



# 25 Years of Source Water Protection in Minnesota – The Good, The Bad, and the Ugly

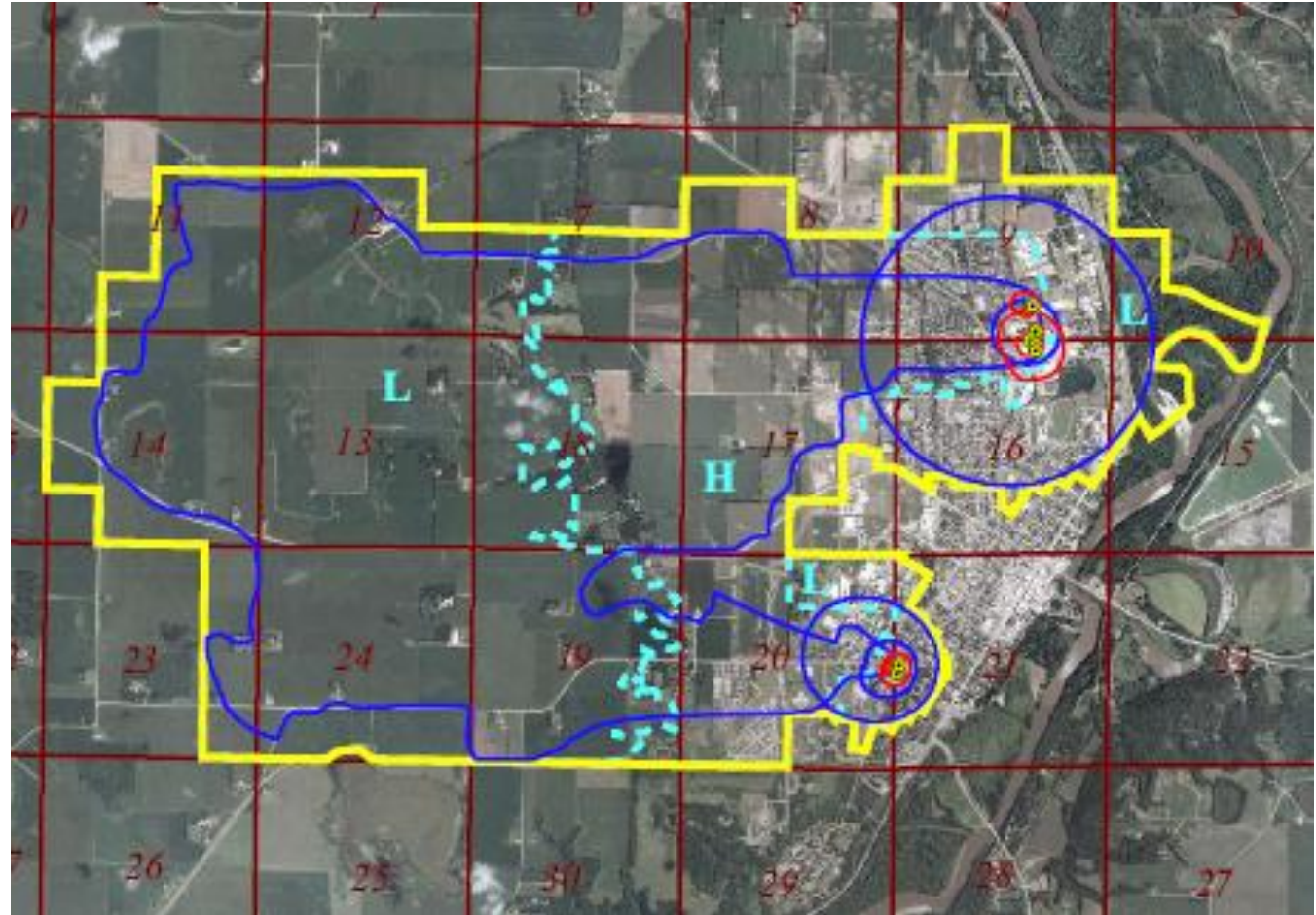
Steve Robertson | Minnesota Department of Health

