

TECHNICAL BULLETIN #1



**NORTHERN GREAT PLAINS
JOINT VENTURE**

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Conservation Practice Use Survey for Private
Lands Conservationists Working in the NGPJV

This survey assessed the work of private lands biologists and other conservationists to restore and manage working grasslands for prairie birds, focusing largely on private and public lands that are incorporated in ranch businesses

Technical Bulletin #1

CONSERVATION PRACTICE USE SURVEY FOR PRIVATE LANDS CONSERVATIONISTS WORKING IN THE NGPJV

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INTRODUCTION

Conducted in fall 2021, this survey assessed the work of private lands biologists and other conservationists to restore and manage working grasslands for prairie birds, focusing largely on private and public lands that are incorporated in ranch businesses (i.e., BLM & USFS). The survey was sent to as many private lands biologists and conservation practitioners in the Northern Great Plains as possible, and we asked others to share the survey with their staff and colleagues. The information gathered will inform how incentives are provided, help address training opportunities, and improve how time and money are spent on grassland conservation work.

We offer our thoughts on each section in *Take Home Messages*. The *Alternative Responses* section following each question represents largely unedited responses for alternatives that were not provided. To simplify these comments, we offer a condensed list of common themes. A total of 38 responses were received and analyzed.

General Observations from Reviewers

One of the items that stuck out the most for me in the responses was that the practices that managers believed to be the most effective were also sometimes the hardest to implement and the least often implemented. —Kaylan Kemink

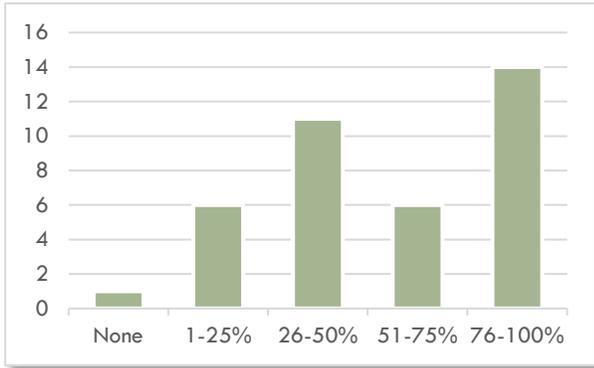
I was surprised at the high demand for water development and grazing management (and fire), but it has been dry, possibly increasing demand for the first 2. —Kevin Ellison

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SECTION 1: INTRODUCTION AND DEMOGRAPHICS

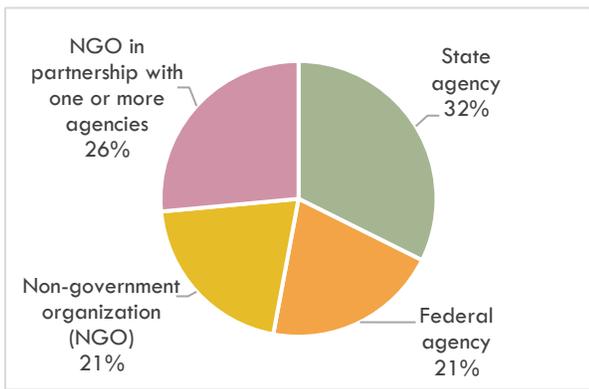
This section offers insights into the survey respondents. Hopefully the relatively strong distribution of respondents across classes helps to validate in the reader’s mind the usefulness of the data.

1. What percent of your work time do you spend delivering conservation programs to private landowners/managers?



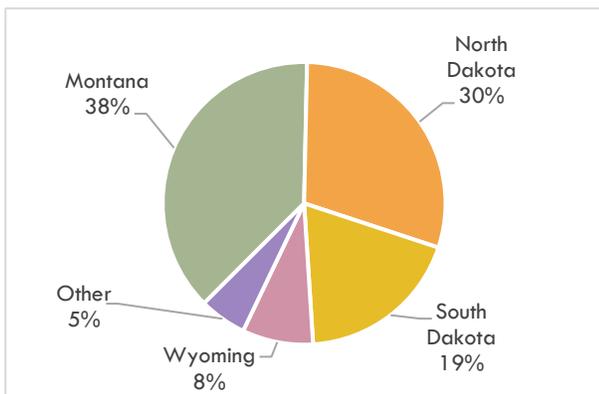
Take Home Messages: Over half of the respondents spend most of their time delivering conservation programs to landowners. Yet these responses describe the likelihood that many private lands conservationists are torn between other duties. One possible implication might be that the apparent delivery capacity is less than it may seem.

2. Please indicate the type of employer you work for.



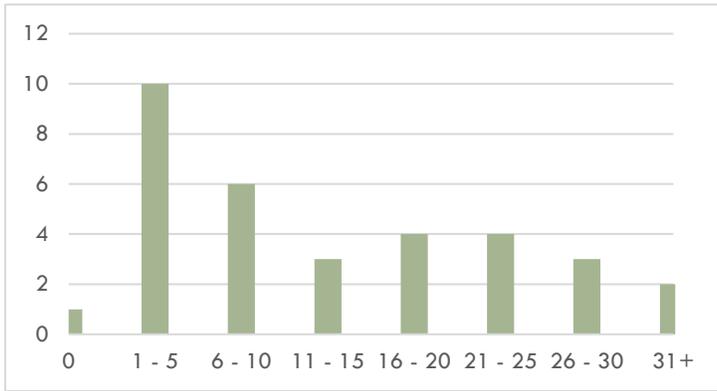
Take Home Messages: It appears that there was a good distribution of employers among respondents. This suggests that conservation leaders see the need for conservation delivery and are partnering to get work done. It also may reinforce the notion that it is challenging for government agencies to expand their work force to meet needs.

3. In which state(s) do you work?



Take Home Messages: These data mostly indicate that we had respondents from each of the four states in the JV. Obviously, we would like to have had a larger sample size, but the sample size may reflect to some degree that there are not that many practitioners in the Northern Great Plains landscape.

4. How many years of professional experience do you have working as a private lands biologist/conservationist?

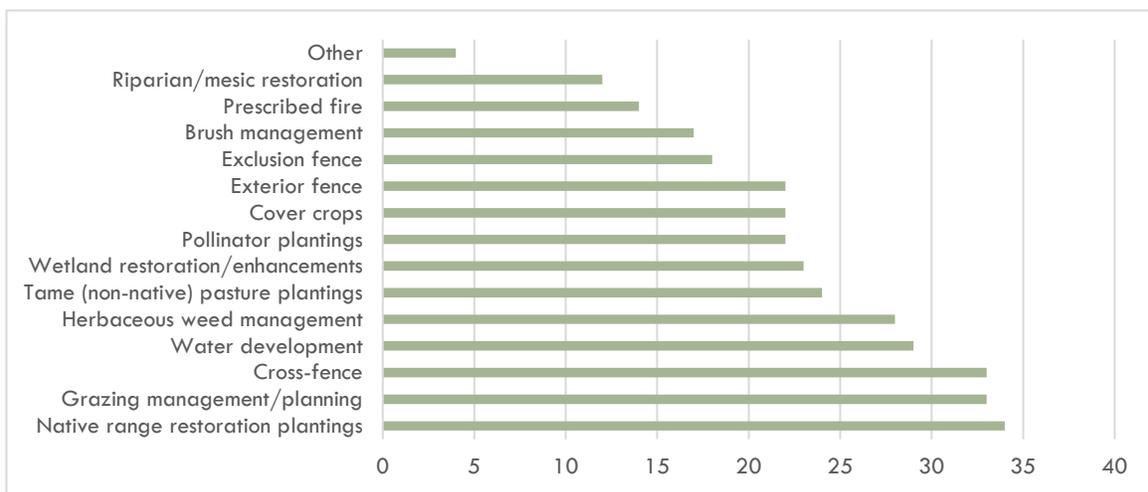


Take Home Messages: These data may suggest that conservation practitioners are skewed toward early career professionals, that early career professionals completed the survey at a higher rate, or both. This pattern may offer some important implications about conservation effectiveness and how human resources are managed, but it warrants more study and consideration.

SECTION 2: ASSESSMENT OF CONSERVATION PRACTICES

This section explored conservation practice use and perceptions. The choices that were offered, while extensive, do not describe the universe of possible practices. They fall short again in that our nomenclature does not necessarily match what people use in the field. These factors come out in the many comments provided, which may be the most important finding. Note that “*Alternative Responses*” attempted to capture practices for each question that were not offered as a choice. These other practices provide some good insights about the conservation work being done on the landscape and will serve to inform future surveys.

1. Please select the conservation practices you have deployed on private land during your career.



Alternative Responses:

- Just a note on Prescribed Fire, I believe with the right promotion it would be something that could be implemented. Someone whose main job was promoting, educating, and helping landowners start local rancher-led Burn Associations would be something that Central Montana producers could be interested in. Connect rural fire departments, BLM managers, and producers to start burn associations. Fire on the range could be one of the biggest bang-for-the-buck ideas. Prescribed fire is something that has interest, but lack of education and large enough support groups makes it tough.
- Wildlife friendly fence modifications
- Virtual fence, temporary fence
- Forest health improvement (Ponderosa Pine thinning)
- Site specific, based on the needs of the land & the landowner
- Shelterbelt installation, windbreak renovation, water development (Pipelines/Tanks)
- Retrofitting existing fence to a wildlife friendly design, planting native riparian deciduous woody plants, conifer removal for aspen enhancement
- Education of all programs available through state, federal, and non-profit programs

Common Themes Among Responses:

- Wildlife friendly fence, virtual fence systems, and temporary fence. N=3
- Meeting the specific needs of landowners and general education efforts. N=3
- Forest health (e.g., pine thinning) and protection (e.g., aspen regeneration), shelterbelts, and windbreaks. N=3
- Prescribed fire. N=1

Take Home Messages: There is a great deal of depth and breadth in the region when it comes to delivering conservation practices. Some of the more novel and complex practices seem to be less utilized, which is likely related to landowner preference for using some practices and reluctance to use others.

The ‘*Alternative Responses*’ practices listed address the need for additional consideration of fire as a management tool and the importance of woody plants and mesic areas in the region. They also illuminate the interest in improved livestock grazing distribution tools and even livestock shelter. Education and outreach are strong needs for many of these other practices as well as many of the original selections.

2. What practice is most often requested by producers with whom you work?



Alternative Responses:

- Tame grass for wildlife
- Habitat leases to defer grazing/farming ground
- Ponderosa Pine thinning and fuel break establishment
- Wetland establishment
- Cross fence. Most often water developments and cross fence go together in programs that I deliver

Take Home Messages: Since this question only allowed for a single choice, it comes as no surprise that producers want help with water development in our dry environment and with the growing interest in more complex grazing systems. Some comments in the 'Alternative Responses' category likely reflect an opportunity to offer a second choice or to emphasize some of the practices not listed in Question 1 of this section. There was mention of using deferred grazing payments to offset forgone income as a practice to help transition farm ground or introduce pasture back to grazing land, which will warrant more consideration.

3. In your opinion, how difficult are the following practices to implement?

On a scale from very easy (1) to very difficult (5). Weighted means below:

Practice	Weighted Mean ²	Majority Vote
Prescribed fire	4.324	Very Difficult (52.9%)
Riparian/mesic restoration	3.706	Average (41.2%)
Wetland restoration/enhancements	3.382	Difficult (41.2%)
Pollinator plantings	3.162	Average (51.4%)
Brush management	3.152	Average (48.5%)
Grazing management/planning	3.132	Average (57.9%)
Native range restoration plantings	3.054	Average (43.2%)
Water development	2.946	Average (48.6%)
Exclusion fence	2.629	Average (54.3%)
Cover crops	2.629	Average (45.7%)
Exterior fence	2.541	Average (43.2%)
Herbaceous weed management	2.500	Average (52.8%)
Cross-fence	2.289	Average (42.1%)
Tame (non-native) pasture plantings	2.286	Easy (51.4%)

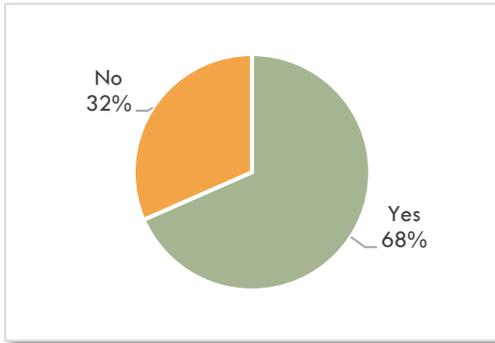
Take Home Messages: This table is packed with useful information about conservation delivery challenges and opportunities. The first notable observation is that what producers often ask for (from previous responses) are generally relatively easy to accomplish, while practices that may provide greater benefits for wildlife or that are more novel are generally more difficult to implement. Questions later in the survey provide insights that many of the practices we perceive as more beneficial for wildlife are similar to those that are most difficult to implement and generally less sought by producers. Cost to producers may also be worth additional exploration.

SECTION 3: ENTICEMENT PRACTICES

This section attempted to determine how practitioners use some practices as leverage to entice producers to use other practices to achieve broader or specific conservation benefits. We learn that not all practitioners apply this strategic approach, which may reflect institutional or philosophical differences or training needs. The ability of a practitioner to negotiate more complex conservation designs is one of the most important transactions in all of conservation. Another factor worth further considering is that some relatively simple projects can have a large conservation “lift,” especially if one considers the value of the ongoing relationship between the practitioner and the producer.

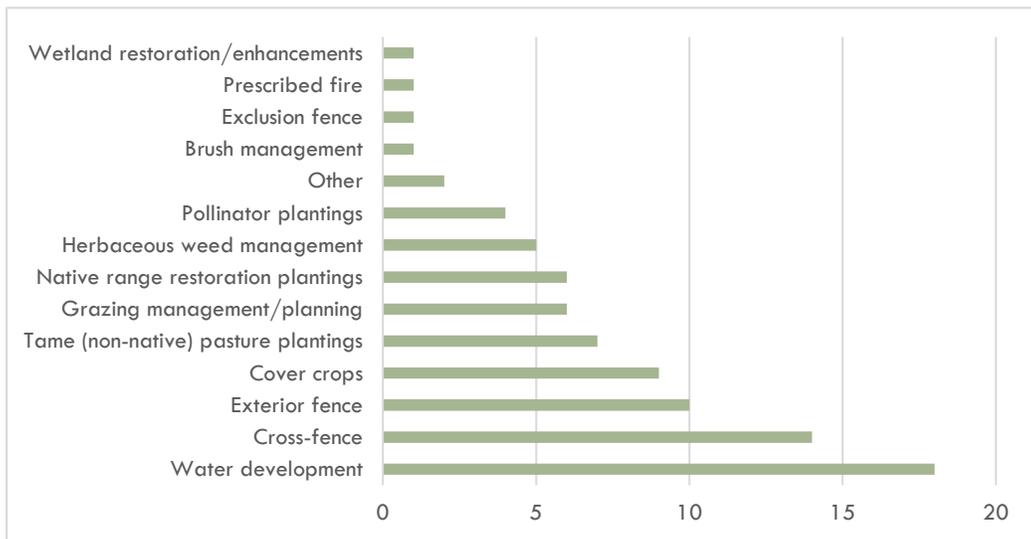
² Weighted means were calculated by assigning a weight of 1 through 5 to each answer option. Each weight was multiplied by the number of responses it received, then divided by the total number of responses for the question. This allows certain options to contribute more weight than others, resulting in values that reflect the overall relative difficulty of each conservation practice.

1. Do you ever promote enticement practices that are highly desired by producers in order to promote the use of other practices?



Take Home Messages: Many financial and technical assistance programs attempt to achieve specific wildlife-related conservation outcomes. Two-thirds of respondents indicated that they actively try to influence conservation outcomes. This leveraging occurs during project planning and negotiations with producers. The fact that about a third of practitioners do not try to leverage conservation outcomes may relate to organizational or individual philosophies and it is possible that it is driven by program (or funding) limitations. This warrants additional study.

2. What practices do you consider to be enticement practices?



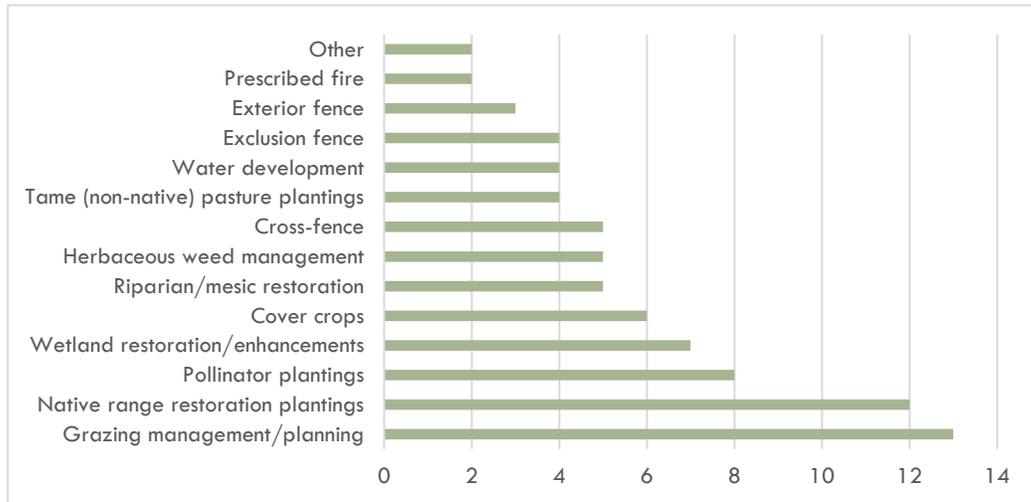
Note: Practices absent from this graph were not selected by any respondents.

Alternative Responses:

- Wildlife Friendly fencing for producers who are on the "fence" about working on other projects. The only drawback I am having is getting some funds to the producer for "just" wildlife friendly fence practices. So far, the local committee hasn't wanted to just fund modifying current fence for wildlife, they want producers to add other projects and use the producer's work on wildlife fence mods as the producer match. There is a lot of work to do if there was a specific payment for solely modifying fence with no other practices.
- I have used almost every one of these at one time or another & coupled it with getting the added resource concern addressed that I identified as well.

Take Home Messages: Note that, in general, practitioners tend to use practices that seem highly desirable to producers as leverage for practices that provide greater wildlife benefits or are challenging to accomplish.

3. Select example(s) of more advanced practices you have implemented as a result of “enticement” practices:



Note: Practices absent from this graph were not selected by any respondents.

Alternative Responses:

- Candidate Conservation Agreement with Assurances
- I have tried to implement riparian fencing, but it is very difficult to get landowners to adopt it.

Take Home Messages: These responses seem to support the idea that some practitioners are successfully negotiating more complex conservation actions by leveraging, at least in part, what the producer wants in exchange for additional desired conservation outcomes. Cultural and individual differences are at play in these decisions and do not necessarily reflect practitioner capabilities or efforts when negotiations are not successful.

SECTION 4: PRACTICE EFFECTIVENESS

This section attempted to determine how respondents perceive the effectiveness of practices they have deployed for improving grassland bird habitat. The perceptions have not necessarily been field validated.

1. Please indicate how effective you believe the following conservation practices to be for grassland bird conservation:

On a scale from very ineffective (1) to very effective (4). Weighted means below:

Practice	Weighted Mean ³	Majority Vote
Native range restoration plantings	3.684	Very effective (71.1%)
Riparian/mesic restoration	3.500	Very effective (57.9%)
Wetland restoration/enhancements	3.395	Very effective (47.4%)
Grazing management/planning	3.368	Somewhat effective (57.9%)
Pollinator plantings	3.316	Somewhat effective (47.4%)
Prescribed fire	3.289	Very effective (44.7%) Somewhat effective (44.7%)
Brush management	3.132	Very effective (39.5%) Somewhat effective (39.5%)
Cross-fence	2.974	Somewhat effective (57.9%)
Water development	2.921	Somewhat effective (73.7%)
Herbaceous weed management	2.921	Somewhat effective (55.3%)
Tame (non-native) pasture plantings	2.789	Somewhat effective (63.2%)
Exterior fence	2.711	Somewhat effective (50%)
Exclusion fence	2.684	Somewhat effective (47.7%)
Cover crops	2.632	Somewhat effective (47.7%)

Take Home Messages: Generally, respondents seem to ascribe greater effectiveness with practices designed to restore greater ecological function. There are a lot of nuances to these practices, so it may be necessary to further explore these practices in more depth.

2. What “follow-up” practices do you plan for future implementation to augment initial practices that you prescribe?

- Not necessarily a practice, per se, but in-person follow-up visits with producers helps keep them thinking about future practices.
- Grazing management and/or harvest management
- Our program implements conservation through the Farm Bill. Infrastructure like boundary fence is the first step. Boundary fencing is not cost-shared by NRCS and few resources exist. It's often a bottleneck to prescribing more practices. Once that's established, cross-fencing and water infrastructure will allow us to focus on Rx grazing. Rx grazing is only mildly effective in creating grassland bird habitat because

³ Weighted means were calculated by assigning a weight of 1 through 4 to each answer option. Each weight was multiplied by the number of responses it received, then divided by the total number of responses for the question. This allows certain options to contribute more weight than others, resulting in values that reflect the overall relative effectiveness of each conservation practice.

NRCS manages for the middle in terms of grazing intensity. It's less effective in creating heterogeneity. Nonetheless, Rx grazing is usually the next step, along with brush management.

- In some cases, producers begin restoring crop fields by planting cover crops to rejuvenate soil health. The cover crops are grazed in the fall, and then plant grass mixes. Following up with prescribed grazing once the grass has established would be the preferred method to achieve the most benefit for both the restored fields and birds.
- Water development is typically first and is the enticement practice. After that I typically follow with grazing management, planting marginal crop back to grass, riparian/mesic restoration, and fencing modifications. Water usually happens first though.
- Water is typically followed by fence which is followed by a prescribed grazing treatment.
- Follow-up plantings or multi-year plantings across a large property, weed control, monitoring to determine if desired results are achieved.
- Grazing or fire management after native grass planting is fully established.
- Planting grass with hay/grazing management. Patch burn grazing followed by rest, grazing, haying.
- Reseeding brome encroached native seedings
- Habitat incentives
- Boundary fence, cross fence and water developments, more cross fence, addition of full season cover crops for winter grazing, conversion of cropland back to high diversity perennial cover.
- Cover crops may be the first 'step' in implementation a variety of soil health practices including diverse crop rotations, reduced tillage, diversified rotational grazing, and restoring perennial species.
- Start small and expand out is the best approach. For example, start with a single cross fence and/or water development and add more as the producer recognizes the benefits and sees the value for expansion to other pastures. Maintain annual fall visits to review lessons learned the past grazing season and discuss improvements for the next season.
- We often use "foot in the door" practices such as assistance with alfalfa seeding (more for big game than birds) to generate interest, find common ground, and demonstrate success.
- I have only been with the agency for a year, so I feel I cannot adequately answer this at this time.
- The most iterative process we work on involves grazing management, building relationships over time to the point where people eventually move into more intensive short-duration rotations.
- Most practices require a few of the above listed conservation practices. One alone may not be effective but when you have multiple together it can be beneficial to grassland birds. Most practices require some sort of follow-up and combination of the above.
- Continue conservation with landowners
- I hope to encourage interseeding of native forbs after advising on grazing plans
- I do not control this, the landowner is in charge of this, all I can do is plant the seeds of thought.
- I hope to incorporate riparian restoration or management, or in some cases broader grazing management.
- We usually start contracts off with weed management, obstruction removals, fence removal/replacement and then plan water developments (to allow time for engineering designs, it's a slow process), seedings, and cross-fences out a couple of years. We finish up with grazing management.
- Prescribed grazing, water development, and cross fencing are often followed by invasive annual grass herbicide treatments. Similarly, with native grass/forb plantings, herbicide treatments on invasive plants is followed. We have followed up on riparian exclusion fence projects with willow and tree plantings.
- Management practices to prolong initial implementation.

- Unfortunately, follow-up rarely happens.
- Prescribed grazing
- Continue to work with partners and landowners
- Planning controlled burns and rotational grazing on native grass seedings once stand becomes established.
- Improved grass management surrounding wetland restorations/creations/enhancements
- Rx Fire. Whole Ranch planning
- Cover crops going to native grass seeding
- Taking row crop production, implementing one to two years of cover crops, planting native grass species, implement a grazing system (water and fence), work with producer on grazing plan, invasive weed management
- Grazing management and facilitating practices such as livestock water and permanent fencing. Follow-up practices to allow adaptive grazing management concepts such as temp fence and portable water.

