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"Conservation" as a Catalyst for Conflict: Considering Stakeholder Understanding in Policy Making[1]

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Abstract

Stakeholder negotiation processes are increasingly used in environmental management, but are often difficult due to values differences among stakeholders. These values can be reflected in the language used by stakeholders, which may lead to conflict in negotiation processes. This study investigated whether there are widespread differences among Colorado water stakeholders in how they define the term "conservation," a key value and policy term, and whether this leads to conflict in negotiations. Using multiple methods in a cross-sectional case study, use of the term and possible policy implications were analyzed. Stakeholder respondents in this study who had experienced difficulty in water negotiations also perceived a higher degree of miscommunication in their negotiations. The most important finding presented here suggests that clarity of language and transparent discussion of key value-representative terms may aid in stakeholder negotiations, and that minority stakeholders may be more aware of values and language differences than their majority counterparts.

KEY WORDS: stakeholder communication, policy negotiation, environmental policy, western water resources

Introduction

When stakeholders deal with complex and sometimes intractable issues, it is necessary for effective communication to aid negotiations rather than hindering them. Misunderstandings based on interpretations of words derived from values differences can potentially lead to significant problems in resolving policy problems. Those who control the definition and communication of policy problems are able to control the outcome of policy negotiations in many instances (B. D. Jones & Baumgartner, 2005; Kingdon, 1995; Pralle, 2006; Stone, 1997). Environmental policy and mass communication research to varying degrees attempt to investigate the role of communication among stakeholders in the political and policy processes but have not typically focused on the role of conflicting definitions of key terms in negotiations.

These issues may especially come to the fore in policy contexts dealing with historically contentious natural resource and environmental issues due to the evolution of language and values over time. Based on previous interview research, stakeholders involved in Colorado water policy are known to define the word "conservation" differently (Crow, 2008). The two definitions of this word, derived from coded interviews, carry vastly different connotations for policy outcomes—one promotes using less water, whereas the other promotes diverting more water. This study, therefore, attempts to understand whether these definitions are pervasive throughout the water community in Colorado and whether there are demographic

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or ideological differences in who uses the different definitions. This research also analyzes whether participants in a statewide stakeholder negotiation process in Colorado have actually encountered any difficulties based upon differing interpretations of the word "conservation" and whether this leads to perceived policy conflict among stakeholders. The research questions asked in this study are: *Are there widespread differences in how policy stakeholders define the word "conservation" in water policy in Colorado? If so, who defines the term differently, and do the definitional differences lead to challenges in negotiating policy solutions?*

To develop the competing definitions of "conservation," data from a series of in-depth interviews with water experts and policy participants across Colorado were used. The findings from these interviews then formed the basis of an online survey that was conducted to determine the perceived effects of language in an intractable policy venue like Colorado water policy. This study not only aids in our understanding of the complexities of communication and public policy but also provides information upon which recommendations can be developed for future policy negotiations that seek to avoid potential conflicts resulting from differences in policy language.

Message and Meaning in Policy Making: Communication in Stakeholder Negotiations

Communication is a complex undertaking, a very human endeavour associated with difficulties experienced by both senders and receivers of messages. When competing policy values are at play, this complex process can become fraught with disagreement over meaning, intent, and outcomes. These difficulties are especially important in the context of ever-increasing attempts to involve policy stakeholders in negotiations over environmental resource management.

Stakeholder Participation in Environmental Policy Making

In recent decades, environmental managers and policy makers have taken strides to include greater levels of substantive stakeholder and citizen participation in their management and policy processes. While it can be argued that many citizens are ignorant of complex environmental issues (Fischhoff, 1985), scholars and practitioners argue that this is not a reason to exclude them from the process. Many environmental decisions are made *for* stakeholders but much literature points to the importance of making decisions *with* affected groups. By involving stakeholders in policy making, policy outcomes can be superior because they are informed by values, experiences, and priorities of the citizens who will be affected by policy implementation (Fischer, 2005; Roberts, 2008). Despite our belief that democracy is a superior form of government, citizens no longer believe that their elected officials are responsive or that they can meaningfully participate in the political process (Schneider & Ingram, 1997). Investigations into levels of participation among stakeholders have been conducted to gauge the effectiveness and importance of such participation and the appropriate venues or modes of stakeholder participation.

In fields such as environmental and natural resource management, expert information and advice is often the primary driver of policy decisions (Crow, 2010; Schneider & Ingram, 1997), but finding the balance between citizen input and expert advice is important because each is required to make appropriate decisions for environmental quality and public health (Korfmacher & Koontz, 2003; Steelman, 2001). Because most policy makers and managers now understand that stakeholder involvement is often necessary and appropriate, processes have begun to reflect the acceptance of this notion. Environmental management has entered a new era of collaborative planning instead of top-down implementation, which leads to an increased need for "support by policy makers, the public, and industry" (Mazmanian & Kraft, 2001, p. 145). Tools such as alternative dispute resolution, consensus building, and negotiation have become increasingly important (O'Leary, Durant, Fiorino, & Weiland, 1999). Instead of traditional command and control structures, systems such as comanagement, adaptive management, and voluntary programs are on the rise and require citizen input as a part of their structures (see, for example, Lee, 1993; O'Leary et al., 1999). Understanding the messy and complicated nature of environmental decision making among groups of stakeholders, Structured Decision Making has also become an important and pragmatic approach, asking participants to confront the conflicts and trade-offs inherent in negotiated decisions (Gregory, 2000; Gregory et al., 2012). Because policy making is not accepted as solely a government enterprise, stakeholders have begun to actively demand access to the policy process.

