



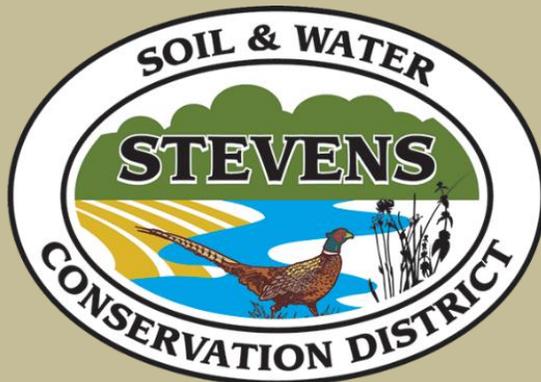
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August, 2021

Views of SWCD Programs, New Practices & Extreme Weather Challenges

Regional Sustainable
Development Partnerships

UNIVERSITY OF MINNESOTA
EXTENSION



SWCD Survey Report

August, 2021 | By: Roger Rose & Erik Kjer (UMN Morris)

This research on behalf of Stevens Soil and Water Conservation District was generously supported by the University of Minnesota Extension Morris Regional Sustainable Development Partnership, the University of Minnesota Morris Center for Small Towns and the UMN Morris Office of Sustainability.

- The mission of the **Stevens Soil & Water Conservation District** is to work with county landowners in putting conservation practices on the land and to help all citizens be good stewards of our natural resources.
- The **University of Minnesota Extension Regional Sustainable Development Partnerships (RSDP)** advance the environmental, economic and social sustainability of Greater Minnesota through authentic community-University partnerships that co-create innovative solutions and fulfill the University's land-grant mission.
- The **University of Minnesota, Morris Center for Small Towns (CST)** is a community outreach program that serves as a point of entry to the resources of the University of Minnesota. Small towns, local units of government, K-12 schools, nonprofit organizations, and other University units are able to utilize CST's resources as they work on rural issues or make contributions to rural society. CST's mission is to focus the University's attention and marshal its resources toward assisting Minnesota's small towns with locally identified issues while creating applied learning opportunities for faculty and students. CST is dedicated to creating a bright future for small towns throughout the state.
- The **Morris Office of Sustainability (MOOS)** has a vision to see the Morris campus and community grow as a model of sustainability principles, practice, and excellence. We work collaboratively with students, faculty, staff, and community partners to advance our shared sustainability aspirations.
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Introduction & Executive Summary

Despite the importance of maintaining soil and water quality, Soil and Water Conservation Districts (SWCD) are rarely able to conduct surveys of program participants. At the urging of a Stevens SWCD board member and staff, faculty and students at a UMN Morris environmental policy making course partnered with the Stevens Soil and Water Conservation District in the Spring semester of 2020 to create a survey of landowners and participants in SWCD programs. The core goal behind this survey was to explore stakeholder views on key SWCD programs and issues of concern to the district.

After revising the survey during the rest of 2020 and securing funding support from the University of Minnesota's Southwest Regional Sustainable Development Partnership and UMM's Center for Small Towns, the survey team sent a survey announcement card, followed by the full survey to some 845 potential subjects using the current Stevens SWCD mailing list in March of 2021. By the end of the collection period, 181 responses were received and included in survey data¹. The survey data show that the subjects reside in or around Stevens County and consist mostly of older and highly experienced farmers (69.5% age of 59 or older), with 76.2% of respondents reported farming for 20 years or more.

The results in this report reveal that survey respondents highly value existing Stevens SWCD programs and they appear quite willing to expand participation given certain incentives. In addition, subjects expressed interest in adopting cover crop and reduced/no till practices, but emphasize cost and equipment could be barriers. The survey also shows strong agreement that severe weather events impact current farming and will do so in the future, and that both farmers and government both have responsibility to prepare for these events. Last, the survey reveals that stakeholders support renewing the Minnesota Legacy Amendment, a key SWCD funding source, but are leery of granting the district its own tax levy authority.

More specifically, the key survey findings about Stevens SWCD programs include:

- ✓ SWCD receive high approval ratings from survey respondents, with nearly 70% seeing core programs valuable or highly valuable to maintaining their farms & to sustaining farming.
- ✓ Nearly 71% of respondents believe SWCD programs help ensure soil and water quality in Stevens County.
- ✓ Respondents appear quite interested in expanding participation and trying out new programs.
- ✓ Although respondents believe cover crops and alternative tillage methods can improve the resiliency of farms when faced with severe weather events, many are hesitant to implement these practices.
- ✓ Although 75% of respondents wanted to maintain the Legacy Amendment in some form, only 34% said they approved of granting SWCD its own levy authority.

Below we review the results of the survey in more detail and present results of other topics of importance to Stevens SWCD. We conclude by noting the importance of this survey as the first survey project done on behalf of Stevens SWCD and suggest that the findings are likely of interest to other districts and, possibly, state officials. We also consider the possibilities and challenges of extending this kind of survey to other SWCDs in Minnesota.

¹ This mail-based survey followed the basic design advocated by Dillman (2017). See Appendix A for more details.

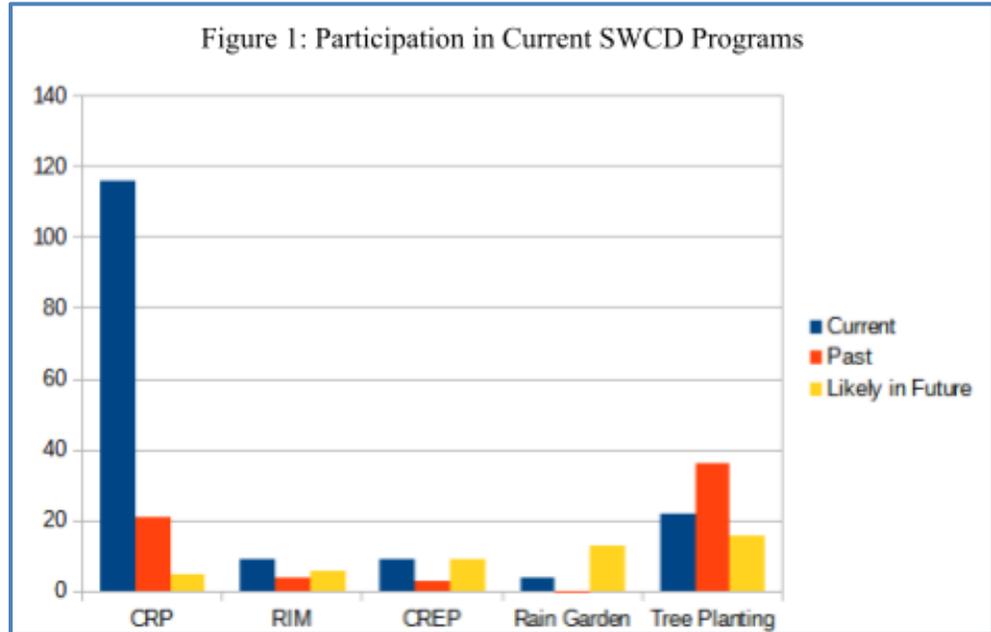
Section I: Views on Current Programs

The survey asked a set of questions about stakeholder perception and engagement with SWCD programs, as well as possible changes or potential programs.

Existing Program Participation: CRP and Tree Planting Most Popular:

Respondents were presented with a list of five programs currently offered by Stevens SWCD and asked which ones they presently participate

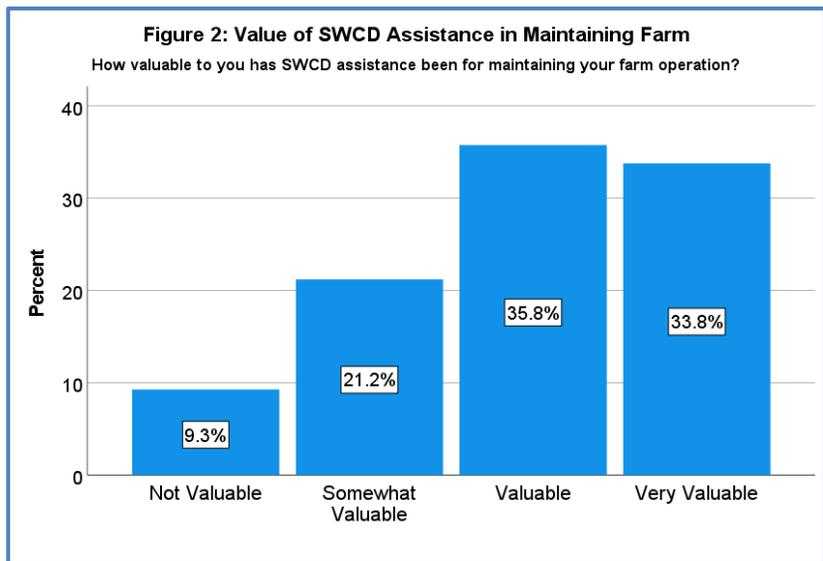
in, previously participated in, or plan to participate in in the future. These programs included the federally funded Conservation Reserve Programs (CRP), the state funded Reinvest in Minnesota program (RIM), the federal-state combined CREP, plus the local Stevens Rain Garden and Tree Planting Programs.



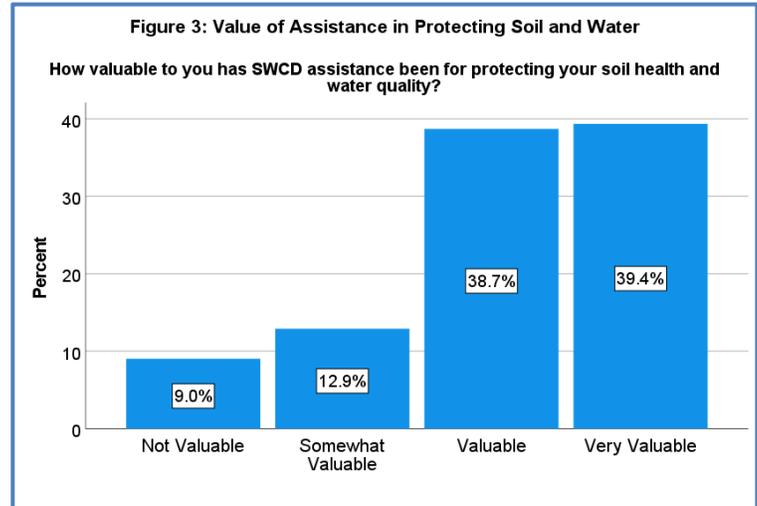
116 respondents (64.1%) said they were active participants in CRP, with 21 formerly active and 5 expecting to participate in the future. This contrasts with just 4.9% stating they currently participate in RIM and CREP programs and 2.2% in the Rain Garden program. Some 12.6% marked they participate in the Tree Planting program, making it the second most popular program. (See results in Figure 1.)

