

“Cowboys” and Conservation: The Influence of Private Landowners on the Success of Conservation Partnerships in the Western United States

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Abstract:

Public/private conservation partnerships throughout the United States realize varied success in addressing natural resource problems in local watersheds. Successful guides developed from agency and organization perspectives are available, however, partnerships are often locally led. The guides, consequently, are potentially more useful to public managers than to private landowners. This study compared a thirteen-characteristic success model, created from agency and organization sources, with three locally led partnerships. The results illustrate the importance of (1) private landowner values in conservation partnership success, and (2) qualitative measures of success. Differences between public and private responses were determined statistically. Measurement of the degree of difference for each characteristic, determined through a quartile division of the model, resulted in only eight of the characteristics contributing conclusively to partnership success. These eight characteristics are proposed as the basis of a more broadly applicable guide to successful partnerships involving private landowners.

Introduction

The conservation partnership is a natural resource management strategy that has been used to address problems on private lands for over 60 years. While this strategy has gained popularity and momentum on public and private lands during the last 30 years, it has not resulted in consistent levels of success. The popularity of these partnerships, however, has led agency and organization personnel to suggest models for success. The models have not been adopted widely, possibly as a result of an etic approach that reflects only agency or organization interpretations. An emic approach that includes private landowners' perspectives of success should provide a more adaptable guide to successful partnerships.

The primary purpose of this study was two-fold: first, to identify any differences among landowner, agency, and private organization perspectives of conservation partnership success; and second, to modify an agency/organization-based model of success, based on the differences identified by inclusion of landowner perspectives. A secondary purpose of this study was to illustrate the landowner's role in conservation partnership success and the consequent need to include qualitative measures in evaluations of success.

Background

By the late 19th century, the general populace of the United States began to realize limitations to the previously abundant natural resources. Their awareness led to concerns that escalated to a level that effected changes in federal policies and the nation's approach to natural resource management (Cahn 1996). Federal agencies, consequently and with the general acceptance of the populace, assumed the expertise to manage these resources for the benefit of the nation (Hough 1991). Advances in the natural sciences throughout the 20th century furthered the agencies' expertise, however, a rift was forming between the agencies and the public with regard to the 'benefits' for which the agencies were managing.

This rift reflects, in part, what McCay and Jentoft (1998:26) refer to as the "dis-embedding" of local community qualities necessary for effective local management of common resources. These qualities can be found in social systems where the relationships among resource users include shared norms, values, and a sense of moral commitment. Such communities often develop their own arrangements for resource use and management that are integrated, or embedded, in the social functioning of the community. The centralized control and management of natural

resources by federal agencies, however, has contributed to the dis-embedding of these qualities by assuming complete control and responsibility for resource systems. The loss of local control typically disrupts the social systems of many 'commons' communities and widens the rift between agencies and the public they serve (McCay and Jentoft 1998).

During the 1960s, public dissatisfaction with the outcomes of top-down management led to aspirations of direct involvement in natural resource issues (Cahn 1996; Pinkerton 1994) and political pressure that resulted in the passage of the National Environmental Policy Act (NEPA 42 USC §4321-4345, 1969) (Boggs 1990). By requiring public participation in resource management decision-making, NEPA reflected a growing recognition of the public's moral and legal rights to involvement in natural resource management decisions (Hough 1991; Spicer 1968) and provided opportunities for rebuilding 'commons' communities and their resource management systems.

Early public participation tended, however, to be government-driven co-option rather than a mutual sharing of information, responsibility, and power. The public continued to question government "experts" while demanding a meaningful role in management decisions. Local people in former 'commons' communities maintained that they had useful knowledge of area resources (Stoffle, *et al.* 1994) and cultural landscapes (Stoffle, Halmo, and Austin 1997). Conservation practices developed by these communities, such as controlled burning to stimulate desired vegetative growth, were frequently used and were part of the local social system (Lewis 1992; Stewart 1956). These folk conservation practices grew out of intimate and long-term relationships with the land but when local people shared such information it was often neglected or overlooked by the "experts" (Dyer and McGoodwin 1994; Pinkerton 1994).

There is a growing trend among natural resources managers in the United States, however, to accept the value of local knowledge and appropriateness of public involvement in management decisions (Paehlke 1994). Today, true public participation, as opposed to co-option, is recognized as necessary to successful natural resource management (Endicott 1993) just as commons management is viewed as requiring local knowledge and participation (McCay and Acheson 1987; Ostrom 1990). One specific strategy, the

conservation partnership, has proven to be effective in addressing natural resource problems² and is being used more and more by federal agencies and non-government organizations.

