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Report

EXPLORING PERCEPTIONS OF A VOLUNTARY AGRICULTURAL WATER CONSERVATION PROGRAM ON THE WESTERN SLOPE OF COLORADO

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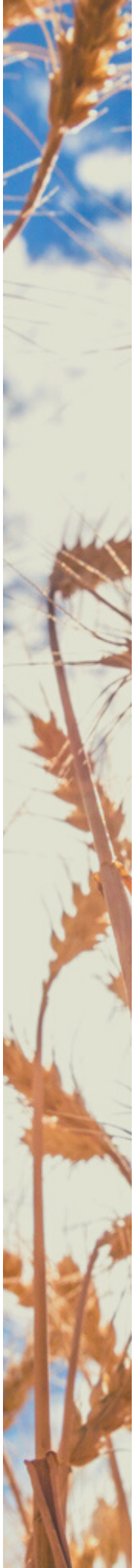

Table of Contents

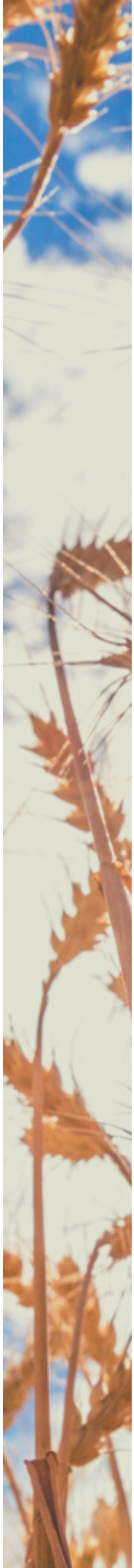

Table of Contents

EXECUTIVE SUMMARY

As stakeholders in the Upper Basin look to develop solutions to avoid curtailment under the 1922 Colorado River Compact by protecting critical levels at Lake Powell, a central question is the feasibility of a demand management program in helping provide that security. The package of drought contingency plan agreements for the Colorado River Basin, adopted on May 20, 2019 includes the authorization of a 500,000 acre-foot storage account for the Upper Basin at the four initial units of the Colorado River Storage Project (Flaming Gorge, Navajo, the Aspinall Unit, and Lake Powell). Under the agreement, the Upper Basin will also explore the feasibility of a demand management program that would conserve water in order to fill the storage account. The intended purpose of a demand management program and the associated storage account would be to provide compact security for the Upper Basin states in the face of ongoing drought and declining reservoir levels. The success of such a program is dependent upon whether the Upper Colorado River Commission, the four Upper Basin states, the Secretary of the Interior, and interested stakeholders can develop and implement a demand management program that is amenable to all parties.

Water management in the West is a contested arena, full of perspectives about what that management should look like, different relationships with water, and varying structural and legal conditions that impact how water can and cannot move from one place to another. For demand management, concerns, challenges, and roadblocks are emerging that make the design and implementation of such a program difficult. Not only are the technical, legal, financial, and geographical/landscape issues challenging, but the socio-cultural components of what a program would mean add to the complexity of investigating the feasibility of a demand management program. It is also these socio-cultural components that have been least explored by stakeholders in the demand management discussions to date.

This report, commissioned by The Nature Conservancy, was designed to assist in understanding, identifying, and addressing some of these socio-cultural components. The objective of this research was to explore perceptions of a potential demand management program among stakeholders on the Western Slope of Colorado during the late Spring of 2019. The hope is that this research would shed light on the barriers and opportunities for a demand management program, solicit ideas and feedback on what a successful program would look like, and explore why water users would or would not participate. The findings detailed in this report are based on interviews, observations at meetings, and listening sessions conducted in all four sub-basins of the Western Slope. A total of 34 participants aided in the research, including an additional 10 key informants who assisted by providing expert perspectives, information on demand management program development, and insights from their experiences working in water.

In the course of research several important themes emerged, which are explored in further detail in the main report. The summary below describes three key findings from the report along with a set of recommendations based on these findings and feedback from participants.

Key Findings

1. *Awareness and understanding of demand management varies*

   Peoples' awareness and understanding of demand management varies greatly. Their perceptions about the need for a demand management program, and whether they see such a program as unnecessary, as an opportunity, a burden, or some combination, depends greatly on how they perceive the water challenges in the Colorado River Basin. A lack of understanding of the purpose and objectives of demand management, combined with the fact that it is in the early stages of development, leads many to curiosity on what could be possible for such a program. However, the lack of clarity also leads to a prevalence of misconceptions about the purpose of demand management and creates space for suspicion and uncertainty, which can breed fear-based responses. Most often these responses came in the form of concerns that a particular area, or even the entire Western Slope, will be sacrificed for the good of everyone else in Colorado or the Basin. In addition, a lack of clarity feeds the rumor mill about what the unintended consequences of demand management could be.

   Many interviewees made an effort to reposition demand management in light of the entire Colorado River Compact and relations between the seven basin states and Mexico. These interviewees felt that to neglect discussions of these "big river issues" (such as the structural deficit) and how to address them was to ignore the underlying cause of the problem. Interviewees with concerns about the larger Colorado River system addressed how demand management fit in a few different ways. While some felt that framing demand management as a "tool" in the toolbox for Upper Basin states was imperative in this conversation, they also wanted to see recognition that the roots for creating a program like demand management emerge from fundamental problems with the Colorado River Compact. In some cases, participants said they would be more on board with demand management if they also saw efforts that included renegotiating the Interim Guidelines, addressing growth and potential water use increases in the Basin, or the implementation of shortage cuts in the Lower Basin. Another group felt that to have a conversation on demand management was pointless, as they were not interested in discussing something they felt missed the point of actually addressing Big River Issues.

2. *Defining "voluntary, compensated, temporary, and proportional/parity" is not straightforward*

   The State of Colorado has limited their current exploration of demand management to a program that would be "voluntary, temporary, and compensated." However, almost everyone

interviewed struggled to define those terms. This ties back to how people perceive the underlying water challenges in the Colorado River Basin, which shapes whether they see demand management as an opportunity or a burden. The difficulty in defining these terms also illustrates the challenge in further refining a potential demand management program.

In defining the voluntary component of a program, some interviewees saw it as the ability to choose to participate or not. This view appeals to a sense of opportunity inasmuch as it was the chance for participants to choose an option that provided them more control, a monetary benefit, and hopefully the ability to avoid worse outcomes such as a mandatory program. Others wondered how "voluntary" voluntary really was, seeing it as double-speak and questioning whether a successful program could be truly voluntary.

Compensation for participation in a demand management program was also difficult for participants to conceptualize. Instead, many ended up asking questions related to where the money would come from, who should pay for compensation, what compensation was actually for, how to ensure that compensation was not being gamed, and whether it was possible to truly compensate for water.

Just as compensation is difficult to define and voluntary takes on a range of meanings, so too does the term temporary. For many it comes down to temporary being the opposite of permanent, but just where that line is was difficult to define. This led many to equivocate with a "I'll know what temporary means, when I see it," type of response. However, most of the interviewees described temporary as not "buy and dry," but that line was also difficult to define. Overall, in the discussion between temporary versus permanent, one group views temporary as a protection from speculation and buy and dry, while the other sees it as simply a different method of arrangement, the outcome – agricultural land not in production – is the same.

There is a tension between a demand management program that would be entirely voluntary and one that would provide "parity" – that is, one that would either ensure (or equally incentivize) participation from multiple geographies and water use sectors and/or prevent disproportionate impacts to any one geography/sector. Fundamentally, proportionality or parity – depending on who you ask – is about establishing whether this is a situation in which each entity is only looking out for their best interest to the detriment of all those around them, or a collaborative endeavor that recognizes the interconnectedness between entities.

The discussion of what it means to have a voluntary, compensated, and temporary demand management program reveals a host of underlying values and concerns to irrigators and water managers on the Western Slope. Even the idea of a voluntary program is not as straight-forward as it first sounds to people when they start unpacking what the implications and secondary impacts could be. Though on the surface, "voluntary" means having the choice or freedom to

participate, that freedom is constrained by a number of things including the threats to the success of the program and the fact that everyone then has the ability to choose not to participate. Many see the free market ideals that are quilted into the fabric of Western Slope values as potentially detrimental to the long-term viability of agriculture and irrigation in the region. Without the protections afforded by a program with more controls and oversight, the power of cities could usurp the voluntary "choice" many on the Western Slope hold dear.

3. *Conversations about demand management are linked to other tensions*

   Conversations about demand management, especially on the West Slope, do not take place in a vacuum but tap into other pressures (past and present) on natural resource management and concerns about what the future holds. There is a general sense of vulnerability and fear that each community is in the cross hairs, and a feeling that a "way of life" itself is under attack. This stems from more than just demand management and calls for conserving water. Resistance to demand management is tied to a long history of extractive industries being increasingly called out for their harm to the environment, expanding regulation, and economic collapses of extractive industries. The impacts of these challenges can and have caused rural economies to collapse and towns to dry up so that they are no longer pleasant places to be. This is the landscape that demand management enters.

   Thus, demand management becomes the current scapegoat for concerns that rural areas and economies are being pushed further to the margins and the sense that irrigated agriculture has a target on its back. Demand management is perceived, by some, as an unsurprising continuation of a long string of threats to the way that things have been done. Resistance then is seen as a powerful tool in defending a way of life and an existence that is perceived to be endangered. Evidence from communities in Crowley County – the "go to" reference for communities impacted by "buy and dry" practices – serves as a visceral and powerful reminder that Western slope communities are vulnerable.

Key Recommendations

The following recommendations for stakeholders investigating demand management are based on the report's main findings and feedback from interviewees:

- The lack of clarity, awareness, and understanding of demand management leads to confusion and uncertainty. This can create resistance as people try to fill in the knowledge gaps on their own.
- Terms used to describe a potential demand management (voluntary, compensated, temporary, and proportional/parity) are not as straight-forward as they appear but are surprisingly tricky and difficult to define. To treat them as simple will miss key insights gathered from this research.

- Symbolic efforts and gestures from entities perceived as more powerful (e.g. Front Range municipalities) will go a long way in opening the conversation around water issues and demand management.
- A "one-size-fits-all" approach for demand management could create structures of inequality, either in access to participation in a demand management program or in prioritizing certain areas over others.
- In terms of outreach and education, recommendations from those who worked in land and water conservation as well as those involved in grassroots communication efforts emphasized the importance of relationships and involvement of those "on-the-ground" who understand how the water moves through the landscape.
- It is vital to acknowledge and recognize that the conversation about demand management taps into much deeper waters. Not only is this a discussion about recognizing the value the Western Slope plays in helping define what "Colorado" means, it is also about shaping the future of Colorado.

It is important to understand the social and cultural perceptions of demand management because they help shed light on why feelings of opportunity and resistance to demand management exist, how those feelings can be tied to current economic and political conditions, and where opportunities might be to find a path forward.

SECTION 1. INTRODUCTION

As stakeholders in the Upper Basin look to develop solutions to proactively avoid curtailment under the 1922 Colorado River Compact by protecting critical levels at Lake Powell, a central question is the feasibility of a demand management program in helping provide that security. The package of drought contingency plan agreements for the Colorado River Basin adopted on May 20, 2019 includes a demand management storage agreement for the Upper Basin that authorizes the storage of water savings from a demand management program at the four initial units of the Colorado River Storage Project (Flaming Gorge, Navajo, the Aspinall Unit, and Lake Powell). This storage account would be available free of charge for compact security if the Upper Colorado River Commission, its member states, the Secretary of Interior working through the U.S. Bureau of Reclamation, and interested stakeholders can investigate, develop, and agree on a demand management program for the Upper Colorado River Basin.

As with any complex water management challenge, there will be multiple perspectives on the design and implementation of a demand management program. Already emerging in this conversation are concerns around what it will take to make such a program successful, as creating conserved consumptive use water is much more difficult than simply reducing diversions or implementing efficiency projects. Clear, easy, black and white answers to this issue do not exist. Not only are the technical, legal, financial, and geographical/landscape issues challenging, but the socio-cultural components of what a program would mean adds to the difficulty. It is also these components that have been least explored by stakeholders in the demand management discussions to date.

To address that, the research described in this report, undertaken during March – May 2019, focuses primarily on exploring and unpacking the perceptions of a demand

"What term should we use? I guess we use 'demand management' now, don't we? [laughing]."
- Farmer, Gunnison Basin

"When economic necessity collides with cultural-identify and moral-religious imperatives...the resulting dissonance can be excruciating."
- P.E. Tetlock [1]

"This IS rocket science."
- Agriculturalist, Gunnison Basin

[1] Tetlock, P.E. 2003. "Thinking the unthinkable: Sacred values and taboo cognitions." *Trends in Cognitive Sciences*. 7:7, 320-324.

management program among residents of the Western Slope in Colorado. More specifically, this work emphasized the social and cultural dimensions of those perceptions to help understand support and resistance to the creation of demand management program as well as the potential opportunities, barriers, and unintended consequences of a program. This report is the result of participant observations, interviews, and listening sessions centered on three main research questions:

> "...we continue to treat the allocation of water as a technical problem when, in fact, it is a social problem."
> - Larry Susskind

1. *What do potential participants think it will take to make a successful demand management program?*
2. *Why would people be willing to participate and what would limit participation?*
3. *What should a demand management program look like?*

The results of the research presented in this report illuminate issues much bigger than this basic set of questions – with participants often asking questions themselves that get at the heart of the divide between the Front Range and Western Slope, the divide between urban and rural livelihoods and lifestyles, and perceived inequities in the Colorado River Compact. One of the main questions many interviewees touched on was whether demand management represented an opportunity, a burden, something else more sinister, or some combination of all of the above. Demand management is controversial. This is partly because there is an educational and information barrier, partly because many feel it is not addressing the real problem, and finally, also because it is just downright hard. As one interviewee put it when describing the complexity of issues and tensions that come together in an attempt to address the issues facing the Colorado River: "*this IS rocket science*."

REPORT OVERVIEW

This report is organized thematically based on analysis of notes from observations and transcriptions of interviews and listening sessions. The process of analyzing this data allows relevant themes that appear across all elements to emerge. Thus, the themes discussed in this report are not the opinion of just one individual, but many. This means that the report reflects the perceptions that exist, as well as the challenges and opportunities present in people's reflections on a demand management program. Additionally, if interviewees share incorrect information or misrepresentations, that becomes part of the research findings and can be useful in identifying areas that need to be addressed through education or outreach.

Information presented in this report is a result of multiple field visits to each of the four West Slope sub-basins, in-person interviews, phone interviews, and group listening sessions. This includes official interviews with 22 individuals and conversations with 14

people who attended a listening session in the Southwest Basin or in Grand Junction. Of the 34 total participants, 7 were from the Yampa Basin; 9 were from the Southwest; 7 were from the Gunnison Basin; and 11 were from the Colorado main stem. Additionally, I had regular conversations with 10 stakeholders and knowledgeable experts, both to solicit their impressions of demand management, but also to make connections with residents in their areas. Participants included farmers, ranchers, water lawyers, irrigation managers, water policy experts, and Roundtable members. Unfortunately, due to time constraints, there is an extensive list of people I was not able to connect with for an interview.

Below, this report explores the results of the research, which have been organized into five main categories. The first results section, **QUESTION IT ALL**, explores participants desire to discuss the larger context of demand management in light of issues in the Colorado River basin. Here, participants reflected on whether and how demand management fits into this larger puzzle. The second section, **WHAT IS DEMAND MANAGEMENT?**, considers the lack of awareness and understanding of demand management on the Western Slope and among irrigators. The third section, **DEFINING VOLUNTARY, COMPENSATED, TEMPORARY AND PROPORTIONAL / PARITY**, examines the different ways participants interpret the key terms used to describe a potential demand management program. The next section unpacks the **DIFFERENT RELATIONSHIPS WITH WATER**. This refers to how differences in geography and landscape across the Western Slope, as well as different legal relationships with water, can impact the perceived feasibility of participating in a demand management program. The final section on **SACRED VALUES** focuses on the social and cultural components that influence and shape how water users and other stakeholders think about demand management in the context of the Western Slope. These components tap into deeply held ideals, values and beliefs that when confronted with potential reductions in water use can either feel threatening or full of potential. The **CONCLUSION** discusses key takeaways based on interviewee recommendations that emerged from interviews and listening sessions.

SECTION 2. QUESTION IT ALL

A main theme that came up while conducting all interviews was an effort to reposition demand management in light of the entire Colorado River Compact and relations between the seven basin states and Mexico. Many interviewees felt that to neglect discussions of "Big River Issues" and how to address these issues (such as the structural deficit) was to ignore the underlying cause of the problem. Some felt that situating demand management as a "tool" in the toolbox for Upper Basin states is imperative in this conversation, but also is acknowledging that the roots for creating a program like demand management emerge from what some interviewees perceive as a systemic imbalance in the Colorado River Compact.

Interviewees who questioned the whole system primarily discussed the "big river issues" like the Colorado River Compact and how demand management fit in in two different ways. Some interviewees contended that without addressing the bigger issues on the river, demand management was just a band-aid. Therefore, for any constructive conversation to go forward about demand management, they also wanted to see Colorado water officials working to fix the imbalances in the system. For some participants this included renegotiating the Colorado River Compact, addressing growth and potential water use increases in the Basin, and the implementation of shortage cuts in the Lower Basin. Another group felt that to have a conversation on demand management itself was pointless, as they were not interested in discussing something that they felt was missing the entire point of actually addressing big river issues. Within this second group, there were varying responses to why demand management might or might not be a useful tool.

Section 2 A. Big River Issues

In terms of addressing big river issues, an irrigator who has lived on the Western Slope for most of his life broke down how he understands the situation, summing up the feelings of several interviewees when he said:

> *So, the Colorado River Compact demands that we send seven half million acre feet annually or 75 over 10. We've been doing that. We've been doing nine, over nine and well, whether climate change is real or not – I tend to be a skeptic – if it is, and we actually get to the point where our annual flows aren't just, we just can't do it, we have to reduce consumptive use, then we'll probably have to go mandatory. But before we do that, this is a, this crisis is almost a straw man because Lower Basin's been over-consuming, way over-consuming. And that's resulted in the big two reservoirs being really low and the threat of losing power. Well, it's not our fault. We've been sending nine million plus down. Just because you've been using 10 and drawn those reservoirs down doesn't mean... So, what could we do where we could renegotiate those Interim*

Guidelines sooner rather than later that are dictating us continuing to pull Lake Powell down? Because that's the Upper Basin storage pool.

[A respected Colorado engineer] went back and looked and said, "if we hadn't had those Interim Guidelines, Lake Powell would have 10 million or more acre feet in it now than it does." And we wouldn't be worried about losing power in Powell. Mead may be dry, but they would've had to cut back way before they finally have started to putting their own DCPs. They would have done that 15 years ago if they'd seen their lake going low, but they didn't. They just [said], "what we'll do is borrow some more from Powell."

So, I think there's some administration things and of course I understand there's way more votes in California than there is Colorado and Wyoming, so I don't know if that can ever change.

This was a sentiment encountered in several interviews with Western Slope irrigators and water managers: that the larger issue relating to Mead and Powell stemmed from overuse in the Lower Basin coupled with the Interim Guidelines that allowed for equalization of the pools between the reservoirs[2]. Many felt that though demand management wasn't about refilling Powell (but protecting the Upper Basin in future times of shortage from a compact call), there wouldn't be a conversation or pressure for a demand management program if Powell had not been used to equalize Mead. Additionally, many felt that the Upper Basin should be credited in some way for sending more water than was required.

When this narrative emerges, it changes the conversation about demand management in that it moves the focus away from creating a demand management program – which in this context appears less useful – and refocuses the conversation on the larger issues of the Basin. It also brings up feelings of resentment towards the Lower Basin, who are perceived to have overconsumed for a long period of time without restriction or penalty. The Interim Guidelines, many interviewees felt, had the unintended consequences of not only harming the Upper Basin, but preventing the Lower Basin from feeling the squeeze of their own over-consumption. Thus, in some ways the call to create a demand management program now feels like a further step in the wrong direction to these participants, despite the fact that its purpose is to protect the Upper Basin.

Section 2 B. Is Demand Management Even Enough?

This leads into another issue raised by interviewees related to demand management and big river issues – the concern that because of the larger issues on the river, that the demand management program, as currently described, will not be enough to meet a shortage, should it come to that. "*The*

[2] As a reminder, it is not the job of the researcher to verify or challenge claims like this, merely to present where people are at in their understanding and perspective.

real water gurus say 500,000 [acre feet] is not enough anyway," stated one irrigator. This sense that demand management was not enough to change or address the larger problems facing the River Basin carried through multiple interviews.

Participants also expressed concern that the process for developing a demand management program was not worth the effort. This perception, though focused again on the whole river, speaks to the feelings of several interviewees. One rancher described the response of demand management by comparing it to budgeting:

> *So, it's like if you and your husband were having [a budgeting conversation] and you said, well "boy, you know the outgoing is a little bit more than the income here. Quite a bit more and we're adding up on the credit card. What are we going to do?" And so you sat down and wrote a list. You wouldn't say, "well, we're going to buy generic cornflakes instead of Kellogg's from now on and see if that does any good." You might say, "you know what? We've probably got to get rid of the one of the cars and get an old cheap [car] and not have two car payments."*
>
> *I mean, you'd have to look at the items that make a difference and then figure out the pain involved with those. You wouldn't spend too much time arguing about whether saving on breakfast cereal was going to get you there. That's a little bit of an overstatement because I know you can do some good here, but with the pain involved and the complications, doing it for such a minimal benefit almost seems like beating your head against the wall over breakfast cereal.*

Thus, in spite of the fact that these irrigators do not necessarily want to give up water, the sense that it makes a real difference to the balance and availability of water in the Basin matters. Irrigators, like this rancher, describe a program in which the sacrifice they make by reducing consumptive use makes a difference. In other words, if there is going to be pain, make sure the outcome or benefits are there to the Upper Basin. "*Renegotiating Interim Guidelines,*" explains one rancher, "*would take a lot of the pressure off of doing demand management.*" While this perception speaks to the larger format of the program and seeks to get at some of the big river issues, there is the feeling that demand management, ironically, is not enough, but is a middling, mediocre band-aid that not only fails to address the big issues, but also is not worth the effort if it doesn't move the needle away from crisis.


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There is a vocal minority who feel that this emphasis should be taken even further, making the

conversation about demand management completely irrelevant, as this farmer describes:

> *...as for the mechanics of shepherding and auctioning water, I don't care 'cause we don't want to do it in the first place… At this point, the only thing I care about is the big river issues, not the demand management bullshit 'cause it's not a valid thing to be doing in my book in the first place… I don't give a crap about demand management and how it's gonna work. I'm a big river person… Colorado is giving away our water and Arizona [has a] stake in it and if they keep doing it, we're not going to have any water. So, that's the issue.*

The contention this farmer explains is that by focusing on demand management and avoiding the larger river issues, Colorado is selling its own people, water, and agricultural production down the stream. This feels like a real, viable threat to the loss of Western Slope livelihoods and thus is missing the point. Demand management for this group is simply a wolf in sheep's clothing and another "kinder, gentler" way to destroy rural economies in the Upper Basin for the sake of cities and other states who are better prepared for litigation. Therefore, because of this interpretation of demand management, and the focus on larger river issues, conversation about what demand management is become completely irrelevant and seem to only perpetuate the idea of the Western Slope as a "sacrificial lamb". (Further elucidation and discussion of this sentiment can be found in the section on **SACRED VALUES**).

Section 2 C. Climate Change Rules

Finally, when it comes to the influence of big river issues on the discussion around demand management, one of the prevailing concerns is the impact of climate change. "*Climate change rules*," stated one farmer in the Gunnison Basin, referring to how dependent all the conversations about planning for a water future in the Basin were on the impacts of climate change. Even interviewees who expressed skepticism that climate change was a real phenomenon recognized that "*future hydrology is volatile and uncertain*" as one farmer put it. "*If there's less, there's less*" and the sense that this uncertainty undergirds concern and fear for the future of water security makes conversations about demand management important, fragile and contested.

Section 2 D. Conclusion

"...if there's less, there's less."

This section explored the concerns several interviewees expressed regarding the entire premise of demand management as a program; namely, that without addressing the larger issues with the Colorado River Compact and Law of the River,

demand management would simply be a band-aid. This response for some meant they wanted to see a demand management program in conjunction with efforts to address the Interim Guidelines, the structural deficit, and Colorado's future water use. The importance of creating a demand management program that is perceived to be worth the headache was tantamount to many. While for others, the entire premise of demand management was invalid in their eyes. In the face of an uncertain future with volatile hydrology and climate, combined with population growth, demand management without a larger plan to address these pressures misses the point.

SECTION 3. WHAT IS DEMAND MANAGEMENT?

The second major theme focuses on the confusion and lack of awareness about what demand management is in the eyes of irrigators, water managers, lawyers, roundtable members, and others who work in water. Almost immediately upon beginning to conduct interviews, it became apparent that more than anything, participants were curious about demand management. Not only was there a general unawareness of it outside of basin roundtable members, but even people with more understanding had a difficult time articulating precisely what they wanted to see in a demand management program. This lack of awareness and clarity leads to significant misconceptions about what demand management is and what it could be. In some cases, that vacuum leads to potential misconceptions and fear-based responses. In order to fill the gaps in understanding about the mechanisms of such a program, some stakeholders compared it to other conservation projects. Finally, stakeholders worked to define demand management as "another tool in the toolbox" for addressing Colorado River Basin issues. This framing of demand management resonated with many irrigators, but not always positively.

Section 3 A. General Awareness About Demand Management

During the course of the interviews and listening sessions, it became very apparent that there were varying levels of awareness about demand management. This awareness ranged from only having heard the term a few times (but having little to no sense of what it meant) to involvement in the process to assess demand management at the Roundtable level and perhaps applications to the Colorado Water Conservation Board (CWCB) demand management workgroups[3]. Interviewees explained that a significant number of people they knew, along with the general public, seemed to be completely unaware of efforts to develop a demand management program. Additionally, they also noted that there was, among those more aware of the developing process, a basic curiosity about what demand management is or would become. Furthermore, among those who may have heard of the term "demand management," there were significant misconceptions and lack of clarity as to the main purpose and goal of the program. It is important to be aware of these varying levels of awareness and clarity on purpose going forward in order to understand what needs to be done to bring the irrigating and general population of Colorado up to date.

One farmer in the Lower Gunnison pointed out that:

> *No one that I know of is talking about water banking [laughing], demand management, or whatever term we want to use. The only ones talking about it are the people being paid to talk about it, like the CWCB and Aaron [Derwingson] and company. But I'm exaggerating a little bit, those who have participated in it, still are in the conversation somewhat. But it certainly isn't a major topic.*

[3] http://cwcb.state.co.us/water-management/Pages/DemandManagement.aspx

This demonstrates that at least in terms of those who are not present at roundtable meetings or other water related meetings, may not even be aware that the program is being discussed.


Photo © Robert Clark

Additionally, as a retired engineer from the Western Slope described, "*I think there is a lot of maybe misconceptions or misunderstanding [sic] so far. They don't understand how it could work or what is going to happen*." This lack of understanding of the goal of demand management, as well as that it currently is still in early stages of development, leads to curiosity, as this irrigator in the Yampa Basin describes, "*I think that most people are busy making a living. They've heard a little bit about it. Uh, they are, their ears might perk up when they hear, 'Oh, you might get paid to not irrigate. Maybe that'd be better than irrigating. And so, we'll see what happens.' And that's about as much an understanding as most people have*." This coincides with my experience in conducting these interviews as there were several times both before the interview or focus group began where a participant would ask me, "what does demand management mean to YOU?" The first time I received this question I attempted to diplomatically lay out my philosophical approach to demand management and Western Slope agriculture. However, the question was re-stated, revealing that the participant genuinely wished to know what topic we were talking about. It was my sense that providing additional clarity was sometimes needed to guide the interviews.

The lack of clarity and prevalence of misconceptions about the purpose of demand management also creates space for suspicion and uncertainty, which can breed fear-based responses. (Further discussion of this sentiment can be found in the section on **SACRED VALUES**). Most often these responses came in the form of being afraid of being the area that is sacrificed for the good of everyone else, as this person who works in water issues in the Yampa explained, "*the general consensus [from the people who are sort of more in the water management world] is that we just need to make sure we're at the table and we protect what we have… and so figure out a way to that we're not being sacrificed for the rest of the state*." In addition, lack of information and misconceptions feed the rumor mill about what the unintended consequences of demand management could be. Without comprehensive education and outreach on the purpose of the program, rumors can and will continue to develop.

A resident of the Western Slope, who has worked on water related issues at the state-level, believes that part of the reason that there is such a lack of awareness and much misunderstanding is because there is a disconnect. She explains:

> *I believe that there is a disconnect between the state level conversations and the conversations happening with the individual irrigators. I think the irrigators are generally aware of these conversations. You know, if they read the cattleman's magazine*

and they go to like an annual meeting here and there they'll have heard about it. But in general, there's, I think there's a pretty big disconnect between the water policy conversations that are happening. And then the individual users, especially in places like here where there really aren't irrigation districts, so there's no like general manager, you know, of an irrigation district….

Her point highlights the mismatch between those who are immediately and continually involved in these conversations, not recognizing or perhaps not as aware, that the specifics of demand management have not infiltrated all parts of the state. Additionally, this disconnect between those having the conversations and those who are on the ground, irrigating, could be detrimental to the future success of any demand management program.

Section 3 B. Connecting the Idea of "Demand Management" to Other Water Projects

In the attempt to understand what demand management is and isn't, irrigators and water managers have filled in some of the gaps by attempting to define it for themselves. One example of this is the idea that demand management is nothing new – it is just a continuation of the conversations about water management in Colorado when it comes to scarcity. Others see demand management as just another tool in the toolbox for farming and irrigating. These ideas build off of previous experience and knowledge about what has happened in other parts of Colorado, as well as what could happen.

As some irrigators described, demand management is nothing new. It's simply an old idea – a path for dealing with and addressing shortages – being renamed and re-birthed for this occasion. A farmer in the Southwest Basin echoed a sentiment I heard from several participants when he described demand management:

So, I mean, this is not new. I mean they make, keep making [demand management] sound like it's new. I mean the compact crises were there in 2004, obviously in 2007 for the Interim Guidelines. And they almost had one in '12 and '13. And uh, it's back again... Like I said, we know demand management. And the fact that there is this history, this isn't new. They're pitching this, "Oh, it's a crisis!" It's not.

The perception that demand management is just the newest iteration of a program to reduce water use amongst farmers and ranchers on the Western Slope came through in a number of interviews. It ranged from animosity about always feeling like the West Slope was the target to recognition that ideas and programs on how to reduce consumptive use is part of what it means to farm or ranch in this era (this sentiment is discussed further in the section on **SACRED VALUES**).

A farmer on the main stem of the Colorado River also referenced the Conservation Reserve Program (CRP), a program run by the Natural Resources Conservation Service (NRCS) in the 1980s in which farmers were paid to reduce consumptive use across the country. Because the program was administered federally and it was offered outside of Western Colorado, he explained that he couldn't remember there being any push-back. But he compared that program to the possibility of demand management, which highlights the difference between his reaction and the previous farmer in the Southwest. The farmer on the main stem felt that because he had seen this before in a different context, he did not have as much concern about a future program. But for the farmer from the Southwest, it was a reoccurring crisis theme from state-level officials in response to drought, making it suspect. The difference between these two perceptions comes down to whether it is viewed as something water users have already used to make decisions and engage in irrigation or whether it appears as a crisis-oriented solution from a bureaucratic agency being rebranded.


Photo © Drew Kelly

Section 3 C. Just Another Tool in the Toolbox?

A Western Slope resident who works in water management described the sentiment of several interviewees when he characterized demand management as "*a potential tool to deal with potential Colorado River compact curtailment issues*." Another person who works in water explained that they felt demand management provided an alternative "positive tool" to avoid "*the risk of creating a road map for the worst case outcome… the East Slope coming over here or others coming over here and speculating in West Slope existing water rights, [taking] from ag… to the disadvantage to the agricultural community*." These two different water workers see demand management as a tool to prevent some of the worst-case scenarios and fears that arise when thinking about the possibilities around potential future Colorado River curtailment issues and future speculation on the Western Slope. Both recognize in their descriptions that demand management is just one of many tools at the disposal of the Western Slope, the state of Colorado and the Upper Basin in general. Some participants in the System Conservation Pilot Program (SCPP)[4] feel that by having made an effort to participate they created protections for themselves by demonstrating their willingness to cooperate and work through some of the issues these types of programs present. This way, when the time comes to create a program like demand management, not only will the have experience but they could be the first to take up the opportunity and provide security for their operations.

Others feel that this alternative "tool in the toolbox" is really just a ploy for taking water from the

[4] http://www.ucrcommission.com/system-conservation-pilot-program/

Western Slope. Rather than being a tool for protecting water, demand management here is viewed as simply another attempt to divest Western Slope agriculture of water. "*The basic playbook," believes this farmer, "is you come in and say 'you're wasting water. We're going to intimidate you… so you better play ball and start selling your water or we're going to come and take it*.'" While this fear does not describe the reactions of the majority of participants, it does highlight an underlying fear regarding the vulnerability that many on the Western Slope feel when it comes to conversations around reductions in consumptive use.

Section 3 D. Conclusion

General awareness and clarity on what demand management is varies widely across the Western Slope. Ranging from those intimately involved in conversations at the state-level to the general public who, anecdotally, are unaware of its existence. The lack of clarity and awareness among irrigators creates openings for people to try to fill in the gaps in understanding. Often people will rely on their knowledge of other similar programs, like the CRP or SCPP. This lack of clarity also creates space for suspicion and fear to fill the void. Thus, demand management is viewed very differently by participants, either as a way to protect water use on the Western Slope or a tool to remove water from the Western Slope. This highlights the underlying philosophies that divide people when considering whether demand management is a burden or an opportunity. Those who see the potential for their operations generally have experience with some form of pilot project or on-farm conservation practices that involved other actors (such as environmental groups or NRCS funding). This does not negate the fear that this "tool" could be used to take water from the Western Slope, but rather highlights the contested nature of programs like demand management and the need people have for finding answers when impacts to their livelihoods are up for discussion.

SECTION 4. DEFINING "VOLUNTARY, COMPENSATED, TEMPORARY AND PROPORTIONAL / PARITY"

The main phrase used to describe what demand management could and should look like across the state is “Voluntary, Compensated, and Temporary” and depending on who you ask either “proportional” or “parity.” Due to the lack of awareness and clarity around what “demand management” means, I used these four “key terms” associated to assist interviewees through thinking about the components of a program. In this section I will unpack what these terms mean to people on the Western Slope who hear them used to describe a potential demand management program. In general, these were hard things for interviewees to define and were often dependent on the experiences of the interviewee. In some cases, interviewees threw up their hands and admitted they did not really know what the best option for these terms was. However, most tried to define or unpack them. Many of these key terms overlap, so although they have been divided up into four disparate sections, the report highlights important linkages between sections.

Section 4 A. Voluntary… or Mandatory?

The first of the key terms used to describe what demand management should ideally look like is “voluntary,” and defining what “voluntary” means is essential to understanding how a program should or could be implemented. Definitions of voluntary from interviewees primarily focused on the right to choose or not choose to participate. The perception of choice that comes from a truly voluntary program greatly appealed to many participants. Choice made the program feel less like a burden and more like an opportunity irrigators had control over and could evaluate based on their needs. Participants also discussed concerns about whether a program would truly be voluntary, and the contradiction between a voluntary program and one that has parity or proportionality. Furthermore, these discussions sometimes became more complicated as participants began to work through what that would look like in practice, particularly in light of the uncontrollable impacts of climate change and decreasing water flows. Many felt these changing circumstances could potentially undermine a voluntary program. Concern was also expressed that a truly voluntary program might actually harm the Western Slope. This is because without parity, meeting the needs of a demand management program could potentially fall entirely on the Western Slope.

Section 4 A i. Defining Voluntary

In general, definitions of what voluntary meant centered around the idea that it was the opposite of “not voluntary.” “*Well, voluntary is pretty straight forward*,” stated one water manager in the Gunnison Basin, “*people wouldn’t shut off their ditch unless it was their choice. So, they likely wouldn’t choose to do that unless they felt they’re properly compensated, [like it], and [it’s]* temporary.” Additionally, another water right holder in the Yampa described “voluntary” as meaning

"opportunity" when he said, "*I think the opportunity should be there, you know? Not mandatory, but opportunity*." For those who didn't want to take the "opportunity," understanding of "voluntary" meant that the choice is truly up to them, as this person who works in water management explains: "*For everybody who says, 'No, absolutely not!' I say, 'Fine,' this is what a voluntary program, this is what we fought for, and hopefully you find comfort in that. It's voluntary. Because it won't be if we're not successful and hydrology continues to go south on us*." This person also highlighted the sentiment that voluntary participation may mean success of the program and prevent a need for mandatory water cuts. However, this sentiment was also viewed as problematic by some.

Section 4 A ii. Voluntary or "Voluntary"

In light of the sense that demand management will not be voluntary if it is not successful, others felt that it was hardly possible for demand management to truly be voluntary. With the pressures on the Colorado River system from climate change and from major cities and population growth, the implied threat is that demand management is "voluntary" in air quotes, as exemplified by this exchange during a listening session:

> *Participant 1: I keep hearing this "voluntary" part, I want to know how long it's going to stay voluntary before it's going to become that it's not voluntary.*
>
> *Participant 2: Well, when Captain Bligh puts the gun at the back of the head and walks you down the plank, you're going voluntarily.*

This exchange exemplifies a feeling felt throughout the Western Slope by many interviewees, that the pressures that exist for creating a demand management program preclude truly voluntary participation. Thus, "voluntary" comes to be double-speak for a threat of mandatory curtailment if demand management is not successful. This perception is that demand management, though cloaked in language of choice, is really about taking water away from agriculture and that it is a foregone conclusion – in spite of the fact that demand management workgroups and conversations are exploratory, and the program has many hurdles to overcome.

Finally, several interviewees felt very strongly that part of the essential definition of voluntary is that it is available (or threatened) to as many people as possible. Stated one rancher in the northwest, "*if it's going to be voluntary compensated, then it needs to be made available to as large of a portion of the water rights holders as they are… not just a few*." This discussion will be picked up further in the section on parity.

Section 4 A iii. Voluntary Coincides with Free-Market Values

So, if demand management is both voluntary and "voluntary", why would people choose (or "choose") to participate? Participants provided two main reasons to engage in demand management voluntarily. These included the fact that a voluntary program first coincided with their values – it makes sense that in a free-market society that they should have the choice to participate. Second, a program could fit in with their operation and production schedule. However, in discussing the reasons a voluntary program appealed to them, many interviewees also described what they saw as the downsides to a voluntary program. The alternative, a mandatory program, conflicts with deeply held values about choice, even though many felt that this would be the only viable option for a successful program.

One interviewee from the Yampa Basin represented several others when he stated that: "*the voluntary compensated… fits my free market viewpoint*." His point being that the very nature of voluntary participation based on free market ideals fits his perception of the right way to do things and would appeal to many others.

> *So, the bottom line is still, they're not going to do it for nothing. Not very many, a few might… But yeah, with voluntary compensated will absolutely have plenty of takers, if the money and if you've done the math and go, "well why wouldn't I do that?" It'll have plenty of takers. In fact, they proved with that the pilot projects, they started out and then they had to have a lottery to see if you get in. So, you know, it would be, it might actually, if it does work at all, it would have a unintended consequence in that you would probably, and they have to reduce it to well a bidding system that says, "well, how much would you take not to irrigate?"*

This irrigator foresees a future in which, if the compensation is right, when combined with the voluntary nature of the program, a bidding war for participation could break out. This ability to choose to engage or not engage, when combined with a market-based pricing for water provides the sense of choice or certainty for potential participants. This does not actually translate into participation, but rather demonstrates that the idea of a free market program appeals to some.

Others, during a listening session, echoed a similar sentiment as their discussion centered on the term "voluntary" specifically defined as "local or at least some control":

> *Participant 1: No new rules or mandatory regulations on us. If we are going to decide something, it should be decided here.*
>
> *Participant 3: Voluntary. Stress the word voluntary.*

Participant 1: The fact that everybody is sitting in here today says that people are willing to cooperate, but everybody in here is only willing to cooperate to a point.

The idea and feeling of choice is used to frame conversations about what participation in demand management could mean. Many irrigators did not express outright opposition to participation, as Participant 1 explains above - they are willing to participate in a pilot program and thus, are demonstrating a willingness to participate in discussions on demand management. However, they want some form or sense of control or decision-making power. These ideals rely on a market framework that allows people the "free" choice of participation dependent on whether they like the conditions of participation or not. In addition, it means less bureaucratic oversight, and more local decision-making. The voluntary nature of the program appeals to the sense of opportunity inasmuch as it is the chance to choose an option that provides them more control, a monetary benefit, and hopefully avert some worst-case outcomes such as a mandatory program.

Pragmatically, some felt that by keeping demand management voluntary it provided them with another tool in their farming or ranching toolbox. "*There is some willingness to participate*," stated a member of the Yampa Basin Roundtable, "*every now and again, sure, maybe that makes sense, maybe it will help you fallow a field that you want to turn or give a rest*." Another interviewee along the main stem of the Colorado River stated that they would choose to voluntarily participate depending on where they were with crop rotations and livestock. "*I wouldn't totally rule it out… 'cause you don't know the future*." In this sense, voluntary participation becomes a pragmatic choice based on agricultural operations, cropping patterns and practices, rather than about it meeting a set of values.

"Stress the word voluntary."

Section 4 A iv. Tensions Between Voluntary and Parity

While a voluntary program appealed to Western Slope irrigators values for pragmatic reasons, there are some perceived weaknesses because it is voluntary. When a program is voluntary that means groups and individuals can choose not to participate. A few participants mentioned this when considering that though they appreciate the control of choice, the downside was that the groups they really wanted to see participate (namely Front Range entities) also had the right to choose not to participate. On top of this is the concern that water on the Western Slope will be easier to lease because of the cost difference between trans-basin water on the Front Range and Western Slope, as described by this water lawyer on the Western Slope:

The worry on the West Slope is that the cost of water on the Western Slope agricultural communities, if it is to be purchased in a voluntary program, is far less, ten or twenty times less, then it would be on the Front Range. The Upper Colorado River

Commission pilot program, it averaged 180 dollars per acre-foot in the compensation over 4 years. The cost of water in Denver is ten or twenty times that. So, that creates a market focused on West Slope agriculture. If it's a free market voluntary program, that's going to be the place where people are looking.

Not only does the price differential predispose a voluntary program to focus on the Western Slope, but as this person engaged in water policy articulates, it is in the best interest of Front Range entities to push the onus onto the Western Slope, voluntarily of course:

On the main stem half of the consumptive use is trans-mountain water because it's post 1922 water. So, if [demand management] is mandatory, they're looking at a big number. And I guess that's why they're edging to the subject with this kind of conversation, they know they're vulnerable.

These pitfalls highlight the major problems with a voluntary program. Namely the same value-set that appeals to many on the Western Slope, including a free market with market pricing, individual choice, and local control, also means that they may end up bearing the brunt of the demand management effort. In this case, the "free" market ideals do not serve their interests.

One alternative to a voluntary demand management program is a mandatory one, and a surprising number of participants concluded or confessed that they felt demand management would not be successful unless it was mandatory, even if it went against their deeply held set of values. "*I want to preface this by saying how, how much of a free market anti-socialist person I am…*" hedges one rancher,

...this is against what the River District's pushing for… [but] I think the only way you can do this is if we have to curtail… if we do do it, it should be uncompensated, mandatory, some situation I hate, really, I just almost choke saying that, but because of all… of the pitfalls and the money and the administration of it, you're going to create winners and losers anyway.

In spite of the deeply held set of values that permeate the Western Slope, many recognize that those same values have the potential to put them in a weaker position relative to a voluntary demand management program. Additionally, what this rancher points out is that the ironic solution to this is to embrace a mandatory, uncompensated program, because at least there would be protections for the Western Slope in that they would share the burden of demand management with the Front Range.

Mandatory curtailment, for many interviewees, is the only solution that seems both to protect Western Slope interests and will be successful. In this sense, it feels for some that mandatory is

inevitable. As one water planner describes,

> *My personal opinion is that I think we can try to do this voluntary, compensated thing, but it's not gonna work. When we get into a place where there's actually a call from the compact, I don't see a voluntary, compensated system like this working. I don't think there's enough money and I don't know where the money's gonna come from. Nobody does. And so I, you know, I just, I think there is going to have to be some sort of administrative solution to it, and maybe it's negotiated. But I, I don't see this voluntary, compensated approach really working at the scale that it needs to.*

Another farmer and water manager echoed this sentiment by cutting to the chase saying, if there is a great deal of pain and suffering around developing a demand management program, "*ok, let's just bite the bullet and go mandatory*." This sense is that mandatory was okay, even if it was uncompensated, by the fact that no one – neighbors, Front Range entities, etc. – would be paid. This connected to issues of equity and compensation for these interviewees.


Photo © Robert Clark

The ability to provide protections for Western Slope water from the ravages of a free market appealed to several participants. The protections, identified by participants, of a mandatory program included the ease of creating a more equitable program and possible protection from speculation. A water lawyer on the Western Slope describes how this could work:

> *We are going to be able to build in some protections that will make it equitable, which is one benefit of a mandatory program. You just say, everybody across the board has to chip in 10 percent of their consumptive use, no compensation, it's your cost of doing business in Colorado. That's equitable; everybody chips in the same amount, a fraction, the same fraction. So, the proponents of a mandatory system, who are quiet right now, they're not talking about it anymore. Saying, ok, go ahead state, you go ahead and try this voluntary deal, we'll see how that works, when it fails, you can come and talk to us again. Not quite that blunt, but… they're saying, you know, how do you make sure it's equitable if it's totally voluntary? How can you ensure that the burden won't fall on the Western Slope? Good question… so, you have to decide which [voluntary or mandatory] has the worst impact, right? No seriously, we're talking about the lesser of two evils. Because any time you cut consumption, you're going to have an impact.*

This water lawyer highlights the tension between the mandatory and voluntary system, and surprisingly the mandatory system seems to provide more protection for the Western Slope in several participants estimation. Interestingly, a few of the interviewees who expressed this view also asked me to maintain their anonymity, in one case explicitly requesting that I not provide any demographic information at all.

This reveals the sensitive and subversive nature of their statement, going against free market values and opposition to bureaucratic intervention.

Section 4 A v. Conclusion

The discussion of what "voluntary" means in a demand management program reveals a host of underlying values, assumptions, and concerns to irrigators and water managers on the Western Slope. Even the idea of a voluntary program is not as straight-forward as it first sounds when unpacking what the implications and secondary impacts could be. Though on the surface, voluntary means having the choice or opportunity to participate, that freedom is constrained by a number of things including the threats to the success of a program and the fact that everyone then has the ability to choose to participate or not. In reality, many see the value of choice and a free-market system as potentially detrimental to the long-term viability of agriculture and irrigation on the Western Slope. Without the protections afforded by a program with more controls and oversight, the power of cities could usurp the voluntary "choice" many on the Western Slope hold dear. The voluntary nature of a program appeals because it is an opportunity, meaning: some amount of control, a monetary benefit, and fitting in with production schedules. But it is also a double-edged sword in that it could have long lasting secondary or unintended impacts to Western Slope agriculture.

Section 4 B. Compensation…but How?

One of the most challenging aspects of designing a demand management program is addressing compensation. Participants had a hard time wrapping their minds around what this piece could and should look like. Many of the same conversations were had in regard to compensation as in the voluntary portion – that the challenges to creating a successful compensation program were too great to ensure success. Participants were asked what they thought compensation should look like, but almost none answered in terms of numbers. In fact, when the Southwest listening session was asked what they thought compensation should look like several participants balked saying "*your questions are getting tougher*" and "*this is above my pay grade*." The challenge of compensating irrigators for their reductions in consumptive use is tremendous, thus this section will tackle participant responses by looking at their questions and concerns.

First, what participants understood compensation to mean. But then, the questions: Where's the money going to come from? How much should compensation be? How do you ensure you get what you pay for? What is compensation even for? And finally, is it possible to value our water as a commodity? These questions highlight the finding that compensation is tricky because it forces a conversation that many irrigators – who are dependent on water for their livelihoods – feel uncomfortable having. The discomfort stems from the taboo of talking about money and resources and also because it is incredibly difficult to place a monetary value on something as complex as different relationships with water.

Section 4 B i. Compensation is More Than a Number

One of the comments I heard the most during interviews from both irrigators and those working in water policy, was that compensation means "making that painful slice a little more palatable" or that the burden of demand management falling upon the shoulders of irrigators should be softened with an influx of money to lessen the pain. This approach seems to squarely situate demand management as a burden to be borne – an approach not everyone agreed with. A few see compensation as an "opportunity" to diversify their income and production, a chance for an influx of certainty and money. "*If it's compensated, you can do something with that money*," was the refrain of this group.

Justification for compensation was grounded in free-market values, similar to the voluntary component, "*if you have something somebody wants, [they] should be willing to pay for it*" explained one farmer on the main stem of the Colorado. Some, from both groups, saw this free-market compensation piece as motivating. "*I don't think anybody is motivated by better use of compact water*" said one participant, a former engineer. "*It's just that if you could get compensated and at that moment you wanted to take a year off of irrigating or something, you could get credit for it and rebuild your ditches*," he continued. But this also demonstrates a misunderstanding several people had that compensation means you get to take a year off. As all of the participants in the Grand Valley Water Users Association (GVWUA) Conserved Consumptive Use Pilot Project described, there was still plenty of work to do during the time the fields were fallowed – it was hardly a year off. Not only were they only able to fallow a portion of their operation, but weeds had to be kept at bay and constant vigilance of those fields ensured they were not leaving for Jamaica anytime soon. Thus, compensation means a few different things depending on whether demand management is viewed as an opportunity or a burden, which was a repeat theme throughout each slice of the demand management pie.

Section 4 B ii. Where Does the Money Come From? Or, Who is Responsible?

The first and most frequently asked question by participants was "where's the money gonna come from?" Several participants followed up their question by stating something similar to what this

person in water policy said, "*I don't think there's enough money and I don't know where the money's going to come from. Nobody does*." This concern was echoed constantly throughout most interviews. In fact, one participant in the GVWUA listening session heard the topic discussed at the State of the River meeting:

> *Someone asked that, "How're you going to fund this?" The compensated part would be a huge, huge hurdle. Say well, you have to come up with some tax funding and some federal funding… That was kind of passed by, that question. I thought, "well, how could that be passed by so quickly? Because isn't that going to take an enormous amount of time and effort? And an enormous, huge battle on where that falls? It's like… [don't] those questions need to be pretty urgent at this point if this is going to work?"*

The sense that these questions need to be hammered out and clarified is central to concerns about whether demand management can actually be successful as currently proposed. Only a few participants mentioned the potential Gaming Tax Bill, which could provide some funds for water projects, including demand management. But this was recognized as not enough to meet the cost of the program.

A few participants discussed who should be responsible for coming up with the funding necessary to compensate participants. While the Gaming Tax Bill was mentioned, other referenced state funds, a state-wide water tax, a general state-tax, a state-tax to protect green and agricultural spaces, large municipalities, federal funding, and in three cases, looking to the Lower Basin. This water policy expert discussed several of these options, while trying to unpack her response to the question of "whose responsibility is it to pay for compensation?"

> *I don't know how much of it is the obligation of the Lower Basin to be very honest. I mean, we have, well it's, their overuse that's causing, so there's that, right? I mean there's, I think it depends on what the problem is. So if the problem is overuse in the Lower Basin that's causing the levels to fall versus us not being able to meet our 7.5 million, you know, um, I think the, the funding sources are different for those different problems. Right. And if it's, if it's more the Lower Basin use scenario then I do think that is a Lower Basin responsibility.*
>
> *If it is more of a, if it's a hydrology-driven or Upper Basin over-use scenario, then you know, I don't know… I definitely see it as some sort of a tax-based issue, some sort of a population level payment because you cannot spread it out among the water rights owners and expect it to work. It's too much. I think it's too much money. And so… does it come back to the point where it was like, well, the Bureau of Reclamation is the one that built all of this stuff and tried to, you know, irrigate the West so maybe it's their fault?*

Right? Like maybe the central government should kick in if you're going back to like who really created this problem?

The complexity of her response reveals that in terms of coming up with compensation money, part of the answer is "who bears the responsibility of fixing this?" Which depends on how the problem is understood: what is the underlying cause that leads to demand management being a solution? This perception prompts some interviewees to suggest that perhaps a compensated program is not viable because not only is this challenge is too daunting, but the amount of money needed to make the program viable seems insurmountable.

When asked if there was any entity or group that would not be acceptable to irrigators on the Western Slope for funding demand management, one fruit grower in the Gunnison Basin explained that it had not occurred to him at first, but he would be leery of funding from Front Range entities.

I would say that a place I would not want money to come from to pay for this is the Front Range – either be it Denver Water, Northern Front Range water users – making a pot of money for West Slope fallowing. That's a very slippery slope, I don't think we want to get anywhere near that. So, if Denver Water were sponsoring the fallowing on the west slope, I would be looking askance at that.

His sense was that this would be a "greasing of the skids" in which Front Range and other municipal entities could escape the burden of curbing consumptive use by paying off irrigators on the Western Slope. To him, this felt like a pre-cursor to buy-and-dry.

Section 4 B iii. How Much Would it Cost?

In terms of how much money is needed to make compensated demand management possible, not one participant named a specific number. Rather participants discussed the cost in terms of loss and generalities. This rancher in the Yampa explained that demand management would need to be "*compensated enough to where it will offset the cost of what we lose*." He went on to explain that the cost of what is lost is likely to depend on where the conserved consumptive use is coming from, comparing his hay fields to the fields of crops in the Grand Valley, "*we sat down and penciled it out… [conserving consumptive use] wouldn't make sense for us*," he explained, because the operations of cattle ranchers in the Yampa Basin mean their operations are not like the farming operations of people who participated in the System Pilot Conservation Program or GVWUA's pilot program. A water manager along the main stem of the Colorado agreed with this assessment:

> *There is probably no one size fits all from a price perspective. There may have to be, but that's not where we want to go… But if you were looking at $500/AF of conserved consumptive use, let's say that was $1000/acre of dirt and you needed 500,000 AF, it's a big number. And we are a long, long ways from having anybody figure out how that's going to happen.*

His comments highlight both the perception that a one-size fits all pricing scheme feels like a poor fit to most irrigators on the Western Slope and that whatever the final number is, it is a big one.

This piece of what compensation would look like led several participants down another path in terms of highlighting outstanding issues of compensation - what is compensation actually for? Some irrigators talked about being compensated for the cost of what it means to turn off their headgate, as this rancher in the Yampa does, "*So, if they came to me right now and asked me to turn my water off when I needed to irrigate my hay crop and then I had to go buy $200 hay, I wouldn't last. I wouldn't be here more than a couple of years. It would get too expensive for me. So, unless they compensate for the hay loss that I have, I couldn't do it.*" This was a sentiment echoed by many on the Western Slope, regardless of Basin. However, others, including several in the group of participants in the GVUWA pilot program and one who participated in the SCPP, discussed the feeling that compensation really was for the inconvenience of participating and could not really cover the loss of irrigating crops or the value of their water. This group had direct experience with conserving consumptive use and following the rules for participating, which many felt were time consuming. Thus, compensation served to also alleviate the inconvenience of participating.

Some irrigators and water managers discussed the ripple effects of reduced consumptive use on other parties. This came up particularly in the Gunnison Basin in relation to the need for compensation related to return flow losses. This makes sense due to the geography of the Upper Gunnison, where reductions in consumptive use on high altitude hay meadows could impact return flows to neighbors downstream[5]. The concern was that there would be ripple effects of reducing consumptive use to others and whether compensation would be granted to those affected by this action. There were a few participants who expressed concerns for the broader community impacted by a reduction in consumptive use, such as the tractor dealers and chemical suppliers, and whether they should receive compensation as well. Though this was anticipated as a concern by me based on previous research and the literature on agricultural water conservation, it was not a particularly relevant theme as to the purpose of compensation. Rather, more concern was expressed related to buy and dry and the impact that would have on the broader community, which will be discussed in further detail in the Sacred Values of the Western Slope section.

[5] Many mentioned this as a serious issues for a demand management program, but also stated they didn't know how to resolve it. This topic is covered further in the section on different relationships with water.

Section 4 B iv. Getting What You Pay For

Additional concerns were expressed by some irrigators regarding how possible it will be to adequately monitor conserved consumptive use in order to ensure that it is actually being created and that it is meeting the requirements of the deal. This monitoring component of compensation was referenced by a few interviewees as making sure people aren't "gaming the system" and that payments are not being given to people getting away without producing conserved consumptive use. In the Yampa Basin, for instance, over 600 notices were sent out during the spring of 2019 (as this data was being gathered) to people without monitoring devices on their headgates. Part of the reason so many people were out of compliance is the unique situation the Yampa Basin is in regarding their previous lack of water rights administration. The Yampa had its first call on the river the previous year, therefore the need for monitoring devices was not necessary until the severe shortages of 2018. So, not only is getting adequate monitoring in the Yampa perceived as a barrier to measuring conserved consumptive use, but so too are concerns raised by GVWUA pilot program participants on the challenges of keeping a field barren and weed free, and potential impacts to the health of the soil without a cover crop.

Participants also brought up questions about alternatives to a "bare-earth" policy for fallowing and related issues in high altitude grass and hay meadows. There is conflicting anecdotal and research-based evidence as to whether fields are harmed for several years by one year of removing or severely reducing irrigation. Specific to the Western Slope, several studies, currently ongoing, explore the impacts of fallowing on grass and hay meadows. In addition, farmers also raised questions around return flows still feeding fallowed fields – does that eliminate them from compensation? These questions regarding what is and is not eligible for compensation all refer to issues of verification and monitoring – or ensuring that compensation is being fairly provided to all participants, something many expressed concerns about.

Section 4 B v. Is Water a Commodity Like Others?

Finally, similar to the challenges to a voluntary program, the compensation component received some pushback from people who felt that the commodification of water was problematic. Said one water policy advisor,

> *[Irrigators'] water is a commodity and we haven't necessarily created a system where people think of their water as a commodity, because they don't have to pay for it, generally. I mean, especially irrigators on the West Slope, like they're not really, they're not usually paying for their water, they're just taking it. And so, they don't think about their water necessarily being worth something in and of itself. It's a tool that is used to grow whatever they're growing.*

This comment highlights part of the issue that is created when economic studies attempt to pin down a price for water. First, it depends on who is using the water, where they are using the water, and what the purpose of that water is. Water, as a commodity, is extremely difficult to price because of its variant nature, fluid and flowing existence, and the difference in economic, social, and cultural values different users and uses have attached to water.

The relationship exemplified by the quote above demonstrates that irrigators on the Western Slope have a very different relationship with water than Front Range entities. First, the cost of water has been minimal comparatively, generally covering infrastructure to deliver the water rather than paying for much of the water itself. Water, for them, exists much like the sun does, as an input to production that simply is available. Additionally, they are depending on that water for the production of their livelihoods, a very different relationship than those living in major municipalities (who are just as dependent on water being available but are not viewing it as a source of livelihood). Water providers and managers on the Front Range do not depend on water for their livelihoods in the same way, nor is it an input in their lives in quite the same way. Thus, the commodification of water poses a challenge in re-adapting that relationship to fit into a free-market valuation. Though predisposed to accepting and trumpeting free-market approaches, a relationship shift to commodification of water can feel at odds with an irrigators' previous relationship, creating a rift or pushback.

Section 4 B vi. Conclusion

Compensation for participation in a demand management program turned out to be one of the stickiest and most difficult components for participants in these interviews to conceptualize. The difficultly in defining compensation stemmed from the multiple opinions about what irrigators would be compensated for, the taboo of talking specifically about money (particularly when negotiations for payment could be contingent on these statements), and the complex and varied relationships users have with water across the Western Slope. Thus, many ended up asking questions related to where the money should come from, who should pay for compensation, what compensation was actually for, how to ensure that compensation was not being gamed, and whether it was possible to truly compensate for water.

Section 4 C. How Long is Temporary?

Just as compensation is difficult to define and voluntary takes on a range of meanings, so too does the term "temporary." For many, it comes down to temporary being the opposite of permanent. But just where that line lies is difficult to define, leading many to equivocate with a "I'll know what temporary means, when I see it," type of response. However, most of the interviewees described temporary as not "buy and dry," but even where that line lay was difficult to find. In conjunction with

the prevention of buy and dry, temporary was looked to by some as a way to prevent speculation. Typically, those with experience in or knowledge of a conserved consumptive use program resorted to numbers of years of allowed participation in a program. While those without firsthand knowledge or experience were less clear on what "temporary" could mean and focused on the length of an overall program.

Section 4 C i. Defining "Temporary"

The idea of temporary referring to just the length of participation in a demand management program was not the only way the term was understood. "*Temporary suggests that the program is temporary*," described one Western Slope engineer, "*but it also needs to suggest that the problem is temporary*." The perception that the program needed to move the needle towards a more stable Basin was an essential component of temporary. While another water manager felt that temporary referred to demand management as a "band-aid" so that larger issues related to the Interim Guidelines could be hammered out.

Most frequently, temporary was described as the opposite of permanent, particularly in reference to things like "buy and dry" in which agricultural land is purchased, the water legally separated and transferred to another use, and the land permanently dried up. But where the line is for what is temporary and what is permanent seemed to be in the gray, as this basin Roundtable member describes, "*So, are you asking us to use less on a truly temporary basis? Or are you asking us to change the make-up of agriculture on the West Slope of Colorado on a more or less permanent basis*?" A rancher described something similar, saying, "*if temporary lasts for a long period of time… that's a permanent program*."

One farmer had a slightly different take on temporary versus permanent, explaining:

> *I was going to say that I'm philosophically in favor of the approach of demand management, rather than buy and dry. But, I don't think that it's a cure all, because let's say you've got a valley that has ten thousand acres of farmland and the choice is the water, the people who need water – whether that be Lake Powell or the Front Range, they buy – of the 10,000 acres they buy a thousand acre farm and move the water off, buy and dry. Or every year you rotate that 1,000 acres of dry land around the valley through demand management. The net result is the same: a thousand acres every year that's not in agricultural production. So, it's sort of like demand management is – could be argued – it's simply buy and dry on an installment plan.*

In the case of these two different interpretations of temporary versus permanent, one group views it as a protection, while another interviewee sees it as simply a different method of arrangement where

the outcome – agricultural land not in production – is the same.

Still others felt that the drive behind creating a temporary program could be helpful in preventing speculation from outside entities such as hedge funds. Several interviewees, both in and outside of the GVWUA, referenced the fact that a hedge fund purchased land in the district in 2018. Some of the participants in the GVWUA pilot program referenced using an "operational control" in which the operator needed to demonstrate they had been farming the land for a minimum number of years in order to participate and be compensated. GVWUA used a guideline of three years for their program, but a few participants felt that five would have been better. Not only did these guidelines and the temporary nature of the program feel like protection from speculation, it also helped prevent landowners from kicking off renting farmers and taking the compensation for themselves.

Section 4 C ii. Temporary Program Versus Temporary Participation

Specific numbers referring to the length of time one could participate in a program typically came from people with more experience with conserved consumptive use type programs. This shows a differentiation between a temporary program and the temporary nature of participation in a program. Those with experience in pilot projects were aware that there were limits on participation in most projects and they differentiated those limits from how long the overall program would last. The numbers ranged from a specific length of an overall program to ranges of participating in a set number of years. Three to five-year programs in which irrigators could opt in every year, with the same parcel of land not being allowed in for more than two years was one suggestion. Another type of temporary solution was the "out of", such as participating 1 to 5 years out of 10 years. Participating in 10 out of 10 years was out of the question, for some. However, one rancher in the Gunnison Basin stated "*I don't believe it will work. I think you will have to do it for 10 years for it to be meaningful and that would almost be permanent for that time period*."

There was some resistance to putting a limit on participation. "*From a farmer and rancher's point of view*," stated one farmer,

> *...temporary would mean on a yearly basis mak[ing] the decision to participate each early spring or late winter, when one can start to see the various outlook for this year's production, whether in prices, whether to participate or not. I recognize that the people who use those three or four adjectives, they slide off the tongue easily, anticipate some restrictions on how often an entity or piece of ground can be fallowed. You know, like, three out ten years or whatever term, and that may work, but I think that, I think that anytime attempts are made to restrict a free market that unintended things can happen.*

For this farmer, having the option each year to participate meant more options and certainty in his operation. Thus, he wanted the choice of participation each year depending on forecast crop prices, water availability and his own cropping and rotational needs. Thus, the temporary conflicted with his sense and desire for choice.

Section 4 C iii. Conclusion

Temporary, like the earlier terms, is loaded and conflicted. While to some it implies the program itself is temporary, it also implies that the problem is one that can be fixed, a result some find suspect. Defined in opposition to buy and dry, temporary participation can also serve to provide protections from a truly open free-market, something some interviewees found problematic. Finally, while some interviewees were able to discuss numbers of years that meant temporary to them, there was skepticism as to whether those numbers were realistic in terms of producing the desired results for a program and also where the line between temporary and "practically permanent" were.

Section 4 D. Proportional or Parity…Leveling the Playing Field

Conversations about the final element of the four components of demand management centered on the question of who will bear the burden of meeting the conserved consumptive use goals. Fundamentally, proportionality or parity – depending on who you ask – is about establishing whether this is a "beggar thy neighbor" situation in which each entity is only looking out for their best interest to the detriment of all those around them, or a collaborative endeavor that recognizes the interconnectedness between entities and across the state and Upper Basin. Interviewees, when asked about proportionality or parity, generally discussed several different scales at which they leveled their concerns. Concerns were expressed state-wide, between the Front Range and Western Slope (also phrased as cities versus rural areas), between the Western Slope sub-basins, and in more local contexts between unequals. Finally, though the far majority expressed that parity was essential in their buying into a demand management program, there was some dissension that hinged on whether demand management was viewed as an opportunity to take advantage of, or a burden that needed to be shared among all users.

> Is demand management an opportunity to take advantage of or a burden to be shared among users?

Section 4 D i. Defining Parity

Parity was generally defined by interviewees to refer to some sort of equitable distribution of the sacrifice necessary to fill a demand management pool. This view stayed the same regardless of whether the person was talking about participation state-wide or between basins on the West Slope. The sense was that even though agriculture uses the majority of the water, all trans-basin diversions were 100% consumptive for the Colorado River, so the Front Range entities receiving Colorado River water needed to pull their weight as well and contribute to the sacrifice of achieving Colorado's portion in any future demand management program.

As discussed earlier, the voluntary nature of the program makes this problematic, as participation cannot be forced. This creates a dilemma in terms of establishing a collaborative endeavor between entities that may just want to protect their own interests and push the burden onto others. One interviewee referred to this situation by describing it using the economic theory of "beggar thy neighbor," explaining:

> *It's a water war, there's a shortage of water. It's politics. You're competing for a scarce resource. So, when there's a shortage, everybody wants their neighbor to be the one to take the fall. And this is happening at a multi-tier level here because the lower basin wants the upper basin to take the fall. Front Range wants the West Slope to take the fall. Grand Valley and the River District want Southwest to take the fall. And generally the person with the least power, political influence, money, and lawyers is kind of tends to be where it ends up.*

The perception (though not shared by everyone) that each area of the West Slope is up against other entities even within their own Basin meant that some interviewees strongly felt that there needed to be some form of control to make a demand management program equitable. This feeling creates a conflict with the push for a voluntary program, as this lawyer lays out, "*there has to be some way to make it equitable throughout the state. But we don't have any suggestions as to a mechanism to do that yet, with a voluntary program… it's a free market system to require water rights these days*."

Section 4 D ii. Competing for the Chopping Block

The tension around what demand management will look like very often came down to the fear that the area the interviewee was from would end up bearing the burden of curbing consumptive use, particularly when pairing ag water against municipal water. This water policy specialist argues, "*the big question is, if the worse come to worse, are alfalfa fields with a greater water right, a 1910 water right in Colorado, gonna trump fire hydrants and spigots in the Front Range*?" Additional concerns were expressed between the Basins, as explained by this water educator, "*Like how much of this is*

going to happen in the Yampa versus the Gunnison versus, the you know, San Juan? How are we spreading out these kinds of programs in a way that doesn't impact the economies of a region, one region disproportionately?"

While not everyone shared the sentiment that their region was the first on the chopping block, there was considerable concern that certain areas of the West Slope were more vulnerable than others. In particular, concern was expressed by irrigators in the Southwest, that they were vulnerable due to some junior water rights and ease of access to Lake Powell. Concern was expressed by some irrigators in the Yampa that with some of the youngest rights on the Western Slope and even younger storage rights, in combination with a system that has not been declared over-appropriated they would be first on the chopping block. And irrigators on the Colorado main stem expressed concern that because they were so close to the border and because irrigators in the GVWUA had experimented with conserved consumptive use, they would be first on the chopping block.

What is interesting about the concerns around who would be "first" on the chopping block is that if demand management were to remain "voluntary", no one area in theory would be on the chopping block at all. Rather the program would be open to interested parties. Thus, this conversation highlights the fears that irrigators have regarding perceptions of their negotiating power and how "voluntary" a program would actually be. The concern revealed here is that demand management actually will target specific areas in order to solve some of the issues with creating conserved consumptive use, which will be highlighted in the following section in detail.

Additionally, concern, as expressed above, is felt around the tension between municipal and agricultural water. Irrigators and West Slope residents expressed that they felt it was only fair for entities receiving trans-basin diversions to engage in water conservation for demand management as well. Participants shared concerns that because the West Slope was closer to Lake Powell, and agricultural water is trumped by municipal water, the onus or burden will be entirely or mostly placed on West Slope irrigators to contribute conserved consumptive use to the demand management pool. Thus, efforts by front range entities to engage in demand management were spoken of, by many, as necessary to their willingness to participate.

Section 4 D iii. Sharing the Opportunity

A final concern expressed by irrigators and water policy experts revolved around the opportunity to participate in demand management. In spite of viewing demand management as a "burden" that must be equitably shared, great concern was expressed that regardless of wealth, farm size, or ownership status, the opportunity to participate in a program must be made available to all water users. While some referenced this in terms of "sharing the burden," several spoke about how there needed to be

special attention paid to not privileging the wealthy, large landowners over the smaller, or poorer, landowners. A few acknowledged that while it might be easier or more efficient for demand management to focus on large irrigation operations, the democratic opportunity to participate must be prioritized to ensure a leveling of the playing field – another concept in contradiction with the free-market values so frequently touted. In contrast, only one farmer acknowledged quite frankly, "*I don't want parity if the money is good and it makes sense to me*." His comment revealed that if the opportunity was good enough for his operation, he was not at all concerned that the playing field be fair.

Section 4 D iv. Conclusion

The four major components currently being proposed to describe a demand management program reveal multitudes about perceptions, attitudes, fears, and hopes among potential future participants and others involved in water management and policy. The varying definitions of each of the terms, along with confusion, misunderstanding and downright complexity make designing a demand management program difficult. Additionally, though free-market values are often touted as the "best" or "most efficient" way to provide choice and freedom, unpacking these different concepts reveals that contradictions abound. No irrigators I spoke with want a completely unregulated and unmanaged program. All rely to some extent on controls to, at the very least, level the playing field and protect weaker parties from the ravages of a completely free market. In general, many people feel that their area is on the chopping block – this does not feel like a good place to be, nor a good place from which to negotiate. Interviewees also recognized that participation is impacted by the ability to participate and those conditions are not distributed equally, nor are all areas or regions are able to participate equally. Thus, definitions of these basic terms are contested and unclear – in spite of terms initially appearing easy to define.

SECTION 5. UNPACKING DIFFERENT RELATIONSHIPS WITH WATER

Part of understanding what factors may make a demand management program possible and appeal to water users is understanding how different relationships with water predispose some users to be more or less open to conserving consumptive use.

A significant component of these different relationships is structural and material, meaning that differences in geographical/geological conditions, infrastructure, legal issues, and river flows fundamentally shape the possibilities and barriers individual irrigators and ditch users have in considering a demand management program. In terms of structural and material barriers that exist to sending conserved consumptive use downstream, the usual suspects arose with regularity across interviews and Basins. Concerns regarding shepherding, return flows and third-party impacts, cropping differences and practices, storage concerns, legal issues related to beneficial use, protection from abandonment, individual right holders versus those on private ditches or drawing water from a federal project were all mentioned several times[6].

In the previous sections the over-arching theme that demand management could be interpreted as a burden, opportunity, or both emerged. The conditions that pre-dispose some irrigators to feel one way or the other regarding demand management can be parsed apart to some extent. This section of the report will focus on the structural and material conditions that shape different relationships with water and how those relationships then influence how irrigators feel or perceive demand management.

Section 5 A. Geographical and Landscape Differences

In terms of differences in geographical and local conditions, some areas of the Western Slope are perceived as being potentially more conducive than others to overcoming the barriers to sending conserved consumptive use downstream to Lake Powell. As barriers to participation, irrigators and water managers mentioned that conserved water from areas of geographic isolation or high-altitude fields, in the Upper Gunnison for example, has further to travel and thus is harder to shepherd. However, others mentioned the close proximity of landowners within individual drainages in the Upper Gunnison as a potential benefit to creating communal participation in demand management. Geographic relationships of proximity predispose some areas to potentially facilitate and overcome some of these hurdles. For instance, part of the benefit of the GVWUA pilot program is that conserved water could immediately enter the 15-mile reach[7], providing the functional protection of

[6] For in-depth discussion of this overarching theme, please see Taylor, P.L., K. McIlroy, R. Waskom, P.E. Cabot, M. Smith, A. Schempp, and B. Udall. 2019. "Every ditch is different: Barriers and opportunities for collaboration for agricultural water conservation and security in the Colorado River Basin." *Journal of Soil and Water Conservation* 74:3, 281-295.

[7] The 15-mile reach is a section of the Colorado River that flows east of Grand Junction from Palisade to the confluence with the Gunnison River. Due to the presence of endangered fish species federal involvement has meant the creation of multiple partnerships between irrigation, federal and environmental entities to provide critical instream flows for this portion of designated critical fish habitat.

geography (not legal) for shepherding that water as it moves downstream. In addition, the close proximity to the border with Utah facilitates that movement. Concern was also expressed that the Southwest might be a location for conserved water to leave due to its access to the San Juan and nearness to Lake Powell compared to the rest of the West Slope.

In terms of irrigation practices, different applications of water are influenced – in part – by geography and geology. High-altitude hay meadows are predominantly irrigated by flood irrigation, where much of the water that is not consumed recharges soils or continues downstream. A barrier this presents to creating conserved consumptive use is that it is difficult to keep water from recharging the soil subsurface if neighbors upstream irrigate, or the hay meadow is located close to a stream. An often-cited benefit of flood irrigation is that in spite of being "inefficient" in terms of consumptive use, historic runoff and consistent return flows create wetlands, which are an integral part of the landscape for the last 100 years. The Colorado that locals, tourists, and wildlife see and experience in these areas is one that has been changed and manufactured, creating patterns that have persisted over decades. To change up these practices could have impacts to production, wildlife, tourism, and return flows that are not easily mended.

