

Vermont Farmer & Agricultural Service Provider Perspectives on Payment for Ecosystem Services Programs:

The Full Report

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Focus Groups Hosted By: The Vermont Natural Resources Conservation Districts, namely the Orleans, Franklin, Winooski, White River, and Poultney Mettowee Conservation Districts

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About the Report: In 2021, Vermont’s Natural Resources Conservation Districts organized five focus groups involving a total of 72 participants, including farmers and technical service providers from various farm types across the state. The age range of interviewees spanned from 23 to 85 years old, representing diversified vegetable farms, dairies, livestock and row crop operations, among others. The focus groups aimed to explore the perspectives of farmers and agricultural technical service providers regarding payment for ecosystem services (PES) programs to better inform the [Vermont Payment for Ecosystems Services and Soil Health Working Group](#). Discussions covered a range of topics, including the perceived ecosystem services provided by farms, the strengths and weaknesses of existing PES programs, and suggestions and considerations for PES program design. This report presents the key findings derived from these focus group sessions. **The report is the result of collaborative efforts among conservation professionals, farmers, technical service providers, and researchers in Vermont. It underscores the shared belief that incorporating farmer voices in an iterative manner throughout the design and implementation of PES programs is crucial for their success.**

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Summary of Key Findings

Perceptions of Ecosystem Services & PES Programs: During the focus group discussions, participants expressed a strong appreciation for the ecosystem services (ES) provided by farms. They showed significant interest in payment for ecosystem services (PES) programs, primarily due to their potential to enhance the environment and support the sustainability of farms. However, participants also raised concerns regarding the effectiveness, costs, and fairness of PES programs. They emphasized the need for thoughtful consideration, careful design, and proper implementation of PES programs to ensure meaningful and positive outcomes.

Key Challenges with Existing Programs: Participants were largely appreciative of existing PES programs, but identified a range of different challenges and/or frustrations that they have encountered around existing programs including:

1. Limitations & stipulations around funding
2. Inability to access funds
3. Slow project turnaround
4. Insufficient cost share/payment rates
5. Issues with program staff
6. Programs being reactive rather than proactive

Key Takeaways for PES Program Design: During discussions, participants provided diverse ideas and suggestions for the design of future Payment for Ecosystem Services (PES) programs. Some of the key points mentioned were:

1. Including farmers' voices and perspectives is crucial for the design, development, and implementation of agriculturally-oriented PES programs.
2. Programs should offer participating farmers flexibility and opportunities for innovation.
3. It is important to have a diverse range of programs that can support both transformative changes and incremental improvements on farms.
4. Programs should support existing stewards while promoting environmental gains.
5. Compensation for farmers' participation in PES programs must be meaningful.
6. Farmers are interested in PES programs that ensure equitable distribution of resources across different types of farms and farmers.
7. The funding sources and administering agency of PES programs have an impact on farmers' perception and participation.
8. Trust in the administrators of a PES program is critical for farmer participation and a positive experience.
9. Each farm is unique, so PES programs should offer personalized technical assistance and use contextually-appropriate goals and metrics for success.
10. Farmers value existing conservation programs and see potential in building upon or revising them.

Introduction to PES

Ecosystem services (ES) encompass the advantages that society receives from nature and well-functioning ecosystems. They comprise material services such as food, medicine, and fiber, regulating and maintenance services such as pollination, carbon cycling, and soil fertility, as well as cultural services like aesthetics and recreational opportunities. Depending on the management systems and context, farms can impact or provide various ecosystem services. Payment for ecosystem services (PES) programs are initiatives that encourage voluntary transactions between users and providers of these services, contingent upon agreed-upon natural resource management or environmental service. PES programs aim to incentivize, support, and promote positive environmental outcomes. They can be used alongside or as alternatives to environmental regulations, which typically rely on punitive measures rather than incentives to achieve desirable environmental outcomes.

The following is an excerpt from the [2023 Payment for Ecosystem Services and Soil Health Working Group Final Report to the Vermont Legislature](#):

“Over the course of its meetings, the Working Group became aware that the language and concepts of ‘payment for ecosystem services’ and ‘natural capital’ are tied to the much larger developments related to the ‘financialization of nature’ and the ‘privatization of the commons’... The Working Group notes that ‘ecosystem services’ as a paradigm has several biases: 1) it is human-centric and assumes nature is at the service of humans; 2) it measures benefits only insofar as humans value them and ignores the value ecosystems provide to all of life; and 3) it reduces nature to a numeric monetary value to be captured and traded in economic markets. The Working Group values the many ecosystem functions that farmers steward, particularly those described hereinafter in this Report. At the same time, the Working Group is cautious of the term ‘service’ and the connotations that it implies.”

At the time the focus groups described in this report were held, the term “PES” was being used relatively interchangeably with conservation incentive programs.

Methods

In the spring of 2021, leaders from the Vermont Natural Resource Conservation Districts collaborated with researchers from the University of Vermont and Vermont Law School to organize five focus groups involving farmers across the state of Vermont. The purpose of these discussions was to gain a deeper understanding of farmers' goals, concerns, and preferences regarding payment for ecosystem services (PES) programs. The insights gathered from these focus groups aimed to inform ongoing conversations in Vermont about advancing investments in PES programming.

The focus groups were open to Vermont farmers, as well as conservation professionals and technical service providers with experience in working on agriculturally-oriented conservation activities. The discussions took place in different regions of Vermont, namely NE, NW, SE, SW, and Central Vermont. Participants were invited to join through various channels, including emails sent to Conservation District contact lists, public announcements, flyers, online postings, and personal invitations by Conservation District leaders in the respective regions.

A total of approximately 72 individuals, including farmers, conservation professionals, and technical service providers, attended and actively participated in the focus group sessions. The number of participants varied, ranging from 9 to 20 individuals per group. The participants represented a diverse mix of backgrounds, including technical service providers, staff from Natural Resource Conservation Districts (NRCDC), USDA-Natural Resources Conservation Service (NRCS) staff, UVM extension staff, and farmers engaged in various types of operations such as diversified vegetables, sheep, dairies, hay, row crops, and beef. The age of participants ranged from 23 to 85 years old.

Table 1. Summary of focus group location and participation.

Region in Vermont	Conservation District (organizer)	Number of participants
Northeast	Orleans	13
Northwest	Franklin	20
Southeast	White River	18
Southwest	Poultney Mettowee	9
Central	Winooski	12

Each focus group was conducted virtually using Zoom. Focus group sessions began with a brief presentation about basic concepts of payment for ecosystem service programs and an outline of key design decisions which must be made in the creation of any PES program given by UVM researchers. This helped to ensure that all participants had some shared, basic background knowledge on PES programming. After this briefing, a semi-structured conversation among focus group participants was co-facilitated by Conservation District leader(s) from the geographic region. Participants across the five focus groups were given similar core questions/prompts across the five focus groups; there was minor

variation between focus group conversation prompts which were guided by the Conservation District leaders at the respective sessions. Discussion prompts were co-created by researchers and Conservation District leaders. Topics of discussion included, but were not limited to:

- The ecosystem services which farmers/farms can provide
- Receptivity to PES programs
- Goals and hopes for PES programs
- Experiences with existing PES programs
- Strengths & weaknesses of existing PES programs
- The purpose, advantages, and disadvantages of different elements PES program design
- Funding sources and payment rates for PES programs
- The role of farmers in the development and design of PES programs

The focus groups were conducted with the approval of the University of Vermont IRB Research Ethics Board. Each session had a duration of approximately 90 minutes. To ensure accuracy, all sessions were recorded and transcribed verbatim. Transcription was carried out either by an external transcription service or by Conservation District staff.

The transcripts were thoroughly reviewed and discussed in an iterative process involving the White River Conservation District leadership and the researchers. The aim was to identify and compile a shared list of emerging themes from the focus groups. The transcripts were then analyzed using NVivo, a qualitative data analysis software, employing a Grounded Theory approach. Two researchers independently coded the same transcript, and subsequently compared their coding for consistency. Adjustments were made iteratively to align and minimize coding deviations, ensuring consistency between coders and across the content.

Upon completion of the coding process, a team consisting of White River Conservation District staff and researchers affiliated with the University of Vermont and Vermont Law School convened. The team collaborated to identify, synthesize, and discuss the key findings and themes that emerged from the focus groups. This collaborative effort led to the preparation of a report that captures and shares these identified findings. The report represents the outcome of exploratory and participatory research, where research and outreach goals were balanced. It can be read in its entirety or selectively, depending on the reader's preference.

Farms, Environmental Challenges, & Ecosystem Services

The focus group participants recognized various ecosystem services provided by farms. These services include improved soil health, wildlife habitat, recreational opportunities like hiking, camping, and hunting, increased biodiversity, and carbon sequestration. One participant emphasized that maintaining a rural landscape offers a range of benefits for wildlife, individuals, and the entire community. They highlighted how their neighbors enjoy observing open fields and abundant wildlife such as turkeys and deer. According to them, these services collectively benefit the whole community.

“Our neighbors walk the land and get to see the open fields and wildlife, turkey, deer, numerous times in our fields daily. I think that this whole gamut of services are what this is all about, and that the whole community is able to capitalize off that.”

Another participant reflected on how their farm supported habitat and biodiversity, which directly contributes to the aesthetics and overall experience of the landscape. They mentioned how older generations in the area noticed the abundance of insects and other forms of life, which they found particularly gratifying as it enhanced their connection with nature.

“The old timers around here would say that they noticed how many insects and how much other life and habitat we had. To me, that was maybe the best one, because you could walk out in the field and really hear and feel things.”

The focus group participants also shared the management practices they believed contributed to these ecosystem services. Cover cropping was the most frequently mentioned practice, as it helps reduce soil erosion, provides food for wildlife, increases on-farm biodiversity, and improves nutrient retention in the fields. Other practices highlighted by the participants included no-till farming, rotational grazing, manure stacking and composting, tree planting and agroforestry, cultivating perennial forages, longer crop rotation cycles, and planting initiatives to support pollinators. **The participants emphasized the importance of integrating these practices with other strategies and incorporating them into comprehensive planning efforts, such as nutrient management plans, whole-farm conservation plans, and watershed/community-scale goals and initiatives.**

Focus group participants discussed various environmental concerns related to agriculture. One significant issue raised by several participants was the pollution of rivers due to direct runoff from large farms located near water bodies. They also mentioned that climate change-related events, like heavy snow-melts and rains, are contributing to the increased phosphorus levels in rivers and causing other environmental problems. These destructive events are causing significant damage to fields and culverts, as reported by the farmers. Declining global biodiversity was another major concern among the participants.

The participants identified different entities they considered responsible for these environmental harms. Some suggested that towns should enforce stricter water quality standards, while others believed that there should be a fiduciary responsibility to protect soil health in addition to clean air and water. Some participants argued that the private industries and large farms/CAFOs causing environmental damage are financially capable and should bear the costs of addressing these issues. Regardless of the responsible party, there was a general consensus among participants that a collaborative effort is required for land restoration and management to tackle systemic environmental challenges, such as climate change.

Table 2. A list of participant-identified ecosystem services provided by farms/farmers, and associated management practices

Ecosystem services farmers/farms provide	Practices that provide them
<ul style="list-style-type: none"> ● Improved soil health ● Increased flood resilience ● Drought mitigation ● Wildlife habitat ● Recreation (trails, camping, and hunting) ● Increased biodiversity ● Protection of water quality ● Sequestering carbon ● Improving/maintaining land use 	<ul style="list-style-type: none"> ● Cover cropping ● No-till ● Rotational grazing ● Manure stackings ● Composting ● Tree planting ● Planting perennial forages ● Longer rotation cycles (between plantings) ● Planting for pollinators

PES Program Design

During the focus group sessions, participants engaged in discussions exploring various aspects and questions regarding PES program design. They considered opportunities for improving existing programs and optimizing the design of potential future PES programs. This section provides an overview of participant conversations and perspectives on the following aspects of program design:

- The Value of Farmer Voices & Leadership
- Hopes and Concerns for PES Programs
- Program Eligibility & Equity
- Administrative & Participation Burdens
- Trust & Accountability
- Program Metrics
- Program Parameters
 - Farm-Scale vs. Field-Scale
 - Direct Measurements vs. Modeling
 - Holistic/Bundled vs. Individual Metrics
 - Outcomes vs. Practices
- Program Funding
 - Financial Support & Incentives
 - Funding Concerns
 - Funding Models
- Non-Monetary Value/Benefits
 - Outreach & Education and Technical Assistance
 - Farm/Conservation Planning

The Value of Farmer Voices & Leadership in PES Programs

Participants emphasized the crucial role of farmers and land managers in the design, development, and implementation of agriculturally-oriented PES programs. They expressed frustration with programs that overlook or dismiss the perspectives of those directly managing agricultural land. One farmer shared their experience, stating:

“The folks who are managing that land are some of the primary stakeholders and they have a particularly intimate and direct experience with that landscape. Finding a way to make sure that those voices aren't... made to feel like they don't know what they're talking about [is so important to the success of PES programs]. I think so many of us feel like we've had that experience.”

Participants emphasized the importance of farmer leadership in PES programs to ensure that they align with on-farm circumstances and possess the necessary flexibility and adaptability to accommodate the dynamic and sometimes unpredictable nature of farming. Farmers should have co-ownership and influence over PES programs, although participants highlighted that this is not always the case. They mentioned that engaging in PES program discussions can be challenging, particularly when there is limited information available or few opportunities for involvement.

It is crucial to actively include farmer voices and incorporate their feedback throughout the decision-making process of PES program design and administration. **Efforts should be made to ensure iterative participation and to provide farmers with accessible spaces for meaningful engagement and contribution.**

Hopes and Concerns for PES Programs

Participants in the focus groups expressed a range of interest and excitement for payment for ecosystem services (PES) programs. Many recognized the value and potential of using PES programs to promote the provision of ecosystem services on farms. They highlighted the importance of financial compensation to incentivize farmers to manage for long-term, public supply of ecosystem services, even when it may not align with their short-term, private interests. One participant succinctly captured the need for PES programs, stating:

“To get farmers to do the things that are in their long-term interest, you're going to have to pay 'em for their short-term interest.”

Participants generally showed reluctance and resistance towards additional regulations or punitive measures to address environmental crises, questioning their effectiveness. Instead, they expressed a greater interest in using incentives and rewards, such as PES programs, to support land stewards who actively manage for the provision of ecosystem services.

During the discussions, participants shared various hopes and desired outcomes from PES programs. They believed that PES programs should strive to: 1) generate meaningful environmental benefits that serve the public good, and 2) provide substantial compensation to participants, ensuring the viability and sustainability of ecosystem-services-oriented farms. However, farmers had differing ideas on how to best achieve and balance these goals.

While many participants expressed interest or potential interest in participating in PES programs, they also raised concerns regarding program participation, effectiveness, design, and impacts (refer to Table 3). Although these concerns were not the primary focus of the discussions, they are important considerations when designing and implementing PES programs. **Additionally, some participants suggested alternatives to PES programs, such as universal basic income for farmers, as a way to better support them and enable their role as environmental stewards.**

Table 3. A list of participant identified factors of PES programs which impact their interest in program participation & perceptions on program value

<p align="center">Factors which Encourage Participation & Increase the Perceived Value of a Program</p>	<p align="center">Factors Which Discourage Participation & Diminish the Perceived Value of a Program</p>
<p>The program...</p> <ul style="list-style-type: none"> → Fosters meaningful and credible environmental improvements → Offers financial value to farmers → Offers educational value (i.e., data, technical assistance, public outreach) → Supports or improves their farm’s value and/or viability → Is administered by organization/entity/agency whom they trust → Provides sufficient administrative support <i>and</i> on-farm autonomy → Aligns with their own values, goals, and/or vision → Recognizes farm individuality and contextual differences → Allows for flexibility → Uses meaningful and understandable metrics 	<p>The program...</p> <ul style="list-style-type: none"> → Has excessive administrative burdens → Results in participant loss of farm autonomy, flexibility, and/or independence → Lacks stability and continuity → Lacks accountability → Fails to foster holistic or transformative changes → Misuses data; results loss of data privacy → Feeds into or creates inequities → Prioritizes reactive changes, over proactive changes → Is not administered by a trusted agency or organization → Doesn’t efficaciously support or achieve the desired environmental outcomes → Has a disagreeable funding source → Provides insufficient compensation or support for participants → Does not provides clear understanding on program function and expectations → Is overly difficult to implement

Program Eligibility & Equity

The eligibility criteria play a crucial role in project design as they determine which farms and farmers can access programs. In many existing programs, farm eligibility is based on factors like farm type, size, or current practices. While these aspects are important, they may exclude potentially suitable candidates. Focus group participants expressed a strong interest in eligibility requirements for Payment for Ecosystem Services (PES) programs. **They emphasized the need for these programs to serve a diverse range of farmers and farm situations while promoting equitable outcomes.**

Some participants voiced frustration with current conservation programs that require the presence of specific "natural resources concerns" to qualify for funding. They found it problematic that proactive farmers, who take preventive measures to avoid resource concerns through best management practices, may be deemed ineligible. These participants argued against programs that only respond to existing concerns and fail to support farmers who are proactive in environmental stewardship and taking preventive steps. One participant shared their dissatisfaction with an example from their own operation, where they wanted support before causing any damage:

"What I was also told [by program administrators]... is that, well, if you had a resource concern here, if you had cattle in the water, or if you had made a mess, we'd certainly pay for this. And my point is, well I don't want to run animals through just to make a mess so you'd pay for it. I'd really like to be able to get this established before I make a mess and to provide the service."

Numerous focus group participants emphasized that PES programs should be open to farms that already practice proactive environmental stewardship and management systems. They warned that programs should not create incentives for farmers to adopt lesser environmental stewardship practices just to qualify for funding. Some participants suggested retroactive payments for services already rendered through previously implemented practices. However, they acknowledged that this approach might conflict with one of the primary goals of most PES programs, which is to improve the production and delivery of ecosystem services, given limited resources.

Participants also noted that certain farm types, particularly small-acreage farms and non-owner-operated farms, are underrepresented and receive fewer benefits from existing PES programs. They emphasized the need to include these underserved demographics in program planning. The participants also advocated for farm operators who lease land to be eligible for PES payments, not just the landowner. They agreed that the farmers, who often pay the landowner, should receive compensation for the work they do to make the land valuable to society.

During the discussions, participants suggested setting minimum eligibility thresholds and requirements for all program participants. One proposal was to use existing frameworks, such as compliance with Vermont's Required Agricultural Practices (RAPs), as part of these thresholds. Participants also stressed the importance of consistent and clearly defined eligibility criteria for PES programs. They emphasized the need for farmers to have access to reliable information so they can plan ahead and apply for participation without concerns about sudden changes in eligibility requirements impacting their applications.

Administrative & Participation Burdens

The administrative burdens associated with program participation are a significant concern for those considering joining a program. When farmers participate in PES programs, they not only have to manage their farms but also handle various administrative elements related to program requirements (e.g., paperwork, on-farm testing, interactions with agencies/institutes, etc.). These burdens can be

substantial and greatly impact farmers' experiences with PES programs, influencing their willingness to engage in future programs.

Several participants expressed concerns that new PES programs could further increase the already heavy administrative burden imposed by other conservation and farm support programs and regulations. Adding additional administrative requirements to a PES program may not be appealing to farmers, as one farmer stated:

"I'm assuming that any part of this, you're gonna have to be inspected, and then there's still gonna be paperwork [we are] saddled with, like the nutrient management plan...small farms can't handle it."

Another participant questioned which entity or institution would handle the transactional activities associated with the provision and payment of ecosystem services, especially if the PES program reached a high participation rate. Farmers, they pointed out, do not have the time or capacity to act as brokers. Participants suggested exploring opportunities to leverage existing technology, data collection, and administrative processes used in other programs to reduce and limit administrative burdens within the PES program. However, they cautioned against simply duplicating existing programs.

During the design process of PES programs, officials should consider the benefits provided to farmers relative to the administrative burden it would impose. **PES program payments and benefits need to be substantial enough to justify the additional data collection and input required for farmers, technical assistance providers, and program administration staff.**

Numerous participants emphasized the importance of considering farmer perspectives and involving them throughout the development and implementation of a PES program in order to address appropriate and acceptable administrative burdens. **They highlighted the need for PES program administration and verification processes to be flexible and iterative, consistently incorporating the input and experiences of farmers.** One participant emphasized the necessity for programs to allow flexibility and growth:

"The other thing I suspect is that if the state sets up a program, it will initially be a learning experience. And I would hope it will mature and learn in like the first three to five years of a program until we really fully understand what we're asking of the farmers. So... the important factors [are] that it be flexible, that it doesn't be too rigid, and that it has the ability to transition, transform, learn from its mistakes and learn from the positive sides of it."

Trust & Accountability

Trust and accountability are crucial aspects of all stages of Payment for Ecosystem Services (PES) program design. To ensure the effectiveness of PES programming, two key factors must be considered: 1) program participants need to trust the durability, nature, and integrity of the support provided by the program, and 2) those paying for ecosystem services must trust that the desired benefits and services are being delivered. Trust is established or maintained through accountability and enforcement mechanisms, which are often necessary to ensure the continuation of this trust.

When considering joining a new PES program, many participants expressed concerns about the possibility of not receiving long-term funding or support for implementing practices due to program end-dates or potential program alterations after they have already made investments based on the program requirements. Participants also shared concerns about overly strict and inflexible contracts. While most participants didn't mind regulator-type agencies inspecting their land, they stressed the need for proper coordination and communication of visits and the importance of keeping their

information private. Many participants resisted and distrusted programs that infringed upon their autonomy, rights, or values. Data privacy was also a concern, especially regarding information accessed or required as part of the PES program or enforcement.

"You asked about privacy and the answer to that depends on what we're talking about. I don't have a problem with my outputs being tested. I mean, if you're collecting water samples off the edge of the field, great. I mean, I'd like to know before you come onto the property, but we shouldn't have anything to hide and that kind of thing. Other kinds of data, when it's digital could be problematic and I would especially - I think we should be getting paid for our data anyways, because people are making money off of it. But I'd want to know that there were protections for any kind of personal data."

Establishing trust between program administrators and participants is critical for program participation. Participants want assurance that the program administration is trustworthy and that their involvement will have positive impacts without compromising their values. As one farmer stated, *"I'm not signing my soul and my immediate family's souls away to get the money."* Participants recognized the importance of accountability frameworks within a new PES program. They emphasized the need for accountability measures beyond self-reporting to ensure credibility and avoid a program that only provides funds without proper oversight.

Several participants emphasized the importance of communicating the success (or lack thereof) of PES efforts on their farms to the public, and they believed that appropriate accountability systems were crucial for the public to trust this communication. They suggested that someone should witness the progress rather than relying solely on paperwork. Participants also highlighted the need for credibility and finding ways, possibly utilizing technology, to demonstrate visible results without excessive paperwork.

"I don't think any amount of paperwork will prove to the public that I'm doing a good job. So somebody has to see it. And there may be a way of getting that done without a tremendous amount of paperwork. I mean, technology today provides so much that didn't used to exist. I mean you can look at my farm and see a mouse on my lawn if you really want to, I think, with the right technology...if I'm doing what I'm supposed to do here, I think it's visible. It can be visible to someone and it might have more credibility than me filing a form every year to say that I'm doing this and such. Some would not agree with that, they don't like big brother looking at it, but I think we need to have that conversation as part of this."

However, participants noted that accountability doesn't solely rest on farmers and land managers. They emphasized that Technical Assistance (TA) providers should also be part of the accountability framework. TA providers should offer guidance, outreach, education, and assistance before enforcement or punitive measures are taken. **Participants stressed the value of different agencies and organizations partnering together to provide comprehensive support to farmers.** They also advocated for equitable enforcement of PES program regulations, recognizing that compliance can be disproportionately burdensome for certain types of farms, yet enforcement is not consistently applied across all farms.

Program Metrics

Metrics are crucial elements of program design as they determine the flexibility and effectiveness of a program. The selection, monitoring, and evaluation of metrics play a significant role. Focus group participants emphasized the importance of metrics that are both equitable and flexible. They suggested that Payment for Ecosystem Services (PES) metrics should allow for the unique characteristics of each individual farm to be considered, such as soil characteristics or operation type. Contextual factors should also be taken into account when evaluating the level of ecosystem services provided by a farm and determining the corresponding payment. A PES program should ensure that participants are evaluated and rewarded fairly based on attainable and appropriate criteria.

Participants stressed the need for context to be central in any PES program to ensure its sensibility and equity. For example, the physical context of a farm, including soil type and land use history, should be considered. A farm with sandy loam soil may have a lower base level of soil organic matter compared to a farm with silt loam soil. Even if the sandy loam farmer surpasses the silt loam farmer in implementing regenerative practices, it may take a longer time to see improvements in soil organic matter in the sandy context. Despite this, participants emphasized the importance of rewarding farmers for their ongoing regenerative practices on their respective farms.

“The recognition that each farm organism is unique must be reflected in the application of the soil health principles in order for them to be effective.”

The participants also highlighted the significance of establishing appropriate baselines for the selected metrics, as it would greatly impact program outcomes and payments. One participant expressed concerns about the challenges of setting baselines and questioned how different soil types would influence the payment system for various practices. They emphasized the need to work out these baseline considerations.

While participants did not provide specific metric suggestions or ready-made baselines, they underscored the importance of making informed decisions in these areas and ensuring that metrics account for and respect the differences between individual farms.

Program Parameters

Program parameters set around program metrics are also a critical consideration for program design. Focus group participants raised five different metrics parameters that were of particular concern for them in program design:

- Farm-Scale vs. Field-Scale
- Short-Term vs. Long Term
- Holistic/Bundled vs. Individual Metrics
- Outcomes vs. Practices
- Direct Measurement vs. Modeling

Field-scale vs. Farm-scale

The field-scale and farm-scale distinction examines the level at which PES programs assess and impact farm practices, performance, and behaviors. Field-scale programs focus on evaluating specific practices or services on particular acres or parcels, while farm-scale programs assess how the implemented practices and ecosystem services affect the entire farm, considering the farm as a whole.

The focus group participants expressed interest in both field-scale and farm-scale evaluation, viewing it as a complementary approach rather than an either/or choice.

There was a general interest in programs that ultimately work towards farm-scale changes. Participants noted that measuring at the larger scale, such as the whole-farm scale, could provide more comprehensive and holistic results. However, there was also recognition of the need for flexibility and the opportunity to transition towards farm-scale changes. Participants highlighted the importance of allowing room for growth and learning on individual farms, as every farm is unique and not all practices may work uniformly across all fields. Flexibility within the whole-farm scale was seen as essential.

“I think [a PES program] does need to be on the whole-farm scale, but there needs to be flexibility within it to grow and learn what's working on that individual farm. Every farm is different and one thing may not work for this farm that works for another. And even on your own farm, it may not work great on certain fields, but on others, you have great results. So I think there needs to be that flexibility, but it should be on the whole-farm scale.”

However, participants also acknowledged that enrolling their entire farm in a program might not always be feasible or desired. Challenges related to land use restrictions, particularly for farmers who lease land from multiple owners, were mentioned. In such cases, field-scale evaluations could be more practical. Participants discussed situations where a few resistant landlords could influence the evaluation of the entire farm, impacting the ability to implement practices uniformly.

“I see some challenges, if you do it on a farm scale, with those that have a lot of landlords. And we have 26. Because sometimes the landlords restrict you as to just what you can do on their property. So I can see a situation where one or two landlords might be able to influence how your whole-farm was evaluated, because they were resistant to what you were doing on all the rest of the property that you operate.”

The discussions around farm-scale versus field-scale evaluations were intertwined with the consideration of using holistic, bundled metrics or individual metrics (discussed in the next section). Participants generally agreed that the ultimate goal should be lasting and holistic evaluations on a whole-farm scale and beyond. However, they also recognized the importance of incremental steps on field-scales as part of the transition. Farmers may initially be hesitant to adopt unfamiliar practices, but field-scale implementation can allow them to observe the benefits before expanding to the entire farm. Economic incentives and payment structures that encourage the adoption of bundled or farm-scale approaches were suggested.

*“I would just suggest that the whole-farm scale should definitely be the goal, just like a holistic bundled approach should be the goal. **But you need to have the opportunity for the transition.** And so a farmer may be hesitant to do certain things that they're not used to and totally familiar with. But if I can practice it on a field scale and see it works and then build up to the farm scale. And you could potentially structure it so that the payments for a bundled approach, for example, or farm scale approach is greater than adding up the individual approaches or the field scale approaches. So that there is an economic incentive to move to that direction, but you're not cutting off the opportunity for those individual, incremental steps on the farm.”*

Participants highlighted the need for both macro- and micro-scale measurements, considering externalized factors like the cost of fuel and equipment manufacturing when evaluating different management approaches at both field and farm scales. This comprehensive approach ensures a more accurate assessment of the overall impacts.

Overall, participants emphasized the importance of combining field-scale and farm-scale evaluations in PES programs, with a goal of transitioning towards holistic, whole-farm approaches while allowing for flexibility and incremental steps.

Short-term vs. Long-term

The timescale or frequency at which program metrics and outcomes are evaluated can significantly impact the perceived success of a program and participation in it. Some changes in farm practices or ecosystem services may take many years to become measurable, while others may exhibit considerable fluctuations from year to year. An important consideration is that evaluating a management decision annually, which is often the case in farming, may yield different results compared to evaluating the same decision after multiple years.

Many participants stressed the need to focus on and work towards long-term outcomes in PES programs, emphasizing the importance of implementing long-term monitoring and evaluation systems. However, participants also recognized the value of shorter-term measurements and evaluations based on specific metrics. They acknowledged that achieving short-term goals can be stepping stones towards achieving long-term goals.

There was considerable interest among focus group participants in programs that prioritize and support long-term transformative changes. However, participants also acknowledged the significance of considering short-term goals and outcomes. They recognized that large transformations or long-term changes often require substantial effort and funding, whereas smaller, incremental changes may be more feasible and allow farmers to leverage existing resources. Participants expressed a desire to see measured outcomes of practices over a long-term basis.

In summary, participants in the focus groups emphasized the importance of both long-term and short-term evaluations in PES programs. While long-term outcomes were highly valued, participants recognized the need to consider achievable short-term goals as building blocks towards larger transformations.

Holistic/Bundled vs. Individual Metrics

PES programs can adopt different approaches when it comes to metrics. Some programs focus on individual metrics, targeting specific ecosystem service goals. For instance, the Vermont Pay for Phosphorus program aims to reduce phosphorus runoff. On the other hand, other PES programs take a holistic approach by considering a bundle of metrics to assess ecosystem service provision. This broader perspective might include factors such as greenhouse gas emissions, biodiversity, and not solely phosphorus runoff.

Based on the discussions in the focus groups, participants generally showed more interest in PES programs that use a holistic or bundled structure for program metrics rather than those focused on individual metrics. Participants expressed a preference for a comprehensive approach that acknowledges the dynamic nature of ecosystems and considers the interconnectedness of different ecosystem services. They emphasized the need to capture multiple impacts and avoid a reductive perspective that overlooks co-benefits and tradeoffs. Participants were concerned that some conservation programs overly prioritize a single metric, limiting the inclusion of innovative agricultural techniques.

“One way I've heard it described is actually payment for services to ecosystems. And so it clarifies who you're paying to take care of these ecosystems that are really dynamic...you want this holistic, bundled approach because ecosystem services are inherently stacked,

and ecosystems are so complex that you would want to know if you are making a change, it's not just affecting your phosphorus or it's not just affecting your carbon. So you'd want to be able to capture all of that somehow."

Several participants highlighted the link between holistic program metrics and farm-scale changes. **They suggested developing comprehensive farm plans that assess various ecosystem services beyond just phosphorus or carbon, considering factors like wildlife corridors and water quality and quantity.** This holistic perspective would help minimize unintended consequences and tradeoffs. Participants recognized the opportunity for different types of farms and land managers to participate and contribute valuable services that have been undervalued, such as biodiversity conservation.

"There's just a lot of factors. And I think that some of these programs which would reduce them really just discount some of the most progressive techniques of agriculture we have, whether that be grazing or agroforestry or otherwise."

While holistic approaches were generally favored, one participant raised concerns about the potential higher costs associated with evaluating bundled metrics across an entire farm. They also mentioned the greater on-farm investments required for holistic changes. However, the idea of gradually building up to a holistic approach by initially investing in individual practices was generally accepted.

"...is there any way to tier it?... like where you can have a farm [that] might just want to sign up for a couple of practices, but then as they move through this process, you know, if they want to receive a bigger payment, well, then you can't just cherry pick a couple of practices in order to get these larger payments. You have to then start bundling, almost like a two-tiered intro version and then your bigger version."

Participants did not view the decision to structure a PES program around individual or holistic metrics as an either/or choice. Flexibility was seen as crucial, allowing farms to determine priority outcomes that align with their specific operations. Some participants proposed a tiered system where farms could start with individual metrics and progress towards a holistic or bundled approach. Increasing payments for higher-tier outcomes could provide a financial incentive to implement comprehensive conservation practices. Participants discussed the potential for a two-tiered introductory version that transitions into a more comprehensive approach.

Overall, the focus group participants highlighted the value of holistic/bundled metrics in PES programs, emphasizing the need to consider interconnected ecosystem services and avoid a narrow focus on individual metrics. They suggested flexibility and a tiered approach to accommodate different farm contexts and encourage the adoption of whole-farm conservation practices.

"I feel like we could prioritize a number of [ecosystem services]. Like why couldn't a comprehensive farm plan assess wildlife corridors, wildlife habitat, and water quality beyond phosphorus? Cause I think one of the issues is being focused so much on phosphorus, and we've forgotten some of the other aspects of water quality, too. And why couldn't we have a whole suite of the things that are included in that plan and in different metrics and sort of assess farms from a holistic perspective. Try to have something a little more comprehensive and also it gives more types of farms and land managers the opportunity to participate because they're providing some things which really just haven't been valued at this point. Like I think about biodiversity, think about the global biodiversity crisis. And it's just so hard to have that conversation..."

Practice vs. Performance

PES programs can adopt different approaches when measuring outcomes. Practice-based programs focus on incentivizing the implementation of specific practices associated with achieving desired outcomes. Farmers are compensated for implementing practices rather than the success of those practices in delivering ecosystem services. For example, a practice-based program may pay farmers to use cover crops to reduce soil erosion. On the other hand, performance-based programs measure the actual outcomes or ecosystem services produced, regardless of the specific practices used. Farmers are rewarded based on the success of the ecosystem services they deliver, such as reduced erosion rates, irrespective of the practices employed.

Participants in the focus groups had varying views on the merits and weaknesses of practice-based and performance-based PES programs. Many participants expressed concerns about the effectiveness of practices in achieving desired outcomes and showed more interest in performance-based programs, which they perceived as providing a more accurate assessment of actual outcomes. However, participants also acknowledged that scientifically-founded and well-designed practice-based programs can effectively deliver desired outcomes.

While participants were interested in performance-based programs, they had questions and concerns about their feasibility and the ability to accurately measure desired outcomes. Some participants raised concerns about the influence of factors beyond farmers' control, such as extreme weather events, on performance measurements. There was a lack of clarity on what would be measured and how outcomes would be rewarded, with a focus on measuring ecosystem services rather than specific practices.

"...what I don't see yet is clarity of what would be measured, what would be the reward.... I think we're still stuck in this concept of a practice gets measured rather than what is the ecosystem service that we're doing. And so how do you measure clean water or carbon sequestration or recreation value? It's not the practice, it's the outcome. I think we're still struggling with what is it that's going to get measured out of all this."

Participants were excited about how performance-based programs allow farmers to apply their knowledge and creativity to achieve outcomes without prescribing specific means to get there. This approach empowers farmers and fosters innovation. Participants believed that PES programs should provide flexibility and empowerment to farmers while still delivering measurable outcomes. However, they emphasized that prioritizing performance outcomes would require significant program investment and may necessitate changes in farmers' business plans and nutrient management.

"If we're measuring the result, then it doesn't matter if we're reporting which practice got you there necessarily. And I think it's more effective. And I also think it really plays on the strong suit of our farmers, which is to get a result...They can decide what steps and what practices and what systems they need to employ in order to meet the objective. And they're really good at that. And they're good at optimizing those systems in a way that are the most efficient and affordable and get the best results. And so if we start paying for the performance, we reward that outcome and we leave it to the creativity and the knowledge and the scaling of individual farms to get there in the way that best suits their particular production."

