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Authors

Keske, Catherine
Smutko, Steve

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Consulting communities: using audience response system (ARS) technology to assess community preferences for sustainable recreation and tourism development

Catherine Keske^{a*} and Steve Smutko^b

^a*Department of Soil and Crop Sciences, Colorado State University, Fort Collins, Colorado 80523-1170, USA;* ^b*Department of Agricultural and Applied Economics, Department 3354, University of Wyoming, 1000 East University Avenue, Laramie, Wyoming 82071-3354, USA*

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Audience response system (ARS) technology (also known as “clickers”) has emerged as an educational tool that promotes active learning. This paper describes how ARS works and how it can also be used in research to assess community preferences for tourism development. A case study that used ARS technology shows how stakeholder preferences for extraction, heritage tourism and recreation within two rural mountain economies in the US west were effectively assessed. The use of ARS was backed by situation assessment procedures to determine appropriate stimulus questions probing trade-offs, perceived costs/benefits and cultural fit. A detailed series of key results measured community preferences and were made available to guide policymaking and future empirical survey work. Public meeting arrangements, publicity, structure and moderation for the ARS work is described and discussed. Evaluation of the use of ARS technology showed high levels of participant satisfaction with both the technology and the situation assessment procedures, and the emergence of potential tourism development actions.

Keywords: alpine tourism; community tourism; economic sustainability; heritage tourism; nature-based tourism; rural tourism

Introduction

Authors commenting on the western states of the USA have depicted the “New West” economy as one that is based in recreation (Loomis, 2002), retail and tourism (Kerkvliet, 2008), protection of environmental values (Morris & McBeth, 2003) and an influx of residents desiring high-amenity lifestyles (Inman & McLeod, 2002). This has often been contrasted with the “Old West” economy, characterized by natural resource uses such as extraction and ranching (Power & Barrett, 2001). Morris and McBeth noted that more empirical work about attitudes is needed, since attitudes and preferences can greatly influence the success at which a community is able to transition to a New West economy. Perhaps further study would explain the apparent paradox that researchers have found about the New and the Old West.

The purpose of this study is to quantify rural stakeholder perceptions using audience response system (ARS) technology that has, until now, typically been restricted to the classroom. In economies that are transitioning from extraction into heritage tourism and recreation, we hypothesize that community preferences for extraction and recreation may be

*Corresponding author. Email: catherine.keske@colostate.edu

complementary rather than mutually exclusive. The empirical results of research culminating in two stakeholder meetings reveal that residents of two mountain communities in the US state of Colorado believe that the New West economy often relies on the Old West heritage to drive recreation and tourism. We describe best practices in community consultation and show that the anonymity provided by ARS technology minimizes response bias at rural community stakeholder meetings, where there is typically a lack of anonymity. We believe that information gained from these techniques can guide policymaking and future empirical survey work for recreation studies.

Theory: assessing stakeholder input in rural community decision making

Since the 1960s, public participation has become an increasingly important element in public policy decision-making (Beierle & Cayford, 2002). Civic community development theory emphasizes the organizational significance of development outcomes shaped by social relationships and noneconomic attributes such as community traditions, norms and networks (Robinson, Lyson, & Christy, 2002). Such attributes of civic engagement are strongly present in nonmetropolitan communities (Irwin, Tolbert, & Lyson, 1999). The active involvement of rural citizens in public affairs has increasingly extended beyond purely local issues and has penetrated the purview of state and federal policymaking, specifically in the management of nearby public lands (Loomis, 2002). For local tourism decisions, community involvement is a central tenet of the concept of sustainable tourism (Bramwell & Sharman, 1999; Joppe, 1996; Miller, 2001).

Despite their widespread use, public hearings are not held in high esteem. Common critiques are that citizen comments do not influence policy outcomes (Checkoway, 1981) and that they are a poor mechanism for deliberation (Kemmis, 1990). In a public hearing, citizens have a chance to state their positions on a particular issue to the officials holding the meeting and to other citizens in attendance. Because information transfer is only directed one way – from the speaker to the listeners – the format does not allow citizens to engage officials or other participants in a dialog and reach an understanding with their fellow citizens. By the very nature of the venue – a place where one can state a position without being contested or called to question – hearings are dominated by those with very strong views on the issues being discussed (Adams, 2004). Broader and more direct participation by citizens affected by policy decisions has been advocated by many as a means of improving the quality of decisions and the legitimacy of the decision process (e.g. Dietz, 1987; Fischer, 1993; Renn, Webler, & Wiedermann, 1995; Williams & Matheny, 1998). Meeting formats and structures have been modified to allow a freer flow of information among meeting participants and sponsors and provide opportunities to discuss the issues with fellow citizens and officials (Bleiker & Bleiker, 1997; Creighton, 2005). In this study, we implemented an alternative design for a public meeting to facilitate public involvement. We employed ARS technology in a public forum to facilitate more efficient information exchange among citizen stakeholders and promote critical thinking and dialog. We found that ARS technology enabled stakeholders to reveal their preferences anonymously in a group setting, thereby providing information to the entire group in real time.

ARSs that actively poll participants and show immediate responses have been in existence for decades. Declining costs for such systems during the past 10 years have made the technology affordable for university, as well as primary and secondary educational settings (Banks, 2006). Recent technological advancements have also improved transportability and ease of use. There are several ARSs currently available. We present one such example in Figure 1.



Figure 1. ARS technology. The wireless receiver is plugged into a computer's USB port. Participants respond to questions presented in PowerPoint-compatible software by pressing hand-held "clickers". Image used with permission from Turning Technologies (www.TurningTechnologies.com). Contact: Katherine Kahn, Turning Technologies.

Most commercial systems consist of three components: a receiver, software and hand-held transmitters ("the clickers"). Most systems utilize a small, wireless receiver that plugs into the facilitator's USB computer port. The facilitator polls the audience with a set of predetermined questions, which can be projected onto a large screen using a computer with Microsoft-Office-compatible software and projector. Respondents transmit their answers with the small, lightweight, hand-held remote-controlled clickers, and results are shown immediately after the brief (usually 15–45 seconds) polling period. The facilitator can choose to present the results in numerous ways. For example, polling may be active, which allows respondents to observe (and therefore become influenced by) the votes and decisions of others while they are still deciding how to vote. Another option is for the facilitator to cast a "revote" after more information is provided in order to measure the change in response.

