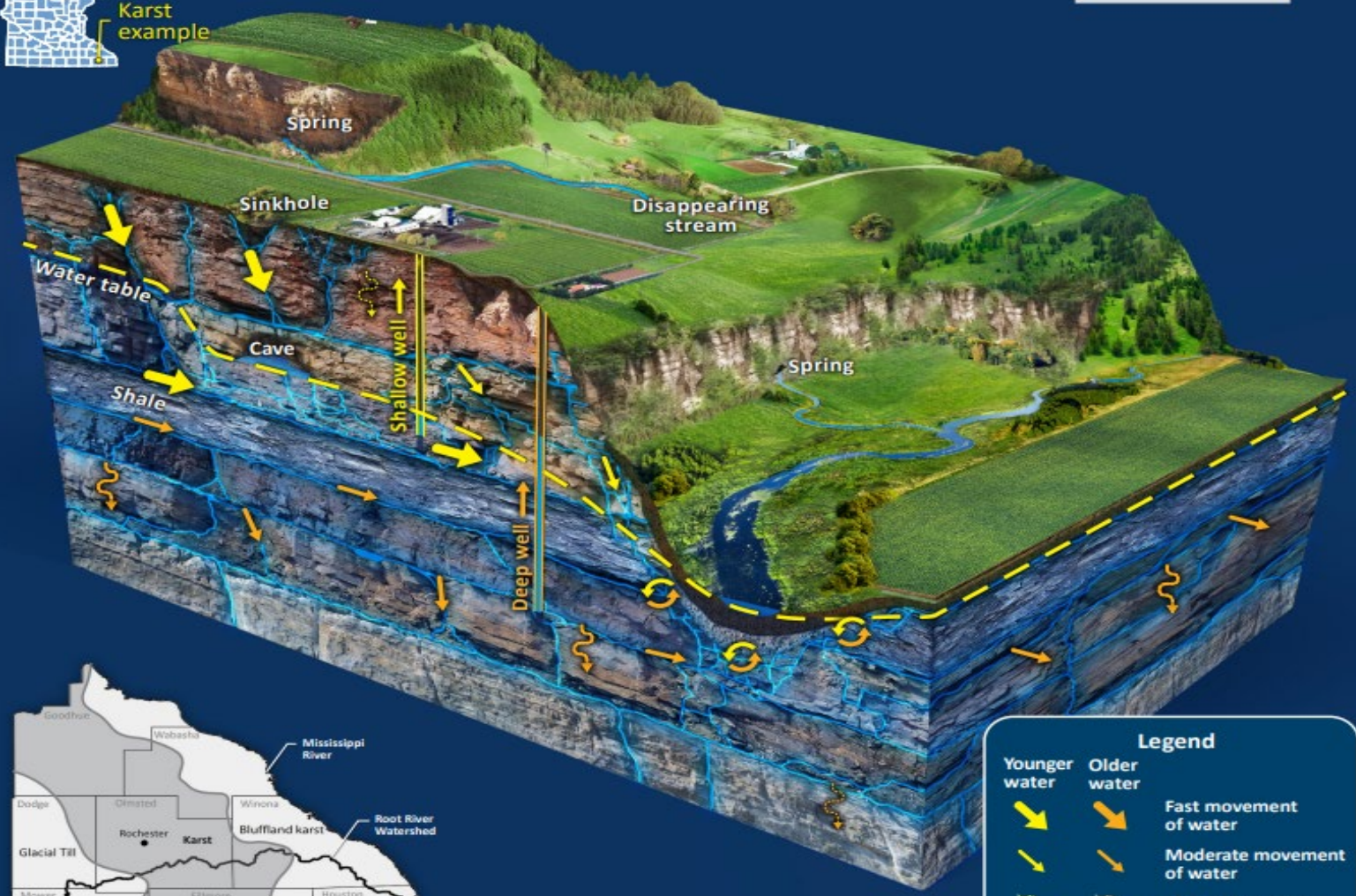
- **Minnesota Center for Environmental Advocacy**
- **Environmental Working Group**
- **Minnesota Well Owners Organization**
- **Center for Food Safety**
- **Clean Up the River Environment**
- **Food & Water Watch**
- **Friends of the Mississippi River**
- **Izaak Walton League Minnesota Division**
- **Land Stewardship Project**
- **Minnesota Trout Unlimited**
- **Public Health Law Center**

How groundwater moves in southeast Minnesota: Karst landscape

Watch the Video



www.mda.state.mn.us/karst



Legend

Younger water	Older water	
		Fast movement of water
		Moderate movement of water
		Slow movement of water
		Mixing of younger and older water

