

Seeing Eye-to-Eye on Natural Resource Management: Trust, Value Similarity, and Action Consistency / Justification

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Introduction

A series of natural resource management studies has explored a salient values similarity model of trust introduced by Earle & Cvetkovich (1995). Forest Service management topics investigated by these studies include acceptance of a proposed forest research program, evaluations of management interventions to protect a watershed, acceptance of a proposed fee demonstration program, and evaluations of management interventions to protect threatened and endangered species (Cvetkovich & Winter, forthcoming). These studies, in support of the salient values similarity model, demonstrate that trust results when the individual perceives that the Forest Service has salient values similar to their own. Conversely, when citizens perceive salient values to be different, distrust has been found to result. The present study extends research on trust of forest management by investigating the relationship between salient values similarity, the perceived consistency between salient values and management actions, and the legitimacy of perceived inconsistencies.

Judging another person's trustworthiness is based on inferences about that person's mental characteristics (e.g., morals, values, goals, intentions, emotional state, personality). Conclusions about a person's particular mental characteristics combine knowledge of what the individual has done and said with understandings of how the human mind works (Cvetkovich & Winter, forthcoming). Once an attribution of trust has been made, it tends to persevere. Studies using questionnaire responses to hypothetical management situations report that subsequent management actions are evaluated in light of existing perceptions of shared value similarity (Cvetkovich, Siegrist, Murray, & Tragesser, 2002; Slovic, 1993; White, Pahl, Buehner, & Haye, 2003). Actions of trusted agencies that are believed to share salient values are evaluated as more positive (or less negative) than are actions of distrusted agencies with perceived dissimilar values.

We examined the relationship between trust and management actions for an actual management issue, the protection of threatened and endangered species, using focus groups of California citizens with a strong interest in forest management (Cvetkovich & Winter, 2003). This study identified four patterns of relationships between trust, salient value similarity and perceptions of management actions. One of these patterns represented the Forest Service as not sharing the respondent's salient value of human forest use as the dominant goal of forest management. Individuals with this pattern (# 1 in Table 1) concluded that the Forest Service consistently acted according to values they did not share and they distrusted the Forest Service. A second pattern represented the Forest Service as sharing the respondent's salient value of species' protection as the goal of forest management and consistently acting according to these values. People with this pattern of shared values trusted the Forest Service (# 4 in Table 1). The two remaining patterns also represented the Forest Service as sharing the respondent's salient value of species' protection as the dominant goal of forest management. Individuals with both of these patterns represented the Forest Service as not always consistently acting according to this value. Individuals with one of these patterns (# 3) concluded that the Forest Service had legitimate reasons for taking value-inconsistent actions. For these individuals value inconsistency was justified by extenuating circumstances such as budget limitations and other resource constraints, or political pressure. Individuals with this pattern of representations tended to trust the Forest Service. Individuals with the final pattern (# 2) represented the Forest Service as responsible for failures to act on values. These individuals concluded that the Forest Service was responsible for allowing itself to be affected by influences such as budget and other resource constraints, or political pressures. Individuals with this pattern of representations tended to be somewhat distrustful of the Forest Service.

This paper reports on the results of a follow-up study building on the small "snow ball" sample California focus group study using large representative-sample state telephone surveys. The present study examines both the management of threatened and endangered species and wildland and wilderness fires. The "perseverance of trust" view (once trust is established it tends to influence subsequent judgments), illustrated by responses to hypothetical management situations, described above, and the results of the California focus group study lead to the expectation that trusting the Forest Service to manage either wildlife protection or fires will be influenced by salient value similarity, perceived value / action consistency, and the legitimacy of value /action inconsistencies.

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Table 1- Four identified patterns of trust.

Pattern	Forest Service shares management values, goals and views	Perceived consistency of Forest service actions and own values	Justification of perceived Forest Service inconsistency
1. Distrust	No	No	(Not relevant)
2. (Dis)trust Somewhat	Yes	No	No
3. High trust	Yes	No	Yes
4. High trust	Yes	Yes	(Not relevant)

Method¹

Residents in Arizona, Colorado, and New Mexico were contacted by telephone during the summer and fall of 2002 and invited to participate in a survey on either threatened and endangered species or wildland and wilderness fire management in their state. Screening questions involved the determination of residency in the state, locating the person 18 or older with the most recent birthday in the household, and willingness to participate. Samples were randomly drawn and representative of residents in that state, with data weighted to approximate geographic population distributions. Table 2 presents information on participant characteristics. The survey took approximately 17 minutes to complete. Responses were entered into a Computer Assisted Telephone Interview program and analyses were completed using SPSS.

Table 2- Sample characteristics.

	Threatened and Endangered Species Survey				Wildland and Wilderness Fires Survey			
	Arizona	Colorado	New Mexico	Total	Arizona	Colorado	New Mexico	Total
N	401	402	401	1204	402	402	401	1205
Modal Age	45 to 54	35 to 44	45 to 54	35 to 44	35 to 44	35 to 44	45 to 54	35 to 44
Female	50.1%	50.2%	50.4%	50.2%	50%	50%	50.4%	50.1%
Modal Education	Some College	Some College	Some College	Some College	Some College	Some College	Some College	Some College
Entire Life in U.S.	80.8%	86.3%	87.0%	84.7%	81.3%	87.1%	89.3%	85.9%
White	69.5%	84.3%	63.8%	72.5%	70.9%	79.9%	61.6%	70.8%
Hispanic	19.3%	9.9%	29.1%	19.4%	28.8%	22.98%	29.0%	20%
Native American	5.9%	1.8%	5.6%	4.4%	4.8%	2.0%	6.6%	4.5%
Black	2.3%	2.8%	1.5%	2.2%	2.3%	2.3%	1.0%	1.9%
Modal Annual Household Income	\$50,000 to \$74,999	\$50,000 to \$74,999	\$35,000 to \$49,999	\$50,000 to \$74,999	\$50,000 to \$74,999	\$50,000 to \$74,999	\$50,000 to \$74,999	\$50,000 to \$74,999

Level of personal concern about each issue, self assessed knowledge, and trust of Forest Service management of each issue were measured by questions used in our previous research, including the California focus group study (Cvetkovich & Winter, 2003). Items measuring perceived inconsistency between Forest Service management actions and salient values and the legitimacy of perceived inconsistencies were created for this study. Table 3 presents these items.

¹ We thank Cathleen Happersett and Doug Coe, San Diego State University, for collecting the telephone interviews.

Table 3- Telephone survey questions.

Measure	Question	Response scale
Concern	How concerned are you about (wildland and wilderness fires / threatened and endangered) in (state of residence)?	1= not ... 8 = very
Knowledge	How knowledgeable are you about (wildland and wilderness fires / threatened and endangered) species in (state of residence)?	1= not ... 8 = very
Trust	To what extent do you trust the US Forest Service in their efforts to address (wildland and wilderness fires / threatened and endangered species) problems on forest lands?	1 = not ... 8 = completely
Salient value Similarity - Mean of items ($\alpha = .86$, for both fire & species)	A. To what extent do you believe the U.S. Forest Service shares your values about how (forest fires / threatened and endangered species) should be managed? B. To the extent that you understand them, do you share the U.S. Forest Service's goals for (forest fires / threatened and endangered species)? C. To what extent does the U.S. Forest Service support your views about (forest fires / threatened and endangered species)?	A. 1 = FS does not share my values ... 8 = FS shares my values B. 1 = FS has different goals ... 8 = FS has the same goals C. 1 = FS opposes my views ... 8 = FS supports my views
Forest Service value / action inconsistency	How often is the following true: "The Forest Service makes decisions and takes actions consistent with my values, goals and views."	1 = always 2 = almost always 3 = usually 4 = sometimes 5 = rarely 6 = never
Legitimacy of Forest Service inconsistency	How much do you agree or disagree with the following: "If or when the Forest Service makes decisions or takes actions inconsistent with my values, goals, and views, the reasons for doing so are valid."	1 = completely disagree 2 = disagree 3 = neither agree nor disagree 4 = agree 5 = completely agree

