Integrated Market-like Strategies to Meet the Iowa Nutrient Reduction Strategy
- A Solution to Gulf Hypoxia?

“Nutrient Reduction Exchange” to Unify Interests & Efforts Under the INRS

Mark S. Kieser, Senior Scientist
Kieser & Associates, LLC
ACES 2016 – December 7, 2016
Iowa Efforts with USDA CIG Support

- IA League of Cities-led
- Develop a WQT framework for Iowa
- Create voluntary Nutrient Reduction Exchange (pre-trading)
- Build upon SRF “sponsored project” opportunities
- Explore stacking of Swampbuster opportunities
- Engage Ag commodity group support
- Watershed targeting of effective practices
- Practice optimization through flood modeling
Ag vs. Urban in Iowa

PSs (~100) in INRS
(65/77% N&P)

Ag 45% N&P goal;
$4B+
IA Nutrient Reduction Strategy

- Inherently recognizes varying regulatory, economic and social motivations to reduce nutrient loading:
  - Municipalities – wastewater
  - Agriculture – managerial and/or structural practices
- Accommodates OTHER goals:
  - Municipal
    - Economic growth
    - Flood mitigation
    - Stream restoration
    - Habitat
  - Agriculture
    - Increased farm productivity (drainage/yield, soil health, reduced input costs)
- SRF Sponsored (upstream) Projects
- Water Quality Trading options
  - “SOMEONE ELSE FIGURE IT OUT”
Water Quality Trading

- 2003 EPA Water Quality Trading Policy
  - Allows one source to over-control for a pollutant at a lower cost, selling the over-control as “credits” to another source that is not able to reduce pollutants as cost-effectively

- Compliance-driven

- Reality of a thin market in Iowa

- DNR early adoption letter signaling recognition of nutrient reduction projects (11/24/15)

- No clear path forward for early investments
Enter the CIG idea for an “NRE”

- **Nutrient Reduction Exchange** – Tracking mechanism...*consistent with WQT rigor*... to allow nutrient sources across the state to register and track nutrient reductions from projects that target NRS goals
- Pre-trading nutrient credit registration for later compliance use
- Tracking other ancillary benefits
Broad Partners & Interest

- **Agriculture**
  - Iowa Soybean Association
  - Soil & Water Conservation Districts
  - Iowa Corn Growers
  - Iowa Farm Bureau Foundation
  - Iowa Drainage District Association

- **Municipal**
  - IA League of Cities
  - Dubuque
  - Storm Lake
  - Cedar Rapids
  - Iowa Association of Municipal Utilities

- **Academic**
  - Iowa State University
  - University of Iowa

- **Environmental**
  - Environmental Law and Policy Center
  - Iowa Environmental Council
  - The Nature Conservancy
  - Iowa Natural Heritage Foundation

- **Government**
  - Iowa Department of Agriculture and Land Stewardship
  - Iowa Department of Natural Resources
  - Environmental Protection Agency

- **Industry**
  - Bolton & Menk
  - Stanley Consultants
  - Ecosystems Services Exchange
  - Alliant Energy
  - Iowa Association of Business & Industry
Nutrient Reduction Exchange (registry)

N & P Reduction Projects

- Nitrogen
- Phosphorus
- Sediments
- Flow
- Flood Mitigation
- Habitat

Farmers
- Drainage Districts
- Sponsored Projects
- WWTPs
- MS4s
- Drinking Water
- SWCDs

Publicly-finance Projects and those for Registered Offsets

Accounting
- Certification
- Verification
- Registration
- Tracking
- Transferability
- Certainty
- Efficiency
- Transparency

Backstop to INRS/Offsets for Growth

Small Community Participation

Regulatory Review
- Credit Baselines
- Trade Ratio (>1 : 1)

WQCT for Compliance
NRE/WQT Framework Concepts

**Nutrient Reduction Exchange**
- Voluntary
- INRS-driven
- Supports all sectors
- Regulator-approved
- Reductions: Real & Quantifiable
- Accountable/trackable
- Transparent
- For publicly financed projects and those for registered reductions

**Water Quality Trading**
- Voluntary
- Compliance-driven
- Supports all sectors
- Regulator-approved
- Trading Credits: Real, *Surplus, >1:1*, & Quantifiable
- Accountable/trackable
- Transparent
- For publicly financed projects and those for registered credits
City needs flood mitigation & nutrient credits

DEMAND

• SRF Sponsored Projects
• FEMA
• HUD
• Bonds

SUPPLY

Nutrient Credits

Drainage District... Swampbuster

Conservation Groups

Farmer needs improved drainage

Drain water

Bioreactors

Sink

Saturated buffers

Source Water Protection

Sediments

Habitat

Recreation/

Other Services

Crop yield benefits

(3,000 - 7,000 needed)
NRE Registry

- Formal project recognition for later use
  - INRS progress
  - Offsets for growth
  - Future WQT
- Track other ancillary benefits
  - Informed investments
So what…

- Recognition of early reductions pre-WQT framework
- SRF $s for upstream investments
- Stacking...aghhhh!
- Stakeholders ‘on board’
- Driving unified approaches (quantification, tracking)
- Driving informed investments
Thank you…

Mark S. Kieser, Senior Scientist
mkieser@kieser-associates.com

Kieser & Associates, LLC
536 E. Michigan Ave., Suite 300
Kalamazoo, MI 49007  USA
(269) 344-7117
www.kieser-associates.com

USDA-NRCS CIG Funding

This material is based upon work supported by the Natural Resources Conservation Service, U.S. Department of Agriculture. Any opinions, findings, conclusions, or recommendations expressed in this presentation are those of the authors and do not necessarily reflect the views of the U.S. Department of Agriculture.