DEPARTMENT OF AGRICULTURE

Conservation Practice Adoption Trends

Report to support the 2025 Minnesota Nutrient Reduction Strategy Revision

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Introduction

Minnesota has several existing programs and platforms to help track conservation practice adoption across the state. These tools are largely supported by the Minnesota Pollution Control Agency (MPCA), are the focus of active improvement, and can be found through the Nutrient Reduction Strategy website hosted by the MPCA (MPCA, 2024). Since these tools are in active use, additional discussion surrounding them will only be in terms of potential ways to integrate new data, as examples of how adoption can be tracked, and as a measure of progress over time.

While these tracking efforts may not capture the full extent of implementation across the state, they provide a solid base for measuring change over time. The "fullness of capture" currently tracked data provides may verry depending on the type of conservation practice being evaluated. Fullness of capture here, refers to how much of the acreage of a given practice is tracked versus how many acres are implemented through less-frequent, more comprehensive data sources. Not all conservation practices have a dataset that can be considered comprehensive, though survey efforts like the National Agricultural Statistics Service (NASS) report on a select number of practices every five years. Namely,

- Tile drainage
- Ditch drainage
- Conservation Easement
- No-till
- Reduced tillage (excluding no-till)
- Cover crop

Similar comprehensive data sources do not exist for most conservation activities.

It is important to note that changes in cultural practices, which includes most of the BMPs being discussed here, take decades to change and develop. Without major technological advances or major events that fundamentally change "the system," we're relying on simple messaging and persistent pressure to advance water quality related objectives. This approach takes time, which has clearly been articulated in adoption literature. A quote in an article published by magazine staff in CSA News (CSA News, 2022) sums this up well, where Peter Kleinman (USDA) was quoted, "Change can be very, very, very slow," in reference to manure injection taking 20 years of work to start catching on. He continued with, "But when you do go out, and you see voluntary adoption and use of these technologies in the field, that means you've made it through an incredible gauntlet of barriers to adoption."

The expectation is that any effort to accelerate adoption of conservation activities will take time. Time along with programs and messaging that are persistent will be key to slowly changing the culture surrounding these activities. With that in mind, fining solutions to overcoming adoption barriers will likely speed the adoption process. Solutions such as a technological advancement (e.g., herbicide resistant cultivars), have the ability to rapidly change management practices, and often come with economic benefits. In these cases, changes will occur rapidly (over a decade or two).

An example of rapid adoption can be seen with herbicide resistant soybeans, where adoption went from zero percent of soybeans grown nationally in 1995 to around 85% of soybeans grown in just 10 years (Fernandez-Cornejo et al., 2012). By 2015, 94% of soybeans grown nationally were herbicide resistant (USDA ERS, 2015).

Methodology

Tracking can be done with many different metrics, though acres treated over time is a standard metric allowing comparisons between the various practices. This metric also allows estimating of pollution reduction, when tied to conservation practice efficiency estimates. As such, having a measure of acres treated in a critical step in estimating state-wide nitrogen and phosphorus reductions. As noted above, our current tracking procedures consistent, though incomplete measure of adoption. Using the Census of Agriculture as a complete dataset allows for an estimate of how well our current tracking efforts capture the whole story.

Findings here are examples of how our current tracking efforts might be informed by other data sources, when available, to increase our understanding of conservation adoption. Data sources used include the current MPCA tracking tool, the Census of Agriculture, and satellite derived data.

Consistencies with the social science literature review (R. Christianson & Wagner, 2024) are generalities, based on trends in the agricultural industry, as there is limited information connecting reasons for adoption and actual adoption at a large scale. Trends that can be tracked and impact conservation adoption include farm size (and number of farms), farm related income, and engagement in marketing arrangements (Prokopy et al., 2019). That said, any advances in conservation adoption are likely due to the collective push from all of the important individual programs being hosted across the state/region having a gradual impact on culture.

The number of farms has been steadily decreasing in Minnesota since the early 1980s. As of the 2022 Census of Agriculture (USDA, 2024b), there were 65,531 farms in Minnesota, which is down from 94,382 in the 1982 Census. This steady decline of around 540 farms per year has a complementary increase in farm size, with average farm size in the 2022 census at 388 acres compared to the 1982 average size of 294 acres. Based on indicators from social science literature (Prokopy et al., 2019), this trend would indicate potentially more adoption would be occurring now.

On the financial side, the Economic Research Service generates estimates of farm-related income (USDA, 2024a). Trends since the 1980s are indicating an increase in this metric for the state. Similarly with increasing farm size, a higher level of income is also an indicator of potentially increasing conservation adoption (Prokopy et al., 2019).

Engaging in marketing arrangements, such as contract farming, is often associated with higher levels of conservation practice adoption (Prokopy et al., 2019). However, as noted in an Economic Research Service (ERS) report (Whitt, 2022), participation in contracts has declined since the mid-1990s, from 13% to 7% of farms in 2020. Moreover, these contracts are increasingly concentrated among larger farms with over $350,000 in sales, representing only about 10% of all farms. This trend suggests a potential divide in conservation adoption between larger and smaller farms.

Maximum Practical Area Discussion

Conservation practice adoption is difficult to measure. There are factors such as the number of suitable acres for a given conservation practice that adds a ceiling or a stopper for the number of acres being benefitted. For example, the US Department of Agriculture's Natural Resources Conservation Service (NRCS) has standards for conservation practice 604, saturated buffer. This standard provides guidance on where in the landscape this practice is suitable. Things like the field needs to be tile drained, a certain slope, a certain organic matter content, etc. With this in mind, the areas suitable for saturated buffers is

something less than all of the agricultural land. That is to say, for any given conservation practice the fraction of agricultural land suitable will be something less than 100%.

When adoption is being considered, an assessment of progress must be made on those suitable areas. Keeping with the saturated buffer theme, an estimated 750,000 acres could potentially be treated with saturated buffers in Minnesota (Chandrasoma et al., 2019). So, 100% adoption of saturated buffers, given current design criteria, would be 750,000 acres treated. In Minnesota, as of 2023, there are roughly 240 acres being treated with saturated buffers that have been implemented through a government program, including USDA programs (i.e., EQIP, CSP) and state programs (i.e., Ag Water Quality Certification Program, projects reported to eLINK) (MPCA, 2023). In other words, 0.03% adoption. Since this is a very new conservation practice, with the conservation practice being conceptualized sometime around 2015, adoption is in its infancy. The same type of logic holds for all agricultural conservation practices. The challenge is to set the suitable acreage for each practice so a "percent adoption" metric can be determined.

Because of the dynamics of each conservation practice and the potential interaction between them, it is important to evaluate maximum practical acreages of various conservation efforts one-at-a-time, since we cannot predict where adoption will occur. However, noting where conflicts exist is an important step since this may impact the total area across the state that could be positively impacted by conservation efforts. This concept of conflicting or supportive conservation is intuitive and has been called out in literature using a term called "stackability" (R. Christianson et al., 2018). Continued assessment of maximum practical area treated for each conservation practice is an important step to add context and meaning to our tracking efforts.

Key Findings

When considering the "fullness of capture" concept introduced in the introduction, there are two primary practices that can be evaluated by comparing the currently tracked program activities against the USDA NASS Census of Agriculture. The first practice to be discussed is cover crop across the state. in 2022 cover crops tracked through the MPCA tools tallied to 85,508 acres (MPCA, 2023) though the Census of Agriculture shows 760,423 acres (USDA, 2024b). The tracked portion represents just 11% of total reported by USDA in this case (tracked to total ratio; 9% in 2017; 5% in 2012).

It is important to note, the NASS data source is a measure of effort, in that it captures what farmers are planting. This is distinctly different than satellite derived data sources (e.g., remote sensing efforts by BWSR and the University of Minnesota, efforts by the Conservation Technology Information Center), which "see" successfully growing cover crops, and is a more direct measure of impact on water quality. In the future, remote sensing tools will likely be prevalent and used to capture the full impact of cover crops and tillage activities.

The second set of practices being tracked that can be compared to the Census of Agriculture data are tillage activities. For example, no-till on the MPCA tool is tracking about 9% of the USDA total (using the no-till and ridge till category) in 2022 (2% in 2017; 2% in 2012). For general reduced tillage, the MPCA tool is tracking around 1% of the USDA estimates in 2022 (0.2% in 2017; 0.1% in 2012).

Taken together, these data indicate there are many other programs/initiatives/individuals impacting adoption of cover crops and tillage practices than just government programs. However, these trends

may provide a proxy for estimating the entirety of conservation activities between Census of Agriculture years.

Other conservation activities, especially edge-of-field treatment practices, may be primarily funded through programs currently being tracked. With this in mind, estimates of statewide saturated buffer installation are likely very accurate. Practices falling into this category would be:

- Saturated buffers
- Bioreactors
- Drainage water management (controlled drainage)
- Constructed wetlands
- Landscape level storage
- Drainage water recycling

With this in mind, the tracking efforts currently underway likely capture the extent of these. Taken along with maximum practical treated area estimates, a percent adoption estimate can be made at this time.

Other practices may have a more even mix of public and private funding. These practices likely include:

- Terraces
- Water and sediment control basins
- Alternative tile intakes

A farmer or land owner might experience a direct benefit protecting a physical resource or facilitating farming operations. Developing relationships between publicly funded activities and all practices implemented will be difficult unless future research works to independently identify these practices on the landscape over time at some interval (e.g., 5 years to align with the Census of Agriculture). With established relationships, tracking a measure of the entirety of these programs would be possible.

Finally, nutrient management practices for both nitrogen and phosphorus are difficult to track. Farmers manage nutrients well to reduce costs. Additionally, there have been ongoing advances in nitrogen use recommendations as new hybrids are developed. With this in mind, the whole story is not straight forward and is constantly changing. However, there are large-scale nutrient use estimates that can be used or developed. Methods used to develop historic fertilizer use have used fertilizer sales and crop production when evaluating nitrogen (Cao et al., 2017). Also, there are farmer surveys available to estimate nitrogen application through synthetic fertilizer and manure sources at various spatial scales and at various times (MDA, n.d.-b). There are also efforts underway to evaluate nitrogen balances across the state, to determine areas where too much nitrogen might be applied (Porter & Cox, 2020).

Generally, farmers are applying efficient nitrogen rates, which is evidenced by surveys like those done by the Minnesota Department of Agriculture (MDA, 2023). This, coupled with the limited environmental benefit of tweaking nitrogen management practices (L. Christianson & Rosen, 2025), makes detailed tracking of this type of effort likely unneeded. However, having a simple metric to generally track how nitrogen is being used would be a useful addition to the statewide Nutrient Reduction Strategy. The Minnesota Department of Agriculture had assessed this type of metric in the past, which was included in the Nutrient Reduction Strategy Progress Report (Wall et al., 2020). A metric like this may be adjusted to incorporate nitrogen from manure.

Tillage Trend as an Example

An example of how adoption might be assessed is provided here for no-till in Minnesota. These data include two datasets. The first is the USGS dataset 573, which is a watershed-based compilation of the historic tillage transect surveys done by the Conservation Technology Information Center (CTIC). The second is the Census of Agriculture for 2012, 2017, and 2022. When isolating no-till in Minnesota, there was a historical increase in acreage in the 1990s and early 2000s. Since that point, the number of acres has been relatively stable around 6% or 7% of tilled acreage (Figure 1).

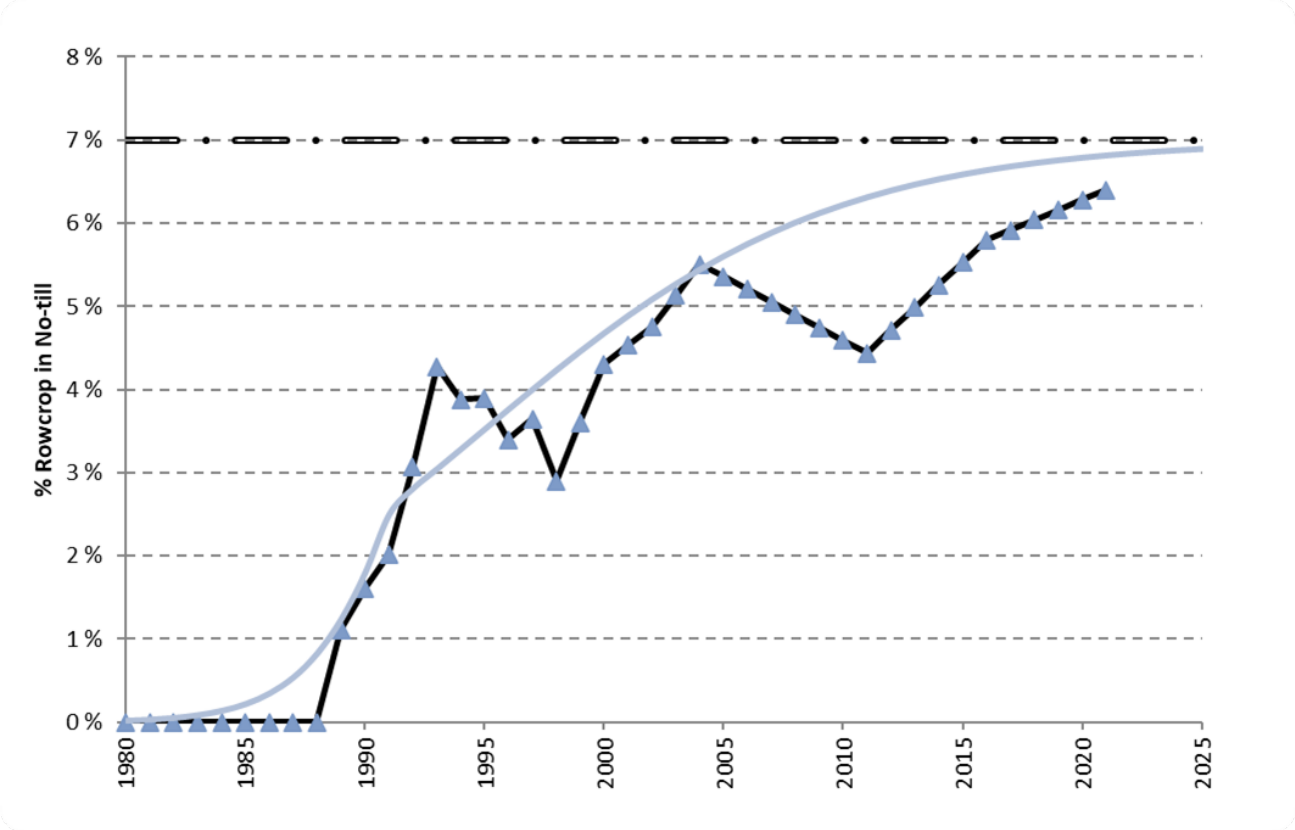

Figure 1. No-till adoption over time. Data from a compiled USGS dataset (Dataset 573) and the USDA Census of Agriculture. Data were interpolated between known data points to have a continuous annual record. The blue line represents an adoption "S" curve, modified to include two distinct adoption phases.

Using these data to set an upper no-till acreage of around 7% might be a suggested maximum of adoption, with the current technology, cropping system markets, and incentives. Additionally, many of the conservation practices are mutually exclusive. For example, no-till and ridge-till cannot be practiced on the same piece of land in the same year. Because of this, when marketing "good" tillage management, for example, there are likely to be competing messages – "do no-till," "do reduced till," "do mulch till," etc. With this in mind, our goals for each management being suggested will, again, likely be a subset of all of the agricultural acreage.

Competing messages about conservation practices might intensify barriers like an individual's beliefs about the effectiveness of a practice or bring into question the benefits being advertised, and ultimately confuse the issue about what is "right." When we consider the trend in conventional tillage, there is a strong downward trend (Figure 2). This trend seems to indicate the general message about reducing tillage has been successful.

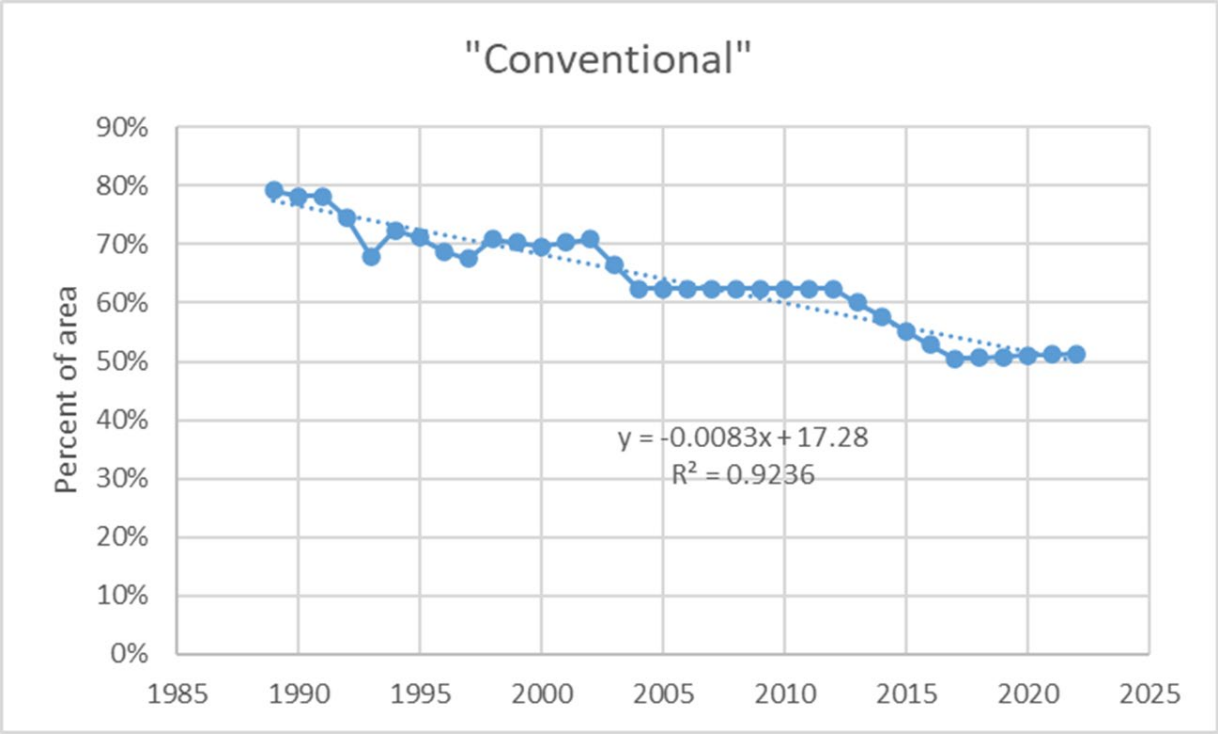

Figure 2. Trend in conventional tillage (intense tillage). Data from a compiled USGS dataset (Dataset 573) and the USDA Census of Agriculture. Data were interpolated between known data points to have a continuous annual record.

As to why reduced tillage, in general, has been adopted across the state, there is likely an economic benefit by reducing passes over a field. This is possible with herbicide resistant varieties of crops being grown, and the combination tends to make this a favorable approach. There are also visible and perceived benefits like reduced surface erosion from water and wind, and improved soil health. Additionally, it is likely the messaging surrounding tillage is relatively simple – reduce tillage – which is important according to Heberlein (Heberlein, 2012). The concept is relatively simple as well, and can be summed up in informative graphics like that on page 74 of Huggins and Reganold (Huggins & Reganold, 2008).

If we consider why more intense tillage might be done, there might be a logical barrier. About 70% of the National Agricultural Statistics Service (NASS) Cropland Data Layer (CDL) crop category land in Minnesota is made up of corn and soybeans. Other crops, like sugarbeets and potatoes (~2% of the crop category area), may be managed differently and require more intense tillage. There may also be occasional system related intense tillage management that is beneficial in certain cropping practices for

various reasons. Alfalfa, for example, which is about 4% of the crop category area, may require replanting after a few years, which would likely require intense tillage.

If manure is also considered, the amount of intense tillage may increase, as best practice for manure is to incorporate during or shortly after application. Estimates from Porter and Cox (Porter & Cox, 2020) suggest in any given year around 3,000,000 acres of cropland in Minnesota has manure applied (~13%), which could further reduce the suitable area for conservation tillage.

With just these few simplistic considerations, maximum practical acreage could go from 100% to 98%, to 94%, to 81%. Of course, there are details not considered with this example. The fact that manure is applied to alfalfa and pasture would alter those numbers, alfalfa wouldn't be counted in tilled acre tallies, and manure could be incorporated with a conservation tillage approach, but the intent of the example holds in that something less than 100% of the crop acreage would be practically available for conservation tillage.

Estimated phosphorus loss reductions from the transition from conventional tillage to less intense forms can be estimated using effectiveness values in the original nutrient strategy. These values were generated for "reduced" tillage and may overestimate the benefit of simply moving to something less than intense tillage. That said, assuming a 63% reduction in phosphorus loss, and that 20% of rowcrop agriculture is no longer doing conventional tillage, there would be around a 13% reduction in phosphorus loss statewide.

Nitrogen Use on Corn

The Minnesota Department of Agriculture tracks fertilizer sales and has been tracking nitrogen use on corn since the late 1980s. Nitrogen use efficiency has been relatively stable at around 1.2 bushels of corn per pound of nitrogen fertilizer applied since around 2005 (Figure 3). Manure was not factored into this assessment. The addition would reduce the efficiency value, though the trend would likely remain similar over time. This trend is a product of a continued increase in production (bushels) and corresponding nitrogen sales, despite a flattening of acres planted with corn since around 2010 (Figure 4).

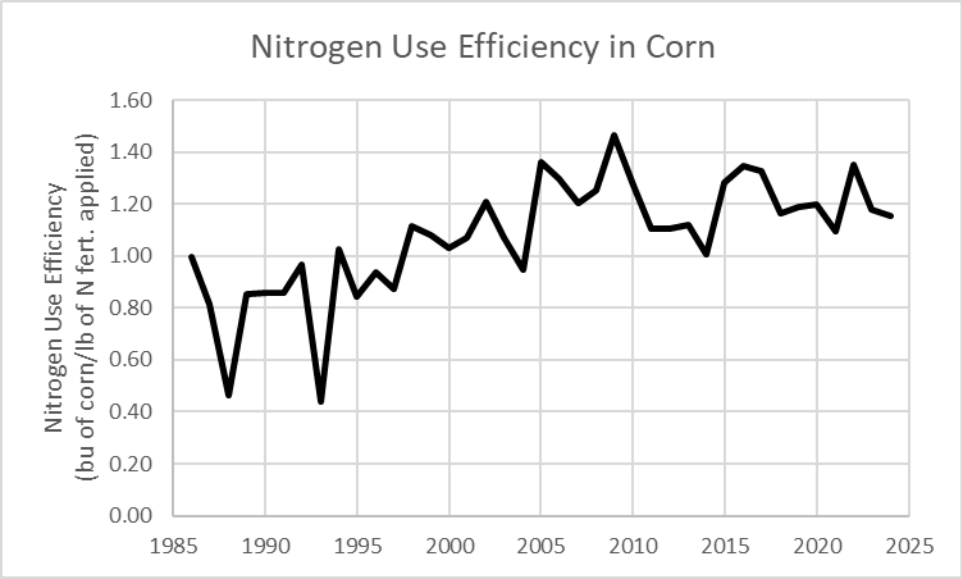

Figure 3. Nitrogen Use Efficiency of Corn. Fertilizer sales data was adjusted for fertilizer on corn. A nitrogen balance approach was used, which included nitrogen application rate estimates from surveys and university recommendations. Corn production was low in 1988 due to drought, and low in 1993 due to flooding, which drastically lowered the nitrogen use efficiency.

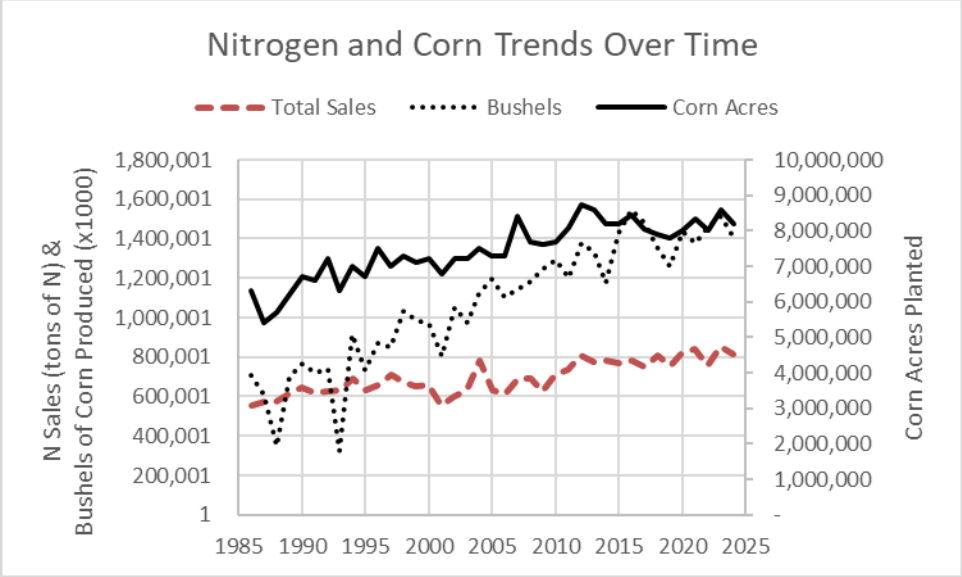

Figure 4. Trends in nitrogen sales, corn grain acreage, and corn grain production since 1986. Data compiled from fertilizer sales, and production information from the USDA National Agricultural Statistics Service (Agricultural Survey).

Development of a metric like this can be retroactively completed using annual agricultural fertilizer sales data collected and compiled by the Minnesota Department of Agriculture (MDA, n.d.-a) along with harvested acres and corn production from the USDA NASS Agricultural Survey. This Survey is done every year and has similar results to the comprehensive Census of Agriculture done every five years. Of course, there are several crops receiving nitrogen (corn silage, potatoes, wheat, etc.). Historically

(between 1986 and 2009), about 68% of total nitrogen sales has gone to corn for grain, though since 2010 this has averaged around 74%.

In a similar vein, research from Iowa (Cliffort et al., 2023) found relatively static nitrate loading from a corn and soybean system with a consistent nitrogen application rate over 30 years, despite increasing yields. These findings capture the increased nitrogen use efficiency aspect, though findings also echo Christianson and Rosen (2025) in that nitrogen management does not, necessarily, result in less nitrogen leaching – especially when modifying already agronomically efficient systems.

Tracking Land Use Change

The Minnesota landscape is dominated by rowcrop agriculture in the west and southern portions. As this land use/management changes, resulting nutrient losses are also expected to change. When evaluating large category land use changes, there are several tools available, however, general categories can be viewed using the USDA NRCS Land Use Cover Inventory Database (LUCID). This tool was released in October of 2023, and, among other functionality, allows for queries on land use between 1982 and 2017 (aligning with the National Resources Inventory years) (USDA NRCS, 2023). These data show relatively stable land uses (Figure 4). In 2017, the Perennial landscape was roughly 5.5 million acres compared to around 5.6 million acres in 1982, though this value was as low as 4.9 million acres in 1987 and as high as 5.7 million acres in 2010.

Other stable land use categories were water and federal land. Forest land grew by nearly 150,000 acres between 1982 and 2017 and has been very stable since 2008. Developed land has been a very steady increase since 1982 with a rate of around 20,000 acres per year. The Conservation Reserve Program (CRP) peaked in 1992 at around 1.8 million acres, with a steady decline since. Acreage in the CRP program in 2017 was around 510,000 acres. Cultivated cropland category has seen a decrease in total acreage with a peak in 1982 with around 21.2 million acres and a minimum in 2007 with around 18.9 million acres. In 2017 there were roughly 19.7 million acres under cultivation.

For more information on the categories, see the LUCID user manual and technical guidance, which can be found here: https://www.nrisurvey.org/lucid/. The “Cultivated Cropland” category in the tool is considered to include all primary cropping systems in the state. The perennial category discussed here includes the noncultivated ag, pastureland, and rangeland, and described by the LUCID tool. Developed includes some miscellaneous land uses (“minor land”), build-up, and rural transportation.

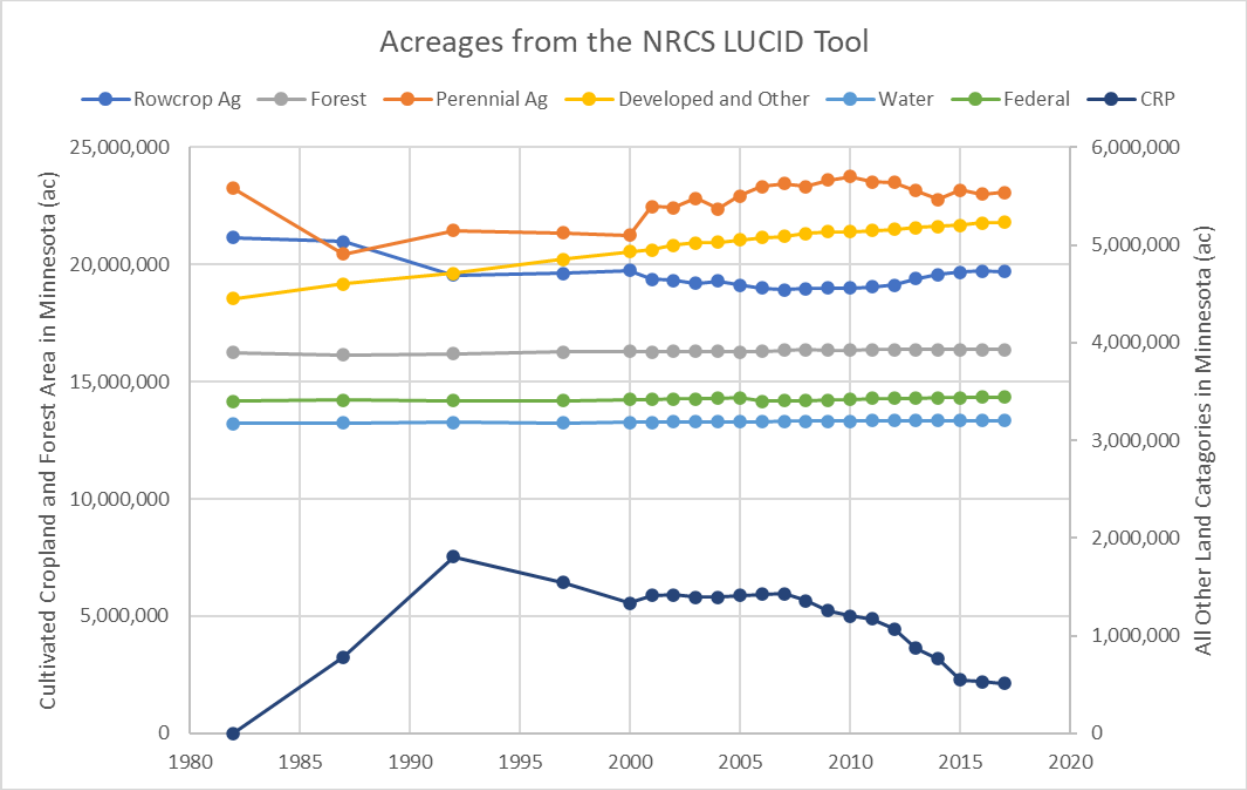

Figure 5. Land use categories as summarized from the NRCS LUCID tool, displaying National Resource Inventory information.

Since the Hypoxia Task Force baseline period is 1980 to 1996, considering the average cultivated land during this period (1982 to 1997; ~20.3 million acres) is an important comparison point. Statewide acreage in 2017 compared to this average shows around a 3% reduction. In the most generic sense, this would equate to around a 2.5% to 3% reduction in nutrient losses, though this is nuanced. Since losses from different crops can vary, with small grains tending to lose less nitrogen (Harmel et al., 2017).

Cropping System Change

Minnesota's agricultural landscape is dominated by annual rowcrops. Corn and soybeans are the primary crops, with around 12 million acres in 1982, increasing to over 17 million acres in 2017 (Figure 5). There is a consistent annual increase of around 140,000 acres. This has been offset by other agricultural cropland, with about half the offset coming from wheat.

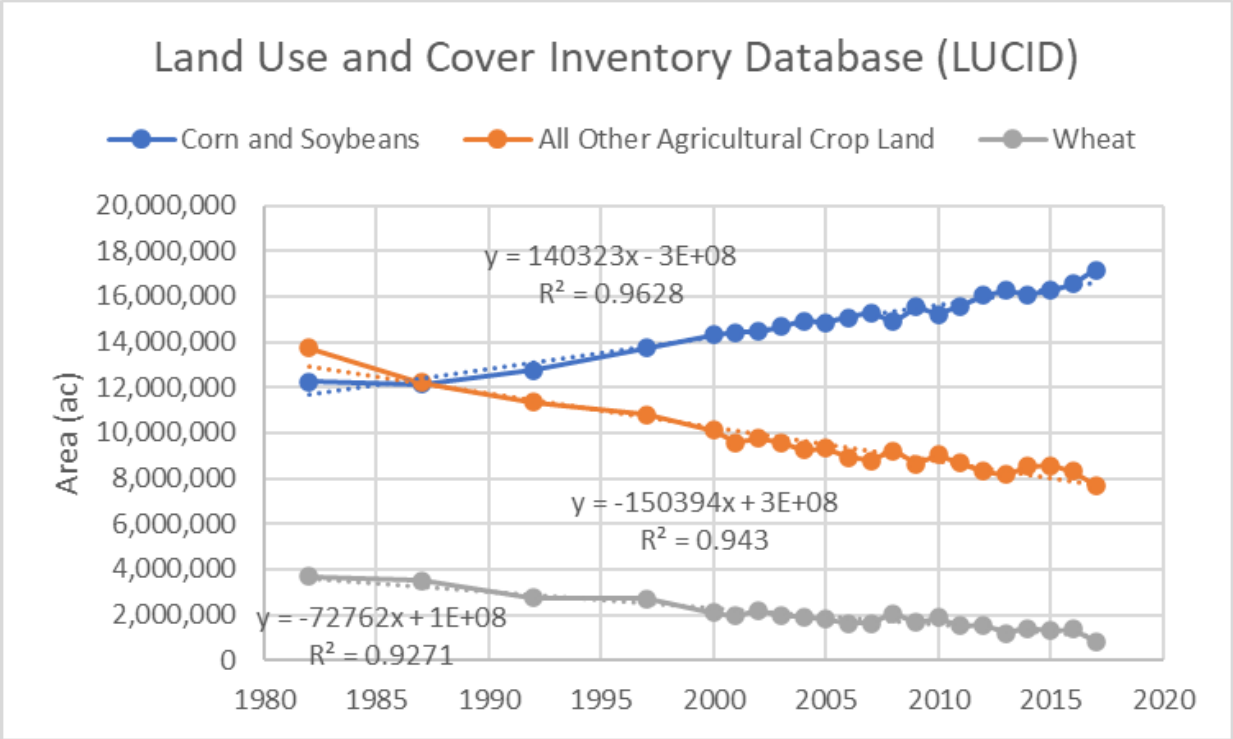

Figure 6. Corn and Soybean acreage in Minnesota along with all other crop land and wheat. Data from the NRCS Land Use and Cover Inventory Database (LUCID).

Cropping systems change (land use/land cover) can be tracked over time. Though this may better reflect farm bill policies rather than social change, these may generally reflect global culture through federal response. Though this may only be a measure of global population increases, these trends do show demand/need for primary products grown in Minnesota.

Recommendations

Overall, Minnesota's tracking efforts are stellar. The Minnesota Pollution Control Agency has invested in powerful data display tools. Tools are being continually improved and updated with additional information being collected and shared through these tools.

For the noted gaps in current data collection and display efforts, temporally sparse data should be used to provide snapshots of progress. These sources could also be used to develop a proxy for annual conservation adoption when coupled with currently tracked data. The example of developing a tracked to total ratio, as noted above for both cover crops and tillage, would serve that purpose.

Further defining the story surrounding more traditional structural practices (terraces, water and sediment control basins, alternative tile intakes, grade control structures, grass waterways, etc.) will require the development of geospatial assessment to "see" what's on the landscape. A comprehensive effort like this has been done in Iowa (ISU, 2019), though it was a labor intensive process. The St. Mary's University GeoSpatial Services group is also developing procedures to do this type of assessment, which may be a welcomed addition to the tracking toolbox. Ultimately, work like this would be coupled with an

estimated conservation practice life (R. Christianson, 2021) to create a more representative picture of current and past conservation implementation efforts.

State agencies receiving Clean Water funding already actively track land use metrics (acres of given crops) as part of the Clean Water Performance Report. Adding fertilizer sales data to their tracking effort may lesson duplication of effort between their biennial performance report and the Nutrient Reduction Strategy metric updates.

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Successful Conservation Practice Programs

Report to support the 2025 Minnesota Nutrient Reduction Strategy Revision

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Introduction

Though agricultural conservation practice implementation is accelerating, there is continued need to further accelerate adoption to meet statewide water quality goals. Many programs exist to advance the water quality cause and span the spectrum of private, public, grass-roots, and regulatory. As acceleration continues, enhancing existing programs or developing new programs becomes increasingly important. The aim with this report is to identify existing programs that have been seen as successful, and to characterize them in terms of multiple parameters.

Nelson et al. (Nelson et al., 2017), clearly layout the components of programs that have been successful at nonpoint source pollution control, which include:

- Apply systems thinking
- Are locally relevant
- Engage local community members
- Build strong relationships and enduring partnerships
- Stay focused, learn, and adapt

Many of these themes are found in the programs discussed below, though the magnitudes of each are likely dynamic. Nelson et al. (2017) also notes the need for behavior change through social change, where collective efforts can be turned on important problems. With social change and capacity to support that change, comes persistent shifts spanning the decadal timescales needed to realize improved water quality.

Moving forward in Minnesota, removing barriers to conservation adoption is key. This can be done through applying the sentiment from Nelson et al. (2017), as well as adding new conservation delivery models to our program repertoire.

For example, the typical conservation delivery generally relies on a farmer or landowner to be proactive. Generic steps for a farmer/owner are:

1. Hears about a practice/program
2. Feels it is applicable to them or it addresses a problem they think they have
3. Reaches out to program provider (or does more research on a program)
4. Applies to do a specific practice under a program and waits to hear if they are accepted
5. If accepted, signs contract with funding organization
6. Practice is planned/designed by a third party
7. Practice is paid for upfront
8. Practice is installed by farmer or third party
9. Practice is certified

10. Reimbursement is made

All of the above steps may have barriers, and the question is, how can we change this? Through evaluation of existing programs, literature, and feedback from stakeholders, it is clear the method of delivery we need to add should follow a targeted model like the batch and build style program being developed in Iowa. Typical steps for this type of program are:

1. State/regional prioritization of pollutants/problems
2. Identify targeted areas to address that pollutant
    a. This may happen with a third party, state agency, or within a watershed plan
3. Directly approach those farmer/owners where areas were identified
    a. Approach using a trusted source like a crop adviser, Soil Water Conservation District, Extension Specialist, etc.
4. Do a field walk-over to discuss the problem (if applicable)
5. Provide options to solve the problem
    a. Have farmer/owner pick from a list
6. Use a pre-identified and established funding source to pay for the practice without farmer/owner out of pocket
7. Pay farmer/owner an incentive (this may be optional, depending on the ask)

The Root River Field to Stream Partnership has had remarkable success for accelerating targeted conservation practices using a 'batch and build' style approach. Several years of multi-scale monitoring revealed that high risk runoff areas were contributing a disproportionate about of sediment and attached nutrient and pesticide loss. After several years of planning and relationship building the Partnership hired a retired SWCD conservation specialist to help coordinate and conduct field walkovers.

Within two years, 100% of the 47 farmers participated in the voluntary walkovers spanning over 10,000 crop acres. Following the walkovers, producers received a simple one-page walkover report along with an individual action plan and out-of-pocket cost quotes. Conservation planning maps derived from the Ag Conservation Planning Framework were key in helping target and prioritize projects. After an additional three years, 70% of the famers added additional targeted practices. About 30% of the farmers addressed all of their resource needs going above and beyond what was asked and 27% installed practices without cost-share assistance. The initial $50,000 investment in the field specialist produced over $1.8 million in conservation cost-share assistance. Keys to success for this program included a dedicated technician that provided high quality customer service and experienced leadership.

This type of successful one-on-one interaction with farmers was also seen in a watershed described by Osmond et al. (Osmond et al., 2015), where a dedicated conservation professional was hired to work with farmers. In that study, relationships were with fewer than 65 farmers. Until this step was taken, adoption of nutrient management was low.

Further, there is need for flexibility in all programs. Flexibility in the form of practices being suggested/used/acceptable, and flexibility in spending/contracts. This message was found in literature as well as provided by multiple stakeholders and program delivery professionals. The sentiment is that all farms are different, so a rigid approach will only work in a few cases. Additionally, participant financial situations can change at any moment, so having long lead times or an onerous process is not conducive to streamlined conservation implementation. Building flexibility into all programs being delivered is critical.

The Minnesota Agricultural Water Quality Certification Program is an example of where this type of flexibility has been built in. Flexibility comes through the ability to implement practices customized to each individual farm after a full farm evaluation. Participation in this program continues to grow with over a million acres enrolled as of 2024.

The One Watershed, One Plan program is an overarching effort that provides a management structure, with watershed specific priorities, and locally lead targeting and implementation. Participation in the program opens up eligibility for receiving implementation funding. These plans work closely with locals as well as Soil Water Conservation Districts to identify projects and people ready and willing to implement conservation on the landscape. In many instances, funding is going to deliver batch-and-build style implementation, where many conservation practices have been identified and will all be installed in rapid succession. In this case, the conservation delivery mechanism is being changed to better align with local goals in a targeted approach. Further, flexibility is being built in through local priorities (rather than mandated priorities), as well as giving the Soil Water Conservation District the ability to pivot between potential projects.

Finally, the momentum of our current agricultural system may limit profitable incorporation of conservation activities without some sort of incentive. For example, markets have been developed for major crops like corn, soybeans, sugar beets, and potatoes. In some areas, there may be a need for perennial based crops, though these products, intermediate wheatgrass (Kernza®), for example, have limited marketability since consumable products have not been developed around the crop. There is no immediate solution for this finding, though market development is providing a “pull” for some alternative crops here in Minnesota.

Methodology

The Minnesota Department of Agriculture met with agricultural stakeholders, internal staff, staff contacts, and state agencies. The intent was to collect a representation of agricultural conservation implementation programs that are seen by stakeholders to have successfully increased adoption of practices on the landscape. Additionally, these groups had discussions surrounding new ideas of programs that would effectively increase the rate of agricultural conservation practice adoption.

The process was iterative and included separation of regulatory and voluntary programs. Further, the program list developed was not intended to be exhaustive, but rather to highlight programs that have resonated with the stakeholders involved. In addition to determining existing programs, ideas for new programs were discussed. These ideas were compiled more generically here, as these were not detailed concepts.

The resulting list of existing programs served as platform to look for commonalities, and overall trends in program development or implementation. As part of this process, a multi-dimensional matrix was developed for top programs, including many parameters. Most notably:

- Elements that made them successful
- Geographic scope
- Scalability
- Innovation
- Target audience

Characterization of these parameters was largely subjective and were the product of discussions internal to the Minnesota Department of Agriculture as well as discussions with and contributions from the subteam.

Key Findings

Successful programs have relationships and trust as a central pillar. This comes from long-term partnership development, which includes delivering technical assistance and empowering farmers to adopt best management practices appropriate to their system through education. Other key components include reducing financial barriers through incentives, being flexible with funding and being able to adapt to individual operations. Finally, many of the programs have an element of targeting, or focused implementation, build into them. Though the method for targeting is not consistent, the need for it was clear.

Local leadership is an important element in many of these programs, especially the local grass-roots efforts. Two examples are the Olmstead County Soil Health program, and the Farmers Protecting Bridgewater Streams. In these cases, strong local leadership continues to make programs relevant. Another example is the Root River Field to Stream Partnership, where the developed peer network provides an outlet for sharing edge-of-field monitoring results as well as a learning opportunity for participating farmers.

Key Lessons Learned across programs:

- Flexibility is critical, allowing programs to accommodate diverse farm situations.
- Targeted outreach using trusted sources is more effective when approaching farmers.
- Financial incentives can help reduce barriers to adoption.
- Long-term support and a consistent message are needed for lasting behavior and social norm changes.
- Local leadership and peer networks play a crucial role in program success.

Grouped Programs

Program grouping can be accomplished in many ways, though the following grouping was generally adopted to share the most scalable programs. The initial grouping is based on geographic scale, where statewide programs were the primary scale (Table 1), followed by regional, and watershed (Table 2), local (Table 3), and ending with national (Table 4).

Table 1. Existing State-Level Programs to Accelerate Ag Conservation Practice Adoption. In the table below, the first column (Where Initiated) may span multiple rows to group related items.

Where Initiated	Program	Funding	Scalability	Innovation	Target Audience	Elements that made them successful
Minnesota	4R certification program in Minnesota	Private	High	High	Farmers, Ag Retailers	Public-Private Partnership, Peer Network
	BWSR Soil Health Staffing Grants	Public	High	High	Conservation Districts	Public-Private Partnership, Peer Network
	Clean Water Fund Implementation Grants	Public	High	Medium	Local Governments, Conservation Districts (then to landowners)	Public-Private Partnership, Flexibility
	Climate Smart Farms Project	Public	High	High	Farmers	Public-Private Partnership, Peer Network
	Forever Green	Public	High	Medium	Farmers, Researchers	Public-Private Partnership, Peer Network
	MDA's Nutrient Management Initiative	Public	High	Medium	Farmers	Public-Private Partnership, Peer Network
	Soil Health Financial Assistance Program Grants	Public	High	High	Farmers	Public-Private Partnership, Flexibility
	Watershed Based Implementation Funding	Public	High	Medium	Local Governments, Conservation Districts (then to landowners)	Public-Private Partnership, Flexibility
	Minnesota Agricultural Water Quality Certification Program	Public	High	Medium	Farmers	Champion, Peer Network
	We Are Water MN	Public	High	High	General Public	Public-Private Partnership, Peer Network
	MN Corn Innovation Grants	Private	Medium	High	Farmers, Researchers	Champion, Flexibility
Illinois	Fall Cover for Spring Savings	Hybrid	High	High	Farmers	Public-Private Partnership, Flexibility
Iowa	Cover Crop Business Accelerator	Hybrid	Medium	High	Farmers	Public-Private Partnership, Peer Network
	The Conservation Infrastructure Initiative	Private	High	Medium	Landowners, Conservation Districts	Public-Private Partnership, Flexibility

Table 2. Existing Regional and Watershed Programs to Accelerate Ag Conservation Adoption. In the table below, the first column (Where Initiated) may span multiple rows to group related items.

Where Initiated	Program	Funding	Scalability	Innovation	Target Audience	Elements that made them successful
Minnesota	Farmers Protecting Bridgewater Streams (Rice Creek)	Private	Low	Medium	Farmers, Landowners	Peer Network, Flexibility
	International Water Institute Stewardship Program	Hybrid	Medium	High	Farmers, Landowners	Public-Private Partnership, Peer Network
	Irrigation RCPP	Public	High	Medium	Farmers	Public-Private Partnership, Flexibility
	Red River Basin initiative	Public	High	Medium	Landowners, Local Organizations	Public-Private Partnership, Peer Network
	Root River Field to Stream Partnership	Public	Medium	Medium	Landowners, Local Organizations	Public-Private Partnership, Peer Network
Minnesota, Iowa	Oatly	Private	High	High	Consumers, Farmers	Champion, Public-Private Partnership
Minnesota, Iowa, Nebraska, Missouri	Sustainability Cover Crop Initiative	Private	Medium	High	Farmers	Public-Private Partnership, Peer Network
Midwest states	Cover Crop Cost Share Program – Iowa and Nebraska; Full Supply Chain Collaboration – Nebraska	Private	Medium	High	Farmers	Public-Private Partnership, Peer Network
Multiple	Soil and Water Outcomes Fund	Private	High	High	Farmers	Public-Private Partnership, Flexibility
Iowa	4R certification plus (4R nutrient mgmt plus soil health & conservation)	Private	High	High	Farmers, Ag Retailers	Public-Private Partnership, Peer Network
	Cedar River Source Water Partnership RCPP	Public	Medium	Medium	Landowners, Local Organizations	Public-Private Partnership, Peer Network
	Iowa batch and build	Public	High	High	Farmers, Landowners	Public-Private Partnership, Peer Network

Where Initiated	Program	Funding	Scalability	Innovation	Target Audience	Elements that made them successful
	N Rate Risk Protection Program	Private	Medium	High	Farmers	Public-Private Partnership, Flexibility
	Sustainable Soy Cover Crop Program	Hybrid	Medium	High	Farmers	Public-Private Partnership, Peer Network

Table 3. Existing county and Local scale programs to accelerate ag conservation practice adoption. In the table below, the first column (Where Initiated) may span multiple rows to group related items.

Where Initiated	Program	Funding	Scalability	Innovation	Target Audience	Elements that made them successful
Minnesota	Cooperatives for Climate	Private	Low	High	Farmer-led Cooperatives	Peer Network, Flexibility
	Olmstead County Soil Health	Public	Medium	Medium	Farmers	Champion, Peer Network
	Stearns County Cover Crop Program	Public	Medium	Medium	Farmers	Public-Private Partnership, Peer Network
	Wilkin County Soil Health Demonstration	Hybrid	Medium	High	Farmers	Champion, Peer Network
Multiple	Conservation Agronomist	Private	Medium	Medium	Farmers	Champion, Flexibility

Table 4. Existing national programs to accelerate ag conservation practice adoption. In the table below, the first column (Where Initiated) may span multiple rows to group related items.