Value of SWCD Assistance to Individual Respondents: A

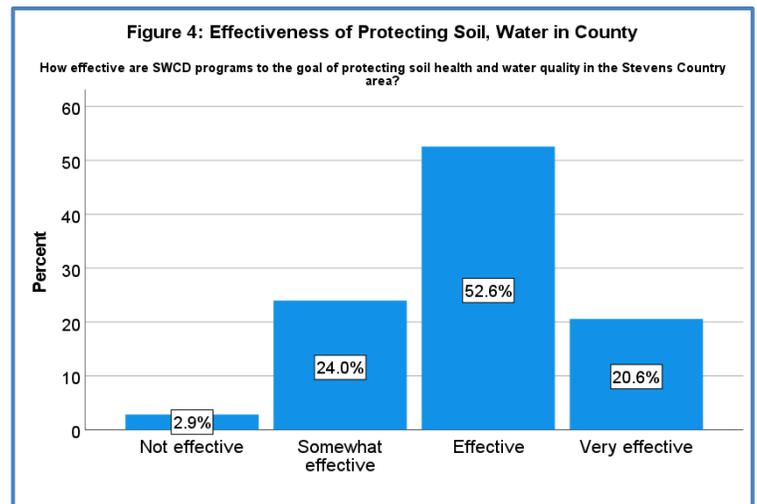
central purpose of district programs is to help stakeholders maintain their farms. Survey participants report that SWCD programs do help them to maintain their farm operations. Approximately 70% stated the SWCD assistance was either ‘valuable’ or ‘very valuable,’ while only 30.5% described it as being only ‘somewhat valuable’ or ‘not valuable’ when it came to maintaining their farms. (See Figure 2.)



Protecting Soil & Water: Respondents also overwhelmingly believe that SWCD assistance is important for protecting the quality of soil and water on their own farms. Of those who received assistance, nearly four-fifths (78.1%) said it was ‘valuable’ or ‘very valuable,’ while nearly 13% see programs as ‘somewhat valuable’ and just 9.0% noted district programs had no value in protecting their soil and water resources. (See Figure 3).

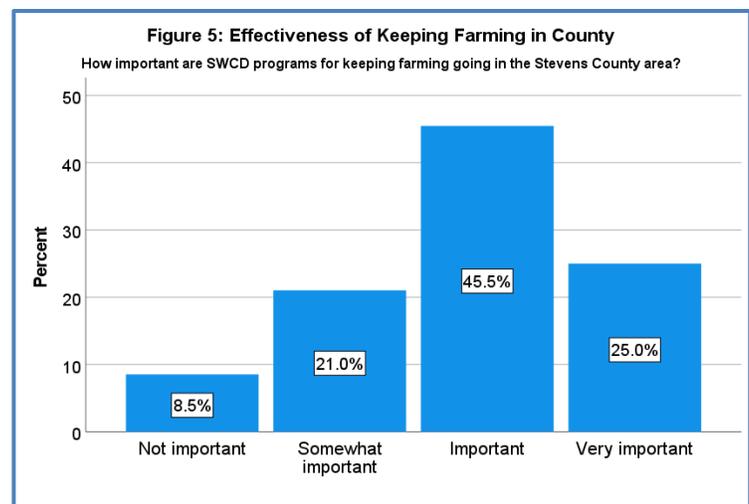


Value of SWCD Assistance to Soil & Water Protection in Stevens County: The survey also asked respondents about their view of the effectiveness of SWCD programs for protecting soil and water resources across the Stevens County area. Here again, respondents reported SWCD programs as highly effective or effective (73.2%). With another 24% perceiving them as “somewhat effective,” this leaves a mere 2.9% stating they were not effective in protecting the county’s soil and water quality. (See Figure 4.)



Value of SWCD Assistance in Ensuring the Future of Agriculture in Stevens County: Survey

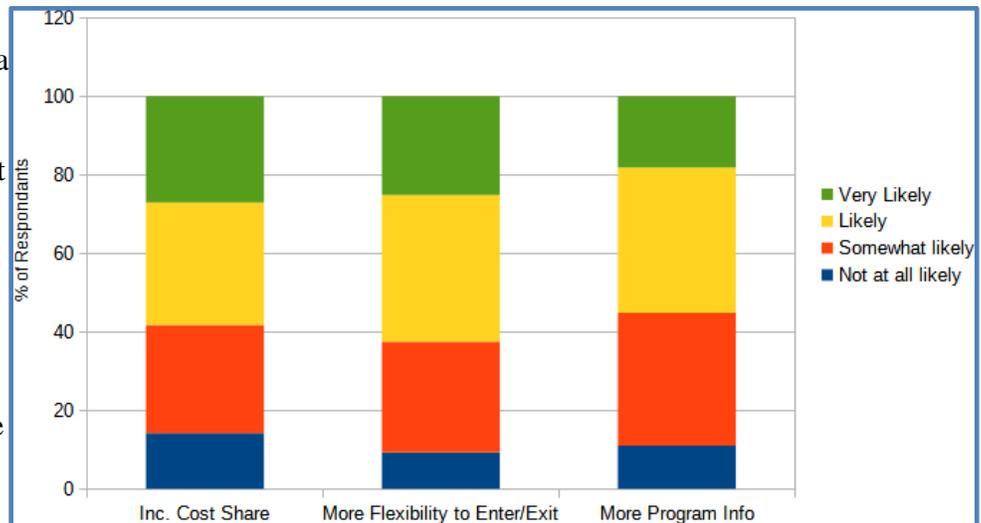
participants also believe that SWCD programs are important “for keeping farming going in the Stevens County area.” As seen in Figure 5, nearly 71% of those responding to the question perceive that SWCD programs as ‘very important’ or ‘important’ to sustaining farming in the county and about 20% claimed they were “somewhat effective.” Just 8.5% considered the programs to not be effective.



Willingness to Increase Participation in Programs:

A central concern for conservation districts and a particular focus for Stevens SWCD is finding ways to incentivize current stakeholders to increase the level of participation. Our survey presented respondents with three possible changes designed to promote greater program participation. The changes stated were ‘increased cost share,’ ‘more flexibility to enter/exit,’ and ‘more information about programs.’

Figure 6: Increasing Participation in Existing SWCD Programs by Incentive

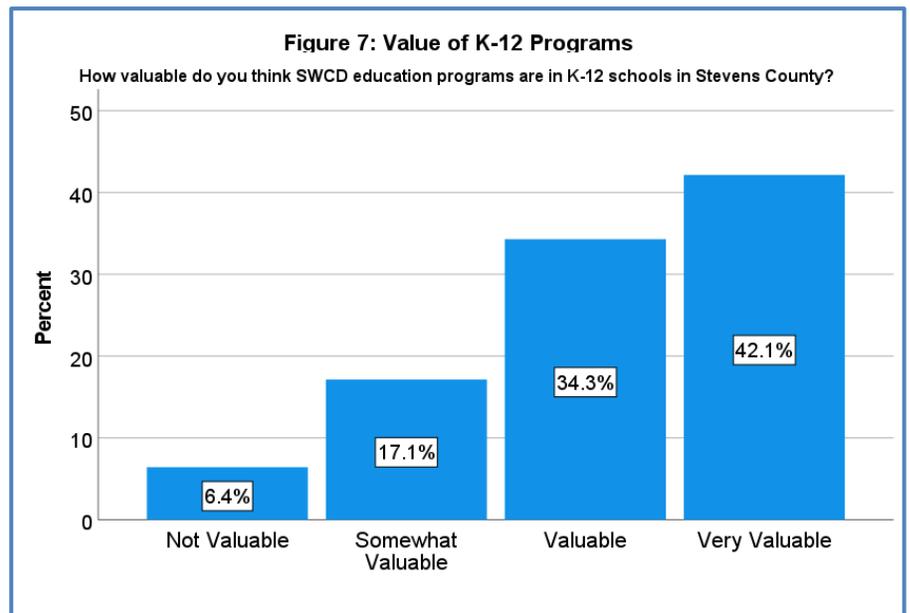


In each case, a majority of respondents saw the incentive as ‘likely’ or ‘very likely’ to increase their engagement with Stevens SWCD. More flexibility to enter or exit appears to be the most “popular” by a small margin, as over 62% reported that this incentive would ‘likely’ or ‘very likely’ increase participation. See Figure 6 for a more detailed breakdown.

Perception of SWCD Education Programs:

Education Programs: Stevens SWCD offers a set of educational programs designed for different age groups in local K-12 schools. While survey respondents are not current participants in these educational programs, those subjects who knew about these efforts view them as valuable. Specifically, over 42% of respondents familiar with these programs described them as ‘very valuable’ and another 34.3% saw them as ‘valuable.’ It is worth noting that about 20% of our subjects noted that they were not aware of Stevens SWCD education programs; these folks are not included in the results presented in Figure 7.

Figure 7: Value of K-12 Programs



Protecting Soil and Water Highly Valued by Respondents: Given that respondents to this survey currently or previously participated in soil and water conservation programs, we would expect a very high level of concern for protecting these essential resources. Accordingly, Figure 8 shows that nearly 90% of respondent view protecting soil and water as ‘important’ or ‘very important’ and virtually no one citing such protections as ‘not important.’

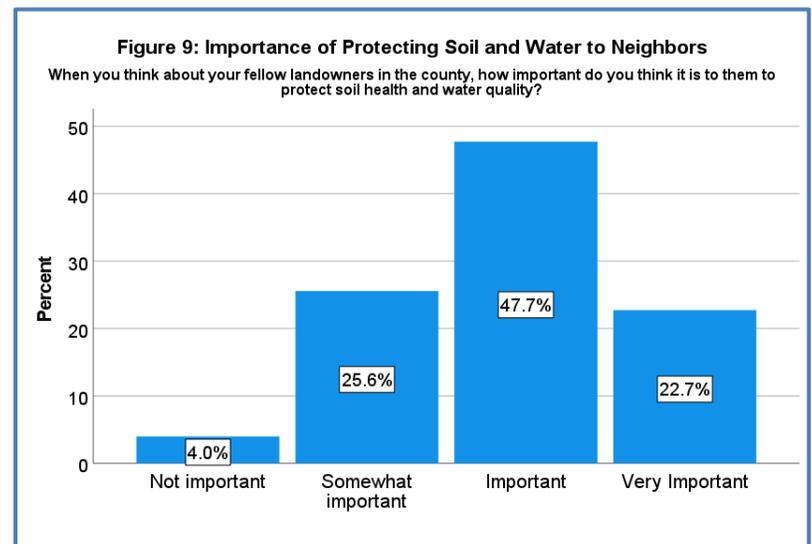
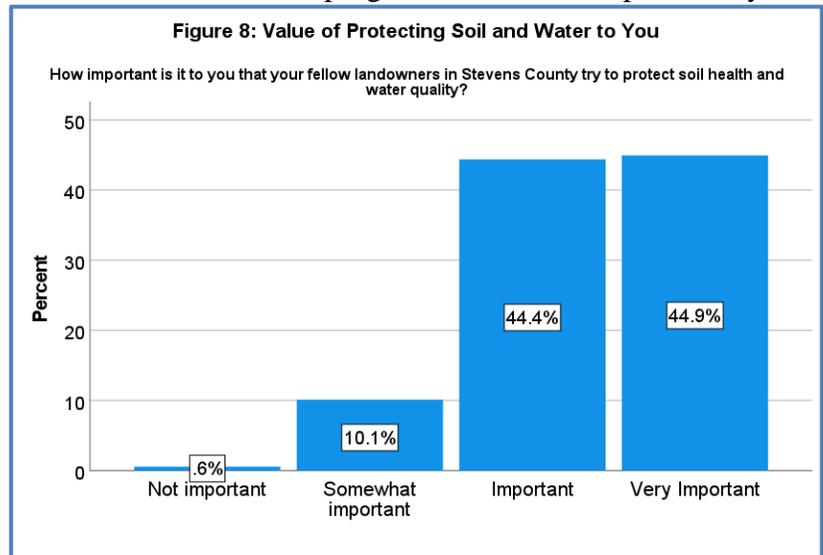
In contrast, as many of their neighbors are not current SWCD program participants, one might expect that this non-participating group views conservation programs less valuable. We asked respondents to consider how much they thought other landowners value protecting soil and water, essentially asking them to also rate the attitudes of their “neighbors.”

Asking about their neighbors may give an estimation of how much participants and non-participants differ in conservation attitudes. It also provides insights about whether our respondents think their fellow farmers are open to SWCD program participation.

The survey asked respondents, “when thinking about your fellow landowners,” how important is protecting soil and water is to these neighbors. Figure 9 shows our survey takers perceive their neighbors as less likely to view protecting soil and water as ‘very important,’ with just 22.7% of respondents choosing this option, some 20% less than among themselves. Also notable, nearly 30% of respondents perceived their neighbor’s view of protecting soil and water as ‘somewhat important’ or ‘not important,’ compared to under 11% holding this view for themselves

In sum, we would expect the most conservation oriented landowners to consider “protection” as important.

While respondents attribute less “concern” among their neighbors, over 70% still thought their fellow landowners view soil and water “protection” as important. This suggests Stevens SWCD may have an opportunity to bring in new participants, possibly using the same set of incentives as outlined in Figure 6.

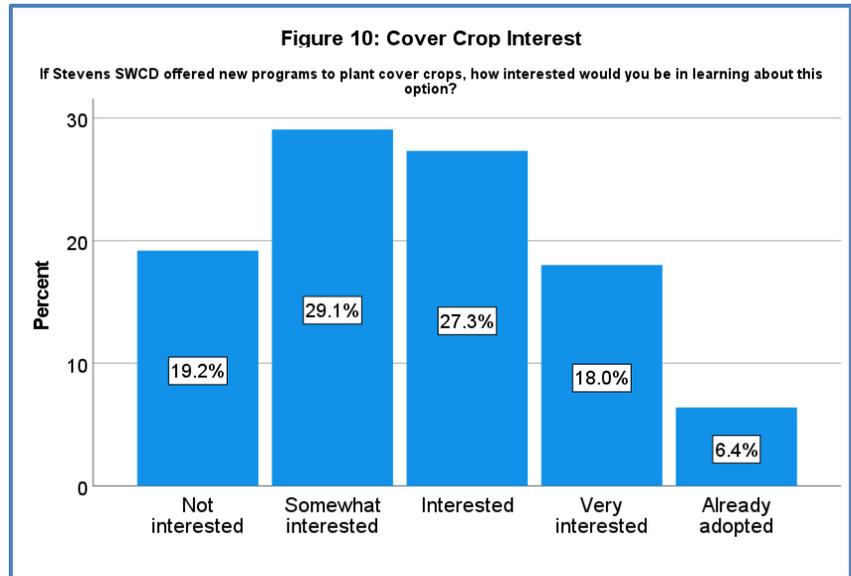


Section II: Stakeholder Interest in Possible New SWCD Programs

Cover crops and alternative till methods are two common techniques which can protect soil and water quality. While more commonly used in other Midwest states, Stevens SWCD sought to get direct evidence of farmer interest for both methods among their stakeholders. Thus, this survey asked respondents about their level of interest in each of these practices.

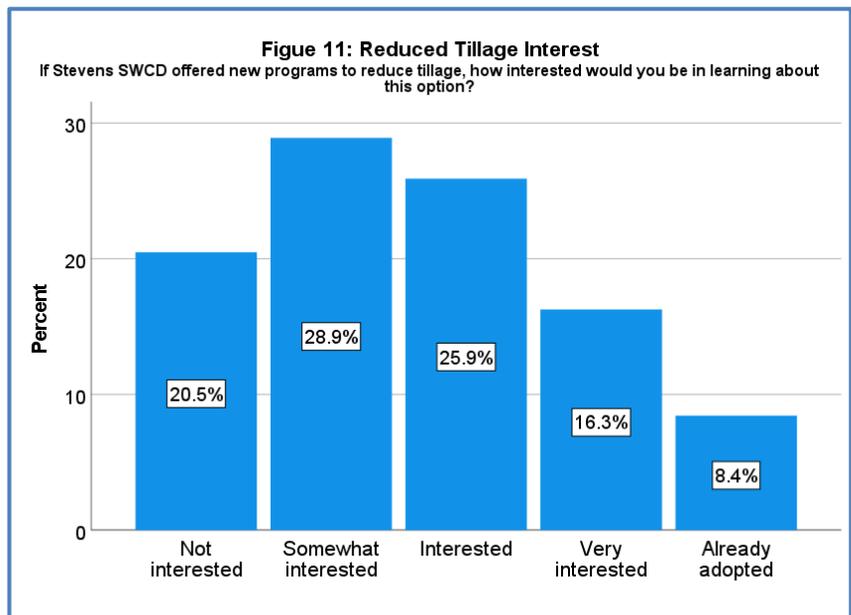
Modest Interest in Cover Crops:

Respondents were asked “If Stevens SWCD offered new programs—plant cover crops, how interested would you be in learning about these options.” The results show a significant interest in cover crops. We note first that some 6.4% of respondents have already adopted cover crops. Among the rest, 18% stated that they were ‘very interested’ and over 27% marked ‘interested.’ About 29% responded that they were ‘somewhat interested’ and about 19% expressing no interest in adding this practice.



Interest in Reduced/No-Till Methods:

Respondents also displayed significant interest in reduced or no-tilling techniques. Again, a number of respondent (8.4%) had already adopted the method on their farm operations. Over 42% were ‘interested’ or ‘very interested,’ while almost 29% expressed modest interest. About one in five respondents stated they had not interest.

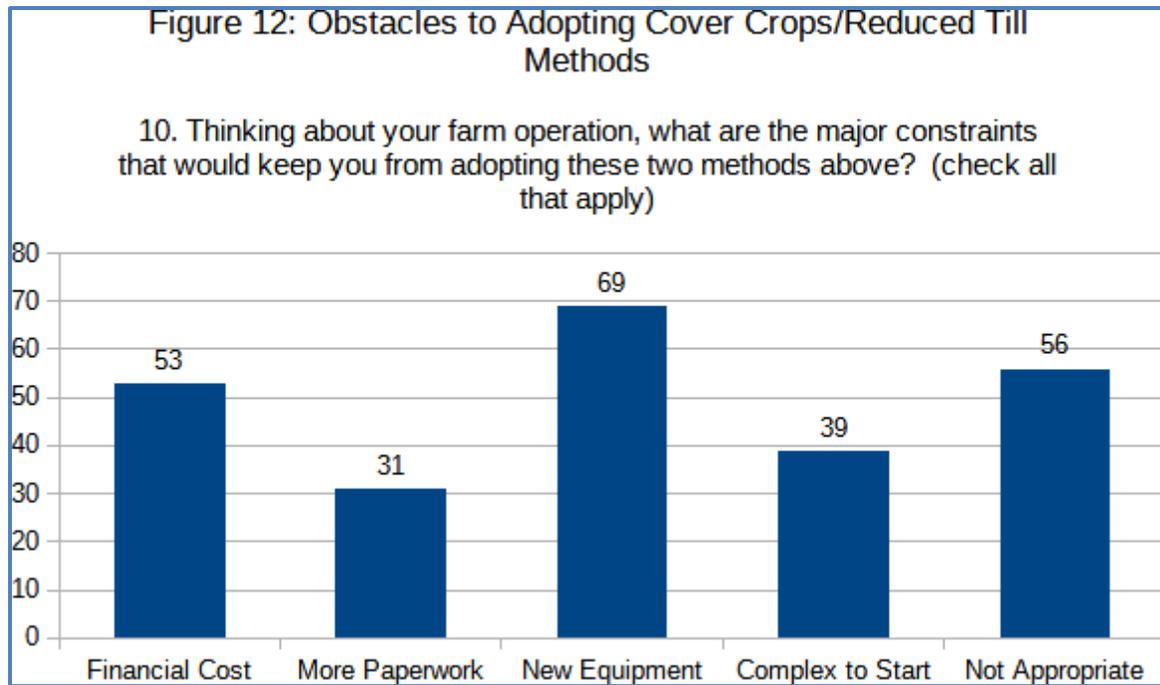


Financial and Equipment Constraints Seen as Significant Barriers to Adoption of Cover

Crops/Alternative Till Methods: To better understand concerns about these important conservation techniques, the SWCD survey asked respondents what major constraints would prevent them from adopting cover crops or alternative till methods. The survey presented them with five possible obstacles and an

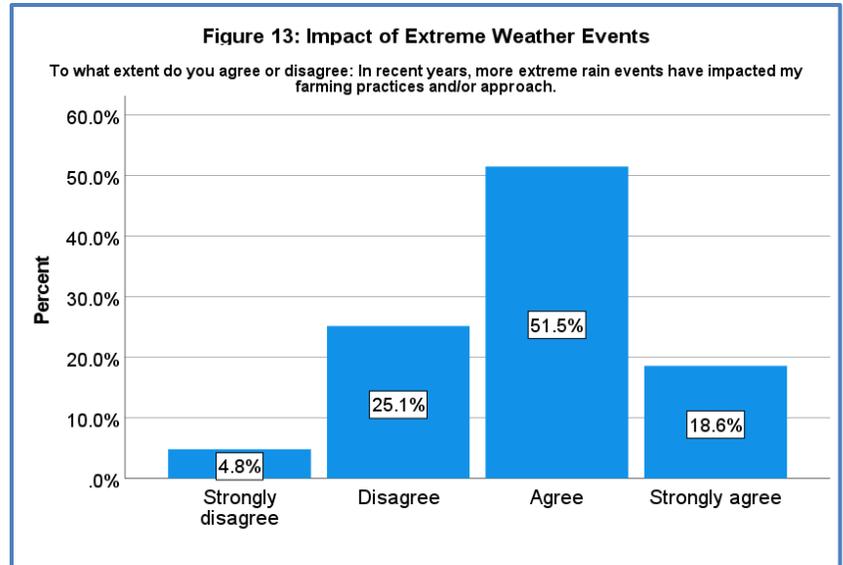
'other' category (see Figure 12 below for specific wording). Respondents could select or specify whatever constraints applied to them.

Using the five options given by the survey, 53 respondents selected 'financial cost,' 31 selected 'more paperwork,' 69 selected 'complex to start,' and 56 selected 'not appropriate for my operation.' Looking at the open responses written by our survey takers, the most common appeared to be the possibility of lost yields, followed by respondents stating they rented or may have rented out their farmland and, therefore, would not be able to implement these methods. A complete list of all open responses can be found in Appendix (C).



Section III: Resiliency of Farms to Extreme Weather

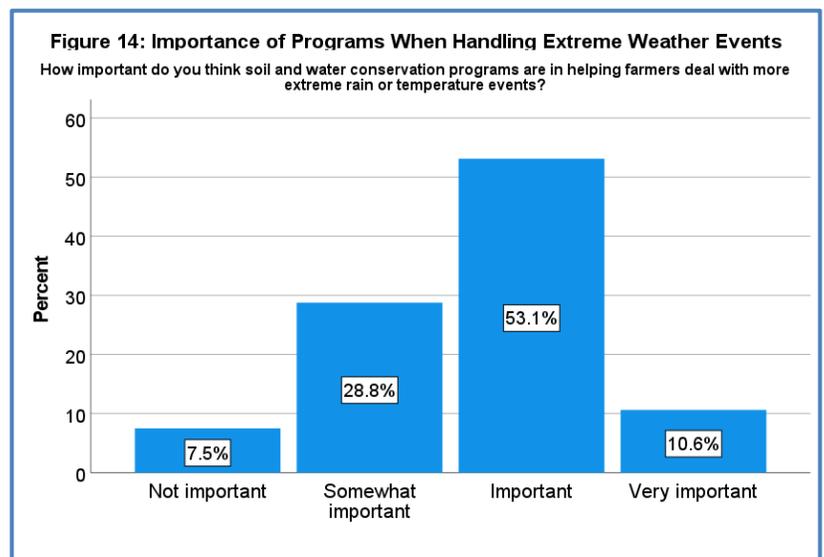
Given the increasing occurrence of severe weather events, especially extreme rain and heat, SWCD asked respondents about their perceptions of a changing climate, along with how effective SWCD has been in helping them adapt, and what respondents themselves have been doing. SWCD defined extreme weather events in the survey as “more extreme rain and temperature events,” though our first question limited the focus to rain events.



Impact of More Extreme Rain Events on Farms: An overwhelming majority (70.1%) of respondents agreed or strongly agreed that more extreme rain events had affected their farm operations; about 25% ‘disagreed’ and less than 5% ‘strongly disagreed’ with the statement.

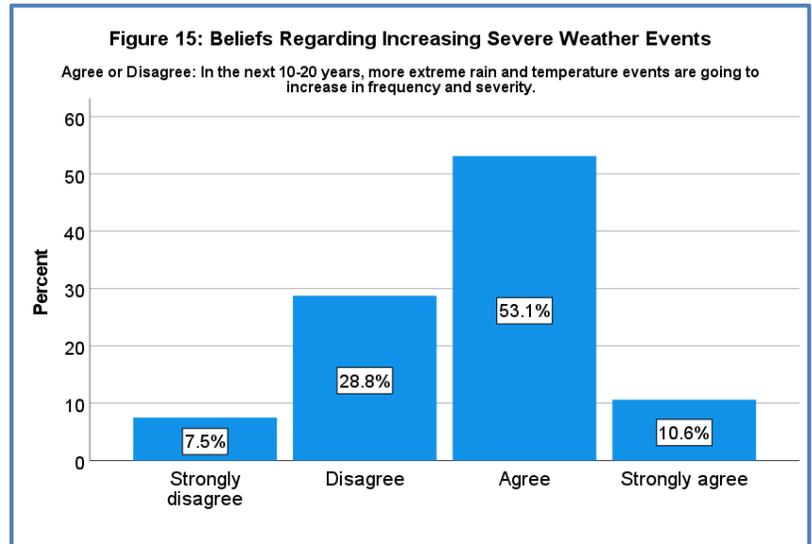
Perceived Importance of SWCD Programs in Preparation for More Extreme Weather Events: Of

particular interest to Stevens SWCD is whether stakeholders perceive their program participation as important in dealing with extreme weather. The survey suggests that respondents do see SWCD programs as helping them deal with more extreme rain or temperature events. Among respondents who perceive these more extreme events, about 53% rated programs as ‘important,’ and 10.6% saw SWCD programs as ‘very important.’ Another 29% noted that the programs are ‘somewhat important’ and only 7.5% perceived existing programs as ‘not important.’ However, some 8.3% of respondents, not included in Figure 14, stated they didn’t perceive more extreme weather events.

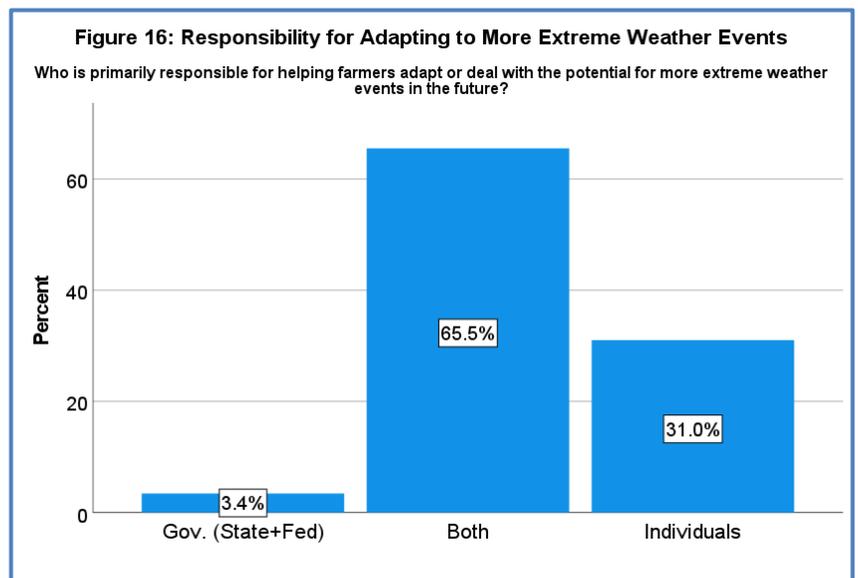


Belief that Extreme Weather Events will Increase Frequency and Severity: When asked to consider the future of extreme weather, a solid majority (63.7 %) stated they either agreed or strongly agreed with the statement ‘In the next 10-20 years, more extreme rain and temperature events are going to increase in frequency and severity.’ The remaining 36.3% either disagreed or strongly disagreed. This roughly aligns with the US public’s belief that climate change is impacting their local community (Pew Research Report, April 2020).

Both Government and Private Owners Responsible for Helping Adapt to the Potential for More Extreme Weather Events: A large majority (65.5%) of respondents stated the government had some responsibility for helping farmers adapt to a different climate. When asked who is primarily responsible for helping respondents adapt or deal with the potential for more extreme weather events in the future, respondents were presented with ‘government (federal and state),’ ‘both government and individual farmers,’ and ‘individual farmers.’

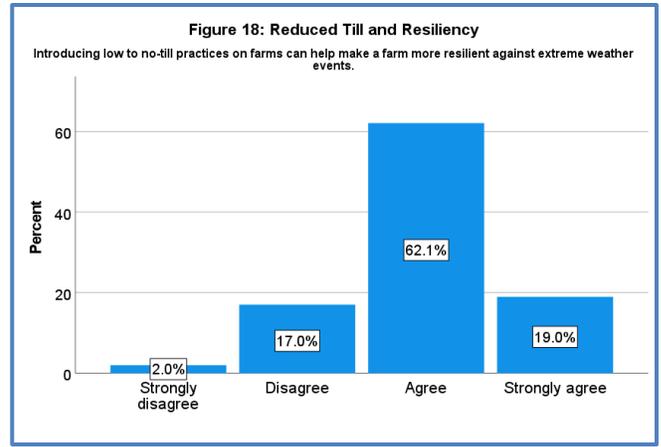
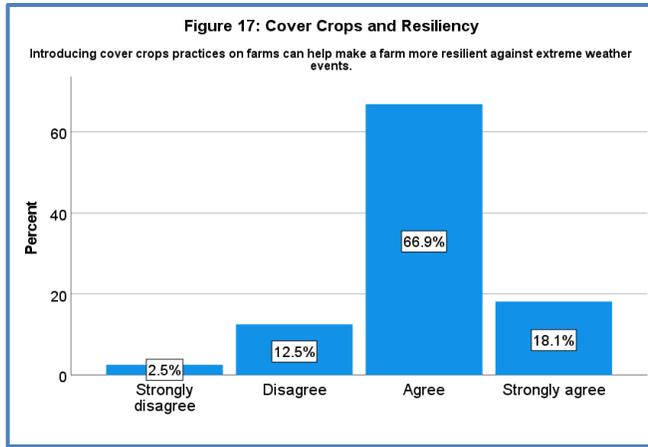


Changes Made to Make Farms more Resilient: The survey included an open response prompt which gave respondents an opportunity to list any changes they have made to their operations to make them more resilient to extreme weather. The most popular adaptations involved tile installation and structures or practices to provide greater control over drainage. (A full list of responses can be found in Appendix B.)



Strong Beliefs that Cover Crops and Reduced Till Can Make Farms More Resilient to Extreme Weather Events:

An overwhelming majority of respondents said that both cover crops and reduced tilling techniques improve resiliency. Figures 17 and 18, respectively, show responses of those asked whether they agreed or disagreed with the effectiveness of cover crops and reduced till practices when protecting a farm from more extreme weather events. Nearly 85% of respondents ‘agreed’ or ‘strongly agreed’ that cover crops add resiliency and 81.1% responded the same about reduced tillage practices. (See figures on page below.)

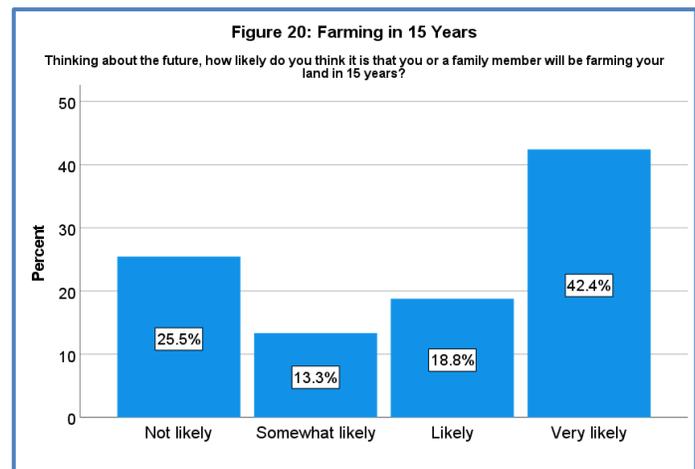
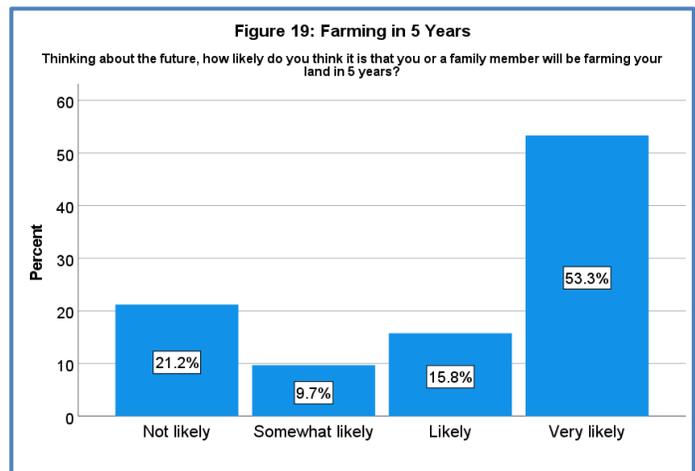


Section IV: Future of Farming in Stevens County

To better understand how farming in Stevens County could change, the survey asked two questions about what farming could look like in the future.

Likelihood of Families Utilizing Farmland in Future:

As reported in Figures 19 and 20, the majority of respondents said it was likely that a member of their family would be farming their land in both five and fifteen years. However, a significant fraction predicted that they would not be in farming. Over one-fifth stated it was not likely they or a family member would be farming in five years, while almost 10% more responded it would be ‘somewhat likely.’ The percentage in each category goes up when asked about 15 years into the future—with nearly 26% responding it would be unlikely and another 13.3% it would ‘somewhat likely.’ These results are likely consistent with the older age of the survey participants (with nearly 70% of the respondents being over the age of 59).



Other New Technologies of Interest:

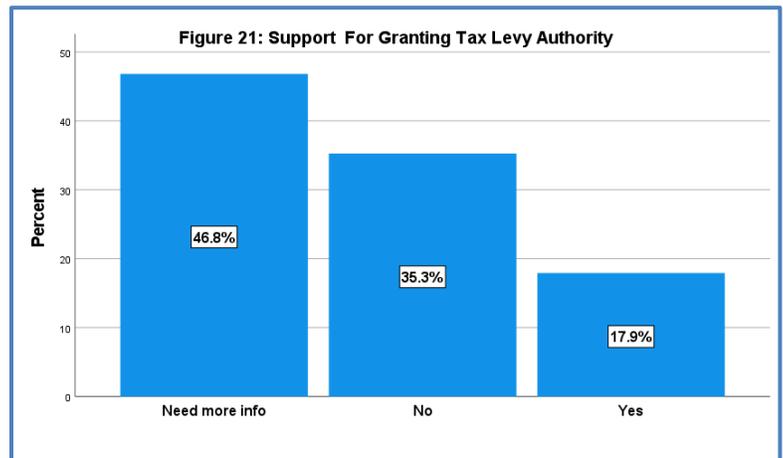
Respondents were given an opportunity to list any new or emerging technologies that they thought SWCD should be aware of. Thirty one responses were received with no particular technology receiving a notable amount of submissions. Some technologies which were submitted included new irrigation technologies, ways to profit off of cover crops, and some form of carbon credit system. (See Appendix C for a full list of

responses.)

Section V: Views of Legacy Amendment & Granting Tax Levy Authority

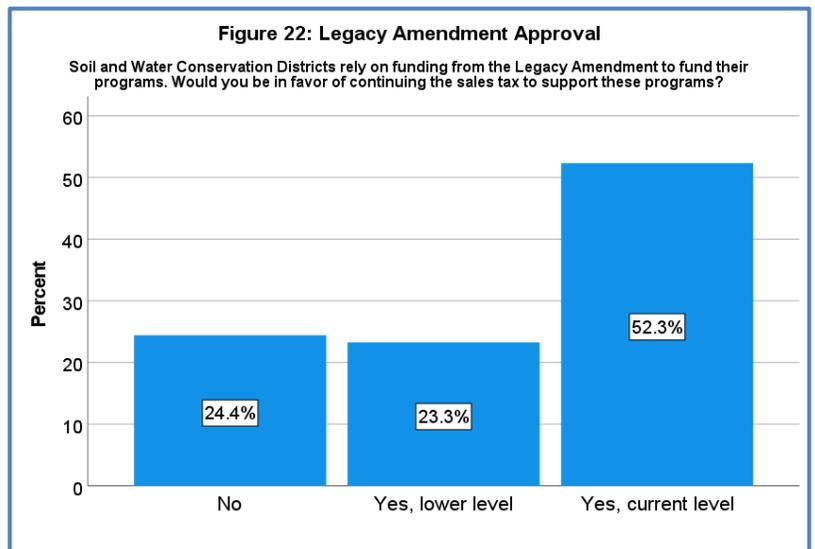
SWCD asked respondents two questions that related to how the district may fund its operations into the future. The first question involved granting property tax levy authority to the district, while the second centered on support for renewing the Minnesota Legacy Amendment when it expires in 2034. Each question offer some explanation and context before seeking an opinion (see the survey in Appendix B for full wording.)

Approval of Granting Levy Authority: When asked whether Stevens SWCD should be given tax levy authority, a plurality of respondents (36.3%) opposed such an action. The question began by giving respondents an explanation that Stevens SWCD is the only local government in the county without tax levy authority to raise revenue through property tax and that they were dependent upon Stevens County government to provide them with funding from local sources. The question then asked respondents to assume their property taxes would not be changed. With that context, a plurality of respondents (46.8%) believed they needed more information to give support. While nearly 18% were in favor of taxing authority, twice as many survey takers were opposed to granting taxing authority. The large number of respondents who needed more information suggests the district could educate Stevens County residents on the issue to win over more support.



Approval of Legacy Amendment

Sales Tax: The other critical source of funding for Stevens SWCD are grants funded by sales tax revenue from the Minnesota Legacy Amendment, Respondents were given three choices: renew at current level (.0375% sales tax), renew at a lower level or not support renewal. A strong majority (75.6%) of respondents favored the tax in some form. Importantly, the survey provided respondents with information on the nature of the legacy tax and on the distribution of tax revenue across the amendments categories. Only a quarter of respondent marked that the tax should be discontinued when it expires next decade.