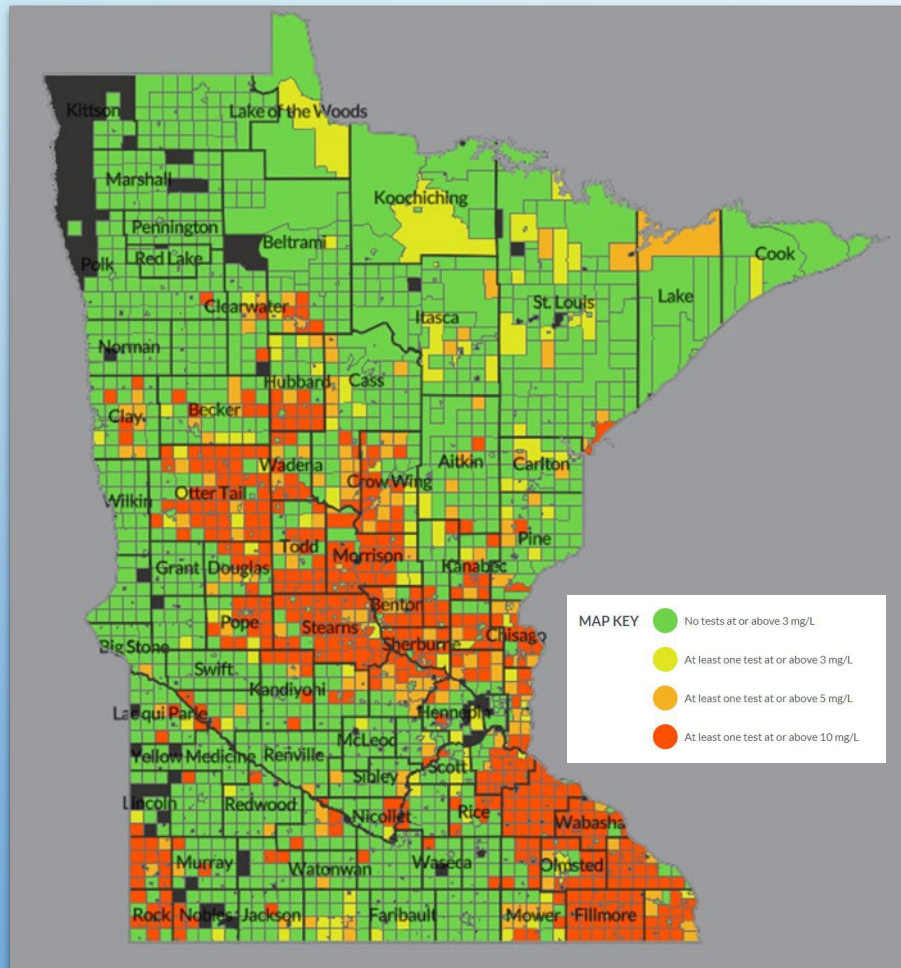
<https://rootriverfieldtostream.org/results/>

Geology of SE Minnesota is complicated. Water can infiltrate quickly to streams in some areas, and slowly when infiltrating to aquifers (MNWOO/MDA)

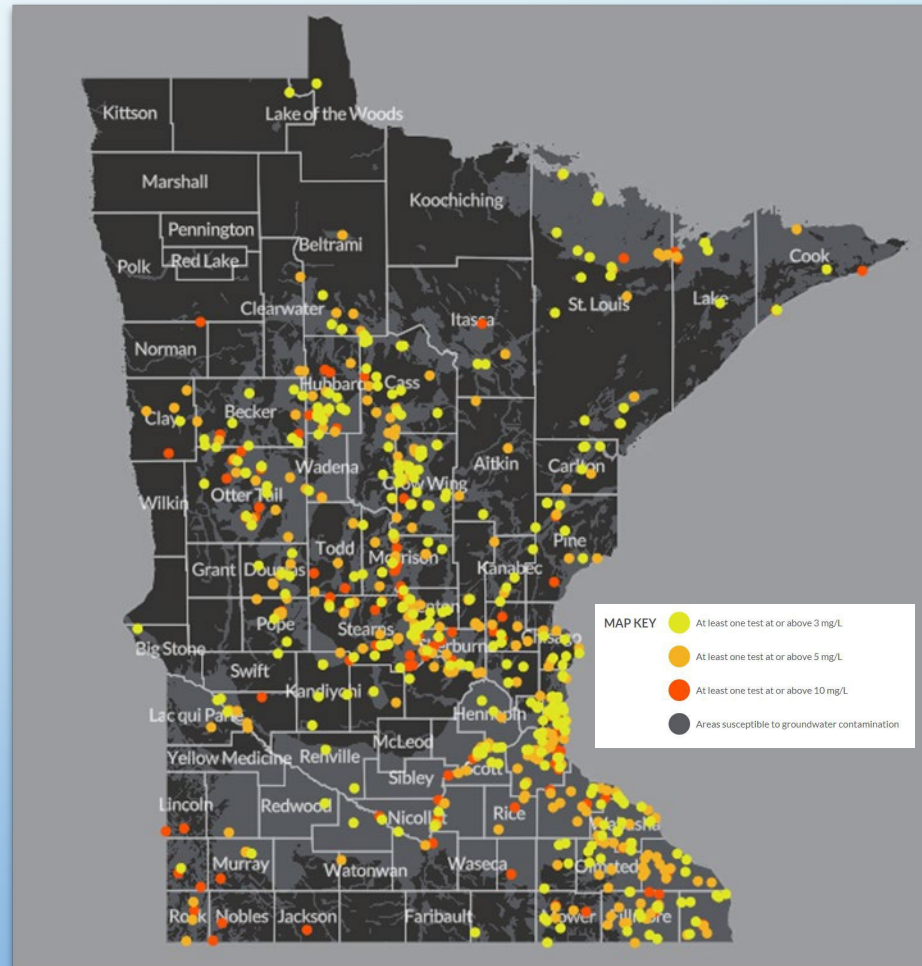
Can we reverse the nitrate trends in our aquifers?

MCEA AND MNWOO PRESENTATIONS SHOWED THAT NITRATE IS ELEVATED IN SE MN

Private Wells



Public Water Systems



NITRATE IN WATER CAN AFFECT HUMAN HEALTH (MCEA- MNWOO (REVISED))

- **Federal limit of 10 mg/L (about parts per million)** to protect against blue baby syndrome
- **Increased risk for various cancers** (colorectal, thyroid, ovarian) and **adverse birth outcomes** (neural tube defects, premature birth) from levels as low as **3-5 mg/L**
- **2 mg/L is generally considered to be a background condition (USGS)**



