Iowa Soil and Water Future
TASK FORCE

January 2016 Report to the State:

STRATEGIC DIRECTION, IMPLEMENTATION, RECOMMENDATIONS

January 15, 2016

Iowa Soil and Water Future Task Force

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Steve Bruere, Peoples Company President, and Larry James, Jr., attorney at Faegre Baker Daniels and Urban Land Institute Iowa Chair, co-chair the group.

Participants*

AgSolver
Agren
Agribusiness Association of Iowa
Agri-Drain
Ahers & Cooney
American Rivers
AO Wealth Advisory
ARS USDA Lab
Capital Crossroads
Catfish Creek Watershed Management Authority
City of Des Moines
City of Norwalk
City of West Des Moines
Congressman King's Office
Conservation Districts of Iowa
Des Moines Area Metropolitan Planning Organization
Des Moines Water Works
Dorr and Associates
Drake University
DuPont Pioneer
Farmers
Gannon Real Estate & Consulting
Genus Landscape Architects
Greater Des Moines Partnership
Guide One
HBK Engineering
Heartland Coop
I + S Group
Iowa Agriculture Water Alliance
Iowa Association of Water Agencies
Iowa Attorney General's Office
Iowa Cattleman's Association
Iowa Central
Iowa Citizens for Community Improvement
Iowa Corn Growers Association
Iowa Department of Agriculture & Land Stewardship
Iowa Department of Natural Resources
Iowa Drainage District Association
Iowa Economic Development Authority
Iowa Environmental Council
Iowa Farmers Union
Iowa Finance Authority
Iowa Lakes Corridor Development Corporation
Iowa League of Cities
Iowa Natural Heritage Foundation
Iowa Policy Project
Iowa Pork Producers Association
Iowa Poultry Association
Iowa Rivers Revival
Iowa Soybean Association
Iowa State Association of Counties
Iowa State University
Iowa State University Center for Agricultural Law & Taxation
Lemke Engineering & Environmental Services
McClure Engineering Co.
OFW Law
Peoples Company
Polk County Conservation Board
Prairie Rivers of Iowa
Quester
Rathbun Regional Water Association
RDG Planning & Design
Riley Resource Group
Snyder & Associates
State Legislature
TBL Ventures
The Nature Conservancy
Tunnel Mill Farm
Two Gray Dogs Investments
United Suppliers
University of Iowa Flood Center
Urban Land Institute Iowa
US Army Corp of Engineers
US Department of Agriculture Farm Service Agency
US Department of Agriculture Natural Resources Conservation Service
Weitz Company
West Des Moines Water Works
Whiterock Conservancy
Winfield Solutions

** Participation does not imply endorsement.*

Iowa Soil and Water Future Task Force

January 2016 Report to the State:
STRATEGIC DIRECTION, IMPLEMENTATION, RECOMMENDATIONS

Executive Summary

The State of Iowa has a unique opportunity to invest in Iowa's soil and water infrastructure – an infrastructure that is critically important to the state's wealth and prosperity. Fixing and maintaining our state's water quality will require a commitment similar to how we have continued to invest in our road and bridge infrastructure. As a state, we have come together to find common ground solutions to fund our transportation infrastructure, and we have a tremendous opportunity right now to do the same for our soil and water infrastructure. We see the primary pathway to success as a public/private investment in our state's nutrient reduction strategy.

Together, we can:

- Dramatically reduce societal water treatment and flood damage costs.
- Meet the Hypoxia Task Force goal of 45% reductions in nitrogen and phosphorus.
- Significantly increase the productivity, sustainability and efficiency of Iowa's agriculture.
- Create broad economic opportunity by supporting existing jobs, and creating thousands of jobs for land improvement contractors, land managers, agricultural information providers, ag retailers and more.
- Enhance the quality of life in Iowa by providing natural resources protections and increased outdoor recreation opportunities.

The Iowa Soil and Water Future Task Force (ISWFTF), originated by the Greater Des Moines Partnership and an initiative of Capital Crossroads, has captured dozens of voices from agriculture, businesses, academic institutions, conservation groups, environmental groups, and citizens through a series of stakeholders sessions, education opportunities, and interactions with a variety of experts across Iowa's economic sectors to understand the needs and challenges of our soil and water health. This report is the result. It includes the following ISWFTF vision and mission:

Vision: Healthy soil and water accomplished with vibrant, effective urban-rural partnerships across the state

Mission: Together, we identify strategies and funding sources leading to soil and water health

And ultimately, a series of key recommendations for addressing the goals of Iowa's Nutrient Reduction Strategy, by:

1. Allocating sufficient, permanent and dedicated funding sources for detailed nutrient reduction implementation plans and practices. Options include: Natural Resources and Outdoor Recreation Trust Fund (IWiLL), SAVE (a portion of growth from penny sales tax extension), tax credits, water quality and nutrient trading; other options may surface; use these investments to further leverage federal support.
2. Developing an implementation plan for the Nutrient Reduction Strategy.
3. Using WMA's to implement the Nutrient Reduction Strategy.
4. Growing an effective implementation infrastructure – from outreach staff and technical advisors to watershed coordinators and construction teams.

