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# Protecting Natural Resources on Agricultural Lands: Producers' Perspectives on the Conservation Stewardship Program in Montana

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PROTECTING NATURAL RESOURCES ON AGRICULTURAL LANDS:  
PRODUCERS' PERSPECTIVES ON THE CONSERVATION STEWARDSHIP PROGRAM  
IN MONTANA

By

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Thesis

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## ABSTRACT

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Environmental Studies

Protecting Natural Resources on Agricultural Lands: Producers' Perspectives on the Conservation Stewardship Program in Montana

Chairperson: Dr. Neva Hassanein

Industrial agricultural production contributes to some of the most significant environmental problems in the United States today. Scientists have identified agricultural production as a primary cause for decline of native species, soil degradation, and water pollution in the U.S. In response to this crisis, grassroot organizations crafted, and got Congress to pass, the Conservation Stewardship Program (CSP), a federal program aimed to incentivize producers to increase on-farm conservation practices. CSP is designed to serve as a space for producers to gain access to financial and technical support, test out new practices, and provide a platform to discuss best practices when it comes to addressing natural resource concerns. This study explores how Montana farmers and ranchers perceive the strengths, weaknesses, and needs for improvements to the program. Farmers and ranchers from across the state were interviewed over the phone about their perspectives of the program. The interviews included questions about producers' operations, their motivations for enrolling in CSP, and what they believe are some of the challenges and benefits of the program. Interviewees identified a diverse set of motivations for why they enrolled in the program, including access to financial support, the opportunity to increase their conservation practices, and a chance to learn new techniques. Producers observed many positives changes to their land and are overall satisfied with the program. However, interviewees also identified challenges with the program and recommended ways to improve it, including more practices suited for arid climates. By understanding producers' experiences with the Conservation Stewardship Program, policy makers are better positioned to make informed decisions on the future direction of CSP.

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## CHAPTER I: INTRODUCTION

Modern cropping systems in the United States focus primarily on one type of ecosystem service: food, fuel, or fiber production (Reimer et al. 2018). While these services are essential to support a growing population, these services can also have negative environmental impacts. Forty-six percent of the land in the United States is used for agricultural production; therefore, producers' land management decisions have the power to affect a significant portion of the country's natural resources (Robertson and Swinton 2015; Stuart and Gillon 2013; USDA Economic Research Service 2012). Agricultural practices, such as monocropping and pesticide use, are major contributors to biodiversity loss, water pollution, and the decline of native species habitat (Stuart and Gillon 2013). With some of the most significant environmental problems and threatened species linked to agricultural production, the future sustainability of our country's soils and wildlife species depend in part on how agricultural production systems evolve (Reimer and Prokopy 2014).

Significant research efforts have focused on exploring producers' motivations for practicing conservation, and how those motivations can be marshalled to encourage participation in conservation programs. The results are varied and inconsistent, and there are still no firm conclusions on what drives producers to become more conservation-oriented (Chouinard et al. 2008; Reimer et al. 2012; Tong et al., 2017; Schaible et al. 2015). Although no formula for convincing producers to invest in conservation exists, certain programs can support and encourage producers already doing conservation work. Accordingly, the Farm Security and Rural Investment Act of 2002 amended the Food Security Act to include the Conservation Security Program (USDA Economic Research Service 2012). The program was then expanded and renamed the Conservation Stewardship Program (CSP) in the 2008 Farm Bill. CSP provides



technical and financial assistance to producers who prioritize conservation on their land (NSAC 2016). The program works to answer the challenge of supporting farmers' livelihoods, while also protecting natural ecosystems.

A significant body of research reviews farmers' motivations for enrolling in conservation programs and the barriers to participation, but current research on producers' perspectives on specific programs is limited. There is, however, growing interest in hearing from farmers and ranchers about their experiences. The Center for Rural Affairs, the Land Stewardship Program, the Michael Fields Agricultural Institute (MFAI), and researchers at Tufts University have conducted in-depth interviews and surveys with CSP participants in the Midwest and New England (Fox and Johnson 2018; LSP 2013; MFAI 2016; Lundgren et al. 2006). The study done by Tufts University was done under the program's original name, the Conservation Security Program, which differs significantly from the current program. While these studies provide valuable information about producers' experiences in the Midwest and East Coast, there is limited research on producers' perspectives in the western United States. Each region in the United States has different resource concerns and implementation issues, so regional or state focused research will add to our understanding and allow for comparisons with other areas. Such studies can inform NRCS offices on the needs of their state's participants, and also support the development of the program nationally.

Toward that end, my research explores how CSP is influencing producers' land and practices in Montana. The central question is: How do Montana farmers and ranchers enrolled in CSP currently perceive the strengths, weaknesses, and needs for improvements in the program? Through phone interviews with Montana producers who are either currently or previously enrolled in CSP I explore producers' perceptions of the program overall and its role on farms and

ranches across the state. A deeper understanding of producers' experiences with CSP can help sustainable agriculture advocates, policy makers, and others strengthen the program.

The literature review that follows explores the history of governmental conservation programs in the U.S., and the current research on the factors that influence producer's participation in these programs. It provides a synopsis of the current literature on producers' motivations for participating in conservation payment programs, some of the known barrier's producers face when participating, and also some of the identified benefits of the program. Chapter Three details my overall research design; the participant sampling strategy; survey question development; the process of collecting data through phone interviews; and my data analysis techniques. In Chapter Four, I outline my results and the experiences of producers in the Conservation Stewardship Program and how this could influence the development of the program. The final chapter offers a synthesis of the participants responses, their implications for the program's future, and offers considerations for future research and improvements to the program.

## CHAPTER II: LITERATURE REVIEW

### *History of the Conservation Stewardship Program*

Agriculture obviously plays a crucial part in our food system, but it has also led to serious environmental problems (Stuart and Gillon 2013). Land previously occupied by native plant and animal species are now planted with agricultural crops (Ugarte, Kwon, and Wander 2018). This has led to an overall decrease in plant biodiversity and also threatens soil and water quality (Ugarte et al. 2018). The growing population in the United States requires a food system that can sustain high levels of food production, while preserving our country's natural resources to promote long-term sustainability. To confront this challenge a growing number of groups and programs are working to find solutions that support producers' livelihood, while also protecting the land. Grassroots organizations, such as those that belong to the National Sustainable Agriculture Coalition (NSAC), and other sustainable agriculture advocates have proposed and secured several federal governmental programs that mitigate the effects of agriculture on the environment. One such program is the Conservation Reserve Program (CRP), which led to many acres of land retired from agricultural production; yet, sustainable agriculture groups and producers in the U.S. saw the need to develop a program that focused on the practices used on *working land* rather than *retired land* (NSAC 2017a; Reimer, Denny, and Stuart 2018).

Agricultural lands not only produce products such as food, fuel, and fiber, but they also can provide essential ecosystems services, if managed sustainably. While land retirement programs, such as CRP, attempt to manage marginal lands and preserve vulnerable ecosystems, significant environmental problems caused by agricultural lands practices persist (Reimer et al. 2018). Switching the focus of agricultural conservation programs towards working lands conservation allows producers to mitigate their effect on the land while still maintaining

adequate yields. Additionally, earlier developed programs, like CRP and the Environmental Quality Incentive Program (EQIP), work to build conservation practices on pieces of land or parts of a farm, but do not approach the farm as a whole (NSAC 2017a).

Congress established the Conservation Security Program in 2002, starting with just a select number of watersheds across the country (Lehrer 2009). Renamed the Conservation Stewardship Program in 2008, CSP was expanded to include the whole United States and has continued to grow ever since (NSAC 2017b). CSP pays farmers to take on practices that are on working lands and influence the whole farm; it is one of the first programs in the U.S. to address conservation on agricultural land this way. A more holistic approach to conservation can provide many benefits to an operation, such as more efficient use of nutrients (Reimer et al. 2018). By giving farmers incentives for using conservation practices, CSP has the potential to support the value and importance of ecosystem stewardship on agricultural lands.

In order to be eligible for CSP producers must first be implementing some level of conservation on their land already. Research has found producers who have previously been enrolled in programs, such as CRP, have an easier time transitioning and getting accepted into a more complex program such as CSP, as they already have familiarity with the government agents and relevant terminology (Reimer et al. 2018). Originally, producers were evaluated based on their score calculated from the Conservation Measurement Tool (CMT). However, during an overhaul of CSP and its measurement tools in 2017, this changed and now producers fill out two initial evaluation tools called the Conservation Activity Evaluation Tool (CAET) and the Application, Evaluation, and Ranking Tool (AERT). CAET evaluates a producer's current management systems and determines if they are addressing certain resource concerns and whether these are met at the appropriate "stewardship level" (NSAC 2017b). AERT evaluates a

producer's current and proposed conservation practices, and then ranks them appropriately. Each state also designates their own natural resource concerns from among the following: air quality, water quality, inadequate fish and wildlife habitat, soil quality, soil erosion, and plant quality (NRCS 2019b). Producers must compete with many others for a relatively small number of contracts. Nearly three quarters of eligible applicants are turned away due to insufficient funding (NSAC 2017b). Between 2009 and 2013 just 53 percent of producers who applied got accepted and were given a contract (NSAC 2017b).

The program pays producers to: (1) actively manage and maintain current on-farm conservation activities; (2) expand and improve them; and (3) adopt new ones that support critical natural resources. Payments are made per acre and the total per acre is dependent on what type of land it is (grassland, pastureland, rangeland, cropland, or non-industrial private forest) and the type of practice (or "enhancement") implemented (NSAC 2017c). Producers can receive payments for a wide variety of practices, such as cover cropping, increasing riparian habitat, or lowering nutrient runoff from fields. Lastly, producers are allowed to enroll in two five-year contracts as long as they are in compliance with their original contract. They must agree to take on new conservation enhancements in their new contract, and therefore increasing their overall level of stewardship, but must continue enhancements they started in the first contract during their second contract (NSAC 2017c).

Currently, the largest conservation program in the country by acreage, CSP has 70 million acres of land enrolled and contracts with over 46,000 farmers (NSAC 2017b). The distribution of contracts varies considerably across the country (Figure 1). A majority of CSP contracts are held in the middle portion of the country, with the Midwest in general having some of the highest number of contracts per state. Minnesota, consistently one of the states with the

highest number of CSP contracts, had 582 active contracts in 2018. In comparison, Montana had just 201 active contracts in 2018 (NRCS 2019a). However, the number of contracts does not mean higher acreage enrolled. Some states that have lower total contract numbers have much higher acres enrolled. For instance, Minnesota while known for its very high total contracts, ranks lower when it comes to overall acreage (Figure 2) (LSP 2013). As seen in Figure 2, Montana is one of the top states in the number of total acres in active and completed contracts.

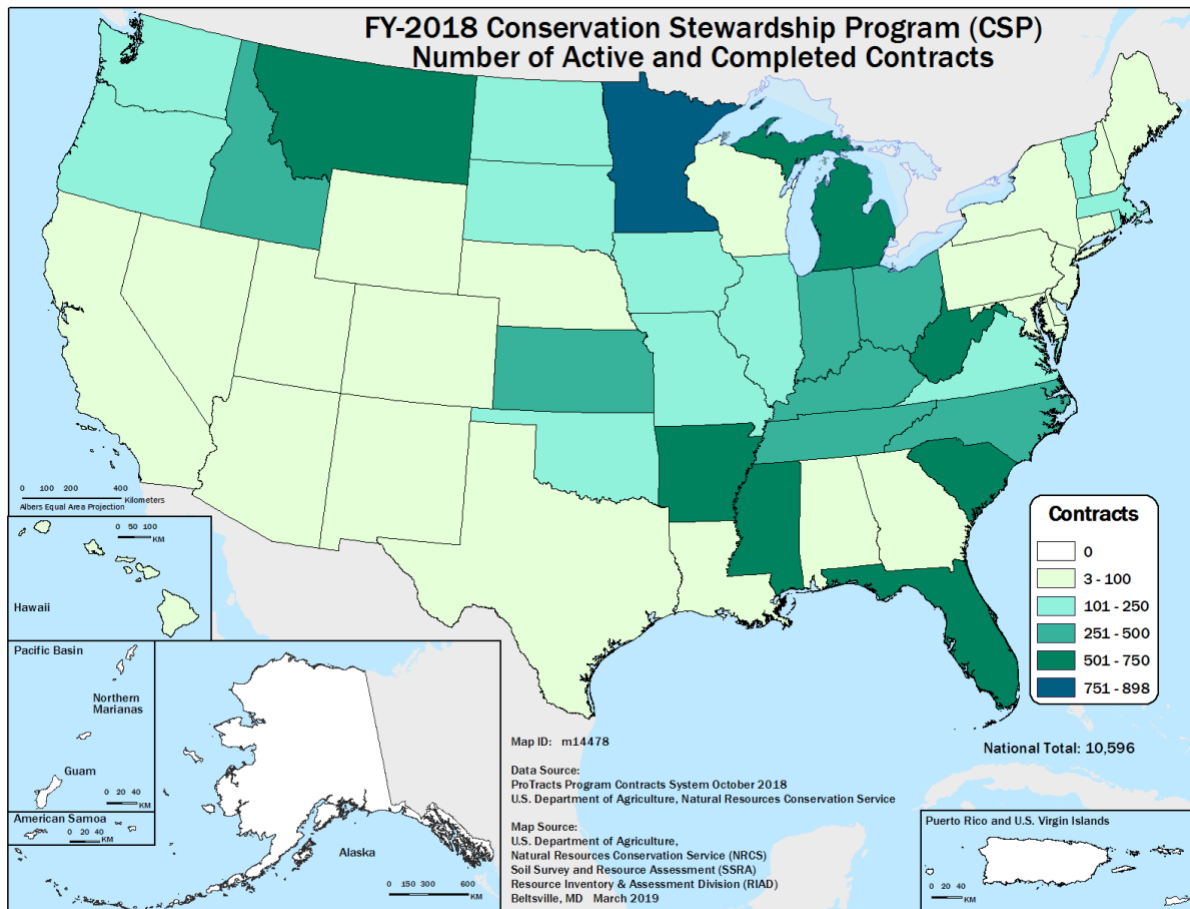


Figure 1. Number of Active and Completed CSP Contracts in the U.S. in 2018 (Produced by NRCS 2019)

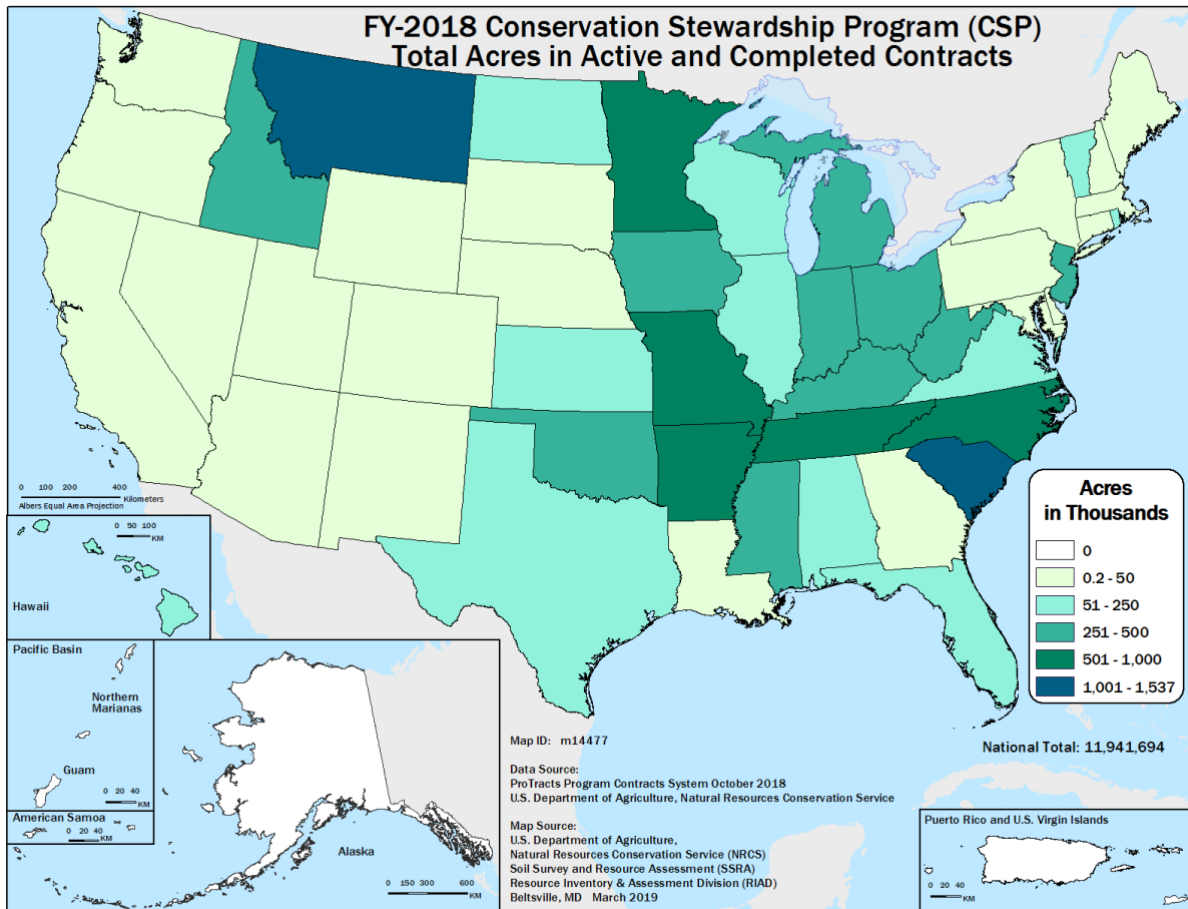


Figure 2. Number of Acres Enrolled in CSP in the U.S. in 2018 (Produced by NRCS 2019)

With CSP growing every year to include more contracts, the Natural Resources Conservation Service (NRCS) and sustainable agriculture groups need to review the current research and gaps in the literature, in order to make more informed policy recommendations. Additionally, understanding producers' experiences with the program could help make a stronger and more accessible program for other producers not yet in CSP (Schaible et al. 2015). Many researchers recognize that by using strategies that tap into the motivations of producers, participation rates in federal conservation programs can increase. The following section outlines

the current literature surrounding producer motivations and the implications this could have for conservation programs.

### *Producer Motivations*

Farmers adopt conservation practices for a wide variety of reasons; age, education, and farm size can all play a part in decision-making (Bergtold and Molnar 2010; Reimer et al. 2012; Schaible et al. 2015). For decades, researchers have looked at motives to try to identify any consistencies or trends in producers' behaviors around conservation. In the search for understanding why producers engage in conservation, and in hopes of tapping into their motivations when designing programs, many agencies have focused on developing programs that are accessible to all types of producers (Bergtold and Molnar 2010; LSP 2013; NSAC 2017a).

In a study conducted in Newton County, Indiana, most survey participants expressed that “the public (or off-farm) environmental benefits were the most significant motive” (Reimer and Prokopy 2014: 326). Farmers are often concerned with their neighbors downstream and “tapping into farmer's sense of obligation to their community may be a new strategy for convincing farmers to engage in conservation” (Ryan et al. 2003: 33). However, other studies found that producers are more likely to adopt conservation practices if they are framed as benefit to the producer's family and future generations (Rodriguez et al. 2018).

Chouinard et al. (2008), recognizing the need to clarify farmers' motivations, researched the differences between profit-driven and stewardship-driven farmers with respect to conservation practices. They concluded that farmers' behaviors are based on a multi-utility structure and adopt stewardly (i.e. conservation or environmental) practices for a variety of reasons (Chouinard et al. 2008). It is widely understood that while financial incentives can get



producers initially interested in a program, payments cannot be the only part of the program, especially if the end goal is for producers to sustain the practices after the program is over (Sorice and Donlan 2015). In the past conservation payment program development has focused a lot on the *provider* (i.e. NRCS), but Sorice and Donlan calls for it to switch to a focus on the *user* (i.e. producers). Gaining insight from producers and their specific needs could help “minimize the possibility of financial incentives crowding out intrinsic motivation” (Sorice and Donlan 2015:789). Producers’ motivations may fall somewhere on the spectrum of profit, self, or socially-driven. Adopting conservation practices is more likely to happen when producers’ motivations are driven by several factors (e.g. aesthetic, social, and economic) when compared to “solely economic” motivations (Ryan et al. 2003:33).

A variety of research suggests that federal conservation programs need to account for “farm heterogeneity” (Chouinard et al. 2008; Schaible et al. 2015). Indeed, many producers may have both internal (e.g. stewardship) and external motives (e.g. incentive payments) for participating in conservation programs, developing a program that services both is vital for success. Recent research suggests that approaching policy decisions utilizing a wide range of producers’ motivations is the best practice moving forward and could encourage higher enrollment (Ryan et al. 2003).

### *Barriers and Challenges*

Another relevant body of literature explores barriers to participating in federal conservation programs, regardless of producers’ own motivation (NSAC 2017a; Bergtold and Molnar 2010). Understanding these barriers and how to help producers overcome them is important in developing a stronger and more diverse program. For example, one consistent issue

for producers is their perception that the paperwork required by CSP is excessive, because of the complex scoring system, application process, and sometimes lack of support from NRCS offices (Reimer and Prokopy 2014). Through working with producers on a way to streamline the paperwork and improving assistance from NRCS officers, producers may be more satisfied with the program.

The role of the NRCS appears to be particularly important. A study done in Newton County, Indiana, found that many farmers initiated all interactions with the NRCS office, rather than the other way around (Reimer and Prokopy 2014). This may be due to staffing or other resource limitations; however, in order to grow the program more outreach by NRCS may be needed to encourage farmers to participate. Reimer and Prokopy found that while many producers had generally positive experiences with the NRCS staff, negative experiences with the staff “could potentially hinder conservation efforts on the ground and spread through social networks” (2014: 328). By developing positive communication lines, NRCS offices may better support farmers in taking on conservation practices (LSP 2013; MFAI 2016). In a case study done in Minnesota, one of the top states in total number of CSP contracts, the county with the most contracts have a particularly active NRCS office. Their staff is constantly looking for new producers to participate in the program and even went so far to say that they have an “aggressive” outreach approach (LSP 2013: 16). When producers were surveyed about their experiences with the program an overwhelming number of respondents identified the NRCS staff as having a significant influence on whether they were satisfied with the program (Fox and Johnson 2018; Lundgren et al. 2006; MFAI 2016).

Producers are more likely to participate in a program, and sustain the practices after completion, if they see the program as supportive rather than controlling their operation;

therefore “the perception of personal causation can remain a primary driver of behavior” (Sorice and Donlan 2015: 789). This “perception of support” can come from several aspects of the program, including “freedom and choice, feelings of effectiveness and mastery, and social connectedness with the administering institution” (Sorice and Donlan 2015: 790). Thus, a positive relationship with NRCS staff could significantly influence not only the effectiveness of the program, but the development and sustaining of conservation practices across millions of acres in the U.S. These studies suggest that developing stronger communication between farmers and the NRCS may help expand adoption of conservation agriculture.

Another challenge some producers face is trying to coordinate their organic certification and their CSP contract requirements. In an early study of CSP (when it was originally under the name Conservation Security Program) some producers interviewed in New England found CSP to not be conducive to organic operations. One producer mentioned how their organic land did not qualify for CSP, but their conventionally operated pastures did qualify (Lundgren et al. 2006). This challenge is continuing to be addressed by sustainable agriculture advocates and NRCS through increasing the programs accessibility for organic producers. The NRCS currently provides support for farmers and ranchers wanting to coordinate their organic certification process and CSP conservation plans with new additions to the program (NSAC 2017a). One research opportunity is to see how the program is working for organic producers now.

Furthermore, some groups face additional barriers when trying to enroll in conservation payment programs. Beginning farmers and ranchers, socially disadvantaged, and small-scale producers often all have a more difficult time participating and accessing programs like CSP. However, the NRCS has made significant efforts to increase accessibility to these groups through recent policy changes (NRCS 2017). Between 2009 and 2013 69 percent of all beginning farmer

and rancher applications were accepted, compared to the 53 percent for all other CSP applicants (NSAC 2017b). Additionally, each state must maintain a five percent acreage set aside for beginning farmers and ranchers and socially disadvantaged producers (NSAC 2017b). In order to help small scale farms and make it worthwhile for them to participate, NSAC advocated for there to be a \$1,500 minimum annual contract payment, which was implemented in the 2017 overhaul of the program. Continuing to make CSP accessible to all types of producers (small-scale, socially disadvantaged, beginning, etc.) could help strengthen and expand the program (Bergtold and Molnar 2010; Lehrer 2009; LSP 2013; NSAC 2017b).

Through identifying specific barriers and focusing on possible resolutions, strategic improvements to CSP can be identified and proposed. The program has made important strides in the last five years, but there are still challenges that need to be addressed to make the program work for producers and the land.