November 15, 2018



# How is Wellhead Protection Groundwater Management?

- Clear goal:
  - Protecting sources of drinking water
- 95% of community PWS use groundwater
- Prioritize based on area, vulnerability
- Manage land uses to avoid contamination or overuse



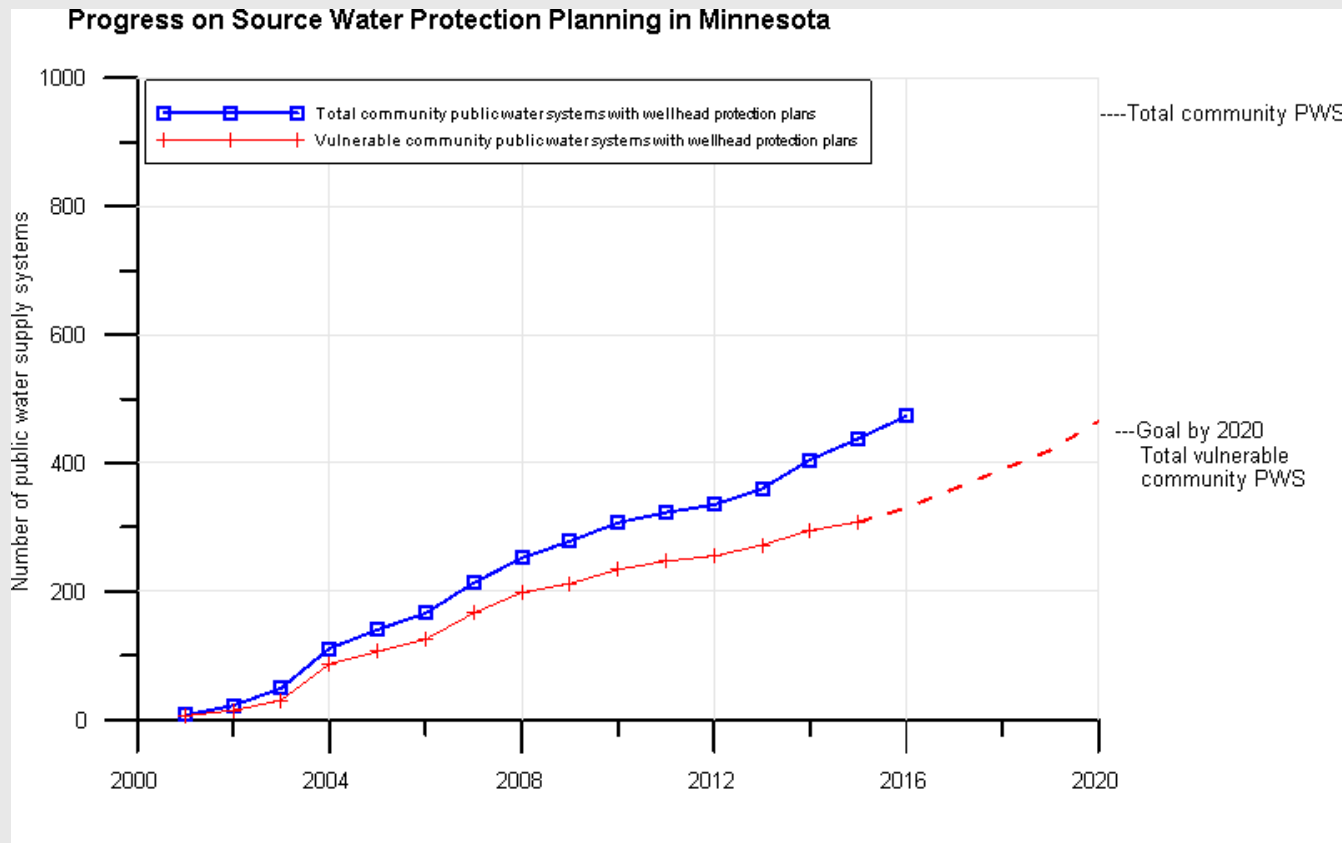
# Bedrock Principles



- Protect public health
- Science-based, objective planning process
- Locally driven
- Protection vs. restoration

# Wellhead Protection – The Good

- 580 public water systems have plans
- 90 plus percent of population
- All are implementing
- Lots of attention in water resources arena on source water protection