The discussions revealed participants' interest in performance-based programs but also highlighted their questions, concerns, and the need for careful consideration of implementation, measurement, and accounting for factors beyond farmers' control, such as extreme weather events.

“I think if we're talking about real results, I think that it's gonna take real money to do this. And you're asking farms to change their whole business plan by reducing acreage to do the carbon sequestration or the holding of the phosphorus in the soil. You're asking for a farm to change the very basis of what they're doing, even changing the nutrient balance on a farm.”

Direct Measurement vs. Modeling

PES programs can use direct measurement or modeling approaches, or a combination of both, to determine and evaluate the delivery of ecosystem services. Direct measurement involves collecting in-field data to directly measure the provision of services, typically at the scale of individual farms. On the other hand, modeling uses algorithms based on various metrics, such as management practices, soil types, and rainfall, to estimate ecosystem service provision. Models work across multiple farms and provide consistent metrics for evaluation.

Some participants in the focus groups expressed a preference for direct, in-field measurement of PES metrics. They value the ability to see real and individualized data, validate decisions, and take action accordingly. However, participants also recognized that large-scale direct measurement can be costly, time-consuming, and demanding. Therefore, many participants suggested a combination of direct measurement and modeling. They emphasized the need to invest in exploring accurate and financially viable in-field measurement methods and scaling them up. Participants also highlighted the importance of building balanced, accurate, and inclusive modeling systems.

Participants mentioned the need for critical analysis to determine which models are more holistic and helpful. They stressed the importance of using direct measurements to audit and improve models over time. Some participants expressed concerns about the limited inclusion of certain practices, such as grazing and agroforestry, in existing models. They called for a comprehensive approach that combines both direct measurements and models to ensure accurate assessments of the impact of practices on ecosystem services.

The discussions emphasized the need to strike a balance between direct measurements and modeling, utilizing them in tandem to achieve more reliable and comprehensive evaluations.

*“I wonder if there's some sort of critical analysis of which models would be more holistic and helpful, and where we need measured performance or how we use measured performance to further audit models throughout the process and improve them over time.... **I think one of the things I've noticed is that there are certain practices have not been studied thoroughly to really be acknowledged in models very well.** And I think both grazing and agroforestry fall into that category. And for me, those are the critical practices to be implementing...so I think, that concerns me if certain models or systems have been built that don't take into account particular practices, or even just have a sort of distorted perspective of what practices look like, or what type of variables were or weren't included or addressed when determining the impact of a practice in a particular measurement model. I think what everyone else has said around some combination of using them [direct measurements and models] in tandem makes sense.”*

Program Funding

Program funding is a critical component of program design, with significant implications for the program's duration and its impact on both participants and the beneficiaries of ecosystem services. In this section, we will review participant discussions on the following topics:

- Financial Support & Incentives
- Funding Sources & Models

By examining farmer perceptions of payment rates and funding sources, we can gain insights necessary for designing programs that effectively serve the interests of farmers and the environment.

Financial Support & Incentives

Financial support and incentives are crucial for farmers to adopt management practices that provide ecosystem services, as highlighted by participants in the focus groups. Participants emphasized the need for financial assistance to compensate farmers for the costs associated with implementing these practices and to alleviate the burden of investing in public-benefitting ecosystem services. Monetary payments were identified as a key motivating factor for farmer participation, particularly when the benefits of the management practices are not immediately apparent.

Farmers stressed that financial support should cover the upfront costs of implementation and also account for the time and effort required to transition their operations. They called for both short-term and long-term payments, especially for significant operational changes. The payments should be proportional to the impacts resulting from these changes, considering the disruption and work involved. Farmers expressed the expectation that payments should appropriately compensate them for the outcomes achieved and the challenges faced.

“You know, it's hard, once you've been doing something for a long time and you see what works and what doesn't on your land then, you know, making that really big change like it's been said here, it's not just expensive in terms of dollars, but there's sort of... an emotional, a moral expense to it as well.”

While reimbursement-based, cost-share models used in many PES programs provide some support, participants pointed out that they still place financial burdens on farmers. These models require farmers to invest their own resources upfront and wait for partial reimbursement, which can be a barrier to participation. Farmers expressed the need for compensation models that go beyond cost sharing, providing direct payments to farmers to alleviate the financial strain associated with participation. They shared examples where cost-share models placed extensive financial burdens on farmers, emphasizing the importance of recognizing farmers' investment of their own money and time in implementing ecosystem services practices.

*“When we say that farmers are being paid to do these things - the farmers are not really being paid to do these things. If there's a cost share involved, the farmer is not getting money to put in his pocket because he did that... I'll use one example of what we did...the whole project costs half a million dollars. We got half of that to do the job. So, not only did we not get paid to do it, we put a whole bunch of our own money in it, and our time. So I'm not, you know, meaning to be disrespectful or ungrateful for the cost share that we got. But I think it's very important to point out in these conversations that **the farmers are investing a lot of their own money and time to do these things.**”*

In summary, participants highlighted the importance of financial support and incentives, including direct payments, to facilitate farmer participation and offset the costs and burdens associated with implementing management practices for ecosystem services. They called for fair and proportionate compensation that acknowledges the investments made by farmers and provides both short-term and long-term support.

Funding Sources & Models

The source and model of funding for PES programs play a significant role in shaping farmer perceptions and willingness to participate. Participants in the focus groups expressed concerns about the continuity of funding, particularly in the face of administrative, budgetary, and political changes. Farmers emphasized the importance of trust in the longevity of a program, especially when it requires them to invest in on-farm management changes. They were wary of participating in a program only to have funding priorities change, leaving them without the expected assistance and support.

Opinions varied regarding public or private funding, as well as hybrid models that combine both sources. Some participants were concerned about potential tax increases associated with public funding and saw the potential for private funding to support a PES program. However, there were uncertainties about the structure of private funding, the involvement of private entities, integration with national markets, and the level of commitment from the private sector.

Several participants expressed skepticism about market-based systems, particularly trading schemes like carbon credits, for public goods such as ecosystem services. They questioned the benefits farmers would receive in privately funded programs and raised concerns about the displacement of responsibility by polluters through payment for credits. There was a general discomfort with the idea of allowing polluters to offset their actions elsewhere.

"...As a farmer, I have some misgivings about... those who pay [for] something so that they can commit a sin somewhere else. I don't really like that idea very much. I mean, I like the idea of them funding something, but I'm not too excited about having them pay me to prevent something bad from happening, and then they just trade that off for doing something bad somewhere else."

Participants also highlighted the need to critically evaluate the relationship between current agricultural economic policies/practices and environmental impacts. Some suggested redirecting public funds already spent on agricultural subsidies towards supporting regenerative land managers. Farmers believed it was necessary to consider the long-term sustainability of the financial investment and returns for farmers in PES programs. While there was a range of opinions, many participants believed that some form of private funding would be necessary for the long-term viability of PES programs.

In summary, participants expressed varying degrees of interest in different funding models, including public, private, and hybrid approaches. Regardless of the funding source, farmers emphasized the importance of trust in the durability and continuity of the program and its financial support.

Non-Monetary Program Value/Benefits

Non-monetary benefits associated with PES programs were considered crucial by focus group participants, both for the overall effectiveness of the program and the value they could provide to farmers and land managers. Participants emphasized the following non-monetary aspects as integral to the success of a PES program:

- Outreach, Education, and Technical Assistance
- Farm/Conservation Planning

Outreach, Education, and Technical Assistance

Outreach, education, and technical assistance are vital elements in any conservation/PES program aimed at promoting changes and transformations. Participants stressed the need for substantial investment in these areas to encourage and support the implementation of new practices and management approaches on the ground. Farmers require time and support to learn, adapt, and successfully implement these changes, making outreach and education critical to the success of any PES program.

Peer-to-peer demonstration and education were highly valued by participants, who emphasized the importance of learning from the innovations and practices of other farmers. However, beyond education and peer communication, farmers also highlighted the need for reliable assistance from experts who can provide individualized support throughout the entire implementation and transition process. Access to technical expertise is crucial for facilitating successful and sustainable transitions on farms and navigating program requirements. One farmer emphasized the value of individual assistance from conservation planners and program administrators, stating the following:

*“I think the hurdle that we see...is that there isn't the person that's available to the farmer to be able to lead them through the process and have a good explanation of how some of these programs work. And so I think in some ways there's a reluctance to jump on the bandwagon with some of them. And there's a lot of questions that need to be answered. And a lot of these programs... take quite a lot of time to put in place if you want to take advantage of them. **I've always felt that there should be someone, maybe within each Conservation District or within the NRCS system, to be able to go out on farms and say, 'Listen, I'm going to help you through this. If you've got a problem, or you've got an issue that you want to address, then, let's go. I'll take you right through the whole process.'”***

Farm/Conservation Planning

Farm/Conservation Planning is a crucial aspect of designing PES programs, as emphasized by participants in the focus group discussions. Many farmers are facing viability challenges and may need to undergo significant transitions. Effective farm and conservation planning plays a vital role in facilitating these transitions and ensuring the success of PES programs. By integrating long-term planning with short-term goals and incentives, PES programs can contribute to the sustainability and viability of farms.

Participants highlighted the importance of providing farmers with access to a team of technical assistance (TA) providers who can assist in creating individualized farm plans. The success of PES programs relies on investing in the capacity of TA professionals to develop farm-specific plans that align with desired outcomes.

“If there's folks working with them on more comprehensive plans, you're sort of looking at well, how does this farm connect to the other farms in the landscapes around it and look at...exponential growth of the work you're doing from an individual farm basis to more of a regional and cooperative farm perspective.”

Planning efforts should consider both short-term and long-term considerations, incorporating farm viability, business, and conservation planning. For instance, implementing a soil health management system requires comprehensive, whole-farm conservation planning. Participants stressed the need to integrate social and natural sciences into the planning process, recognizing the economic impacts of PES programs on farm survival.

“As much as the science of the phosphorus and carbon chemistry in the soil, I think that a good study on ag economics and the effects of these programs on the survival of the farm is a necessary part of this.”

Comprehensive conservation planning emerged as a recurring theme in the focus group discussions. It offers an opportunity for enhanced collaboration and cooperation among TA providers, leading to greater benefits across farms within a region or statewide. Participants expressed the need for more integrated planning on a systems-level scale, considering how individual farms connect with the broader landscape and fostering regional and cooperative perspectives.

Perspectives on Existing PES/Conservation Programs

There is a suite of existing PES and conservation incentives programs already active in Vermont, and many of the focus group participants had experience working with some of these programs. This section explores: 1) some of the elements farmers appreciate about existing programs, 2) challenging or frustrating aspects of existing programs, and 3) ideas for how programs might be improved and re-envisioned going forward.

Through the course of conversation, the following programs were explicitly mentioned by farmers: Use Value Appraisal (UVA) tax system, Conservation Stewardship Program (CSP), Nutrient Management Planning, Environmental Quality Incentives Program (EQIP), Best Management Program (BMP), Pasture and Surface Water Fencing Program (PSWF), and Farm Agronomic Practices (FAP). The USDA-NRCS programs EQIP and CSP, among the biggest PES/conservation programs in the state, were the most frequently referenced programs by farmers during the focus groups.

Farmers generally saw value in many existing PES programs, and the organizations and frameworks through which they are administered. Several farmers acknowledged that these programs have been critical to the implementation of conservation on their land and operations. However, farmers also identified gaps and weaknesses with programs which, if addressed, could improve the reach and impacts of programming. There was general appreciation for most of the programs, and hope and interest in seeing these programs improved.

Appreciation for Existing Programs

Farmers expressed their appreciation for existing PES programs, recognizing the value they provide to their operations and the broader community and environment. These programs have enabled farmers to implement infrastructure and practices that contribute to farm viability and land stewardship. The funds distributed through these programs were highly valued for their role in supporting farmers and promoting good agricultural practices.

“I participated in NRCS-EQIP programs when I first got started and built a lot of permanent fencing here, and developed water infrastructure as well, to be able to support my rotational grazing. So that was a pretty key piece for me getting going.”

Participants highlighted the importance of clear and understandable programs with efficient processes and fair compensation rates that reflect the farmers' efforts and investments. They also expressed gratitude for the support and assistance provided by knowledgeable program staff throughout the process. Farmers valued programs like the NRCS-EQIP and the VAAF-M-FAP for their precision and clarity in objectives and requirements.

“The FAP...I think one of the best state programs that was out there. It was precise. You knew what they wanted. They knew what they were going to get from you.”

The assistance provided by existing programs was widely acknowledged and appreciated by farmers. They expressed gratitude for the ongoing support these programs offer. Overall, farmers expressed their appreciation for the positive impact of existing PES programs and recognized the value they bring to their operations.

Challenges with Existing Programs

During the discussions, participants engaged in conversations about the challenges and limitations of existing programs, with a particular focus on the USDA-NRCS programs, which are widely utilized and recognized in the state. Some of the challenges discussed included:

- Limitations & Stipulations around Funding
- Inability to Access Funds
- Slow Project Turnaround
- Insufficient Cost Share/Payment Rates
- Issues with Program Staff
- Programs are Reactive rather than Proactive

Limitations & Stipulations around Funding:

The participants identified limitations and stipulations surrounding program funding as the most commonly cited challenge with existing programs. These limitations and stipulations primarily relate to 1) the types of practices funded (or not funded) and 2) the requirements for implementing funded practices.

Several farmers expressed frustration over the unavailability of funding for certain types of conservation and management practices, such as specific agroforestry practices. They mentioned their desire to implement these practices but noted that current programs do not provide financial assistance for them. One farmer shared their disappointment about the lack of funding for their desired practices:

“There are other practices that I would love to do. It's just the funding wasn't available for what I wanted to do.”

Farmers also highlighted their concerns about limitations and stipulations that disqualify them from financial assistance or impose rigid requirements that may not align with their specific context and

circumstances. They believed that these inflexible limitations and stipulations can be counterproductive. One farmer expressed their view that NRCS rules and policies are often rigid and suggested that it would be more beneficial if NRCS could work with farmers on a case-by-case basis:

“My feeling is that NRCS rules and policies are fairly rigid, and it would sometimes be better—and I've actually had NRCS employees agree with me—if they could work with the situation on a given farm, instead of having to always follow the rules exactly.”

Participants shared their experiences with the limitations and stipulations imposed by existing programs, highlighting the need for more flexibility and inclusivity to better accommodate diverse practices and individual farm circumstances.

Inability to Access Funds

The participants expressed their challenges in accessing funds within existing programs. This inability stemmed from two main factors: 1) limited availability of funds within the programs, and 2) program design elements that rendered their applications ineligible or less competitive. Despite the presence of funding opportunities for practices of interest, some farmers shared their struggles in accessing and utilizing those funds.

