



## **Managing Water. Harvesting Results.** America's Ag Water Management Summit

Purpose: increase nation-wide adoption of drainage water management (DWM) as part of a conservation system, through the understanding of past history, current situation, performance, incentives and future opportunities.

### Goals

1. Differentiate DWM from the traditional practice of draining land for the production of crops.
2. Explain the current technologies of DWM, plus potential innovations (bioreactors, buffers, wetlands, two-stage ditches, and companion practices)
3. Assure sound environmental management and protect ecosystem values through drainage water management as part of a conservation systems approach.

### **Day 1, Tuesday, October 11**

#### **11:00 AM Opening**

- Welcome to MN – Don Baloun (Confirmed), State Conservationist MN
- Why are we here? – Tom Christensen (Confirmed), Central Regional Conservationist, NRCS
- Scale of the Challenge – Alex Echols (Confirmed), Sand County Foundation
- Overview of NRCS' Ag Water Management Effort – “Into the Future” Paul Sweeney (Confirmed), Senior Project Leader

#### **11:30 AM – 12:30 PM Session 1: Problem ID**

1. Drainage and Drainage Water Management – Wayne Skaggs (Confirmed), NCSU
2. USDA Drainage Policy Over A Century– Douglas Helms, (Confirmed) NRCS Historian
3. Molecule X from Aldo Leopold into the 21<sup>st</sup> Century – Brent Haglund (Confirmed) Sand County Foundation
4. Discussion/questions

#### **12:30 PM – 2:00 PM Lunch**

#### **Keynote speaker: Putting the Challenge in Perspective**

Peter Vitousek, (Confirmed) Stanford University

#### **2:00 PM – 7:30 PM Field Trip**

#### **Tour Agenda**

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|---------|--|
| 2:00 PM | Load busses and leave hotel  |
| 3:30 PM | Arrive at St. Peter, MN drainage site  |
| 3:45 PM | Load wagons for field tour   |
| 4:00 PM | Station 1 – David Pfarr, Pioneer Hi Bred agronomist, discusses the positive relationship for adequate drainage for germination and plant growth. |

- 4:20 PM Station 2 – Mike Tveeten, Ellingson Co.’s, discussing how systems are designed and installed. (View subsurface drainage system)
- 4:40 PM Station 3 – Jeff Strock, Univ of MN, explaining how a DWM system designed, installed, and demonstrate how the water operates with control structures and water gates. (Mobile DWM demonstration lab)
- 5:00 PM Station 4 – Mark Dittrick, MN Dept. of Agriculture, How a bioreactor is designed and installed. (View bioreactor installation)
- 5:20 PM Station 5 – Brian Hicks, farmer discussing why he installs drainage systems and has two DWM systems installed on his farm
- 6:00 PM Meal at Nicollet County. Fair Grounds
- 6:40 PM Roundtable discussion about DWM tour, Q & A session
- 7:15 PM Load buses for hotel
- 8:30 PM Arrive at hotel

## **Day 2, Wednesday, October 12**

7:00 – 8:00 **Breakfast**

8:00 AM **Welcome**

Doug Peterson – Minnesota President National Farmers Union

Alex Echols – Sand County Foundation

Paul Sweeney Natural Resources Conservation Service

8:10 AM – 9:20 AM **Session 2: Building the Initiative**

1. USDA & Drainage Practices: Doug Toews (Confirmed) – National Water Management Engineer, NRCS
2. Putting Hydrology Management In Farm Conservation Plans: Shannon Zezula (Confirmed) NRCS
3. Assessing Outcomes: Mohamed Youssef, NCSU
4. Gulf Hypoxia: Katie Flahive (Confirmed) - EPA
5. Discussion/questions

9:20 AM – 10:20 AM **Session 3: Overview of Drainage Management Techniques**

1. Tile Line Management Jeff Strock (Confirmed) U Min.
2. Limits: Jane Frankenberger, (Confirmed) Purdue
3. Variability in subsurface transport. Paul Capel (Confirmed) USGS
4. Active Management VS Passive management: Leonard Binstock (Confirmed) ADMC
5. Discussion/questions

10:20 AM – 10:30 AM **Break**

10:30 AM – 11:40 PM **Session 4: Emerging Technologies**

1. Emerging Technologies – Automation and Innovation: Norm Fausey (Confirmed) ARS
2. Bioreactors: Richard Cooke (Confirmed) U of Illinois
3. Saturated Buffers: Dan Jaynes, (Confirmed) ARS
4. Nutrient Targeted Wetlands: Bill Crumpton Iowa State
5. Discussion/questions

11:50 PM – 1:30 PM **Lunch**

**Doug Peterson** – Minnesota President National Farmers Union Farmers Perspective

**Brent Haglund** – President Sand County Foundation Environmental concerns

1:30 PM – 2:30 PM **Break Out 2: Concurrent Sessions** (30 minute rotation)

**Concurrent Sessions – Moderated Discussion Sessions**

Focus on challenges & future research

1. Wetlands protection: Dave DeWald (Confirmed) NRCS (Superior/Michigan)
2. Wildlife Habitat: Dave Nomsen (Confirmed) Pheasants Forever (Erie, Ontario)
3. Flooding: Gary Sands (Confirmed) & Brent Haglund (Confirmed) (Huron)
4. Ecosystem service market development (Harret)

2:30 PM – 2:45 PM **Break**

2:45 PM – 3:45 PM **Session 5: Getting the Ag and Environmental Economics Right**

1. Economics of Operation: Brian Hicks (if not harvesting), Farmer
2. Designing Water Management Systems: Gary Sands (Confirmed) U MN
3. Minnesota Conservation Drainage Grants Al Kean, (Confirmed) PE Chief Engineer MN Board of Water and Soil Resources
4. Discussion/questions

3:45 PM – 4:45 PM

**Session 6: Future**

1. Policy Changes to Provide Incentives: IE Trading, Meeting Point Source Requirements Jim Klang (confirmed) - Kieser & Associates
2. Adoption Opportunities: Ruth Book (Confirmed) NRCS Illinois
3. Research Requirements: Norm Fausey (Confirmed), ARS
4. Source Requirements through Commerce with Agriculture
5. Discussion/Questions

4:45 PM – 5:15 PM **Conclusion & next steps** – report out by observers and next steps.

- Policy and Programs – Bill Gradle
- Technology and Innovation – Wayne Honeycutt
- Outreach and Education – Alex Echols
- Adoption and Adaptive Management – Don Baloun

6:30 PM

**Reception & Dinner**

**Keynote: Conservation Around the United States – Dave White, (Confirmed) Chief - NRCS**