January 2016 Report to the State:
STRATEGIC DIRECTION, IMPLEMENTATION, RECOMMENDATIONS

Executive Summary

5. Establishing an Iowa Soil and Water Health Revolving Loan Fund, modeled after the federal SRF to:
   a. Leverage public funding with private sector dollars by providing three year no-interest loan funds for testing, master planning and design of water quality improvements
   b. Provide sustainable, reliable and sufficient low-cost loan and other funding for WMA's once they have developed effective implementation plans. Use WMA's to implement the nutrient reduction strategy
6. Developing monitoring and measurement systems to allow for adaptive management strategies.
7. Balancing resources to ensure watersheds of greatest need, and watersheds ready-for-action, receive resources.
8. Incorporating transparency into the implementation of the NRS.
9. Emphasize practices with multiple, long-term and/or significant benefits.
10. Engaging the private sector to supplement public sector outreach and implementation including new innovations in precision agriculture, drainage water management, etc.

By using the creativity and efficiency of the private sector, ISWFTF believes that the overall cost of implementing the Iowa Nutrient Reduction Strategy can be reduced. ISWFTF also believes Iowa's long-term future depends on making the same commitment to our soil and water infrastructure that we make to our transportation network.

Iowa Soil and Water Future Task Force

January 2016 Report to the State:
STRATEGIC DIRECTION, IMPLEMENTATION, RECOMMENDATIONS

Introduction

Well over a century ago, Iowa engineered its landscape and rivers– with roads, plows, rooftops, drainage tile, stream channelization and levees. Communities, industry and the agricultural sector have received benefits from these changes, but we see over time the unintended consequences of this altered landscape. In recent decades, these impacts have been exacerbated by increasing rainfall and doubling of average annual stream flow. We face floods, high nutrient loads in our rivers and streams, the degradation of our top soil, and at-risk aquifers. Nutrient runoff from our lands has been cited as a key contributor to the hypoxic zone in the Gulf of Mexico. This "dead zone" in the gulf has low oxygen levels and now has a footprint that is larger than 10% of the size of our entire state.

The Iowa Soil and Water Future Task Force (ISWFTF) has convened to aid the state in addressing this challenge. The task force is made up of thought leaders from business, agriculture, farming, government, public policy, academia, conservation, environment, technology and more. But ***business*** leaders have convened this task force. This business leadership is a rarity in addressing soil and water health issues. It gives the State of Iowa a unique opportunity to align diverse stakeholders in moving the State meaningfully forward in investing in Iowa's soil and water future. The problems facing Iowa's soil and water resources have been clearly defined and now its time to develop solutions. ISWFTF feels it is uniquely qualified to begin developing and implementing solutions.

The State of Iowa has a unique opportunity to invest in Iowa's soil and water infrastructure – an infrastructure that has as much to do with this state's wealth and prosperity as its roads and bridges do. Iowa taxpayers invest roughly $2 Billion annually in our road and bridge infrastructure. To fix our current water quality problem, the Iowa Soil and Water Future Task Force (ISWFTF) requires substantial public investment. These investments could be made into an Iowa Soil and Water Health Revolving Loan Fund or commitments from sources such as Iowa's Water and Land Legacy could be used to leverage significant private investment in our soil and water infrastructure. ISWFTF is also open to other sources of funding that are consistent and reliable.

A public/private investment in our state's nutrient reduction strategy can:

- Dramatically reduce societal water treatment and flood damage costs
- Help meet the Hypoxia Task Force goal of 45% reductions in nitrogen and phosphorus by 2030
- Significantly increase the productivity, sustainability, and efficiency of Iowa's agriculture
- Create thousands of jobs for land improvement contractors, land managers, agricultural information providers, and ag retailers
- Enhance the quality of life in Iowa by providing natural resources protections and increased outdoor recreation opportunities

As leaders in business and agriculture, all eyes are on Iowa as we work to address this challenge to our state's infrastructure. The ISWFTF realizes the imperative to "get this right" as the outcomes here will influence soil, water, agriculture and business in Iowa for decades – if not centuries – to come.