Where Initiated	Program	Funding	Scalability	Innovation	Target Audience	Elements that made them successful
National	Inflation Reduction Act funds	Public	Low	Medium	Various	Public-Private Partnership, Flexibility
	Saving Tomorrow's Agricultural Resources (STAR) Program	Hybrid	High	High	Farmers	Public-Private Partnership, Flexibility
	Taranis and Steward Link Program Navigation	Private	High	Medium	Farmers	Flexibility
	Truterra tillage and cover crop	Private	High	High	Farmers	Public-Private Partnership, Peer Network

Recommendations

Program Design and Implementation Recommendations:

- Focus on targeted outreach, leveraging trusted sources and peer networks. Programs like the Root River Field to Stream Partnership and the Olmstead County Soil Health Program demonstrate the value of farmer-to-farmer networks and trusted local leadership. Prioritize program design that facilitates peer-to-peer learning, using farmer champions and engaging local community members.
- Emphasize simple, persistent messaging. Use clear, specific, and consistent communication about conservation benefits. This messaging should also be tailored to specific groups and highlight the benefits of conservation to the general public.
- Use a "batch-and-build" approach to streamline conservation implementation. This method addresses the need for targeted outreach, efficient funding, and flexibility, as seen in the Iowa batch and build program. Program design should look to combine multiple practices for larger impact.
- Address the financial barriers to adoption through direct incentives. Programs like the Soil Health Financial Assistance Program Grants, which offers financial assistance for equipment purchases, are key in facilitating adoption. Incorporate direct incentives and cost-share programs for large capital expenses, new practices, and practices that farmers have an interest in.
- Integrate a systems-thinking approach to address social and ecological factors. Conservation programs should not only consider the technical aspects but also the social and cultural contexts in which they are being implemented. Programs should recognize that change is a social process, and consider the social norms of the community.

Future Research Directions

- Investigate the motivations and barriers for rented cropland adoption. A significant portion of farmland is rented, so more research is needed to understand the unique challenges of this land tenure.
- Further research on the impact of outreach and engagement programs. There is a need to better understand the impact of tailored messages and different communication approaches.

Descriptions of Selected Existing Programs

Minnesota Agricultural Water Quality Certification Program (MAWQCP)

The Minnesota Agricultural Water Quality Certification Program, initiated by the Minnesota Department of Agriculture (MDA) in 2014, is a statewide, voluntary program designed to recognize and reward farmers for implementing conservation practices that protect water quality. This program provides farmers with a whole-farm risk-assessment framework to implement practices tailored to their specific operations and risks to water quality, offering a certification that demonstrates their commitment to environmental stewardship. While the certification process can be time-consuming, the program has shown high scalability and is growing in popularity and environmental impact. The program benefits from having a champion within the MDA and a strong peer network that promotes the program through

trusted sources. This combination of flexibility and recognition seems to resonate with farmers and encourages participation in the program.

Lessons Learned: The MAWQCP has demonstrated that **farmers are more likely to adopt conservation practices when they are given flexibility to choose from a suite of options** that address their specific challenges. The program's success is also attributed to the recognition and higher average net income participating farmers earn, which can act as a powerful motivator. The program's ability to adapt and grow, and its focus on rewarding farmer efforts, are key elements that could be implemented by other programs. Additionally, the program has learned that the whole-farm risk-assessment process and 10-year obligation to maintain practice changes can be a disadvantage in requiring far greater commitment from participants versus other less comprehensive farm interventions.

Soil Health Financial Assistance Program Grants

The Soil Health Financial Assistance Program Grants, another statewide initiative from the Minnesota Department of Agriculture (MDA), was launched in 2023. This voluntary program offers financial assistance to farmers to overcome the financial barriers of purchasing new equipment that promotes soil health practices. The program specifically targets tillage and nutrient management, areas where there is a high level of farmer interest. The program has demonstrated a high level of demand, significantly outpacing the available resources, which indicates its potential for immediate impact if expanded. This program is considered to have high innovation and scalability, though it does require significant farmer buy-in and education to be fully successful. The program leverages a public-private partnership model and focuses on encouraging practices that farmers are already interested in which likely helps with program implementation.

Lessons Learned: A key lesson from the Soil Health Financial Assistance Program is that **direct financial assistance for large capital expenses like equipment can significantly increase adoption of soil health practices**. The program has observed strong interest among Minnesota farmers in adopting soil health practices, including tillage and cover crops.

BWSR Soil Health Staffing Grants

The BWSR Soil Health Staffing Grants, started by the Board of Water and Soil Resources (BWSR) in 2024, is a statewide, voluntary program that invests in local organizations to implement soil health practices. This program provides funding to Soil and Water Conservation Districts (SWCDs) to increase their staff capacity, including the ability to hire agronomists. The program emphasizes that increased staffing leads to more outreach, technical assistance, and implementation of conservation practices, all of which are deemed critical to conservation adoption. This program is considered groundbreaking for investing in local capacity, and it is also noted to have high equity and scalability.

Lessons Learned: This program underscores the importance of **investing in local capacity through staffing grants to support conservation efforts**. Increased staff capacity allows for more outreach and technical assistance to farmers, which is vital for adoption of conservation practices.

Iowa Batch and Build

The Iowa batch and build program, launched by the Iowa Department of Agriculture and Land Stewardship with many partners in 2021, is a regional, voluntary program that emphasizes efficiency and collaboration. This program took about two years to get started, but now has greatly expanded, with new initiatives being started across the state. The program focuses on installing multiple

conservation practices (bioreactors and saturated buffers in this case) with one effort in a coordinated way, to streamline implementation. The program is considered transformative, leveraging economies of scale, and demonstrating that collaboration and planning are important for efficient and cost-effective conservation.

Lessons Learned: The Iowa "batch and build" program demonstrates that **coordination and planning are critical for efficient and cost-effective conservation implementation**. The program's success highlights the benefits of leveraging economies of scale, and it also underscores the importance of public-private partnerships.

Olmsted County Soil Health Program

The Olmsted County Soil Health program is a locally focused, voluntary program initiated by the Olmsted County Soil and Water Conservation District in 2022. This program connects groundwater protection and soil health and offers a "you choose" approach to encourage the increase of small grain, perennial, and cover crops. The program provides producers with flexibility in selecting practices that meet their specific needs. The program has successfully enrolled over 50 producers through 2024, leading to more than 6,500 acres in cover crops. This program leverages local knowledge, and it works to build trust and relationships to promote soil health. The program demonstrates that strong local leadership and community engagement can be highly effective in promoting conservation practices. Although its geographic scope is limited, the lessons learned from this program could be adopted by other efforts.

Lessons Learned: This program's success emphasizes the **importance of local focus and flexibility in promoting conservation practices**. The program's "you choose" approach, along with high payment rates, allows farmers to select practices that fit their specific needs, is highly effective and can increase participation. Strong local leadership and community engagement are also critical components of success.

Taranis and Steward Link Program Navigation

The Taranis and Steward Link Program Navigation is a private, national, voluntary program launched in 2024, with the goal of streamlining the application process for conservation programs. The program helps farmers secure the best opportunities for their operations by aligning practices with available funding programs. By taking on the paperwork and practice alignment aspects of conservation programs, it works to reduce the administrative burden on farmers. The program is designed to connect farmers with the best conservation opportunities available for their operations. This program's effectiveness comes from its ability to simplify the often-complex process of accessing conservation programs, effectively removing a significant barrier to adoption.

Lessons Learned: This program highlights that **reducing administrative burdens and simplifying access to conservation programs can greatly improve adoption**. By taking on the paperwork and practice alignment for farmers, the program removes a significant barrier, which is the time and complexity associated with applications (one-stop-shop with menu options). However, this approach may rely on technology and internet access, which could be a barrier for some farmers.

Root River Field to Stream Partnership

The Root River Field to Stream Partnership in southeastern Minnesota has successfully advanced conservation by prioritizing trust-building and direct farmer engagement. Instead of relying solely on data-driven strategies, the program has focused on one-on-one field walkovers, where farmers receive

personalized conservation recommendations tailored to their land. This relationship-centered approach has fostered widespread voluntary participation, with farmers responding positively to simplified conservation planning and hands-on guidance, leading to meaningful on-the-ground changes.

Lessons Learned: This program has shown that **building trust through personal, one-on-one engagement proved essential**, as farmers responded positively when approached individually rather than through broad outreach efforts. The field walkover process was a key driver of success, allowing conservation specialists to meet landowners where they are, discuss site-specific challenges, and present practical solutions in an approachable way. By focusing on targeted conservation efforts, the program ensured that farmers could address high-risk resource concerns effectively, leading to meaningful, lasting improvements in land stewardship.

