TESTIMONY TO THE U.S. SENATE COMMITTEE ON AGRICULTURE, NUTRITION & FORESTRY

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Thank you Chairwoman Stabenow, Ranking Member Cochran, and members of the Committee for the opportunity to share with you today a farmer's perspective on how stewardship of working landscapes can help improve water quality.

I am Kristin Weeks Duncanson, owner and partner of Duncanson Growers, a 5th generation family farm in southern Minnesota where we grow corn, soybeans, and vegetables and raise hogs. I have been engaged in farming and agricultural policy for 28 years. I currently serve as an Advisor to AGree. I previously served as Chair of the Minnesota Agri-Growth Council, President of the Minnesota Soybean Growers Association, and director of the American Soybean Growers Association.

For many of us in the agriculture community, a deep and abiding stewardship of our own land runs in our veins. It is a tradition passed through the generations that we are very proud of.

Farmers and landowners working *together* to manage our water resources also goes back many generations. In Minnesota, we have a ditch system. Our challenge with water is usually too much, not too little. Though for many years we focused entirely on making sure that we had infrastructure to move excess water off of our land, we have learned in more recent years that we need to make sure that we do that in a way that does not lead to erosion of streambanks or filling up the streams with eroded soils and excess nutrients.

My farming community lies in both the Blue Earth and Le Seuer watersheds, which flow into the Minnesota River and on to the Mississippi River about 80 miles away. We've worked together on Blue Earth County Ditch 57. A few years ago, we designed a two-tiered ditch system with a holding pond and planted with native grasses that gets the water off of our fields but slows the water down and absorbs the nutrients it carries with it. This helps improve water quality downstream.

The process for the new Ditch 57 was neither quick nor easy. It took several years of negotiating with the owners and getting a design, funding and approvals. But the outcomes we

achieved were increased productivity for the working lands and a decrease in flooded areas in both the farm fields and many of the houses in the nearby town.

We and many of our neighbors have also learned to use cover crops to help build the health of our soils – which are the foundation of our productivity and profitability. Cover crops also help keep both sediment and nutrients out of the water. By retaining nutrients in the soil, we use less fertilizer, which also contributes to our bottom line.

We are learning more and more that we need to do conservation differently if we are to be sure that we are doing what is needed to improve water quality while we maintain and improve our productivity and profitability over the long term. And forward-looking producers and landowners are ready to provide leadership.

- We need to focus on water quality outcomes at the watershed level, not just as individual operators.
- Producers, with technical support from universities, agencies, or the private sector, need to measure baselines regarding both agricultural practices and environmental outcomes at multiple scales and measure change over time.
- Producers need to work together to identify what a basic standard of stewardship should look like in their watershed – what performance standards or practices should be expected of producers regardless of cost share being available.
- We need to focus cost share and public dollars on the structural practices needed to achieve outcomes, and to put them where we can achieve the most cost-effective impact.

Government too needs to do things differently.

- Prioritize resources to where the natural resource problems are found.
- Invest in collecting baseline data and monitoring change over time at multiple scales.
- Provide regulatory certainty to those producers who voluntarily demonstrate continuous improvement to achieve water quality goals.
- Share data more freely among agencies within USDA, other agencies, universities, and the private sector so that we can better understand the relationships between conservation practices, yield resilience, and environmental outcomes in specific agronomic circumstances. Of course we must ensure that proprietary data remains private and that data voluntarily shared cannot be used for regulatory action.

As a member of the Advisory Committee of AGree, an effort that brings together a variety of producers with companies along the food and ag supply chain, environmental organizations, and public health and international development experts, I have worked with other producers to develop an approach we believe can successfully engage farmers and ranchers in achieving improved outcomes in working landscapes. What we are calling Working Lands Conservation Partnerships would be producer-led, watershed-scale, cooperative efforts to enhance both long-term productivity and improve environmental outcomes in a manner that could be recognized both by the public and public agencies as well as the supply chain. This approach is summarized in the infographic included in my written testimony.

The Regional Conservation Partnership Program authorized in the 2014 Farm Bill is an excellent example of a federal program that is well-aligned with our Working Lands Conservation Partnership approach. Allocating resources to specific areas of natural resource concern to undertake watershed scale projects that involve multiple partners and that leverage non-federal dollars makes sense. AGree recommends, and I strongly support, shifting up to half of agricultural conservation dollars toward programs like RCPP that utilize partnership-driven approaches to achieve outcomes at a watershed scale. This does not require trimming current programs. It means implementing them in a different way to support watershed-scale cooperative conservation projects. The limited resources available should be focused in a manner in which they can be leveraged to have the greatest impact. Through cooperative conservation, communities can identify together where and how conservation investments can achieve the greatest impact and leverage additional state and private funds.

Through the AGree process, we also have set some specific targets and timetables for natural resource stewardship that we believe represent the scope and pace of change that is needed. For example, AGree is calling for reducing by 30 percent over the next 10 years the number of rivers, lakes and streams currently designated as impaired primarily because of legacy and current nutrient, pesticide, and sediment runoff from agricultural operations. I am also including AGree's recommendations on working landscapes with my written testimony.