GENERALLY, THE PETITION SEEKS THE FOLLOWING

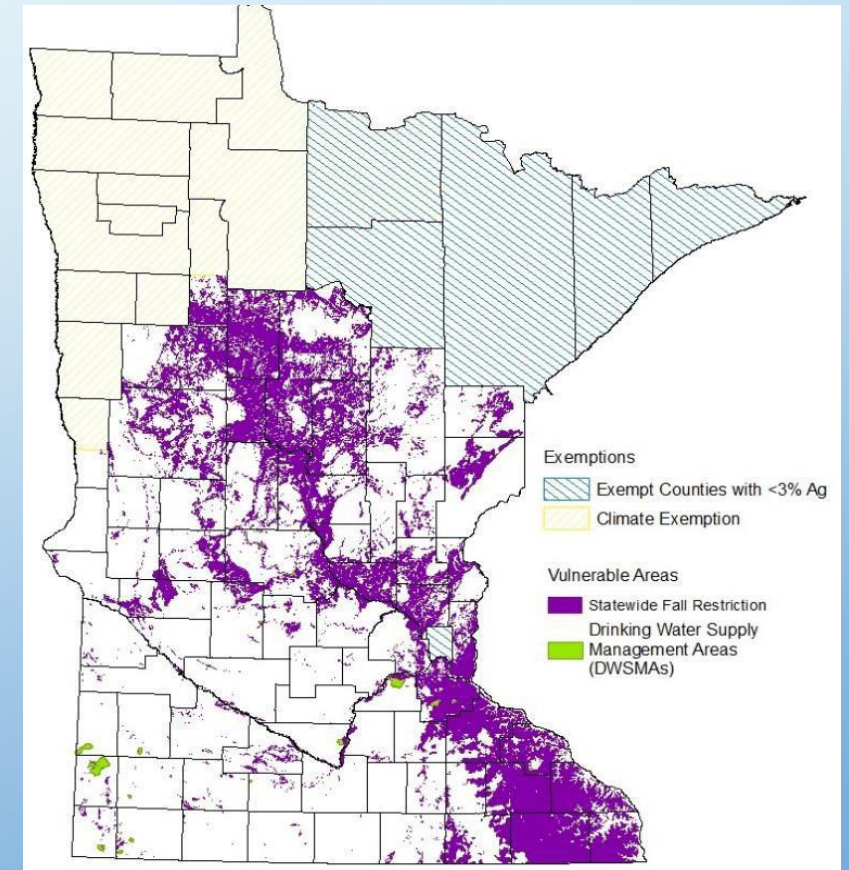
(MCEA-REVISED)

- **RESPONSIBLE PARTIES PROVIDE FREE WATER TESTING AND A FREE AND SAFE DRINKING WATER FOR IMPACTED COMMUNITIES**
- **PROVIDE PUBLIC NOTICE OF EXISTING HAZARDS AND UPDATES THROUGHOUT THE PROCESS OF RETURNING DRINKING WATER TO A SAFE CONDITION**
- **PROHIBITS NEW CAFOS AND EXISTING CAFOS FROM EXPANDING UNTIL NITRATE CONCENTRATIONS IN CONTAMINATED WELLS REACH SAFE LEVELS**
- **MODIFIES MANURE AND FERTILIZER APPLICATION PRACTICES**

MDA GROUNDWATER PROTECTION RULE

Focus is on protecting groundwater vulnerable to contamination

- Rule applies to nitrogen fertilizer
- It does not regulate manure
- Two distinct parts of the rule:
 1. Fall nitrogen application restrictions in vulnerable areas; and,
 2. Responding to public wells with high nitrate



OTHER PRESENTATIONS

WARREN FORMO, EXECUTIVE DIRECTOR: MN AG WATER RESOURCES CENTER

- **SAFE DRINKING WATER IS A PRIORITY FOR FARMERS**
- **FARMERS HAVE STEADILY IMPROVED CONSERVATION**
- **THE AGRICULTURAL COMMUNITY IS ACTIVELY PARTICIPATING IN RESEARCH TO IDENTIFY IMPROVED NUTRIENT MANAGEMENT PRACTICES**
- **STATE AGENCIES ARE ADDRESSING GROUNDWATER CONCERNS**
 - **DIRECTLY THROUGH THE GW PROTECTION RULE PASSED IN 2019**
 - **CHANGES TO THE FEEDLOT PERMIT IN 2021**
- **FARMERS AND FARM ORGANIZATIONS ARE WORKING WITH AGENCY PARTNERS AND OTHERS TO IDENTIFY AND APPROPRIATE STEPS FORWARD;**
 - **ADDRESSING INCONSISTENCES IN NITROGEN USE CALCULATIONS**
 - **CONCERNS ABOUT CHARACTERIZATION OF FARMING PRACTICES**
 - **OTHER STEPS THAT CAN BE TAKEN TO PROVIDE SAFE DRINKING WATER**

OTHER PRESENTATIONS

LORI COX: ROOTS RETURN HERITAGE FARM

- **SUPPORTS THE EPA PETITION PROCESS**
- **CONSERVATION MEASURES FOR IMPROVED WATER QUALITY ARE ACHIEVABLE--EFFORTS TO DATE ARE INSUFFICIENT**
- NO STATUTORY RESTRICTIONS PRECLUDING MDA FROM IMPLEMENTING CONSERVATION PRACTICES, OR CROP RESTRICTIONS, IN VULNERABLE AREAS
- PEOPLE CURRENTLY CANNOT DRINK THEIR OWN WELL WATER. VOLUNTARY MEASURES FOR AG HAS PRODUCED POOR WATER QUALITY
- MANDATES AND REGULATION ARE NEEDED--OTHER INDUSTRIES HAVE THEM
- PROGRAM FUNDING NEEDS TO MATCH CWF STATUTORY MANDATES
- SUPPORTS A PROPERTY TAX ON AG PARCELS CAUSING POLLUTION
- AG LANDS PAY THE LOWEST PROPERTY TAX IN MN