### *Program Benefits and Successes*

There are significant barriers to participating in conservation programs, but many studies have found there to be significant benefits to the producers as well. In a recent study conducted across five midwestern states (Iowa, Kansas, Nebraska, North Dakota, and South Dakota) by the Center for Rural Affairs, producers reported many beneficial aspects of the program (Fox and Johnson 2018). Researchers sent the survey via mail to a total of 4,799 CSP participants and received results back from 829 participants, a 17% response rate. They asked producers many questions such as: how they learned about CSP, if they felt CSP is addressing natural resource concerns, their motivations to enroll, and if they would enroll in CSP in the future (Fox and Johnson 2018). They found that many farmers and ranchers value the opportunity CSP offers to

build on their conservation efforts. Many producers also reported they were able to see positive benefits and improved conditions on their land since enrolling in the program. Overall, producers report a high level of satisfaction with the program, but they also identified needed changes, such as increasing resources for NRCS offices, so they can better support farmers and ranchers (Fox and Johnson 2018; MFAI 2016). Producers have identified the NRCS staff to be an essential piece of the program and overall have had positive experiences with the staff (LSP 2013; MFAI 2016). Additionally, enrollment in conservation payment programs has shown to increase a producer's awareness of biodiversity conservation and engagement in riparian area management (Goodale et al. 2015). Another recent study found that through CSP's more holistic approach to working lands conservation, producers are able to develop a more effective use of nutrients and develop long-term nutrient management plans (Reimer et al. 2018).

### *The Future of the CSP*

The Conservation Stewardship Program has changed significantly since it started, adapting every year based on policy decisions and sustainable agriculture advocates recommendations. In 2017 major changes were made to the program to make it more accessible to farmers and ranchers. In the 2018 Farm Bill, CSP funding was threatened, raising questions about the effectiveness of the program and therefore a call for more research into whether the program is working for producers. State and regional studies can play an important part in helping make decisions that will support producers and increase accessibility.

Previous research suggests CSP has served as a space for producers to gain access to financial and technical support, to test out new practices, and to discuss best practices when it comes to conservation. By understanding producers' experiences with the CSP, policy makers

are better positioned to make informed decisions on the future direction of the program. More focus on the needs and experiences of producers could help make the program more accessible and successful (Sorice and Donlan 2015). Producers who enroll in CSP already are doing some form of conservation on their land, so capitalizing on this and using it to make for a better program is important. A program that is supportive of producers needs and less controlling can lead to the producers “self-sustaining motivation for stewardship” and increase participation rates (Sorice and Donlan 2015).

Although there is significant research on farmers’ motivations and barriers to participation, there is a paucity on how producers in particular regions and states, especially in the West, are experiencing CSP. Since each state or region has different resource concerns and levels of access to and support from NRCS offices, experiences with the program are likely to vary by location (Fox and Johnson 2018; LSP 2013; Lundgren et al. 2006; MFAI 2016). Studies in the Midwest and New England have provided unique perspectives from farmers in those regions, findings which the present study is designed to complement.

Individual state reviews of CSP provide NRCS offices feedback on ways to better support farmers, and current reports and publications of research in midwestern and eastern states have contributed to the development of the program. However, none of these studies have included Western states. A Montana-focused survey will give producers a chance to voice their opinions on the effectiveness of the program. The program influences a significant amount of agricultural land in Montana and provides resources to many producers. Montana is currently one of the states with the highest total acreage enrolled in CSP and therefore the state’s program could influence a significant amount of land (Figure 2) (NRCS 2019a).

## CHAPTER III: METHODOLOGY

### *Research Design*

This study used both quantitative and qualitative approaches to answer the following question: How do Montana farmers and ranchers enrolled in CSP currently perceive the strengths, weaknesses, and needs for improvements in the program? In order to reach a significant number of producers from across Montana, I conducted phone surveys, which included both closed-form and open-ended questions. Survey respondents consisted of farmers and ranchers in Montana who have participated in CSP in the last 5 years. The data collected has been used to (1) evaluate how the program is working for producers in Montana; and (2), determine if producers feel the program is successfully addressing resource concerns in Montana.

### *Survey Question Development*

Informed by preliminary research, the survey included questions about the producers' operation, motivations for enrolling in CSP, some of the perceived challenges and benefits of the program, improvements they would like to see to the program, and questions about themselves and their operation (see Appendix A for survey instrument). The survey questions were developed based on insight gained from preliminary research, committee members, and other organizations that have conducted similar research.

In the spring of 2018, I conducted a small qualitative study of Montana farmers and ranchers' experiences with CSP in order to inform the development of this research project. Through semi-structured, in-depth interviews with six Montanans enrolled in CSP, producers reported a range of motivations for why they decided to apply for CSP, but most producers

mentioned already prioritizing conservation as a part of their farming or ranching practices prior to enrollment. Consistent with other studies done on CSP, support and encouragement from NRCS staff seemed to influence producers' level of satisfaction with the program (LSP 2013; Lundgren et al. 2006; MFAI 2016). Overall, producers said they have had positive experiences with CSP; however, they expressed several ways they would like to see CSP improve in the future. Interviewees reported wanting more flexibility in the program, specifically on how they conduct CSP practices on their land. In addition, some producers requested there be changes to the level of paperwork and monitoring required during each contract. This preliminary study provides valuable information on the strengths and weaknesses of CSP, useful in informing the current project. Building on this research, I crafted a statewide survey to provide more extensive and systemic data on the program's effectiveness.

The first section of the survey asked a few basic questions about the agricultural operation (e.g. what primary crops and/or livestock they produce), in order to help understand what type of producers in Montana are enrolled in the program. The second section of the survey explored perceptions of the benefits and challenges of the program. These questions were developed after extensive research on some of the identified barriers and benefits of the program, in concert with adapting questions from other CSP surveys and studies across the country. Response options for closed-form questions were developed using information from my preliminary research and relevant studies. Some questions were open-ended in order to allow for producers to speak more freely about their experience, to probe for depth, and to gather information that might not otherwise be collected in a closed-form question (Dillman 2007). The final section of the survey focused on general demographics of the producers and other characteristics of their operation.



### *Participant and Sampling Strategy*

To provide a comprehensive picture of producers' perspectives of CSP in Montana, it seemed necessary to survey producers who have had contracts for varying lengths. Therefore, I decided to survey producers enrolled in the program between 2013 and 2018. Using this date range, I identified producers who were at different stages of their 5-year contract. In order to obtain contact information for CSP participants, Freedom of Information Act (FOIA) requests were submitted to the NRCS FOIA office through an online request system. Names and physical mailing addresses were obtained from these requests for all CSP participants in that period. Due to not being able to obtain email addresses of participants for an online survey, and time and money limitations for a mailed-in survey, I decided to conduct phone interviews with participants. Phone numbers of participants were collected using online databases, such as White Pages and Manta.

Montana is a very large, diverse state, with areas varying greatly on temperature and precipitation, and each region of the state facing different challenges. Therefore, I decided to use designated NRCS Areas when selecting my survey sample in order to see if there is any difference in satisfaction with the program based the location in the state. Additionally, based on findings from other studies, NRCS staff have a significant influence on the success of the program and producer's level of satisfaction, and comparing NRCS regions could help identify differences in staff satisfaction (MFAI 2016). I wanted to make sure I was collecting a proportionate number of surveys from each NRCS Areas; therefore, one hundred participants were selected using a random stratified sample out of a list of 1,444 producers.

First, all producers were divided into four groups based on what NRCS region their operation was located in: Bozeman Area, Great Falls Area, Miles City Area, or Missoula Area

(Figure 3). This was determined by using their addresses to figure out what county, and therefore what NRCS Area, their operation was located in.

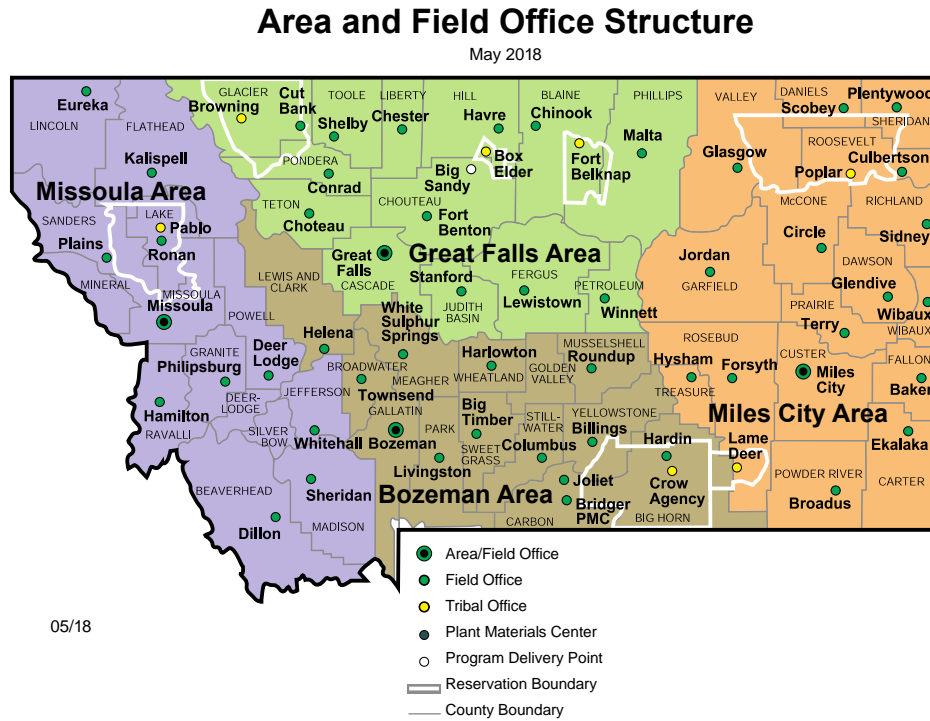


Figure 3. NRCS Regions for Stratified Sampling (Image produced by NRCS)

The proportionate stratification sampling technique ensured the number of participants selected from each of the four regions was proportional to the total population, using the following equation:

$$n_h = ( N_h / N ) * n$$

Using the above equation sampling sizes were then determined (Table 1).

Table 1: Sampling Sizes for NRCS Areas

NRCS Area	Bozeman	Great Falls	Miles City	Missoula	<b>Total</b>
Number of people in NRCS Area ( $N_h$ )	239	467	625	113	<b>1444 (N)</b>
Area sample size ( $n_h$ )	17	32	43	8	<b>100 (n)</b>
Number of people who completed surveys	3	14	8	2	<b>27</b>

### *Data Collection and Analysis*

Once participants were selected each participant was sent a postcard, explaining a little bit about the survey and that they would be contacted in a few days for a phone interview (Appendix A, Figure 4). Sending postcards beforehand has been proven to increase response rates for surveys (Iredell et al. 2004; Dillman 2007). Participants were then contacted via phone four to five business days after the postcard was sent. If they did not answer, a voicemail was left, offering them the chance to call the interviewer back. If they did not call back, they were then called twice more.

In order to make for efficient collection of data interviewers filled out a pre-made Qualtrics online survey while on the phone with interviewees. Phone surveys were recorded with the permission of the participant so that if interviewees gave in-depth answers to open-ended questions the interviewer could go back and fill out the answers to questions completely. One interviewee asked not to be recorded, however, so extensive notes were taken during the interview. Survey answers were entered into Qualtrics and then exported and analyzed using SPSS (Statistical Package for Social Sciences) for closed-form questions and through thematic analysis for open-ended questions (Hesse-Biber 2017). Verbatim language is used for all quotes included in this paper, with awkward phrasing deleted for ease of reading. Deletions are indicated with ellipses. Survey participants were given a number and code based on their NRCS

Area (Missoula Area =MA, Bozeman Area= BN, Miles City Area=MC, and Great Falls Area=GF).

Twenty-seven interviews were conducted out of a list of 100 participants selected through proportionate stratified random sampling, therefore with a response rate of 27% overall. Of all the selected participants, 63 participants were not able to be reached on the phone. Nine participants did not wish to participate in the survey or said they did not have time to talk, and 27 participated and completed a survey. One participant worked for the NRCS so did not wish to participate in the survey. Interviews lasted anywhere between 10-41 minutes, with an average of 22 minutes.

## CHAPTER IV: RESULTS AND DISCUSSION

The Conservation Stewardship Program in Montana has the potential to support producers in the production of crops and livestock, while simultaneously encouraging them to intensify their conservation practices. This study's main objective was to identify how producers perceive the strengths, weaknesses, and needs for improvements to CSP. The following chapter outlines participants' experiences in Montana.

This chapter begins with an overview of CSP in Montana, including total numbers of contracts across the state and total acres enrolled from year-to-year. From there, I discuss the motivations that interviewees identified for why they decided to enroll in the program and how they first learned about CSP. Then, I examine the identified benefits and successes of CSP and what participants feel the program is doing well. The chapter concludes with a discussion of the current barriers and challenges producers face while enrolled in the program.

### *The Conservation Stewardship Program in Montana*

Over the last ten years, 2,446 contracts with Montana producers have been completed or are currently active (NRCS 2019a). The total number of active contracts vary year-to-year and is dependent on total funding for the state (Figure 5). The total acres enrolled in CSP has also fluctuated on a yearly basis, with the total acres reaching an all-time high in 2015, at 1,895,706 acres (Figure 6) (NRCS 2019a; EWG 2019). This amounts to just over 3% of all agricultural land in Montana (NRCS 2019a; NASS 2017).

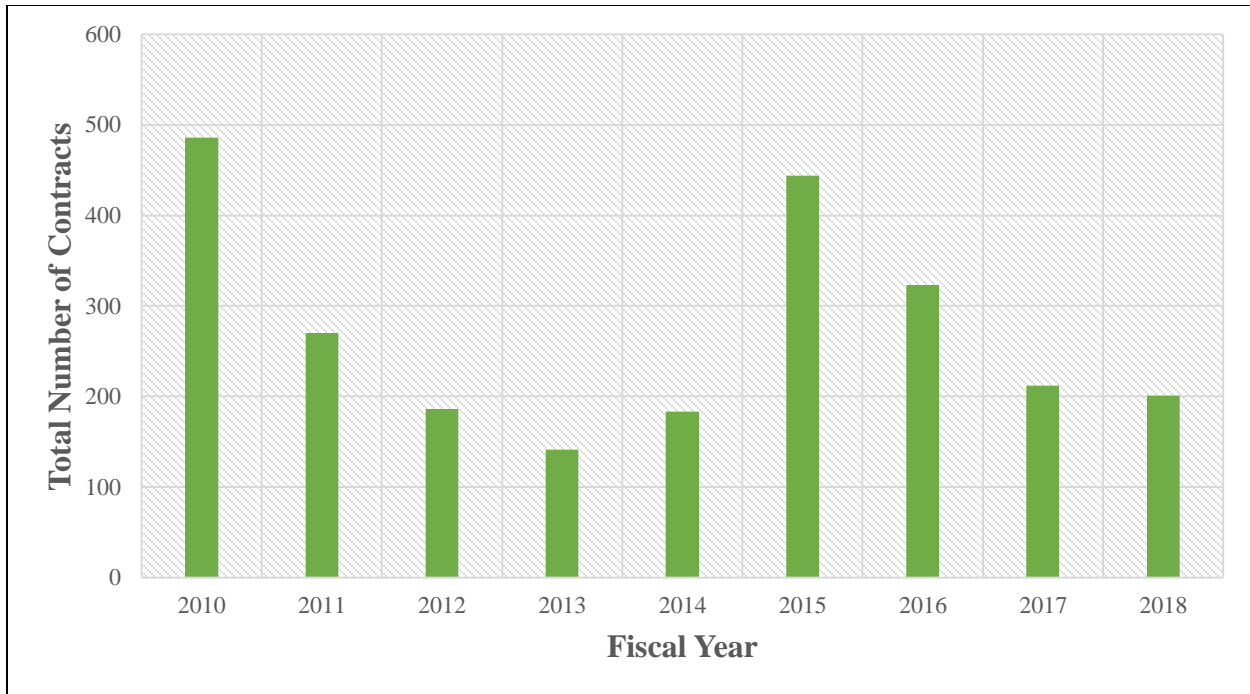


Figure 5. Total Number of CSP Contracts per Fiscal Year in Montana

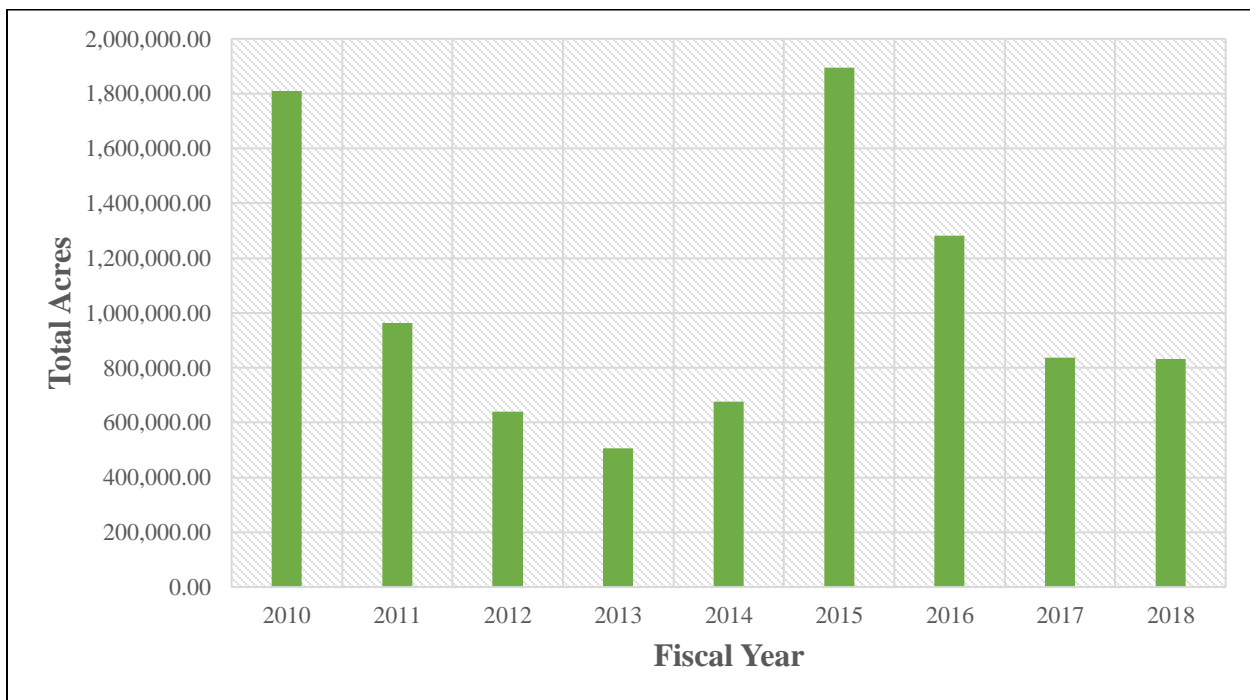


Figure 6. Total Acres Enrolled in CSP per Fiscal Year in Montana

Since CSP’s payment system is set up to pay producers per acre (in addition to several other factors) many producers that enroll in the program have fairly large operations. As previously stated, the minimal annual payment for any CSP contract is \$1,500, but producers can also not exceed a payment of over \$40,000 per year, for a total of \$200,000 per contract (NSAC 2019). The total amount that producers receive over the course of their 5-year contract is their “total obligation amount” (NRCS 2019b). In Montana a majority of producers receive more than \$180,000 over the course of their 5-year contract (Figure 7) (NRCS 2019d). Therefore, many producers in Montana, due to their high acreage, reach the maximum amount for their practices.

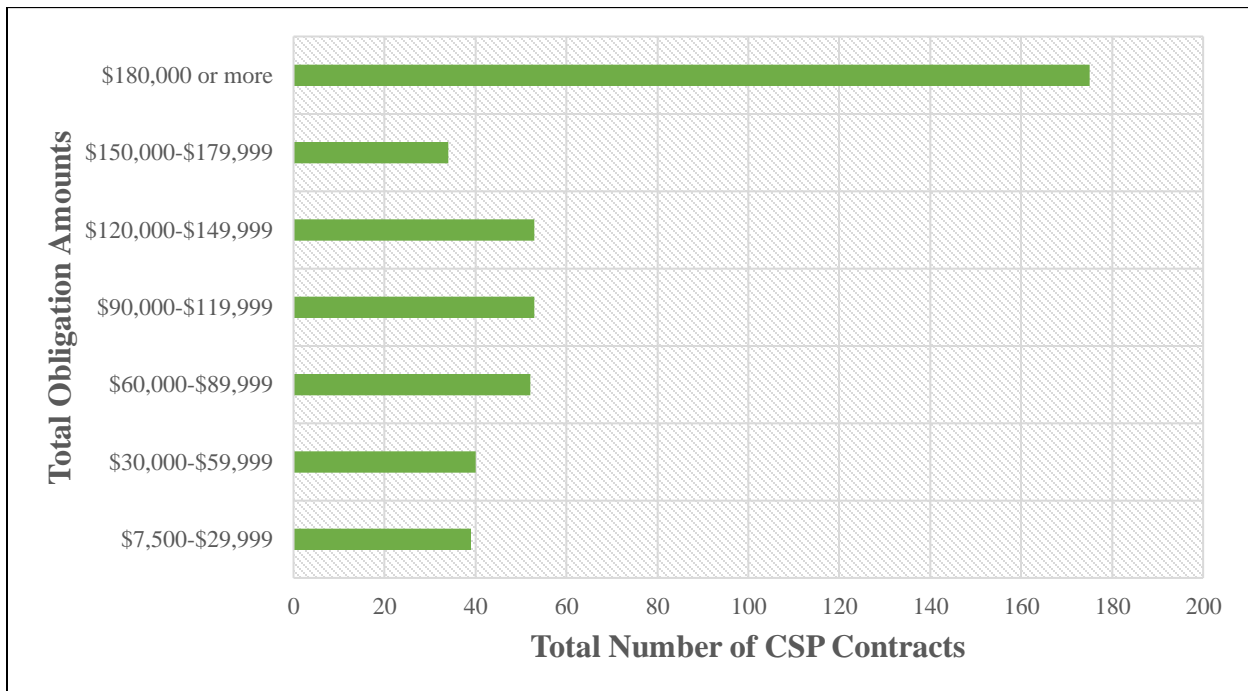


Figure 7. Number of Contracts per Total Obligation Amount in Montana (2016-2018)

Additionally, since participants were selected based on their NRCS Area, it is also important to note the overall distribution of CSP contracts across Montana. A majority of the contracts are in Great Falls and Mile City Areas (Table 1; Figure 3). These areas are also

considered the “Golden Triangle” and “Eastern Montana Plains”, respectively. Each of the four regions face different ecological and climatic issues and therefore are considered distinct regions of the state (Figure 3). Some of the potential challenges and differences between these regions will be discussed further in the “Barriers and Challenges” section of the discussion.

*Sample Description*

In addition to general questions about their experiences and perceptions of CSP, producers were asked questions about themselves and their operation. Figure 8 showcases the distribution of participant’s land size, with a majority of producers enrolling over 2,000 acres of land in the program. As previously mentioned, producers can enroll in several different land use types. For this study 18 producers had rangeland/pastureland enrolled, 19 operations had cropland enrolled, and 1 producer had non-industrial private forest land enrolled.

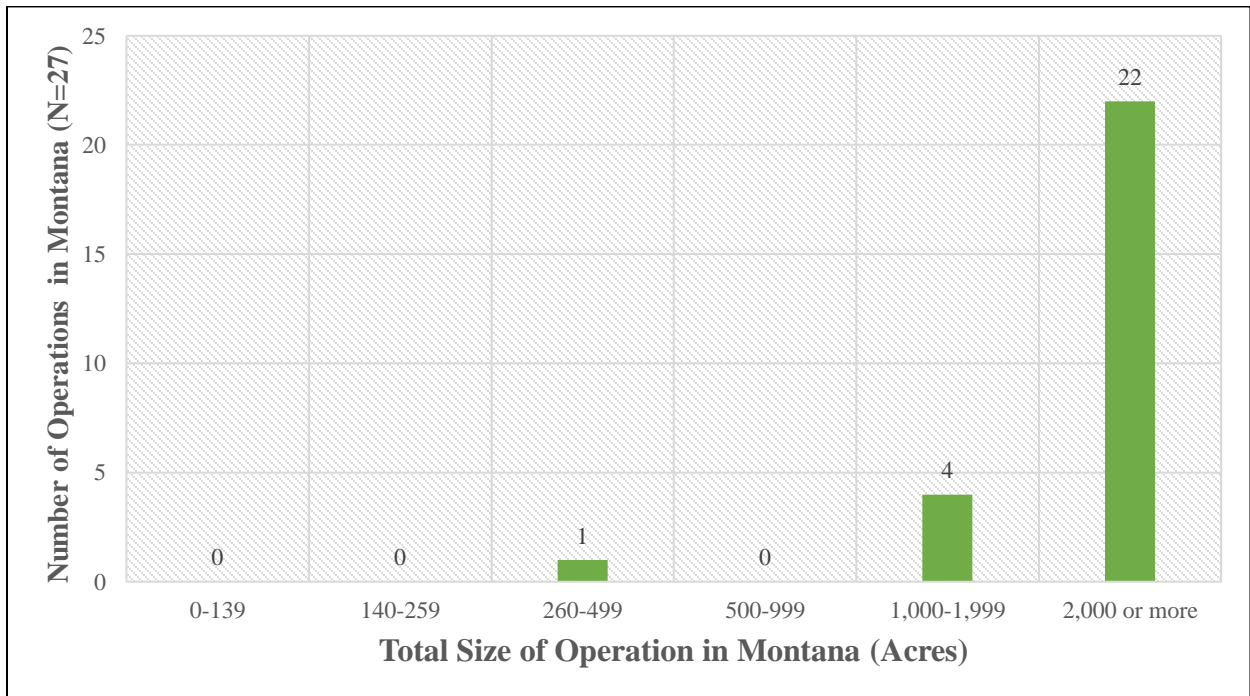


Figure 8. Participant Land Size Distribution in Montana



Most participants grew some combination of grains, pulse crops, and/or raised beef. In total 15 producers had beef cattle operations, 15 grew wheat, 12 grew hay, and eight grew barley (Figure 9). Fourteen producers also grew an assortment of crops identified as “other”, including alfalfa, timber, lentils, corn, peas, flax, chickpeas, garbanzo beans, mustard, canola, lentils, and sugar beets. This is a fairly consistent representation of the major crops and livestock produced in Montana (NASS 2018).