There are a growing number of us in the agricultural community who are eager to provide leadership to efforts to achieve such goals.

Thank you for your attention, and I look forward to your questions.

AGree

Transforming
Food & Ag Policy

Cooperative Conservation: A Producer-Led Approach to Achieving Healthy Agricultural Landscapes

By Kristin Weeks Duncanson, Jim Moseley, and Fred Yoder

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www.foodandagpolicy.com

This paper, developed by farmers deeply involved in the AGree process, is intended to stimulate thinking and discussion. Though it incorporates many insights gained through AGree deliberations, it does not represent official AGree positions. The views expressed here are those of the individual authors.

Foreword

AGree drives transformative change by connecting and challenging leaders from diverse communities to stimulate policy innovation and develop initiatives that address critical challenges facing the global food and agriculture system. AGree believes we must elevate food and agriculture policy as a national priority.

AGree's work addresses four broad challenges facing the global food and agriculture system:

- Meet future demand for food;
- Conserve and enhance water, soil, and habitat;
- Improve nutrition and public health; and
- Strengthen farms and communities to improve livelihoods.

We have taken a deliberative, inclusive approach to develop a policy framework and ongoing, complementary initiatives to meet these challenges. To overcome traditional obstacles to change, we engage a broad array of stakeholders whose insights and commitment contribute to meaningful solutions. AGree's work, building on our research to better understand problems and assess options, aims to stimulate creative ideas and encourage new perspectives while fostering the linkages key to catalyzing effective action.

Drawing on decades of farming experience, three Midwestern farmers chart a path forward for agricultural conservation through producer-led, cooperative watershed or landscape-scale efforts focused on achieving measurable agriculture and conservation outcomes. Their proposed approach, "Working Lands Conservation Partnerships," envisions groups of landowners and producers, supported by robust technical assistance, driving efforts at a watershed or landscape scale to identify and agree on locally-appropriate conservation performance benchmarks to which all landowners and producers in an area would hold themselves accountable as a group. The Partnerships would test alternative approaches to meeting these benchmarks while also achieving production goals and assess the productivity and profitability of these practices over the long term. The Partnerships would be accountable to state and federal agencies for ensuring agriculture's active participation in efforts to meet state and federal environmental standards, and those who actively participate would receive safe harbor from regulatory action. The authors also provide case studies of successful conservation initiatives from across the country that exemplify components of their approach.

This publication is part of a series intended to broaden discussion and complement AGree's consensus recommendations on policies and actions focused on food and agriculture. While the concepts presented in this paper have greatly enriched the deliberations of the AGree Co-Chairs and Advisors, the perspectives and positions do not represent consensus among them.

We hope you find this paper a helpful resource.

Deborah Atwood
Executive Director

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About the Authors

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Fred Yoder is a fourth generation Ohio farmer, past President of the National Corn Growers Association, and an AGree Advisory Committee member.

Introduction: Achieving Healthy Agricultural Landscapes

Great strides have been made in American agriculture to align productivity, profitability, and environmental outcomes. New knowledge, technologies, and management practices have resulted in significant increases in yields alongside significant decreases in soil and nutrient loss. For years, many of us have been actively innovating to keep our soils healthy through conservation tillage, cover crops, attention to microbial life, and other techniques. We have been developing new drainage and water management technologies and strategies to retain moisture and nutrients for crops while reducing nutrient leaching and improving water quality. Farmers and ranchers are working with a wide range of partners to advance common goals, both through on-the-ground projects (see Box 1: Conservation Partnerships on the Ground) as well as national initiatives (see Box 2: Soil and Water Research and Education Partnerships). Pioneers in conservation continue to lead the way in aligning productivity, profitability, and natural resource conservation. It is a great American tradition of which we are very proud (see Box 3, Conservation Pioneers, for links to examples of conservation leaders).

And yet, though we have improved dramatically on the whole, we continue to lose far too much soil and far too many nutrients from our fields.[1] In too many places, the health of our soils is declining as is the quality of our water.

Why? The latest management tools and up-to-date agronomic advice are not available to or affordable for all producers. Best practices are not universally known and adopted. Too often, we don't have the data to tell us which specific fields under which management conditions are particularly vulnerable to nitrogen or phosphorus leaching. Those who operate these lands often are not aware of the vulnerability.

In a Nutshell

For American agriculture to succeed over the long term, we need to take a different approach to agricultural conservation. We must protect the long-term health of our lands and the communities, families, and enterprises that depend on the land for their livelihoods and way of life. We must move towards performance-based, cooperative, and adaptive approaches to management at multiple scales. We must support producers and landowners in taking the lead and provide the tools and knowledge necessary for success. We in agriculture need to hold one another accountable for good stewardship of our landscapes, and those who are actively participating in landscape conservation should have safe harbor from regulatory action.