# Wellhead Protection – The Bad

- Pre-existing conditions are persistent
- Timeframes are long
- Proactive engagement lags
- Land use management/change is hard

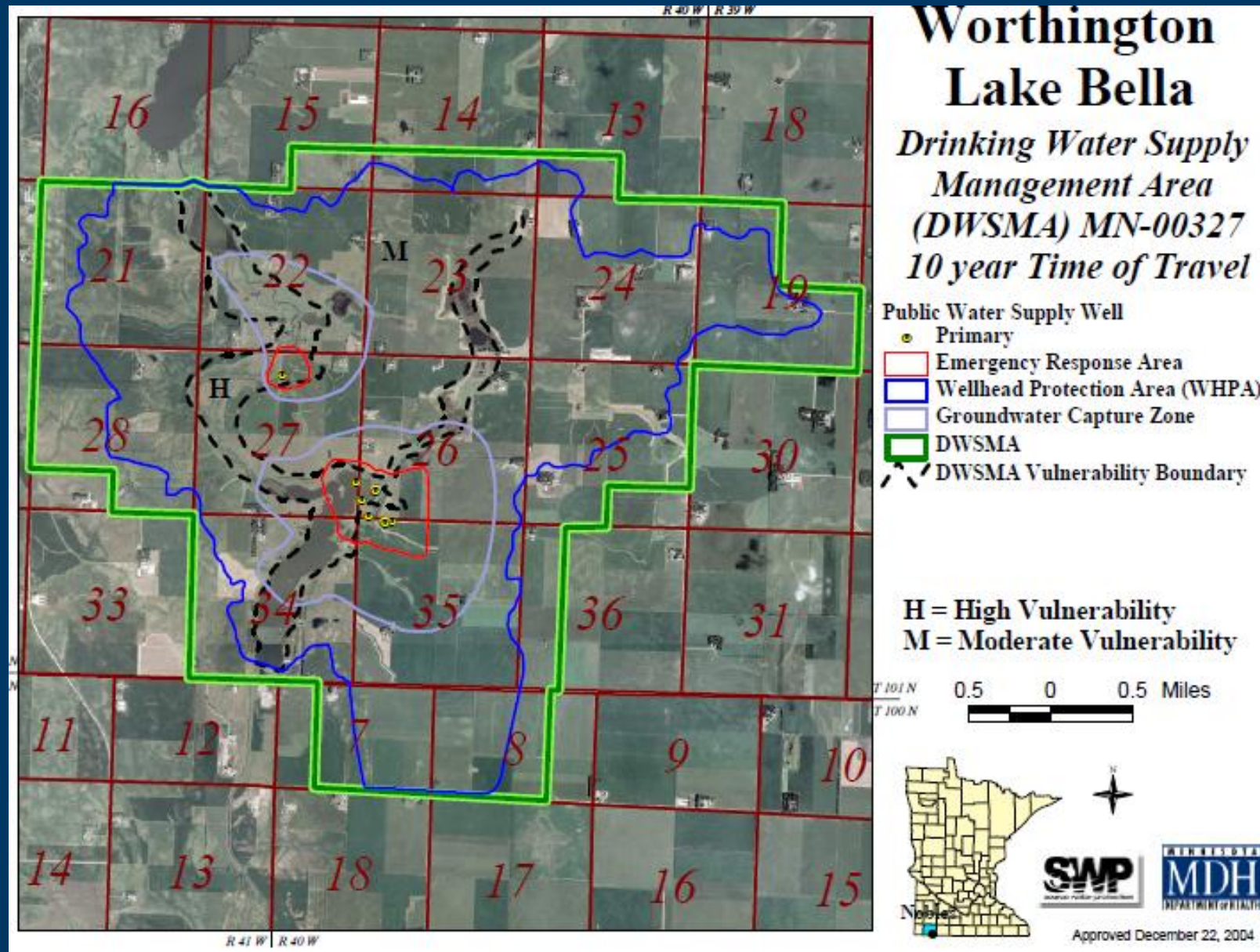


# Wellhead Protection – The Ugly

- One size fits all framework doesn't fit some systems
- Public water system staff do not engage in water resources issues
- Measures may not be sufficiently aggressive
- How to measure success