Out of the total sample 85% of producers were male and 15% were female, with ages ranging from 35-65 or older (Figure 9). These demographics are fairly representative of the farming and ranching population in Montana. In the 2017 Census of Agriculture 85% producers were male and 15% were female, with the average age of the principal operator identified as 59 years old (NASS 2018). Producers were fairly evenly distributed in how many years they had been farming and/or ranching, with a range from anywhere between 1-50 or more years (Figure 9).

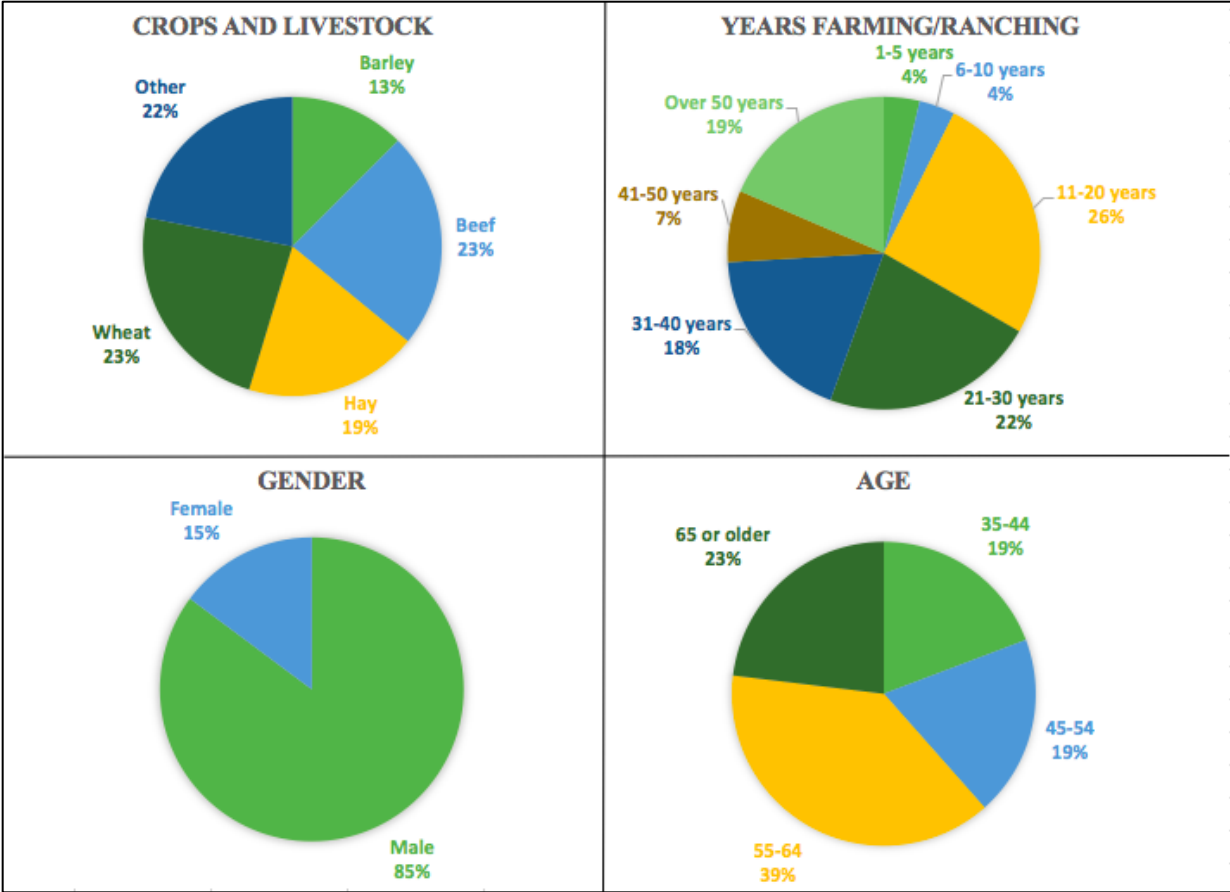


Figure 9. Selected Characteristics of Survey Respondents

*Producer Motivations and Initial Enrollment*

Before producers can enroll in CSP, they first need to know it is an option for them. As several other studies have noted, one challenge is that not enough producers know CSP is available (Fox and Johnson 2018; LSP 2013; Reimer et al. 2018). Therefore, I was interested to see how producers initially heard about CSP, to identify some of the main ways the word is getting out about the program. Overall 78% (n=21) of participants said they heard about the program through their local NRCS or Farm Service Agency (FSA) office. For several of those they heard about it because they had enrolled in a different NRCS program (CRP or EQIP) and the NRCS had recommended they apply for CSP. Eighteen percent (n=5) of participants cited

various other sources for first hearing about CSP, including: family or friends, online resources, another producer, or national grower organizations. One producer did not recall how they heard about CSP.

Forty-four percent (n=12) of interviewees said CSP was the only governmental conservation payment program they have ever enrolled in. Fifty-six percent (n=15) of producers were either currently or previously enrolled in other conservation payment programs, such as EQIP or CRP. Other studies have found that enrollment in CRP can act as a first experience for producers to get acquainted with the process of governmental conservation payment programs (Reimer et al. 2018). CSP is a more complex program for farmers to track and implement compared to CRP, so participants that have some background in other NRCS programs might have an easier time adjusting to CSP requirements (Reimer et al. 2018).

Another key piece of this study is to identify some of the motivations behind why producers decide to enroll in CSP, as this could help influence the program's development in the future. During phone interviews, producers were given the option to list several motivators for why they initially enrolled in CSP. When asked about their motivations to enroll, 15 of the 27 participants said they were motivated by the financial payments. Of these participants seven said, in addition to the economic benefits, they were also motivated by the opportunity to improve environmental resources on their land. Ten of the 27 participants cited getting the chance to implement new or continue conservation practices as their main motivation. These interviewees mentioned a variety of ways they wanted to use the program to improve their land, such as increasing wildlife habitat, enhancing forest health or soil quality, or improving livestock health. Producers also mentioned enrolling in the program to “learn new stewardship principles” or “try

new practices”, with 5 of the participants citing having the chance to learn new techniques or try out practices as their main motivator for enrolling in the program.

### *Program Benefits and Successes*

Through both technical assistance and financial incentives, CSP attempts to make conservation on working lands more accessible and affordable for producers. Several other regional or state studies on CSP have identified clear benefits of program and the ways the program is successful in those areas (Fox and Johnson 2018; LSP 2013; Lundgren et al. 2006; Reimer et al. 2018). One purpose of this study is to determine if producers in Montana feel like CSP is accomplishing the program’s goals by identifying the current benefits and successes of the program. Participants identified several ways they think the program is reaching its goals, and they referenced ways it has made positive impacts on their land.

*Satisfaction with CSP.* One main objective of this study is to determine how producers’ feel CSP is working in Montana and how it is impacting their land. Participants were asked about their overall level of satisfaction with CSP, and then asked to give a brief explanation of their rating. Seventy-eight percent (n=21) of interviewees said they were satisfied or very satisfied with program, 11% (n=3) felt neutral about the program, and 11% (n=3) of participants said they were dissatisfied or very dissatisfied (Figure 10). Overall producers had a lot of good things to say about the program, but they also identified ways they would like to see the program change or improve. The things participants feel the program is doing well and the positive effects producers have seen on their land will be discussed in-depth in the following paragraphs. Identified program challenges and suggested improvements will be discussed in a later section.

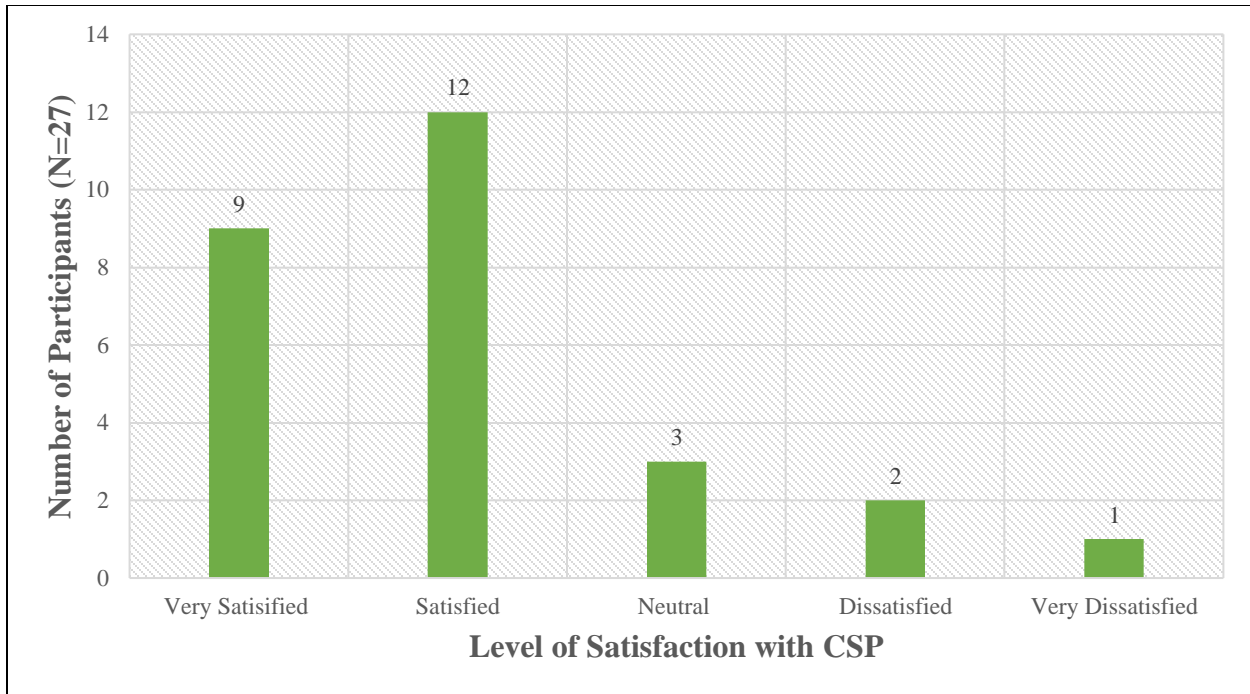


Figure 10. Participants Overall Level of Satisfaction with CSP in Montana

*Experiences with NRCS Staff.* Another key part of this study is to learn about producers' experiences with the NRCS staff and how that may affect their overall experience with the program. As cited in other regional and state CSP studies, the NRCS can greatly impact the ability of participants to implement conservation practices on their land (Fox and Johnson 2018; LSP 2013). Several studies have suggested that participation in conservation payment programs is just as much about the payments as it is the “function of the overall structure and administration of the program”, such as the staff and their work to support producers (Sorice and Donlan 2015: 788). Overall 26 of the 27 producers in this study mentioned having overall positive experiences with the staff, with only one producer mentioning having an overall negative experience with NRCS staff.

Producers identified several ways the NRCS staff are both accessible and supportive throughout the course of the program. They felt like they could rely on staff for many things,

such as help with paperwork and questions about implementing practices. When they have an issue, they can call NRCS and get answers quickly. As one producer said, “I think they have been excellent...if something has changed, just call them, and that has prevented issues and problems” (267 GF). The option of getting quick and reliable answers from NRCS staff was important to many of the respondents because CSP is very complex and it is hard for producers to know how to address some of the challenges that come up.

Several producers mentioned that they were satisfied or very satisfied with the staff, and believe the staff are doing the best they can working “within the bureaucracy” (26 MA) and a lot of the issues they see in the program “are out of the staff’s control” (403 GF). While some interviewees had issues with the structure of the program overall, they felt the staff were making it possible for them to complete their contract commitments. This flexibility with practices was important to many participants, and any way the staff can make the program easier for them is helpful. As discussed later, many producers face challenges while enrolled in the program, and having a support system of staff that can help them with paperwork could be vital for the success of the program. Research has shown that a supportive and understanding relationship between staff and producers is important when it comes to the producer feeling empowered and motivated to complete conservation practices (Ramsdell et al. 2016; Sorice and Donlan 2015).