January 2016 Report to the State:
STRATEGIC DIRECTION, IMPLEMENTATION, RECOMMENDATIONS

Strategic Direction

Vision: Healthy soil and water accomplished with vibrant, effective urban-rural partnerships across the state

- Iowa justifiably serves as a global model for achieving regenerative, sustainable farms and communities while attaining and maintaining soil and water health.

Mission: Together, we identify strategies and funding sources leading to soil and water health

- "We" includes thought leaders and stakeholders in business, agriculture, farming, government, public policy, academia, conservation, technology and more.

Guiding Principles:

a. We seek ever-increasing levels of urban and rural collaboration and public-private partnership.

b. We collaborate to reach the Hypoxia Task Force's 45% nutrient reduction goal by a target date of 2030.

c. We seek to sustain soil and water health into perpetuity, relying in part on long-term dedicated funding.

d. We stress technical assistance, incentives, and volunteerism but we do not dismiss the possibility of more directive approaches if voluntary efforts do not ramp up in time for Iowa to achieve goals outlined for the state in the Hypoxia Task Force's 2030 targets.

e. We see the Nutrient Reduction Strategy, a watershed approach and the work of existing agencies and businesses as the foundation to success.

f. We root our work as much as practical in peer reviewed science and tested policies, but we still leave room for innovation.

g. We welcome policies and practices that do not attempt to pit conservation policies and funding against other vital state services.

h. We seek solutions that will generate a return on investment for all Iowans including landowners, farmers, and other project partners, while delivering soil and water health results.

i. We anticipate success through adaptive management, meaning approaches will be adjusted as research/results point the way.

j. We seek to strengthen political will for supporting immediate and long-term soil and water health with sustainable funding and other meaningful policies.

k. We ultimately seek urban-rural collaborations and public-private partnerships with public dollars dedicated to methods highly likely to produce healthy outcomes for the state's soil, water, and overall natural resources.

Approaches for Consideration

Section One Goal: Create a "culture of measurement" – enabling progress to be quantified and adaptive management employed.

About this Approach: The state will not achieve success in a vacuum of critical information about the condition of our soil and water resources. We need to adjust methods that are not producing results (i.e., use "Adaptive Management"). That requires data. At the same time, we need sensitivity to public-private data and we need to recognize data-gathering is not a short-term endeavor. The establishment of meaningful measurement networks will require work across jurisdictional boundaries. We do have starting points, however. The decades have produced thousands of demonstration projects across the state with useful results. And we can build from monitoring work already accomplished through utilities, voluntary monitoring and organizations like the Iowa Soybean Association.

1. Get landowners, tenants, and communities access to measurement tool kits and context for analysis.

2. Develop a cost-effective and scientifically accepted soil and water health monitoring/measurement network to set benchmarks, assist with model calibration, and establish measures of overall progress; this network includes rural and urban/suburban sites.

3. Provide specific practice performance measurements in both urban and rural settings to grow the science and understanding of those practices.

4. Establish measuring/monitoring tools that assist in quantifying the environmental benefits of practices and policies in order to interpret market-based approaches.

5. Aggregate data at scales that allow for effective decision-making but without "calling out" individual property owners. The Soil and Water Conservation Districts and the Drainage Districts are likely keys to working with landowners who are poised to install projects that yield the greatest benefits.

Approaches for Consideration

Section Two Goal: Identify significant measurable watershed results by 2030.
Note: Five-year results anticipated at the sub-watershed scale

About this Approach: This goal reflects the desire to see solid improvement in our soil and water health within a 5-10 year time horizon. We will need to focus our efforts to make sure the resources applied can produce results. That focus will need to strike a balance between watersheds in greatest need for work (due to poorer soil/water health) and watersheds that have done the hard work of getting plans and projects close to "shovel-ready." We will also need to look at practice distribution. Due to past efforts to focus on soil erosion, more practices have been implemented outside of the flatter (and therefore less erosive soil) Des Moines lobe than within it. We will want to apply some attention to watersheds within that lobe as their lack of practices may be growing the nitrate challenges. Finally, we envision here an effort to address both rural and urban approaches. This aligns with guiding principles seeking urban-rural collaborations.