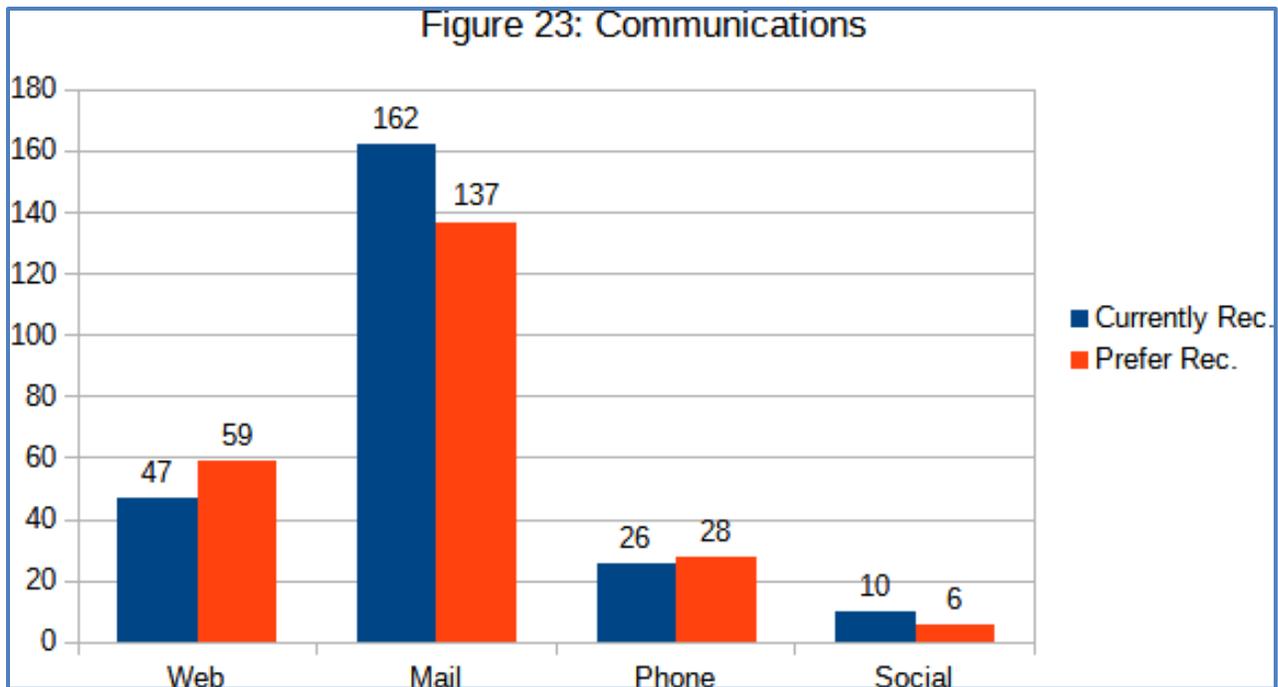


Section VI: SWCD Communications

Given the increasing dominance of digital communication, Stevens sought feedback on both how stakeholders currently get program information and what method they preferred going forward. Figure 23 presents the current method of receiving information in blue and preferred method in red, and a comparison of these data points suggests that the current SWCD approach largely reflects how survey respondents prefer to receive information. It also suggests there is little interest in having the District communicate by social media.

Current Channels for Receiving Information: The survey first asked respondents how they currently receive information from SWCD and presented them with five options: ‘web/email,’ ‘mail,’ ‘phone,’ ‘social media,’ and ‘other.’ Figure 23 shows that mail is the dominant mode for getting information, which follows from the Stevens SWCD’s use of a mailed newsletter. A significant number of stakeholders also obtained information from the District’s web site. (We note that the four ‘other’ responses were some variation of in-person contact; see Appendix C the ‘other’ responses.)

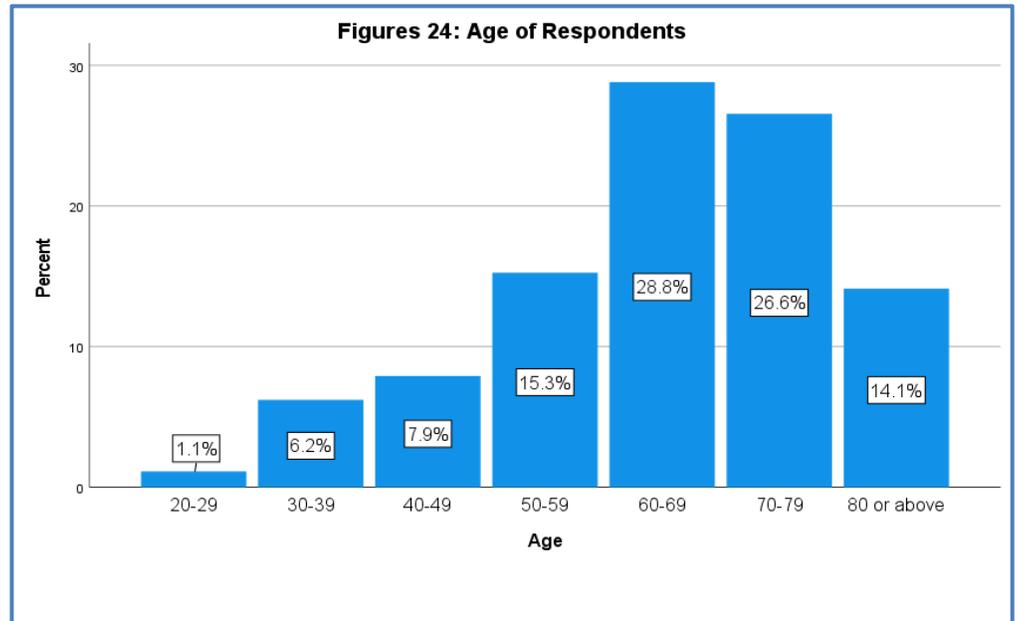
Preferred Channels for Receiving Information: Respondents were presented with the same set of choices to state how they would prefer to receive program and related information. On the physical survey respondents frequently selected multiple communication methods, even though this question asked for just ONE response. The data in Figure 23 includes all methods selected and so the total response add up to more than the same size. The main pattern shown below is that a few more survey participants would prefer web communication in the future, but a large preference remains for communicating by mail. In this sense, the survey does not suggest that Stevens SWCD change its current communication strategy. (Finally, we note that the only ‘other’ response provided stated ‘newspaper’ as a preferred method.)



Section VII: Summary Statistics on Sample & their Experience as Farmers

The survey concluded by asking a series of demographic questions and gave respondents an opportunity to leave other comments and feedback. We include this information so that readers of the report can consider how well the sample of respondents matches both the population of Stevens SWCD program participants and the demographics of all farmers in the region.

Age of Sample: As noted in the introduction, a large percentage of this sample is approaching retirement age. 40.7% of respondents who answered were above the age of 69, and 69.5% were over the age of 59.



Years of Farming: This sample consisted of very experienced farmers. Respondents were asked to identify how many years they had ‘been in the farming business.’ The available options were ‘less than five years,’ ‘5-10 years,’ ‘11-20 years,’ and ‘more than 20 years.’

Years Farming	Percentage
<5	0.6
5-10	3.5
11-20	14.7
>20	81.2

Size of Farms: Respondents were asked to identify the size of their farms via three categories; ‘<500 acres,’ ‘500-1000 acres,’ and ‘>1000’ acres, with small farms representing the largest group of respondents (see Table 2)

Acres	Percentage
<500	41.5
500-1000	25.1
>1000	33.3

Location of Respondents: The distribution of owner locations is found in Table 3. We attempted to simplify this data for the chart below. Respondents who listed cities and townships with the same name

were grouped together. Respondents living in areas with at least three other respondents were displayed as an independent entry, all others were included as part of one of the miscellaneous categories. The ‘In/Around County’ area refers to Big Stone, Douglas, Grant, Pope, Swift, and Traverse counties.

Location	Percent
Other (In/Around County)	20.0
Other (Outside County Area)	4.4
Baker	5.6
Chokio	5.0
Donnelly	5.6
Eldorado	5.0
Everglade	5.0
Framnas	10.6
Hodges	3.8
Horton	4.4
Moore	5.6
Morris	9.4
Pepperton	3.8
Swan Lake	3.8
Rendsville	3.1
Stevens	2.5

Open-Ended Comments: At the conclusion of the survey respondents were given an opportunity to write down any comments they had for SWCD. Thirty-eight comments were received, with the most common topic being thanks to the staff at Stevens SWCD. A full list of comments can be found in Appendix (C)

Conclusion

After reviewing the data received from this survey, we can see that respondents have a high opinion of Stevens SWCD and the programs it provides. Most respondents expressed an interest in additional program participation, and an interest in the creation of new programs, but respondents with positive opinions of SWCD may be more likely to fill out a survey. Based on the high number of surveys which were unable to be delivered, it’s possible this survey may have been sent to disproportionately older individuals.

There are many paths for future research, both with this survey and through additional survey work. First, the data provided by this survey could be further analyzed. We note that no bivariate or cross-tabulations were presented. Thus, some responses to important categories may reflect age or years of farm experience. Other responses may show interesting correlations with answer to other related questions. Second, new survey work could include a future survey for Stevens SWCD that tackles new and more focused areas of concern. Alternatively, surveys of other county SWCDs may provide very

informative contrasts to the results found here.

Appendix A: Methodology

The survey followed the basic Dillman approach (2017) for a mail survey. About 2 weeks before receiving the actual survey, respondents received postcards announcing the survey and encouraging them to participate. Then subjects on the SWCD mail list received the full survey with an introductory letter explaining the value and purpose of this survey. Like many mail surveys in recent years, we provided respondents with two online survey options, a simple URL link for computer entry and Q-code option for those who wished to use their smart phones. We loaded the online survey in Qualtrics. After three more weeks, respondents were sent reminder postcards. The questionnaire was somewhat lengthy, consisting of approximately 28 items and taking up four printed pages. So to encourage our subjects to participate, the survey offered those who finished a chance to win one of five \$100 gift cards for businesses within the Stevens County area.

By the end of the collection period, 181 responses were received out of the (approximately 850) surveys mailed. The vast majority of responses came through mail; some fifteen subjects opted to try an online survey, but only 12 responses were completed sufficiently to use in the data. This represents a lower response rate than a typical rural survey for an established organization and we attribute this to a couple of important factors. First, over one hundred surveys and survey-related materials came back with “Unable To Forward,” indicating that the Stevens SWCD mailing list we used had a large number of incorrect addresses or people who has passed away. Second, the length of the survey probably discouraged many subjects from participating and, while we and SWCD discussed the survey length in detail and several questions were eliminated, we agreed that each section contained important questions for the district to explore.

Given that the postal service returned almost 100 surveys, the actual response rate is closer 25 percent. In discussions about the demographics of respondents with the SWCD Board and staff, they expressed the view that the subjects in the data appear to approximate their perception of actual program stakeholders. From a statistical standpoint, however, we recognize that this lower return rate means the findings, while the first hard data Stevens SWCD has received, are provisional in nature.