A few producers mentioned that going beyond just being supportive and accessible, the staff understand the challenges they are going through on a more personal level. As one producer put it: “Some of the people that work for the NRCS are married to farmers in the area. They know some of the challenges of the area and working with someone is not just theoretical” (198 GF). For several producers the program’s practices do not fit their operation and do not work for them. One producer pointed out how the staff understand this challenge and try to make the

practices work for producers, stating: “The NRCS staff are really approachable, easy to contact and make time for us, come visit the ranch or when asking for help. They are good people. They have staff that understand country people and the challenges we have” (345 MC). This flexibility can be very important when developing a program that works for producers from all different types of ecosystems and climates.

*Natural Resource Concerns.* As previously discussed, NRCS identifies specific natural resource concerns for each state that producers are required to address. One purpose of this study is to determine if producers feel CSP’s practices, and the program as a whole, are addressing these resource concerns. Other studies have found that the program is addressing these concerns through identified enhancements and practices (Fox and Johnson 2018). This study focused on four natural resource concerns that the NRCS has prioritized for Montana: fish and wildlife habitat, soil erosion, soil quality, and water quality. I asked producers if they feel the program is addressing these resource concerns, and 52-63% of all participants felt like the program is clearly addressing these four natural resource concerns and 22-30% feel the program is somewhat addressing the concerns (Figure 11). Answers varied slightly depending on the natural resource concern (Figure 11). For some producers they did not have experience with a specific natural resource. For instance, many producers in Eastern Montana do not have a lot of water on their land or some producers did not enroll in any of the wildlife habitat enhancements. Therefore, several of these producers answered “Don’t Know” or “N/A” when asked about these natural resource concerns.

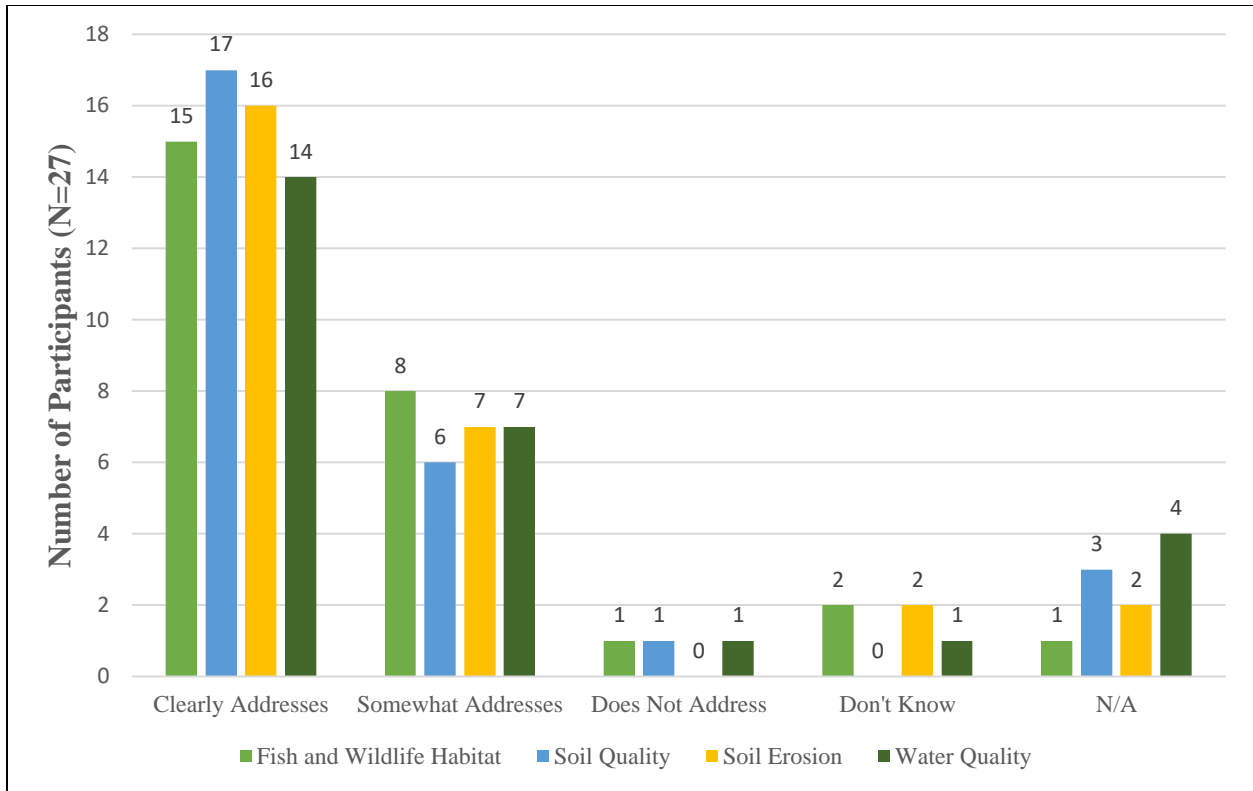


Figure 11. Participant Perceptions: How CSP addresses Natural Resource Concerns in Montana

While producers were asked directly how they feel CSP is addressing natural resource concerns, several also brought up these natural resource concerns when asked if they have seen any positive changes on their land. Producers referred to several practices that have led to positive changes on their land, many of which fit into the natural resource concerns identified for Montana. Several producers alluded to an overall improvement of the “quality of the land”. This looks different depending on the producer, their conservation goals, and the crops and/or livestock they are producing.

One identified natural resource concern in Montana is inadequate fish and wildlife habitat. Eight producers mentioned improved wildlife habitat on their land as a major benefit of the program. For one producer they have seen their CSP impact the presence of wildlife on their land:



Wildlife, I can say, has drastically increased, the deer, the antelope, really good bird habitat. Since we have something growing on our land most of the year, the cover crop stands for the wildlife, and that has been one really positive thing is to see the wildlife really come back around. (17 GF)

Other producers also said they have seen an increase in wildlife on their land since starting the program. One practice or “enhancement” that several producers cited as being a big success on their land is the program helping them put in new “wildlife friendly” fencing. Another producer talked about how they have seen the long-lasting effects of their CSP contract on their land through adding wildlife corridors and fencing:

I notice more birds where I have put in wildlife corridors. I want to put more in. I am getting the same yield in the bin; [and it shows] you can practice conservation and still be a productive farm. After taking down fences, I noticed the wildlife move through my land differently. (388 GF)

When asked if they felt CSP is addressing the concern of inadequate fish and wildlife habitat 63% (n=15), of participants who identified having experience with that part of the program, said they think CSP is clearly addressing the concern and 33% (n=8) said the program is at least somewhat addressing the concern. Only one producer said they feel the program is not addressing the concern.

In addition to positive effects on wildlife habitat, seven producers commented on the increase in their soil health since enrolling in the program. One producer mentioned that their “soil tilth improved dramatically” (146 MC) because of the program, and another mentioned the program has allowed them to pay more attention to their soil and increase their awareness of the soil nutrient cycle (17 GF). Another participant pointed out that the use of cover crops in the program has provided them the chance to learn that they can put in cover crops without “putting you in a water negative situation” (284 GF), which several producers mentioned as a concern when it comes to cover crops. Another natural resource concern that four producers cited during

interviews as a positive change on their land is decreased soil erosion, both from wind and water. One producer mentioned, “[the] dust erosion has gone down because of crop rotation and windbreaks” (267 GF). Interviewees running beef cattle operations also mentioned success using a CSP program that tests nutrient levels in cattle feces to see if the cattle are getting adequate nutrients from the pasture cover.

*Learning.* In addition to seeing positives changes on their land, seven producers brought up that they have learned new skills or information since enrolling in the program. For some producers the program has provided them a chance to dig deeper into tracking conservation practices and understanding their land and how they can be better stewards. Several interviewees mentioned learning new practices that they did not know existed before they started the program. One respondent said they also saw a change in the way their neighbors, who are also enrolled in the program, are doing things: “a lot of operations around the area have done the same thing for a long time, but the program helped change the way we do things” (345 MC). Producers from other states have also cited learning new things due to their enrollment in the program (Fox and Johnson 2018). One producer said CSP has provided them a chance to move away from some of the common conventional practices of commercial farming, such as using herbicides and fungicides:

A rule in commercial farming is that we use a lot of insecticides and herbicides and one thing, this is in part due to CSP, but also due to my own studying, is that I have for the most part eliminated the use of insecticides and fungicides. I never thought about the insects being a good thing, but to learn that for every one bad insect there are 1700 good insects, and when you spray you kill them all and I have just on my own been growing some beneficial insect strips of cover crop and just get the insect population up. I have seen really positive things in doing that and that has been a really positive thing as a result of CSP. (17 GF)

As identified above, for some participants CSP provided a space for them to try out and test new conservation practices. Because of the security of consistent cash flow producers felt they could take more chances on things they might not otherwise try, and if it did not work out than they were not out a lot of money. This space for learning can be an important piece for producers as they support producers financially to “trail practices and make mistakes as they learn how to use them successfully” (Reimer et al. 2018: 704).

The freedom to choose their own conservation practices, from the list provided by CSP, is also something producers said they really appreciate. They liked being in a program that they felt was encouraging and supporting their conservation work and let them take the lead in how they designed their contract. One interviewee mentioned this and how they felt about the overall structure of the program, stating:

One of the things I really appreciate [about CSP] is that you have a list of items that you could select based on where you were at, and I really appreciate that. I think I would object to a mandatory something or other, say that is a pet project for a person in authority. I would be very unhappy if the list had been mandatory. You can force cows by chasing but is it a lot easier if you can lead. And that is what this program is doing, it allows you, the producer, act on what your needs are, and then you can get the helped you need. (550 MC)

Producers are more likely to continue a practice if they feel like they have some choice in the matter and empowering them by offering choices could lead to more satisfied producers (Ramsdell et al. 2016; Sorice and Donlan 2015).

*Unanticipated Benefits.* Participants were also asked if they experienced any unanticipated benefits of the program. While many benefits of the program were clearly identified as possible positive results at the beginning of the contract, several participants recognized some benefits as “unanticipated”. This is to identify if the program is doing more than what it is outlined on paper. While a majority of producers did not recognize any

“unanticipated benefits”, seven different producers gained something they did not expect. For a few they found the program “freed up their pocketbooks” (284 GF) or gave them a “financial boost” (167 GF). For others it was that the program made them “more aware” and “pay more attention” to impacts of conservation practices on their land. Because of the conservation practice monitoring and tracking required by the program, producers overall mentioned that they take the time to keep better track of their farming and/or ranching records. In addition to learning new practices and knowledge, producers have the chance to look more closely at their operation and their conservation practices.

*Renewing CSP Contracts.* One way to gauge how producers feel about the program is whether they decide to enroll in a second five-year contract after their first contract is completed. In Montana over 60% of producers decided to renew their contract for a second term (NSAC 2017b). Eighty-five percent (n=23) of the participants in this study either enrolled in a second or third contract, or they planned to once their first contract is complete. Some interviewees had originally enrolled in the program when it was the Conservation Security Program, and therefore had the chance to enroll in third contract. Eleven percent (n=3) of the participants said they would not be enrolling in another contract even though they were eligible, and one (n=1) participant said they had not decided yet.

*Continuing Practices after CSP.* Since producers need to be practicing some level of conservation on their land before they enroll in CSP, it is not surprising that producers are able to continue at least some of the practices after their contract is done. Fifty-nine percent (n=16) of participants said they would be able to continue *all* of the practices they have started since enrolling in CSP after their contract is over, with the rest of the participants saying they would be able to continue at *least some* of the practices. While some said they would be able to continue

most of the practices if they wanted to, they found certain practices to not be useful and would not continue them, even though financially they could. Like one producer pointed out: “The first enhancements didn’t really turn out like I hoped and [I] wouldn’t really want to do them if I didn’t have to” (17 GF). Several respondents who said they would be able to continue all practices after their contract mentioned this is due to the support of CSP.

### *Barriers and Challenges*

While overall a majority of participants are satisfied with the program, interviewees also identified challenges they have experienced while enrolled in CSP. During phone interviews producers were asked to rate potential challenges in a closed-form question. Interviewees were also asked an open-ended question about other challenges they faced while enrolled in the program. They identified challenges with the conservation practices required by CSP, navigating the program structure and administration, and challenges as organic producers. Some participants did not identify any challenges, which is also a finding I explore, to try to understand what results in producers not facing any challenges.

*Potential Challenges.* Interviewees were asked about potential challenges of the program and whether they felt they were very challenging, moderately challenging, or not a challenge. One potential challenge identified in other studies, and in the preliminary research for this study, is the amount of program paperwork (Reimer and Prokopy 2014; LSP 2013). Other potential challenges identified in preliminary research include accessing technical assistance and monitoring and tracking conservation enhancements.