# Case Study 1 – City of Worthington

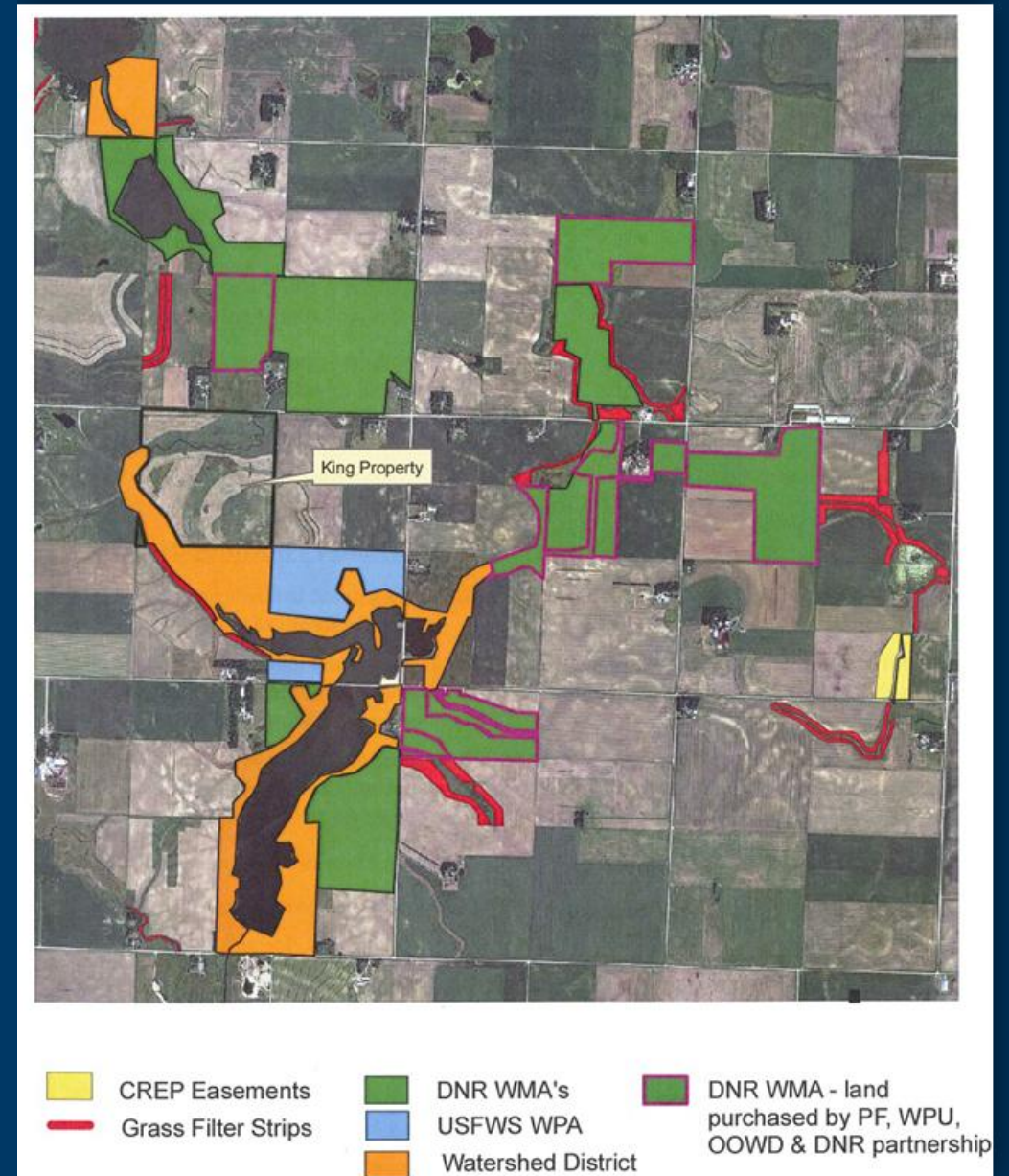


# Worthington -- Video

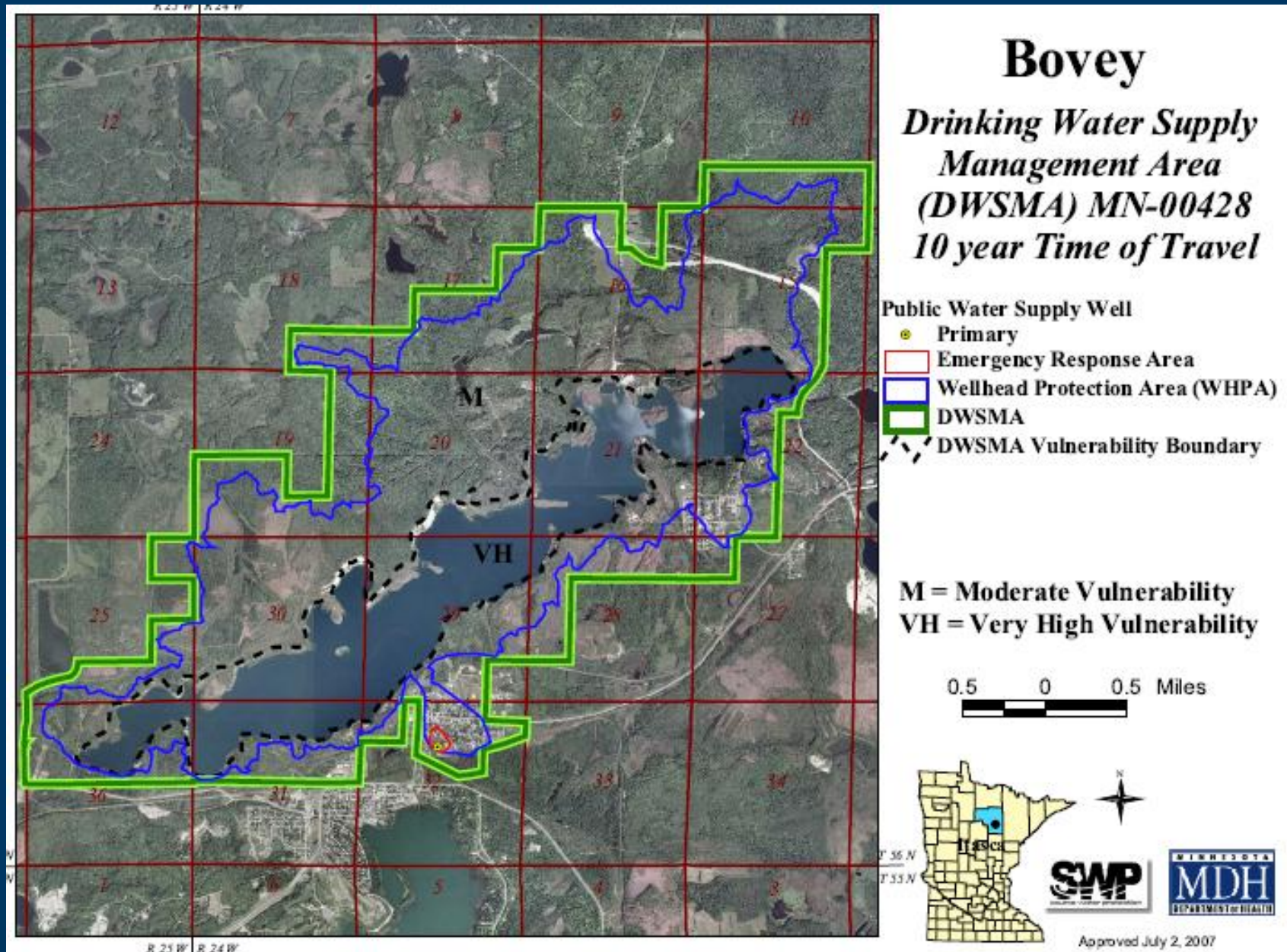


# City of Worthington – Lessons Learned

- Effective local team is crucial
  - Coalition of partners
- Identification of multiple benefits
- Resource availability
- Get started