Lower elevation and flatter lands are more conducive to row-cropping and tend to see more diversity in terms of sprinkler and flood irrigation practices. Row-cropping in some senses would be more conducive to creating conserved consumptive use because many row crops are annuals, rather than perennials like hay and grass fields for grazing cattle. The ability to remove or change a crop from year to year or replace every few years (like alfalfa) can mean a farmer is more likely to see how demand management could fit into their cropping practices. This bore out in interviews with farmers in the Grand Valley, Uncompahgre, and Lower Gunnison. Though they might be resistant to demand management for other reasons, the benefits to their particular cropping and irrigation practices made more sense than for high-altitude meadow irrigators.

However, one Upper Gunnison irrigator did suggest that for them, something like a standard cut across the drainage for all irrigators could have merit. Meaning that the guidelines for creating conserved consumptive use in a demand management program might have to look different basin to basin, or even by geologic or geographic area. A standard, across the board 10% cut in use or diversion would mean all members of a drainage collaboratively agreed to engage in demand management together, rather than individual user-by-user. This kind of coordination is difficult to achieve, but also has the potential to make participation in demand management more likely because the type of program fits the constraints of the location.

Section 5 B. Legal Differences, Challenges and Opportunities

Several legal issues came up during the interviews that provide insight into how different relationships with water shape perceptions of demand management. In particular, participants

expressed concern around the priority date of both diversion and storage rights relative to the Compact. Though this concern would be theoretically irrelevant in a truly voluntary system as water use reductions would only happen based on the Prior Appropriation system in a mandatory curtailment situation. However, the fact that it still arose suggests that users with younger rights feel that they have more to lose by not participating than those with older, pre-compact rights, who do not feel the same pressure if they choose to not participate in a voluntary demand management program. Additionally, concern and some confusion were expressed in relation to water rights that either use federally funded infrastructure or projects, which interviewees were concerned could be subject to different structures and rules than other non-federal water rights.

Related to issues of how the landscape shapes return flows, legal issues regarding third party impacts that could result from altering return flows due to creating conserved consumptive use also came up. A Yampa Basin Roundtable member discussed some of those issues, "w*hat does that do to the return flow regime and what does that do to the hydrology of the river or later in the season?*" Changing the hydrology of the river means impacts to other users and the flow of the river itself. Modeling return flows is a difficult and complicated task, and as most engineers can attest, models are always suspect. A knowledgeable resident of the Gunnison Basin who works closely with irrigating landowners discussed how taking a model back to the farmer or rancher and asking them if it reflects the water flow regime as they know it can go a long way in building trust, both in terms of the model, but also in terms of potential conservation initiatives.

Legal issues related to shepherding the water downstream were closely related to geographical and location issues. Some participants felt that beneficial use needed to be amended in order to include demand management produced water destined for Lake Powell. This participant in the SCPP related his difficulty in shepherding the water he saved:

> *My original idea was to hold the water in the reservoir until late in the irrigation season, when most people weren't watching the creek and most of the irrigators didn't really need water. And then, release the water all at once and blow it past them before they knew it and were able to grab it. That was what my shepherding attempt was gonna be. But, that turned out to be illegal. A person cannot release their water just for the fun of watching it go down the stream. And since Colorado water law has no provision for releasing water for filling up Lake Powell, basically, I had no right to do that.*

Amending provisions for beneficial use could provide legal protections for water to be shepherded downstream within Colorado, but several interviewees pointed out that interstate agreements with Utah would still be necessary to ensure that water reached Lake Powell.

While more administrative than legal, other participants described issues related to water storage, including lack thereof, need for better coordinated management of storage, or legal challenges. The

need for more storage was discussed in a few contexts to help with water distribution and as a place for storing “saved” water and in timing it for releases downstream in any future demand management program. Many felt that better coordinated management of existing reservoirs could alleviate some issues of flow timing and shepherding. Coordinated management is difficult to administer and may involve coordination with other Upper Basin states, presenting additional challenges. Though storage is in place for conserved water in certain geographies, the ability to utilize the storage and integrate demand management with existing operations will impact how much conserved consumptive use can be stored in certain locations in the state.

Section 5 C. Conclusion

The different material relationships irrigators have with water can predispose some to be more willing to think favorably about participation in a future demand management program and shapes whether they view it as an opportunity or a burden. Part of this willingness stems from previous experience, but also from the structural or material elements discussed in this section like geographical, landscape, and legal issues that make the choice appear more or less straightforward. For other irrigators, significant barriers to participation exist, as exemplified by high altitude farming and ranching. Though ideas have been presented for how to overcome those barriers, they face different challenges than other areas. Thus, demand management, if it is to be equitable, proportional, and voluntary, argued several interviewees, cannot be a “one-size-fits-all” program. Instead, it must be flexible to address the different local conditions and needs of different water users based on geography, flow regimes, return flow impacts, legal conditions, storage capacity, and shepherding issues.

SECTION 6. SACRED VALUES OF THE WESTERN SLOPE

While the previous section discussed some of the structural and material issues that influence willingness or ability to participate in demand management, this section will discuss some of the social and cultural elements that come into play. These elements influence how irrigators view potential participation in demand management: is it a burden, an opportunity, or both? Social and cultural barriers to demand management highlighted in interviews and listening sessions include uncertainty in the face of a future that can re-shape Colorado, boundary formation due to a sense of the West Slope being under siege, the perception of power imbalances between wealthier urban areas and poorer rural ones, and the sense that the values and contributions of Western Colorado are not respected or appreciated as they should be.

Section 6 A. Sacred Values

The idea of "sacred values" is a concept that can help unpack some of these social and cultural issues[8]. Sacred values are the values that a community of people who hold things in common expresses as being of utmost importance; for instance, the commitment to free-market values explicitly discussed in the previous sections. However, what makes Sacred Values interesting is that they are flexible, depending on circumstances and trade-offs. There may be trade-offs that are taboo, such as trading a voluntary demand management program for a mandatory one in which Front Range municipalities are forced to participate as well. The taboo is revealed by the fact that those who are not opposed to this scenario felt the need for additional anonymity from other West Slope residents. Although free-market values may be sacred on the West Slope, the actual choices irrigators make or want to make may be different. This does not mean there will not be pushback against these potential trade-offs or that there will not be loud and frequent voices declaring that free-market approaches are the only way – after all these values feel and appear "sacred." But when it comes down to making actual choices, those decisions may not reflect the values proclaimed. However, looking for and identifying the sacred values is important because it reveals the concerns, fears, and uncertainties that pervade conversations about something as controversial as creating conserved consumptive use. It's about the water, but at the same time it is about much more than the water and what the West Slope represents and means to its residents.

Section 6 B. Questioning the Future of the Western Slope and Colorado

A reoccurring theme developed throughout interviews related to this foundational question: *what do residents of the West Slope want the future of their community, and their livelihoods to look like?* Additionally, several interviewees widened this conversation to include the whole of Colorado – what do we want the future of Colorado to look like? Generally, there was agreement that maintaining

[8] Tetlock, P.E. 2003. "Thinking the unthinkable: Sacred values and taboo cognitions." *Trends in Cognitive Sciences*. 7:7, 320-324.

irrigated agriculture served the interests not only of the West Slope, but of Colorado in general. There was also great concern that without thoughtful, careful, and balanced decision making, or outright resistance in a few cases, demand management could be the trigger that fundamentally changes the face of the Western Slope and ultimately Colorado. This sentiment is summed up in a quote from Andy Mueller, General Manager of the River District, when he elucidated the main fear undergirding resistance to demand management:

It's about the water, but at the same time it is about much more than the water and what the West Slope represents and means to its residents

> *Our fear is that we're not working cooperatively, and openly, in a very informed manner as a state, and we're going to end up putting the West Slope agriculture as the sacrificial lamb on the altar of the Colorado River… And our belief is that will, in the short term, hurt the West Slope. In the long term, it will hurt the state*[9].

Many interviewees also discussed the impact that future population growth will have on the shifting face and make-up of Colorado. One farmer in the Southwest explains, exclaiming:

> *Colorado, you have to get control of your municipal. You have to be real about where that municipal growth's going to go and how much water is going to need. You can't play smoke and mirrors games that are sustainable for 50 years into the future to put it off on those kids' voice. That's where I come from. That's, that's the motivating factor for everything that I've given you as my big picture.*

While many recognize that population growth cannot necessarily be outright controlled, their fear is that with unrestricted, unmanaged growth, Colorado will change so much that water supplies will be over-run, and agriculture will take the hit, against their will.

The general sentiment, or Sacred Value, that emerged from these conversations was that the West Slope served a vital role in helping to define who and what Colorado is – the idea and feeling of "Colorado" exists because the Western Slope exists. That value is part of what is bringing people to Colorado, and without controlled and thoughtful growth that preserves the aesthetics and the economies of the rural areas, Colorado will become a place few recognize or want to be part of. A farmer in the Gunnison echoed these sentiments, even though he is not optimistic about the future of West Slope agriculture:

[9] Gardner-Smith, Brent. 2018. "Colorado water officials stepping up 'demand management' efforts." Retrieved April 3, 2019 from: https://www.aspenjournalism.org/2018/08/25/colorado-water-officials-stepping-up-demand-management-efforts/

> *Maybe [people designing demand management] do need to step back and consider the Mongol hoard phenomena; is it, are they, rearranging the chairs on the Titanic? But they could do some good, they could maybe figure out how to save the nicest areas for the, have them go last, although, I don't know how one defines the nicest areas.*

This uncertainty about the future changes coming to Colorado, and sense that the West Slope provides something real, unique, and tangible that defines Colorado as it currently is, permeated all of the interviews. The fear of losing the characteristics that make the West Slope a desirable place to live intimately relies on the water being there for irrigation. Thus, when faced with uncertainty and perceived threats, doubling down on the value that the West Slope provides makes sense for these irrigators and water managers.

Section 6 C. Feeling Targeted

As has been discussed extensively elsewhere, there is a general sense from the interviews that irrigated agriculture has a target on its back. This metaphor can be extended specifically to irrigated agriculture on the West Slope. The real and perceived threats that exist stem from historical and current shifts in natural resource extraction and the impacts those have on rural economies. Combined with the lessons taken from the well-known example of "buy and dry" in eastern Colorado's Crowley County, there is a powerful sense that the "way of life" on the West Slope is, in general, under attack. Interviewees mentioned the loss of the lumber industry, the reduction in mining and potential of losing the coal industry, environmentalist challenges to oil and gas production, and now perceived threats to water rights and irrigated agriculture through not only demand management, but also instream flows for fisheries and recreation.

The sense that "our way of life" is under attack was elucidated by this farmer:

> *So yeah, [the people of the West Slope] don't want to lose their lifestyle. They don't want to lose the culture, don't want to lose their community. We know what's going on on the eastern plains. I mean, basically what you do is, mean, you don't, you can't put people into cattle cars and haul them off. I mean, you basically have to wipe out the jobs and then all these towns dry up and go away.*

Demand management is perceived as an unsurprising continuation of a long string of threats to the way that things have been done. Resistance then is seen as a powerful tool in defending an existence and way of life that is perceived to be endangered. Evidence from communities in Crowley County serve as a visceral and powerful reminder that they are vulnerable. "*Certainly, on the Western Slope, it's a very emotional tie to our water and to our lands*," states one water official.

The dependence of rural areas on natural resources and extraction industries predisposes them to vulnerability at the hands of boom and bust cycles, but the sense that this way of life itself is under attack stems from more than just demand management and calls for conserving water. Resistance to demand management stems from experience with a long history of extraction industries being increasingly called out for their harm to the environment, a resentment towards encroaching regulation, and economic busts as natural resource industries change. The fear is that the impact of these challenges can cause rural economies to collapse and towns to dry up so that they are no longer pleasant places to be. This is the landscape that demand management enters. "*Overall*," states a Yampa Basin Roundtable member, "*people think it is an attempt to – in the future – that it is really an attempt to get people to eat less beef and help climate change then that water is available for other uses. Since it is the majority of water being used in the state.*" Thus, demand management becomes the current scapegoat for concerns that rural areas and economies are being pushed further to the margins by progressive political forces.