Most importantly, we have come to recognize that we cannot adequately address these natural resource challenges as individual producers. The current approach to agricultural conservation is not enabling us to succeed in what we need to do: align productivity, profitability, and environmental quality at the field *and* watershed/landscape scale.

Achieving improved environmental outcomes while maintaining and enhancing productivity and profitability requires that we work together in our watersheds to understand the natural resource systems and how they respond to various agronomic practices and systems. We need to target structural practices to the places where they will add the greatest value for the least cost, and we must agree on what farmers and ranchers should expect of ourselves and our neighbors in terms of basic stewardship.

Box 1: Conservation Partnerships on the Ground

The following collaborative conservation efforts highlight many aspects of our proposed approach for establishing conservation partnerships in local communities:

Lime Creek Watershed Improvement Association, located in Northeast Iowa, has used a community-based approach to engage local landowners to achieve a set of agreed-upon nutrient reduction goals. Forty-five percent of watershed residents are engaged in the program, with 23 percent using the Iowa Phosphorus Index, Corn Stalk Nitrate test, and Soil Conditioning Index to better understand soil health on their land and compare management scenarios. Participants are paid incentives for sustainable land stewardship as measured by improved index scores and reduced corn stalk nitrate. The Association has successfully improved environmental outcomes by leveraging incentives, harnessing data and metrics, and engaging the local community.

Little Snake River Conservation District, Wyoming has completed an array of watershed restoration projects in a highly variable and complex landscape where agriculture, livestock grazing, and recreation are the primary uses, and ownership is split between private and federal entities. A wide range of projects to improve water quality and restore and conserve habitat have been undertaken to address the needs of listed and candidate endangered species and to remove streams from EPA's 303(d) list of impaired waterways. The District has been highly successful in conducting outreach, building trust with and a sense of ownership among landowners, engaging agencies, and securing project funds – all of which are critical ingredients to successful cooperative watershed projects.

Nebraska's Natural Resource Districts are a unique system among U.S. conservation districts in that they are governed by locally elected boards, organized by river basins to improve watershed management, and have the ability to assess local property taxes to fund projects. They provide technical and cost-share assistance as well as local regulations where necessary to improve conservation and natural resource management across the state, including flood control, groundwater quantity and quality, soil erosion, and irrigation runoff. Self-funded, locally governed, and with jurisdictional boundaries that match resource management concerns, Nebraska's Natural Resource Districts are models of effective conservation institutions.

Yahara Pride Farms Conservation Board is a voluntary, incentive-based coalition of Dane County, Wisconsin, landowners and producers, agronomists and technical advisors, recreational interests, and business leaders working to address phosphorous and sediment loading in the lakes in the Madison area and build a sustainability certification program. Partnering with NRCS, University of Wisconsin Extension, and the Clean Lakes Alliance and supported by private grants and member contributions, the Board has worked with local producers to improve their practices, engage in peer-to-peer learning, and leverage state and federal programs and technical assistance to gain the benefits of sustainability certification, including improved stewardship, expedited permitting from regulatory agencies, discounts from business partners, and brand recognition. Another ongoing project is the **Yahara Watershed Improvement Network** (WINs), a collaboration with the Madison Metropolitan Sewerage District (MMSD) to pilot an adaptive management approach to reducing nutrient runoff from non-point sources.

Box 1 (Continued):

Indian Creek Watershed Project, Illinois was established in 2009 to support area farmers working toward improved nutrient management and water quality. The Conservation Technology Information Center (CTIC), in collaboration with Illinois EPA, NRCS, and the Livingston County Soil and Water Conservation District, provides farmers with technical, informational, and financial support for conservation practices and technologies while also providing on-farm education and demonstration projects. Led by a steering committee headed by local producers, the project has garnered strong community support- 55 percent of local farms have enrolled. Partners in local government provide technical support through lake monitoring services, including regular data collection on sedimentation, fish habitat, nutrient loading, and other project concerns to help participants track progress and engage in adaptive management.

Sand County Foundation's Ag Incentives Program provides financial support to farmers for experimenting with new nutrient management practices to improve water quality in Midwestern rivers and lakes and the Gulf of Mexico. The project measures the results of such efforts to ensure progress and adaptive management. Current projects include work on the Milwaukee River, Boone River, and Yahara Lakes.

Sage Grouse Initiative is a Natural Resources Conservation Service (NRCS)-led collaborative effort to bring ranchers, agencies, researchers, conservation organizations, and the private sector together to proactively conserve sage grouse and sage grouse habitat to prevent the species' listing under the Endangered Species Act. Voluntary projects, such as conservation easements, new grazing systems, and invasive species and fence removal, are ongoing across 11 western states.

We are increasingly concerned about the erosion and nutrient pollution coming from agricultural landscapes because of what they mean for the long-term future of agriculture. First and foremost, we must protect the natural resources on which our livelihoods depend. That is our stewardship responsibility. We also must take heed of the general public's increased concern about the environmental impacts of agriculture – for if these concerns are not met with leadership and action by us in agriculture, others may well take action that is not friendly toward agriculture.