# Case Study 2 – City of Bovey



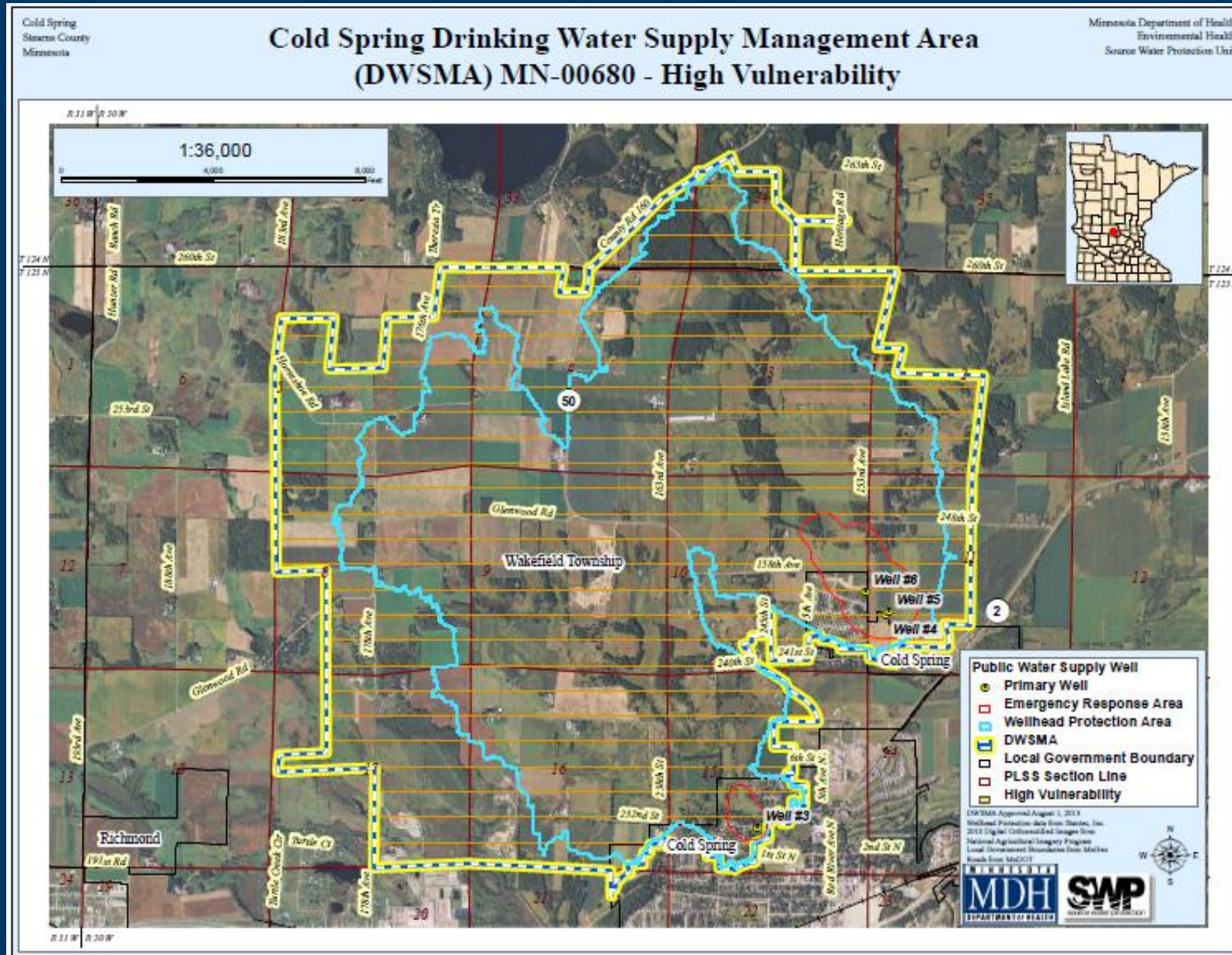


# City of Bovey – Lessons Learned

- People matter
- Grants are essential financial assistance  
– lead to engagement
- Measures of success vary