6. Advance an implementation plan to support the Nutrient Reduction Strategy; allocate state funding for this effort, including sufficient resources to jump-start meaningful progress.
   - The following "sub-strategies" would likely surface as part of that implementation plan:

   6A. Emphasize working in a subset of watersheds based on balancing "watersheds of greatest need" with watersheds poised to implement projects

   6B. Increase support for creating actionable watershed plans, and implement those plans, addressing rural and urban practice/policy requirements
      - Identify the state's current capacity (through public and private sectors) to create effective watershed plans and adjust resources to fully support (or increase) that capacity

   6C. Improve access to precision business planning to landowners and tenants, coupled with support for resulting identified conservation practices

   6D. Collaborate with landowner/operators' most trusted sources to deliver easily accessible practice and cost information based on supporting-science and benefits

   6E. Establish sufficient resources at the state and federal level to ensure communities, developers, contractors, landowners and tenants – all Iowans – have the technical assistance and oversight required to comply with all current soil and water health regulations

   6F. Create recommendations to improve policy alignment for soil and water health results at the local, state, and federal level
      - As a subset to this task force, locate resources to convene a panel to identify policy conflicts and potential solutions
      - Refer to Garst White Paper on federal soil and water health programs
      - Promote conservation improvements through variable crop insurance rates as incentives

Approaches for Consideration

6G. Place emphasis on projects and practices that produce multiple and long-term benefits. Examples include:
- Cover crops and extended crop rotations which rebuild the soil profile, decrease runoff and reduce nutrient losses
- Urban stormwater management facilities designed to treat water as a resource, not only addressing water quality and reducing flood impacts but creating recreation opportunities within parks and dedicated open spaces

6H. Establish mechanisms for ongoing reporting of results to implement adaptive management and improved policy

6I. Make funding and development of a statewide nutrient reduction strategy implementation plan a top priority for the 2016 legislative session

6J. Invest in continued and expanded academic research for ongoing growth in understanding of best practices, programs and policies.

Approaches for Consideration

Section Three Goal: Establish financial resources at scale (anticipated $4B+ over 10-15 years) to achieve.

About this Approach: Iowa's soil and water resources cannot be restored or maintained through sparse or erratic funding. Our soil and water health challenges require sustainable, dedicated funding at a magnitude of scale we have not yet seen applied to these resources. Public dollars dedicated to this effort must be further leveraged through the private sector as the effort requires both public and private dollars to achieve overall goals. Hence, these funding approaches consider a foundation of public funding with mechanisms to engage the private sector. Additional options may surface, but these basic principles – of sufficient scale, sustainable, dedicated, and involving private-public partnership – must be applied to the resource mix.

7. Establish resources that achieve goals of sufficient scale, sustainability, dedicated funding, and public-private partnership. Ideas to fund soil and water health include:
   - Fund the Natural Resources and Outdoor Recreation Trust Fund (IWiLL – Iowa's Water and Land Legacy)
     - Iowa's Water and Land Legacy Program (IWiLL) projects that as much as $119 million per year (or 66% of total Trust Fund funding) could be applied to Iowa Nutrient Reduction Strategies. We suggest this same IWiLL funding could also be used to address flooding concerns via well designed multiple benefit watershed projects that incorporate both water quality and flood reduction goals (**http://iowaswaterandlandlegacy.org/**). In addition, IWiLL would stimulate the economy. In addition to creating jobs for installing natural infrastructure, outdoor recreation is a $6 billion economy in the state of Iowa. Outdoor recreation is vital to attracting and maintaining a vibrant workforce.
   - Consider the recently-announced initiative (SAVE – Secure an Advanced Vision for Education) to extend the 1% school infrastructure tax to 2049 and use a portion of growth to support soil and water health
     - This initiative was jointly announced by Governor Branstad and U.S. Agriculture Secretary Vilsack at the beginning of 2016; details continue to develop. The announcement includes details of upcoming expanded federal initiatives in support of Iowa's soil and water health.
   - Establish tax credits for landowner/operators who install a select group of BMP's
     - The Iowa Soybean Association has proposed tax credits for farmers/landowners who install a select group of BMP's (House Bill 251). Priority would be placed on practices that provide the greatest reduction in nutrient loss and could also prioritize practices that provide multiple benefits. Tax credits would be one way to defray some of the costs of practices and provide an incentive for installation.
   - Explore the development of a water quality offset exchange
     - The League of Cities is developing a water quality offset exchange with input from stakeholders within agriculture, environment, industry and municipal government sectors that would incentivize public water utilities to develop water quality projects in upstream watersheds with practices that have quantifiable nutrient reduction benefits. This system will look to leverage improving nutrient reduction along with increased flood mitigation, improved drainage with environmental infrastructure, habitat development and source water protection.

Approaches for Consideration

Note: Other Funding Sources? ISWFTF is open to other creative funding approaches so long as they are consistent, sufficient and reliable sources of funding. Ultimately, funding decisions are up to the legislature and Governor.

8. Establish an Iowa Soil and Water Health Revolving Loan Fund (RLF)

Note: This approach is not intended to add dollars to the current federally-funded SRF model, but instead to establish a revolving loan program specific to Iowa; for more information about the Revolving Loan Fund, see "About Implementation" section of this report.

- Provide a variety of means to fund projects through the Iowa Soil and Water Health RLF
- Dollars reserved to practices with measurable net soil or water health benefits, including downstream benefits but do consider projects of varying scales
- Funding sources for this could include the ag-dedicated portions of IWiLL or other long-term, sustainable mechanisms
- Watershed management authorities (WMA) would apply for Iowa RLF monies to pay for initial planning, perhaps through forgivable loans, and then immediately finance construction projects with guarantees of repayment via drainage districts or WMA member agencies
- Where available and practical state and federal watershed funding could also be used to repay the funding

Approaches for Consideration

Section Four Goal: Grow an effective implementation infrastructure – outreach staff, technical science providers, planners, watershed coordinators, designers and construction teams -- to meet the ambitious goals of the Nutrient Reduction Strategy.

- **Rely on the public AND private sectors to develop this capacity**

About this Approach: In most water quality planning efforts little or no attention is paid to actual implementation of projects and this is often where a breakdown occurs. A well-executed watershed project requires the same blueprints, scheduling and supervision as a major construction project. Many initiatives have stalled or failed due to ineffective or total lack of implementation planning, follow through and management. A critical step in the process is the involvement of developers, contractors and producers in both implementation and implementation plans. Special attention also needs to be paid to the motivations of producers and the types of incentives needed to encourage adoption.

9. Require that realistic and detailed implementation plans be developed for each watershed project; provide funding for planning.

10. Involve contractors, developers and producers in the implementation planning; evaluate incentives needed to achieve widespread adoption of practices.

11. Develop a statewide implementation plan to complement the Iowa Nutrient Reduction Strategy; require state and federal agencies to collaborate with the private sector especially developers, contractors and producers in the planning phase.

12. As part of the statewide implementation plan, assess whether or not there is adequate public/private capacity to implement practices and identify areas where additional manpower will be needed; estimate cost or method to increase capacity.

13. Provide adequate training via ISU extension, private sector, etc. for outreach, design and construction staff engaged in the installation of water/soil quality BMP's.

14. Assess progress via ISU Extension, etc. – evaluate producer adoption and roadblocks to adoption, other potential roadblocks, e.g. regulations, contracting, lack of equipment, properly trained installers, etc.

About Implementation

Iowa's Nutrient Reduction Strategy
The Iowa Nutrient Reduction Strategy provides a sound scientific and technological framework to assess and reduce nutrient delivery to Iowa waters and the Gulf of Mexico, (**www.nutrientstrategy.iastate.edu**). It's based on decades of research and data gathering at ISU and elsewhere and represents the most complete summary of the science needed to meet nutrient reduction goals. The plan also provides general cost estimates for various reduction scenarios, but does not provide, nor does it attempt to provide, detailed guidelines or recommendations for funding and implementing the nutrient reduction strategy. ISWFTF hopes to build upon the rigorous scientific guidance provided in the Iowa Nutrient Reduction Strategy (INRS) by suggesting methods to finance and implement the plan.

Implementation Plan Needed
ISWFTF believes strongly that the legislature needs to approve funding to develop an implementation plan for the INRS. We would also like the legislature to consider how the public sector can use its funds to leverage additional private support. ISWFTF presumes there are both federal and state funds available to leverage private investment.

Implementation of the Iowa Nutrient Reduction Strategy (INRS) is a public/private infrastructure development project that will require the same discipline; planning and precise implementation used in other large-scale public works projects. A more well-defined implementation plan would give the public and producers a road map and timetable for implementation of the plan.

For instance, planners could place the highest priority on practices that improve water quality and increase yields; Next practices that provide the lowest cost per pound of nutrient removed could be cost-shared by public entities and these practices could be targeted to areas of greatest concern. This could be followed with measuring real or modeled outcomes of the associated practices and perhaps combined with a payment for performance program. Practices that provide great public benefit but little or no private benefit, or those requiring long-term investment would be priorities for public cost-share funding. An overall emphasis on using public funds to leverage private funding is desired.

About Implementation

A Watershed Approach
ISWFTF believes that using a "watershed approach" to address water quality problems is a proven method of achieving non-point source reduction goals. In the U.S. there is a 75-year track record of using this technique to solve non-point source water quality issues. The State of Iowa currently prioritizes watersheds by their contribution to nutrient loading in the Gulf of Mexico. This is the only current ranking criteria. There is also a clear need for sustained, non-partisan targeting that factors in additional criteria. An existing entity, such as the Watershed Planning Advisory Committee (WPAC) or the Water Resource Coordinating Council could be used for this purpose. A framework could be devised to prioritize watersheds that WPAC could use to make decisions. For example, it would make sense to look at factors such as size of the watershed, feasibility, urgency, and impact (population impacted by water quality, impact on Gulf Hypoxia, and impact on building up public will).