There have been numerous studies documenting the successful use of ARS in the classroom as a means for improving student–teacher interaction and dynamic learning (Caldwell, 2007; Fies & Marshall, 2006). ARS has been shown to improve student exam scores (Nguyen, Fraunholz, Salzman, & Smith, 2006), student attendance (MacGeorge et al., 2008) and course evaluations (MacGeorge et al., 2008). The effectiveness of ARS has frequently been promoted in large classrooms as a means to engage students in large lectures (Draper & Brown, 2004; Salemi, 2009). Less documented is its use in smaller classrooms, where interaction seems to take place more naturally.

In contrast to its use in a large group environment, we assert that ARS may address several of the chief concerns with rural public forums. The anonymity offered by ARS can provide particular benefit in small group settings, where frank opinions are necessary, but bias may otherwise be introduced. ARS is conducive to information sharing within rural community focus groups, where community political leaders (e.g. county commissioners,

mayors or other office holders) may sit together with their constituents and cast their vote anonymously about natural resource and environmental issues that may be considered controversial. The instant feedback provided by ARS also allows for simultaneous information transfers from all in attendance and stimulates discussion about the results of the instantaneous polling while avoiding dominating conversation by those with very strong views on the issues being discussed. While there is an appropriate time and benefit to open forums, the measurement of participant responses to a predetermined set of questions can complement open-forum discussion, particularly when the set questions have been designed with the input of the community. Furthermore, the appeal and the uniqueness of the system may increase stakeholder attendance and interest in the forum.

There is some evidence of successful use of ARS in rural communities, with a training focus on natural resource management. For example, ARS has been used in rural communities for extension training on pest management (McDonald, 2009) and risk management education (Feuz, 2009). However, the use of ARS in gathering data for rural regional economic development research or economic survey work has not been substantiated. In general, the use of ARS for research purposes has been limited to classroom experiments (Lieu, Walker, Bauer, & Zhao, 2007). The purpose of our study is to investigate the effectiveness by which ARS technology can be used to document rural community preferences toward economic development based in extraction, heritage tourism and recreation.

Relevant project background

The rural community stakeholder meetings described below represent the first phase of an integrated, multiphase project to study communities with economies heavily reliant on mountain ecosystems, with industries ranging from extraction to passive use recreation. The larger purpose of the study is to evaluate, model and capture the potential economic gains provided by mountain ecosystems while balancing economic development with maintaining environmental quality of what is considered a fragile alpine area (McQuaid-Cook, 1978).

The study area consisted of two rural counties in central Colorado, USA: Park County (population 17,004) and Lake County (population 7913). These counties are home to the two highest elevation incorporated towns in the US, Alma (elevation 10,578 feet) and Leadville (elevation 10,152 feet), respectively located 120 and 65 miles (193 km and 105 km) from Denver, the state's population center. While the exact number of visitors to the study area is difficult to ascertain, the recreation and tourism industry is substantial in Colorado, and some inferences may be made about the study region. A 2009 study estimates the state attracted 27.4 million overnight and 23.2 million day visitors (80% originating from within the state) during 2008, spending a total of \$10.9 billion (Longwoods International, 2009). Since more than half the state's population is located within the Denver Metropolitan Area, there is a proclivity for the Leadville and Alma study region to attract a large number of day trippers. The close proximity to several well-established ski resorts, including Vail and Breckenridge, puts the study area in short reach for side trips from what are often considered major destinations. There is also a market for heritage tourism in the state. According to the Longwoods International study, 35% of the total visits (overnight as well as day visits) involved heritage or cultural tourism. Understanding community preferences for recreation and heritage-based economic development may provide opportunity to tap into this market and to connect with regional and statewide demand for these experiences.

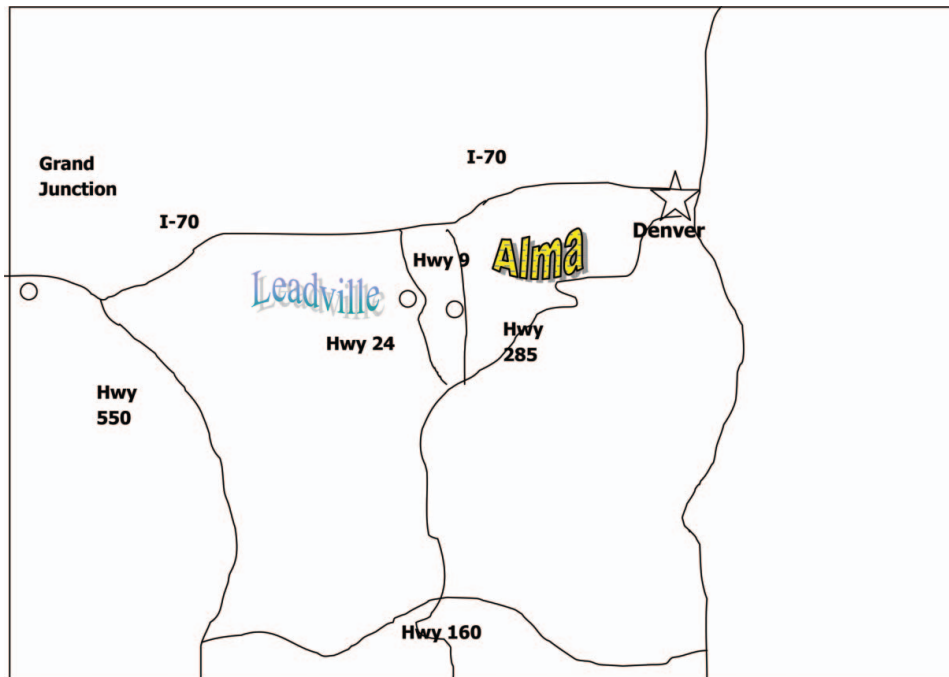


Figure 2. Map of study area.

These two towns, shown in Figure 2, served as the location for the 1.5-hour community stakeholder meetings. These communities were identified for the study because they reflect economies in transition from traditional extraction to heritage and recreation-based economies. For example, the Park County Government has been proactive in obtaining a National Heritage Area designation for parts of the region by offering tours of old mine sites and historic ranches. Both Park and Lake counties have also been identified as providing unique high-alpine recreation experiences, most notably associated with the presence of Colorado Fourteeners, peaks which rise above 14,000 feet in elevation. Recent studies have shown that hikers and recreators place high value on these mountains compared with other hiking experiences (Keske & Loomis, 2007) and that there is a unique opportunity for the communities to expand upon the Fourteener recreation experience to expand the regional economy (Keske & Loomis, 2008).

Methodology

Situation assessment

During the three months prior to the stakeholder meetings, we conducted a situation assessment of the two study communities. The purpose of the situation assessment was to gather and to synthesize information on the relevant economic, social and natural resource issues that formed the scope of the community stakeholder meetings and to develop appropriate ARS questions. One of the project collaborators, an Alma resident with significant community involvement experience and extensive community contacts, allocated approximately 55 hours between both communities to the scoping and situation assessment efforts by contacting and interviewing key stakeholders, collecting published agency, government

and press reports and recruiting meeting participants. As part of the situation assessment we interviewed 58 key community leaders, economic development professionals, state and federal agency representatives and residents of both Park and Lake counties. Early interviews enabled us to refine the scope of the interview questions and to include a systematic set of questions used for the ARS presentation. At least two public officials from each community were involved in designing some of the ARS questions. The early interviews also enabled us to generate open-ended questions for the open interview segment of the town hall meetings. In summary, the situation assessment enabled us to narrow the focus for the community stakeholder meetings to examine the strategic issues affecting economic development in the region generally and heritage and recreation tourism specifically.

Selection of appropriate questions requires familiarity with the local issues and an understanding of stakeholder perceptions about them. Questions were vetted by key stakeholders in each community and were refined prior to the meetings. The situation assessment revealed that there were similar themes between both communities, although some subtle differences in the communities' desire to maintain their mining and resource extraction heritage in the future. The residents of Alma expressed an interest in highlighting their mining heritage as part of the community's historic past, but expressed that they felt recreation and heritage tourism reflected the community's future economic development. In contrast, Leadville residents believed that extraction would play a role in their future economic development and that extraction could coexist with a heritage-based economy.

Leadville residents also presented optimism about the attraction potential of the unique Mineral Belt Trail, a 12.5-mile, non-motorized loop, accessible according to the Americans with Disabilities Act, that passes through Leadville and Lake counties. The Mineral Belt Trail presents a unique opportunity for recreators to view historic mine sites and other aspects of mining history while they bike or walk. Through the assessment we also met with leaders in the large Latino community in Leadville, many of whom supply labor to the neighboring ski resort towns.

In summary, information from the assessment revealed that there was significant interest by many citizens in both communities to take advantage of their regions' natural and heritage amenities to enhance economic development and that residents in the Leadville community had slightly different perspectives about the coexistence of mining and recreation in the future. The situation assessment also revealed a fair amount of skepticism about whether another study of the region's economy would yield anything more than a report. As more than one member of the Leadville community articulated, "Leadville has been studied to death. We need jobs".

Stimulus questions

The effective application of an ARS for engaging citizens in a discussion of public issues centers on the judicious selection of stimulus questions that the audience can understand and relate to, are relevant to the issues and are worded so that the questions and the choice of responses are perceived as honest, reasonable and impartial. The application of ARS is straightforward and familiar to most audiences. Questions are posed on a display screen one at a time with corresponding multiple-choice answer sets. The facilitator reads each question aloud, and the audience is given a specific time in which to choose an answer – in this case, participants had 10 seconds to respond after the question was read. A time counter helps the audience keep track of the amount of time remaining before polling closes. Audience members select an answer by clicking the letter or number on their keypad that corresponds to their chosen answer. For most questions in this study, choices were limited to four possible

answers. The participant's keypad records only the last key pressed. This prevents multiple voting and allows a participant to change his answer during the polling period. The results of each question are then immediately displayed as a frequency distribution of responses using bar charts or pie charts.

Proper selection, wording and juxtaposition of the questions and response choices are critical for the successful application of an ARS in a public meeting venue. Selection of appropriate questions requires familiarity with local issues and an understanding of stakeholder perceptions about them. Information gathered in the situation assessment phase of the study led us to identify three procedural themes related to the development of a nature- and heritage-based recreation economy in the region: trade-offs, distribution of costs and benefits and cultural compatibility. Questions were drafted around these three themes and a series of demographic questions for sample validation of meeting attendees. Questions were vetted by key stakeholders in each community and were refined prior to the meetings. The three themes are presented, along with the results, in Table 1.

Trade-off questions were designed to gain an understanding about the trades that stakeholders believed were necessary to transition from an extraction-based economy to an economy based on recreation. We tested trades between recreation and farming, mining, safety, environmental cleanup (Lake County only) and water quality (Lake County only). Distribution questions provided information about the extent people felt they would gain financially and otherwise by transitioning to a recreation-based economy. We also queried stakeholders about who they thought benefits would accrue. Questions about cultural fit were organized around geographic suitability, recreation activities and visitor type. While the majority of the questions were identical for the two stakeholder meetings, community differences identified during the stakeholder assessment led to some variation and community-specific questions, primarily in the "trade-off" category. For comparison purposes, the community responses are presented across from one another in Table 1, whenever possible.

Stakeholder meetings

The situation assessment revealed that stakeholder attendance would be highest for a week-day meeting time between 6:00 and 7:30 pm. Meetings were held on two consecutive weekdays in the respective communities, at centrally located, established community meeting halls, the Alma Town Hall and the Leadville Mining Museum. In order to generate support for the meetings, community flyers were posted in local businesses; ads were posted in the respective newspapers; emails were distributed to key public officials such as the mayor's office and the county commissioners. Community meetings were also advertised by word of mouth, which was revealed to be a common and effective means of information transfer in these rural communities.

The 90-minute stakeholder meetings were organized into four parts: the first 10 minutes allowed for introductions and a review of the project objectives and phases, including future community-level surveys and soils fieldwork to evaluate the carrying capacity of recreational lands. The overview was presented by the lead project investigator, who provided insight into how the results would be integrated into future study phases. The introduction was limited to 10 minutes, in order to balance the objectives of obtaining stakeholder input, ensure adequate attendance and facilitate an efficient meeting. The introductions were followed by a brief question-and-answer session to ensure that participants understood the purpose of the study and their own role in providing valuable information. Despite the limited introduction time, all stakeholders were introduced to project investigators prior to

Table 1. Results of stimulus questions (organized by thematic category and county) rural community preferences for extraction and recreation, Park and Lake counties, Colorado, USA.

<i>Theme: trade-offs</i>	
<i>Park County</i>	<i>Lake County</i>
An expanded heritage and recreation economy in Park County	What would be the most important thing that could be done to make the Mineral Belt Trail a keystone attraction for Leadville?
<ol style="list-style-type: none"> 1. will have a positive impact on our existing farm and ranch enterprises (74%); 2. will have no effect on our existing farm and ranch enterprises (22%); 3. will have a negative impact on our existing farm and ranch enterprises (3%). 	<ol style="list-style-type: none"> 1. Make enhancements to highlight it as an historic mining destination (29%). 2. Make enhancements to highlight it as a bicycling destination (54%). 3. Make enhancements to include more retail, restaurants and lodging (17%).
If mining were to make a comeback in Park County	What is your opinion about mining and a heritage recreation economy in Lake County?
<ol style="list-style-type: none"> 1. mining can coexist very well with an expanded heritage and recreation economy (31%); 2. mining can coexist with an expanded heritage and recreation economy, but with some losses to tourism and recreation (34%); 3. mining is not at all compatible with an expanded heritage and recreation economy (34%). 	<ol style="list-style-type: none"> 1. Mining can coexist very well with an expanded heritage and recreation economy (65%). 2. Mining can coexist with an expanded heritage and recreation economy, but with some losses to tourism and recreation (26%). 3. Mining is not at all compatible with an expanded heritage and recreation economy (9%).
An expanded heritage and recreation economy in Park County will have a negative effect on the land and my community:	An expanded heritage and recreation economy in Lake County will have a positive effect on the land and my community:
<ol style="list-style-type: none"> 1. Strongly agree (0%) 2. Agree (17%) 3. Disagree (75%) 4. Strongly disagree (8%) 	<ol style="list-style-type: none"> 1. Strongly agree (24%) 2. Agree (43%) 3. Disagree (24%) 4. Strongly disagree (10%)
An expanded heritage and recreation economy in Park County will	An expanded heritage and recreation economy in Lake County will
<ol style="list-style-type: none"> 1. make me feel safer (0%); 2. have no effect on how safe I feel (57%); 3. make me feel less safe (43%). 	<ol style="list-style-type: none"> 1. make me feel safer (0%); 2. have no effect on how safe I feel (77%); 3. make me feel less safe (23%).
	Significant environmental cleanup in Lake County is necessary to expand the heritage and recreation economy here:
	<ol style="list-style-type: none"> 1. Strongly agree (25%) 2. Agree (17%) 3. Disagree (50%) 4. Strongly disagree (8%)
	An expanded heritage and recreation economy in Lake County will have a positive effect on water quality:
	<ol style="list-style-type: none"> 1. Strongly agree (5%) 2. Agree (25%) 3. Disagree (70%) 4. Strongly disagree (0%)

(Continued)

Table 1. Results of stimulus questions (organized by thematic category and county) rural community preferences for extraction and recreation, Park and Lake counties, Colorado, USA. (Continued)

Theme: distribution of costs and benefits	
<i>Park County</i>	<i>Lake County</i>
If Park County expands its heritage and recreation economy	If Lake County expands its heritage and recreation economy
<ol style="list-style-type: none"> 1. there will be more jobs for local residents (74%); 2. there will be about the same number of jobs for local residents (22%); 3. there will be fewer jobs for local residents (4%). 	<ol style="list-style-type: none"> 1. there will be more jobs for local residents (92%); 2. there will be about the same number of jobs for local residents (8%); 3. there will be fewer jobs for local residents (0%).
If Park County expands its heritage and recreation economy	If Lake County expands its heritage and recreation economy
<ol style="list-style-type: none"> 1. overall, incomes in the county will increase (45%); 2. overall, incomes in the county will remain about the same (52%); 3. overall, incomes in the county will decrease (3%). 	<ol style="list-style-type: none"> 1. overall, incomes in the county will increase (40%); 2. overall, incomes in the county will remain about the same (60%); 3. overall, incomes in the county will decrease (0%).
An expanded heritage and recreation economy in Park County will likely make me	An expanded heritage and recreation economy in Lake County will likely make me
<ol style="list-style-type: none"> 1. much better off financially (4%); 2. slightly better off financially (33%); 3. unaffected financially (59%); 4. slightly worse off financially (0%); 5. much worse off financially (4%). 	<ol style="list-style-type: none"> 1. much better off financially (26%); 2. slightly better off financially (43%); 3. unaffected financially (30%); 4. slightly worse off financially (0%); 5. much worse off financially (0%).
I would gain more than just financial benefits from an expanded heritage and recreation economy:	I would gain more than just financial benefits from an expanded heritage and recreation economy:
<ol style="list-style-type: none"> 1. Strongly agree (21%) 2. Agree (57%) 3. Disagree (18%) 4. Strongly disagree (4%) 	<ol style="list-style-type: none"> 1. Strongly agree (46%) 2. Agree (42%) 3. Disagree (13%) 4. Strongly disagree (0%).
If Park County expands its heritage and recreation economy	If Lake County expands its heritage and recreation economy
<ol style="list-style-type: none"> 1. benefits will be dispersed among a wide range of people in Park County (37%); 2. benefits will accrue mostly to a small subset of people in Park County (48%); 3. benefits will accrue mostly to outsiders (15%). 	<ol style="list-style-type: none"> 1. benefits will be dispersed among a wide range of people in Lake County (56%); 2. benefits will accrue mostly to a small subset of people in Lake County (36%); 3. benefits will accrue mostly to outsiders (8%).
An expanded heritage and recreation economy in Park County will have a negative effect on me:	
<ol style="list-style-type: none"> 1. Strongly agree (0%) 2. Agree (18%) 3. Disagree (57%) 4. Strongly disagree (25%) 	
Theme: cultural fit	
<i>Park County</i>	<i>Lake County</i>
The quality and quantity of motels, restaurants, shops and attractions in Park County	The quality and quantity of motels, restaurants, shops and attractions in Lake County
<ol style="list-style-type: none"> 1. is ready to support an expanded heritage and recreation economy (45%); 	<ol style="list-style-type: none"> 1. is ready to support an expanded heritage and recreation economy (9%);

(Continued)

Table 1. Results of stimulus questions (organized by thematic category and county) rural community preferences for extraction and recreation, Park and Lake counties, Colorado, USA. (Continued)

<p>2. is somewhat lacking, but there is enough to support an expanded heritage and recreation economy (52%);</p> <p>3. is sorely lacking and needs to be improved before we can expand a heritage and recreation economy (3%).</p> <p>An expanded heritage and recreation economy in Park County</p> <p>1. will be compatible with the lifestyle of my community (48%);</p> <p>2. will change the lifestyle of my community to some degree (48%);</p> <p>3. will have a significant negative effect on the lifestyle of my community (3%).</p> <p>An expanded heritage and recreation economy is a good fit for [name of Park County community] (three questions).</p> <p>Answers varied according to community:</p> <p>1. Strongly agree</p> <p>2. Agree</p> <p>3. Disagree</p> <p>4. Strongly disagree</p> <p>What type of heritage and recreation activities will provide the most economic benefit to Park County?</p> <p>1. Backcountry recreation such as mountain climbing, hiking and cross-country skiing (34%);</p> <p>2. Fishing, hunting and shooting (28%);</p> <p>3. Heritage and historic tourism, wildlife viewing, birding, etc. (34%);</p> <p>4. RV camping (0%);</p> <p>5. ATV riding and snowmobiling (3%).</p> <p>Which type of people would you most like to attract to Park County? People who</p> <p>1. stay for a day or two, then go back home (32%);</p> <p>2. stay for a week or two, then go back home (57%);</p> <p>3. have a second home here and visit regularly (7%);</p> <p>4. want to settle here (4%).</p> <p>Which type of people would you most like to attract to Park County? People who</p> <p>1. spend most of their time in the back country (0%);</p> <p>2. split their time between the outdoors and town (79%);</p> <p>3. spend time at a recreation area or ranch (10%);</p> <p>4. pass through on a day trip (10%).</p>	<p>2. is somewhat lacking, but there is enough to support an expanded heritage and recreation economy (45%);</p> <p>3. is sorely lacking and needs to be improved before we can expand a heritage and recreation economy (45%).</p> <p>An expanded heritage and recreation economy in Leadville</p> <p>1. will be compatible with Leadville's lifestyle (68%);</p> <p>2. will change the lifestyle of Leadville to some degree (27%);</p> <p>3. will have a significant negative effect on the lifestyle of Leadville (5%).</p> <p>An expanded heritage and recreation economy is a good fit for [name of Lake County community] (three questions).</p> <p>Answers varied according to community:</p> <p>1. Strongly agree</p> <p>2. Agree</p> <p>3. Disagree</p> <p>4. Strongly disagree</p> <p>What type of heritage and recreation activities will provide the most economic benefit to Lake County?</p> <p>1. Backcountry recreation such as mountain climbing, hiking and cross-country skiing (59%);</p> <p>2. Fishing, hunting and shooting (5%);</p> <p>3. Heritage and historic tourism, wildlife viewing, birding, etc. (23%);</p> <p>4. RV camping (0%);</p> <p>5. ATV riding and snowmobiling (14%).</p> <p>Which type of people would you most like to attract to Lake County? People who</p> <p>1. stay for a day or two, then go back home (18%);</p> <p>2. stay for a week or two, then go back home (55%);</p> <p>3. have a second home here and visit regularly (23%);</p> <p>4. want to settle here (5%).</p> <p>Which type of people would you most like to attract to Lake County? People who</p> <p>1. spend most of their time in the back country (0%);</p> <p>2. split their time between the outdoors and town (95%);</p> <p>3. spend time at a recreation area or ranch (0%);</p> <p>4. pass through on a day trip (5%).</p>
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Note: Please note that because of numerical rounding, some answers sum to greater than 100%, and some answers sum to less than 100%.

the beginning of the stakeholder meeting (many were also involved with the “situation assessment”) and had ample opportunity to have questions addressed following the meeting. The introductions were followed by a 50-minute session where the stakeholders presented input and reviewed instantaneous results, using the ARS. Two ARS practice questions were instituted to ensure that stakeholders were comfortable with the system. After the ARS voting, there was 20 minutes of small group discussion, where participants provided validation to the responses and elaborated upon other key issues that emerged during the ARS presentations. The last 10 minutes was spent on the stakeholder meeting evaluations. Following the stakeholder meetings, ARS results were validated against the 58 qualitative interviews conducted during the situation assessment and in follow-up emails to attendees (and those who could not attend the evening sessions) within two weeks of the meetings to ensure validity. Both communities received information about the other stakeholder events. Results were also disseminated through the local newspapers the *Fairplay Flume* and the *Leadville Herald Democrat*, by journalists who attended the meetings. Further validity was provided by comparing ARS results from the Region 8 United States Environmental Protection Agency (EPA), which followed up our results with Internet surveys and a “Virtual Forum” chat room (United States Environmental Protection Agency, 2010).

The meetings were moderated by a facilitator with training in collaborative conservation who was affiliated with the project team and identified as such during the introductions. The facilitator moderated the entirety of the meetings: introducing project team members, moderating the project briefing, guiding the question-and-answer session, leading the ARS voting session and facilitating one of three small group sessions. The other small group sessions were facilitated by other project team members. In moderating the 50-minute ARS sessions, the facilitator read each question aloud, displayed and summarized the results of each question and facilitated spontaneous discussion that followed the revelation of responses to the more provocative questions. These discussions tended to focus on spontaneous reactive statements and commentary on choice rationale and were kept brief in order to keep to schedule.

Results

ARS results for each of the stakeholder meetings are presented in Table 1. The results are arranged according to each of the three themes (trade-offs, distribution of costs and benefits and cultural fit), with the response percentages rounded to the closest whole number. There were 29 stakeholders who participated in the Alma meeting and 25 who participated in the Leadville meeting. Approximately one half of the attendees reported being interviewed during the situation assessment, and all of the attendees who attended the stakeholder meetings lived in the county of the meeting site. The list of stakeholders who expressed an interest in attending the meetings but who could not make it that evening and who wanted to be informed of the results was nearly double. Participants also reflected long-term residents, and statistics were nearly identical for both communities. More than 20% of participants had resided in the community for between 5 and 10 years. More than 55% of residents had resided in the community for longer than 10 years. The majority (72%) of Leadville attendees actually worked in Leadville. In contrast, not quite half of the Alma attendees reported working within the county.