Discussion of Potential New Programs

Several new ideas for programs were developed through discussions with stakeholders. The intent with these discussions was to bring forward potentially transformative programs to further consider the challenge of accelerating conservation adoption. Documenting where stakeholders thought programs should go was a useful exercise, which showed overlap with existing programs and program structures. These new ideas were generated to address persistent challenges in conservation adoption, with a focus on social, economic, and structural factors that influence farmer decision-making. Many of these ideas aim to build on the successes/lessons learned of existing programs by emphasizing the importance of relationships, flexibility, and targeted outreach, as well as incorporating newer approaches such as peer-to-peer learning and addressing the needs of rented cropland. This section explores these new program ideas, providing a basis for future program development and implementation. There were 25 new ideas that could generally be separated into five groups.

Workforce development and capacity building

A significant barrier to conservation adoption is the limited capacity of organizations to provide technical assistance and outreach to farmers. Several ideas focus on investing in people and building a skilled workforce to support conservation efforts.

- Support conservation workers through training and compensation to increase retention.
- Incentivize universities and agencies to encourage people to enter the conservation field.
- Provide training for agronomists and engineers on conservation practices.
- Support the creation of public-private conservation agronomist positions.
- Pay farmers to lead groups in implementing new conservation practices.

Relationships and trust are central pillars of successful conservation programs. Creating public-private conservation agronomist positions, for example, could help build trust with farmers by providing them with a locally relevant and trusted source of information. These positions could also provide the consistent messaging and long-term support that are needed for lasting behavior and social norm changes. Further, leveraging existing private sector networks that farmers already trust could be an efficient way to reach farmers with conservation information. By investing in people, programs will have the support needed for relationship building that has been shown to be critical for adoption.

These workforce development and capacity building efforts are innovative because they shift the focus from solely investing in practices, and instead recognize the need to invest in the people who are essential to conservation adoption. This has been recognized and is being done with some existing programs, for example the BWSR Soil Health Staffing Grants, though keeping this concept central moving forward is important.

Economic incentives and market development

Many farmers face financial constraints when considering conservation practices, which are often viewed as having high up-front costs and uncertain economic benefits. Several ideas focus on using economic incentives and market-based approaches to make conservation more attractive and financially viable.

- Develop markets for ecosystem services like clean air, clean water, and carbon sequestration.
- Provide tax incentives for putting marginal lands into pasture or perennial crops.
- Offer grain premiums for implementing carbon-sequestering practices.
- Compensate farmers for the burden of adopting practices.
- Provide financial incentives for implementing cover crops and reduced tillage.

Financial incentives alone are not sufficient to drive widespread adoption, but, when coupled with other supportive approaches, they can reduce barriers. The idea of establishing markets for ecosystem services could transform conservation from a cost to a revenue source. Paying farmers for the "burden" or service of implementing conservation practices, in cases where there is a financial risk or burden, might help create new entry points for some farmers to try a new practice. These ideas address the economic pressures that farmers face, while also highlighting the potential benefits of conservation beyond just water quality outcomes. These economic strategies move beyond traditional incentive programs to incorporate broader changes to the marketplace.

Peer-to-peer learning and social influence

Social factors, such as peer influence and social norms, play a significant role in farmers' decisions about conservation. Several ideas emphasize the importance of peer-to-peer learning and social influence in promoting conservation adoption.

- Establish a referral program where landowners are paid for encouraging their neighbors to adopt conservation practices.
- Create a neighbor-to-neighbor (or farmer-to-farmer) learning network.
- Support farmer champions and peer networks who can share their experiences and knowledge.
- Highlight the benefits of conservation to the general public through "show and tell" opportunities.

Farmers often trust information from their peers more than from other sources. Programs like the Root River Field to Stream Partnership have seen remarkable success using peer networks and farmer champions. The proposed referral program attempts to harness this peer influence directly by providing an incentive for farmers to share new ideas. By using social pressure, we may be able to change long-standing social norms around agriculture and conservation. The idea of "show and tell" opportunities may highlight how conservation is beneficial not only to the farmer or landowner, but to their neighbors

and the surrounding community. This approach leverages the power of social networks to create a culture of conservation.

Addressing barriers to adoption

Many farmers face barriers when trying to adopt conservation practices. These may include the complexity of navigating programs, the time required to implement new practices, and the fear of financial risks. Several ideas aim to address these barriers by making conservation programs more accessible and user-friendly.

- Develop an app to interface with multiple conservation programs and bypass red tape.
- Implement a "batch-and-build" program to streamline conservation implementation.
- Use the "Easy 40" concept to reduce the stress and burden of implementing new practices.
- Compensate farmers for the burden beyond typical practices.

Reducing red tape and increase flexibility in conservation programs is becoming increasingly important as the need to scale becomes more of a priority. A "batch and build" approach, like the one in Iowa, can reduce program complexity by packaging multiple conservation practices into a single project. The "easy 40" concept and compensating farmers for burden directly address the stress that can be associated with trying new practices. These ideas focus on simplifying the process of adopting conservation practices and making it easier for farmers to participate in programs.

Landscape-level changes

In addition to on-farm practices, landscape-level changes are needed to achieve water quality goals. Several ideas focus on implementing broader changes to the landscape that can improve water quality and habitat.

- Create a task force to expand continuous living cover (CLC) programs.
- Expand water storage capacity across drained landscapes.
- Reconnect floodplains for nutrient uptake.
- Remeander ditches to create more opportunities for nutrient removal.
- Plant cover crops along major roadways to reduce runoff and snow drifting.
- Focus on sensitive areas and provide the necessary inputs to protect water quality.

Recognizing that, even if in-field practices are fully implemented, edge-of-field practices will still be needed to achieve goals, is an important step. These landscape-level changes promote a systems approach to conservation by addressing the broader ecological context. The re-meandering of ditches and reconnection of floodplains seeks to reconnect the natural system to reduce overall nutrient loads. Programs like this are innovative because they address the need for landscape-level solutions and create opportunities for more comprehensive change.

These new program ideas highlight elements that can strengthen both new and existing conservation initiatives. Rather than representing a radical departure, these ideas underscore how to refine our current approach by emphasizing key factors for successful adoption. Many of the themes present in these new program ideas can already be seen in successful existing programs, and serve as a guide for how all programs can be improved. By recognizing and incorporating these elements, both new and existing programs can become more effective in accelerating conservation adoption and improving water quality outcomes.

Workforce Development and Capacity Building: The new program ideas emphasize investing in people through training and support for conservation professionals. This approach is reflected in the BWSR Soil Health Staffing Grants, which provides funding to Soil and Water Conservation Districts (SWCDs) to increase staff capacity, recognizing that increased staffing leads to more outreach and technical assistance. This theme underscores the need for relationship building and local expertise, which has been shown to be critical for adoption.

Economic Incentives and Market Development: The proposed ideas include creating markets for ecosystem services and providing tax incentives for conservation. These approaches are similar to existing programs like the Soil and Water Outcomes Fund which pays farmers to implement conservation practices and sells the resulting carbon credits. These economic strategies are intended to make conservation more attractive and financially viable.

Peer-to-Peer Learning and Social Influence: New program ideas focus on peer-to-peer learning and social influence to promote conservation. The Root River Field to Stream Partnership serves as a prime example of the success of peer networks and farmer champions. The Olmstead County Soil Health program also demonstrates the effectiveness of local leadership in building trust and fostering community engagement.

Addressing Barriers to Adoption: New programs seek to reduce red tape, streamline processes, and make programs more user-friendly. The Taranis and Steward Link Program Navigation aims to simplify the application process for conservation programs, removing a barrier to adoption. The idea of a "batch-and-build" approach is already a part of existing programs like the Iowa batch and build program, which streamlines the implementation of multiple conservation practices.

Landscape-Level Changes: New program ideas for landscape-level changes are reflected in the goals of programs like the Red River Basin Initiative, which focuses on water storage and nitrate reduction through permanent easements. The BWSR Regional Conservation Partnership Program funds, awarded in November of 2024 is also an important example of landscape-level changes.

These examples show that the new ideas are not a departure from existing programs, but a way to refine our approach using elements that have already proven effective. New programs could be built around these elements, while existing programs should incorporate these elements to increase their effectiveness. By doing so, the goal of accelerating conservation adoption and improving water quality outcomes can be achieved.

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