Indeed, there is a growing drumbeat to regulate agricultural activities driven by the evidence that agriculture is a significant – though not the only – contributor to nutrient loading (see Box 4: Growing Pressure to Regulate Agriculture). We who are leaders in our agricultural communities need to take initiative to ensure that all producers and landowners are participating in reasonable conservation measures or we risk losing consumer and public support for farming activities and being subject to increased regulatory actions.

We need to work together as farmers and ranchers in our watersheds and landscapes. We need to partner with others along the supply chain – both our input suppliers and our customers – as well as the variety of organizations and agencies focused on conservation in agricultural landscapes and the environmental impact of agriculture on water, air, and habitat.

We believe that production agriculture must move towards cooperative conservation of working lands at multiple scales in order to secure the long-term health of our individual operations and our watersheds and landscapes. Our proposed approach is informed by the successes and challenges of agricultural conservation projects in our own communities and across the United States. We have highlighted in sidebars some of the successful projects that have most informed our thinking.

Box 2: Soil and Water Research and Education Partnerships

The following are projects that incorporate many of the elements we are advancing in this paper, including an emphasis on the alignment of productivity, profitability, and stewardship; the importance of collaborative, cross-sector approaches; and farmer and rancher leadership and engagement:

Soil Health Partnership is a collaboration among National Corn Growers Association, Monsanto, and Walton Family Foundation, with support from environmental NGOs, academics, and USDA representatives. Over five years, the Partnership will work to test, measure, and publish findings on the productivity and environmental benefits of innovative soil management practices. Following report publication, the Partnership will support networking and technical assistance to help producers improve their soil health.

The Soil Renaissance is a collaborative initiative supported by the Farm Foundation and the Samuel Roberts Noble Foundation that seeks to make soil health a priority consideration in land management decisions. Representatives from agriculture, research, and policy communities are working on improving soil health measurement, economic valuation, research, and education.

Unlock the Secrets in the Soil is a USDA Natural Resources Conservation Service educational campaign designed to raise awareness about the benefits of healthy soils and the opportunities to take advantage of soil health management systems. Resources include soil health fact sheets and checklists; information on NRCS resources to assist landowners and producers in building healthy soils; and, testimonials from U.S. farmers discussing how maintaining healthy soils has increased their productivity, profitability, and sustainability.

On-Farm Network, sponsored by the **Iowa Soybean Association**, engages farmers to accelerate the use of precision agriculture tools and technology, including remote sensing, GPS, and yield monitors, to improve nutrient use efficiency. Growers work with agronomists on a range of research projects to determine the best combination of inputs and practices that enhance yields, nutrient management, profitability, and environmental stewardship.

Box 3: Conservation Pioneers

Examples of outstanding conservation leadership and innovation by landowners and producers include recipients of:

The Sand County Foundation's **Leopold Conservation Award**.

The **Environmental Stewardship Award** sponsored by NRCS, National Cattlemen's Beef Association, U.S. Fish and Wildlife Service, National Cattlemen's Association, and Dow AgroSciences.

The Department of the Interior's **Partners in Conservation and Cooperative Conservation Awards**.

A Producer-Led Approach: Working Lands Conservation Partnerships

Local leadership: We propose that in agricultural watersheds/landscapes that groups of local landowners/producers be formed to cooperatively establish and advance long-term productivity and conservation goals for their watersheds through engagement and support of producers and landowners and guided by sound science. This group might be called a Working Lands Conservation Partnership (WLCP) board or committee (if it functions under an existing board). In many places, an institution or group of institutions may already exist that could take on the WLCP mission, such as a conservation, watershed, drainage, or weed control district board. In other places, a new institution might be

Box 4: Growing Pressure to Regulate Agriculture

Growing public pressure to regulate non-point sources of water pollution, including agriculture, is largely the result of nutrient pollution, much of which comes from agriculture.

In Ohio, for instance, pressure is growing to reduce nutrient pollution to Lake Erie following a series of toxic algal blooms threatening Toledo's drinking water supply. Because agricultural runoff plays a key role in causing these blooms, the state and federal government have begun to move toward tighter restrictions on agricultural nutrient application. Most recently, in June 2014, Ohio passed a law phasing in requirements for farmers to become certified through a state educational program on improved nutrient management before applying fertilizer. Implementation of Ohio's State Nutrient Reduction Strategy to reduce excess nutrients causing the dead zone in the Gulf of Mexico as well as Total Maximum Daily Load (TMDL) restrictions affecting agriculture throughout the state are ongoing. Public health and environmental advocates, as well as a growing share of the public following recent drinking water shutoffs in Toledo, are calling for further action to prevent future drinking water impairments.

In Minnesota, too, pressure for action to reduce agricultural runoff is building. Voters in Minnesota demonstrated their strong support for improved water quality by passing a Legacy Amendment taxing themselves to support a state Clean Water Fund that generated over $339 million between 2009-2012 alone.[2] Like Ohio, Minnesota is required to implement a State Nutrient Reduction Strategy to improve water quality in the Mississippi River basin and is administering TMDLs across the state to reduce the number of impaired local water bodies affected by agricultural runoff and other factors. Minnesota has adopted an ordinance requiring 50 foot buffers on all agricultural land along lakes and streams. The Minnesota Agricultural Water Quality Certification Program, a voluntary program to provide regulatory certainty to farmers engaged in certified conservation practices, is being developed. Despite these efforts, observers continue to call for further regulatory action to reduce agricultural runoff that contributes to water quality impairments.

