

Living with Elk, Mule Deer, and Pronghorn

Landowner Experiences with Big Game across Wyoming

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Any opinions, findings, conclusions, or recommendations expressed in this publication are those of the authors and do not necessarily reflect the views of the U.S. Department of Agriculture.

Cover photo credit: Gregory Nickerson/ Wyoming Migration Initiative



Key Insights from a Survey of Wyoming Landowners

- Despite conflicts with big game, many private landowners take pride in providing habitat on their lands and have largely positive attitudes towards wildlife.
- A significant number of landowners have adopted proactive management practices to benefit big game, including wildlife-friendly fencing, leaving extra forage, and managing invasive species.
- There will soon be a major transition in land ownership, with 70% of landowners likely to transfer their land to the next generation in the coming decade.
- Despite plans for ownership transition, most landowners say they are unlikely to subdivide their property, indicating a strong desire to maintain intact landscapes.
- Few landowners are engaged with conservation organizations, while the Wyoming Game and Fish Department has worked with over 60% of respondents.
- Most landowners are unfamiliar with the Migratory Big Game Initiative, highlighting a critical need for increased communication and outreach.
- Despite this information gap, there is considerable openness to participation in the programs associated with the Migratory Big Game Initiative.

Background

Migratory species depend on resources that are widely dispersed across the landscape. They move seasonally for forage and favorable weather conditions. For migratory ungulates in the American West—notably elk, mule deer, and pronghorn (known as “big game”)—this movement has become increasingly difficult. Roads, residential growth, and energy development have funneled these species into narrow corridors across private working lands (Figure 1). Advances in wildlife tracking have enabled ecologists to map migration routes and identify which land needs to be compatibly managed to maintain functional corridors and a connected landscape. As for how to maintain or encourage compatible management, it is critical to understand the perspectives and experiences of those who live with big game.

Across Wyoming, ranchers steward a patchwork of private lands and associated grazing allotments on public lands. Recent developments at the federal and state levels have spotlighted how working lands in western Wyoming overlap

with big game migration corridors. Landowners face pressure to maintain current agricultural uses, adopt fencing that supports animal movement, leave forage for wildlife, and weather uncertainty around their grazing allotments.

In 2022 the U.S. Department of Agriculture (USDA), in partnership with the State of Wyoming, established the Migratory Big Game Pilot to conserve elk, mule deer, and pronghorn migration corridors and habitat. The Pilot incentivizes private landowners in “priority areas” to participate in temporary (10- to 15-year) habitat leases through the Grasslands Conservation Reserve Program, supports wildlife-friendly practices through the Environmental Quality Incentives Program, and provides additional assistance with conservation program recruitment and enrollment. In November 2023 the USDA scaled these offerings to Idaho and Montana as part of a broader Migratory Big Game Initiative. The goal of this research is to integrate science and learning into practice, enabling program managers and policymakers to understand how these investments and their efforts affect landowner experiences and habitat conservation on private lands across western Wyoming and surrounding states.

Photo credit: Gregory Nickerson/ Wyoming Migration Initiative

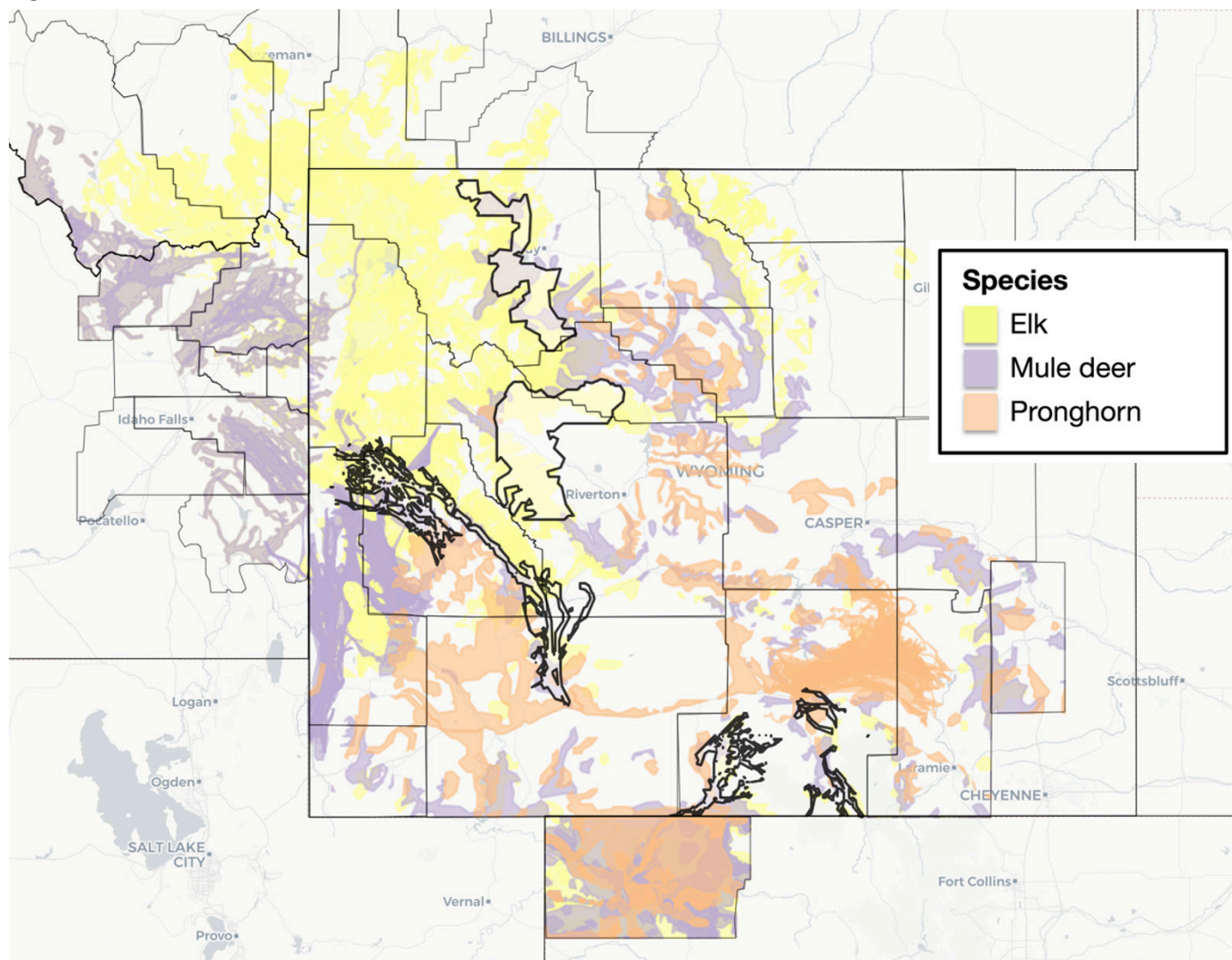


What We Did

We are conducting a multi-year evaluation of the impact of the Migratory Big Game Initiative on landowner attitudes, intentions, and conservation behavior. In the first phase of this research, we surveyed private landowners at the beginning of the Initiative. We focused on landowners within Wyoming Priority Areas and in similar regions where big game range across parts of Wyoming, Idaho, Montana, and Colorado (Figure 1). We will survey landowners again in a few years to evaluate changes in sentiments and behaviors related to big game on private lands and the large-scale public investment in habitat conservation.

In late Summer and early Fall 2023 we mailed 2,276 surveys to landowners of at least 40 acres in Wyoming. The survey asked landowners about their experiences with and attitudes towards big game on their land, their land management actions and intentions in the next 10 years, and their views on conservation programs. We also surveyed 400 landowners of 5- to 39-acres in the Absaroka Front of Wyoming, and 1,838 landowners of 40+-acre parcels in southwestern Montana, eastern Idaho, and northwestern Colorado. The results described in this report are based on responses from landowners of 40 acres or more in Wyoming.

Figure 1



A map of the study area, spanning Wyoming, southwest Montana, eastern Idaho, and northwestern Colorado. The darkest lines delineate the five USDA priority areas. The lightest lines indicate counties. The colored areas show winter and critical range for three big game species. Landowners within priority areas and big game habitat were selected to receive mail surveys.

Who We Heard From

We received 631 responses from large landowners in Wyoming, a 28% response rate. Most respondents reported seeing big game on their land. For landowners who live within each species' range, 92% reported seeing mule deer, 83% seeing elk, and 86% seeing pronghorn on their land a few or many times a year.

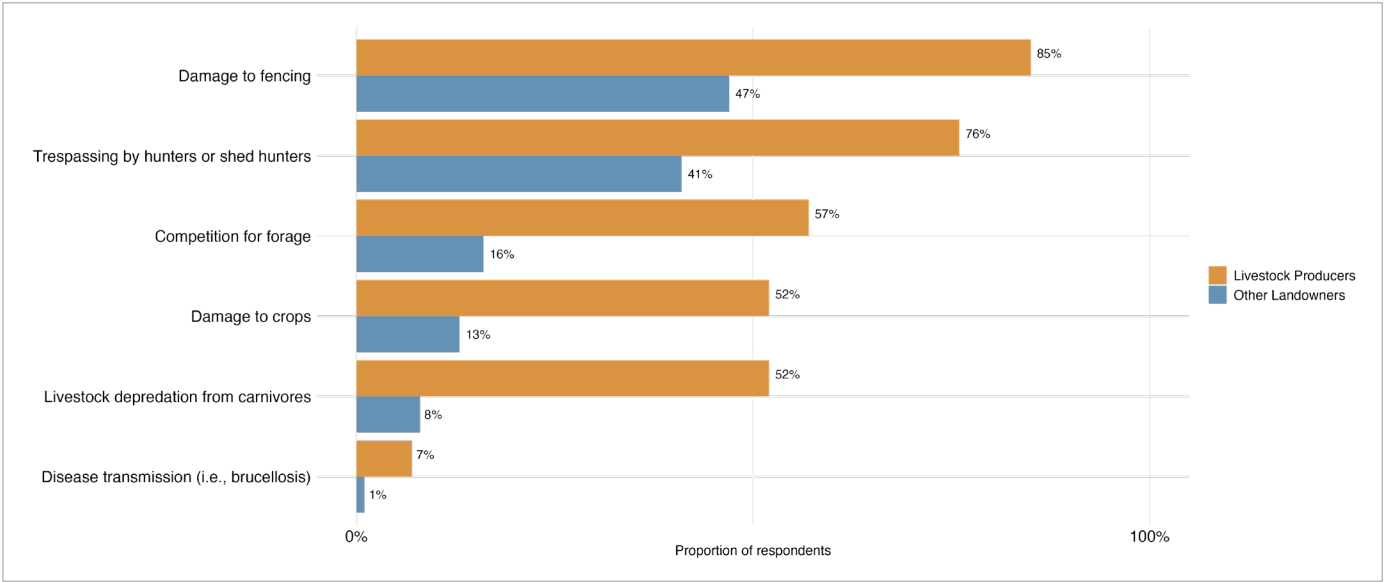
Over half of our respondents consider themselves farmers or ranchers. They have an average of three generations of farmers or ranchers in their family. Moreover, 50% reported livestock production on their land. About two-thirds (69%) of our respondents have someone in their household who hunts elk, mule deer, or pronghorn.

What We Learned

Despite conflict from living with big game, many landowners are proud to provide big game habitat and have adopted beneficial management practices.

The presence of elk, mule deer, and pronghorn on these private lands inevitably leads to conflicts, especially for livestock producers. Most livestock producers reported damage to fencing (87%), as well as trespassing by hunters or shed hunters (72%), damage to crops (53%), and competition for forage (52%) from big game. Other landowners experienced these conflicts far less often, although still 40% reported fencing damage and trespassing.

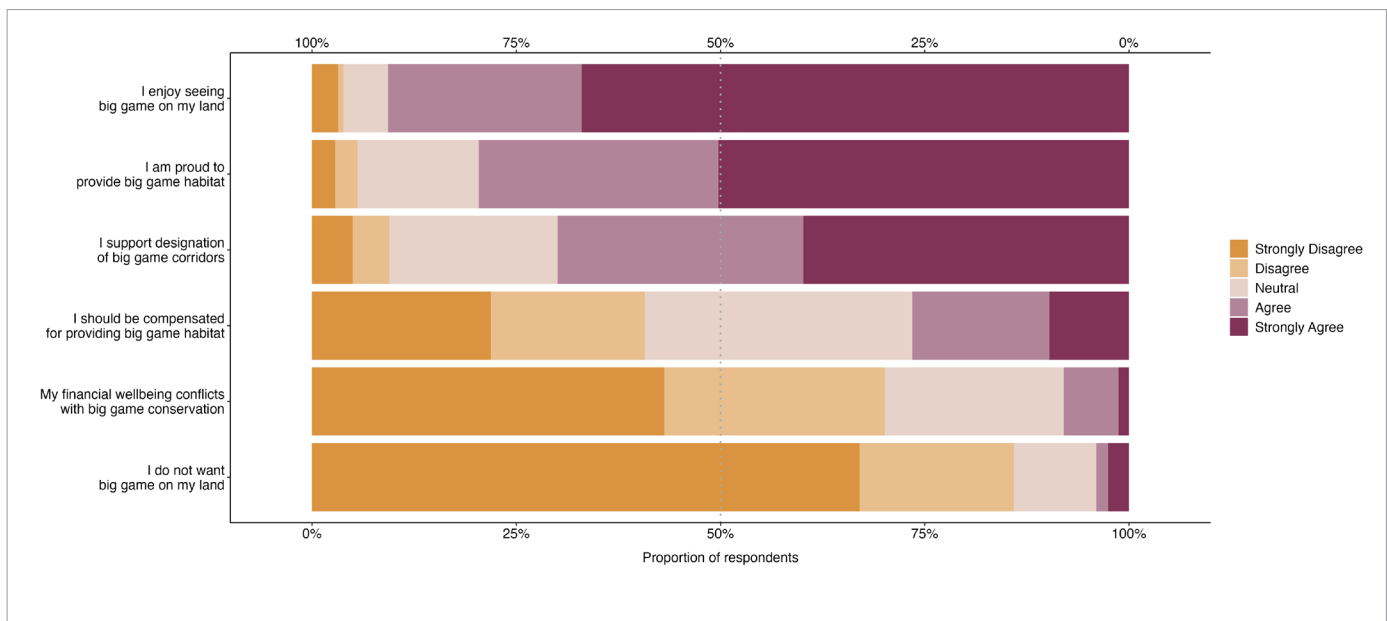
Most livestock producers report conflicts with wildlife on their land



The prevalence of conflict or costs on private lands arising from the presence of big game. The bars represent the proportion of respondents who reported that conflict had occurred on their land due to the presence of big game. Responses are separated according to whether the landowner indicated that livestock production occurred on their land.

Despite these problems, attitudes towards big game remain largely positive among landowners. Many expressed satisfaction in knowing that their land contributes to the conservation of these iconic species. Over 90% of responding landowners agreed with the statement “I enjoy seeing big game on my land,” and over 75% agreed that they “are proud to provide big game habitat.” This positive sentiment suggests that landowners recognize the ecological value of their property beyond its economic potential. Even on a seemingly more controversial topic, over 70% reported supporting the designation of big game corridors.

Overall, attitudes towards big game are positive.



Landowner attitudes towards big game. The shades of each bar represent the proportion of respondents who agreed (red) or disagreed (yellow) with the statement on the left. The tan area indicates the proportion of respondents who neither agreed nor disagreed with the statement.

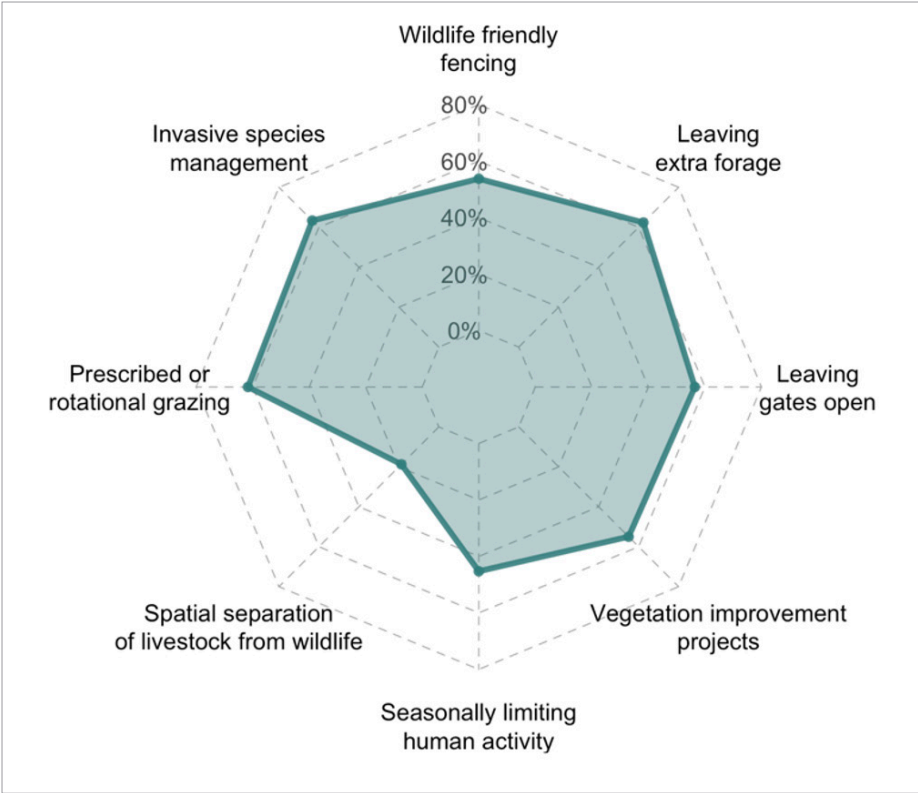
Many landowners actively manage their land to benefit big game. These conservation-minded individuals have implemented various strategies to support wildlife on their properties. These include installing wildlife-friendly fencing designs that allow for easier animal movement while still containing livestock (over 50% of respondents), deliberately leaving extra forage in their fields for big game (60%), and managing invasive plant species (60%), which not only improves the overall health of their land but also enhances the habitat quality for native wildlife. These proactive measures demonstrate a commitment to coexistence and highlight the crucial role that private landowners play in wildlife conservation efforts.



Photo credit: Gregory Nickerson/ Wyoming Migration Initiative

Many landowners have adopted multiple land management practices beneficial to big game.

The adoption of land management practices that are beneficial to supporting big game. The blue dot on each axis represents the proportion of respondents that has adopted that land management practice. The shaded area indicates widespread adoption of all management practices except spatial separation of livestock from wildlife.

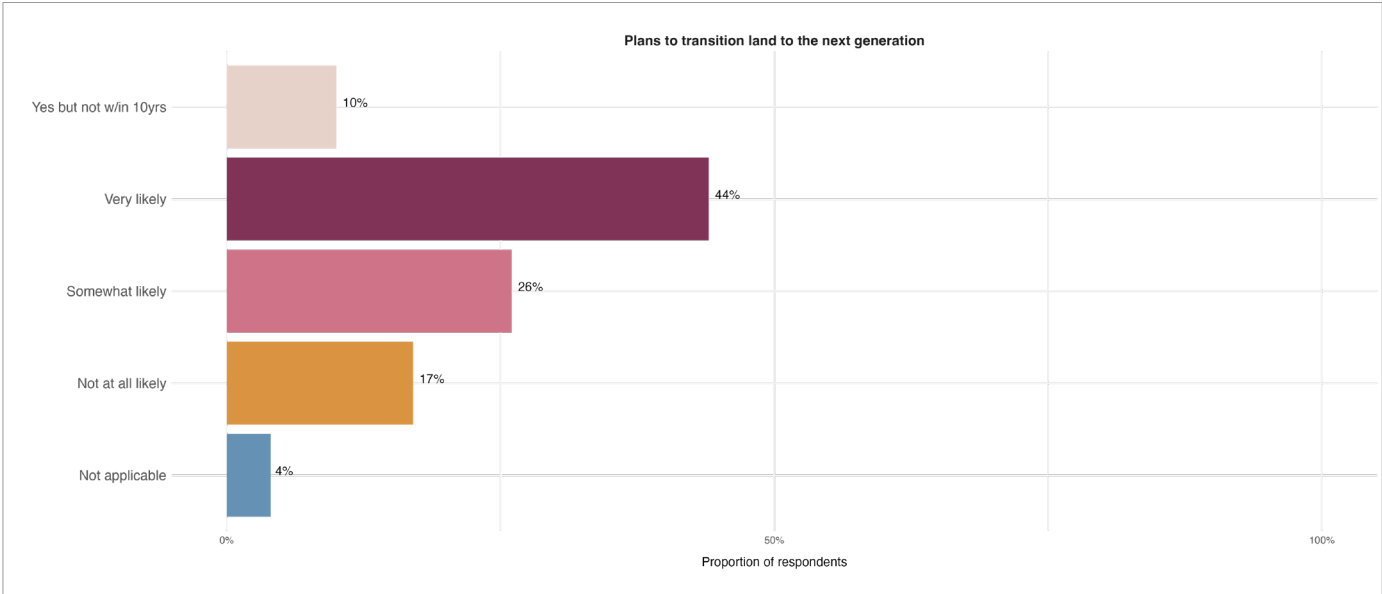


Many private lands are likely to change hands soon, and landowners want to preserve the landscape as it is.

The landscape of ownership is on the cusp of significant change, with a large portion of current landowners anticipating transitions in the near future. The average age of surveyed landowners is 68 years old and 44% said it was “very likely” that they will be transitioning their land to the next generation within the next 10 years. An additional 26% view this transition as “somewhat likely.” This means that a striking 70% of responding landowners foresee a potential land transfer in the coming decade. Such a widespread shift in land ownership could have profound implications for wildlife habitat and conservation efforts. The attitudes, knowledge, and management practices of the incoming generation of landowners will play a crucial role in shaping the future of big game habitat on private lands.

“ The average age of surveyed landowners is 68 years old. ”

Many landowners are aging out of ownership.

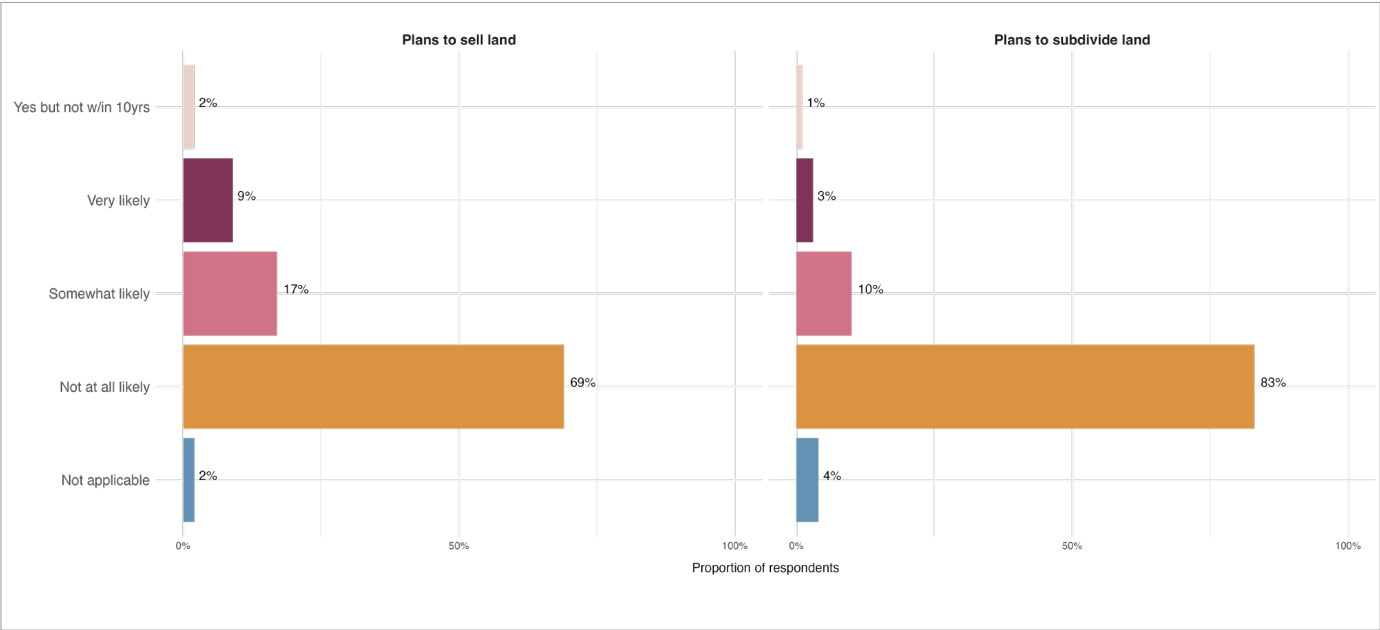


Landowners’ intentions for their land over the next decade. Each bar represents the proportion of respondents who indicated how likely they were to transition their land to the next generation in the next 10 years.

Despite the anticipated transitions in land ownership, most current landowners expressed a commitment to maintaining their properties as intact landscapes. Survey results indicate that 69% of landowners believe it is “not at all likely” that they will sell their land in the next 10 years. Even more striking, 83% stated that it is “not at all likely” that they will subdivide their property within the same timeframe. These statistics reflect a desire among landowners to preserve the integrity of their lands, which is crucial for maintaining viable habitats for big game and other wildlife species. However, despite these intentions, landowners may not always have full control over the future of their properties as they transition to new managers, including family members. The challenge lies in ensuring that these conservation-minded intentions are made feasible to current landowners and effectively communicated and implemented during and after the transition process. Doing so can help safeguard these vital wildlife habitats for future generations.



Few intend to sell their land, fewer still intend to subdivide.

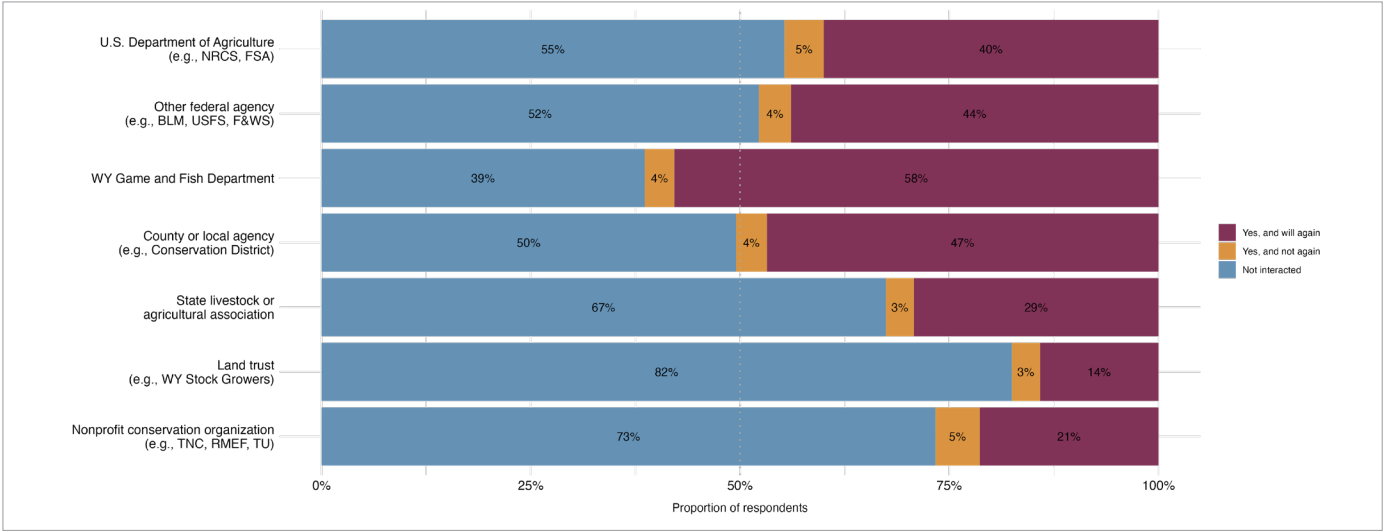


Landowners’ intentions for their land over the next decade. Each bar represents the proportion of respondents who indicated how likely they were to sell their land (left) or subdivide their land (right) in the next 10 years.

There are significant opportunities to expand conservation efforts to conserve big game habitats on private lands.

While current landowners demonstrated a strong commitment to conservation, there are opportunities to build upon this foundation and expand conservation efforts for big game. Survey results reveal a notable gap in engagement between landowners and various conservation stakeholders. Most federal agencies and non-governmental organizations have not yet established direct connections with these landowners regarding their land management. This low to moderate level of engagement represents an opportunity to increase collaboration and knowledge sharing. Interestingly, the Wyoming Game and Fish Department stands out as an exception. The agency has worked directly with 62% of respondents regarding matters on their land. The majority of these landowners (58%) expressed willingness to work with the Wyoming Game and Fish again, indicating a positive and productive relationship. This success highlights the potential for effective partnerships between landowners and conservation organizations. By learning from and replicating the approach of the Wyoming Game and Fish Department, other agencies and organizations could expand their outreach and impact. Strengthening these connections could lead to more widespread adoption of wildlife-friendly practices, enhanced habitat management, and a more coordinated approach to big game conservation across private lands.

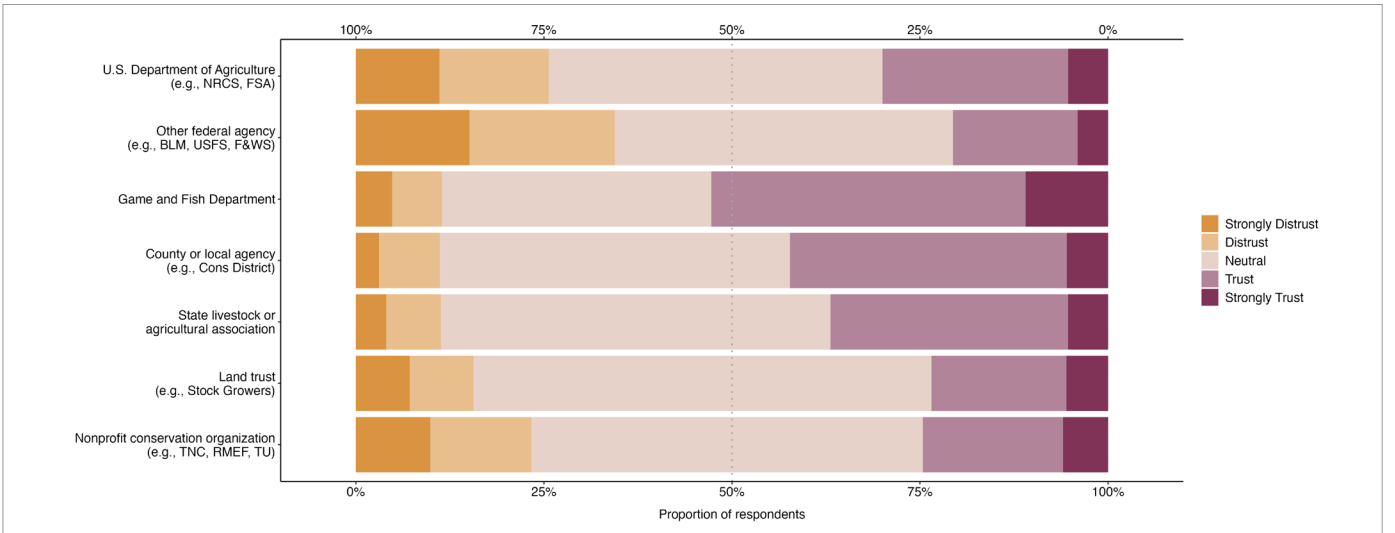
Most federal agencies and nongovernmental organizations have not connected with these landowners about their land.



The extent to which landowners have interacted with agencies and organizations regarding matters on their land and operation. The blue bars indicate the proportion of respondents that have not interacted with that agency or organization.

When it comes to attitudes toward agencies and organizations that administer conservation programs, most landowners maintained a neutral stance. Again, the Wyoming Game and Fish Department was the only entity that garnered trust from over 50% of landowners. Importantly, no agency or organization was predominantly distrusted. This suggests a foundation of cautious openness upon which organizations can begin to engage with landowners.

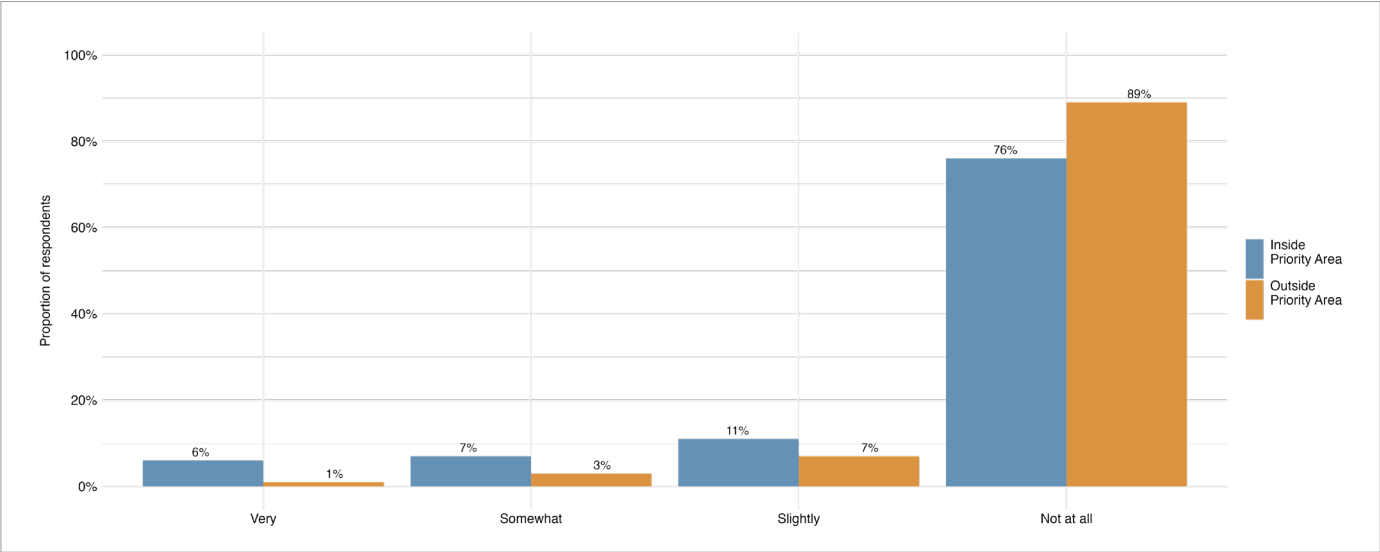
Many landowners are neutral about agencies and organizations who can administer conservation programs.



How trustworthy agencies and organizations are perceived to be among landowners. The shades of each bar represent the proportion of respondents who trust (red) or distrust (yellow) that agency or organization to administer conservation programs on their land. The tan area indicates the proportion of respondents who neither trust nor distrust the agency or organization.

Our survey revealed a significant knowledge gap among landowners regarding the Migratory Big Game Initiative. When provided with a brief description of the program to ensure that unfamiliarity was not simply due to its name, most landowners demonstrated limited awareness of the initiative and its potential benefits. Interestingly, this lack of familiarity was consistent across the board, with only modest differences observed between landowners inside and outside of the five identified priority areas in Wyoming. This widespread unfamiliarity highlights a need for improved communication and outreach. Bridging this information gap could unlock benefits for both landowners and wildlife and enable more targeted and effective conservation practices across the landscape.

Most are unaware of Big Game Initiative’s offerings for private landowners.



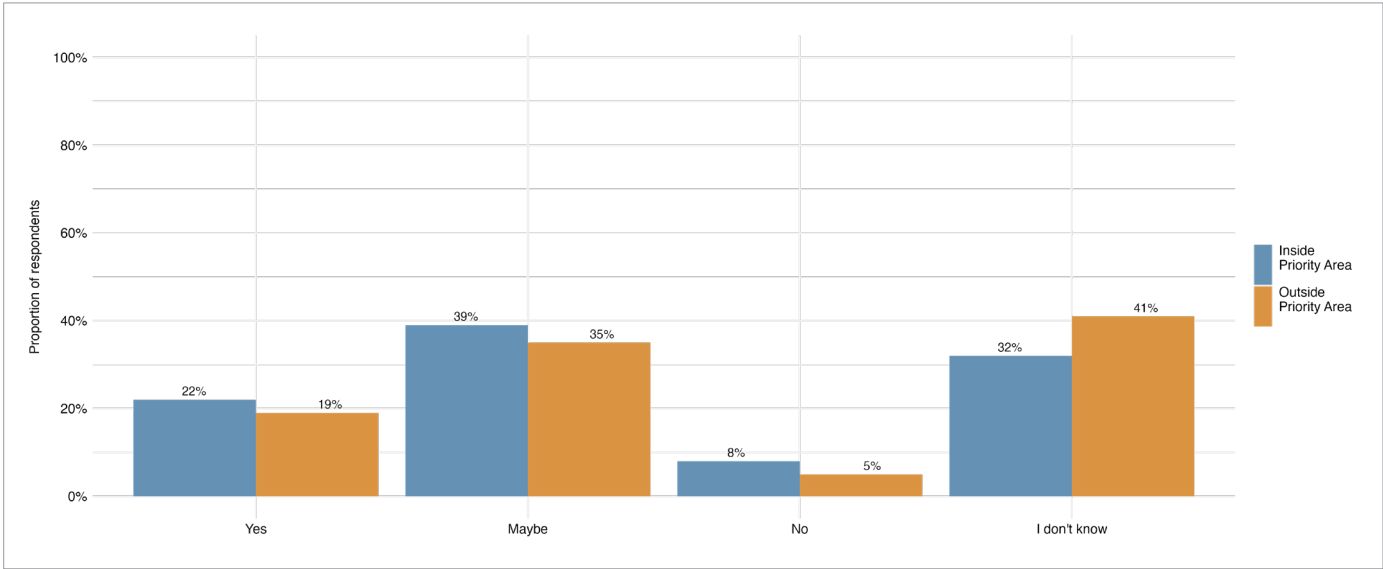
Familiarity with the Migratory Big Game Pilot. The bars represent the proportion of respondents according to their level of awareness of the USDA-Wyoming partnership to conserve big game habitat. Responses are divided according to whether a respondent owns land inside or outside of a USDA Priority Area.

Despite the general lack of familiarity with the Migratory Big Game Initiative, landowners were open to participating in the program. When asked, “If you were eligible, would you consider participating in the USDA-Wyoming Big Game Partnership Pilot?”, responses were largely positive or open. Approximately 20% of landowners expressed definite interest, answering “yes” to potential participation. A larger proportion, about 37%, responded with “maybe”, indicating openness to the idea but perhaps needing more information or assurances. Another 37% stated they



“don’t know”, further emphasizing the need for more information about the program and its benefits. Notably, fewer than 7% of respondents gave a firm “no” to participation. These results suggest an opportunity for engagement, with over 90% of landowners at least open to the possibility of participating in the initiative. This opportunity, combined with the evident need for more information, underscores the importance of outreach and education efforts to recruit active participation in big game conservation initiatives.

There is considerable interest in (and uncertainty about) participating in the Migratory Big Game Initiative.



Interest in participating in the Migratory Big Game Pilot. The bars represent the proportion of respondents according to their level of interest in participating in the USDA-Wyoming partnership to conserve big game habitat. Responses are divided according to whether a respondent owns land inside or outside of a USDA Priority Area.

Next Steps

Together, these insights indicate a relatively blank slate to engage landowners who are supportive of big game and want to maintain their land as it is—continuing to provide critical habitat for elk, mule deer, and pronghorn.

The willingness of landowners to coexist with big game, despite the associated difficulties, demonstrates a commendable commitment to wildlife conservation. It also underscores the importance of developing strategies that can mitigate conflicts while preserving the habitat necessary for big game populations to thrive. As land transitions to new owners, maintaining and building upon these positive attitudes and practices will be crucial for the long-term success of wildlife conservation efforts on private lands. Landowners’ intention to keep landscapes intact, combined with the potential for engagement with conservation organizations and the interest in programs like the Migratory Big Game Initiative, is promising for the future of big game habitat on private lands. Realizing this potential, however, will require concerted efforts. Evidence from our survey suggests focusing those efforts on bridging the landowner engagement gap, raising awareness about programs and their benefits, and ensuring that landowners’ intentions can translate into lasting, landscape-scale conservation outcomes.



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