Trade-offs

Stakeholders in both communities said that they felt that traditional Old West industries could coexist with recreation and heritage economic development in their communities to

some extent. A total of 75% of the Park County stakeholders agreed with the statement that “an expanded heritage and recreation economy will have a positive impact on our existing farm and ranch enterprises”, while the remaining 25% believed that there would be no effect. By way of explanation, during the breakout sessions, several attendees felt that Park County was already successful in encouraging agritourism and that it should continue on this path. With high-elevation ranching far more prevalent in the meadows of the Park County, Lake County residents were asked, “What would be the most important thing that could be done to make the Mineral Belt Trail a keystone attraction for Leadville?” There was a high amount of variation in the responses, with the majority (54%) preferring to emphasize the Mineral Belt Trail as a biking destination, 29% of the respondents preferring to highlight the Trail’s historic mining aspects and 17% wishing to improve the retail and concession opportunities.

There was an interesting difference in the community attitudes toward extraction. Almost exactly one third of the Alma residents felt that mining could not coexist in a recreation and heritage economy, and one third felt that mining would compromise heritage and recreation tourism. One third of Alma residents felt that the mining and heritage/recreation economic sectors could coexist. In Leadville, where the reopening of a mine may be a possibility in the near future, the numbers were almost exactly reversed. Two thirds of the Lake County residents felt that “mining can coexist very well with an expanded heritage and recreation economy”, while 25% felt that there would be trade-offs between the two sectors. Only 9% of Lake County residents felt that “mining is not at all compatible with an expanded heritage and recreation economy”.

In contrast, responses to other trade-off questions were similar for the communities. While the questions were worded slightly differently, approximately 75% of respondents expressed the view that there would be positive benefits to their land and community from a transition to a recreation and heritage economy. Another similarity is that a majority of residents of both communities felt that their safety would remain unaffected by an increase in heritage and recreation economic development; however, a considerable number (45% in Alma and 23% in Leadville) believed that their safety would decrease, citing recent murders at remote mountain recreation sites.

Leadville residents were also queried about their perceptions about environmental quality, particularly since the EPA has been involved with the community for years to clean up former mine sites, including the California Gulch area that is now part of the Mineral Belt Trail. While the EPA involvement continues, there has been well-documented disagreement between the agency and the community about the level of cleanup required to facilitate further economic development. The disparity in opinion between the EPA and the community (and within the community itself) is reflected by the wide variety of responses to the statement “Significant environmental cleanup in Lake County is necessary to expand the heritage and recreation economy here”. One quarter (25%) stated that they “strongly agreed” with this statement and 17% stated that they agreed. However, 50% stated that they disagreed with the statement and 8% “strongly disagreed”. On a similar note, 70% disagreed that there would be an improvement in water quality with an increase in a recreation and heritage economy, although 25% agreed that there would be an improvement.

Distribution of costs and benefits

Stakeholders were generally optimistic that benefits from an expanded heritage and recreation economy would accrue to local residents, both financially and in other ways. When asked whether an expanded heritage and recreation economy would bring more jobs for

local residents, 92% of Lake County respondents and 74% of Park County respondents agreed with that statement. Although most respondents believed more jobs would result, more than half – 60% in Lake County and 52% in Park County – thought that overall incomes in their respective counties would remain the same. This perceived separation of job numbers from total income may stem from a belief voiced among some stakeholders at the two meetings that wages in the tourism industry are generally lower than wages in other economic sectors.

Respondents in Lake County overall were more positive than Park County respondents about the potential financial benefits of heritage- and nature-based tourism. When asked if they would realize personal financial gain from an expanded heritage and recreation economy, 69% of Lake County respondents indicated that they would be much better off or slightly better off financially compared with only 39% in Park County. However, perceptions of non-financial benefits resulting from heritage- and nature-based tourism were more evenly matched between the two counties. When asked if they would gain more than just financial benefits from an expanded heritage and recreation economy, 88% of meeting participants from Park County agreed or strongly agreed with that statement compared with 78% of respondents from Lake County.

Differences between the two counties with respect to expectations for financial gain may be a reflection of the differences in meeting participants' employment and occupation status. Nearly 43% of the people attending the Lake County meeting were employed in the retail/service or building/utility sectors, compared with just 17% of Park County participants. Moreover, 28% of the Park County participants were retired as compared with just over 8% of the Lake County participants.

Commensurate with their optimism about potential financial gains from an expanded heritage and recreation economy, Lake County residents were more sanguine about how wealth and benefits would be spread among county residents. Most (56%) Lake County respondents believed that benefits would be dispersed among a wide range of people in their county, compared with only slightly more than a third (37%) of Park County respondents. Nearly half (48%) of the Park County residents thought that benefits would accrue to a small subset of people in the county, and another 15% believed that outsiders would gain the most. In Lake County, 36% and 8%, respectively, believed that wealth would be accumulated by a small subset of people or outsiders.

Cultural fit

The third line of inquiry in the ARS stimulus questions was that of cultural fit. We were interested in learning how stakeholders perceive heritage- and nature-based tourism and tourists with respect to their own sense of cultural identity. Cultural compatibility is an important consideration in developing a tourism economy in a locality for the principal reason that local residents are essentially inviting people into their communities and sharing the experiences and amenities that are important and valuable to them. Cultural fit even blends into perceptions of cultural, economic and environmental sustainability and the trade-offs that must be made to accommodate growth in this economic sector.

We began this series of questions with a question about the perceived status of the existing tourism infrastructure. We asked participants whether the quality and quantity of motels, restaurants, shops and attractions in each county was sufficient, was somewhat lacking but still could support an expanded heritage- and recreation-based economy or was sorely lacking and needed improvement in order to support an expanded heritage and recreation economy. The responses were surprisingly different in each county, despite

similarities in the number and variety of retail services between the communities and proximity to resort communities. In Park County, 97% of the respondents considered their county's tourism infrastructure to be sufficient or only somewhat lacking. In Lake County, only 54% thought so well of the quality and quantity of their motels, restaurants, shops and attractions. This is despite the fact that both counties feature approximately an equal number of accommodation and food service establishments. According to 2002 census data (United States Census Bureau, 2002), Lake County had 12 hotels, motels and inns and Park County had 15; and Lake County had 27 eating and drinking establishments while Park County had 24. Although these numbers say nothing about the quality of those establishments, both communities' accommodation and food service sectors are composed almost exclusively of small, locally owned establishments.