California landowners and producers are among the more highly regulated in the country on many environmental issues. For instance, the state requires all potential nonpoint dischargers, including farmers and ranchers, to create plans specifying the best management practices they will implement to meet regional and state water quality goals as well as a timeline for implementation and a description of a monitoring program for groundwater as well as rivers and streams. Landowners may submit individual plans, but many choose to work with a group of similar dischargers to create a third-party plan that is developed and administered by outside representatives through institutions called water quality coalitions. These organizations take advantage of economies of scale for efficient planning, monitoring, and technical support.

In these states and around the country, there is increasing public concern about non-point sources of water pollution. Farmers and ranchers, many of whom are already doing good work to manage nutrients and reduce runoff, should step up and take the lead now to ensure agriculture is doing its part to address these concerns. Our WLCP approach will allow them to do just that.

needed. In addition to its work within the community of producers/landowners, the WLCP board/committee would serve as a focal point for the agricultural community to engage with other sectors and interests responsible for and/or concerned about environmental outcomes in working landscapes. Funding for the WLCP might be provided through a combination of producer/landowner self-assessments, state and federal grants and funding streams, and (perhaps even) other private sector funding streams.

Baseline conservation performance and practice standards: We propose that the WLCP leadership work with producers and owners of working lands to develop specific performance benchmarks (goals that include specific metrics and targets) at a watershed/landscape scale, as well as basic practice requirements and/or performance benchmarks (appropriate to the location, size, and scope of an operation) at a farm scale. These locally-established baseline conservation performance and practice standards would be designed to enhance the long-term productivity of agricultural landscapes, help meet basic environmental quality standards, and contribute to the profitability of farm operations and the long-term value of working lands. Baselines would be established, and the proposed performance and practice standards would be tested, refined, and over time become an expectation of producers in the watershed. At the individual landowner/producer scale, standards would contain performance benchmarks where measurement and monitoring are practical and economically feasible. Where they are not, evidence-based practice standards would be used. At the watershed/landscape scale, standards would be entirely outcome oriented and measurable. When edge of field and in-stream practices and infrastructure that go beyond the locally-established baseline standards are required to address resource concerns, the WLCP board would take responsibility for identifying where they should be undertaken to achieve the greatest effect for the watershed/landscape at least cost and for financing them, through a combination of financial self-assessment and partnerships/cost-share with public and private sector organizations.

Technical resources: WLCPs would need to employ significant technical resources to: measure baselines, monitor conditions, and track management practices; assist producers in developing integrated resource management plans; aggregate data, ensure its privacy, and assess the effectiveness of plans and practices; identify in-field and edge-of-field performance and/or practice standards and systems sufficient to meet performance goals; and, design landscape-scale conservation plans. Such assistance could be provided by conservation districts and universities in the area, federal and state agencies, private sector suppliers and advisors, and/or the WLCPs own hired experts. The WLCP board/committee would ensure that producers are engaged in the design and oversight of data gathering. We imagine that every 3 – 5 years boards would assess the effectiveness of their baseline conservation standards and off-field infrastructure in achieving performance outcomes and make adjustments as needed. State and federal programs could be tapped to provide financial resources to the WLCP and its members to cover all or part of the costs of measurement and monitoring at various scales.

Supporting Producers to Achieve Productivity, Profitability, and Environmental Quality

The Working Lands Conservation Partnerships approach draws on a wide range of experience and lessons learned from past and current efforts to provide producers with (1) the tools they need to understand the impacts of their operations on the broader watershed and (2) the information and technical support necessary to adopt pragmatic approaches to improving agricultural operations in order to reduce impacts on the watershed while maintaining or improving productivity and profitability.

Framework of mutual accountability: To be effective, WLCPs would need to be part of a framework of mutual accountability among producers, local boards, and federal/state agencies. Watershed/landscape conservation plans would be developed by the WLCP board, oriented to achieving both local conservation goals as well as state and federal environmental quality standards. The WLCP would in effect serve as a buffer between producers/landowners and federal and state regulators. In our vision, the WLCP would represent the agricultural sector in the watershed/landscape and would work with relevant state and federal agencies for ensuring producer/landowner participation in efforts to meet state and federal environmental standards. To the extent state or federal law now or in the future requires action by agriculture to meet environmental quality standards, we propose that the WLCP would be accountable to the relevant agencies for implementing a plan they approve as sufficient to make progress toward meeting state and federal standards. Agencies would, in turn, be accountable to producers and landowners for recognizing and supporting their efforts by granting to the board and all of its actively participating members safe harbor from additional regulatory action related to environmental outcomes addressed in the plan. Agencies should also be accountable for exercising their discretion in a manner that enables and supports the WLCP in achieving its mission. If producers/landowners choose not to fully participate in the WLCP program, they would not be protected from regulatory action. If the agronomic practices of such individuals prevent the broader community from achieving environmental quality goals, communities might consider some kind of informal or formal enforcement mechanism.

The supply chain: Growing interest in "sustainable sourcing" among major food brands, processors, and retailers creates opportunities to integrate company sustainability objectives with locally-led collaborative landscape management. Rather than focus only on a single company's relationships with individual producers around sustainability metrics, certifications, and checklists, the WLCP-approach provides an opportunity for multiple buyers to work together and in partnership with producers/landowners in a landscape/watershed to achieve environmental outcomes at both

Box 5: Key Elements of the WLCP Approach

Strong local leadership by farmers/landowners, inclusion of all key stakeholders, and involvement across the supply chain.

- **Performance-based, cooperative, and adaptive approach to management** of watersheds/landscapes.
- **A basic standard of on-farm care:** conservation performance and practice standards established by producers and technical experts locally that can reasonably be expected of landowners/producers in the area that are tested, assessed, and adapted over time.
- **Additional infrastructure and on-farm practices** necessary to achieve goals, funded by a combination of cost-share, community assessments, and grants.
- **Local conservation goals and plans aligned with local, state and federal goals and plans with regulatory certainty/safe harbor for participating producers/landowners.**
- **Recognition for farmer/landowner stewardship** in supply chain companies' sustainable sourcing initiatives.
- **Robust technical and administrative support and monitoring infrastructure** to establish baselines, measure progress, and develop and implement effective strategies.
- **Coordination and collaboration wi th local districts and boards** (conservation, irrigation, drainage, weed control, etc.), **as well as research, education, and extension resources.**

the individual operation scale as well as the landscape scale. Ideally, WLCPs would have a single set of criteria and metrics for producers focused on continuous improvement that address local, state, federal, and supply chain sustainability goals, enabling a streamlined system adapted to local conditions that works well for producers.

The Path Forward

We are convinced that broad-based stewardship among producers through baseline conservation standards and jointly taking responsibility for additional practices and infrastructure necessary to achieve environmental outcomes will help position agriculture, both in fact and in perception, as a vital part of the solution to existing environmental quality challenges while ensuring the long-term economic sustainability of agriculture. We believe the time is ripe for a working lands conservation partnerships approach to take root more broadly and comprehensively. However, the institutional capacity for fully integrated watershed/landscape governance at multiple scales is not in place and will require significant realignment and integration of authorities and capacities. Skilled volunteer and professional leadership to effectively engage landowners/producers at the grassroots level must be developed. Much better data on both practices on the land and outcomes from field to large landscape scale as well as scientific analysis to understand their relationship is needed. Widespread implementation is a long-term prospect, requiring intensive efforts across the nation for the next ten to twenty years.

Given the inherent variability and complexity in both agricultural and natural systems, we have to work together, community by community, watershed by watershed, to ensure the health and vitality on our farms and ranches and across our landscapes. Taking this approach will bring divergent groups together, strengthen bonds, and build leadership– all of which benefit and enrich communities in numerous ways. Furthermore, we anticipate that over time, those watersheds and landscapes in which producers, landowners, and other stakeholders work together to improve conservation outcomes will develop a competitive advantage when marketing to the growing number of large purchasers who are concerned about the sustainability of their supply chains.

The future of agriculture in America is bright – if we conserve and enhance the soil, water, and habitat for the generations that follow us. To succeed, we must work together. We invite you to offer your suggestions about how the concepts we have presented can be improved, and how we can together make progress toward a new vision for agricultural conservation.

Endnotes

1 U.S. Department of Agriculture. 2010. 2007 Natural Resources Inventory: Soil Erosion on Cropland, Natural Resources Conservation Service. http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs143_012269.pdf.

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2 "Clean Water, Land & Legacy Amendment: Making Minnesota Better." 2014. Minnesota Department of Natural Resources. http://www.dnr.state.mn.us/legacy/index.html.

About AGree

AGree seeks to drive positive change in the food and agriculture system by connecting and challenging leaders from diverse communities to catalyze action and elevate food and agriculture policy as a national priority. AGree also recognizes the interconnected nature of agriculture policy globally and seeks to break down barriers and work across issue areas.

AGree is a collaborative initiative of nine of the world's leading foundations, including the Ford Foundation, Bill & Melinda Gates Foundation, The David and Lucile Packard Foundation, W.K. Kellogg Foundation, The McKnight Foundation, Robert Wood Johnson Foundation, Rockefeller Foundation, Surdna Foundation, and The Walton Family Foundation, and will be a major force for comprehensive and lasting change.