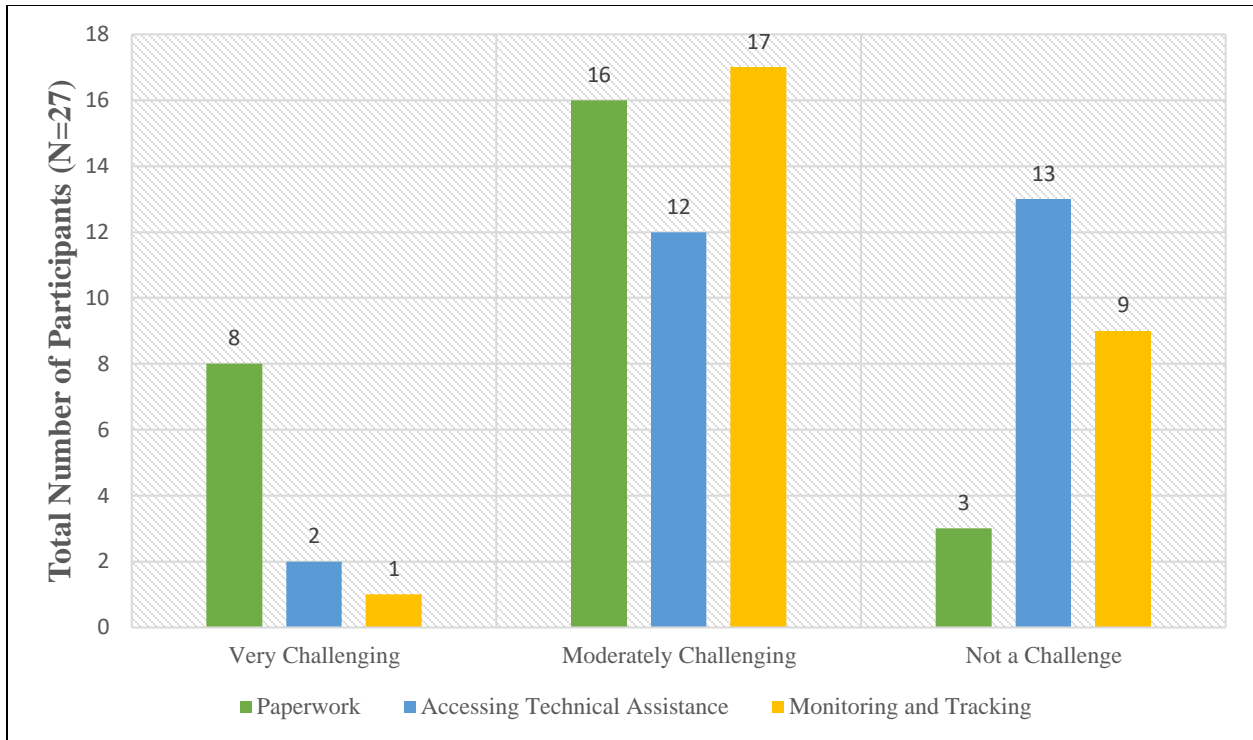


Figure 12. Participant Ratings of Potential Challenges of CSP

When asked if they felt the paperwork was challenging, eight participants said it was very challenging and 16 said it was moderately challenging (Figure 12). Only three participants said it was not a challenge. Producers defined the paperwork as “time consuming”, “complicated” and “challenging”. Overall, the way NRCS calculates payments is a complicated process, as several producers mentioned. For those who have not participated in any federal governmental conservation programs before, this could be a daunting process. Several interviewees said they would like more clarity and transparency throughout the whole process, especially at the beginning of the program. NRCS staff could be more forward with information on how the program works, outlining the details of the contract at the very beginning, and what will be required of the producers. If producers understand what they are signing up for at the beginning, they may be more satisfied with the program.

To some extent there will always be a certain amount of paperwork required by problems like CSP. Several producers acknowledged this and felt the amount of paperwork required by CSP is appropriate for the amount of support they get from the program. However, several producers felt the paperwork was more complicated and confusing than it needed to be, often needing significant support from NRCS staff to complete it.

As far as accessing technical assistance most respondents felt that this was either moderately challenging (n=12) or not a challenge (n=13). Only two producers felt like it was very challenging (Figure 12). This is in part due to the accessibility and support of the NRCS staff. Overall, interviewees reported very positive experiences with NRCS staff, which influenced their experience with accessing technical assistance. Other producers, while appreciative and satisfied with the staff, recognize there are overhead administration issues causing the staff to have difficulty implementing the program fully on the ground; therefore, their critiques of the program have less to do with the staff and more to do with the program as a whole. One producer put it this way:

The NRCS staff knows what is needed, but they do not have the latitude to do those things. There is a top-down mentality on management. The bigger the organization is the farther they are from the people on the ground. Instead of starting at the top, start at the bottom. Empower the bottom, and then you will have buy-in from the people on the ground. (26 MA)

This idea of empowering producers from the bottom up could be helpful in making the program more appealing to farmers and ranchers. Farmers and ranchers heard the NRCS staff complain about the program, and participants cited the issues stemming from higher up the ladder in management.

The last potential challenge addressed is the monitoring and tracking of conservation practices. Most participants felt that this is either moderately challenging (n=17) or not a

challenge (n=9) (Figure 12). Only one producer identified it as very challenging. For several interviewees the monitoring ended up being more than they felt was needed, and the information not especially useful for their operation. One producer mentioned that the grazing monitoring is very challenging, and “that many ranchers think so” (211 BN).

*Conservation Practices or Enhancements.* When asked about their overall satisfaction with CSP, three producers felt neutral on their experience, two producers said they were dissatisfied, and one producer was very dissatisfied. When asked to explain their rating, for those that were dissatisfied or very dissatisfied, interviewees mentioned issues with the flexibility of the program. One interviewee complained about their neighbors (who were also enrolled in the program) who were “getting paid to let weeds go to seed” and this seemed to be the main reason they had such an issue with the program. The two other respondents that rated their level of satisfaction with the program as dissatisfied or very dissatisfied both mentioned their main issue being that they felt there was no flexibility with the practices. As one producer put it: “Some of the [practices] cause your hands to be tied. [There are] different enhancements to try, but you can’t do it the way you want to. It is like putting your hand in a glove that doesn’t fit” (436 GF).

Producers were also asked if they faced any challenges while enrolled in CSP, and several mentioned facing challenges with the program practices. One interest of this study was to try and understand how CSP works for producers across the state depending on their NRCS Area. Participants were selected based on four areas that the NRCS has identified for Montana. Because of low response rate of the respondents from different NRCS regions I was not able to compare the difference in the areas and producer perceptions of the program. However, several producers from the Great Falls Area and Miles City Areas pointed out that some practices required by CSP are hard to do in their area of the state. As one producer put it:



[The program] needs more public input or something on the area, because what worked in Nebraska doesn't fit here. The program is really made for midwestern farmers, and Montana is not like the Midwest. They need some local input, because it was clearly written for corn country. They kind of adapted it, but they did not adapt it well. (10 GF)

Several producers mentioned that finding practices that work for them as ranchers or farmers in Montana is difficult. Practices such as cover cropping need rain at certain times of the year, which is not a guarantee in eastern Montana. In general, they would like to see more options for “arid climates” (388 GF). Either more practices, or flexibility in the practices, is important in order to make the program more accessible for producers in Montana. A large percent of CSP contracts are in Midwestern states (Figure 1 and 2), so the program may be more geared towards practices that work in those regions. Montana is vast and varied ecologically, as one interviewee explained:

Montana is a very diverse state, and what we do in [eastern Montana county] is not the same they do in [western Montana county], it is hard to have the rules that fit everyone, they do a good job, but it is hard, like cover crops...we find things that we can do, but we cannot do those things because we are locked into the old rules of CSP. (17 GF)

This also coincides with a few interviewees mentioning wanting to see more producer input in the program. As one put it:

Too much bureaucracy, too much of the requirements of the program are coming from Washington, and not from farmers and ranchers. I would like to see the program start from the bottom up, talk with people on the ground about how they think the program should work. The local NRCS staff try to do the best they can, but even they complain about the program. (26 MA)

Producer input from different states and regions across the country could help improve the program and make sure that there are enough practices for operations in different ecosystem types. Producers are given the option to go to meetings or give comments on programs like CSP, but many producers still feel they would like more opportunities for input in the program. More research is needed to understand why producers either are not taking advantage of these

opportunities or why they feel these opportunities are not enough (NRCS 2019c). Trying to understand this issue and coming up with a solution could be important in making positive changes to the program.

One producer mentioned, that while the practices were not difficult, due to the limited practices ranchers in Montana can enroll in, it is difficult finding new ones for the next contract, stating:

The process isn't that difficult, but you have to keep up the same enhancements, plus add 5 more in your second contract. Unless you are adding new land, there are a lot of limitations on what a producer can participate in. I would like to see it where you don't have to do all of them for all ten years, but you have to follow the rules. (211 BN)

Seven producers said they had a hard time increasing their enhancements in their second contract, while also keeping the same enhancements from the first contract. For some it was not even about the money, they felt that they should not have to continue practices that they did not think were working. Producers are allowed to renew their contract for another 5 years, and 81% (n=22) of the participants in this study who were eligible for a second contract did so. However, several producers had strong opinions on how the second contract should be managed. Producers had a varying level of success for certain practices or enhancements and even when the practices are not working for their operation producers are required to continue them in their next contract. While continuing to build on conservation practices and enhancements is an essential part of the program, there may be value in allowing some flexibility to this rule. If producers feel like they are wasting time implementing a practice that they know does not work for their land this could cause more issues down the line. For one producer having to do the same practices for their next contract meant they did not get to try others, stating: "I would like to see them not require the same enhancements throughout the ten years, as some of them don't work and I would like to try different practices" (17 GF). Additionally, in order to meet program requirements some

producers are conducting practices in a way they think is not efficient for their farming or ranching operation. In the new 2018 Farm Bill the application process was changed so that producer's application would not be automatically renewed for a second 5-year contract if they wanted it. While this means producers have to go back into the application pool again after their first contract, it could prevent the issue of producers stuck with the same practices from their previous contract (NSAC 2019).

Another thing several producers mentioned is that many got the same amount of money, or less, for their second contract as they did in their first, even though they increased their practices. When asked later in the interview about some of the challenges they faced while enrolled in CSP a few producers mentioned they did not feel like the practices in the program “were economically lucrative” (146 MC) or “economically viable” (281 GF). While the payment system is very complex it may be worth it for NRCS staff to outline how the payments work and be more forward on why producers are getting paid certain amounts. Also, several interviewees pointed out that they did not understand the reasoning behind some of the practices and what NRCS's goals of the enhancements were. Clarifying these questions may be helpful in the future, since knowing the long-term effects and benefits of the practices may help producers feel like the practices are worth their time and money.

*Challenges for Organic Producers.* One initial interest in looking into this program was to see if organic and non-organic producers had different experiences with the program. Unfortunately, due to the small number of organic producers in the sample, no conclusive statements can be made around this question. However, two producers were interviewed about their experience with the program as an organic producer and both mentioned that the biggest hurdle for them is that NRCS does not like to see tillage in the program. As organic producers,

they feel they have to till because they cannot spray for weeds. Both interviewees were asked whether they felt that it was challenging to navigate both the CSP contract requirements and their organic certification requirements. They both said it was moderately challenging. When asked about ways they would like to see the program change in the future one organic farmer said:

I guess I would like to see a bit more flexibility under the umbrella of conservation. Say you are farming organically, if you were able to offset some of your tillage needs with some cover cropping that would be helpful. (198 GF)

The desire for a little bit more flexibility in the program when it comes to practices, appears to be especially important to organic producers.

*No Challenges.* Five producers when asked about the challenges they face while enrolled in the program said they did not face *any* challenges, and their reasoning behind this was mostly based on the support of NRCS staff and having easy access to staff if any issues came up.

Interviewees also said that they knew what they were getting into when they enrolled and felt like the program unfolded like they expected it to. This reinforces the importance of being very straightforward with participants at the beginning of their contract and the essential role of supportive NRCS staff.

## CHAPTER V: CONCLUSION

Overall this study provides valuable perspectives from producers on the strengths and weaknesses of the Conservation Stewardship Program in Montana. Regional and state studies across the country have offered important perspectives on the effectiveness of CSP; however, this is one of the first studies to review perspectives of producers in the Western United States (Fox and Johnson 2018; LSP 2013; Lundgren et al. 2006; MFAI 2016). Montana is one of the top states in the number of total acres enrolled active and completed CSP contracts, and therefore it is important to learn more about producers' experiences and perspectives on how the program is working in the state.

Interviewees identified several different motivations for enrolling in the program, with mixture of financial and conservation motives impacting their decision. This is consistent with other studies and showcases the diversity of producers' motivations (Bergtold and Molnar 2010; Reimer et al. 2012; Reimer et al. 2018, Schaible et al. 2015). Additionally, this study found that some producers were motivated to enroll because it gave them the chance to learn new techniques and skills. The more motivations producers have, the more likely they are to continue the practices after their contract is over and tapping into these diverse motivations could help in making policy decisions in the future (Ryan et al. 2003; Sorice and Donlan 2015).

Most participants are satisfied with CSP in Montana and they have observed positive impacts on their land thanks to the program. The benefits of the program identified by producers in Montana include addressing many of the natural resource concerns for the state, support and flexibility provided by NRCS staff, learning new practices and techniques, and supporting producers economic bottom line. Participants cited seeing many improvements to their land including increase in wildlife presence and the health of their soil. These types of changes to

agricultural land is what the program is meant to do, and many producers identified the program working to improve the land (Fox and Johnson 2018). Producers value the support that CSP provides them, both the financial boost from payments and the technical assistance from NRCS staff. Through this support CSP provides a space for experimentation and intensification in regard to conservation agriculture, without the concern of significant loss in operation revenue. Producers feel the program does try and make practices work for different operations, by letting participants choose from a list of practices rather than the NRCS forcing them to do specific practices (Ramsdell et al. 2016; Sorice and Donlan 2015).

Producers overwhelmingly felt very positive about the NRCS staff; therefore, it is important to recognize the impact the administration can have on the effectiveness of the program (Fox and Johnson 2018; LSP 2013; MFAI 2016). CSP is a complex and detailed program, and the support of the NRCS through the process is crucial, therefore consistent funding and support is vital for future program success (Fox and Johnson 2018). Even though producers mentioned having issues with the program, when asked directly about their interactions with the staff they spoke positively. This is consistent with other research that shows, while there can be negative attitudes towards government programs, clients (in this case the farmers/ranchers) usually speak positively about their interactions with staff (Goodsell 1981).

While producers shared overall positive experiences with the program, several had recommendations on ways the program could improve in the future. One key finding from this study is that CSP may work very differently for producers depending on their climate. Moving forward, producers in Montana believe CSP should include more options for farmers and ranchers in arid climates. Many interviewees felt most of the program practices are meant for midwestern states, and while this is working for some states, steps need to be taken to ensure

there are practices available for producers all across the country. While CSP will never work perfectly for all participants, acknowledging these challenges is necessary to find approaches that could help make the program more accessible and effective. Making CSP more appropriate for arid climate may also help prepare the program for predicted changes in climate across the country (Bierbaum et al. 2013).

Producers also mentioned having issues with clarity and transparency in the program, especially during initial enrollment. They would like to see staff be more upfront about the way the program works. Being upfront with producers about the intricacies of the program may help increase overall satisfaction and make sure the producer knows what is required of them. Additionally, while producers felt positively about staff, some participants mentioned the staff often complained about the program and its complexity, and the participants saw these issues as out of the control of the staff.

Additionally, while continuing to focus on the program's overall goal of protecting natural resources, it is important to keep the producers in mind and how they perceive the program (Sorice and Donlan 2015). Producers have valuable input to offer on CSP's development and how it is working on the ground. Participants satisfaction with CSP is crucial for continued funding of the program and could help inform policy decisions.

### *Research Limitations and Strengths*

There are some limitations of this study that are important to address. The first being the small sample size of the study. Over 1,444 different CSP producers were enrolled in the program between 2013 and 2018, and only 27 were interviewed for this study. To get survey results with a 95% confidence interval and confidently provide a generalized depiction of the population, 304

participants should have been interviewed for this study (Dillman 2007). However, due to timing and resource limitations, I was not able to reach this threshold.

Timing played a part in this, as several producers were interested in participating in the survey but did not have time due to calving season or other major agricultural responsibilities. One strength, however, is that during interviews, with this randomly generated sample, many of the same ideas and themes came up repeatedly, as is represented in the results. Additionally, many themes and ideas identified in interviews were consistent with other studies and my preliminary research (Fox and Johnson 2018; LSP 2013; Lundgren et al 2006; MFAI 2016). While the sample size limits generality, consistent themes and answers from this study and others add to the literature surrounding CSP (Burawoy 1998).

Due to limited access to contact information and resources, interviews had to be conducted over the phone. This limited the total number of producers reached. However, a strength of this study is since all surveys were conducted over the phone, there was a chance for clarification of answers and probing for more information, something that would not have been possible if the survey was done online or via mail (Dillman 2007).

### *Recommendations for Future Research*

A significant question that arises when studying CSP is whether the program is addressing the natural resource concerns it is designed to protect. While the research on motivations and barriers of participating in conservation program is vast, the direct impact of these programs on the environment is still to be explored (Ugarte et al. 2018). Studies such as this one can look at the perceptions of producers and how they feel the program is approaching and accomplishing its goals, but there is still the need for research on the direct impact of the program in regard to natural resources. There is limited research on the evaluation tools used by



NRCS, and since these tools are constantly changing, new research is needed to account for this (Ugarte et al. 2018). In 2018 research on the CMT tool came out, showcasing that pieces of the tool may have been over emphasized (Ugarte et al. 2018). In answer to some of the issues of the CMT tool, NRCS developed the two new tools, AERT and CAET. Furthermore, the NRCS has limited resources and time to devote to analyzing the impact of the program and future funding is needed to continue research in this area (Fox and Johnson 2018).

Lastly, as identified in this research and other studies the NRCS staff recognize challenges within CSP (MFAI 2016). Interviews with the NRCS staff and how they feel the program is working could be immensely helpful, since they see the inefficiencies of the program every day and can identify ways to make the program more accessible for producers, in addition to making it easier for them to administer. A study like this could also help bring to light whether the issues or problems identified within the programs stem from the national, state, or local level.

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## APPENDIX A

### Survey Questions

#### Start of Block: Operation Information

Q1 Interviewer

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Q2 Interviewee code

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Q3 Hello, my name is Mary Ellis and I am a researcher calling from the University of Montana. You should have received a postcard from me. We are doing a survey of farmers and ranchers' views on the Conservation Stewardship Program in Montana. Would you be willing to take a few minutes to answer some questions on this topic?

WAIT FOR RESPONSE

Before we get started, I can assure you that your name and identity as a participant in this study will remain completely confidential in any presentations or written reports. Please share your views freely. Your perspective is really important. If it is OK with you, I would like to record this interview. That will just help me make sure your views are accurately recorded. Is that OK with you?

WAIT FOR RESPONSE

---

Q4 To start off, I'd like to ask you some questions about your farming or ranching operation. What are the primary crops and/or livestock you produce?

- Barley
  - Beef
  - Chicken/poultry
  - Dairy Cows
  - Fruits
  - Hay
  - Horses
  - Nursery Plants/Ornamentals
  - Sheep
  - Sugar Beets
  - Vegetables
  - Wheat
  - Other (specify) \_\_\_\_\_
-



Q5 Is all or part of your operation certified organic?

- Yes, all
- Yes, part
- Transitional, all
- Transitional, part
- No

End of Block: Operation Information

---

Start of Block: Enrollment in CSP

Q6 How did you first learn about CSP?

- Natural Resource Conservation Service (NRCS)
- Soil and Water Conservation District
- Newspaper or other media source
- Local co-op, crop advisor, or technical service provider
- Another producer
- Friend or family member
- Other (specify) \_\_\_\_\_
- Don't recall/Don't know

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Q7 What year did you first enroll in CSP?

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Q8 What initially motivated you to enroll in CSP?

- Financial payments
- Access to technical assistance
- Told it would be a good fit by NRCS employee
- Already doing conservation practices, so why not get paid for them
- Other (specify) \_\_\_\_\_
- Don't know

---

Q9 In CSP, what type of land use are you enrolled under?

- Non-Industrial Private Forest
- Crop land
- Pasture or rangeland
- Other (specify) \_\_\_\_\_
- Don't know

**End of Block: Enrollment in CSP**

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**Start of Block: The Program: Benefits and Challenges**

Q10 Next, I would like to ask you about your level of satisfaction with the Conservation Stewardship Program. When you think about your experiences overall with CSP would you say you are very satisfied, satisfied, neutral, dissatisfied, or very dissatisfied with the program?

- Very satisfied
  - Satisfied
  - Neutral
  - Dissatisfied
  - Very dissatisfied
- 

Q11 Ok, could you please explain your overall satisfaction rating of the program?

---

Q12 As you may know, NRCS identifies natural resource concerns for each state. The next set of questions address some of the natural resource concerns that NRCS has identified for Montana. I will read statements about different resource concerns. Please tell me if you think CSP clearly addresses the concern, somewhat addresses the concern, or does not address the concern.

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Q13 Natural Resource Concerns

Answer Options

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	Clearly Addresses	Somewhat Addresses	Does Not Address	Don't Know	N/A
One concern in Montana is inadequate fish and wildlife habitat. Would you say CSP clearly addresses, somewhat addresses, or does not address this concern?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Another concern in Montana is soil erosion, from wind or water. Would you say CSP clearly addresses, somewhat addresses, or does not address this concern?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
What about soil quality, such as soil organic matter or soil compaction?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Does CSP address water quality concerns in Montana?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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Q14 Are there any challenges you have faced while enrolled in CSP?

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Q15 The next set of questions will help us understand specific challenges producers face while enrolled in CSP. I will list some possible challenges you may face while enrolled in CSP. Please let me know if you feel they are very challenging, moderately challenging, or not a challenge.

Q16 Challenges

	Answer Options				
	Very Challenging	Moderately Challenging	Not a Challenge	Don't Know	N/A
Would you say that the paperwork required by CSP is very challenging, moderately challenging, or not a challenge?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
What about accessing technical assistance on implementing specific conservation practices?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
What about monitoring and tracking conservation practices?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
(if a certified organic farmer) What about meeting requirements for both CSP and organic standards?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q17 Ok, next I would like to hear about your experiences working with NRCS staff throughout the CSP process. What is your overall level of satisfaction with NRCS staff?

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Q18 When you think about the future of CSP, are there any ways you would like to see the program change or improve?

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Q19 Have you observed any positive changes on your land since enrolling in the program?

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Q20 Have there been any benefits from the program that you did not anticipate beforehand?

**End of Block: The Program: Benefits and Challenges**

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**Start of Block: Producer Information**

Q21 Are you eligible for another 5-year CSP contract?

- Yes
  - No
  - Not sure
- 

Q22 Are you planning to enroll in a second 5-year contract?

- Yes
  - No
  - Not sure
-

Q23 If CSP were eliminated, would you still be able to continue your conservation practices that you have started since enrolling in CSP?

- Yes, I would be able to continue all practices
  - I would be able to continue some practices, but not all
  - No, I would not be able to continue practices
- 

Q24 In addition to CSP, are you enrolled in any other federal governmental conservation payment programs?

- Environmental Quality Incentive Program (EQIP)
  - Conservation Reserve Program (CRP)
  - Wildlife Habitat Incentive Program
  - Emergency Watershed Protection Program
  - Agricultural Conservation Easement Program
  - Healthy Forest Reserve Program
  - Other (specify) \_\_\_\_\_
- 

Q25 What county is your operation located in?

▼ Anaconda-Deer Lodge County ... Yellowstone County

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Q26 2nd county (if producer's farm/ranch is in two counties select second county here)

▼ N/A ... Yellowstone County

---

Q27 Ok, my last few questions are just to learn a little more about you and your farming or ranching operation.

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Q28 How many years have you been ranching or farming?

- Less than 1 year
  - 1-5 years
  - 6-10 years
  - 11-20 years
  - 21-30 years
  - 31-40 years
  - 41-50 years
  - Over 50 years
- 

Q29 What is your age?

- Under 25 years old
  - 25-34 years old
  - 35-44 years old
  - 45-54 years old
  - 55-64 years old
  - 65 years old and older
-



Q30 What gender do you identify with?

- Male
  - Female
  - Transgender
  - Other (specify) \_\_\_\_\_
  - Prefer not to say
- 

Q31 What is the total acreage of your operation?

- 1-9 acres
- 10-49 acres
- 50-69 acres
- 70-99 acres
- 100-139 acres
- 140-179 acres
- 180-219 acres
- 220-259 acres
- 260-499 acres
- 500-999 acres
- 1,000-1,999 acres
- 2,000 or more acres

-----  
Q32 Before we wrap up, let me thank you again for participating. Is there anything else about CSP you think I should know?  
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**End of Block: Producer Information**  
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**SPECIAL INVITATION:**

**Participate in Research about the Conservation Stewardship Program  
University of Montana**

To help improve the Conservation Stewardship Program (CSP) would you be willing to share your ideas and experiences with us? This spring we are conducting a phone survey with farmers and ranchers, like you, to hear your views on CSP in Montana, what works well, and how to make it better.

We will contact you in a few days to see if you would like to participate in this voluntary and confidential phone interview. We hope you will be willing to share your views. Thank you for your time and consideration. If you have any questions, please contact us.



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Figure 4. Participant postcard sent before phone interviews