While some partnerships have achieved much success, others have experienced failed efforts, high levels of frustration, and wasted time and money (Endicott 1993; Hicks 1992; Hoban, *et al.* 1995; Jones 1987). The sharing of partnership efforts and lessons might offer a solution but such communication has been limited (Moote 1996). It is imperative that methods of broad utility be developed for evaluating and comparing partnership efforts in order to aid conservation efforts and reduce failures (River Network 1997; Sample 1994; Wyoming Dept. of Agriculture 1996).

Studies involving similar partnerships in other countries have provided some guides and models for success that were developed through detailed case analyses by partnership participants³, however, these have several limitations. The proposed guides and models were derived solely from agency and organization evaluations. The proposed methods tend to have structures, generalizations, or abstractions that can be difficult to translate into local actions and application. Local use of such methods is necessary because local participation and community support are critical contributors to partnership success⁴. While no single model will work for every partnership (Coyle 1995; Daly 1994; Zube 1992), a guide to success that is developed with direct, local input may be more useful to a variety of partnership efforts.

The study design for this research began with the development of a success model based on these earlier studies for comparison to conservation partnerships in the western United States. Data for the comparison was gathered through interviews with private landowners, agency and organization personnel, and examination of plan documents. Statistical analyses were conducted to determine differences between (1) the case studies and the model of success, and (2) private and public interests within each case study. The results illustrated (1) impacts private landowners can have on partnership success, (2) the basis for the values private landowners place on their watersheds, and (3) the importance of including qualitative measures when determining success.

Methodology

The Success Model

Sixty-five characteristics of success were identified from earlier partnership studies, yet only thirteen

characteristics were found in 14% or more examples (Anderson and Baum 1987; Endicott 1993; Huillet, *et al.* 1990; Long and Arnold 1995; Zube 1992). These thirteen characteristics, ranked by decreasing recurrence, formed the test model of success (Table 1).

<u>Characteristic</u>	<u>% Recurrence</u>
Active participation by a wide variety and large number of partners ⁹⁷	
Common goals	53
Consensus	47
Adaptable, flexible leadership/process	43
A variety and number of people to do the work	33
Shared risks, rewards, credit	30
Trust	30
Money, adequate and shared	30
Regular communication	27
Commitment	23
Clear, consistent communication	20
Local authority for decision-making	17
Existence of leadership	13

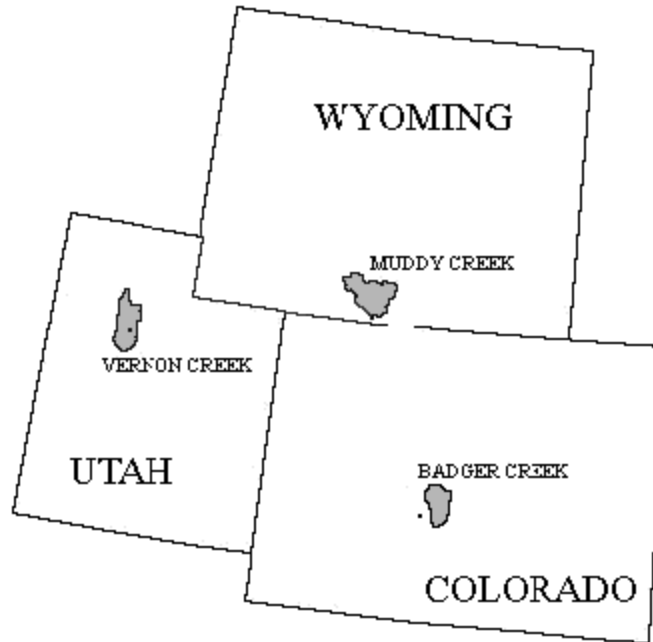
Case Study Selection

Conservation partnerships in the western United States were examined for potential case studies since they typically have a great deal of local involvement. Five criteria were established that provided local involvement, formal establishment of the partnerships, identification of some success without pre-selecting for total success, partnership diversity, and removal of potential influence of a specific program or approach on success.

The Case Study

Three partnerships in three different states, involving a total of 136 participants, were selected for research: the Vernon Creek Watershed Project in Utah, the Badger Creek Watershed Project in Colorado, and the Muddy Creek Watershed Project in Wyoming (Table 2). The land uses and plan goals for the three partnerships reflected the similarities and differences of the watersheds (Muddy Creek Watershed Partnership 1991; Badger Creek Watershed Partnership 1990; Vernon Creek Watershed Partnership 1967). These similarities included land uses of livestock grazing, wildlife habitat, and recreation, and common plan goals of improved livestock management and distribution, improved water quality, improved habitat, and erosion control.

Table 2. The Case Study Watersheds.



Watershed	Lead	Plan	Completed	Public/ Private	Approach
Vernon Creek Utah 1967 133,451 ac.	conservation district and NRCS	project plan & contracts	100%	Yes	Small Watershed Program
Badger Creek Colorado 1981 135,040 ac.	RC&D Council	project plan & individual conservation plans	75%	Yes	RC&D & 319 funds (Clean Water Act)
Muddy Creek Wyoming 1991 280,000 ac.	conservatio n district	project guidelines & conservation plans	50%	Yes	CRMP

Differences between the watersheds included a variety of land uses including cropland, timber harvesting, housing development, oil and gas development, and coal reserves. Differences in plan goals were typical of the different planning approaches used by each partnership. The Vernon Creek project, using the Small Watershed Program, addressed irrigation water management and flood control. The Badger Creek project, using the RC&D program and 319 funds, included intense monitoring of water quality and habitat improvements. The Muddy Creek project, a Coordinated Resource Management Plan, included improving user relations.

Sampling Strategy

A combined sampling strategy of stratification and proportionality was used to achieve adequate representation of all interests in the partnerships. Stratification included public, private, federal, state, local, individual, and organizational categories. The percentage of each category in each partnership was matched in the sampling, resulting in a 30% sample from each partnership (Arnold, 1970; Fowler, 1984).

Interview Questions

A combination of open-ended and closed-response interview questions were developed based on the qualitative and primary research nature of this study (Foddy 1993; Makowski 1997; Nance 1997). The open-ended questions were designed to identify partnership satisfaction levels and explain differences in closed question responses. The closed response questions were designed to identify the presence, degree of presence, or absence of the success model characteristics in each case study. These questions were structured on a three-point scale to provide consistent data for statistical analysis. Quantitative data was collected through reviews of plans, progress reports, newsletters, and newspaper articles that documented partnership activities, achievement of goals, and effects of physical and ecological goals.

Analysis

The interview results were interpreted through statistical analyses and quartile division. The

responses to the closed questions were totaled and recorded as a percentage of presence. As two or more questions addressed each characteristic, the corresponding percentages for each characteristic were averaged to determine levels of presence in each case study. This strategy was used to determine differences between the model and the case studies, and between private and public responses within the case studies.

Characteristics that had a presence score of at least seventy percent were interpreted as being clearly present and contributing to success. Characteristics with a presence score between thirty and seventy percent were interpreted as moderately present and characteristics with a presence score of thirty percent or less were interpreted as weakly present.

The Wilcoxon Signed-Rank test was used to determine differences between characteristic importance in the success model and in each partnership. The standard t-test was used to analyze differences between public and private responses within each partnership (Bhattacharyya and Johnson 1977; Sokal and Rohlf 1981).

Results and Discussion

This study yielded both qualitative and quantitative findings. Quantitative findings included completion and effects of physical and ecological goals. Qualitative findings include temporal aspects of the respondents' involvement with the watersheds, levels of satisfaction with the partnerships, perceptions of success, and recommended changes. The latter information provides deeper understanding of the differences between the success model and the case studies, and between public and private interests.

Temporal Aspects

The high value respondents put on their natural resources was illustrated through concern for and interest in their watersheds. Their participation with others who traditionally have held opposing views further indicated the importance of their watersheds. The aspects of value that were identified include residency, livelihood, organizational affiliations, and personal interests.

Residency of the respondents within their watershed areas ranged from two to 76 years with averages of 13-15 years longer for private respondents. Respondents' livelihoods involved agriculture and/or natural resources management also for two to 76 years. Averages for private respondents were 4-13 years longer than for public respondents. Livelihoods, organizational affiliations, and personal interests reflected other motivations for participation. Many public respondents held career positions in natural resources management. Many private respondents owned and managed agricultural businesses on public and private lands. The remaining respondents participated through work or personal affiliations that reflected concern for their communities and natural resources.

Levels of Satisfaction

The levels of satisfaction in the case studies were high with 92% of the Vernon Creek respondents, 93% of Badger Creek respondents, and 100% of Muddy Creek respondents being highly satisfied. Only two respondents, both private, expressed dissatisfaction due to specific problems not having higher priority. The high levels of satisfaction were explained by respondents' perceptions of the conservation problems and their perceptions of success:

they recognized that their problems could not be solved by individuals; they recognized the need for everyone's participation; they appreciated the opportunity to work with and learn from other partners; they believed they were achieving long-lasting conservation.

Perceptions of Success

Measures of conservation partnership success typically are quantitative, such as the number of acres protected from flooding or erosion, the tons of reduced soil erosion, and increases in production (Badger, Payne, and Cook 1966; Heady 1951; MacGaffey 1985; Romm 1995). The respondents in this study also expressed qualitative measures of success.

The Vernon Creek respondents identified some of their success through a variety of natural resource improvements. They also identified community survival and recreational use by visitors from Salt Lake

City as successes that resulted from their efforts.

The Badger Creek respondents identified natural resource improvements as part of their success. They also emphasized educational benefits, a high level of private sector involvement, and dramatic changes in attitudes as additional and significant measures of success.

Muddy Creek respondents perceived their partnership as an effective way to ease tensions between livestock and wildlife interests. They identified educational benefits, communication, and training in the Coordinated Resource Management Planning process as success elements that should be shared with other groups. Extensive development of wetlands, overlooking political boundaries, restraint of personal differences, and efficient use of funds also defined the success of this partnership.

Recommended Changes

While satisfaction with the partnerships was high, many participants had suggestions for changes. Most of the suggestions, expressed by both public and private interests, were for improvements relative to six characteristics in the success model. These characteristics included active, diverse participation; consensus; shared risks, rewards, and credit; trust; regular communication; and clear and consistent communication. Although four of these characteristics (active, diverse participation; consensus; trust; and clear and consistent communication) were clearly present in the case studies, their inclusion here suggests the need for constant attention. Other suggestions included the incorporation of monitoring data from the project efforts as an aid to decision-making, an increase in private landowner involvement, addressing issues of public access and vandalism, and resolving competing agency priorities.

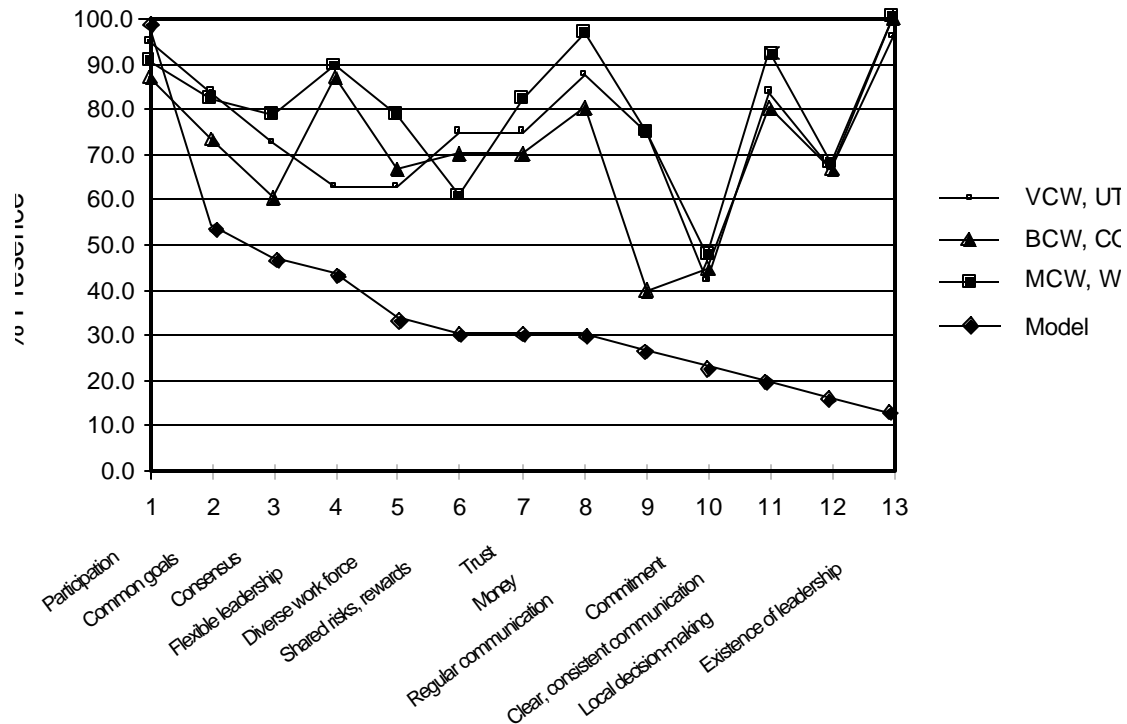
Differences Between the Model and the Case Studies

An examination of the closed-response questions revealed moderate (31%-69%) to clear (+70%) presence of the characteristics in all three case studies. The presence score was interpreted as the importance of each characteristic to partnership success. The characteristics were then ranked for each case study and compared to the model.