Common Themes Among Responses:

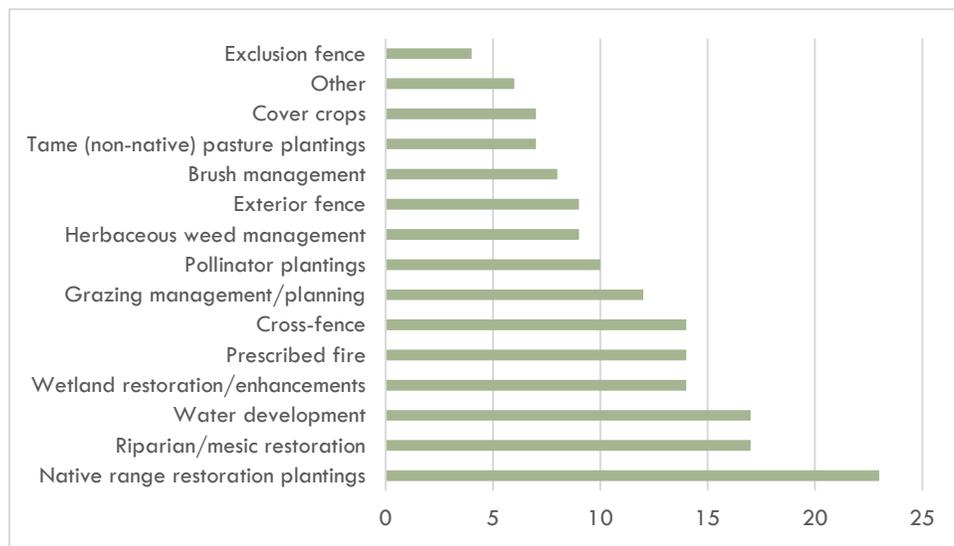
- Grazing management/prescribed grazing, rest, and whole ranch planning. N=17
- Fence installation (interior, exterior, temporary, and virtual) for grazing system. N=9
- Fence modification, removal or as exclusion for wildlife or resource protection. N=3
- Water developments. N=6
- Reseeding native grasses, forbs and other introduced herbaceous plants. N=9
- Follow-up Interseeding in subsequent years. N=1
- Interseeding native grasses and forbs in existing rangeland. N=1
- Weed, brush, and invasive species management. N=6
- Planting cover crops as a pre-treatment to restoration from cropland to grassland. N=6
- Haying or winter grazing in preparation for Interseeding grassland plants. N=2
- Riparian and mesic restoration or wetland creation/management. N=4
- Riparian willow and other tree planting. N=1
- Riparian obstruction removal as a part of restoration. N=1
- Prescribed Fire and fire break installation, and patch-burn-grazing. N=4
- Obstruction removal for riparian restoration. N=1
- Foot-in-the-door practices (e.g., purchasing alfalfa seed). N=1
- Not practices, but worth mentioning:
 - Follow-up visits site visits and relationship building with producers. N=6
 - Project monitoring. N=1
 - Continued collaboration with partners. N=1

Take Home Messages: One reason for this question is that conservation is sometimes a one-off affair. The responses seem to indicate that many practitioners are working toward implementing long term plans with producers, which also speaks to long term relationships. The suggestions provided include a lot of great advice and ideas. There are also a lot of thoughts that speak to more outreach to and continued engagement with producers. Ongoing training for practitioners is implied with the depth and breadth of practices mentioned.

SECTION 5: WRAP-UP QUESTIONS

In concluding, we attempted to capture as much insight from respondents as a short survey could offer. This section is long, and somewhat random, but likely contains the greatest depth and wealth of information.

1. Please indicate practices for which you consistently wish you had more funding:



Alternative Responses:

- Wildlife friendly fence modifications.
- Wildlife friendlier enhancements such as wildlife friendlier fence. There is no additional payment for this in SD and therefore not much of an incentive for landowners, who often state that it is easier for calves to escape. When we put in miles of standard fencing to enhance rangeland habitat for grassland birds, I fear we may be decreasing habitat quality for Pronghorn and other ungulates.
- Technical assistance capacity
- How do you separate grazing management, cross fence & boundary fence, & water development, they impact/influence each other & most often are need hand-in-hand to accomplish the overgrazing management plan. Long-term rest & deferment beyond a year really are driving loss of native grassland that is almost as bad as conversion. The 40 to 60+ year old stigma that cattle are bad has cost some almost irreversible native grassland loss on federal & state lands by conversion to Brome & KBG. As a result of agency management or mismanagement we instilled in conservation owners that idling land long term is the right thing to do while it is not good for species diversity of the stands. The national stigma that livestock is still bad for grasslands has to be addressed, we cannot bring the buffalo back & we don't need to. Burning everything is not the answer either & is not socially acceptable in most of the upper Midwest. Educating all landowners is the best thing we can do along with continuing to work with them as well.
- Generally speaking, we are in good shape for funding. Staff time and training levels limit our staff more than lack of funds.
- All of the above, though selected those most desired

Common Themes Among Responses:

- Wildlife friendly fence. N=2
- Technical assistance capacity. N=2
- Education and outreach. N=1

Take Home Messages: Some respondents indicated that funding was not an issue, while for many it was considered the most limiting factor. In fact, most respondents said they needed more funding for native reseeding and water-related projects. This disparity may be due to the funding sources available (or perceived to be available) to certain practitioners (i.e., USDA vs. state-based funding) or that funding for some practices is limiting. Even though the question did not address capacity, two respondents pointed to the need for more staff while it is clear elsewhere that others did not perceive that to be limiting.

2. What do you think is the greatest factor that limits landowners from adopting certain practices?

- Time and then capital. I believe having regional strike teams would be a very effective way to put LTPBR, conifer removal, and prescribed fire (or at least fire break development) on the ground. These three practices are something I see landowners interested in but time and capital is the limiting factor. Plus, I believe if there were regional strike teams with a regional supervisor to promote and line up jobs, we could put work on the ground in a large way. I know it is good to have producers with Skin in the game (capital) but strike teams would be very effective and highly sought after if the producer did not have to invest capital in the practice. Perhaps just an agreement that the landowner does not remove the practice or that they maintain the practice in working order for a period of say 10 years, such as keeping new conifer growth under control after a team came in and did initial practice.
- Lack of demonstration sites to see the improvements in action or before/after.
- Limitation for restoring to native range: high cost of seed with low cost-share available. Limitation for many NRCS programs: difficulty of the red tape associated with programs, as well as inconvenient timelines and slow process of being approved. For example, many landowners may want to do a fall seeding, but unfortunately because they did not apply last fall for EQIP, they are now not going to be able to seed Fall 2021 with cost share.
- Relationships and trusted advisors to help implement practices.
- Usually, it comes down to operational success, workload, and finances. For example, native seed is more expensive and harder to establish than tame grass. In my part of South Dakota, there is also mostly native rangeland so not as many opportunities for this practice as well.
- Generally, it is the sideboards on the funding base. It could be as simple as even where or who the funding is coming from. Any kind of planting the limitation is the loss in time of not being able to use that pasture or field while the planting becomes established.
- Change in mindset, resistance to change, fear of the unknown or how they will be viewed in their community
- Sometimes I feel like it is the process of who is going to do the work. For example, out of state landowners or folks not connected to the farm or ranch have trouble finding someone to do the work.
- Contract length commitments, and hunter access agreements.
- Just knowing what options are available to them and conservation staff to deliver the practices. At the current time in ND, financial assistance to get the practices on the ground is not limited.

- Short-term financial risk associated with any new practice. Does the change, time, and effort pencil out in the long run?
- Making a change when the current management approach is successful can be a challenge due to uncertainty on the economics and management needs over the long term. These uncertainties are applicable limitations for nearly all practices, particularly those that convert cropland to perennial vegetation. Grazing practices have the same uncertainties, but perceived time limitations to manage a new system can also be a limiting factor.
- The social aspect. If their family/neighbors "have always done it" one way, it's hard to get them to consider change. Also, money.
- Landowner time and cost involved with installation and management
- Length of time to get practice implemented and up-front costs.
- Lack of education & fear of change & losing control.
- Time and cost is something I hear more regularly. For prescribed grazing adoption, I think number of livestock planned to graze and limited pasture resource vs herd size is a limiting factor.
- Funding and peer pressure
- Uncertainty of a requested conservation practice to limit flexibility of their operation or potential to limit the use of a certain resource. Most ranches operate on very tight budgets, and often conservation practices request some sort of limitation of use on a ranch resource and/or require extra effort with an uncertain (in their minds) payoff. Any business, be successful and adaptive, must keep all their options open, and often conservation practices are viewed as "handcuffs" in flexibility, thus many landowners are reluctant to participate in any practice that may limit their options when times are tough. There is also a personality aspect to dealing with private landowners. Most private landowners (ranchers from my experience) value their independence. Any sort of program that takes away that power of independence (practices with stipulations for management) goes against their values and is distasteful. Finally, in my part of the world there is a huge mistrust for the government. That is coupled with paranoia that conservation practices are just a way for the government get onto your property and find an endangered species so they can control your operation. Although this is not the case for every landowner, many may believe that the government is out to end ranching through conservation of endangered and threatened species to some degree, and breaching that mentality is very difficult.
- Lack of understanding how it will benefit them in the grand scheme of their operation (i.e., improved soil health will benefit productivity in the long-term, not just selling them on short-term financial benefits).
- Not realizing or willing to stick it out for the long-term benefits.
- Risk, real or perceived.
- Economics
- Young landowners too focused on profits. State of ND to spend money on private lands usually requires hunting access, which reduces interest. Catch 22: spend sportsmen dollars, they need benefits too.
- For nearly all of them it is the time, energy, and complexity of utilizing a USDA program. If a State or partner led program without red tape, they jump on it. In some instances, it is the NRCS office ACTIVELY dissuading them from implementing these practices (wet meadow/Zeedyke [Zeedyk], polyculture plantings, etc.) because they are complex.
- Fear of the unknown. For instance, FIRE is basically a four-letter word in most of North Dakota
- Native Grass Seedings - landowners are satisfied with brome grass pastures. Wetland developments - Funding assistance and someone to plan and do the work
- Unable to see the benefit. Stigma in the community. Poor management often bailed out by gov programs
- Partner biologists building relationships with landowners.

- Unknown future commodity prices and limited cash flow
- Grazing Management - education, not understanding the benefit

Common Themes Among Responses:

- Lack of technical assistance, time, capacity. N=4
- Lack of financial assistance. N=8
- Lack of landowner time, labor, equipment (e.g., need strike team). N=5
- Outreach, education, and the need for more demonstration sites. N=7
- Funding restrictions and sideboards, contract commitments, program complexity. N=5
- Lack of relationships or trust. N=2
- High cost of seed. N=1
- Limited seed availability. N=1
- Limited landowner patience. N=1

Take Home Messages: There is a broad suite of needs across the Joint Venture; they vary based on political boundaries, organization, program, and in various other ways. Capacity, funding, training, equipment, outreach-factors, and seed supply and demand related issues all warrant more thought and guidance.

3. What is the one thing in your job that you would like more help with?

- I am slow with computers and NRCS ArcMap, but that is from years of not using it; I am great with on the ground site visits and working with landowners. ARC map training would be great. Getting new program information to as many producers as possible is something that could be worked on. There are a lot of funding opportunities out there but getting the info to new landowners or landowners who have not been in previous programs could be better as a whole.
- More funding for grass plantings
- Our biologists need more training from rangeland professionals who care about wildlife outcomes. Many NRCS professionals prioritize agricultural production and view wildlife considerations as a competing priority. This makes them a less reliable resource when training our partner biologists.
- Trainings and workshops are always welcome. Covid also complicated connecting, and I think we are all trying to, but more opportunities to connect with others doing similar work.
- Making cost share easier to implement so more time can be spent giving technical advice and working with more landowners to implement practices. Less time with contract management.
- Grazing management expertise and monitoring efforts.
- Staff time or assistance during project implementation. There continues to be more hurdles erected for any program and project and many players are already stretched thin. As impediments start to amass it becomes an issue, and staff and landowners lose desire if it takes too long.
- Conservation planning. We too often work in separate agencies or divisions while we should be working on larger, comprehensive planning together. Ex. one group is planning grassland restoration, while another is fragmenting grasslands with trees.
- RX fire
- More funding with less contract commitments

- Technical assistance. We have the funds to implement practices but are limited by the number of boots we have on the ground. We need more funding opportunities that will support staff to deliver these practices.
- Connecting with landowners/producers seeking assistance. How do we reach them?
- Conservation planning
- Cross coordination with other entities - creating a consistent message and delivery mechanism for conservation.
- More in-depth trainings on how to make grazing plans.
- Despite being a group that supports others' capacity, we ourselves have a dearth of capacity for implementing projects with landowners and creating new agreements and partnerships.
- Technical assistance with on the ground seeding.
- ACOE permitting. Information on successful grassland seedings (methods, species that establish well)
- More training on NRCS programs
- Pay the registration fee room/board for some of the grazing cooperators 1 or 2 times to get them to a grazing school; help get their foot in the door to understanding how some small slow changes can help them & then once they are successful have them share their story.
- Education and outreach to landowners on emerging natural resource issues and management practices. Consistency in policy and funding over time within agencies would be helpful, but that is a difficult thing to overcome.
- Coordination of groups and activities
- A platform that allows us to see what funding is available for specific areas and an outline of how the funding has to be used and when it needs to be used by.
- I would like to see an agency (anyone) develop a habitat easement program that pays landowners to maintain a certain habitat to a certain value (e.g., riparian, keep sagebrush on the landscape, etc.).
- Our program, and other conservation programs in our state, are too complicated for conservation professionals to keep straight, much less for landowners to keep straight. There is a lot of overlapping, but also a lot of key differences that seem to change frequently, and there isn't enough time in the week to stay on top of everyone else's programs to help informing landowners about those options and how that might work together with our program.
- We don't have enough people power to implement what's available.
- Implementation. I would like to see more boots on the ground assisting LO with implementing practices.
- Economics/Worth of Conservation
- Habitat monitoring; grazing monitoring and planning
- Load balancing - too much to do
- Getting county USDA offices to be consistent in their delivery of various programs
- Engineering services and an improved State Water Permit process
- We have lots of money for programs and we put a lot of practices on the ground but I am more interested in comprehensive ranch planning rather than one-off practices. These practices are all good but I think we could make them more valuable to producers.
- Capacity in the right locations with the right people and on-the-ground funds for projects that are easy to get and do not impact ability for claiming acres and miles.
- Processing and writing grant reports
- Organizing outreach efforts

Common Themes Among Responses

- Additional training (ArcMap, grazing management, permitting, NRCS programs, grant writing). N=9
- Provide support expertise for things like grazing management, engineering expertise, permitting, grant writing/administration, monitoring. N=8
- Provide additional technical assistance for producers. N=6
- Simplification of programs (i.e., applications, contracting, funding, and administration. N=6
- Increase collaboration within organizations and among partners (e.g., planning and implementation). N=5
- Increase consistency in conservation messaging and programs (i.e., one team fragmenting habitats with tree planting while another is restoring grasslands). N=5
- Increase and improve landowner outreach, finding new and more effective ways to connect with producers. N=4
- Provide incentives for producers to attend grazing schools. N=2
- Additional financial assistance. N=2
- Improved, simplified permitting processes. N=1
- More emphasis on prescribed fire. N=1
- More emphasis on conservation planning. N=1
- Create a platform to share available funding by area with details on use. N=1
- More emphasis on easement programs that maintain habitat quality. N=1
- Reduce the complexity and workload of practitioners. N=1

Take Home Messages: Collectively, these responses support the idea that the job of a field level conservation practitioner is complex and that they are often pulled in many directions. They also identify that to carry out this complex work, they need training (often additional training) in various areas or support from other experts who can allow them additional time to provide technical services to producers. It is interesting that several of the responses share the theme that conservation organizations (internally and collectively) often work at cross purposes. This is a source of frustration and is an issue of leadership that they cannot overcome themselves. There is broad agreement that complexity in program design and slow pace of implementation often result in producer frustration and thus less participation than we might otherwise observe.

4. What important question(s) do you think we failed to ask?

- How willing are producers to implement practices?
- None. Other important factors are outside the NGPJV's influence (staffing salary, grant durations, etc.)
- Lack of funding isn't always the hold up. Sometimes it's capacity and boots on the ground working with producers to find shared outcomes. Managing contracts, cost-share, and finding contractors is the bigger drag to implementing many practices. Keeping biologists from going out and pursuing more projects or improving upon existing projects with follow up monitoring.
- Not so much a question, but I think we need to discuss active research and monitoring more and how this relates to what we are doing and how we measure success.
- Whether or not as a private land biologist, you are promoting USDA Farm Bill conservation programs or a suite of other standalone programs that may not be part of USDA, such as state agency habitat programs, NGO/partner programs, grant programs, etc... There is quite a difference in one's ability to deliver conservation programs and effectively work with private landowners when it comes to this. Some

landowners choose to not work with a specific agency or group, while others don't care who they work with. Furthermore, in many cases, it may be easier to put a conservation treatment on the ground through a non-USDA program due to logistics, program rules, Govt. bureaucracy etc... Ex. prescribed fire.

- I think you missed the opportunity to truly gauge the need for additional capacity in this survey across the NGPJV footprint.
- How do we (conservation groups as a whole) connect with landowners/producers in way that builds trust and communicate how our available programs provide the short-term financial assistance to achieve long-term objectives and profitability.
- Expanding assistance to new producers who have not been participating in conservation programs and also addressing conservation on rented land are always a challenge (how to reach absentee landowners)
- How would you like to be involved moving forward? What are mechanisms, timeframes, venues, and resources that would lead to both effective communication and on-the-ground actions?
- How we collaborate effectively across large landscapes.
- Some of my answers felt less straightforward than what the survey asked for - e.g. I don't think fencing is particularly effective for grassland bird conservation at the pasture level, but if it helps a ranch stay economically viable and not get plowed, then its super effective!
- Funding sources
- What are some conservation programs that you would like to see but don't exist yet?
- State government, especially under current administrations, has added many layers of bureaucracy to many aspects of our jobs, primarily when it comes to new requirements for trainings and staff performance evaluation. It takes a lot of time away from supervisors for things like program development and field staff development, and it takes field staff time away from delivery and networking/learning other conservation programs to incorporate into their delivery.
- How do we change the culture of our producers? Without a cultural shift, we will continue to implement practices with limited funding and therefore limited results.
- How do we make it cashflow for the producer?
- How do we get more prescribed burning on the landscape?
- Additional items like "cultural will" - how to build it and maybe some about how we go about marketing, outreach, and recruitment of producers to implement these practices because I would sure like to learn from others!
- Not a question, but a conservation cooperator network is necessary to make contact with a wide variety of landowners across a large geographic landscape
- I think we need to understand where landowners get their information and make sure those places are also telling the story, promoting the practices we would like to see on the landscape.
- Where are the biologically important areas to work in the NGPJV and is there capacity in hand and project dollars to do their job.
- The biggest facture we face is having the time to deliver practices as soon as they are needed. I would ask how we should obligate time in our day to deliver programs, how much time to write reports, and ideas to stay focused on what is important in delivery.

Questions Gleaned from Responses:

- How willing are producers to implement practices; how do we create cultural change; How do we reach them? N=3
- What are some important research and monitoring needs?

- As a conservation practitioner, do you actively promote or deliver the programs of others (i.e., EQIP, CRP, N-GRIP, etc.)?
- Do you think additional technical assistance capacity in the NGPJV footprint is needed?
- How do you build trust with producers?
- How do we reach producers who are not program participants?
- How would you like to be involved moving forward?
- How can we collaborate more effectively across large landscapes?
- What funding sources do you use to provide financial assistance to producers?
- What are some conservation programs or practice that you would like to see that don't exist yet?
- What can we do to ensure that our programs and objectives are financially sound for producers?
- How do we increase the use of prescribed fire?
- How can we improve the NGPJV Conservation Delivery Network?
- Are we working in the right places and appropriately providing technical and financial resources in those areas?
- How do you spend your time and how should you spend your time?

Take Home Messages: The responses provided a lot of insight about conservation delivery and outlined some questions for future queries. We will likely use some of these questions as we attempt to better understand how conservation practitioners and producers use conservation programs and their motivation for doing so. We had many other questions that we would have liked to ask. In general, the theme of many of the questions and comments in this section relate to a desire to make conservation efforts more effective. One gets a broad sense that folks are trying very hard to do as much as they can, but that they understand it may not be enough given constraints of time, funding, program limitations, training, and how we engage producers.

OVERALL CONCLUSIONS AND FOLLOW-UP STRATEGIES

Major Findings

Survey respondents represented a variety of employers throughout the four states of the JV. More than half of the practitioners have less than 10 years of professional experience. Forty-seven percent identify themselves as either being employed either by an NGO or by an NGO in a partnership position. These results might indicate that conservation delivery is skewed toward early career professionals, or that these folks completed the online survey at a higher rate; they certainly indicate that the industry is quite dependent on partnership positions. Regardless, this demographic could have important implications for conservation delivery, outreach, or human dimensions research due to potential differences in beliefs and strategies. Of all respondents, over half spend more than 50% of their time delivering conservation programs to landowners. These data suggest that a large portion of practitioners are often responsible for duties outside of conservation delivery, which may require more time or take precedence over conservation delivery projects.

Practitioners listed lack of financial assistance, capacity, and education as primary barriers to landowner participation in programs. Practices that may benefit wildlife or contribute to grassland bird conservation were often recognized by practitioners as difficult to implement. Further, these practices are not typically requested by landowners. There are many ideas expressed throughout this survey that may explain these results. There may be landowner reluctance to utilize novel practices, which could be due to financial or cultural influence. There may also be less than effective messaging about available program practices and their potential ecological impacts. For example, one respondent stated that “prescribed fire is something that has interest, but lack of education and large enough support groups makes it tough [to implement on the landscape.]” In some instances, after enticement practices were completed to gain trust and demonstrate success, landowners showed a greater willingness to participate in more advanced practices. This may be further evidence that enhanced outreach and education can lead to greater implementation of “advanced practices.”

Water developments were often requested and seem to be quite difficult to fund; they are often expensive and expose the project to greater scrutiny in terms of environmental and historical review. The two most often funded practices are replanting vegetation and grazing planning. They are at the heart of providing more and improved habitat for wildlife, respectively.

Interestingly, almost a third of the respondents indicated that they do not try to entice landowners to use certain conservation practices by offering other practices that they may want more. One might interpret these data as a reluctance to encourage the producer to incorporate broader conservation goals. It may, though, simply indicate that the question was poorly understood. When “enticement practices” are used, water and fence top the list of practices landowners really want, while native grassland restoration, grazing planning, and pollinators top the list of practices attempted to get the producer to adopt. Practitioners saw the most effective practices as being grassland restoration and mesic restoration. The least effective practices for benefitting wildlife were cover crops, exclusion and cross-fence, and tame grass planting.

A lot of unique information was provided in Section 4, Question 2 and is worth extra consideration. The responses to this question emphasized the iterative nature of conservation. After an initial project is completed, many practitioners follow up with grazing management, prescribed grazing, or whole ranch planning. Some practitioners also mentioned the importance of relationship building and continuing to establish trust with the producer after the initial project is completed. Beyond lack of landowner interest or effective messaging, some practices, like wetland restoration or establishment, are time intensive and require expertise that may not be immediately available to all practitioners. Throughout the JV geography, practitioners are

requesting more training, more supporting expertise, and more communication (between both partners and landowners) to help improve program delivery.

Follow-up Strategies

Staffing

There are unresolved questions about how much staffing is needed across the landscape and how to address capacity. Some respondents noted that they saw a need for more staff while others intimated that they believe there are enough. Since empirical data likely played no role in either viewpoint, it may be valuable to try to revisit capacity in a more scientific manner to develop some clear recommendations. We may want to explore the amount of land covered by the average practitioner and how landownership patterns and land use factor into staff deployment. Perhaps we can gain a better understanding of actual need by geography for additional wildlife related technical assistance. We will work with the Local Leadership Teams in each state to explore the desire for future surveys, especially focusing on questions and concerns provided herein.

Training

Several respondents indicated the need for additional training for both practitioners and producers. We will explore the opportunity to provide additional training to practitioners and how we may better help our partners provide training and outreach to producers. The training and outreach arena is a strong area for the JV to provide some leadership and support that could benefit many of our partners.

Financial Assistance

There was some interest in considering the use of grazing deferment payments to replace some forgone income to leverage the restoration of crop fields or introduced grass pastures to native range. More broadly, there appears to be additional need to explore the cost producers bear for a practice and how that impacts their willingness to enroll in various practices.