Watersheds also need to be assessed on a readiness scale. For instance, many of the existing Watershed Management Authorities (WMA's) have significant and meaningful projects that are shovel ready once funding becomes available. Other areas are emerging, and may be in the process of forming WMA's or have another entity working on putting together plans. These areas may need technical assistance to complete the planning process. Finally, other watersheds are in a development stage, where significant work may need to be done on the ground to build awareness and will, and organize stakeholders.

Emphasize Practices that Show Effective Nutrient Removal
In addition to traditional soil conservation practices, consider innovations and practices proven to yield strong nutrient removal results. These include: cover crops, constructed wetlands, saturated buffers, bioreactors and drainage water management. Nutrient removal requires a level of emphasis it has not seen to date.

Investing in Iowa's Water Infrastructure – Financing the Plan
Each year, Iowa invests in the neighborhood of $2 billion to maintain its transportation infrastructure. Now is the time to also sufficiently invest in another critically-important economic development tool: soil and water health. Cost scenarios developed by the Iowa Nutrient Reduction Strategy range from $77 million to $1214 million per year with initial upfront costs of $1.2 to 4 billion dollars. Without a reliable funding source, the goals set forth in the Iowa Nutrient Reduction Strategy cannot be met in a timely and orderly fashion. The ISWFTF believes that to be effective the Nutrient Reduction Strategy requires a sustainable, reliable and sufficient funding source. ***ISWFTF also believes that projected public costs could be substantially reduced by engaging the private sector.*** Many options for generating financing exist. This report highlights several possible mechanisms. We expect policy makers will have additional ideas and mechanisms.

About Implementation

Iowa Soil and Water Health Revolving Loan Fund:
Using public dollars to leverage private investment via Watershed Management Authorities
The opportunity that is of greatest interest to the ISWFTF is the concept of creating an Iowa Soil and Water Health Revolving Loan Fund (RLF) to complement the federal State Revolving Loan Fund (SRF) to finance planning and implementation of WMA's (**www.IowaSRF.com**). The ISWFTF proposes that the Iowa RLF concept would enable public funding to leverage private investment. The Iowa RLF could be capitalized using state funds to enable the Iowa Finance Authority (IFA) to fund the up-front costs of enacting the State Nutrient Reduction Plan. The loan could then be used to fund planning and implementation in the HUC watersheds in the state of Iowa. Landowners would also share in the costs, but would be encouraged to do so by low cost loans from the IFA.

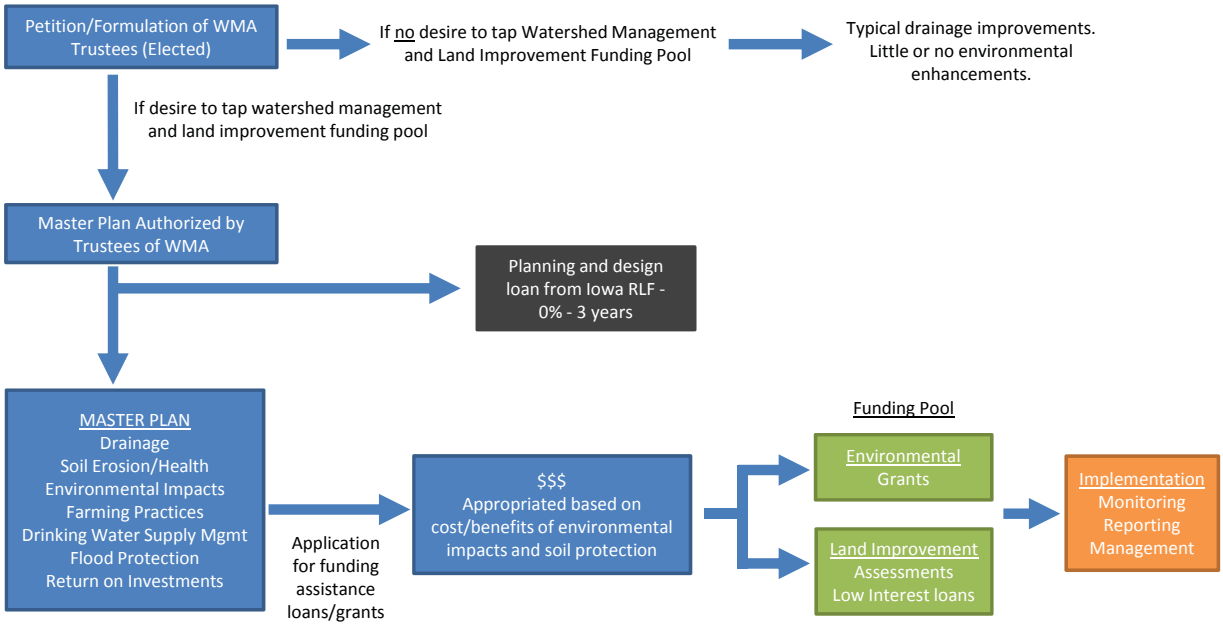
Watershed Management Authorities – A Structure for Implementation
WMA's are defined in Iowa Code §466B. ISWFTF recommends dividing the state into HUC watersheds and develop implementation plans for each, starting with the watersheds that deliver the highest loads and/or serve major water utilities.