The participatory processes used to include citizens in governance decisions vary along a continuum of high to low participation, high to low citizen decision-making power, and along a deliberative to nondeliberative spectrum (Beierle, 1998; Steelman & Ascher, 1997). The most common approach is to hold public hearings, which can be an effective means by which policy makers can elicit opinions and statements from the public. Hearings provide a forum for citizens to meet face-to-face with government representatives and voice their concerns or grievances. However, public hearings are criticized for their limitations in providing meaningful participation for citizens. Beyond public hearings, tools such as the Citizen Advisory Committee and the Citizen Jury provide more opportunity for deliberation, stakeholder involvement, and consensus building (Allen, 1998; Beierle, 1998, 2000). The forms of stakeholder engagement mechanisms also to varying degrees invoke the "local knowledge" that citizens possess and that can help construct effective, responsive policies that have community support (Fischer, 2005).

Scholars have argued that citizen engagement, including community-based initiatives, leads to better governance outcomes, encouraging managers to strive to find common goals in order to bridge the divide between bureaucrats and communities (Brunner, Colburn, Cromley, Klein, & Olson, 2002). Participation in environmental policy making allows for incorporation of the varying interests and stakeholder groups, which may lead to a better end solution or recommendation (Koontz & Johnson, 2004). Through these engagement tools, not only do stakeholders become more informed and often more supportive of policy decisions, managers also become informed concerning multiple preferences and concerns held by their constituents (Irvin & Stansbury, 2004; Steelman, 2001).

Values and Communication in Policy Making

Values are at the core of policy conflicts and must be overcome to establish common policy goals (Brunner et al., 2002; Layzer, 2012). As Layzer (2012) highlights, values differences and conflicts are inherent in environmental policy cases, often stemming from competition between corporate/economic interests and environmental interests, but the interests of governments, agencies, and land owners are also often in conflict with other stakeholder values. Policy scholars have long argued that coalitions of actors form around shared values or beliefs (Sabatier, 1988; Sabatier & Jenkins-Smith, 1993). Policy change, whether legislative or management based, happens when groups of actors learn from one another and their broader environment. Rarely do core values change, but beliefs concerning policy preferences can change over time in response to this learning (Sabatier, 1988).

These beliefs, others argue, are translated through the ways people tell stories, or form narratives (M. D. Jones & McBeth, 2010; Shanahan, Jones, & McBeth, 2011). Stone (1997) argues that individuals tell stories of their world, and of the problems in their world, to promote or fight policies. She states that we often use a narrative structure including a plot, characters, and solutions to communicate concerning policies and problems. These story constructions can be very persuasive due to the use of fear images, affective language, and other rhetorical tools. The words people use, the construction of narrative stories, and the strategy with which they employ narratives are all important to consider in the context of policy making and stakeholder negotiations (Layzer, 2012; Shanahan et al., 2011; Stone, 1997). Language, therefore, is vital to understand in any situation where value differences exist and where common ground is the goal.

Policy research often seeks to understand how policies change over time (Crow, 2010; Baumgartner & Jones, 2009; Busenberg, 2008; Pralle, 2006), but little of this research directly addresses the role of values like Layzer (2012) and Stone (1997), or the process and benefit of negotiating policies like Brunner, Colburn, Cromley, Klein, and Olson (2002). Emerging research in empirical measurement of policy narratives (McBeth, Shanahan, & Jones, 2005; Shanahan et al., 2011) attempts to incorporate empirical study of communication by coalitions of actors into our collective study of policy processes. Left out of much of this analysis is an understanding of how values, language, and stakeholder negotiations work complementarily or adversely to produce policy outcomes.

Meaning in Policy Making and Stakeholder Communication

In stakeholder engagement processes, it is important to consider the role of communication and shared meaning of language, due to the complexity of the issues under discussion as well as the competing values around the negotiation table. The problem of shared meaning or understanding in political communication is a central issue for understanding politics and effective governance. Aristotle (1954), for example, believed that communication problems could be resolved through reasoned deliberation, by means of clearly constructed arguments. John Locke (1975), on the contrary, claimed that even perfect arguments could hardly automatically lead to human understanding simply because the same words could mean

different things to different people. As Stuart Hall (1973) later maintained, meanings could not be fixed by senders: audiences could actively construct their own understandings of messages. