

Accelerating Conservation Adoption

A ROAD MAP FOR ACTION IN
THE MISSISSIPPI RIVER BASIN



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Acknowledgments: This report was developed by the staff of The National Wildlife Federation's Sustainable Agriculture team, with input from multiple partners and collaborators. The work was generously funded by the Walton Family Foundation. We thank our partners in conservation work for their contributions to this report, especially The Nature Conservancy, National Audubon Society, and Environmental Defense Fund. Additionally, we are grateful to all participants in the research efforts detailed in this report for their time and insights.

Suggested citation: A. Reimer, J. Berkowitz, and A. Dam. 2024. *Accelerating Conservation Adoption: A Road Map for Action in the Mississippi River Basin*. Washington, D.C.: National Wildlife Federation.

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Lesser-prairie chicken. Photo: Bigstockphoto

This road map is a collective endeavor, drawing insights from diverse stakeholders including farmers, researchers, policymakers, and communities, to create a comprehensive strategy for the future.

Introduction

Agriculture in the U.S. faces multiple complex challenges, including meeting growing global demand for food and fiber, a changing and increasingly variable climate, and loss of biodiversity. Given these growing challenges, it is imperative to chart a course towards agricultural sustainability. Heavy modification of natural habitats and hydrology throughout much of the U.S. agricultural landscape have also led to degraded water quality and resilience. Addressing these challenges will require use of new production systems that better align agriculture with ecological principles through the use of soil health and regenerative practices including diversified crop and livestock systems, reduced tillage, cover crops, and decreased reliance on synthetic chemicals. Restoring natural hydrology and habitat through



U.S. States part of the Mississippi River Conservation project.

natural infrastructure projects can also confer multiple benefits to rural and downstream communities, including flood control, pollination services, and pollution reduction.

Increasing use of in-field conservation practices and natural infrastructure is not challenge-free, however, and new, non-traditional approaches are needed. Farmers, landowners, and communities face numerous barriers—at multiple scales—to implementing these

approaches. These include misaligned policy incentives (e.g., federally subsidized crop insurance), financial barriers at both the field and farm scales, disconnects between farmland owners and farm operators, and cultural barriers to shifting from conventional production systems. Cost-share and technical assistance from traditional conservation agencies are important but alone are insufficient to scale up use of regenerative agriculture and natural infrastructure.

To identify scalable solutions for overcoming these barriers, National Wildlife Federation has developed a road map to expand conservation agriculture in the Mississippi River basin. This road map is a collective endeavor, drawing insights from diverse stakeholders including farmers, researchers, policymakers, and

communities, to create a comprehensive strategy for the future. We have built on NWF's existing outreach support programs, the Conservation Champions and Grow More professional development workshop, as well as our leadership in applying social and behavioral science to sustainable agriculture work. In early 2023, we conducted multiple case studies to better understand issues and potential solutions to improving on-the-ground support for farmers and other stakeholders. By forging new collaborations and partnerships, we aim to create a network of shared knowledge and resources that will empower stakeholders at all levels. The purpose of this road map is to push beyond listing barriers to conservation agriculture by laying out an actionable plan to meet local needs and context.



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Tillage radish growing under canopy of silage corn. Photo: SARE Cover Crop Image Library

Question:
What would be useful to support your work with farmers?

Answer:
A roadmap of partners doing this kind of work by state, topic, or region, so we don't have to reinvent the wheel with building partnerships for a new project.

How to Use this Roadmap

This roadmap is designed to be a practical guide for local action, arranged by type, timing, and scale of action (Figure 1). Providing a comprehensive understanding of how to sequence and prioritize actions within this framework is key for organizations and individuals seeking to build conservation programming and improving outcomes. With input from farmers, conservation professionals, agency staff, and conservation leaders from across the Mississippi River basin, we have identified concrete programs or strategies to support farmer innovation and conservation efforts.

We have organized these strategies in four broad categories:

1. Improved financial incentives, resources, and markets
2. Improved technical assistance delivery
3. Coordinated efforts between key organizations and communities
4. Increased social and community connections

We recognize that these are not discrete categories, but rather areas of overlapping and reinforcing action. In this roadmap, we highlight how these actions support each other by building capacities, coordinating programming, and investing in communities to take and continue action. Results from a survey of conservation professionals are included to emphasize inclusion of these priority actions. This survey of conservation agency staff at local, state, and federal levels, university extension educators, and nonprofit conservation professionals helped us select and prioritize these actions, reflecting the realities at the local level throughout the Mississippi River basin. More details on this survey can be found in the Methods section below.

Document Outline

- Priority Action: Specific recommended actions, categorized by time and scale. Survey results are included to emphasize the need for each action.
- Framework: In depth descriptions of the priority actions contextualized within four broad categories; financial incentives, technical assistance, coordination across organizations, and social connections. Examples of existing programs are highlighted.
- Methods: This section documents the process used to create the roadmap, including our case study and survey design.

Priority Actions

	1-2 years	3-5 years	5+ years
Local	1. Strategize decisions with local governments	2. On-farm research	4. Coalitions and co-ops
State	3. Mentorship and farmer-led outreach	9. Monetize conservation services	10. Conservation practice warranty
National	6. Expand staff education	7. Farmer-agency liaisons	8. Increased connections within the food supply chain
	5. Standardized data sharing	11. Funding resource decision making tool	12. Restructure grant opportunities

financial
 technical
 coordinate communities

Figure 1. Priority actions identified in this roadmap are organized by scale (local, state, or national) and time (1-2 years, 3-5 years, and 5+ years). Each priority action with supporting survey results are described for practical guidance in the Priority Action section.



Henslow sparrow. Photo: Alamy

In the local regions targeted by this report, local mayors and city councils are important leaders who set expectations about conservation practices and environmental stewardship in their communities.

Priority Actions

1. Strategize decisions with local governments

On a local scale, we recommend collaborating with local governments, in addition to local farmers and community members to identify priorities and implement practices. In the local regions targeted by this report, local mayors and city councils are important leaders who set expectations about conservation practices and environmental stewardship in their communities.

Benefits: This deliverable improves coordination across organizations, deepens trust in local conservation efforts, and supports community-led initiatives.

Survey Results: Coordination between community-based organizations was not the most highly ranked of actions, but conservation professionals acknowledged the need for strategic planning and coordination in support of improved financial and technical assistance. 58% of survey respondents identified “*identify and bring together community outreach organizations for effective sharing and use of information*” as either a top or high priority.

2. On-farm research

Local farmers voiced interest in participating in on-farm research, particularly in Southeast Missouri’s

Bootheel. Conservation professionals and researchers nearby should be aware of this interest and take advantage of the opportunity to collaboratively research conservation practices.

Benefits: This deliverable connects organizations across scales, strengthens relationships between farmers and organizations, and provides long-term technical assistance to farmers.

Survey Results: Local, on-farm research and demonstrations were among the most highly prioritized actions among conservation professionals. *“Localized demonstrations of farm network approach to show benefits of conservation”* was the top priority in our survey, with 73% of respondents indicating top (39%) or high (34%) priority for this approach. The action *“collaborate with farmers to identify ways to innovate cost-effective practices”* was the second highest priority overall, with 78% of farmers indicating top (37%) or high priority (41%). In addition, 79% of respondents used field days or demonstrations as an outreach tool with farmers.

3. Mentorship and farmer-led outreach

Technical assistance can be limited by short grant periods, and limited staff time and expertise. Mentorship opportunities that create spaces for both new and experienced farmers, rural and urban farmers, small and large farmers to connect

are needed to provide longer term, in depth assistance when adopting new practices. In addition, farmer-led outreach efforts can be an effective and empowering form of local engagement.

Benefits: This deliverable increases technical assistance capacity by spreading the responsibilities and knowledge requirements across organizations, and expands work beyond specific grant requirements. Long-term mentorship also develops social capital to improve problem-solving success and long-term adoption.

Survey Results: Peer-to-peer approaches were highly ranked by conservation professionals. 66% of respondents indicated that *“Mentorship and skill-building to match experienced farmers and ‘conservation champion farmers’ with new or new-to conservation farmers and help them build skills and familiarity with the programs and conservation options available”* were top (35%) or high (31%) priorities. Training and support for this approach was also seen as important. 55% of respondents said *“develop guidance and specific recommendations for peer learning groups based on lessons learned from organizations and farmer networks”* was either a top (17%) or high (38%) priority action. More than half of respondents (54%) were using farmer-to-farmer education programs as part of their outreach strategy.

4. Coalitions and Co-ops

While there are organizations or groups that represent segments of the farming population in some areas, there are segments of the farming population without groups representing their interests or providing support. Coalitions for farmers with similar identities, size of operations, and crops are needed to facilitate equipment sharing, cost-share models, and technical assistance. Groups of particular interest in these regions are small farms, commodity farms, and Black, Indigenous, and People of Color (BIPOC) and women farmers.

Benefits: These cooperative spaces provide opportunities for mentorship and collaboration across organizations, amplify voices of conservation-minded professionals, and stretch finances and other resources throughout communities.

Survey Results: Several survey items support this strategy, including “*build out topic-specific groups that can bring farmers together to share best practices and ideas for funding*” (54% top or high priority) and “*create cohorts of small and underserved landowners with common [outreach] products to improve distribution*” (49% top or high priority).

5. Standardized data sharing

Data sharing across scales and organizations is needed to better inform conservation research, adoption decisions,

and funding opportunities. Standardized outcome assessments are also needed to better understand the impacts of different outreach resources. Research data about conservation practices and adoption rates needs to be made more available in interpretable and applicable ways such as through ArcGIS platforms.

Benefits: This deliverable helps coordination between organizations, increases transparency to improve trust of data, and strengthens technical assistance resources.

Survey Results: This strategy was seen by conservation professionals as a high priority, with 53% indicating top or high for the item “*facilitate data sharing such as layers on platforms like ArcMap/ GIS, data on water quality, and practice adoption data*”.

6. Expand staff education

Outreach staff capacity faces many challenges such as narrow and short-term grant funding, limited employee availability, and limitations to both conservation and social science knowledge. At the state scale, staff education should include information about unique and niche commodity crops; cover cropping and reduced tillage; and forest, prairie, and coastal restoration. Outreach professionals should also receive training in farmer decision-making processes, communication strategies, and evaluation techniques. Staff members are needed within organizations with specific roles as community/farmer

Data sharing across scales and organizations is needed to better inform conservation research, adoption decisions, and funding opportunities.



Grass-contoured buffer strips. Photo: Alamy

liaisons, who can focus on relationship maintenance and coordinating across organizations. At the time of this report, the environmental space is receiving unprecedentedly high funding that should be directed towards hiring and educating additional outreach staff, in addition to reducing staff turnover rates. Improved resources for outreach professionals that encourage long-term positions provides the needed time and space for farmers and outreach professionals to build trusting relationships.

Benefits: This deliverable addresses technical assistance limitations, helps farmers and community members

benefit more fully from financial resources, strengthens coordination across organizations, and deepens trust.

Survey Results: The need for “boots on the ground” local capacity came through very clearly in our survey, especially in open-ended comments to the question: “What sort of assistance would be useful for you and your organization to work with farmers?” At least 25 respondents (out of 117 total completed surveys) indicated the need for either more funding for outreach and technical assistance staff or training/support on conservation tasks. One said: *“More boots-on-the-ground technical support providers, working to help implement*

shared agricultural and conservation priorities on the landscape”. Another emphasized the need for investing in not only positions but their capacities:

“This stuff happens at a local level. There needs to be emphasis placed on having quality individuals in these positions who don’t plan on leaving right away for a better job. This stuff takes time to develop and long term plans need to be in place. That can’t/ doesn’t happen when you don’t have individuals with skills and vision or there is constant turnover of staff.”

7. Farmer-agency liaisons

Historical dissonance between farmers and federal programs have led to mistrust and difficult communication pathways for

farmers to receive federal support. Liaisons from community organizations or neutral non-profit organizations to help facilitate federal programs and communicate conservation needs can help diffuse this tension. These liaisons are also needed to facilitate relationship building across organizations, particularly strengthening connections between rural and urban farmers, and between farmers and the general public.

Benefits: This deliverable addresses barriers to effective incentive programs and technical assistance by building relationships between farmers and government agencies. Facilitating these relationships through community organizations can build strengthened local professional networks for all involved.



Summer cover crop mixture with sorghum in fallow field. Photo: USDA-Beltsville Agricultural Research Center

Survey Results: We did not include this strategy as a survey item, but a few respondents reflected on this idea in open ended comments. One such comment captures the importance of non-traditional conservation programming: *“Funding for local staff outside of the USDA restrictions (Conservation Districts, Counties, Watershed Districts, etc...) to work with landowners that have historically avoided working with Federal Partners.”*

8. Increased connections within the food supply chain

Despite similar conservation goals, communication limitations within the food supply chain limits collaboration, and create avenues for transferring blame. We have heard of significant disconnects between rural and urban farmers, as well as between commercial farmers and the general consumer public. Both urban and rural small farms tend to have similar business models, often with diverse crops, community-supported agriculture (i.e., subscription-based, direct-to-consumer programs that provide a measure of financial security for small farms), and significant conservation values. Collaboration between rural and urban farms can help both groups deepen the success of their business and conservation efforts by sharing lessons learned and increasing social and human capital. Broken lines of communication between farmers and the general public makes farmers feel they are disproportionately holding blame

for conservation issues, while the general public lacks understanding of their own role in conservation. Spaces for farmers and the general public to talk about conservation and learn from each other are needed to repair this relationship, these spaces can also bridge rural and urban communities through organizations such as botanical gardens, science centers, and community centers.

Benefits: These connection spaces expand technical assistance resources, and connect common conservation efforts across organizations and scales.

Survey Results: This strategy was seen as a moderate priority among conservation professionals, with 45% indicating they thought *“create more urban and rural connections and opportunities to bring together farmers, researchers, and the private sector”* was a top or high priority.

9. Monetize conservation services

Similar to fertilizer and seed salespeople who provide recommended products and technical assistance, conservation services should also be monetized to facilitate adoption. Some conservation services are beginning to become more available, including cover crop seed consultations, equipment rental, or forest restoration services. Sales representatives and crop advisors are highly trusted sources of information to many farmers. Receiving conservation services from these types of

Collaboration between rural and urban farms can help both groups deepen the success of their business and conservation efforts by sharing lessons learned and increasing social and human capital.

advisors can deepen farmer trust in the information and improve the success of the relationship between farmer and consultant.

Benefits: Monetized conservation services relieves pressure on financial assistance and outreach professionals from single-handedly driving conservation practice adoption. It incorporates technical assistance from private-sector advisors that farmers trust and regularly use.

Survey Results: We did not ask a direct question about this strategy, but respondents did see value in leveraging the private sector in advancing conservation efforts. Responding to the strategy “leverage corporate and supply chain sustainability financial incentives”, 55% indicated top (21%) or high priority (34%).

10. Conservation practice warranty

Risk-averse farmers could benefit from a warranty program that provides money back if the conservation practice fails to perform, which transfers the financial risk of a conservation practice from the farmer to the sales company. This deliverable works hand in hand with monetizing conservation services. Similar to a warranty program for seed performance, the company provides a warranty agreement if a new piece of equipment or cover crop seed does not perform as expected.

Benefits: This deliverable adds a financial incentive for companies to provide technical assistance to help the farmer succeed, while also reducing a farmer’s risk when investing in new practices.

Survey Results: While we did not include a survey item about this particular strategy, financial and risk barriers were seen as significant challenges among conservation professionals. We asked respondents to rank potential adoption barriers and the item “growers’ unwillingness or inability to make financial investment” was the highest-ranked barrier (35% listed as a ‘major’ barrier). A survey comment also indicated the need for new financial strategies in this vein: “we need to provide attractive incentives that help offset the risk of reduced yields.”

11. Funding resource decision making tool

Communicating funding program eligibility and requirements, in addition to facilitating applications, deliverable success, and evaluations, is a major component of outreach job responsibilities. An online resource is needed to collect this information and help recipients narrow down programs based on their specific needs and eligibility.

Benefits: This deliverable would create more flexible technical assistance resources, and help connect financial resources to recipients.

Survey Results: Many respondents reflected on the complexity of the conservation programming system and the potential confusion this creates for farmers and other potential beneficiaries. 66% of respondents indicated the creation of *“decision-support tools to help farmers and conservation professionals identify conservation practices that would fit the needs and geography of their farms, as well as the available programs and incentives to support them”* was a top (29%) or high (37%) priority. One comment from a respondent also indicates the importance of this strategy and potential use of new media: *“Better use of social media to communicate available funding, new conservation technologies, success stories and mechanisms for the public to learn from others who have already adopted new conservation strategies or in the process.”*

12. Restructure grant opportunities

Flexible grant opportunities are needed to provide room for innovation, niche and diverse crops, and unexpected delays. Paired with the complexity of finding the right recipients for funding, outreach professionals spend a significant amount of time helping farmers track and fulfill a myriad of specific grant deliverables. Farmers are often intimidated by the rigid requirements of grants and difficulty obtaining extensions if needed. Grant timelines are often too short for

farmers to successfully problem solve a new conservation practice and see significant enough results to justify continued adoption. Additionally, grants received by outreach professionals can pigeonhole professionals to focus on fulfilling deliverables rather than exploring conservation opportunities and developing deep relationships with farmers and other outreach organizations.

Benefits: Reformatting grants to provide flexibility will improve staff capacity to assist farmers and coordinate between organizations, reduce barriers to funding resources, and promote new and diverse conservation practices.

Survey Results: Restrictions, requirements, and processes associated with existing conservation programs were seen as a significant barrier by conservation professionals. The barriers *“challenging application processes for grants and cost-share programs”* and *“program delays for grants and cost-share programs”* were among the most highly ranked barriers. The strategy *“build local capacity to assist with funding/ program applications and reporting for federal grants”* was rated as a top (19%) or high (33%) priority by the majority of respondents. A number of respondent comments also reflected on the need for streamlining or restructuring programs. This comment is a good example of this sentiment: *“USDA NRCS ranking process for funding needs to be redesigned to help small farmers.”*

“Administering [NRCS programs] takes up all my time and I can’t get any other good work done.”



Prairie strips on a farm in Iowa. Photo: Conservation Media Library

Roadmap Framework

Through interviews and focus groups...we gained valuable insights into the conservation challenges faced by rural communities.

Through this process, we sought to focus on efforts that could be achieved at local and regional scales. Some barriers to conservation agriculture are national in nature, including the need for greater financial and technical resources in conservation programs, greater alignment of agricultural policies with conservation approaches, and increased investment by corporate entities. While action is needed on these fronts as well, the purpose of this roadmap is to identify opportunities in local and state policy, community engagement, and civil society.

As background to developing this road map, NWF worked with a research consultant to conduct case studies of conservation barriers and opportunities in two areas in the Mississippi River basin: the Bootheel region of southeast Missouri and northeast Louisiana. These regions represent significant commercial

agriculture (especially corn, soy, and cotton production), with a high level of social vulnerability. Through interviews and focus groups with conservation professionals, resource agencies, farmers, and landowners in these regions, we gained valuable insights into the conservation challenges faced by rural communities.

Through our initial case study work, we identified four categories of needed action:

1. Improved financial incentives, resources, and markets
2. Improved technical assistance delivery
3. Coordinated efforts between key organizations and communities
4. Increased social and community connections

These categories are not distinct, but deeply interconnected. Organizational capacity and interorganizational coordination are key needs to support improved technical assistance and financial incentives.

Our intention with increased interorganizational coordination and

local community connections is to support the acceptance and awareness pathways to adoption, as well as create a social enabling condition that supports accelerated adoption of practices. Below we detail the individual efforts and innovative ideas that could potentially scale up use of regenerative agriculture and natural infrastructure in agricultural landscapes.



Northern Bobwhite. Photo: Bigstockphoto

1. Improve Financial Incentives, Resources, and Markets

Challenges with financial incentives, resources, and market access are a longstanding barrier to adopting conservation practices, especially in a time of increased growing pressure on farmers. Improving financial incentives is a common theme identified by farmers, outreach agents, crop association members, and non-profit staff as highly important to expanding the uptake of conservation practices. Within this theme, different avenues around improved financial incentives are recognized as necessary for supporting conservation agriculture practices. The major ones include innovative cost-share and program delivery, improved conservation finance, and crop diversification.

Innovative cost-share and program delivery. Federal conservation programs, including the Conservation Reserve Program (CRP), Environmental Quality Incentives Program (EQIP), and easement programs, have been critical in achieving conservation gains in agriculture. Yet these programs alone are insufficient to address the financial and technical barriers to transitioning to regenerative systems. Many existing federal programs have application processes that can be lengthy, complex, and have slow response times. This can be coupled with experiences of discrimination and unequal access to many populations of farmers, especially those from historically underserved communities. Often, these barriers in the application process, historic

inequity, and understanding of eligibility requirements deter farmers. Increasing local capacity to assist with funding applications is an important step to change this.

While there are opportunities for producers to apply for grants and cost-share, those we have worked with indicated a need for more staff capacity to assist community-based and farmer-centered organizations with securing and managing funding. This could include developing applications for funding, grant management, and reporting for grants from federal and state agencies, as well as private funders, such as charitable foundations.

In addition, changing to sustainable farming practices can require a change in the equipment, which can be a costly endeavor that farmers are hesitant to invest in. Offering equipment incentives to help farmers make these initial changes to their landscape is much-needed support that should be provided. One example is a TNC project in Michigan to integrate strip-till in sugar beet systems and offer discounts on the necessary strip-till equipment.

Among the most prevalent barriers to adopting new practices is the risk associated with implementing something new. Soil health practices in particular can underperform or fail for numerous reasons outside of a farmer's control. Many who have not adopted soil health practices are risk averse when it comes to conservation. An important incentive could be a risk subsidy, such as through the creation of a warranty program. Retailers, supported

Michigan - The Nature Conservancy: Subsidized Strip-Till Equipment Trial (ASSET)

In Michigan, TNC is piloting a program to help farmers convert to strip tillage practices on their sugar beet acres. This program, known as the Saginaw Bay Accessing Subsidized Strip-Till Equipment Trial (ASSET), is a partnership between TNC, Michigan Sugar Company, Environmental Tillage Systems, and Blue Water Conservation District. Through the ASSET program, producers receive financial and technical support for the equipment needed to make the change to a more sustainable strip-till system on their farms.

For more information check out: <https://www.nature.org/en-us/about-us/where-we-work/united-states/michigan/stories-in-michigan/farming-food-saginaw/>

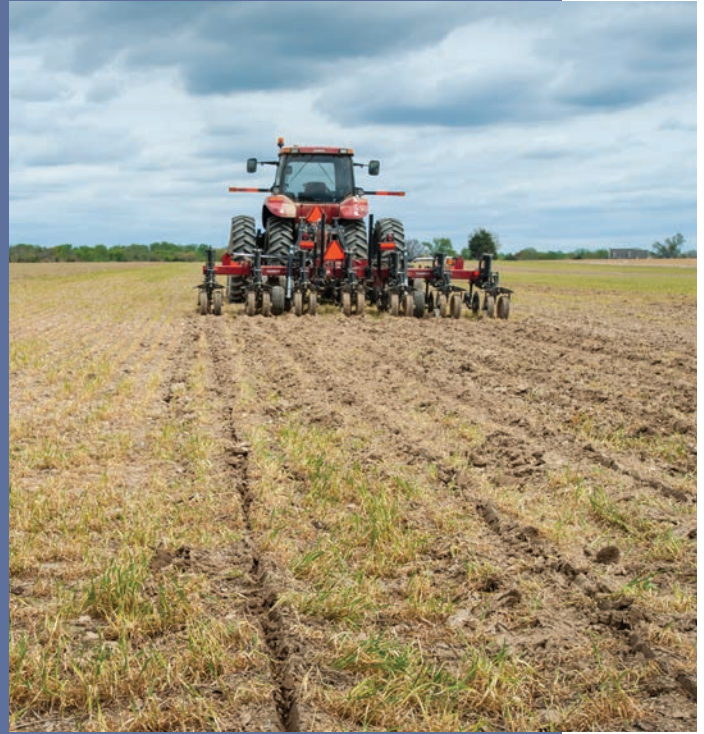


Photo: SARE Cover Crop Image Library

by private or government funding, could provide a warranty program to protect farmers from the risk of losses due to conservation practices that the retailer is supporting through products or advising services. Supporting a warranty program that is accurate to the practices and scope of the farm could help those more risk-averse farmers take the step to adopt conservation practices.

Improved Conservation Finance.

Improvements to conservation finance are essential to increase conservation adoption. Some ways in which this could be improved include providing financial incentives that leave more room for innovation. An example program is a sustainable wheat project run by Star of

the West Milling Company in Michigan, in which farmers are offered a per bushel incentive from the processor to implement regenerative agriculture practices. This program leverages private sector capacities (Star of the West's sustainability program), supply chain sustainability efforts (the processed wheat is marketed to sustainable brands), and government funding (through the new USDA Climate-Smart Commodities program). Implementing similar partnerships in the Mississippi River basin could allow more producers the financial means and market opportunity to make changes on their land. An additional suggestion is to provide smaller incentives over longer extended periods of time, which would encourage longer adoption times of programs.

An important incentive could be a risk subsidy, such as a warranty program.

Since agricultural lenders work so closely with farmers, getting them on board with supporting conservation practices is crucial to help farmers make this change.

Iowa - Environmental Defense Fund: Banking on Soil Health

Financial concerns are at the top of farmers' and other agricultural stakeholders' minds when making decisions regarding land management, and the cost of implementing conservation practices is often cited as one of the main barriers to practice adoption. One of the important stakeholders in this equation is agricultural lenders, who are



Photo: Conservation Media Library

often farmers' closest financial partners. Since agricultural lenders work so closely with farmers, getting them on board with supporting conservation practices is crucial to help farmers make this change. There are different ways that agricultural lenders can support farmers' adoption of soil health practices, and one important opportunity is the creation of a transition loan product.

The Environmental Defense Fund (EDF), in partnership with The Nature Conservancy (TNC) and in consultation with agricultural lenders, has been working to develop a model soil health transition loan product. This transition loan product would include a five-year financial plan tailored to farmers transitioning to soil health practices on their land, recognizing the initial investment required and the time length needed for farmers to realize the full benefits of the practice change. EDF and TNC then set out to better understand Iowa farmers' interest in a soil health transition loan product using their created model. Their survey of 100 Iowa corn and soybean farmers showed that half would be interested in participating in this type of transition loan product. The survey also revealed many important insights that can help agricultural lenders better support farmers in adopting conservation practices.

For more information check out the full report: <https://business.edf.org/insights/banking-on-soil-health-farmer-interest-in-transition-loan-products/>

Michigan – The Nature Conservancy: Sustainable Option Wheat Program (SOW)

In the Saginaw Bay area, The Nature Conservancy is working with Star of the West Milling to pilot a conservation program where local wheat farmers receive “nature-based bonuses” for growing wheat using sustainable practices. Star of the West Milling is a grain milling company based in Michigan that focuses on using sustainably grown grain for production. This program, known as the Sustainable Option Wheat Program (SOW), provides bonuses to farmers who meet specific sustainable production standards when they sell their grain. This program began in 2022, enrolling over 970 acres in the first year and another 1,900 acres in 2023. This program also hopes to help inspire and serve as a framework for other similar programs that support the production and marketing of sustainably grown crops.



Photo: SARE Cover Crop Image Library

For More information check out:

- <https://www.nature.org/en-us/about-us/where-we-work/united-states/michigan/stories-in-michigan/farming-food-saginaw/>
- <https://www.nature.org/en-us/newsroom/successful-year-sustainable-wheat-partnership/>
- <https://www.nature.org/en-us/newsroom/michigan-sustainable-wheat-enrollment/>

Crop Diversification and Sustainability Supply Chains.

Crop diversification has long been shown to provide a wide array of benefits to agricultural land, from improving soil structure, reducing weeds, and helping prevent soil erosion. Diversification can also provide producers with additional income streams. The importance of increasing crop diversification has become increasingly evident due to the impacts of climate change and the need for more sustainable

landscapes. However, incorporating new crops and adopting conservation practices require ample investment, such as purchasing new equipment, dedicating time to learn new techniques, and other inputs such as cover crop seed. Investing in a supply chain that values and awards sustainable products and creates markets for new crops beyond traditional commodity crops can help lower these barriers.



Pumpkins grow in rye cover crop, improving soil structure while providing producers with additional income streams. Photo: SARE Cover Crop Image Library

The use of sustainable practices and diversifying crops provides many long-term public benefits, which federal programs and policies should work to recognize through supporting a sustainable supply chain. Other ways to support diversification include providing financial incentives to farmers to create capacity to incorporate new crops, training in producing or handling new crops (such as food-grade grains), and conducting and promoting market analyses to quantify financial benefits of crop diversification.

Value Added Products. Farmers who have the ability to incorporate value-added products into their production can increase their financial stability and expand into new markets. Many value-added products

focus on locally produced items, such as farmstead cheese, that can also contribute to local community economies. The USDA has a grant program that supports farmers in conducting value-added activities, allowing them to expand marketing opportunities, create new products, and increase their income. Increasing financial support and access to help farmers build out value-added products on their land, including business planning, seeking financing, and implementing changes, can allow for overall greater financial stability on farms. One of the major barriers to adopting conservation practices on farms is financial concerns, and supporting programs with specific grants for value-added products can help lower this barrier.

2. Improve Technical Assistance

Outreach professionals and farmers alike could benefit from increased technical assistance and professional development opportunities. Though many agencies and nonprofits already exist to provide technical assistance for conservation practices, limitations to funds, staff capacity, and education remain barriers for farmers to receive appropriate support. Building farmer motivation and self-efficacy requires highly individualized support. To accomplish this goal, outreach professionals must have many competencies, including conservation practice expertise, farm specific problem solving skills, communication skills, and trusted social connections with the farmers.


Providing “boots on the ground” training that increases these skills can improve organizational capacity and increase community connections. One such example is NWF’s [Grow More outreach training](#), which leverages key concepts from social, behavioral, and communication sciences to build outreach skills. This workshop-based program is supported by additional planning and communication tools through NWF’s [outreach toolkit](#), a set of free resources available to conservation professionals.

Specific improvements to technical assistance could include innovative conservation program delivery, private sector advisors, and increased equitability, localized and participatory research efforts, and mentorship opportunities.

Innovative conservation program delivery. Current conservation programs rely on individual farmer motivations to drive conservation adoption, hosting events and providing assistance that only address an “information deficit model” which assumes low adoption is mainly due to lack of understanding about the practice. Technical assistance requires innovative programs that address the complexities involved with farmer decision making processes and behavior change. Beyond practice expertise, outreach programs should be equipped with professionals that understand how to message towards farmers with diverse ranges of motivations and fears. Trusted advisors and peers are best equipped to discuss conservation practices with non-adopting farmers. Innovative conservation programs should prioritize relationship development between outreach professionals and farmers by supporting networking, social activities outside of work hours, and minimizing employee turnover.

Specific improvements to technical assistance could include: innovative conservation program delivery, increased private sector advisors, increased equitability, localized and participatory research efforts, and mentorship opportunities.





Conservation programs could also improve impact by promoting innovative practices such as coastal, prairie, and forest restoration; portfolio diversification like wetland reserve easements, native plants as secondary crops, and solar leasing; and edge of field practices like buffer strips and pollinator strips. Promoting a wide array of conservation practices will help farmers identify options that meet their specific needs and motivations.

Private sector advisors. Farmers obtain information from many sources, though private sector advisors are a

major source of information that remain relatively untapped by conservation efforts. Encouraging private sector advisors like seed salespeople, bank loan advisors, and farm equipment representatives to sell conservation services could broaden resources for farmers to make conservation decisions and successfully adopt practices. Local crop advisors should be encouraged to achieve status as “Technical Service Providers” so they can write nutrient and livestock management plans for farmers. An example of this type of program is the Iowa Soybean Association’s conservation agronomist program, which staffs

Iowa - Women, Food, and Agriculture Network (WFAN)

The Women, Food, and Agriculture Network (WFAN) in Iowa provides training and support for women landowners about agricultural management and conservation systems. Started in 1994 in Iowa, WFAN now has members across the US. Some of their programs include **Harvesting our Potential (HOP)** which is a mentorship program that connects beginning farmers with an experienced farmer mentor, allowing for important knowledge sharing opportunities and community building, **Women Caring for the Land program**, which works to provide support and community to women landowners to help them meet their conservation goals, and the **Stewardship Ambassador Program** which helps landowners share their important conservation stories.

For more information check out: <https://wfan.org/>

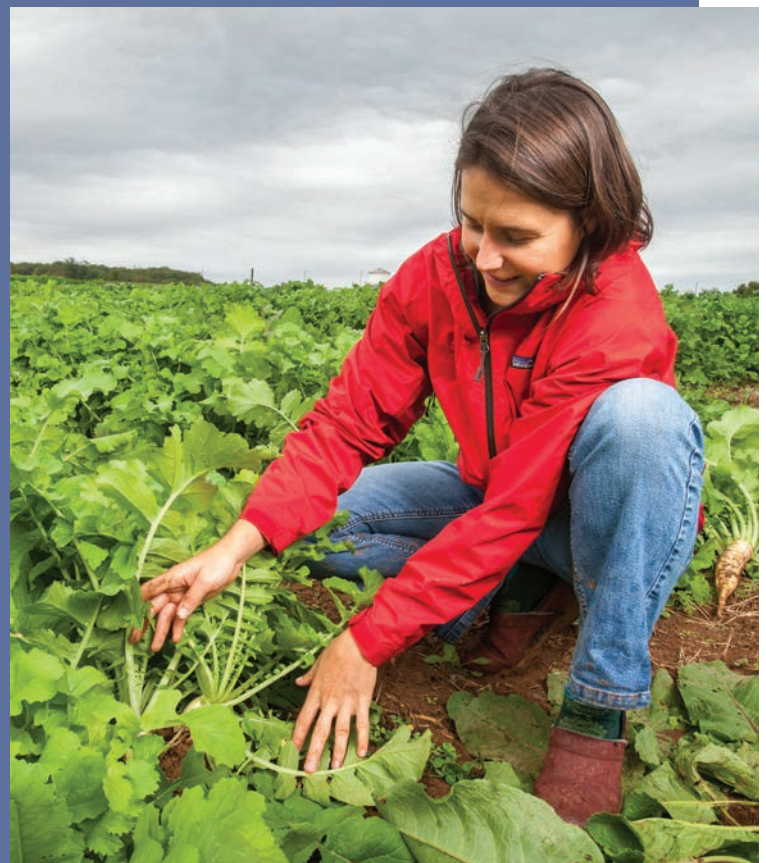


Photo: SARE Cover Crop Image Library



Golden eagle. Photo: Alamy

agronomists with expertise in conservation systems to support and train agronomists and product sales staff employed by co-operatives and private firms.

Increased equitability. Historical inequitable treatment, particularly towards Black farmers, has created general mistrust in the federal government and any related conservation programs. This issue is particularly salient in the South, with survey participants from Louisiana voicing long-term issues accessing financial and technical opportunities generally available to White farmers. Non-federal and local partners are necessary to counter this mistrust, combined with more streamlined access for technical assistance and targeted learning opportunities for historically underserved groups.

There is also a need for increased outreach and conservation support for non-operating landowners and other important agricultural stakeholders, including banks and lenders, crop insurance providers, and community leaders.

Example: The Environmental Defense Fund and the University of Wisconsin-Extension have partnered to provide information about conservation to agricultural lenders: <https://watershedleaders.org/why-conservation-professionals-should-get-to-know-their-local-agricultural-lenders/>

Mentorship opportunities and farmer-led outreach. One-on-one, long-term mentorships are important sources of information and moral support for farmers. Efforts should be made to connect farmers



and create spaces to develop these relationships. Conservation efforts take time and capital to develop necessary skills and self-efficacy for successful and continued adoption, long-term relationships and group problem solving help share the burden and broaden the impact of conservation.

Farmers are among the most trusted and influential sources of information for other farmers when it comes to conservation and production practices. Supporting farmer-

led outreach can be a powerful mechanism for information sharing, developing strong social networks, and building supportive social norms for conservation. Examples of such programs include NWF's [Conservation Champions program](#), which provides flexible outreach grants and training for farmer-led groups across the Mississippi River basin, and TNCs Farmer Advocates for Conservation, which supports leading farmers in Ohio to engage and support their neighbors in conservation efforts.

Conservation Champions Program - National Wildlife Federation

National Wildlife Federation's Conservation Champions program – formerly Cover Crop Champions – offers grants up to \$15,000 for farmers and outreach partners to learn and develop creative outreach strategies that target new farmer audiences and increase the rate of soil health practice adoption in the Midwest. Conservation Champions are teams of innovative farmers and local outreach partners that want to see sustainable agriculture practices become mainstream. Teams are passionate about cover crops but also passionate about communications and outreach to other farmers. A Conservation Champion team consists of at least one **farmer champion** and one **outreach champion**. NWF looks for Champions who will create an outreach plan with new themes and messaging frames that will appeal to the mindsets and motivations of those who have not yet adopted soil health practices.

The program began in 2013 and since then has supported many Champions teams throughout the Mississippi River Basin states

For more information check out: <https://growingoutreach.nwf.org/conservation-champions/>



Photo: SARE Cover Crop Image Library

Ohio - Farmer Advocates for Conservation

Farmer Advocates for Conservation is a peer-to-peer mentor program supported by The Nature Conservancy, which has been implemented in the Maumee River Watershed in Ohio. The program works to train early adopter farmers to be advocates for the adoption of sustainable practices and supporters of peer farmers in their journey to adopt conservation practices on their farms. Since the program began, they have trained 20 Advocates who have, in turn, reached over 7,500 farmers through various outreach methods such as field days and workshops.