The rankings for the case studies differed significantly from the success model but exhibited strong parallels with each other (Figure 1). Based on the parallelism and the similarities of the partnerships

and projects, the initial case study responses were combined for further analysis to create a composite ranking of characteristics.

Figure 1. Comparison Between the Model and the Case Studies.



The differences established by the statistical tests were further explained by dividing the model into quartiles. This method revealed a relative amount of rank change for each characteristic from rank position in the model to the composite rankings for the case studies (Table 3). The characteristics that did not change quartiles were given a zero degree of change. The characteristics that did change quartiles were

given one, two, or three degrees of change. Minus and plus signs were used to indicate the direction of change and multiple signs were used to indicate the number of quartiles changed. It should be noted, however, that the direction of change simply reflects a reordering of characteristics as influenced by private landowner values.

Table 3. Quartile Division of Characteristic Rankings.

Characteristic	Case	Degree of	
	Model	Studies	Change
Active, diverse participation	1	2	0
Common goals	2	6	-
Consensus	3	8	--
Flexible leadership	4	5	0
Diverse work force	5	9	-
Shared risks & rewards	6	10	-
Trust	7	7	0
Money	8	3	++
Regular communication	9	12	-
Commitment	10	13	-
Clear, consistent communication	11	4	++
Local decision-making	12	11	0
Existence of leadership	13	1	+++

0 = no quartile level change
 - = one quartile level change
 --, ++, +++ = two or more quartile level changes

The results of quartile division (Table 4) showed no relative change in four characteristics: (1) active participation by a wide variety and large number of partners; (2) flexible, adaptable leadership; (3) trust; and (4) local authority for decision-making. Five characteristics showed some difference due to private landowner inclusion: (1) common goals; (2) diverse work force in terms of number of people and skills; (3)

shared risks, rewards, and credit; (4) regular communication; and (5) commitment. The remaining four characteristics showed the most quartile change indicating the areas most affected by private landowner values: (1) consensus; (2) adequate and shared money; (3) clear, consistent communication; and (4) existence of leadership.

Table 4. Changes in Characteristic Importance.

<p>No rank change with private land owner inclusion</p> <ul style="list-style-type: none"> % Active participation by a wide variety and large number of partners % Flexible, adaptable leadership process % Trust Local authority for decision-making
<p>One rank change with private land owner inclusion</p> <ul style="list-style-type: none"> % Common goals Diverse work force in terms of number of people and skills Shared risks, rewards, credit Regular communication Commitment
<p>Two or more rank change with private land owner inclusion</p> <ul style="list-style-type: none"> % Consensus % Money, adequate and shared % Clear, consistent communication % Existence of leadership

% Strongly present in case studies.

Differences Between Public and Private Responses

A few significant differences were found between public and private responses in Vernon Creek and Muddy Creek that potentially affected the presence of three characteristics. The differences in Vernon Creek, 14% of the interview questions, may have contributed to the moderate levels of presence of commitment (41.7%) and work force diversity (62.5%). The differences in Muddy Creek, 9% of the interview questions, may have contributed to the moderate level of presence of local authority (67.9%).

These few differences were enough to contribute to significant differences between the model and the case studies. This finding indicates that differences between public and private perceptions of success can affect the outcome of partnership efforts. While the levels of satisfaction explain the lack of differences between public and private responses, the greater longevity of residency and of agricultural or natural resource experiences of the private respondents may be responsible for the few differences that did occur.

Summary

Quartile division of the model showed that the inclusion of private landowners affected the importance of nine of the thirteen characteristics. The four characteristics that did not change, partnership diversity, trust, flexibility, and decision-making authority, appear to have received adequate attention in the partnerships. The differences in the nine characteristics, however, indicate a desire by the landowners to be informed and involved in decision-making and to have financial and leadership assistance in their conservation efforts. Landowners also desire efforts that promote common goals and commitment, shared efforts and responsibilities, and awareness. If agency and organizational managers give more consideration to these characteristics, then they should be able to work more effectively with private landowners in a variety of conservation efforts. Eight of the characteristics were found to be strongly present in all three case studies and these are proposed as a broadly applicable success guide for public/private conservation partnerships (Table 5).