ISWFTF suggests that sustainable reliable funding could be administered through WMA's and associated Drainage Districts that agree to develop approved Watershed Master Plans in coordination with the Iowa Department of Natural Resources and Iowa Department of Agriculture and Land Stewardship as a pre-requisite to receiving funding.

It is far more likely that WMA's will form and write successful plans if consistent reliable funding is available. Consistent, reliable funding could also provide technical assistance to WMA's seeking to write a plan. WMA's could be integrated into Iowa Code §461 so that the planning and implementation of the plans could receive state or other funding.

January 2016 Report to the State:
STRATEGIC DIRECTION, IMPLEMENTATION, RECOMMENDATIONS

About Implementation



This model could be used to fund planning, studies, testing and design services. The federal SRF currently offers planning and design loans at 0% interest for up to three years to cover engineering and project development costs for water and wastewater projects. A similar program could be created in the Iowa RLF for those projects not eligible for federal SRF loans. Requiring a 5-year capital improvements plan, as part of the master plan, could help to set priorities and ensure long term financing strategies. Once Master Plans are completed and approved, WMA's would use the plan to support application for funding the WMA's.

Priority would be placed on funding WMA's that created "global" solutions that addressed water quality, flooding, agricultural productivity and natural resource conservation. Several existing WMA's with finished plans would be eligible for implementation funding immediately.

WMA Governance

WMA's are currently structured with invitations to engage counties, cities and soil and water conservation districts within a watershed. It makes sense to also connect drainage districts to this process. If they are not considered a political subdivision under Iowa Code §466B, the ISWFTF recommends consideration given to including them. The ISWFTF also suggests that member organizations of WMA's bring their existing authorities to bear to ensure watershed plans can be successfully implemented.

About Implementation

Adaptive Management, Measuring Success, Assessing Progress - The Minnesota Model
The ISWFTF believes that the Minnesota Nutrient Reduction Plan provides a good model for developing goals and timelines and also provides a roadmap for applying adaptive management to INRS. The Minnesota plan (**http://www.pca.state.mn.us/index.php/view-document.html?gid=20046**) sets time specific goals but also provides a timeline for periodically assessing outcomes. When this is coupled with a program that effectively measures outcomes (see Strategic Directions – Section One Goal), adaptive management becomes possible. Previous efforts in the Chesapeake Bay and elsewhere suggest that without data on real outcomes no real improvement will be seen in the nutrient reduction strategy over time and its likely goals will not be met.

About Accountability and Performance
ISWFTF recognizes the need to address accountability and performance. The strategies outlined in the Section One Goal (A Culture of Measurement) set the baseline for addressing business and environmental performance, i.e., "what's working, what's not." With a robust network for measurement, watersheds can assess progress toward a series of goals and develop the most cost effective strategies using measures considering business, social and environmental factors. ISWFTF seeks additional input on accountability and performance for inclusion in subsequent documents.

Role of Private Sector
Business Planning Component:
Our fields are diverse and variable, and land managers work hard to overcome the challenges posed by variability. Recent work has identified that between 3%-15% of nearly every row crop production field is consistently not profitable, and across the state of Iowa there are millions of row crop acres that deliver consistently poor business performance. One of the most powerful tools we have to quickly impact water quality is to identify where and how practices that improve water quality can enhance the business performance of land managers and decision makers. The data and methods required to identify business performance metrics, i.e. profitability and return on investment, at the scale they vary within our fields (~10ft resolution) are readily available. We propose that delivering precision business planning analyses to Iowa land managers and decision makers will accelerate and enhance the water quality outcomes from the funding pathways identified in this document.