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Working Landscapes: Achieving Productivity, Profitability, and Environmental Outcomes

2014

Challenges

Meet future demand for food

Conserve and enhance water, soil, and habitat

Improve nutrition and public health

Strengthen farms and communities to improve livelihoods

Initiatives

Food & Nutrition

Immigration Reform

International Development

Local Food

Next Generation

Research & Innovation

Risk Management

Working Landscapes

AGree brings together a diverse group of producers, environmentalists, processors, supply chain companies, and academics who have widely divergent views of the issues and opportunities facing U.S. agriculture. Despite our differing perspectives, however, we share a common vision: a 21st century food system in which farms and ranches are productive and able to meet growing demand for affordable and nutritious food; farming and ranching are profitable enterprises; soil, water, and biodiversity are conserved and enhanced; and environmental quality is maintained or improved. We believe that American farmers and ranchers have had remarkable success to date in achieving many aspects of this vision. Challenges remain in maintaining and improving soil health, water quality, and habitat in many agricultural regions, and as agriculture moves forward, new challenges associated with a changing climate, shrinking water supplies, shifting dietary preferences, and growing populations must also be addressed.

We have developed a set of strategies and initiatives that will be essential to trigger and sustain transformative change on an effective and meaningful scale. While public policy, regulation and publicly-funded research will play a role in enabling needed innovations, we strongly believe the solutions necessary to attain our common vision will largely emerge from the efforts of those directly engaged in food and agriculture enterprises working in their businesses and communities. Models of innovation that create new sorts of linkages and are laser-focused on problem-solving are needed to set the stage for aligning efforts to achieve positive economic, social, and environmental outcomes across U.S. and international supply chains. Innovative problem-solving must engage producers, commodity groups and associations, researchers, educators, NGOs, and businesses, as well as public policy and institutions. Building trust and promoting cooperation among these stakeholders is essential. We know this is possible because we have seen it work in diverse circumstances across the United States.

We acknowledge that there is anxiety in the agricultural community with government-driven regulatory approaches to farm and land management. We believe that government's role is to set goals and support producers, landowners and businesses in their achievement, ensuring accountability for meeting goals and avoiding prescribing specific practices as much as possible. And, when regulation is essential to ensure public health and safety and conservation of natural resources, it must be fair, sensible, effective, and flexible.

To set U.S. agriculture more firmly on a path toward achieving our common vision, even as new challenges and opportunities emerge, we recommend the following strategies:

- Embrace diverse agricultural systems to ensure achievement of sustainability, productivity, and profitability goals. Stakeholders must move beyond debates about big vs. small, organic vs. conventional or low vs. high tech to focus on what works best to achieve these concrete outcomes: reliable and consistent production of affordable, safe, and nutritious food; healthy working lands and ecosystems, and prosperous farms and communities. All producers must

have the tools and resources they need to successfully and sustainably deliver agricultural products while serving diverse consumer values and markets. Food value chains everywhere must be sufficiently resilient to adapt to changing market and environmental conditions and to recover from short-term weather, market, or resource-based crises.

- Expand producer-led cooperative conservation across U.S. working lands. U.S. agriculture should capitalize on and extend proven successes of producer- and landowner-led efforts to advance conservation and improve environmental outcomes. Farmers, ranchers, and landowners should be empowered by federal policy to take the lead in initiating efforts to:
    - determine a basic standard of care — performance and practice standards that should reasonably be expected of landowners and producers in their watersheds or regions and should be in place whether or not public cost-share dollars are available;
    - encourage all producers to participate in meeting those standards, and test innovative approaches to meeting these standards while also achieving production goals;
    - assess the productivity and profitability of these practices over the long term;
    - work with relevant agencies, technical experts, and organizations to identify additional on-farm practices and infrastructure that support achievement of natural resource conservation goals;
    - determine implementation and financing strategies and identify sources of funding to support implementation; and
    - provide safe harbor to those who are willing to take voluntary action to achieve desired outcomes or early adopters who achieve such outcomes in an unconventional or extraordinary manner.

"Taking the lead" does not mean "doing it alone." The value of public research and extension systems in providing science-based advice is well-recognized and will be an essential complement to producer-led efforts. Indeed, strengthening public agricultural education and extension would facilitate additional acceptance and implementation among producers, landowners, community groups, and state and federal agencies to advance effective conservation at both the farm and landscape scale.

- Improve soil health and water quality and quantity through targeted investments. Farmers and other stakeholders should take an integrated, systems-oriented approach to soil, water, and nutrient management tailored appropriately to local conditions and farming practices. While soils vary dramatically across topography, they are the most basic, precious and critical resource for agricultural production. Degraded soil quality reduces the effectiveness for roots to access both water and nutrients, which leads to the need for higher levels of applied fertilizer and irrigation water when crops are actively growing. Farmers must have the correct levels of nutrients for their crops to perform and need access to the knowledge and tools necessary to maintain and improve long-term fertility by promoting soil quality. In summary, improvements in soil quality benefit society with lower food costs, cleaner water and reduced atmospheric carbon while landowners experience higher land values due to greater productivity from the resilience naturally inherent in improved soil.
    - Federal and state agencies as well as commodity groups and business leaders should invest in the research, education, and tools needed by farmers to more efficiently manage soil, water, and nutrients so that long-term productivity, profitability, and ecosystem health are improved and sustained.
- Increase understanding of the overall benefits, costs, and health and safety of agricultural inputs, practices, and systems. Well integrated and publicly available data and further analyses are needed to accelerate progress, as are better aligned goals and standards:
    - Invest in baseline data collection, long-term monitoring, research, and the merging, mining, and analysis of existing public and private databases (while effectively protecting proprietary information) to understand the relationships between production systems, conservation practices, yields, resilience, and environmental outcomes and to support both on-farm management and watershed/landscape scale natural resource conservation.
    - Craft widely accepted goals, standards, and associated metrics relevant to producers and landowners, commodity groups and associations, policymakers, supply chain leaders and the public to focus activities of multiple sectors and actors, and leverage public and private investments around commonly shared objectives.