Appendix B: Copy of Open Response Questions

Section 1: New Technologies

- Its not new but tiling needs to be used on more acres
- New innovative ways to reduce water usage and input cost for crop irrigation
- Utilizing cover crops for revenue
- Low pressure drop tube irrigation
- Talk to the folks at the USDA soils lab in Morris
- Carbon credits
- Carbon capture
- No
- Planting more cover crops, more strip tilling programs
- A way to seed cover crop with liquid manure drag hose system
- 360 Rain. SWCD needs to appropriate a large pool of funds for this technology. It knows the potential to conserve water, resources and reduce fertility (p + n) needs by in season VR application.
- Prairie pothole irrigation
- Seeing is believing! I believe if farmers can see a practice is valuable to their operation, they will begin the practice. A lot of farmers can't afford to experiment.

- Organic farming methods, ways to increase soil organic matter
- Variable rate irrigation would be very useful but it costs too much to get.
- Relay cropping or “3rd Crops”
- Why aren’t buffer strips along all waterways mandatory?
- More drain tile programs. Drain tile is the number one solution to reducing erosion. Pattern tile program, so soil has room to absorb water + not run off.

Section 2: Concern other than technologies or innovations listed below

- The Federal Government CRP Program of not allowing re-entry of land into CRP after contract expiration unless it has been farmed recently is a problem for me. I have land that I would enroll in CRP but it has remained unfarmed since my CRP contract expired. It is very good wildlife habitat but it isn’t suitable for production agriculture so CRP would be a good fit. Also, the CRP payments are not competitive with land rent which is a negative of signing up.
- No till in heavy residue
- None that I’m aware of
- Work with MRCs and FSA programs too. Cost sharing and education
- need information on conservation practices CRP!!
- Overflow into my grove + acreage of water snow melt
- Cost share in monitoring ways to measure actual water being applied within center pivots
- I think cover crops are essential. Way too much topsoil blowing around.
- ‘Strip till testilation’?
- Reduced tillage and farm drainage

Section 3: Changes to make farm more resilient to extreme weather events

- tile
- Permanent Vegetative Cover
- Increase tile
- Pattern tile and basins to hold back water and slowly let it out through the tile
- Better drainage and more cover in the winter
- Try to keep more residue on the land but be able to manage it with Ea
- Cover crop 2. Pattern tiling 3. Variable rate planting, fertilizer + chemical application
- Adopt CRP
- Strip till, no till, crp, grass waterways
- Clean drainage ditches- put in more tile, don’t till when it is dry?
- Tiling, irrigation
- Drought resistant seeds, added CRP acres, replaced tiling
- CRP=Living snow fence
- Keep ditches clean
- Reducing/eliminating tillage, sed dams, filter strips, grass waterways, CRP in flood-prone areas
- Tiling areas that cause washouts, not always in control when other land water runs through your property
- Tiled which may be a bigger problem
- trees, grasslands
- We have tiled most of our acres to allow for less standing water and to make our crop grow with less disease, we also have some tree lines to slow the wind.
- We put much more tile in the property
- tile drainage – wet, less tillage – dry
- Rotational grazing, regular burns every 4-5 years
- In hay pasture + eip
- Tile
- Drainage tile: greatly reduces soil erosion, filters excess water through the soil into the drainage pipes.

- Obviously removes excess water. Lowering water table causes roots to go down to water in dry times.
- Subsoiling
- Cover crops, reduced tillage, waterways, tile
- Convert center prust irrigation to 360 rain
- Drainage tile
- More water mgmt more striptill/ridgetill
- Minimum tillage. Leaving more ruffage on fields at harvest leaving stubble on side hills to protect erosion. Most farmers are all ready working at being good stewards. They are hungry for more knowledge- But can afford to experiment on their on.
- Tile -Reduced tillage
- Tile
- Using perennial crops (grass + alfalfa hay)
- Nothing really
- We installed some buffer strips + CPP on some hillsides + low lands
- We own, but rent all our land
- Non-farmer
- A 12" tile to control the water level of a 170 acre slough. The tile inlet was required to be set at the "ordinary high water" level. Which limited the storage capacity of heavy rains.
- More diversity
- brass waterways, cover crops
- Sediment dams + Pattern Tile
- Sediment basins, cover crops, min tillage, no till
- Cover crops, pay less so more could Enter
- tile install and controlled tile pump (on/off) usage
- Installation of field tile and sediment basins have helped. -Currently doing less tillage in the fall has helped as well. - Having a payment program for untilled soil in the fall but allowing tillage for spring planting wouldbe helpful. It seems all the programs for reduced tillage are all no-till.
- Adding more tile to help get rid of excess moisture so there is a larger holding capacity in case of extreme rainfall
- Management intensive grazing
- Summers super coulter
- Trying to incorporate cover crops. Reducing tilage
- Grid tiling for better water holding capacity in our soils, being prepared for rain events that are extreme.Our ground is a heavy clay-loam,
- No-till in extreme drought is a plus, but in a wet year can make planting a struggle.
- Added erosion control structures
- Work with NRCs with grazing plan. (Fence in waterway in pasture) Rotate grazing. Plant legume crops. Treat water valuable asset.
- We have have had more emphasis on tiling problem fields
- No till and tile
- Tiled
- more tiling
- Tiling for rain events
- (Unknown word) does not apply
- Tiling projects, went from mold board plowing to primary tillage practices that leave more residue on soilsurface built adam across one of main areas of water flow leaving farm to hold and slow down water, put water leaving underground in 24" tile
- Sediment dams and tiling
- Need answer now to hold increase water
- Tile
- Practicing reduced/ no till in sensitive feature areas + using more tile to help control the flow/erosion of water.
- Installed seepage tile to help the soil take in more water and help the crops use more

- The changes have been few from the past 50 yrs we have homemade...*[omitted unclear phrase]* around very little before planting Tiling helps a lot when one has big rains. We learn to work with what God grants us and we content with that!!!
- More Tile
- RIM taking over (areas?) flooded
- The Farmer has always made needed adjustments we can do better without the government intrusion in our daily lives
- Tile
- tiling
- Crop residue and tile drainage

Section 4: Comments: From end of survey (subjects can write any final comments)

- Just be more pro active in contacting producers about these programs
- Question #25 should be much larger acreage. I am all for conservation + clean water, but government funding + controls should be very limited
- Refer to question 8 comment
- Would appreciate it if the subsidy programs could be explained in plainer language. Don't always comprehend what I'm signing up for- am grateful for the friendly atmosphere at SWCD
- I know that many farmers do not like to make structures large enough. I don't know how, but it would help if someone could find a way to show why it is necessary to "go overboard" when designing practices.
- Thanks for getting our input.
- (Hard?) survey. My husband deceased in 2019 after 64 yrs we did use the SWCD program over they years very worth while thanks.
- No
- We need info on strip tilling for our farm and the programs available
- Dedicated staff easy to contact + get specific information
- I happy with all your services + workers. Deb + Amy take great care of me. I've been called on Saturday.
- All I need is cooperation
- I support SWCD programs and staff over and above NRCS- local control is better.
- I have a lot of questions! Even though I don't farm, I need whatever help I can to enhance clean water, improve habitat + promote conservation in my part of Western MN
- Education is extremely important. Farmers love and respect their farms they don't want to see their soil blow away awash downhill. If they can afford to change they will- it's their livelihood. Have field days across the county to show farmers how these practices work.
- Keep the young kids involved in production agriculture
- I am renting my Stevens + Big Stone land to my son *[omitted]* + grandson *[omitted]*. *[Illegible]* these questions on my previous experience.
- Non farming survey participant Exposure to SCS+W has been through rain garden. Staff (SCW+W) was extremely helpful in this process.
- To simply control the level of a 170 acre slough so that spring water would not run from running my fields, it took 3 years of begging to allow a 12" tile (should have been 18") to please 3 or 4 bureaucratic agencies
- I have enjoyed working with SWCD over the years. Now in the process of retiring. Thank you for all the help over the years.
- A few neighboring have been trying out no till + cover crop practices + have all resulted in lower yields. Pattern tile reduces erosion + production is increased. Lets get more tile in the ground + clean up our water.
- It is hard for SWCD to keep up with tech _ change. Farmers are implementing practices years before anything come's from these agency's
- The tree planting from start to finish was done well and on time. The work crew was great. Tree have roots were high quality.
- As a farmer I support voluntary programs that support conservation. I do not however support government regulations that force practices upon farmers I.E.-No compensation for mandatory buffers.
- This survey was geared to farmers, but there are a lot of us who live on acreages or "in the country" who want to be good stewards of our land and water resources.
- Staff is friendly + helpful

- Water conservation districts have a unique charter. The public should be reminded of how + why they came into existence
- We have very much appreciated their assistance
- I appreciate the past help I have received in tree plantings, CRP strips and the planning and planting service of them.
- Is SWCD the weed inspector authority?
- Would like to be contacted if programs to help tile or promote less tillage
- nope
- Less paperwork and common sense help
- Thanks for the survey

Section 5: Selection of miscellaneous comments written elsewhere on paper survey:

NOTE: While filling out surveys several respondents wrote comments in the margins of certain questions. A selection of notable comments has been compiled here.

- Written in response to a question asking about more extreme weather events: “The idea + political push on climate change is a joke! God is in charge”
- Written in response to a question asking about more extreme weather events: “Not yet sure it is more than cyclical.”
- Written in response to a question asking about reduced tilling techniques: “I think tilling is the problem by causing very fast run off”
- When asked about giving Stevens SWCD levy authority: “I feel that not having levy authority forces the SWCD to have a better relationship with the county. With the present board, it is not necessary. If the situation would change, I would be open to levy authority.”
- Wrote ‘would like to know more-’ and connected arrow to either the just rain garden program or all programs they weren’t participating in when asked what programs they were participating in.
- Quoted Reagan under question asking who is responsible for helping farmers adapt to extreme weather events: ‘The worse words you can hear- I am from the government and I am here to help!!’
- Wrote ‘Edible beans, vegetable crops are leaving soils exposed -look at road ditches!’ when asked how important it was to their neighbors to protect soil and water quality.

Appendix C: Codebook for Paper Survey (shows codes & instructions)

- COL 1: First, GIVE EACH SURVEY RETURNED AN UNIQUE NUMBER ID# (1, 2, 3, ETC.) on Pg 1, at top right corner. Enter data for only one survey at a time.
- FOR SURVEYS. Unanswered questions/items = leave blank in Excel

1a-1e. For the following programs, please mark the box if you have used the program in the past, are currently using the program, and whether or not you will use the program in the future.