Results

Table 4 presents means and standard deviations for evaluations of concern about each management issue, knowledge about each management issue, trust of the Forest Service's management of each management issue, perceived Forest Service salient value / action consistency, and the judged legitimacy of inconsistencies. A majority of respondents indicated moderate or high concern for both issues, with concern for fire somewhat higher. Self-assessed knowledge of both issues was high, but knowledge of fire management was assessed as higher than was knowledge of endangered species protection. Fifty-seven percent assessed their level of fire knowledge at one of the top three points on the 8-point scale in comparison to 34.2% who assessed their knowledge of species protection at this high level. A majority had at least moderate trust of Forest Service management for both fire and threatened and endangered species. On average, the Forest Service's salient values were judged to be at least moderately similar to own salient values. The majority (65 % fire, 61% species protection) concluded that the Forest Service's actions were consistent with salient values. About one third of respondents were neutral regarding the legitimacy of inconsistent actions (i.e., they neither agreed, nor disagreed that inconsistencies were valid). The majority of the remaining respondents concluded that value / action inconsistencies were valid.

Table 4- Concern, knowledge, trust, perceived Forest Service value / action consistency and legitimacy of inconsistency.

Measure	Threatened and Endangered Species Survey		Wildland and Wilderness Fires Survey	
	Mean	S.D.	Mean	S.D.
Concern (1= not; 8 = very)	5.69	2.18	6.88	1.62
Knowledge (1= not; 8 = very)	4.61	1.97	5.58	1.83
Trust (1= not; 8 = completely)	5.61	2.04	6.06	1.95
Salient value Similarity (1= not share values, different goals, opposes views ... 8 = shares values, same goals, supports views)	5.44	1.90	5.83	1.84
Forest Service value / action inconsistency (1-always; 6=never)	3.12	1.16	2.89	1.19
Legitimacy of Forest Service inconsistency (1-not valid; 5=valid)	3.25	0.87	3.37	0.87

The main expectation that trust is a joint function of salient value similarity, perceived salient value / action inconsistency and legitimacy of inconsistencies was assessed using step-wise multiple regression analyses. As in our past research, salient value similarity was computed as the mean of judgments of the degree that the Forest Service shares one's management values, shares one's management goals and supports one's management views regarding the forest management issue. Results of the two analyses were similar (Table 5). All three variables entered into the regression equation in the same order (1st - salient value similarity; 2nd - value / action consistency and 3rd - legitimacy of inconsistency), each adding significantly to the amount of variance accounted for. For both species protection and fire, the three variables together accounted for a significant amount of variance in trust judgments, thus supporting the original expectation. Similar results were obtained from regression analyses for each of the three states and for males and females separately (Table 5). Therefore, for both the management of protection of species and fires and for each state, and gender, the results indicate that those who trusted forest management had concluded that the Forest Service: 1) shares their personal salient forest management values; 2) takes management actions that are mostly or always consistent with salient values; and 3) is justified when acting inconsistently with salient values.

Table 5- Regression analyses results for total samples, states and genders.

Threatened and Endangered Species Survey						
	Salient Value Similarity	Forest Service value / action inconsistency	Legitimacy of Forest Service inconsistency	Adj. R	F	p
Total sample	.428	-.274	.158	.54	682.20	< .0001
Arizona	.380	-.350	.137	.51	230.93	< .0001
Colorado	.395	-.315	.182	.59	169.11	< .0001
New Mexico	.537	-.294	.181	.63	203.57	< .0001
Males	.428	-.283	.160	.56	233.64	< .0001
Females	.427	-.293	.181	.58	240.12	< .0001
Wildland and Wilderness Fires Survey						
Total sample	.442	-.286	.169	.58	495.70	< .0001
Arizona	.470	-.198	.202	.54	144.90	< .0001
Colorado	.448	-.248	.144	.51	127.07	< .0001
New Mexico	.372	-.375	.118	.55	147.54	< .0001
Males	.411	-.264	.176	.53	213.25	< .0001
Females	.440	-.287	.134	.52	188.57	< .0001

Discussion & Implications

Recent research in trust and land management suggests that salient values similarity is a significant determinant of trust in the Forest Service. Our results, based on representative resident samples from three southwestern states, confirm our hypothesis. In making determinations of trust citizens not only considered similarity of salient values but also consider how consistent Forest Service actions are to salient values. When actions are inconsistent, participants also consider how valid the inconsistencies are. These findings highlight the importance of trust in agency-public interactions and offer suggestions on maintaining it. Agencies should make special efforts to operate so that actions reflect dominant values. When salient agency values cannot be reflected in management actions, reasons for those inconsistencies should be shared so that publics can weigh them into their personal considerations of trust.

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