  - Develop knowledge that can be used to design programs and incentivize conservation practices and systems that result in long-term productivity, resilience, and environmental quality. Increase capacity of the federal government to conduct independent and transparent, government-funded assessments of the agronomic effectiveness and human and ecological health impacts of new agronomic tools, technologies, and systems while modifying and streamlining the regulatory permitting processes to accelerate timely use of new tools and technologies that meet environmental, health, and safety standards.

- Foster collaboration across the supply chain to drive innovation and improved environmental outcomes: Move from checklists where large companies make demands of farmers and ranchers to mix and match "sustainable" practices to collaborative partnerships among food companies and producers focused on improving the "triple bottom line" (economic, social and environmental outcomes) at both farm and watershed/community scales, and indeed all along food value chains. Adopt new policies to promote and reward the widespread adoption of successful models. The goal is to create an equitable distribution of costs and benefits associated with transformative system changes, and create and share added value along the entire supply chain through high-quality engagement, commitment to ethical principles, and continuous learning.

Much work is already underway to advance these strategies, with leadership from producers and landowners, the supply chain, and the conservation community. But the challenges are also growing more complex and U.S. agriculture faces new competition and threats, both from inside the United States and globally. To amplify current efforts and accelerate progress, we propose the following specific goals, which we believe are indicative of the scope, scale, and pace of change necessary to realize our vision. The achievement of these goals will require the integrated pursuit of the strategies identified above.

1. **Shift up to 50 percent of USDA conservation program spending to support producer-led models for watershed-based cooperative conservation** by engaging 20 percent of working lands in producer-led, cooperative conservation projects in areas with significant resource concerns by 2025, 50 percent by 2035, and 75 percent by 2045.

2. **Increase continuous no-till where compatible with regional farm and crop practices by 50 percent and plant cover crops on 65 percent of annual row crop acreage to decrease soil degradation ratings** by 2025.

3. **Increase water supplies suitable for irrigation by 33 percent and mitigate overdraft of aquifers by 2025** by increasing irrigation water efficiency, increasing environmentally sound water storage and recharge, reducing losses in water conveyance, and bringing into greater alignment the water needs of crops/livestock grown in regions and long-term projections (including potential for enhancement) of water supply.

4. **By 2025, reduce by 30 percent the number of rivers, lakes and streams currently designated as impaired primarily because of legacy and current nutrient, pesticide, and sediment runoff from cultivated cropland.**

5. **Universalize methods of nutrient application that result in efficient uptake by plants, retention of nutrients in the soil, and reduced release into water and air.** Acceptable levels of nitrogen and phosphorus use efficiency will vary by region, soil, type of irrigation (if any), and source of nutrient. In impaired watersheds, require producers who chose not to participate in voluntary efforts to conduct nutrient management planning and other practices necessary to reduce offsite environmental effects of nitrogen and phosphorus and protect the watershed.

6. **Integrate and/or manage USDA (e.g., NASS, ERS, NRCS, etc.) on-farm data collection programs** so that detailed, comprehensive farm-specific information is available to quantify the impacts of farm enterprise design, farming system choices, conservation practices and systems, technology, and policy on all critical aspects of farm-level and watershed/landscape-scale performance, impacts, resilience, and sustainability.

Progress toward these goals will demonstrate that U.S. agriculture is on a trajectory to meet the challenges of aligning productivity, profitability, and environmental outcomes. These goals and programmatic recommendations are not intended to be comprehensive, nor the final word, but are offered as an essential starting point. For a more detailed and comprehensive set of strategies, please see *Annex to AGree Consensus Recommendations: Achieving Productivity, Profitability and Environmental Outcomes in U.S. Agriculture*.

Although all the individuals formally affiliated with AGree may not agree completely with every statement noted, they are committed to working together to find solutions to the challenges facing food and agriculture. AGree Advisors participated as individuals, not as official representatives of their organization.

About AGree

AGree seeks to drive positive change in the food and agriculture system by connecting and challenging leaders from diverse communities to catalyze action and elevate food and agriculture policy as a national priority. AGree recognizes the interconnected nature of food and agriculture systems globally and seeks to break down barriers and work across issue areas.

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Framework for Transformative Change to Achieve Productivity, Profitability, and Environmental Outcomes