TECHNICAL CONSIDERATIONS

**TECHNICAL CONSIDERATIONS THAT AFFECT DECISIONS
(USGS AND MDA)**



The age of groundwater is important

Jared Trost, Colin Livdahl, Kirsten Faulkner; U.S. Geological Survey

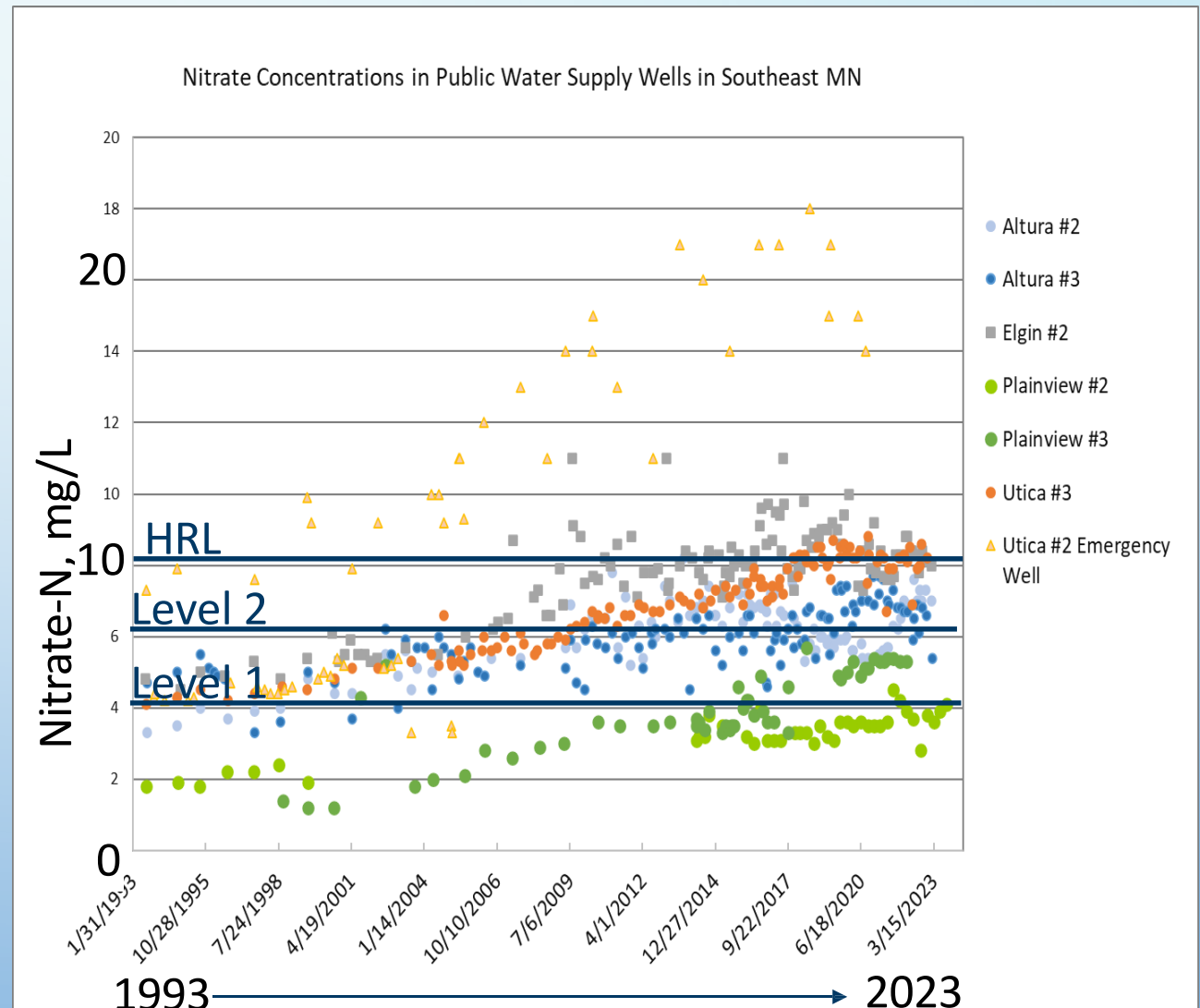
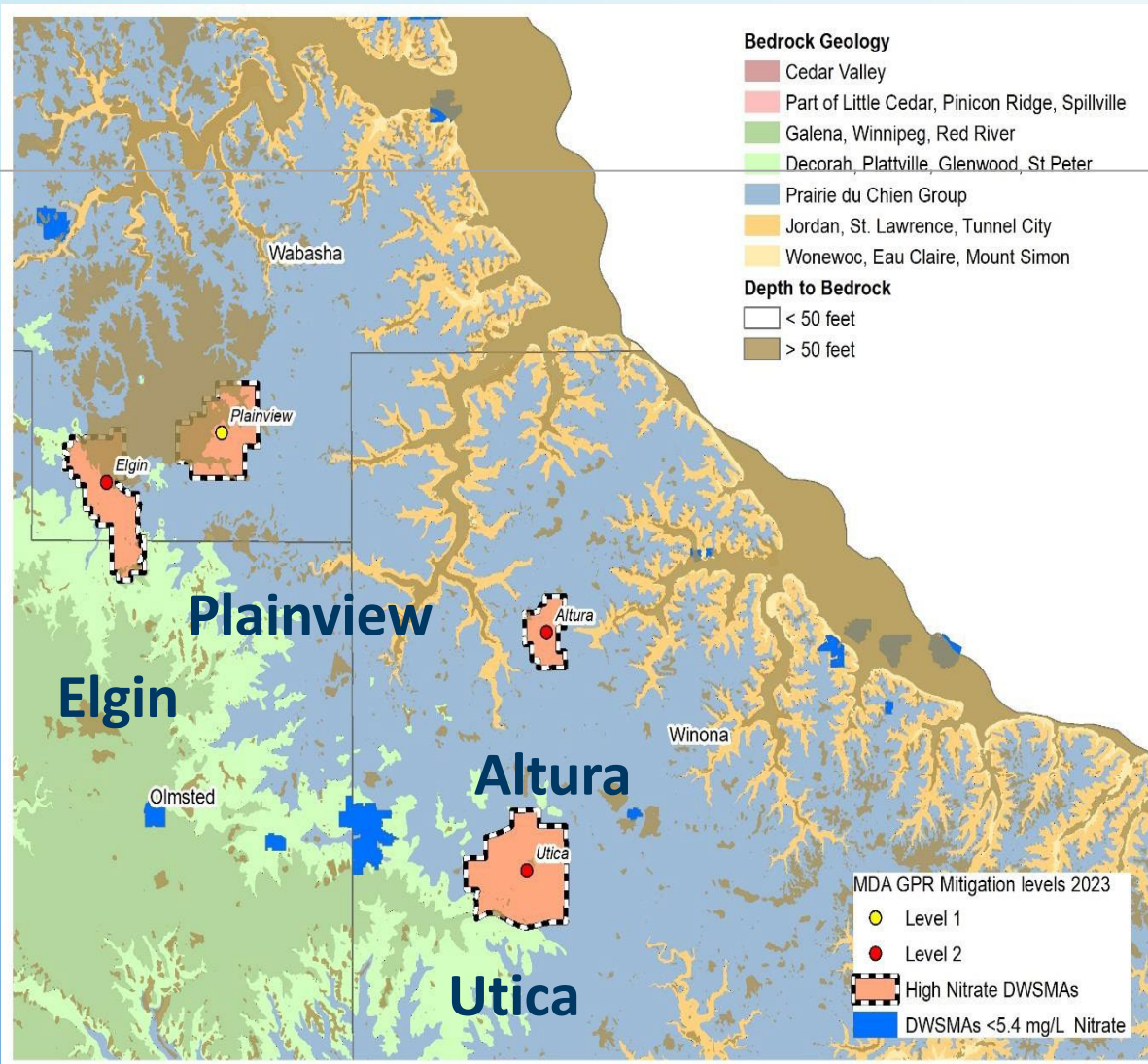
Kim Kaiser, Nikol Ross; Minnesota Department of Agriculture



DEPARTMENT OF
AGRICULTURE



CITY WELLS WITH NITRATE CONCERNS

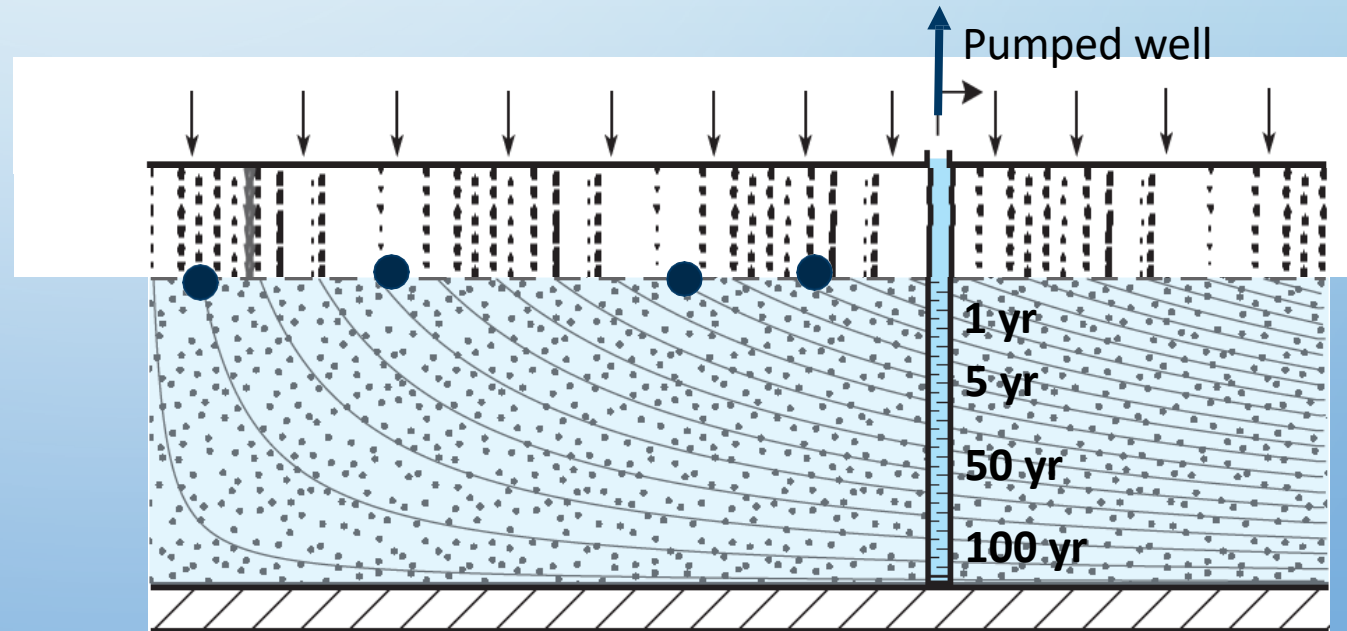


Map data sources: Jirsa and others, 2011; Runkel and others, 2014; MDH, 2023b

MDH, 2023c

GROUNDWATER AGE IS IMPORTANT

- GW age: the time since rain entered the ground (recharge)
- Water flows along paths to a pumped well taking varying times depending on distance and geology
- A sample from a well is a mixture of ages—we consider “average age”
- Can BMP’s reduce nitrate? Probably, but it will take time based on “age”
- We can estimate that time.



● Water parcel

Image adapted from Jurgens and others, 2012

“AVERAGE AGE” CAN BE DETERMINED USING CHEMICALS (TRACERS) THAT WERE IN RAIN WHEN IT ENTERED AN AQUIFER

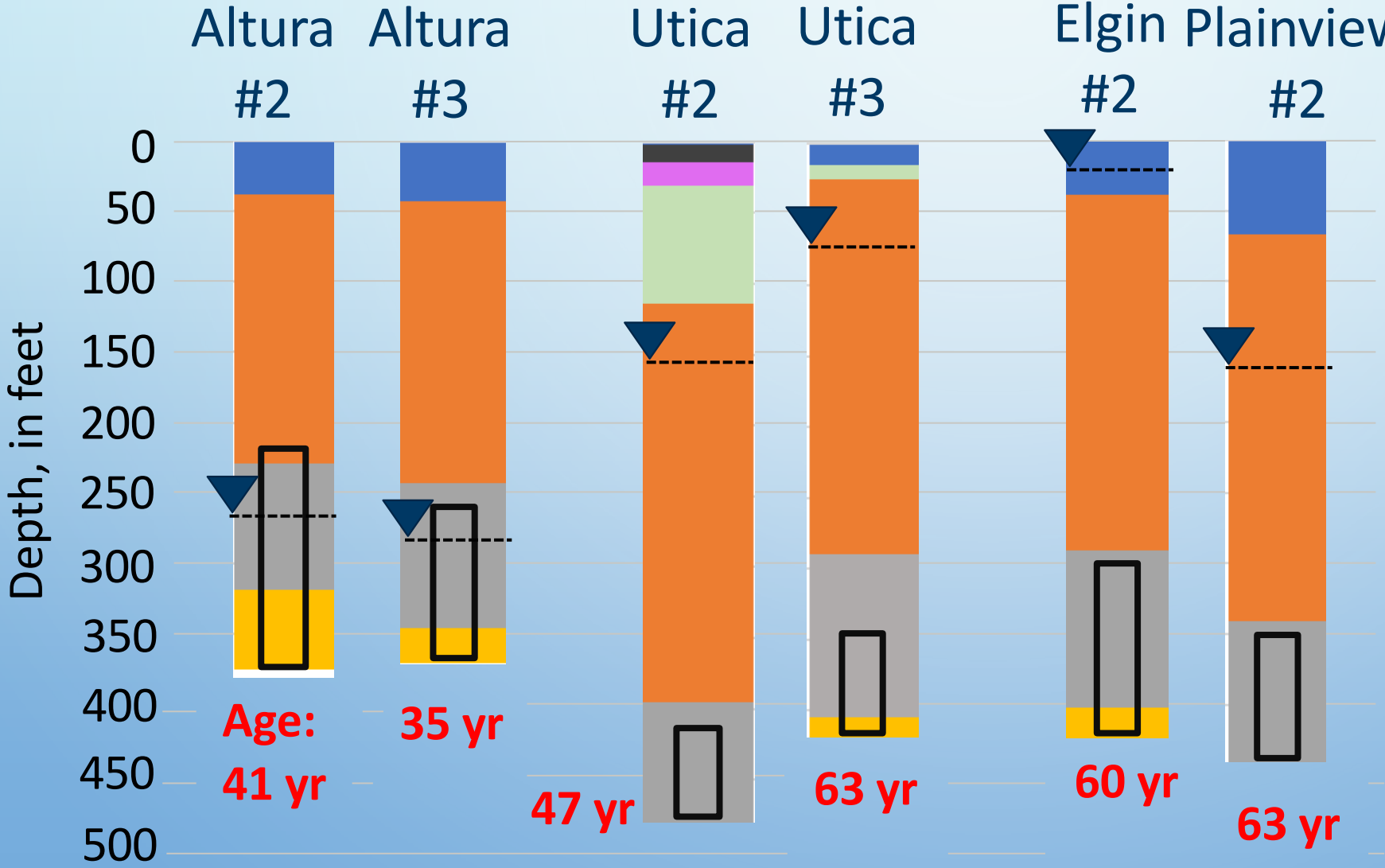
Example: Tritium (^3H), in rain from atomic testing--entered GW in the 1950s-60s

- Tritiogenic helium
- Chloro-fluorocarbons (CFC-11)
- Sulfahexafluoride (SF_6)
- **Using several tracers, you can estimate average age**

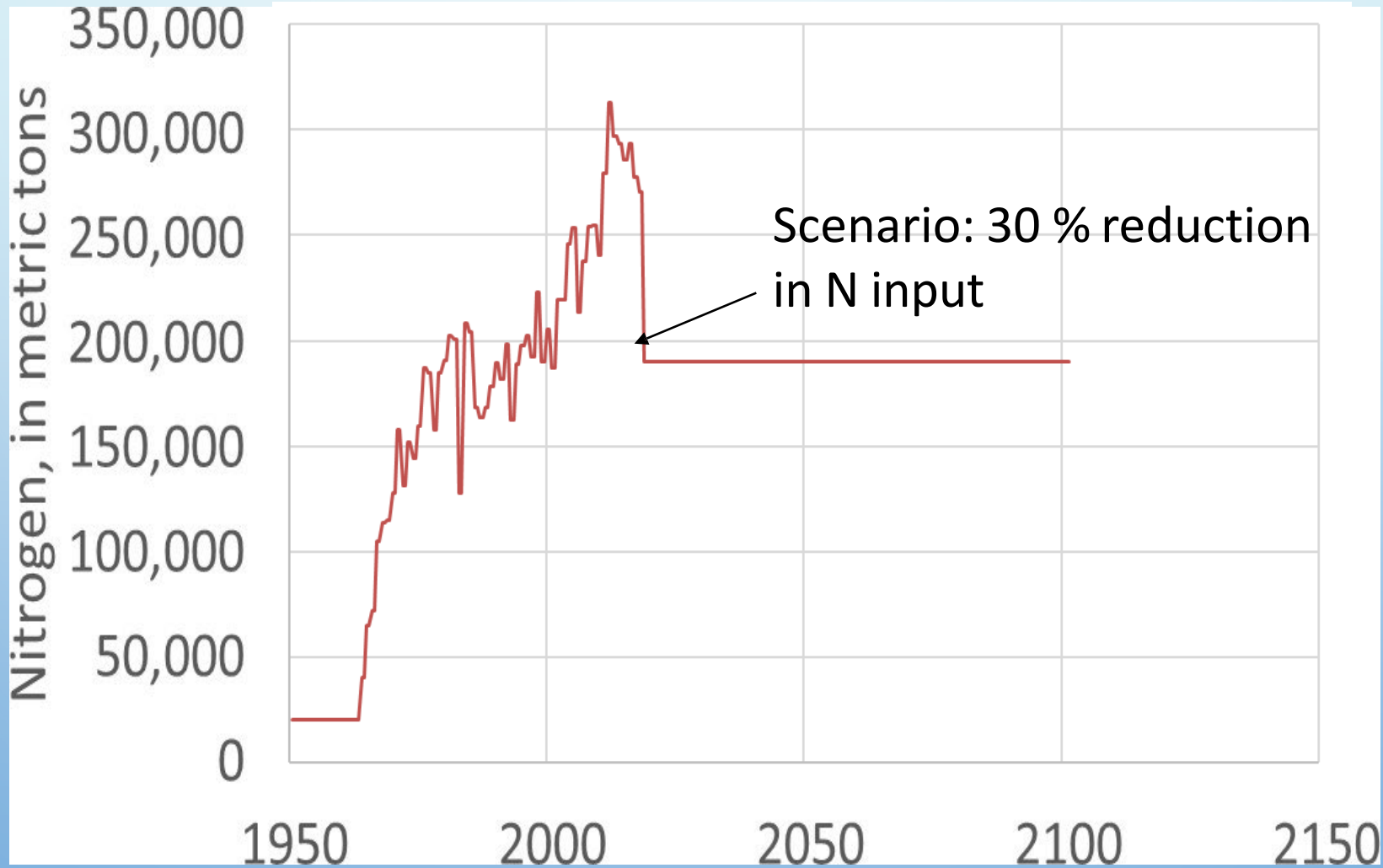


Photo by C, Livdahl, USGS

AVERAGE AGE: RED NUMBERS



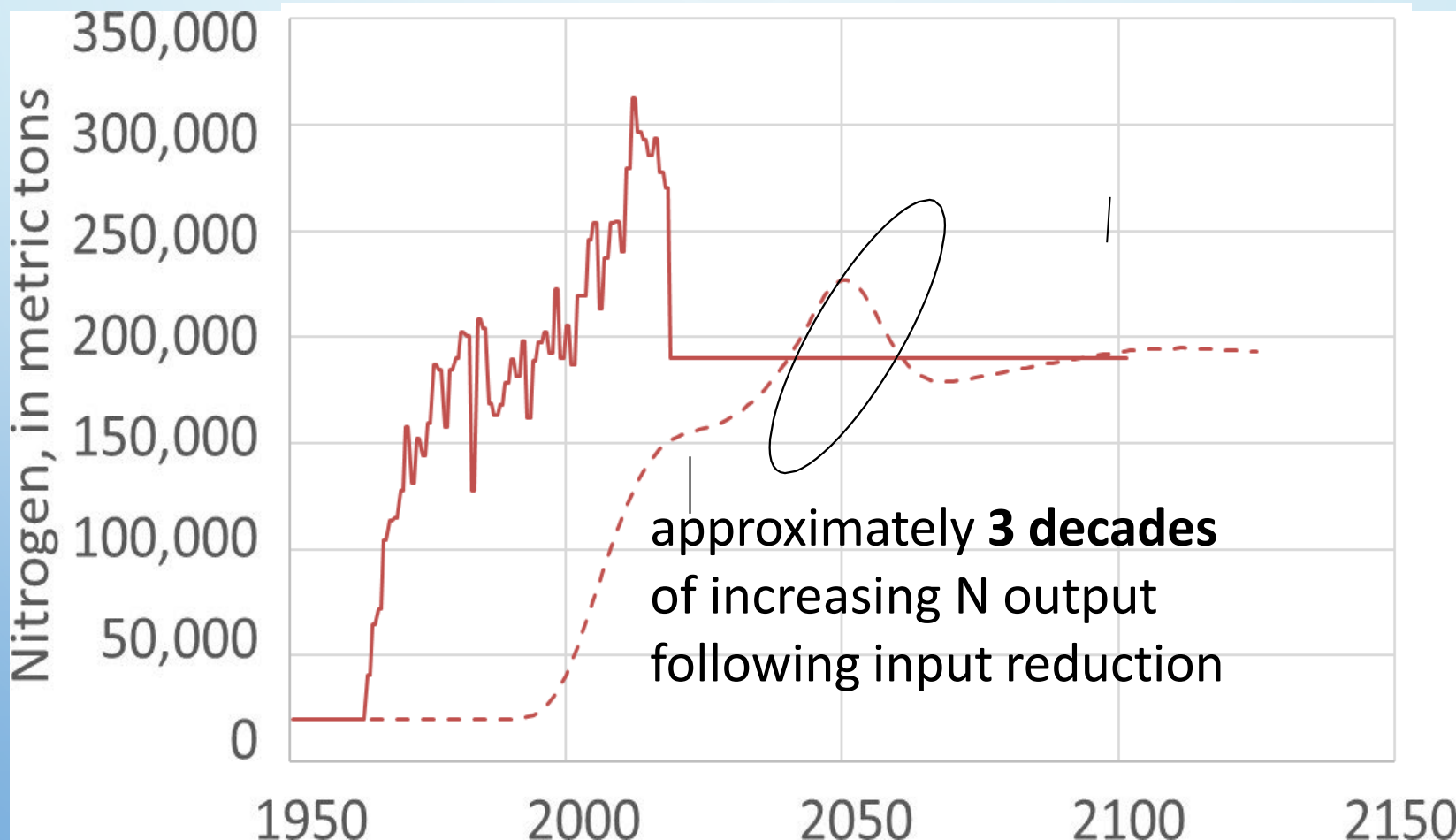
REDUCE NITROGEN USE BY 30 PERCENT



input

N sales data:
MDA, 2023d;
Falcone, 2021)

