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Understanding Arguments to Protect Farmland in Idaho: Innovative Solutions and Community Insights to Drive Policy Change

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Understanding Arguments to Protect Farmland in Idaho

*Innovative solutions and community
insights to drive policy change*

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Highlights

- Despite the conversion of 68,800 acres of agricultural land to alternative purposes in Idaho between 2001 and 2016, a policy response has been slow to develop.
- We found five types of messages, or frames, used in the Treasure Valley community to describe concerns around farmland loss: domestic food security, economy and trade, national security, resource and cultural loss, and environmental benefits.
- Each message frame has pros and cons, with no "one-size-fits all" frame for farmland loss. For example, the domestic food security frame resonates with many people, but can be dismissed due to the globalization of the agricultural sector.
- Solutions will likely need to encompass diverse concerns and could include supporting rural economies, establishing agricultural protection areas, implementing conservation easements, and promoting regenerative agriculture.

Summary

Between Spring 2022 and Spring 2023, a team of researchers at Boise State University conducted interviews with people involved in farmland protection efforts. Our goal was to understand how interviewees frame the issue of farmland loss. Frames can draw attention to an issue, contextualize decision-making, and influence the policy solutions considered. Through a frame analysis, we gained a clearer understanding of potential approaches for farmland protection in Idaho.

We conducted 10 semi-structured interviews with individuals representing government agencies, academic institutions, land trusts, non-profit organizations, and farmers. After conducting the interviews, we analyzed the transcripts in a systematic manner to identify recurring message frames pertaining to farmland loss. The analysis process enabled us to map these frames onto potential policy solutions applicable to Idaho.

Our report outlines the advantages and disadvantages of each frame and pinpoints which ones are likely to resonate with specific groups. Our research revealed a diverse range of frames used to address farmland protection, with many interviewees citing multiple frames. The domestic food security, regional economy, and national/global trade frames are expected to have broad appeal, while the national security and environmental benefits frames may appeal to more specific audiences. The threatened resource and cultural importance frames are likely to resonate with those valuing tradition. We identified a variety of solutions, such as agricultural protection areas, support for rural economies, promotion of regenerative agriculture, and expansion of Idaho's Right to Farm Act protections. Our findings underscore the importance of diverse, flexible, and responsive solutions to improve the feasibility of farmland protection in Idaho. We hope that our work will provide a solid basis for future efforts aimed at preserving Idaho's farmland.

Study Purpose

This report focuses on translating national-level desires to protect farmland to on-the-ground action. Through this report, we seek to tell the story of how the farmland protection community in a part of southwest Idaho known as the Treasure Valley talks about the issue of farmland protection. Specifically, we are interested in how the issue is framed. It is our goal to provide a deeper understanding of the feasibility of potential farmland protection solutions and the likely barriers to implementation of such solutions.

This research began in the spring of 2022, when we interviewed people who are engaged in efforts to protect farmland. Data collection and analyses were completed by spring of 2023. The findings in this report are based on those interviews.

Study Background

Why is farmland important?

The United States has some of the most productive agricultural landscapes in the world. Because of this legacy, agricultural lands are intertwined within the U.S.'s economy, global linkages, and culture. Advocates for farmland protection have noted farmland and ranch land as critical life-support for the nation and the planet.

Farmland is a valued natural resource. Beyond food production, farmland provides many other critical benefits. Farmland sequesters carbon, can regulate water quality, and can provide vital habitat for wildlife. In addition, many agricultural lands contribute to the identity of communities, people's sense of place, and family traditions (Power, 2010; Swinton et al., 2007; Zhang et al., 2007). Lastly, they often support rural economies and lifestyles (Davis et al., 2016; Inwood et al., 2012; Morgan et al., 2010). Farmland and ranch land, in other words, do much more than feed the world.

The state of farmland loss and farmland protection policies in Idaho

Despite their great importance, farms are being converted to urban development. From 2001–2016, 68,800 acres (over 50,000 football fields) of agricultural land were developed for other uses in Idaho. It's important to note that when we look at total acres, the threat of conversion for Idaho's agricultural land is relatively low compared to other states in the U.S. Idaho still has a lot of agricultural land. However, Idaho's **best** agricultural land was 306% more likely to be converted than other agricultural land between 2001 and 2016 (American Farmland Trust and Conservation Science Partners, 2020). This means that Idaho has a lot of excellent farmland and that farmland is particularly under threat. Idaho's **best** agricultural land is land that has high yield, supports a wide variety of crops, and is resilient to climate variability. Losing this land means inhibiting the long-term viability of Idaho's agricultural industry.

According to a policy analysis conducted by the American Farmland Trust (AFT), Idaho has policies that could be used to protect farmland—Land Use Planning, Property Tax Relief, and State Leasing Programs (Freedgood et al., 2020)—but they haven't always been effective at slowing conversion in practice. Another avenue of protection in Idaho is the Right to Farm Act, which protects farmers from nuisance lawsuits (Dolven, 2021). Importantly, however, Idaho lacks a Purchase of Agricultural Conservation Easements (PACE) program, which has been identified as being one of the top tools to protect farmland and ensure it remains actively farmed (Freedgood et al., 2020; Schilling et al., 2015).

Given the current threats to farmland in Idaho and limited implemented strategies to prevent farmland loss, we believe Idaho is at a tipping point. Idaho is in the unique position to take action before much of its agricultural land is lost. While Idaho has already taken some steps to protect farmland, it falls behind many neighboring states (i.e. Utah) that have implemented policies such as urban growth boundaries or agricultural protection areas.

Previous research conducted by Boise State University showed that 79% of Treasure Valley residents are "somewhat" to "very" concerned about the loss of farmland (Moroney and Som Castellano 2018). This work indicates that protecting agricultural land is a publicly supported policy in the Treasure Valley.

Farmland protection strategies must be dynamic and designed to fit the region. To begin looking into what the future of farmland protection could look like in Idaho, we started with a simple question: how are people currently involved in farmland protection on the ground talking about the issue?

Farmland protection has yet to appear meaningfully on the policy agenda in Idaho. To begin the complex policy process, it can be helpful to understand how people involved in farmland protection are talking about the issue. This is because how an issue is described can impact the kind of policy solutions that get developed (Smith and Larimer, 2018).

Study Site

The Treasure Valley, Idaho is part of the Intermountain West region, characterized by high aridity, complex topography, and high proportions of public land and rangelands (Jones et al., 2019). We used the Treasure Valley as a study site because it is a good example of the threats and characteristics of the broader region. It is an agricultural stronghold and grows over 40 different crops, ranging from potatoes to sugar beets to wine grapes (Boryan et al., 2011; Idaho Crops, n.d.). It is one of the fastest growing regions in the country. Following current trends in population growth, urban development will increase by 220,000 acres by 2100, and it is estimated that 31-64% of agricultural land will be lost (Sprague et al., 2017). Lastly, despite the known threats to agricultural lands, the Treasure Valley has limited policies and programs that currently work to combat farmland loss.



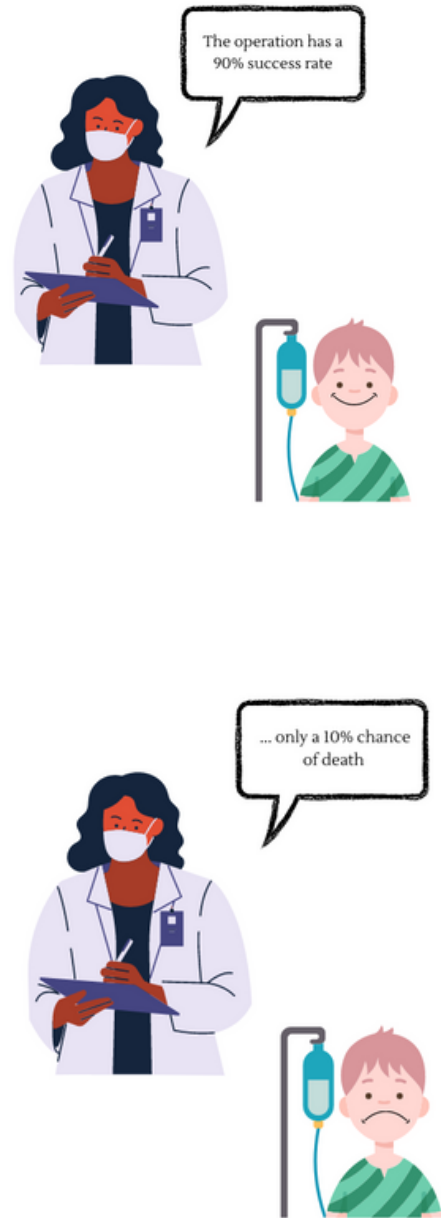
It is important to note, however, that Idaho is different politically and economically from some of its neighboring states. This may impact whether our findings are generalizable beyond Idaho, or even across different regions of Idaho.

Methods

Frames

In order to answer the question of how people are talking about the issue of farmland protection in the Treasure Valley, we utilized the concept of framing. Research on communication techniques has shown that how we talk about things matters (e.g. Lakoff, 2010). For example, the figure on the right demonstrates how the way in which a doctor frames an operation can impact a patient's response. If a doctor frames the operation as having a high success rate, the patient is likely to have a positive response. Conversely, if the doctor focuses on the chance of death, the patient may have an adverse reaction.

In the scientific literature, efforts to influence behaviors or shape how people understand and respond to information is referred to as “message framing” or “frames”. In its simplest form, frames can be thought of as a tool used to start discussions around a particular issue, strategically engage different audiences, and can offer a window of opportunity to bring an issue to attention. Ultimately, when there are changes in the level of attention an issue receives it can lead to changes at an institutional level. Stringing these concepts together, to get an issue meaningfully on the agenda and begin the policy process often depends on how an issue is framed. In other words, to get an issue on the agenda it often takes a good story.



Modified figure from Kusmanoff et al., (2020)

It is common for people to draw connections between an issue and their core values. Because of this, those interested in influencing public opinion often seek to appeal to public values. In other words, people interested in influencing public opinion often use values to base their framing of an issue (Brewer and Gross, 2005). By seeking to understand the frames around the issue of farmland protection, we are indirectly looking at the reasons why people value farmland.

Interviews with Farmland Protection Leaders

To understand which frames of farmland loss in the Treasure Valley may carry weight with people in the policy space, we interviewed people who are currently engaged in efforts to protect farmland. We included participants from government, academia, land trusts, other non-profit organizations, and farmers. Participants from government agencies and academic institutions provided formal policy perspectives and analyses, and land trusts and non-profit organizations gave us insights into grassroots organizing approaches and the policy process. To ground the analysis in the lived experiences of those who work the land, we also included interviewees who are both farmers and involved in farmland protection.

All participants brought different perspectives, but what they had in common was they all had shown an interest in the issue of farmland protection. At the end of each interview, we asked participants to recommend others who may offer additional perspectives. In total, we completed 10 semi-structured interviews addressing the following main themes:

1. What are the different narratives of the problem of and solutions for the loss of farmland in the Treasure Valley?
2. What are the opportunities and barriers for viable farmland protection policies in the Treasure Valley?

Analysis

Following the interviews, we analyzed interview transcripts, systematically coding for common message frames around the issue of farmland loss. More specifically, we looked to see how interviewees framed the importance of farmland as they articulated different motivations for protecting it. After initial coding, we realized that many of the frames we were seeing were reminiscent of those used by the American Farmland Trust (AFT). This makes sense given AFT's role in shaping advocacy in this space. We identified common themes in AFT's framing of farmland protection issues and then used those to code the interviews again, while also keeping an eye out for frames that might not have been introduced by AFT. Because AFT is a national organization that influences how different actors talk about and work to preserve farmland, applying AFT's existing frames both tells us how much the Treasure Valley conversation about farmland protection is informed by and reflects national conversations and which of these might hold meaningful sway in our area. While we drew from AFT reports and frames in this paper, it is important to note that this is not an AFT study, nor were interviewees specifically asked about AFT.

Finally, we mapped the frames from this analysis onto potential policy solutions available in Idaho, or that have the potential to be introduced in Idaho given the state's current political climate. In this report we provide recommendations for the advantages and disadvantages of using particular frames based on the data analyzed and iteratively returning to frames used by AFT. Our hope is that this work provides useful information to those interested in further advocating on behalf of farmland protection. As a last step, we gave everyone interviewed an opportunity to review the report and provide comments.

Findings and Political Implications

In this section, we outline the five frames we identified to be relevant for the Treasure Valley and explore the policy and political implications of each frame. We do not endorse any one solution or specific policy, but share insights to help inform and facilitate conversation around the issue of farmland protection and farmland loss. Through this study, we provide some insight into what interests may bring farmland protection onto the agenda.

On the next two pages you will find a table of the five frames, their definitions, and an example quote from our interviews.

Frames

Definition

Example Quote

Resource and Cultural Loss

Resource Loss: Connects the issue of farmland protection to agricultural land being a limited and threatened resource.

"I became much more aware of how quickly Boise is growing. The Boise metro area and other parts of the state, from [the] Twin Falls metro area to the I 15 corridor from Pocatello all the way up to Rexburg, and [I was] realizing how quickly we are actually starting to convert some of our best farms." - Interviewee 2

Cultural Loss: Connects the issue of farmland protection to protecting the quality of life and cultural identity of Idaho.

"The culture. Are we going to pave over Idaho and put in a parking lot? That's not who we are, right?" - Interviewee 10

Economy and Trade

Economy: Connects the issue of farmland protection to protecting Idaho's agricultural economy.

"There's the economy side of things, right? So our agricultural economy is important in the state and as we get rid of our agriculture, what happens to our economy?" - Interviewee 10

Trade: Connects the issue of farmland protection to national and global markets. This frame is oriented towards the global significance of the Treasure Valley's agricultural industry.

"I think the big thing in Canyon county is it has globally-significant agriculture. It's the fifth largest seed growing area in the world, and provides 65% of the world's seed corn and a number of other foods." - Interviewee 4

Frames

Definition

Example Quote

Domestic Food Security

Connects the issue of farmland protection to values of protecting local food sources and the issue of food security.

"So there's some things from the local food front that concern me, if we are to respond to another area of the country, another area of the world, supplying a lot of our fruits and vegetables for us. And looking at how we could do that ourselves. We can't do it, if there's no land" - Interviewee 3

Environmental Benefits

Connects the issue of farmland protection as a threat to the functioning and balance of our ecosystems and the other benefits we get from agricultural land.

"...and the health of the land and the biological diversity that [it] offers not just to the farm animals but the pollinators that came back, the birds of prey, and all these different creatures that weren't living there when the land was dead." - Interviewee 10

National Security

Connects the issue of farmland protection to the role agriculture plays in protecting the interests of the U.S. Specifically, the risk of farmland loss to our national security.

"National food security is national security. And that's become even more apparent to people during COVID. And of course, now with Ukraine, people are like, wow, we can grow food here. Maybe we shouldn't be building houses." - Interviewee 4

Resource and Cultural Loss

The resource and cultural loss frame is the combination of the threatened resource and cultural importance frames. We combined these two frames because both point to the historical importance of Idaho's agricultural land. For the threatened resource frame, agricultural land is valued according to the belief that it has been a part of the landscape and it should continue to be. The threatened resource frame was mentioned in 8/10 interviews. Seeing the loss of agricultural land becoming more a threat was often the entry point for interviewees having an interest in farmland protection. When speaking to the loss of farmland they often had a strong visceral reaction. Commonly, interviewees described the disappearing farmland as "heartbreaking" and "heart wrenching". For the cultural importance frame, the value of farmland is related to the cultural identity of Idaho. It was mentioned in 9/10 interviews. Many interviewees voiced that Idaho's agricultural land is a key reason why people are attracted to the state. They see the agricultural industry to be a core trait of Idahoans, Idaho's traditions, and quality of life. For example, "I want to preserve a way of life, and a heritage for the people like me and for people who appreciate knowing that it's out there."

These frames will likely resonate with an audience that has previous values associated with tradition as well as those seeking to preserve their 'quality of life' (Lakoff, 1995; Furstenberg, 2012). A positive aspect of the threatened resource frame is that issues that are seen as severe and urgent are more likely to receive attention and be acted on (Smith and Larimer, 2018).

Therefore, the threatened resource frame brings attention to the problem of farmland loss and subsequently the need for solutions. It will be important to align the identified problem with potential solutions at key moments to effectively use the momentum of a recognized crisis (Perry and Kingdon, 1984).

A potential disadvantage of these frames is that they may be divisive and exacerbate conflict between urban and rural communities (Rodden, 2019). The expansion of urban areas within the Treasure Valley has led to urban encroachment of rural communities and likely subsequent conflict (Sprague et al., 2017; Oberholtzer et al., 2010). Urban-rural conflict is often a result of people who have little understanding of agricultural operations moving into rural communities

**"You just have to drive from here (Boise) to Caldwell. It's pretty easy to see that it's the flat farmland with the good soils that is being gobbled up for development."
- Interviewee 1**

and finding agricultural practices a nuisance (Dolven, 2021). With drastic historical and expected continued increase in urban populations, and pressures to provide affordable housing throughout Idaho, urban-rural conflict is likely to heighten (Angel et al., 2011). As these frames may evoke sentiments related to the urban-rural conflict, it may have perverse effects.

Relatedly, these frames may have additional perverse effects by unintentionally promoting the partisan divide between urban and rural communities. Historically, heavily populated urban centers traditionally lean left whereas rural communities often lean right (Rodden, 2019; Rachman, 2018). A lesson learned from framing climate change and other environmental issues is that it will be important to carefully craft messages to prevent the issue of farmland loss becoming a partisan issue or worsening the divide between urban and rural (Dunlap et al., 2016; Salka, 2001). This is of particular concern as more and more people are voting based on party alliances (Cook, 2020; Cummings, 2020).

Overall, these frames are likely powerful, but in order to avoid unintended effects it will be important to target messages to specific audiences.

The threatened resource frame may point towards conservation easements programs, or similar programs like purchase/transfer of development rights, that prevent land from being developed in perpetuity (Daniels, 2019; Duke and Lynch, 2006). While these programs rely on the individual farmer's choice to preserve lands, they have been established since the early 1980s and by early 2017 they have protected nearly six million acres of agricultural land (Dolven, 2021). As exemplified by their success, conservation easements have had broad general support. However, critics have begun to question the effectiveness of easements and whether only wealthy landowners are able to afford to place easements on their land (Parker, 2019). It is common for a farmer to choose to avoid placing an easement on their land in fear of losing potential benefits (Cross et al., 2011). Despite criticisms, easements on forested land have been well received in Idaho, and it may be possible to transfer this success over to agricultural land (Ridler, 2022).

**"Whatever we can do to maintain the beauty and uniqueness of Idaho."
- Interviewee 9**

A policy that will likely align with the cultural importance frame is expanding Idaho's RTFA protections beyond nuisance. North Dakota passed an amendment in 2012 that created a constitutional right to farm and ranch (Dolven, 2021). An action similar to the amendment to North Dakota would send a clear message of the importance of protecting Idaho's farmland and solidify support for farmers.

Economy and Trade

The economy and trade frame combines regional economy and national/global trade arguments and concerns. We combined them because both relate to the value of farmland in terms of its role in the economy. The regional economy frame was mentioned in 7/10 and the national/global trade frame was mentioned in 6/10 interviews.

Commonly, the regional economy frame was mentioned in combination with agriculture being a large part of Idaho's economy and a passion for preserving the economy as it is a piece of Idaho's history (Idaho State Department of Agriculture, 2021). For example, an interviewee stated "Agriculture is a big part of not just our economy, but our culture and history." Additionally, there is a fear of economic uncertainty or economic collapse; that without the agricultural industry Idaho won't have a stable economy. Interviewees also mentioned the broad reach of the Idaho agricultural industry. For example, one interviewee spoke to the complexities of the agricultural economy. "It's not just the farm. It's the farm, it's the processing facilities, the distribution...it's all these other economic components that you lose when you lose farmland." Interestingly, a few interviewees drew a connection between equity and the economy by articulating the importance of laborers and immigrants in the agricultural industry. In addition, the national/global trade frame overlapped heavily with the regional economy frame.

**"We've worked hard to build up those soils to where we have this very robust economy"
- Interviewee 2**

**"It's 20% of our GDP. Idaho is feeding the world."
- Interviewee 2**

However, in this case, interviewees expanded their arguments to emphasize the importance of the Treasure Valley's agricultural industry in terms of its global significance. A common phrase was "Idaho is feeding the world".

In the past, frames that can draw on financial impacts, the economy, and economic growth have been shown to be effective in increasing political support (Jett and Raymond, 2021; Fletcher, 2009). They can be powerful as they are an entry point to connecting farmland protection to existing public values (i.e. economic growth, social justice, innovative opportunities, American independence). Therefore, economic growth frames provide tangible benefits that are likely to appeal to a broad audience.

A potential disadvantage of economic frames in the case of farmland protection is that land can often be used for multiple economically-beneficial purposes, which may be in tension with one another. For example, while investment in the agricultural sector through farmland protection can promote economic growth, it simultaneously restrains growth in other sectors (i.e. urban growth) (Davidson and VanderHart, 2023, Ives and Kendal, 2013). Overall, we foresee there to be minimal risk associated with utilizing these frames.

Policy solutions that may align with economic based frames point to strengthening and implementing policies that support rural communities and allow them to be resilient and sustainable (Dolven, 2021). This may include policies that recognize that the protection of farmland is linked to the people, infrastructure, and related agricultural industries (Mariola, 2005). For example, it may be beneficial to provide aid for rural communities to update their comprehensive plans, improve public services, and plan for economic development (Knaap and Chakraborty, 2007). Rural economic development can make agriculture more attractive and feasible, thereby sustaining farmland.

"We can protect the quality of life here and protect the land and the soils that we need to have a viable ag economy" - Interviewee 1

Domestic Food Security

The domestic food security frame incorporates two dimensions. One is a risk frame related to the value of protecting national or regional agricultural production to ensure all people have access to safe and nutritious food (Hinrichs et al., 2013). This dimension likely recognizes the problems inherent in an industrialized global food supply (Mooney and Hunt, 2009). The second is related to self-sufficiency and the ability to sustain one's self, family, and community. This dimension likely recognizes the need for food availability within one's own region (Mooney and Hunt, 2009). The frame was mentioned in 6/10 interviews and most strongly advocated for drawing a connection between a desire to protect local food sources and the issue of farmland loss. In other instances, the frame was mentioned in conjunction with other frames. For example, one interviewee stated "I think part of it is Idahoans having access to fresh food. How do we use land as a way to protect our important biodiversity and the reasons why people are attracted to the state. And then, I think there's the economic side of things."

This frame may have the advantage of having a wide appeal across political parties. Everyone eats. The population of people that lean politically left may resonate with this frame as it integrates into values associated with the environment, the economy, personal health, and social health of their community (Delind, 2011). People who lean politically right may similarly resonate with the domestic food security frame, but might do so more because it appeals to the agricultural history and tradition of the region and promotes self-sufficiency (Lakoff, 1995; Furstenberg, 2012).

"Part of the quality of life that we have here is a function of community resilience and making sure that we still have enough local Ag." - Interviewee 2

"We could, if we chose to, grow much of that food here." -Interviewee 3

"You go down to your neighbor and get half a beef and vegetables. You don't have to rely on it being trucked in, like other places" - Interviewee 4

A potential vulnerability of relying on this frame, however, is that the U.S. food system, despite increasing popularity of and investment in local food systems, is dominated by conventional, large-scale operations that are integrated into global markets (Carolan, 2016). Therefore, while the domestic food security frame is valuable for its appeal to a large audience, it can easily be dismissed by arguments that the U.S. primarily relies on food supplied from across the country and around the world. In sum, the domestic food security frame connects the issue of farmland loss to community level concerns, however, the frame has the disadvantage of being easily debunked given the global and systemic nature of our food systems.

Current policy solutions that may align with the domestic food security frame are likely ones that support adaptive strategies for farmers to continue operations near urban centers (Clark et al., 2014). For example, policies could include agricultural protection areas or zoning regulations to manage growth's infringement on agriculture. Another tool that could be valuable is continued improvement of Idaho's current Right to Farm Act (RTFA) and Use Value Tax Relief programs as urban encroachment on agricultural land will likely result in conflict with nearby residents and increases in property taxes (Utah Department of Agriculture and Food, 2022; Dolven, 2021; Clark et al., 2014). Furthermore, it could be valuable to amend Idaho's RTFA to encourage all profitable production-based pursuits (i.e. agritourism) and protect growing agricultural operations in urbanizing areas (Dolven, 2021). We expect there to be minimal political risk associated with these tools; however, adjustments to comprehensive plans that infringe on private property rights may be viewed unfavorably by many, and especially by conservatives (Rusby, 2022; Duke and Lynch, 2006).

Environmental Benefits

The environmental benefits frame relates the importance of farmland to the resiliency of our natural environment. The environmental frame was mentioned in 4/10 interviews with mentioned benefits including sequestration of carbon and relatedly the potential to mitigate climate change, water availability, and biodiversity. Often, environmental benefits of agriculture were seen as becoming more important moving forward as agriculture as a solution for climate change becomes more mainstream (Seddon et al., 2020; Fargione et al., 2018).

With strategic messaging, this frame can encourage valuing the land for multiple services (i.e. biodiversity conservation, water retention, pollination etc.) and may be a greater motivation for farmland protection than food production or monetary value alone (Gould et al., 2015; Ives and Kendal, 2013). This frame can demonstrate the multifaceted public values of farmland and thus may broaden the appeal of farmland protection to a wider audience. In addition, it can build on previous successes of the conservation of open space (Ives and Kendal, 2013).

A disadvantage of the environmental benefits frame is that the vulnerabilities found in the environmental movement are likely to spill over. The environmental movement has been criticized for only addressing audiences that are already concerned about the environment and believe in the intrinsic value of the environment (Kusmanoff et al., 2016). In other words, the environmental benefits frame may fail to engage a politically diverse audience.

Historically, in conservative states environmentalism and liberalism have been linked, making it difficult for environmental issues to gain widespread support. Such terms like “conservation”, “environmental benefit”, or “climate change” have often invoked a negative response from people who lean right politically (Krugman, 2022; Funk and Hefferon, 2019; McCright and Dunlap, 2010). This is an important consideration as Idaho is a historically conservative state. Idaho has a higher percentage of climate change skeptics than the national average, which may give some insight on how political ideology in Idaho may influence salience on environmental issues (Haltinner and Sarathchandra, 2021).

**"Changes in our climate aren't directly within our control, but we can plan for resiliency."
- Interviewee 10**

**"How do we use land as a way to protect our important biodiversity and a lot of the reasons why people are attracted to the state."
- Interviewee 10**

**"The icing on the cake is environmental outcomes."
-Interviewee 5**

Despite indicators of anti-environmental beliefs, the appeal of environmentalism in Idaho is growing. Colorado College's 2023 Conservation in the West Poll reports 64% of polled Idaho residents consider themselves conservationists (Colorado College, 2023). Additionally, research has shown that religious beliefs can align with the environment. The Latter-day Saints, evangelical, and Catholic churches often have a belief that humans should be stewards of the earth. Idaho has a high population of people who identify as evangelical Protestants, Latter-day Saints, and Christian, which may indicate that environmental framings may have resonance within some conservative communities (Haltinner and Sarathchandra, 2021).

In sum, frames that only promote environmental benefit and do not include landholder or other social benefits may not appeal to a large audience. But there is growing evidence that an environmental frame for Idaho may have greater interest than previously thought.

Policy solutions that bring awareness and make efforts to engage local communities on regenerative agriculture and its benefits to the health of the soil, water retention, biodiversity, and functioning ecosystems are likely to align with the environmental benefits frame. Regenerative agriculture has been receiving significant attention. In 2017 the Rodale Institute launched its Regenerative Organic Certification. To date, the Rodale Institute has certified over 700,000 acres (Regenerative Organic Alliance, 2023). Recently, King Arthur Baking Company committed to source 100% of their flour from regeneratively grown wheat by 2030 (Anastopoulo, 2022). Despite regenerative agriculture's increasing popularity, the farming strategy has many descriptions and no agreed definition. This poses considerable challenges for researchers, farmers, policy-makers, and consumers to understand regenerative concepts (Khangura et al, 2023; Newton et al., 2020). For regenerative practices to become more pervasive, it will be important to build knowledge of benefits and the mechanisms available to promote such social, environmental, and economic benefits. Such political actions are likely to have minimal risk because regenerative agriculture is already becoming more popular and pervasive (Lewis, 2021). Additionally, conservation easement programs that protect farmland and open space in perpetuity are likely to align with the environmental benefits frame. This is because agricultural easements have the goal to protect productive land and promote environmental conservation (Miller et al., 2010).

National Security

Lastly, the national security frame relates Idaho's agricultural land to its role in protecting the interest of the U.S., particularly the risk to food independence, ability to withstand and recover from terrorist attacks, and power in foreign relationships (Mooney and Hunt, 2009). The national security frame was mentioned in 3/10 interviews. The way in which individuals articulated the importance of agricultural land to national security was nuanced. One interviewee viewed the Treasure Valley's seed industry strongly contributing to global food supplies. They viewed "feeding the world" as one way to protect the interests of the U.S. Another interviewee equated national food security to national security. They voiced an increased importance of food independence given recent supply chain disruptions due to the pandemic. Lastly, interviewees articulated a fear of foreign conflict that may cut off food imports.

At the time of the interviews, the Russian invasion into Ukraine was a top news story. The invasion has led to one of the most severe refugee crises in Europe since World War 2 (Leon et al., 2022). It also severely disrupted food supply chains. Countries were left severely exposed if they relied heavily on agricultural exports from Ukraine and Russia, especially nitrogenous fertilizer from Russia and Belarus (Horton and Palumbo, 2022). Interviewees referenced the war in Ukraine and a fear of a similar conflict occurring in the U.S. They saw protecting the agricultural industry as security against such future threats.

It is likely that an approach to relate farmland protection to national security will have an appeal to populations otherwise not directly concerned with the issue. The frame may resonate with people that value American power and those who value being protected against external threats, which tends to be people who lean politically right (Fletcher, 2009; Wolsko et al., 2016).

"There is a lot of different ways to look at National Security. Feeding the world is one way that we protect our interests here in the U.S. "
- Interviewee 2

"So much of the world seed is grown here. I think it's an international issue."
- Interviewee 6

A potential disadvantage of the national security frame is it is likely to be divisive. It may resonate with specific populations and alienate others. There is consistent research demonstrating that the effects of a national security frame are contingent on partisanship (Gainous and Merry, 2022) . Therefore, if extra care is not taken to craft messages to be identity-affirming and tailored to specific audiences, it may reach people who are likely to react negatively. Those who may already be concerned about farmland protection for other reasons may become less concerned when the issue is framed to concern national security (Fletcher, 2009; Gainous and Merry, 2022). In sum, the national security frame may be valuable to bring in hard to reach populations, but it should be used with caution.

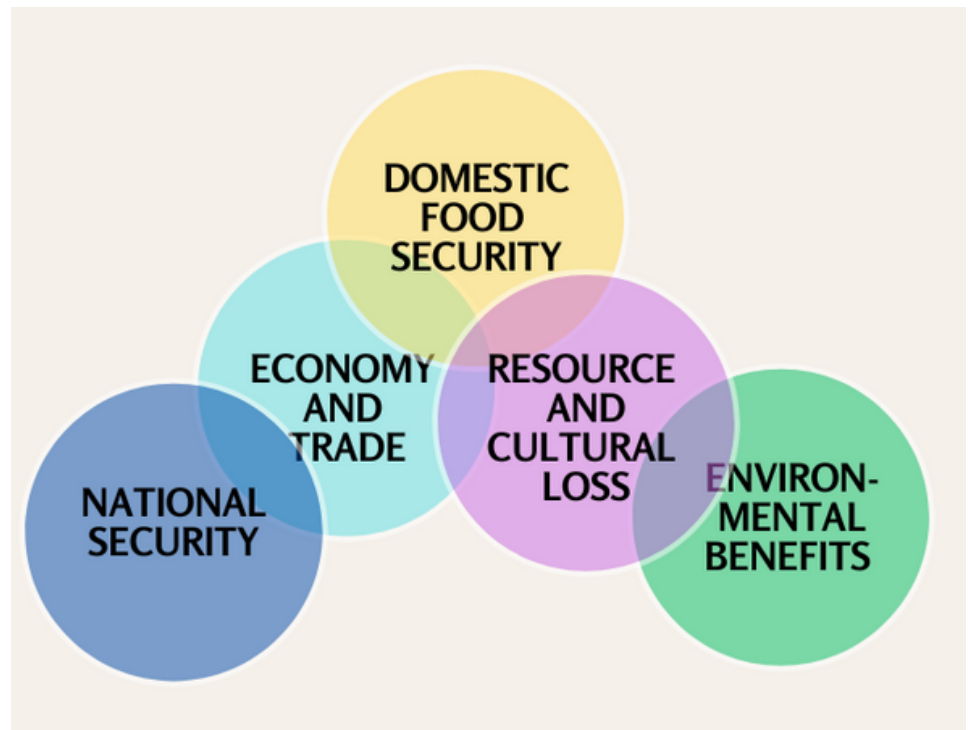
According to the USDA Economic Research Service, in 2021 imports grew by almost 17%. While typically the U.S. exports more agricultural goods than it imports, from 2012–2021 imports have grown more rapidly than exports. The U.S. imports are valued over \$150 billion and mostly consist of fruits and vegetables and other tropical productions. The U.S. most strongly relies on imports from Canada and Mexico and primarily exports to East Asia, Canada, and Mexico (USDA ERS, 2021). Based on the status of the U.S. agricultural partners, policy solutions that promote adaptability and sustainability of global food supply chains will likely align with the national security frame. Such policies are likely at the federal level and may include expanding sources of supply, encouraging bringing supply chains to the U.S., and maintaining stock of critical commodities (Jagtap et al., 2022).

Conclusion

Clear, targeted, and context specific frames are needed to align previous values to the issue of farmland protection and improve political viability (Perrin et al., 2020). Through this work we have provided some insights on what those frames and previous values may be, the likely matched audience, and the benefits and pitfalls of the prevailing frames within the farmland protection community.

We found a diversity of frames associated with the issue of farmland protection and most, if not all people, mentioned multiple values. In fact, based on our analysis many frames overlap (see the figure below). Therefore, there isn't just one reason that farmland protection is important, one frame that will resonate with all audiences, and likely not just one policy solution able to address the issue. No matter the type of solution, based on our findings it seems that solutions will need to address a variety of concerns.

Overlap Between the Five Frames



As such, solutions will likely need to evolve and over time become more encompassing to address all values behind the importance of farmland (Perrin et al., 2020). It will also be important to coordinate between urban and rural planning systems and across agricultural sectors to implement and enforce effective policies (Perrin, 2020).

Frames can be an important tool to influence political saliency. However, without careful design and execution, frames can lead to unintended consequences, increased divergence of opinions, and reinforce individual biases (Long et al., 2023). In some instances, where divisiveness could be expected, it may be better to avoid providing a new frame. In other words, there are risks of getting it wrong (Lakoff, 2010). Additionally, framing is just one piece of the policy agenda-setting puzzle. Other important pieces of the puzzle include policy advocates, interest group dynamics, and current events (Smith and Larimer, 2018). This research outlined advantages and disadvantages to a series of frames further emphasizing the importance of careful design and continued efforts to understand the reasons farmland is important.

Farmland protection is in its infancy in Idaho. Therefore, we suggest that future research continue to explore what farmland means to Idaho. This research is a stepping stone to inform future work to learn from the larger Idaho community, target specific policies and their likelihood of implementation, and identify who may be harmed by the implementation of such policies. We hope that research continues to work with the community to find solutions that best fit Idaho.

References

- American Farmland Trust, Conservation Science Partners., 2020. The States of the States: Agricultural Land Conversion Highlight Summary, Idaho.
- Anastopoulo, R., 2022. What is regenerative agriculture, and why is it so important? | King Arthur Baking URL <https://www.kingarthurbaking.com/blog/2022/09/19/what-is-regenerative-agriculture-and-why-is-it-so-important> (accessed 5.8.23).
- Angel, S., Parent, J., Civco, D.L., Blei, A., Potere, D., 2011. The dimensions of global urban expansion: Estimates and projections for all countries, 2000–2050. *Progress in Planning* 55.
- Boryan, C., Yang, Z., Mueller, R., Craig, M., 2011. Monitoring US agriculture: the US Department of Agriculture, National Agricultural Statistics Service, Cropland Data Layer Program. *Geocarto International* 26, 341–358. <https://doi.org/10.1080/10106049.2011.562309>
- Brewer, P.R., Gross, K., 2005. Values, Framing, and Citizens' Thoughts about Policy Issues: Effects on Content and Quantity. *Political Psychology* 26, 929–948. <https://doi.org/10.1111/j.1467-9221.2005.00451.x>
- Carolan, M., 2016. *The sociology of food and agriculture*. Routledge.
- Clark, J.K., Inwood, S.M., Jackson-Smith, D., 2014. Exurban Farmers' Perceptions of Land Use Policy Effectiveness: Implications for the Next Generation of Policy Development. *Journal of Agriculture, Food Systems, and Community Development* 5, 39–55. <https://doi.org/10.5304/jafscd.2014.051.001>
- Colorado College., 2023. Colorado College's State of the Rockies Project: 2023 Conservation in the West Poll. Idaho Summary Report. URL https://www.coloradocollege.edu/other/stateoftherockies/_documents/2023-poll-data-and-graphics/2023%20SotR%20StateFactSheets%20ID.pdf
- Cook, C., 2020. For More Voters Than Ever, It's the Party, Not the Person. Cook Political Report. URL <https://www.cookpolitical.com/analysis/national/national-politics/more-voters-ever-its-party-not-person> (accessed 5.8.23)
- Cross, J.E., Keske, C.M., Lacy, M.G., Hoag, D.L.K., Bastian, C.T., 2011. Adoption of conservation easements among agricultural landowners in Colorado and Wyoming: The role of economic dependence and sense of place. *Landscape and Urban Planning* 101, 75–83. <https://doi.org/10.1016/j.landurbplan.2011.01.005>
- Cummings, M., 2020. Study: Americans prize party loyalty over democratic principles. YaleNews. URL <https://news.yale.edu/2020/08/11/study-americans-prize-party-loyalty-over-democratic-principles> (accessed 5.8.23).
- Daniels, T.L., 2019. Assessing the Performance of Farmland Preservation in America's Farmland Preservation Heartland: A Policy Review. *Society & Natural Resources* 0, 1–11. <https://doi.org/10.1080/08941920.2019.1659893>
- Davis, K.F., 2016. Meeting future food demand with current agricultural resources. *Global Environmental Change* 8.
- Davidson, K., VanderHart, D., 2023. Meet the farmers who want to grow semiconductors, and their neighbors who don't. OPB. URL <https://www.opb.org/article/2023/04/04/hillsboro-oregon-portland-development-urban-growth-boundary-ugb-farmers-land-use/> (accessed 5.8.23).
- DeLind, L.B., 2011. Are local food and the local food movement taking us where we want to go? Or are we hitching our wagons to the wrong stars? *Agric Hum Values* 28, 273–283. <https://doi.org/10.1007/s10460-010-9263-0>

- Dolven, R.I., 2021. Urban Sprawl and Farmland Protection: Responding to Changes in Idaho's Treasure Valley 57 Idaho L. Rev, 269.
- Duke, J.M., Lynch, L., 2006. Farmland Retention Techniques: Property Rights Implications and Comparative Evaluation. Land Economics 82, 189–213. <https://doi.org/10.3368/le.82.2.189>
- Dunlap, R.E., McCright, A.M., Yarosh, J.H., 2016. The Political Divide on Climate Change: Partisan Polarization Widens in the U.S. Environment: Science and Policy for Sustainable Development 58, 4–23. <https://doi.org/10.1080/00139157.2016.1208995>
- Fargione, J.E., Bassett, S., Boucher, T., Bridgham, S.D., Conant, R.T., Cook-Patton, S.C., Ellis, P.W., Falcucci, A., Fourqurean, J.W., Gopalakrishna, T., Gu, H., Henderson, B., Hurteau, M.D., Kroeger, K.D., Kroeger, T., Lark, T.J., Leavitt, S.M., Lomax, G., McDonald, R.I., Megonigal, J.P., Miteva, D.A., Richardson, C.J., Sanderman, J., Shoch, D., Spawn, S.A., Veldman, J.W., Williams, C.A., Woodbury, P.B., Zganjar, C., Baranski, M., Elias, P., Houghton, R.A., Landis, E., McGlynn, E., Schlesinger, W.H., Siikamaki, J.V., Sutton-Grier, A.E., Griscom, B.W., 2018. Natural climate solutions for the United States. Science Advances 4, eaat1869. <https://doi.org/10.1126/sciadv.aat1869>
- Fletcher, A.L., 2009. Clearing the air: the contribution of frame analysis to understanding climate policy in the United States. Environmental Politics 18, 800–816. <https://doi.org/10.1080/09644010903157123>
- Freedgood, J., Hunter, M., Dempsey, J., Sorensen, A., 2020. Farms Under Threat: The State of the States. In Farms Under Threat: The State of the States.
- Funk, C., Hefferon, M., 2019. U.S. Public Views on Climate and Energy. Pew Research Center Science & Society. URL <https://www.pewresearch.org/science/2019/11/25/u-s-public-views-on-climate-and-energy/> (accessed 5.8.23).
- Furstenberg, F., 2012. Opinion | Sunday Dialogue: Rethinking Self-Reliance The New York Times. URL <https://www.nytimes.com/2012/09/30/opinion/sunday/sunday-dialogue-rethinking-self-reliance.html> (accessed 5.8.23)
- Gainous, J., Merry, M.K., 2022. Climate Change as a National Security Issue: Examining Framing Effects Across Party. American Politics Research 50, 199–212. <https://doi.org/10.1177/1532673X211053213>
- Gould, R.K., Klain, S.C., Ardoin, N.M., Satterfield, T., Woodside, U., Hannahs, N., Daily, G.C., Chan, K.M., 2015. A protocol for eliciting nonmaterial values through a cultural ecosystem services frame. Conservation Biology 29, 575–586. <https://doi.org/10.1111/cobi.12407>
- Haltinner, K., Sarathchandra, D., 2021. The Nature and Nuance of Climate Change Skepticism in the United States*. Rural Sociology 86, 673–702. <https://doi.org/10.1111/ruso.12371>
- Hinrichs, C.C., 2013. Regionalizing food security? Imperatives, intersections and contestations in a post-9/11 world. Journal of Rural Studies 29, 7–18. <https://doi.org/10.1016/j.jrurstud.2012.09.003>
- Horton, J., Palumbo, D., 2023. Russia sanctions: What impact have they had on its oil and gas exports?, 2021a. . BBC News. URL <https://www.bbc.com/news/58888451> (accessed 5.8.23)
- Idaho Crops – Idaho State Department of Agriculture, n.d. URL <https://agri.idaho.gov/main/about/about-idaho-agriculture/idaho-crops/> (accessed 4.22.20).
- Idaho State Department of Agriculture., 2021. Idaho Agriculture Facts and Statistics – Idaho State Department of Agriculture, n.d. URL <https://agri.idaho.gov/main/idaho-agriculture-facts-and-statistics/> (accessed 5.8.23).
- Inwood, S.M., Sharp, J.S., 2012. Farm persistence and adaptation at the rural–urban interface: Succession and farm adjustment. Journal of Rural Studies 28, 107–117. <https://doi.org/10.1016/j.jrurstud.2011.07.005>

- Ives, C.D., Kendal, D., 2013. Values and attitudes of the urban public towards peri-urban agricultural land. *Land Use Policy* 34, 80–90. <https://doi.org/10.1016/j.landusepol.2013.02.003>
- Jagtap, S., Trollman, H., Trollman, F., Garcia-Garcia, G., Parra-López, C., Duong, L., Martindale, W., Munekata, P.E.S., Lorenzo, J.M., Hdaifeh, A., Hassoun, A., Salonitis, K., Afy-Shararah, M., 2022. The Russia-Ukraine Conflict: Its Implications for the Global Food Supply Chains. *Foods* 11, 2098. <https://doi.org/10.3390/foods11142098>
- Jett, J., Raymond, L., 2021. Issue Framing and U.S. State Energy and Climate Policy Choice. *Rev Policy Res* 38, 278–299. <https://doi.org/10.1111/ropr.12427>
- Jones, K., Abrams, J., Belote, T., Beltran, B.J., Brandt, J., Carter, N.H., Castro, A.J., Chaffin, B.C., Metcalf, A.L., Roche-McNally, G., Wallen, K.E., Williamson, M.A., 2019. The American West as a social-ecological region: Drivers, dynamics and implications for nested social-ecological systems. *Environ. Res. Lett.* <https://doi.org/10.1088/1748-9326/ab4562>
- Khangura, R., Ferris, D., Wagg, C., Bowyer, J., 2023. Regenerative Agriculture—A Literature Review on the Practices and Mechanisms Used to Improve Soil Health. *Sustainability* 15, 2338. <https://doi.org/10.3390/su15032338>
- Knaap, G.-J., Chakraborty, A., 2007. Comprehensive Planning for Sustainable Rural Development. *Special Issue on Rural Development Policy* 37(1), 18–20.
- Krugman, P., 2022. Opinion | Why Republicans Turned Against the Environment - The New York Times. URL <https://www.nytimes.com/2022/08/15/opinion/republicans-environment-climate.html> (accessed 5.8.23).
- Kusmanoff, A.M., Fidler, F., Gordon, A., Garrard, G.E., Bekessy, S.A., 2020. Five lessons to guide more effective biodiversity conservation message framing. *Conservation Biology* 34, 1131–1141. <https://doi.org/10.1111/cobi.13482>
- Kusmanoff, A.M., Hardy, M.J., Fidler, F., Maffey, G., Raymond, C., Reed, M.S., Fitzsimons, J.A., Bekessy, S.A., 2016. Framing the private land conservation conversation: Strategic framing of the benefits of conservation participation could increase landholder engagement. *Environmental Science & Policy* 61, 124–128. <https://doi.org/10.1016/j.envsci.2016.03.016>
- Lewis, T., 2021. ‘Sustainable isn’t a thing’: why regenerative agriculture is food’s latest buzzword | Food | The Guardian. URL <https://www.theguardian.com/food/2021/jul/18/sustainable-isnt-a-thing-why-regenerative-agriculture-is-foods-latest-buzzword> (accessed 5.8.23).
- Lakoff, G., 2010. Why it Matters How We Frame the Environment. *Environmental Communication* 4, 70–81. <https://doi.org/10.1080/17524030903529749>
- Lakoff, G., 1995. Metaphor, Morality, and Politics, Or, Why Conservatives Have Left Liberals In the Dust. *Social Research* 62, 177–213.
- Leon, D.A., Jdanov, D., Gerry, C.J., Grigoriev, P., Jasilionis, D., McKee, M., Meslé, F., Penina, O., Twigg, J., Vallin, J., Vågerö, D., 2022. The Russian invasion of Ukraine and its public health consequences. *The Lancet Regional Health – Europe* 15. <https://doi.org/10.1016/j.lanepe.2022.100358>
- Long, D., Liu, H., Nayga, R.M., 2023. Polarization in Environmental Donations: Application to Deforestation-Prevention Donation. *Land Economics* 99, 122–140. <https://doi.org/10.3368/le.080921-0092R>
- Mariola, M.J., 2005. Losing ground: Farmland preservation, economic utilitarianism, and the erosion of the agrarian ideal. *Agriculture & Human Values* 22, 209–223. <https://doi.org/10.1007/s10460-004-8281-1>
- McCright, A.M., Dunlap, R.E., 2010. Anti-reflexivity. *Theory, Culture & Society* 27, 100–133. <https://doi.org/10.1177/0263276409356001>

- Miller, A.D., Bastian, C.T., McLeod, D.M., Keske, C.M., Hoag, D.L., 2010. Factors Impacting Agricultural Landowners' Willingness to Enter into Conservation Easements: A Case Study. *Society & Natural Resources* 24, 65–74. <https://doi.org/10.1080/08941920802684146>
- Mooney, P.H., Hunt, S.A., 2009. Food Security: The Elaboration of Contested Claims to a Consensus Frame*. *Rural Sociology* 74, 469–497. <https://doi.org/10.1111/j.1549-0831.2009.tb00701.x>
- Morgan, J.A., Follett, R.F., Allen, L.H., Grosso, S.D., Derner, J.D., Franzluebbbers, A., Fry, R., Paustian, K., Schoeneberger, M.M., 2010. Carbon sequestration in agricultural lands of the United States. *Journal of Soil and Water Conservation* 65, 8.
- Moroney, J. I., Castellano, R.S., 2018. Farmland loss and concern in the Treasure Valley. *Agric Hum Values* 35, 529–536. <https://doi.org/10.1007/s10460-018-9847-7>
- Newton, P., Civita, N., Frankel-Goldwater, L., Bartel, K., Johns, C., 2020. What Is Regenerative Agriculture? A Review of Scholar and Practitioner Definitions Based on Processes and Outcomes. *Frontiers in Sustainable Food Systems* 4.
- Oberholtzer, L., Clancy, K., Esseks, J.D., 2010. The future of farming on the urban edge: Insights from fifteen U.S. counties about farmland protection and farm viability. *JAFSCD* 49–75. <https://doi.org/10.5304/jafscd.2010.012.003>
- Parker, D., 2019. The Conservation-Easement Conundrum. PERC. URL <https://www.perc.org/2019/02/12/the-conservation-easement-conundrum/> (accessed 5.8.23).
- Perrin, C., Clément, C., Melot, R., Nougaredes, B., 2020. Preserving Farmland on the Urban Fringe: A Literature Review on Land Policies in Developed Countries. *Land* 9, 223. <https://doi.org/10.3390/land9070223>
- Perry, J., Kingdon, J.W., 1985. Agendas, Alternatives, and Public Policies. *Journal of Policy Analysis and Management* 4, 621. <https://doi.org/10.2307/3323801>
- Power, A.G., 2010. Ecosystem services and agriculture: tradeoffs and synergies. *Phil. Trans. R. Soc. B* 365, 2959–2971. <https://doi.org/10.1098/rstb.2010.0143>
- Rachman, G., 2018. Urban-rural splits have become the great global divider. *Financial Times*. URL <https://www.ft.com/content/e05cde76-93d6-11e8-b747-fb1e803ee64e> . (accessed 5.8.23)
- Regenerative Organic Alliance., 2023. Farm like the World Depends on it. URL <https://regenorganic.org/> (accessed 5.8.23).
- Ridler, K., 2022. Idaho Adds Another Easement to Protect Working Timberlands. URL <https://www.usnews.com/news/politics/articles/2022-10-19/idaho-adds-another-easement-to-protect-working-timberlands> (accessed 5.8.23).
- Rodden, J.A., 2019. *Why Cities Lose: The Deep Roots of the Urban-Rural Political Divide*. Basic Books.
- Rusby, E.B., 2022. Canyon County Commissioners hear testimony for, against proposed land use plan. Idaho Press. URL https://www.idahopress.com/news/local/canyon-county-commissioners-hear-testimony-for-against-proposed-land-use-plan/article_5d4a07f6-3ab8-11ed-924e-33971ecbc8b3.html (accessed 5.8.23).
- Salka, W.M., 2001. Urban-Rural Conflict Over Environmental Policy in the Western United States. *The American Review of Public Administration* 31, 33–48. <https://doi.org/10.1177/02750740122064820>
- Schilling, B.J., Esseks, J.D., Duke, J.M., Gottlieb, P.D., Lynch, L., 2015. The Future of Preserved Farmland: Ownership Succession in Three Mid-Atlantic States. *Journal of Agriculture, Food Systems, and Community Development* 5, 129–153. <https://doi.org/10.5304/jafscd.2015.052.008>

Seddon, N., Chausson, A., Berry, P., Girardin, C.A.J., Smith, A., Turner, B., 2020. Understanding the value and limits of nature-based solutions to climate change and other global challenges. *Philosophical Transactions of the Royal Society B: Biological Sciences* 375, 20190120. <https://doi.org/10.1098/rstb.2019.0120>

Smith, K.B., Larimer, C.W., 2018. Public Policy as a Concept and a Field (or Fields) of Study, in: *The Public Policy Theory Primer*. Routledge, Third edition. | Boulder, Colorado: Westview Press, 2016. | Revised edition of: *The public policy theory primer* / Kevin B. Smith & Christopher W. Larimer. 2nd ed. c2013., pp. 1–22. <https://doi.org/10.4324/9780429494352-1>

Sprague, C., Fragkias, M., Narducci, J., Brandt, J., Benner, S., 2017. Raster Data for Projecting Urban Expansion in the Treasure Valley (Idaho) to Year 2100 Under Different Scenarios of Population Growth and Housing Density. *MILES Data Sets*. <https://doi.org/10.18122/B20693>

Swinton, S.M., Lupi, F., Robertson, G.P., Hamilton, S.K., 2007. Ecosystem services and agriculture: Cultivating agricultural ecosystems for diverse benefits. *Ecological Economics, Special Section - Ecosystem Services and Agriculture* 64, 245–252. <https://doi.org/10.1016/j.ecolecon.2007.09.020>

USDA ERS - Agricultural Trade. 2023. URL <https://www.ers.usda.gov/data-products/ag-and-food-statistics-charting-the-essentials/agricultural-trade/> (accessed 5.8.23).

Utah Department of Agriculture and Food, 2022. Agricultural Protection Areas. URL <https://ag.utah.gov/farmers/conservation-division/ag-land-preservation/> (accessed 5.8.23)

Wolsko, C., Ariceaga, H., Seiden, J., 2016. Red, white, and blue enough to be green: Effects of moral framing on climate change attitudes and conservation behaviors. *Journal of Experimental Social Psychology* 65, 7–19. <https://doi.org/10.1016/j.jesp.2016.02.005>

Zhang, W., Ricketts, T.H., Kremen, C., Carney, K., Swinton, S.M., 2007. Ecosystem services and dis-services to agriculture. *Ecological Economics* 64, 253–260. <https://doi.org/10.1016/j.ecolecon.2007.02.024>