Table 5. A Guide to Success for Public/Private Conservation Partnerships.

- < Begin with leadership
 - < Recruit active participation from a wide variety and as many partners as possible
 - < Identify and secure funding
 - < Be clear and consistent with all communications
 - < Allow adaptability and flexibility throughout partnership functioning
 - < Establish common goals
 - < Build trust
 - < Use consensus decision-making
-

Six of the eight characteristics are qualitative in nature illustrating the importance of and need for inclusion of such characteristics in evaluations of success. Success of conservation efforts that is determined solely by quantitative measures, consequently, is dubious at best and likely to be short-term.

Conclusion

Top-down natural resource management strategies have become insufficient for addressing modern conservation issues as public demands for inclusion have increased. The conservation partnership is an effective natural resource management strategy that has the potential to re-embed "management responsibilities within the local community" by

integrating public and private values with decision-making (McCay and Jentoft (1998:26). As conservation partnerships continue in their efforts, as new partnerships develop, and as resources continue to decline, an effective guide to success becomes increasingly important to conservation efforts.

These findings compliment those of others from around the world who have found folk knowledge and management techniques to be important in successful natural resource management. Private landowner inclusion and the values they place on natural resources can and do play a critical role in achieving successful conservation partnerships in the United States.

While all the partners of this study placed high values on their watersheds, the study results suggest that private participants hold values that differ enough from those of public participants to significantly effect partnership success. Private participants, for example, tend to have lived longer in their watersheds than public participants. This tendency may contribute to private participants having a deeper commitment to and understanding of their watersheds. This study was not designed for nor focused on an analysis of values in natural resources management. Some of the study findings, however, suggest that a participant's length of residency in a watershed is directly associated with the kinds of and relative importance of their values.

While such a hypothesis is unsupported at this time, it may derive from one of two suppositions. First, a longer length of residency increases local knowledge of ecosystem relationships and commitment to place. Second, a longer length of residency may result from fundamental knowledge and values of the ecosystem rather than creating such knowledge and values. Future studies are needed to test the hypothesis and suppositions in order to clarify the apparent correlation between length of residency and natural resources values.

The few significant differences this study found between public and private responses to interview questions were enough to result in a lack of support for the success model. Only eight of the model's thirteen characteristics were determined to contribute strongly to the success of these three public/private

conservation partnerships. Since the eight characteristics were determined from public and private perspectives, they are interpreted as being based in public and private values. Such a basis provides potential for broad applicability of these characteristics which, therefore, are proposed as a guide to success.

The result of 75% of the success guide being qualitative indicates an imperative for agencies and organizations that conduct conservation evaluations that consider these factors. Since these entities depend on numbers for evaluation, they could apply the survey questions from this study to their efforts to create percentage values for the qualitative characteristics of the guide. These values could be incorporated with quantitative figures for a comprehensive evaluation of success.

Future research should include field-testing by new partnerships and field or survey testing by existing groups. Studying conservation efforts in other countries, such as Australia and Canada could also test the success guide, where similar public/private partnerships occur. Two potential uses of this success guide are (1) as a guide to developing conservation partnerships, and (2) as a tool for evaluation of these efforts. Should this guide prove to be a useful remedy to such situations, it may also become a way to restore qualities that McCay and Jentoft (1998) believe are necessary for communities to be able to effectively manage their resources.

Notes

1. Rebecca S. Toupal, M.L.A. is a doctoral candidate at the University of Arizona, School of Renewable Natural Resources who is specializing in the influence of cultural perceptions on landscape management. She has assisted rural and tribal communities in the western United States addressing conservation planning issues. This article is based on research conducted for her Masters of Landscape Architecture at the University of Arizona. The author thanks Michael D. Johnson, Ervin H. Zube, H. Randal Gimblett, and Donovan C. Wilkin for their support during the development of this study. Support for this research was provided by the Social Sciences Institute of the USDA Natural Resources Conservation Service.

2. Chafee, 1993; Endicott, 1993; Hicks, 1992; Hoban, *et al.*, 1995; Jones, 1987.

3. Coyle, 1995; Daly, 1994; Endicott, 1993; Huillet, *et al.*, 1990; Long and Arnold, 1995.

4. Clements, Green, and Kleinschmit, 1997; Cotton and Cotton, 1996; Daly, 1994; Davis, 1985; DePhelps, 1996; Endicott, 1993; Hall, 1995; Ostrom, 1990; Richardson and Brunson, 1997; Sampson, 1992; Sampson, 1997; Shipley, 1995.

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