Next, we asked stakeholders whether they believed an expanded heritage and recreation economy would be compatible with the lifestyle of their community, would change the lifestyle of their community to some degree or would have a significant negative effect on the lifestyle of their community. The question was worded differently in each meeting locality. In Lake County we asked the question with respect to Leadville (e.g. compatible with *Leadville's* lifestyle), by far the largest of two incorporated municipalities in the county. All but two Lake County respondents resided in Leadville. For Park County, which contains nine incorporated towns, we phrased the question so that respondents answered with respect to their community of residence (e.g. compatible with *your community's* lifestyle). All Park County respondents were from one of three towns: Alma, Fairplay or Como.

A total of 68% of Lake County respondents believed that an expanded heritage and recreation economy would be compatible with Leadville's lifestyle, while 27% thought that it would change the lifestyle of Leadville to some degree, and 5% said it would have a significant negative effect. All Lake County respondents agreed or strongly agreed with the statement "An expanded heritage and recreation economy is a good fit for Leadville". Nearly all (95%) agreed or strongly agreed that expanded heritage- and nature-based tourism would be a good fit for the Twin Lakes area and northern Lake County.

In Park County, respondents were evenly split (48% and 48%, respectively) between the statements that an expanded heritage and recreation economy would be compatible with the lifestyle of their community or that it would change the lifestyle of their community to some degree. A small minority (3%) believed that expanding tourism would negatively affect the lifestyle of their community. A total of 96% of respondents believed that an expanded heritage and recreation economy would be a good fit for central Park County (Alma, Fairplay and Como); 88% believed that it would be a good fit for southern Park County (the Lake George, Hartsel area), and a small majority, 52%, felt the same about the cultural fit with eastern Park County (Bailey, Shawnee and Grant).

When we asked stakeholders about the type of heritage and recreation activities that they thought would provide the most economic benefit to their county, answers differed significantly between the two counties. In Lake County, backcountry recreation such as mountain climbing, hiking and cross-country skiing was considered by most people (59%) to be the most promising economically, followed by heritage and historic tourism, wildlife viewing and birding at 23%. All-terrain vehicle (ATV) riding and snowmobiling came in a distant third at 14%. Park County respondents were nearly evenly split among backcountry recreation (34%), heritage and historic tourism (34%) and fishing, hunting and shooting (28%). One Park County participant ranked ATV and snowmobiling as having the greatest economic potential. Interestingly, no one from either meeting site ranked recreational vehicle (RV) camping as potentially providing the most economic benefit.

When asked about the type of people, in terms of duration of stay, they would most like to attract to their county, most respondents in both counties preferred those who would stay for a week or two and then go back home (Lake County = 55%; Park County = 57%). Lake County stakeholders wanted visitors to stay longer (only 18% wanted people who stay a day or two versus 32% in Park County) and were more tolerant of second-home owners (23% in favor versus 7% in Park County). We were also interested in stakeholder preferences about where visitors should spend time while in the county. Nearly all respondents (95% in Lake County and 79% in Park County) preferred tourists who split their time between the outdoors and in town. No one stated a preference for tourists who spend most of their time in the backcountry. A small minority of respondents (5% in Lake County and 10% in Park County) most wanted to attract visitors who pass through on a day trip.

Discussion and conclusions

One of the main objectives of this phase of the study was to gather input at community stakeholder meetings in a manner in which attendees felt comfortable expressing their input anonymously. Feedback about this new “twist” on the rural town hall meeting indicated that we met this objective. Moreover, we found that the ARS phase of the meeting had the added affect of stimulating significant and thoughtful inquiry and deliberation in the small group sessions. Discussions were informed by the group’s responses in the ARS phase and provided a reasoned foundation for participants to engage in consequential dialog. Participants reacted to three questions: “What surprised you?” “What did we miss?” “How can we get community support to help us conduct our study?” All groups spent most of their time discussing the first two questions. Responses were decidedly mixed depending on the participants’ primary interests and prior experiences. Nevertheless, discussion in all groups led to earnest deliberation of the potential effects of heritage and recreational tourism on their communities. Although these meetings were not intended to generate future actions to capitalize on the economic potential of heritage recreation and tourism, the information gained from the ARS session motivated several of the groups to seriously consider future options. All suggestions were recorded by the small group moderators and compiled by the facilitator.

Post-meeting evaluations pertaining to the clicker and the project are presented in Table 2. Nearly all participants reported that the ARS was easy to use and that they felt comfortable expressing their opinions. The average scores for Alma and Leadville on a scale of 1–4 (with 1 representing “agree”) were 1.08 and 1.11, respectively. Participants also noted that the clicker systems made them comfortable expressing their opinions (1.29 and 1.17 were the respective averages for Alma and Leadville) and that the questions were fairly representative of the economic development issues related to a heritage and recreation economy (averages of 1.94 and 2.18 for Alma and Leadville).

In the written evaluations, several attendees stated that the ARS made the meeting meaningful, interesting, fun and enjoyable. In several cases, individuals also admitted that they attended the stakeholder meetings because they were intrigued to use the system. During the questioning phase of the meeting, people grew increasingly expectant as they keyed in their responses, waiting for the distribution of answers to be revealed. Each display of the group’s choices elicited verbal and nonverbal reactions from the participants including nods, chuckles, laughter and chatter. In fact, at the Alma meeting, participants broke out in spontaneous applause at the end of the clicker session. During the small group discussion session, several people remarked about how interesting it was to learn what their neighbors

Table 2. Audience feedback on effectiveness of ARS.

Scale of 1–4: 1 = agree, 4 = disagree

1. The clicker system was easy to use.
Alma: 1.08 (average), 1.0 (median)
Leadville: 1.11 (average) 1.0 (median)
2. The clicker system made me feel comfortable expressing my opinions.
Alma: 1.29 (average), 1.0 (median)
Leadville: 1.17 (average), 1.0 (median)
3. The questions were easy to understand.
Alma: 1.83 (average), 2.0 (median)
Leadville: 2.06 (average), 2.0 (median)
4. The questions adequately reflected economic development issues related to a heritage and recreation economy.
Alma: 1.94 (average), 2.0 (median)
Leadville: 2.18 (average), 2.0 (median)
5. I think that this project will result in positive benefits for my community.
Alma: 1.88 (average), 2.0 (median)
Leadville: 1.45 (average), 1.0 (median)

thought. Many were surprised by how closely aligned their responses were to others in the room, while some noted the differences among participants.

