Brief summary of major themes from the 2019 Nebraska Water Center Conference BUILDING A CLEAN WATER FUTURE IN NORTHEAST NEBRASKA October 9-10, 2019 in Norfolk, Nebraska

Although the title of the conference references "Northeast Nebraska," it had a statewide perspective while highlighting specific activities going on in northeast Nebraska.

"We have some wicked water problems"
"It's all one water and we are all responsible for it."

THE PROBLEM IS REAL

- Nebraska is responsible for 62% of the nitrate contamination in the nation's groundwaters. People have gotten lackadaisical, maybe have heard about it too often or think it's already being handled. Acknowledge other pollutants in our waters.
- Health concerns: Nitrates can bind with the oxygen in our bloodstreams, reduce the
 delivery of O2 to our cells; Growing research into and evidence of nitrates causing
 some pediatric cancers; Industrial chemicals also present in our groundwater.
- Extreme weather events (cf recent flooding) can back up sewers, pollute drinking water wells, leave behind pathogens.
- We're not crying wolf; we have to make this relevant to everyone.

WE CAUSED IT

- The overuse of farm chemicals, especially nitrogen and atrazine, will have negative impacts far into the future. Example: The plume of 2,000 pounds of nitrogen nearby that's already in the vadose zone. Pumping groundwater may actually cause nitrates to move downward more quickly.
- Other pollutants (example, flame retardants) can cause serious illnesses. Dangerous bacteria present in some surface and groundwater supplies.
- Refer to the University's research on potential impacts of climate change on Nebraska.

WE CAN SOLVE IT IF WE GENUINELY COMMIT TO DOING SO

- Most producers want to do the right thing. Need to keep in mind farmer's perspectives, economic challenges. Use social marketing and behavioral economics to help educate and persuade.
- "Grow another crop. It doesn't make sense to grow corn on sandy soil."
- <u>Can sometimes feel like it's a mission impossible</u>, but we can't give up. Need balance between the carrot and the stick. Legislation with enforcement? Education?

REASONS FOR OPTIMISM

- Research underway into <u>Innovative Technical Solutions</u>. Examples: floating wetlands for lakes, algae tubes to clean water, injected carbon layers to filter out nitrates.
- More and more people committed to doing something positive. Examples: Newly
 forming statewide group, the Nebraska Nitrate Initiative; Teams of high school
 students sampling their watershed's lakes and streams and testing for pollutants.