NITRATE WILL CONTINUE TO INCREASE FOR 30 YEARS



N sales data:
MDA, 2023d;
Falcone, 2021)

**Assumptions:

- N sales reflect N input to GW
- No N loss along flowpath
- Steady state conditions

ADDRESSING THE ISSUE--LONG TERM

- **Nitrate is a health and environmental problem in SE Minnesota**
- **It's a legacy problem--reversing trends will take decades**
- **Assigning "responsibility" for a compromised well would be difficult-- it is a collective and regional problem**

That being said, we can increase efforts to address the problem:

- **Increase nitrogen rule requirements in sensitive areas**
- **Taking full credit for manure applications**
- **Reducing fall application of manure where feasible**
- **Incentivize/improve best management practices for feedlots**

SHORT TERM--WATER AT THE TAP

- **Provide free water screening opportunities for everyone**
- **Provide certified laboratory water test for wells that fail screening**
- **Provide education materials about health and water treatment**
- **Provide incentives/credits for treatment at the kitchen tap**

RESPONSE FROM EPA TO AGENCIES

- 1. CREATE PLANS TO COMMUNICATE AMONG THE STATE AND LOCAL GOVERNMENTS TO ENSURE A COORDINATED RESPONSE**
- 2. IDENTIFY ALL PRIVATE WELLS IN THE KARST REGION, INCLUDING PRE-CODE WELLS**
- 3. EDUCATION AND OUTREACH TO IMPACTED WELL OWNERS AND RESIDENTS ABOUT CONTAMINATION AND TESTING;**
- 4. PROVIDE WATER TESTING TO RESIDENTS OF THE KARST**
- 5. PROVIDE FREE ALTERNATE DRINKING WATER FOR RESIDENCES THAT TESTED ABOVE THE MAXIMUM CONTAMINANT LIMIT FOR NITRATE;**
- 6. MAINTAIN PUBLIC RECORDS ABOUT THE PROBLEM AND THE PLAN TO ADDRESS IT**
- 7. PROVIDE QUARTERLY PROGRESS REPORTS TO EPA.**

QUESTIONS AND TESTIFIERS

- LORI COX: ROOTSRETURN@GMAIL.COM
- NORA FELTON DNFELTON1@GMAIL.COM
- BONNIE HAUGEN, RESPONSIBLE AG IN KARST: BONNIE.HAUGEN@GMAIL.COM
- JEFFREY BROBERG: MN WELL OWNERS ASSOCIATION: BROBERGMNWOO@GMAIL.COM
- JOSH ESLING, COUNTY COMMISSIONER , WINONA CO: JESLING68@GMAIL.COM

FIFTY-YEAR WATER PLAN

- **LEGISLATION: THE BOARD OF REGENTS IS REQUESTED TO DEVELOP A PLAN TO PROMOTE AND PROTECT CLEAN WATER, INCLUDING:**
- **LITERATURE-BASED ASSESSMENT OF THE CURRENT STATUS AND TRENDS OF THE QUALITY AND QUANTITY OF ALL WATERS**
- **IDENTIFYING GAPS IN THE DATA OR UNDERSTANDING AND PROVIDE ACTION STEPS**
- **IDENTIFYING FUTURE THREATS TO WATERS**
- **RECOMMENDATIONS TO PROTECT, REMEDIATE, AND CONSERVE CLEAN WATER FOR HUMAN USE AND BIODIVERSITY FOR THE NEXT 50 YEARS.**

BRIEFING

OVERVIEW OF CURRENT WATER ISSUES IN MINNESOTA: JIM STARK

BRIEFING-3

- **MET COUNCIL DEVELOPING PLAN TO ENSURE COMMUNITIES IN THE WHITE BEAR LAKE AREA HAVE DRINKING WATER TO ALLOW FOR GROWTH AND WATER SUSTAINABILITY**
- **ST ANTHONY FALLS CUTOFF WALL SAFETY- UM PROJECT BEGINNING**
- **MDH: RESIDENTS CAN CHECK IF THEIR SYSTEM'S WATER HAS ANY LEVEL OF FOREVER CHEMICALS**
- **2023 MINNESOTA WATER RESOURCES CONFERENCE IS TAKING PLACE AT THE ST. PAUL RIVER CENTRE, OCTOBER 17–18, 2023.**

BRIEFING

OUTLINE OF A FEW BILLS FOR CONSIDERATION BY THE SUBCOMMITTEE

VOLUNTARY PRIVATE WELL TESTING

- **SUPPORT VOLUNTARY PRIVATE WELL TESTING PROGRAM**
- **AN APPROPRIATION, TO MDH, IN CONSULTATION WITH THE UM AND NONPROFIT ORGANIZATIONS**
- **PROVIDES FOR:**
 - **VOLUNTARY PRIVATE WELL TESTING**
 - **WATER TREATMENT OPTIONS**

REVISION OF WATER APPROPRIATION PERMIT PRIORITIES

- **THERE IS A MISUNDERSTANDING ABOUT COMMERCIAL AND INDUSTRIAL WATER APPROPRIATORS ,AND HOW THEY RELATE TO DOMESTIC USES OF WATER AS DEFINED IN PRIORITY ONE OF THE APPROPRIATION RULES.**
- **UNCLEAR WHETHER SCHOOLS AND HOSPITALS ARE INCLUDED IN THE FIRST WATER USE PRIORITY, OR IF THEY ARE COMMERCIAL USERS**
- **THIS HAS ARISEN IN THE WHITE BEAR LAKE PROCESS**
- **SHOULD BE MADE CLEAR IN APPROPRIATION PRIORITY RULES**
- **DEFINITIONS SHOULD BE STANDARDIZED**
- **LEGISLATION NEEDED TO CLEAR THIS UP**