Iowa Nutrient Research Center – Advisory Council Meeting Summary

8th March, 2022 via Zoom

- Dan Robison, Endowed Dean's Chair, College of Agriculture and Life Sciences
- Kapil Arora, Field Agricultural Engineer, Iowa State University Extension and Outreach,
- Chris Jones, Research Engineer, IIHR, University of Iowa
- Susan Kozak, Director Division of Soil Conservation and Water Quality, IDALS,
- Adam Schnieders, Water Quality Resource Coordinator, Iowa Department of Natural Resources
- Keith Summerville, Deputy Provost, Deputy Provost, Associate Dean, College of Arts and Sciences, Professor of Environmental Science, Drake University
- Matt Helmers, Director, INRC, Professor, Agricultural & Biosystems Engineering, Dean's Professorship, Associate Chair for Research & Extension
- Kay Stefanik, Assistant Director, INRC
- Malcolm Robertson, Program Specialist, INRC
- Wendy Borja-Diaz, Accountant, INRC-CALS
- Ann Y. Robinson, Communications, INRC-CALS

- Welcome and Introductions by CALS Dean Dan Robison
  Always a pleasure. Group does such important work. Spent morning recently at the INRC think-tank sessions for stakeholders and appreciated the engagement of so many.
- The council reviewed and approved minutes from its last meeting, November 2, 2021.
- Review of 2021/22 (October-March) Center Activities – Matt Helmers
  Previewed new INRC 2021 annual review highlighting activities over the last year (see PDF). Other activities include:
  - Continued seminar series. "Focus on Phosphorus" theme for this spring. Average attendance ~35. Recordings of presentations on website. Think next fall's series will highlight INRC-funded research.
  - Helped coordinate Midwest Drainage Forum in a hybrid format with 128 attendees from around the globe (about 50 in-person).
  - Developing a directory of researchers from Regents institutions. Welcome any comments.
  – Comparison of nutrient tracking tool (NTT) with observed data at field sites in Iowa – worked with IDNR and NRCS to make some changes to better reflect observed data.
  - Preparing manuscript for peer-reviewed publication on INRS Nitrate-N load model comparison to USGS N Load Estimates. For four rivers In Iowa (Nishnabotna, Cedar, Iowa and Raccoon)
- Budget Update – Matt Helmers
  Have received about $14 million over life of center, about $13.6 million obligated. Includes second-year funding for projects now in their first year. Expect to be judicious with funding this year, expecting lower dollars coming in related to fertilizer costs (INRC receipts based on amount of fertilizer sales).

  Discussion on fertilizer costs and how they could affect nitrogen use and sources. May be more interest in making use of manure/green manure. An opportunity. However, high price of corn may mitigate. Should be poised to study and impacts on water quality objectives related to cascading series of events.

- 2022 RFP Stakeholder/Researcher Roundtable Review – Matt Helmers
  43 attendees in 2 groups. Groups asked to discuss top research needs and consolidate to top 5. Individual voting took place after the session. About seven items rose to top from sessions:
  - Co-benefits, especially carbon & water quality
  - Social science research
  - In-stream processes and watershed outputs
  - Measuring effectiveness of conservation practices
  - Impacts of stacked practices
  - Optimize cover crops for fall manure applications
  - How to scale from plot and field level to watershed level

Wish these would have risen a little higher

- Small grains and water quality – impact from incorporating small grains
- Integrated crop/livestock systems and manure management.
- New technology development – always want to promote technology, new practice development. Better understanding of stacked practices.
- Plot- and field- to watershed- scale nutrient management

Discussion: Another concern not on the list: Is existing P index protective of water quality?

Strong support for more attention to sociological issues. Know a lot about what works and doesn't work regarding practices and nutrient reduction: Real issue is how do you get change? Think we need some inspirational thinking here on practice adoption. More detail on what makes people adopt practices and why they don't.

Also streambank stabilization, co-benefits with carbon, manure and cover crops.

Continue to look for opportunities to leverage with what's happening in other parts of our institutions.

Comment on morning session one Council member attended: Many topics from last RFP still valid.

Helmers: Agree that there was a fair bit of overlap in topics identified from last time, including how to study unintended consequences (as well as co-benefits). Also, tools to address hot spots for nutrient loss. Could think about bringing in survey work on practice acceptance in different parts of the state, geographical targeting. Will soon send out preliminary RFP to advisory council for review.

- Center Director Update – Matt Helmers

  National Science Foundation – Research Experiences for Undergraduates (NSF – REU) proposal wasn't funded but received some good feedback and plan to try again. Continuing to work on videos. Getting publications in digital repository. Involved in International Drainage Symposium. Planning field tours – looking for ideas.

  Board of Regents Center Review every seven years – Time for that. Probably will be held in May. Hope to engage Advisory Council members among reviewers. Some reviewers from Iowa and some external.

  Discussion topic: State Geologist Keith Schilling encouraging a discussion to explore longer-term, more stable funding mechanism outside of normal RFP process that could help with continuity of research. Could better link INRC and Iowa Geological Survey work to provide service to INRC projects with geophysical needs. Think about opportunities in strategic areas.

  Helmers: Worth discussing, will invite Keith Schilling to discuss idea at Fall Advisory Council meeting Could possibly think of longer-term projects, 3-years of funding instead of 2. Does tie up money a little longer and could make it harder to plan. INRC does encourage groups to leverage funds for other projects.

  Discussion: INRC's funding hasn't grown but cost of research projects has increased. A real vulnerability that funding is based on amount and not price of fertilizer sales. This is the state's showpiece strategy for addressing water quality issues. Would we ever go to legislature and ask them to revise the formula? How much flexibility in Iowa Code for INRC to allow access to different funding sources? Possibly Center could write proposal for federal funding. Encourage INRC to create short position paper about what we want and why – to be floated up through appropriate channels.

  Helmers: Appreciate your participation and the great discussion today.

- No public discussion. Meeting ended at 12:10.