For more information check out:
<https://www.farmeradvocatesforconservation.com/>



Photo: Conservation Media Library

3. Coordinate Efforts Between Key Organizations and Communities

Creating connections between local communities and key organizations is essential to increasing conservation efforts in the Mississippi River basin. Growing these key connections will allow for greater support at the community level and help develop relationships that can deepen trust and lead to long-term partnerships. Organizations that should be connected with communities and each other include consultants and advisors, government agencies, non-profits, university extensions, and commodity groups. Coordinating

efforts between key organizations and communities should focus on strategic planning, facilitating cross-organizational strategy meetings and mission planning, defining goals in collaboration with stakeholders, identifying joint initiatives, and creating simple steps to collaborate.

Strategic planning efforts that connect organizations across the scales. Organizations working to improve conservation efforts in the Mississippi River basin work on different scales, from local community groups to state agencies. Strategic planning efforts in the region need to connect these groups and work to outline needs and align goals for the area, including prioritizing coordinating efforts between public and private entities. Planning is especially

Organizations working to improve conservation efforts in the Mississippi River basin work on different scales, from local community groups to state agencies.



Red clover. Photo: Alamy

needed to ensure close alignment between climate-smart solutions and conservation practices focused on soil and water conservation; many of the practices used to achieve these aims are similar, but often done under separate programs or initiatives. Breaking down these silos, allowing for a greater flow of information, and showing the complementary nature of these efforts will expand positive change on the landscape.

One avenue to do this is by building out renewables on agricultural land, such as through agrivoltaics (solar panels installed on farmland). Agrivoltaics is the use of solar energy installations on working agricultural land. It has been seen to improve crop resistance to harsh weather, increase crop yields, and provide an additional income source for farmers. Strategic planning efforts between groups working in these areas can increase information sharing and help scale up solutions. Implementing

projects on land, such as agrivoltaics and other new practices, will require adequate support from landowners.

Facilitate cross-organizational strategy meetings and mission planning.

Connecting complementary projects across organizations can improve program delivery, maximize organization capacities through collaboration, and increase support and essential information provided to farmers and landowners. Facilitating meetings that allow organizations to share their projects and knowledge can offer more opportunities for future planning and greater support for increasing conservation efforts in the Mississippi River basin.

Important information and data to share in these cross-organizational forums include data layers on platforms such as ArcMap/ GIS. These data can show trends in practice adoption, water quality, and more, which will allow for adequate planning in areas of most significant conservation concern and demonstrate critical locations to target outreach. Compiling stakeholder and community-generated data should also be a priority. Organizations and communities can then effectively utilize data in strategy meetings to define actionable items. This collected data can also provide evidence to federal and private programs of the need to increase financial incentives for conservation practices.

Collaboration with community members, farmers and crop advisors.

Conservation outreach efforts and changes to conservation programming are most effective when done thoughtfully and with

the input of community members, farmers, and crop advisors. Planning and defining goals in collaboration with these key stakeholders will allow for greater trust and community buy-in. Working collaboratively to identify areas of greatest financial need and making financial incentives available to all landowners, including small and underserved farmers can help with more effective and readily adoptable conservation practices.

Efforts should also be made to encourage knowledge sharing between organizations and groups working on complementary projects and in overlapping geographic areas. Many groups are working in the Mississippi River basin to increase conservation practice adoption. Often, these projects have overlapping goals or strategies. Identifying common initiatives and convening organizations to come together and share lessons learned on peer learning groups and outreach strategies can increase trust between groups and foster creative, innovative, and more effective recommendations for conservation program implementation. An example of collaboration in the Great Lakes region is The Nature Conservancy's work with outside coalitions, including the Indiana Agriculture Nutrient Alliance, Illinois Sustainable Agriculture Partnership, and the Ohio Agriculture Conservation Initiative, to help manage and develop projects and conduct outreach to farmers.

Engaging in carbon markets and working with farmers to take advantage of carbon payments is one area where NGOs

advocating for conservation should provide additional support and steps for collaboration. Many farmers indicate a lack of awareness of carbon market or climate-smart agriculture programs, low levels of trust and intention to participate. Increasing transparency and farmer understanding of these programs could increase trust and willingness to participate, opening the door to increased revenue streams.

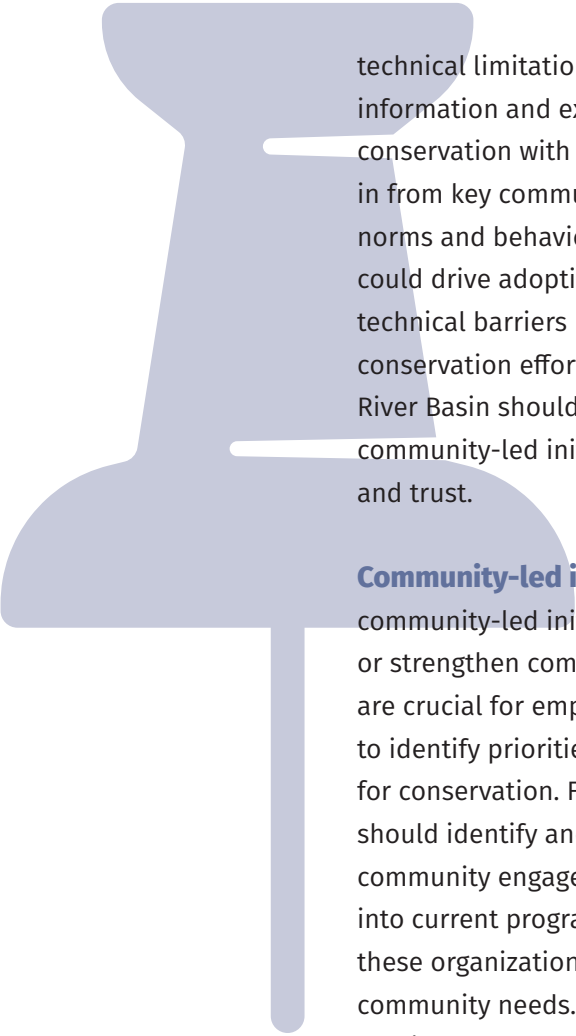
4. Increase Social and Community Connections

Increasing social and community connections would substantially widen and deepen conservation efforts in the Mississippi River basin. Grassroots-based efforts that rely on community movement transcend financial and

Engaging in carbon markets and working with farmers to take advantage of carbon payments is one area where NGOs advocating for conservation should provide additional support and steps for collaboration.



NWF created field signs and billboards that highlight cover crop benefits to build social acceptance.
Photo: NWF Sustainable Agriculture Team



technical limitations by helping spread information and excitement about conservation with limited funding. Buy-in from key communities creates social norms and behavioral expectations that could drive adoption even if financial and technical barriers remain a problem. Future conservation efforts in the Mississippi River Basin should prioritize developing community-led initiatives, social capital, and trust.

Community-led initiatives. Creating community-led initiatives that establish or strengthen community connections are crucial for empowering local voices to identify priorities and set goals for conservation. Federal agencies should identify and integrate local community engagement organizations into current programs, and work with these organizations to identify specific community needs. [USDA Climate Hubs](#) provide a good example of federal efforts to create spaces for localized conservation efforts and programs.

Efforts should also prioritize connecting farmers with nearby non-farming community members. Miscommunication between these two groups can lead to revolving blame pointed towards each other that inhibits forward progress. Helping community members and farmers recognize common land stewardship goals and improving communication channels can galvanize conservation efforts across both groups.

Social capital and trust development. Social capital is the amount of trusted social resources available to a person

so they are able to collect and digest information. Many farmers face limitations with social capital, particularly trust in sources of conservation information, connections with conservation farmers, or a sense of reciprocity with other rural stakeholders (especially landowners). Lack of social capital is especially challenging for new farmers and farmers of color, who are often highly motivated to use conservation practices. To address this issue, it is important to connect farmers, researchers, and private sectors. Identifying the changing demographics of farmers, landowners, and community members will also help to decrease inequitable access to resources (including financial and technical assistance). Finally, urban farms are relatively new with limited access to experienced mentors or decades of research on conservation systems; building connections between urban and rural communities could help urban farmers tap into existing social capital.

Methods

To develop a roadmap for expanding agricultural conservation adoption, we convened multiple organizations actively conducting conservation outreach in the Mississippi River basin beginning in July 2023. This work built on some case study explorations of opportunities to expand conservation agriculture in two regions: the Missouri Bootheel and northeast Louisiana. Through this initial process, we developed a draft framework that served as a launching point for developing a more comprehensive roadmap. Beginning in July and early August, we had one-on-one conversations

with multiple organizations, including The Nature Conservancy, Environmental Defense Fund, and National Audubon Society.

These individual conversations served to introduce NWF's sustainable agriculture programs, describe the hotspot case study work, and describe the roadmap process. Following these one-on-one conversations, we developed an outline of the roadmap document and invited individuals from each organization to participate in a multi-stage process, including virtual brainstorming sessions, input forms, and opportunities to contribute to and comment on the draft roadmap document.

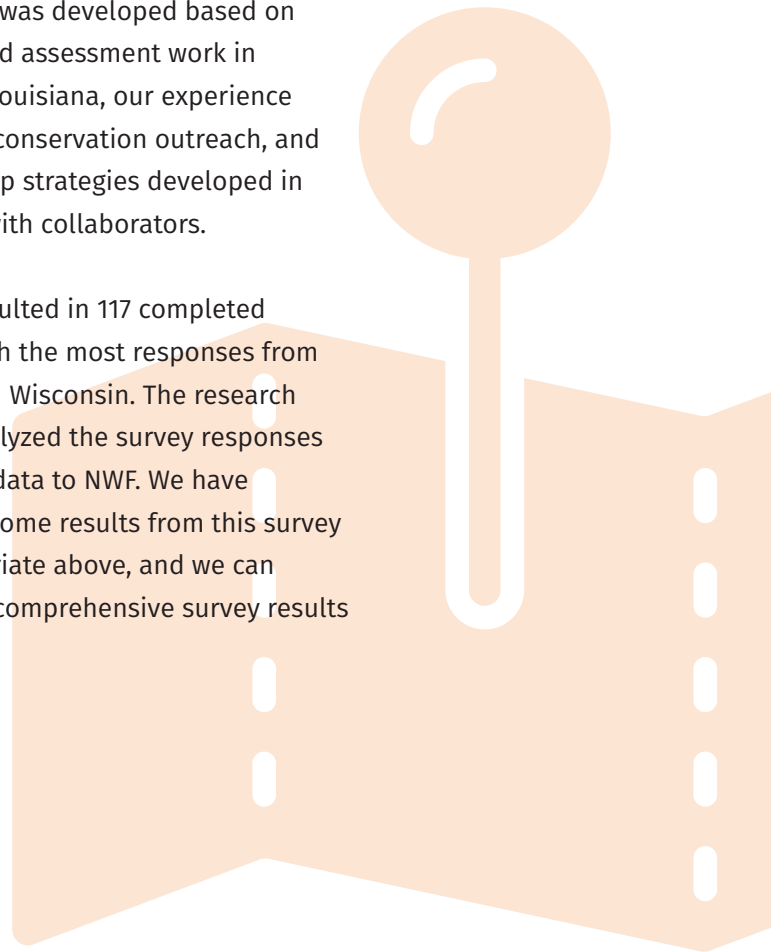
In addition to input from national conservation partner organizations, we also gathered local perspectives through multiple methods: in-person meetings to share the draft roadmap with local organizations in Missouri, opportunities for these organizations to comment on the draft, and a survey of conservation professionals spanning the Mississippi River basin. These efforts served to further refine innovative strategies, prioritize efforts and investments, and identify opportunities for partnerships to implement elements of the roadmap.

Our survey was conducted in November 2023 by a research contractor with significant experience in environment and agriculture. NWF collected names and contact information for over 1,000 conservation professionals or organizations in multiple states (AR, IL, LA, MN, MO, and WI). Our survey sample included local and state conservation agencies (conservation districts, agriculture and natural resource

agencies), USDA agencies (NRCS, FSA), university extension, non-governmental conservation organizations (e.g. The Nature Conservancy, American Farmland Trust), and farmer-centered organizations (e.g. sustainable farming organizations, Young Farmers). We chose to sample a subset of Mississippi River basin states to provide a manageable data set.

NWF and the research contractor collaboratively developed a survey questionnaire, with 16 questions in total. The research contractor administered the survey online using Qualtrics software, with a multi-wave contact survey design (an initial invitation to complete the survey, followed by two reminder emails, each with a link to the survey). The survey questionnaire was developed based on our background assessment work in Missouri and Louisiana, our experience in supporting conservation outreach, and initial road map strategies developed in consultation with collaborators.

Our survey resulted in 117 completed responses, with the most responses from Minnesota and Wisconsin. The research contractor analyzed the survey responses and provided data to NWF. We have incorporated some results from this survey where appropriate above, and we can provide more comprehensive survey results upon request.





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