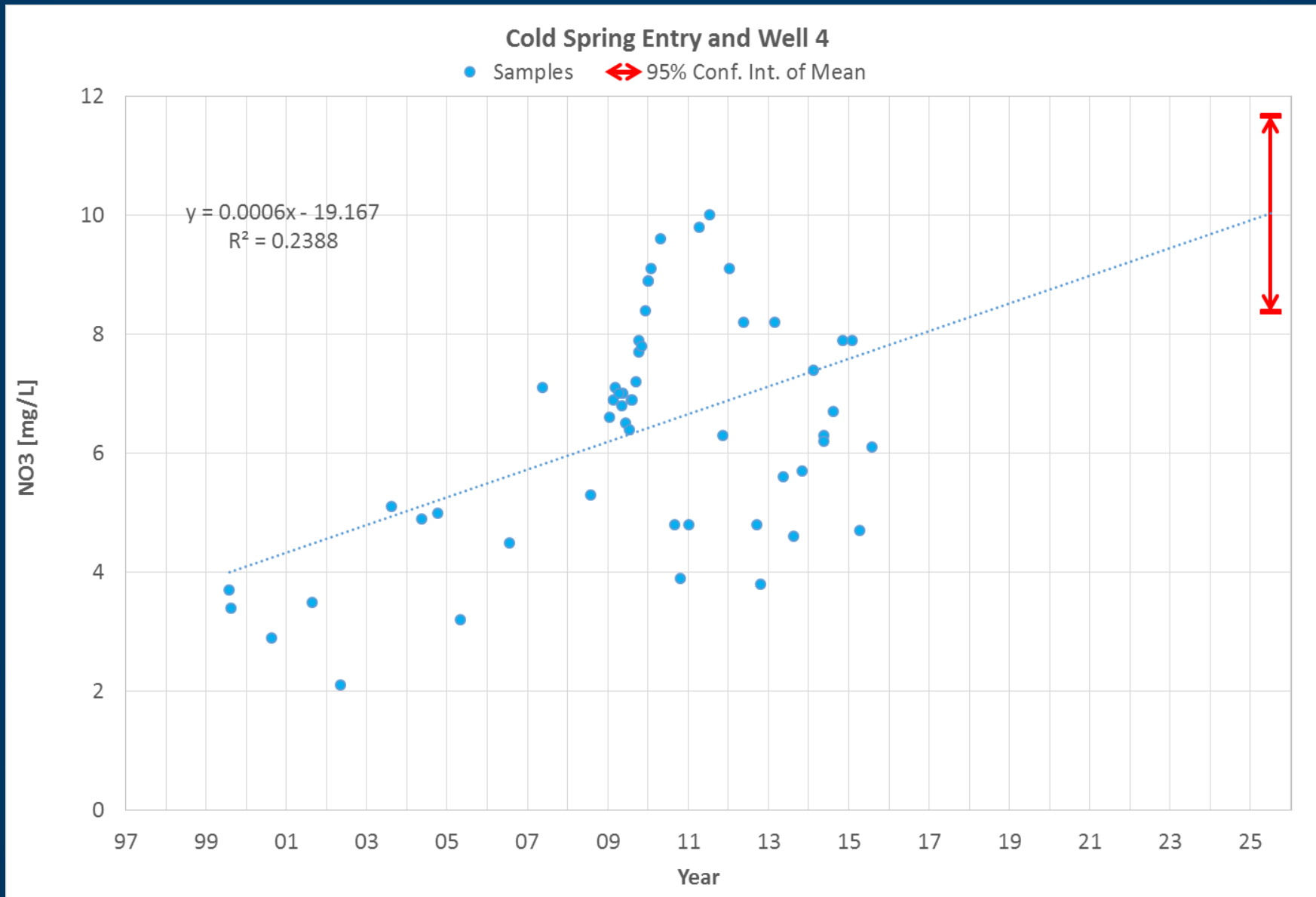


# Case Study 3 – City of Cold Spring





# Cold Spring – Pre-Existing Conditions



# Cold Spring – Lessons Learned

- Nitrate contamination is wicked problem
- Extra jurisdictional limitations
- Time lag and uncertainties in feedback between land use change and water quality
- Stronger interventions needed
- There are multiple ways to safeguard public health from environmental contaminants.



# Ingredients for successful wellhead protection

1. Planning process is accepted
2. Local is key
3. Goals must be flexible but also sufficiently robust
4. Engage and adapt (repeat as needed)

# Thank you!

*steve.robertson@state.mn.us*

<http://www.health.state.mn.us/>