The sense that demand management could be "greasing the skids" was part of the feeling that livelihoods and economies on the West Slope were under attack from multiple angles. Additional resistance was necessary to avoid the outcomes of Crowley County, even if demand management is explicitly described in opposition to buy and dry. "*I understand why they're doing it*," explains one farmer,

> *Chances are they're not going to be putting any water into it unless they buy it from us. And, I mean, if you want to get to the sociological answer is, we don't want to get buy and dry. We don't want to be Crowley County. They're responding, "Well this is voluntary, temporary and compensated. How could you object to that?" Well, if you read that letter from Mark Harris, he uses the term "greasing the skids" and one of the reasons, rationales for doing it is if you don't do it, we're going to just come and buy and dry it, and that's worse. So, they're saying, well this is the kinder and gentler one.*

Another farmer echoed sentiments of several interviewees by stating that he is "*not against exploring [demand management], but I want my community to say we're not going to participate. I don't want my farm in it. No way. When you participate, you just prime yourself to be the one that's going to get buyed and dried*."

The perception is that once demand management starts and water (even temporarily) leaves the West Slope, the rest of the economy in places that have less of a tourist draw will continue downhill. Once that starts happening local community resources will become increasingly challenged in terms of survival. If the things that make up a vibrant community – such as hospitals, libraries, businesses – no longer have a population or tax base to support their existence, it will not be long before residents leave for other places. If offered a nice sum for their land and water, the decision to leave will feel logical. Although the current language used to describe a future demand management program

explicitly tries to alleviate these concerns, there is little trust that it will have the power to stave off future buy and dry proposals. Thus, preventing any removal of water from the West Slope, to some feels like an important hill to fight – or die – on.

Section 6 D. What Does it Mean to be a "Farmer" (or Rancher)?

Another Sacred Value related to boundaries on the West Slope is the sense that to be a "farmer" one must be farming. This farmer on the main stem of the Colorado River, explains why he is opposed to demand management, saying, "*it just don't make any sense not to farm farmable ground. Grew up as a farmer and a farmer needs to be farming the ground, that's how you make money*." A change in his circumstances in which his identity as a farmer is dependent on his continual farming efforts would, to him, deny him the ability to be the thing that he thinks of himself as. The loss, or perceived threat of loss, of this identity is difficult to swallow. However, other farmers noted that this value, though essential in self-conceptualization, was malleable.

> *I mean, money is part of a larger conversation. There's other things that might incline you to do [demand management]: concern about the alternative, so you might do it because if you don't you could actually be subject to a call which would be the stick and it would be a far worse outcome than living with a short term shortage. The other thing that might incline you either way, it would depend on your perspective, but your feeling for your community, how you live. A lot of us are growing fruit, we're not making a huge living, but we do it because we love doing it. People who raise cattle are in the same boat. For them giving up some of their hay or fallowing especially if they are fallowing large amounts can work as an impact on their ability to continue to be a rancher in the community. That could talk pretty strongly to tell somebody, no we don't really want to lease our water or fallow any ground.*

This fruit grower emphasizes the importance of the identity and emotional tie to both livelihood and lifestyle. However, he also identifies the sense that while money talks to convince people to participate, it is not the only motivator. Concern about the alternative of a compact call can also be motivating to create conserved consumptive use, as can your feeling for your community.

Section 6 E. Community

Community came up in a number of interviews as an important part of what makes the West Slope a special place to live. Part of boundary setting is recognition of who you identify with – who is your community, neighbors, and those you feel affinity for. This farmer movingly and clearly articulates his identity when describing his circles of community and affinity:

For us, here, there's the immediate farming community. For me that is both growers and ranchers because I had a ranch and been involved in water that supplies them, so there's that agricultural community. But there is also the (X) community - the immediate area community that depends on agriculture as its main industry. Then, beyond that is the Western Slope in general. I feel some connection to it and maybe just because I'm on the River District and deal with problems that are more than just basin specific, but I feel part of the Western Slope. It has a value and a set of values that are worth perpetuating. It's going to be an uphill battle, but… But, you know, the - the Western Slope - (tears up) I can't believe it (pause) it means a lot to me. So.

Sorry, I – (pauses) it's just that one took me by surprise. It does mean a huge amount to me. This place and the people in it - they are worth celebrating. I hope they can survive.

Recognizing the boundaries of his affinity and identity mean that this farmer feels a real emotional pull for the larger community of the Western Slope, making it a Sacred Value worth protecting. While this farmer also recognized an affinity and identification with the state of Colorado, it was less strong than the feeling for the Western Slope and stronger than his affinity for the entire Colorado Basin or even Upper Basin.

Section 6 F. Valuing the Contributions of the Western Slope

The sense that the Western Slope is someplace special that must be valued was recognized by most interviewees. Several expressed concern that any contribution the West Slope makes to conserving consumptive use for the purpose of protecting against a compact call needed to be valued, recognized, and appreciated for the effort that it is. In the GVWUA listening session, one participant asked the others if "it [would] be fair to ask for recognition of this: we'll do our part, but we need to make sure it makes some difference and don't assume that you're entitled to our generosity?" The response from other participants was, "yeah." This need for recognition demonstrates that there is willingness to help out a neighbor, but that neighbor needed to demonstrate that they did not expect assistance. An expectation that the West Slope will contribute conserved consumptive use is a taboo that will likely only serve to entrench resistance to any demand management project. It is clear that another sacred value of the Western Slope is that they need to feel other entities are doing their part to address conserving consumptive use and, when it comes to the Lower Basin, the structural deficit.


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In response to this taboo of expectation, a few interviewees suggested that the State or CWCB adopt a policy along the lines of "*It is the State's intention for EVERY water user to curtail use and respect water.*" One water policy expert argued that this should become part of what it means to be a Coloradoan. That for current residents and new residents as they move in regardless of East Slope/West Slope/Rio Grande, they are immediately educated about their role in water use and conservation – "*make it part of being here in Colorado*," said one interviewee. At the Gunnison Basin Roundtable, a gentleman on the Roundtable came up to me afterwards to say that he was not the right person for an interview, but he was so glad I was doing this work because water education is a very real and serious barrier in Colorado in general. He expressed genuine concern that most Colorado residents do not understand the precariousness of their water situation and that fundamentally creating a "water-aware" state-wide culture is essential to continuing a "Colorado lifestyle".

Section 6 G. Conclusion

These Sacred Values are important to identify because they help to understand why resistance to demand management exists, how resistance is tied to current economic and political conditions, and where areas of opportunity or openings might exist to find a path forward. The Sacred Values of the Western Slope include protecting "our way of life," free-market values, livelihoods, natural resource based economies, rural communities and agricultural identities, all of which are perceived as being in some way "under attack" and demand management is simply the latest threat to that way of life. So, while some may perceive that as unfair, it makes sense in the larger context of life on the Western Slope. Additionally, West Slope residents very much feel the political power and pull of large municipalities on the Front Range and those further downstream. The fear that these centers of power hold far more sway than they can combat can further entrench the sense of being "under attack." Reluctance to participate, whether expressed through healthy skepticism or outright resistance, is a demonstration of fear of loss for the way things are or perceived to have been and to some may feel like the only way to combat a powerful force.

SECTION 7. CONCLUSION AND INTERVIEWEE RECOMMENDATIONS

This report started by asking what it would take to make demand management possible, why would people be willing to consider participation, and what a program should look like. What this report demonstrates is that considering the current state of conversation and understanding of demand management on the West Slope, there is a minority of people ready to pursue those questions. Rather, the majority of participants in this project were not in a place where these were the appropriate questions. Instead, participants raised issues about what the role of demand management is in light of Big River issues and why it felt threatening. In raising these questions, they also articulate the concerns that Western Slope residents and irrigators feel both about their water rights, their livelihoods, and the future of the Western Slope in light of current political, economic, and social pressures.

Based on this information and drawing on feedback from interviewees and insights gathered from analysis of interviews, this report will attempt to make a few recommendations.

First, none of the terms discussed in reference to what demand management should look like are straight-forward and to treat them as such will miss key insights gathered from this research. For instance, compensation – though on the surface is a dollar amount – is about more than money. As several participants expressed, they would always love to be paid more for conservation but there will never be enough money, nor could they be fully compensated for a demand management program. Therefore, compensation is also about recognition, appreciation, and valuing the input, sacrifice, and effort that goes into participation in any program. Additionally, a temporary program is not just about the length of time or allowed participation. It is also an admission that the problem itself can be addressed and that participants want to know their contribution is worth it, that it makes a difference to Colorado's position in reference to the overall health of the Colorado River. Also, the tension between a voluntary program and one that includes parity is a difficult one to solve and will take input from across Colorado, which leads to the next recommendation.

Second, similar to the recognition that compensation is about more than money, it is important to engage in symbolic efforts and gestures between groups as well. As an example, many interviewees discussed feeling that the Front Range needed to recognize the contributions the Western Slope would need to make in a demand management program, not by paying for it, but through respecting what was being asked of the Western Slope or by participating themselves in the efforts. By demonstrating a willingness, openness or even acknowledging participating in demand management, Front Range entities could open up the conversation. A symbolic gesture of this type, that acknowledges the interconnectedness of all Colorado when it comes to addressing Colorado River issues, will have a profound impact on the future of water. Additionally, the relationships with water between those who based their livelihoods on its availability and those who manage its distribution to paying customers is very different – and needs to continue to be recognized. Just this fundamental difference in how water relates to one's "way of life" shifts perceptions in conversations about conservation.

A third recommendation that emerged from the interviews was the point that a "one-size-fits-all" approach would create structures of inequality, either in access to participation in a demand management program, or in creating an unfair burden or disproportionate impact in certain areas over others. In considering whether demand management is a burden, an opportunity, or both, participants wanted the different constraints and benefits of the variety of irrigation, farming, and ranching practices on the Western Slope to be recognized. A one-size-fits-all program could be construed as an insult to those who did not fit the mold and those who do. Some would feel excluded on principle, while those included would feel that they had to bear the burden. A response like this could predispose any program to fail if all the burden/opportunity came down to a specific type of irrigation or agriculture or location. While this certainly complicates a potential program, the perception of equitable opportunity mattered to irrigators when thinking about a future program.

Fourth, in terms of outreach and education, recommendations from those who worked in land and water conservation as well as those involved in grassroots communication efforts emphasized the importance of relationships and involvement of those "on-the-ground" who understand how the water moves through the landscape. These people typically recommended outreach beyond the Roundtables and water user associations, where the usual suspects are often present. Beyond this circle of involvement, most irrigators are not even aware of what demand management is, much less what it could mean to their operation. Suggestions from interviewees for increasing awareness, education, and engagement included local grassroots outreach workers who could work within their sub-basins by going door-to-door to share and gather information from irrigators. Additionally, participatory methods of data gathering were also suggested, including bringing computer models to irrigators and asking for their input on the models based on their experience irrigating their land. Finally, the importance of relationships and involving irrigators in the process of developing any program is essential to build buy-in.

It is vital to recognize that the conversation about demand management taps into much deeper waters. Not only is this a discussion about the relative value of the Western Slope to the soul of Colorado, recognizing the role it plays in helping to define what "Colorado" means, it is about the future of Colorado. What would Colorado be without Western Slope agriculture? What would happen to the irrigated hay meadows in the Upper Gunnison? The extensive fields of crops in the Uncompahgre or peach orchards of Palisade? The rolling hills of grazing cattle in the Northwest? The waving grasses surrounded by striking mesas of the Southwest? Several participants shared that this was part of the fabric that makes Colorado a place people want to be, even if they are on the Front Range. Plus, many Front Range residents enjoy the benefit of Trans-mountain Diversions to supply them crisp, clean water. Colorado River Basin issues are fundamentally Colorado State issues and must be recognized as such. A few participants suggested some sort of state-wide or Front Range centered education campaign about how water conservation was part of what it "means to be a Coloradan." Others discussed different ways to value the importance of agricultural landscapes, whether that was a through a tax levied statewide that supports programs that engage irrigators in conservation

improvements or through promoting greater understanding of how precious Colorado's water is. Fundamentally, these interviewees felt, we all bear some portion of responsibility in addressing Colorado's water issues.

A farmer in the Gunnison Basin, after going through a discussion of what demand management could look like and what the pitfalls would be, leaned back in his chair, pausing as he looked into the distance. After a few moments spoke quietly, saying, "*I think I'm being fairly optimistic we can come up with a plan but like I said, it is rocket science and there are so many and there's a lot of negative reaction out on the West Slope*." He went on,

> *I hope that this effort cannot impact western slope ag negatively, that we can find a way that we can continue to have the agricultural communities, irrigated agriculture that we enjoy on the western slope today, that any of these overuse problems which are not caused by agriculture don't end up harming agriculture… We're trying to protect the existing way of life on the Western Slope. So, any demand management program we come up with, has to do that. There can't be sacrifice zones that demand management programs create.*

Is demand management an opportunity, burden, something more sinister, or some combination of all three? The answer to this question cannot be understood without unpacking the structural and physical inputs, as well as the social and cultural factors that shape responses to demand management across the West Slope and across Colorado.