One farmer shared their experience of applying for a manure containment area for six consecutive years, being deemed qualified for the assistance but not receiving funding due to prioritization:

“I applied for a manure containment area six years in a row. They said that I was qualified for it, but that it didn't [rank high enough to get funded]. I wasn't top priority.”

Farmers also highlighted the difficulties faced by certain types of farms and individuals in accessing meaningful assistance, influenced by various aspects of program design. **The challenges faced by small-acreage farmers in participating and benefiting from programs were mentioned repeatedly.** One farmer expressed the difficulties faced by smaller landowners in engaging with these programs:

“It's really hard for smaller landowners to get involved in those programs.”

The participants shared their firsthand experiences of being unable to access funds, underscoring the need for improved accessibility and inclusivity in program design to ensure that all farmers can benefit from the available funding opportunities.

Slow Project Turnaround

Participants in the focus groups expressed frustration with the slow turnaround on contracts and projects within existing programs. They highlighted that the process of obtaining program funding and advancing through the necessary procedures can be time-consuming, exceeding the desired or necessary timeline for farmers. This delay presents a significant challenge, particularly because these

programs are often associated with pressing issues that farmers cannot afford to wait indefinitely to address.

One farmer shared their experience of the slow project turnaround, emphasizing the time it takes for projects to be approved, funded, and completed:

“Sometimes we see an issue that needs to be dealt with... and by the time that project gets approved and funded we're, you know, sometimes three, four or five years down the road.”

The lengthy duration of project approval and implementation processes can hinder farmers' ability to address urgent concerns and delays their access to the support they need. **Farmers face limitations in initiating projects because grant funds are typically not available for retroactive payment.** The participants highlighted the importance of streamlining these processes to ensure more timely and efficient project implementation.

Insufficient Cost Share/Payment Rates

Participants highlighted the issue of insufficient cost share and payment rates associated with some existing programs. They expressed concern that the funding provided may not be adequate to cover the expenses associated with implementing desired practices or installing necessary infrastructure. Farmers often bear a significant portion of the implementation and maintenance costs, including upfront expenses, which can pose a major challenge and act as a deterrent to adopting conservation practices.

One farmer shared their experience of considering the installation of a new manure pit for management purposes, but the uncertainty of the costs involved prevented them from proceeding:

“We were gonna put in a new manure pit— not because we had a resource issue, more for management issues— [but] we didn't because...we weren't a hundred percent sure what it was gonna cost... Any number greater than zero was too much for us to financially handle.”

Participants also discussed how current program models that offer cost share for practices do not necessarily result in a financial benefit for farmers. They expressed the view that farmers invest a significant amount of their own money and time into implementing these practices, even with cost-share assistance. This raises concerns about the economic impact and feasibility of participating in these programs:

“The farmers are not really being paid to do these things. If there's a cost share involved, the farmer is not getting money to put in his pocket because he did that... farmers are investing a lot of their own money and time to do these things.”

The insufficient financial support provided by some programs limits the reach and appeal of these initiatives, hindering the ability of farmers to adopt conservation practices and implement necessary changes on their farms.

Issues with Program Staff

Participants highlighted the importance of capable, accessible, and knowledgeable program staff in ensuring the success of PES programs. Some farmers discussed challenges they faced due to the shortage of staff time, poor communication, and lack of capacity. **They emphasized the need for highly trained technical assistance providers who possess deep local knowledge.**

The shortage of staff time and capacity was identified as a challenge in certain contexts, affecting the effectiveness and efficiency of program implementation. Participants stressed the importance of having program staff who are readily available to provide support and guidance to farmers throughout the process.

Additionally, poor relationships with program staff were mentioned as a specific challenge. Farmers highlighted the significance of positive interactions with program staff, as it can greatly impact their experience and outcomes. Establishing good rapport and effective communication channels with program staff was deemed essential.

Participants emphasized that highly trained technical assistance providers with local expertise play a crucial role in ensuring positive outcomes from PES programs. **Their knowledge and understanding of the local context enable them to provide tailored guidance and support to farmers, enhancing the effectiveness and impact of the programs.**

Programs being Reactive rather than Proactive

Many participants in the focus groups expressed dissatisfaction with the reactive nature of existing programs. They noted that **most programs are designed to address problems after they have already occurred, rather than taking proactive measures to prevent them in the first place.** This reactive approach requires visible problems to be present before action is taken. One farmer shared their frustration with this approach, citing an example related to fencing livestock:

“Our farm, when we moved here it hadn't had livestock on it in many years, and I looked into the NRCS program to build fencing, but they basically told me that we would need to have livestock here that were already going in the waterways or in places where they shouldn't go, and then they would help us fence them out of those areas. And I thought that was ridiculous.”

Participants raised concerns about the fairness and equity of programs that solely focus on reactive changes. They argued that such programs create perverse incentives for farmers to engage in lesser environmental stewardship practices in order to qualify for program assistance or funding. **The reactive nature of these programs was seen as problematic and in need of improvement to promote proactive and preventive measures.**

Recommendations for Conservation Program Improvements

Farmers expressed appreciation for existing programs while also identifying areas for improvement. Based on their discussions, here are some key ideas to enhance and streamline existing programs:

- Expand Funding Scope and Flexibility: Address limitations and stipulations around funding by providing support for effective practices that farmers are interested in implementing. Offer more flexibility in conservation planning, allowing farmers to tailor conservation practices to their specific circumstances.
- Increase Funding Availability: Increase program funding to meet the demand and interest from farmers. Ensure that funds are distributed equitably across different farm types and demographics, avoiding situations where financial assistance is limited or unavailable.
- Expedite Project Turnaround: Streamline program processes and project timelines to reduce delays. Improve program efficiency to ensure timely implementation and completion of projects. Provide program staff with sufficient capacity and knowledge to handle projects effectively.
- Enhance Payment Rates and Cost Share: Address the financial burdens on farmers by providing higher payment rates or cost share percentages. This will help alleviate the costs associated with program participation and encourage more farmers to adopt positive changes.
- Foster Respectful and Responsive Communication: Facilitate open and constructive communication between program staff and farmers. Ensure easy access to information, resources, and knowledge that support program participation and implementation. Build mutual trust and respect between program staff and participants.
- Promote Proactive Approaches: Develop programs that support proactive land management practices and innovation. Ensure that land managers who take proactive measures to steward their land and resources have access to program benefits and assistance.
- Program Diversity: Offer a variety of programs that address specific concerns and issues both in isolation and holistically, considering the whole farm. Program diversity allows for the inclusion of a wide range of farmers and their unique circumstances, while simplifying the application process.
- Comprehensive Conservation Planning: Prioritize well-considered and individualized conservation planning that takes a whole-farm perspective. Incorporate the entirety of the farm into the planning process, ensuring that conservation efforts are cohesive and comprehensive.

By implementing these ideas, existing programs can be improved to better serve the needs and interests of farmers, promote positive environmental outcomes, and facilitate sustainable land management practices.

Conclusion

While existing payment for ecosystem services (PES) programs and conservation initiatives have value and are appreciated by farmers, there are several challenges and limitations that need to be addressed. Participants highlighted the need for improvements in funding limitations and stipulations, accessibility to funds, project turnaround times, payment rates, program staff support, proactive approaches, program diversity, and comprehensive conservation planning. By addressing these issues, it is possible to enhance the effectiveness, efficiency, and equity of existing and future conservation and PES programs and better support farmers in implementing sustainable practices and achieving positive environmental outcomes.