	Do you currently participate in this program?	Have you participated in this program in the past?	Would you likely participate in this program in the future?
1a. Conservation Reserve Program (CRP)	1 if marked	2 if marked	3 if marked
Reinvest in MN (RIM)	1 if marked	2 if marked	3 if marked
CREP (combined RIM-CRP)	1 if marked	2 if marked	3 if marked
Stevens Co. Rain Garden Program	1 if marked	2 if marked	3 if marked
Stevens Co. Tree Planting Program	1 if marked	2 if marked	3 if marked

Format: 5 columns in Excel file, 1a thru 1e, with each row above represented by 1 column. Values: 1-7. For each of these five program options: input the number for the column marked, otherwise leave blank. For more than one option per row: Col 1 +2 =4; Col 1+3=5; Col 2+3=6; Col 1+2+3=7

2a-2b. How valuable to you has SWCD assistance (cost share, staff assistance, etc.) been for...

	Not valuable	Somewhat valuable	Valuable	Very valuable	N/A (I haven't received SWCD assistance)
2a. Maintaining <u>your</u> farm operation	1	2	3	4	0
2b. Protecting <u>your</u> soil health and water quality	1	2	3	4	0

Format: 2 columns, 2a & 2b. Values: type the values for the box marked.

3. How effective are SWCD programs to the goal of protecting soil health and water quality in the Stevens Country area?

Not effective=1 Somewhat effective=2 Effective=3 Very effective=4

Format: 1 column, 3. Values: type the value for box marked

4. How important are SWCD programs for keeping farming going in the Stevens County area?

Not important=1 Somewhat important=2 Important=3 Very important=4

Format: 1 column, #4. Values: type the value for box marked

5a-5c. How likely would you be to begin participating or increase your participation in SWCD programs if the following were provided?

Very likely Likely Somewhat likely Not at all likely

5a. Increased cost share	4	3	2	1
. More flexibility to enter/exit	4	3	2	1
More info on about programs	4	3	2	1

Format: 3 columns, 5a, 5b & 5c.

Values: type the values for the box marked. (Note values go from high to low)

6. How valuable do you think SWCD education programs are in K-12 schools in Stevens County?

Not valuable=1 Somewhat valuable=2 Valuable=3 Very valuable =4 I don't know about the educational programs=0

Format: 1 column, #6.

Values: type the value for box marked

7. How important is it to you that your fellow landowners in Stevens County try to protect soil health and water quality?

Not important=1 Somewhat important=2 Important=3 Very important=4

Format: 1 column, #7.

Values: type the value for box marked

8. When you think about your fellow landowners in the county, how important do you think it is to them to protect soil health and water quality?

Not important=1 Somewhat important=2 Important=3 Very important=4

Format: 1 column, #8.

Values: type the value for box marked

Section 2: Possible new SWCD Programs: In this next section, we would like to ask your opinion some new program SWCD might offer in the future.

9a-9b. If Stevens SWCD offered new programs to reduce tillage and plant cover crops, how interested would you be in learning about these options?

	Very interested	Interested	Somewhat Interested	Not at all Interested	Already adopted this method
9a. Cover crop planting	4	3	2	1	5
9b. Reduced or no-till tillage methods	4	3	2	1	5

Format: 2 columns, #9a, 9b.

Values: type the values for box marked (note last box is 5)

10a-10f. Thinking about your farm operation, what are the major constraints that would keep you from adopting these two methods above? (check all that apply)

10a. Financial cost=1 10b. Might mean more paperwork =1 10c. Might need new equipment=1 10d. Practice(s) may be complex to start up=1 10e. Not appropriate for my operation=1

10f. Other (please write that here) = TYPE RESPONSE _____

Format: 6 columns, #10a-10f.

Values: type the values for box marked; 1 if box checked; 10f = type response.

Section 3: Future of Farming: These questions ask your opinion on the future of farming in Stevens County and what impact Stevens SWCD can have on farming looking into the future.

11a-11b. Thinking about the future, how likely do you think it is that you or a family member will be farming your land in...?

	Very likely	Likely	Somewhat likely	Not likely
11a. 5 years	4	3	2	1
11b. 15 years	4	3	2	1

Format: 2 columns, #11a, 11b.

Values: type the values for box marked

12. Are there any new or emerging technologies or innovations that you would think Stevens SWCD should be aware of to help you and others conserve soil or water resources?

Format, 1 column, #12
Value: type out response given

Section 4: Resiliency of Farms to Extreme Weather: There has been a good deal of discussion about the potential impact of longer and larger extreme weather events. Tell us how much you agree or disagree with the following statements related to weather and farm resiliency.

13. How important do you think soil and water conservation programs are in helping farmers deal with more extreme rain or temperature events?

Very important=4 Important=3 Somewhat Important=2 Not at all important=1
 Not Applicable: I don't perceive more extreme weather events=0

Format: 1 column, #13

Values: type the value for box marked

14. To what extent do you agree or disagree: In recent years, more extreme rain events have impacted my farming practices and/or approach.

Strongly agree=4 Agree=3 Disagree=2 Strongly disagree=1

Format: 1 column, #14.

Values: type the value for box marked

15. Agree or Disagree: In the next 10-20 years, more extreme rain and temperature events are going to increase in frequency and severity.

Strongly agree=4 Agree=3 Disagree=2 Strongly disagree=1

Format: 1 column, #15.

Values: type the value for box marked

16. Who is primarily responsible for helping farmers adapt or deal with the potential for more extreme weather events in the future?

Government (Federal & State)=1 Both government and individual farmers =2 Individual farmers=3

Format: 1 column, #16.

Values: type the value for box marked

17. If applicable, describe any changes you have made to your farming operations to make them more resilient to our area’s extreme weather (big rain events or extended dry weather).

Format, 1 column, #17
Value: type out response given

18. Agree or Disagree? Introducing cover crops or low to no-till practices on farms can help make a farm more resilient against extreme weather events.

18a. Cover crops	Strongly agree=4	Agree=3	Disagree=2	Strongly disagree=1
18b. Low/no till	Strongly agree=4	Agree=3	Disagree=2	Strongly disagree=1

Format: 2 columns, #18a, 18b.
Values: type the values for box marked

Section 5: SWCD Communications & Operations: Now just a few questions on how you learn about Stevens SWCD activities and some possible changes for the SWCD.

19. How do you currently receive information from SWCD? (check all that apply)

- 19a. Web/Email=1
- 19b. Mail=1
- 19c. Phone=1
- 19d. Social media (e.g. Facebook)=1
- 19e. Other (Please describe):= type response

Format: 5 columns, #19a-19e.
Values: type the values for box marked; 1 if box checked; 19e=type response.

20. How do you prefer to be contacted by SWCD? (check one)

- 20a. Web/Email=1
- 20b. Mail=1
- 20c. Phone=1
- 20d. Social media (e.g. Facebook)=1
- 20e. Other (Please describe): type response

Format: 5 columns, #20a-20e.
Values: type the values for box marked; 1 if box checked; 20e=type response.

21. Currently, Stevens SWCD is dependent on local government for funding and is the only government agency in the county to not have its own authority to raise revenue through a property tax levy. Assuming that there would be NO changes in your property taxes, would you support granting the Stevens SWCD tax levy authority?

- Yes=2
- No=1
- I need more information=0

Format: 1 column, #21.
Values: type the value for box marked

22. The Clean Water, Land, and Legacy Amendment increases state sales tax 0.375% from 2009 until 2034. The revenue from this sales tax goes to support the Clean Water Fund, the Outdoor Heritage Fund, the Arts and Cultural Heritage Fund, and the Parks and Trails Fund that are dedicated to maintaining, protecting and adding to these resources in our state.

Soil and Water Conservation Districts rely on funding from the Legacy Amendment to fund their programs. Would you be in favor of continuing the sales tax to support these programs?

- 3= Yes, I would support keeping the tax at 0.375%
- 2= Yes – but only if that sales tax is less than 0.375%
- 1= No – I would not support this amendment in the future

Format: 1 column, #22.
Values: type the value for box marked

Section 6: A Few Final Questions: Last, please respond to a few demographic questions so we can get the better picture of farming in Stevens County.

23. What is your current age?

- 20-29=1
- 30-39=2
- 40-49=3
- 50-59=4
- 60-69=5
- 70-79=6
- 80 or above=7

Format: 1 column, #23.
Values: type the value for box marked

24. How many years have you been in the farming business?

- Less than 5 years=1
- 5-10 years=2
- 11-20 years=3
- More than 20 years=4

Format: 1 column, #24.
Values: type the value for box marked

25. What is the size of your farm?

- Less than 500 acres=1
- 500-1000 acres=2
- More than 1000 acres=3

Format: 1 column, #25.
Values: type the value for box marked

26. What city or township do you live in? _____

Format: 1 column, #26
Values: type response; otherwise blank

27. Do you have any comments or feedback about the survey or SWCD operations that you would like to share now? (If yes, please write that in below.)

<p>Format, 1 column, #27 Value: type out response given</p>

28 Last, if you would like Stevens SWCD to contact you to discuss getting more information on their programs, please provide your name and contact information. We will also use this contact information to notify you should you be one of the five gift cards winners.

(NOTE: We will separate your contact information and will not use it for any analysis or report.)

- 28a.=Yes, please contact me about SWCD programs.= 1
- 28b. Use my contact information to enter me into the lottery for a \$100 gift card prize.=1

Format, 2 columns, #28a & 28b
Value: type 1 if marked; otherwise blank

29. Contact name & information: _____

Format, 1 column, #29

Value: type out response given

INSTRUCTIONS FOR ILLEGIBLE/MISMARKED ANSWERS: For Mismarked or oddly marked responses, set survey aside after entering data for that survey and we will discuss the weird items.

Some likely examples: circling or checking two items, instead of 1; not answering, but writing something on the side; a faded or unsure check mark or X.

For written responses that are not legible, do your best to type out words and letters.

For #29: Set aside for discussion names & contact information that is not legible. We can try to match with SWCD mail list.

Note: Question 29 allowed respondents to provide contact information so that Stevens SWCD could reach out to them. The report authors sent that list of information to Stevens SWCD separately.