Delivery Options:
1. Precision business planning analyses are included as part of the documentation workflow for getting practice funding.
2. A state sponsored precision business planning framework is openly provided to Iowa land managers and decision makers.
3. A preferred retailer program is developed to subsidize and encourage retailers to deliver precision business planning to land manager customers.

About Implementation

Implementation Concepts:

1. IDALS and farmer focused non-profits including Iowa Soybean Association, Iowa Corn Growers, etc., partner to solicit proposals from commercial service providers to deliver a precision business planning system built to specifications.
2. IDALS and select partner organizations, i.e. Iowa State University, Iowa Soybean Association, Iowa Corn Growers, create a precision business planning toolkit certification. Commercial providers will apply for the certification through a review process. Certified toolkits can be selected by retailers and crop consultants to receive subsidy from the preferred retailer program.

Private ag suppliers and information providers are trusted sources of information and constitute a currently unused conduit for conservation information and project delivery. Efforts should be undertaken to place a greater emphasis on working with the private sector to encourage water quality BMP adoption.

Multiple Benefits – Jobs, Flood Abatement, Soil Health Benefits, etc.
While it's important to focus on the cost of the INRS and to use public and private funds efficiently, it is also important to focus on multiple project benefits.

Chad Hart of ISU reported that 67% of corn yield losses and 55% of soybean yield losses were due to too much and too little water. (See "Managing Risk in Agriculture" **http://www2.econ.iastate.edu/faculty/hart/presentations2013.html**) Significant investments in our agricultural drainage infrastructure now would pay huge dividends for decades to come. Practices such as tail-water recovery systems that store surplus spring runoff laden with nutrient enriched drainage water could provide water and nutrients during critical late summer periods. Similar benefits can be achieved with other drainage water management practices. And other drainage best management practices that store or slowly release water, such as saturated buffers and tile bioreactors can also dramatically reduce nitrate levels by 50% or more. Many of the same BMP's have the potential to reduce flood flows.

Likewise nutrient treatment wetlands such as those currently being promoted by IDALS, cover crops and perennial strips of habitat, etc. could provide habitat for migratory waterfowl and other economically important waterfowl such as pheasants while they store water and reduce flooding and improve water quality. Practices such as cover crops can both reduce the risk of flooding by increasing soil organic matter and evapo-transpiration, but can also greatly increase soil fertility.

Another significant benefit of the nutrient reduction strategy will be the creation of many new jobs as precision agriculture services are requested from the local cooperative and land improvement contractors are hired to install best practices, drainage construction, installation, maintenance, coordination jobs, etc.

January 2016 Report to the State:
STRATEGIC DIRECTION, IMPLEMENTATION, RECOMMENDATIONS

Summary

The Iowa Soil and Water Future Task Force believes that goals set in the Iowa Nutrient Reduction Strategy can be better met by:

1. Allocating sufficient, permanent and dedicated funding sources for detailed nutrient reduction implementation plans and practices. Options include: Natural Resources and Outdoor Recreation Trust Fund (IWiLL), SAVE (a portion of growth from penny sales tax extension), tax credits, and water quality trading; other options may surface.
2. Developing an implementation plan for the Nutrient Reduction Strategy.
3. Using WMA's to implement the Nutrient Reduction Strategy.
4. Growing an effective implementation infrastructure – from outreach staff and technical advisors to watershed coordinators and construction teams.
5. Establishing an Iowa Soil and Water Health Revolving Loan Fund, modeled after the federal SRF to:
   a. Leverage public funding with private sector dollars by providing three year no-interest loan funds for testing, master planning and design of water quality improvements
   b. Provide sustainable, reliable and sufficient low-cost loan and other funding for WMA's once they have developed effective implementation plans. Use WMA's to implement the nutrient reduction strategy
6. Developing monitoring and measurement systems to allow for adaptive management strategies.
7. Balancing resources to ensure watersheds of greatest need and watersheds ready-for-action receive resources.
8. Incorporating transparency into the implementation of the NRS.
9. Emphasize practices with multiple, long-term and/or significant benefits.
10. Engaging the private sector to supplement public sector outreach and implementation including new innovations in precision agriculture, drainage water management, etc.

By using the creativity and efficiency of the private sector, ISWFTF believes the overall cost of implementing the Iowa Nutrient Reduction Strategy can be reduced. ISWFTF believes Iowa's long-term future depends on making the same commitment to our soil and water infrastructure that we make to our roads and bridges. The public appears to agree. In an era of increased media attention, soil and water health has captured the imagination of the people of Iowa like never before. ISWFTF believes this moment in time should not be squandered. ISWFTF urges decision-makers to take full advantage of public concerns and launch Iowa on a trajectory of soil and water health – now and forever.