One criticism of the system offered by participants in both meetings was the use of forced choices for responses to complex questions that many believed required nuanced answers. While the participants generally rated the questions as easy to understand (averages reflected 1.83 and 2.06 for Alma and Leadville, respectively), a few participants articulated this issue in the written evaluation, but noted that the small group follow-up discussion allowed participants to expand upon their answers. One participant using the ARS stated, “Many questions were too vague to generate accurate responses”.

The ARS, and the discussions the use of this device initiated, also served the purpose of gaining community input for the other phases of the multiphase study. Residents responded that the project would result in positive benefits to the community despite a hefty amount of skepticism expressed during the situation assessment (1.88 and 1.45 were the respective averages for Alma and Leadville). Demographic data, presented in Table 3, revealed that the stakeholder distribution was skewed toward residents who considered themselves community, rather than county, residents. It is clear that there remains a great deal of opportunity to validate the ARS findings during the next phase of the study, with the implementation of a multi-county choice modeling survey. As noted in the literature, there is some degree of selection bias for those who attend town hall meetings, and both of our town hall meetings had fewer than 30 stakeholders in attendance. While evaluations informed us that our sample was fairly reflective of those who participated in the situation assessment, despite our best efforts, only one resident connected with Leadville’s large Latino community attended the stakeholder session. Further interviews will need to be conducted with the Latino subpopulation before the economic survey (including a Spanish version) can be designed. Based upon demographic data and responses to recreation questions, it was also unclear as to how well we tapped potential recreators with an interest in RV and off-road motor recreation. However, it is our overall belief that the ARS has laid the groundwork to gain community support and to identify the economic issues in these rural communities to assist us with the creation of a survey instrument. Used in concert with other techniques such as collaborative inquiry and social engagement (Chevalier & Buckles, 2010), we believe that ARS may provide an increasingly valuable role in community forums.

Table 3. Demographic data.

1. Where do you live?			
	<i>Alma</i>	<i>Leadville</i>	
In-town resident	100%	91%	
2. Age distribution			
	<i>Alma</i>	<i>Leadville</i>	
18 and under	0%	0%	
19–29	3.85%	29.17%	
30–45	23.08%	25%	
46–65	53.85%	37.50%	
Over 65	19.23%	8.33%	
3. How long have you lived in your county?			
	<i>Alma</i>	<i>Leadville</i>	
Less than 1 year	0%	4.17%	
1–3 years	6.90%	8.33%	
3–5 years	17.24%	8.33%	
5–10 years	20.69%	20.83%	
Longer than 10 years	55.17%	58.33%	
4. Where do you work?			
	<i>Alma</i>		<i>Leadville</i>
<i>Park County</i>	48.28%		72.73%
Summit County	17.24%	Elsewhere in Lake County	9.09%
Front Range	0%	Summit County	0%
Elsewhere	3.45%	Elsewhere	4.55%
Don't work	31.03%	Don't Work	13.64%
5. What do you do for a living?			
	<i>Alma</i>	<i>Leadville</i>	
Retail or service	13.79%	21.74%	
In home or telecommute	10.34%	4.35%	
Building or utilities	3.45%	21.74%	
Government	27.59%	8.70%	
Retired	27.59%	8.70%	
Other	17.24%	34.78%	

There were interesting similarities and differences between the communities with regard to the three themes identified in the situation assessment (trade-offs, costs and benefits and cultural fit). In terms of the perceived cultural fit of a recreation and heritage economy for the community, residents of both communities expressed a desire to attract visitors who would stay a few weeks and split their time between the natural areas and the town. Residents were not focused on attracting future residents to settle in the community. Residents in both communities also felt that a recreation- and heritage-based economy would bring more income into the community; however, Park County residents were less optimistic that the economic benefits would be evenly dispersed among residents. The majority of Lake County residents also regarded the extraction and mining industry as highly compatible with recreation. The majority of Lake County residents did not perceive that additional environmental cleanup was necessary in order to expand the recreation economy.

We believe that the findings from the stakeholder meetings indicate that residents of these communities will embrace the direction of economic development based in heritage and recreation. However, disparity in some of the responses between the communities, particularly in the realm of “trade-offs”, indicates that there may be local differences

when it comes to the implementation of economic development plans to attract heritage and tourism. Opportunities also exist for mining and ranching heritage to provide unique recreation attraction in both communities, as is the case of Leadville's Mineral Belt Trail and Alma's recent designation as a National Heritage Tourism Area.

There is also at least some evidence to suggest that residents in these mountain communities may be willing to institute government policies that will accommodate both extraction and recreation. For example, in 2005, the town of Alma agreed to indemnify landowners of mining claims on high mountain peaks from injuries sustained by recreators who were trespassing on their land (Keske & Loomis, 2008). Such policies, in combination with the results of this project, indicate that many residents believe that a (New West) recreation- and heritage-based economy can coexist with the traditional Old West industries such as extraction and recreation. Understanding community preferences for extraction and recreation may also help communities tap into the substantial heritage and tourism economy that is present in Colorado. This leads us to believe that these industries may be complementary, as shown by mining in Lake County and agritourism-based ranching and fishing in Park County. Based upon the results of our project, it appears as though the culture and the economic drivers of the New West may have a clear connection to the Old West and that the culture of the New West rural economy may not be as divisive as it may at first seem.

Notes on contributors

Dr Catherine Keske is Assistant Professor of Agricultural and Resource Economics in the Department of Soil and Crop Sciences at Colorado State University, where she is also Associate Director of the Institute for Livestock and the Environment (www.livestockandenvironment.info). She is also Adjunct Professor at the Denver University Sturm College of Law. She is Principal Investigator for the US Department of Agriculture Grant 2008-02698, "Using Mountain Ecosystem Services to Provide Sustainable Economic Growth and Job Development in Rural Communities".

Dr Steve Smutko is the Wyoming Excellence Spicer Distinguished Chair in Environment and Natural Resources, based in the Haub School and Ruckelshaus Institute of Environment and Natural Resources (ENR) at the University of Wyoming. This endowed chair position is the first of its kind in the US devoted to collaborative decision-making. Dr Smutko is also Professor of Agricultural and Resource Economics in the Department of Agricultural and Applied Economics at the University of Wyoming.

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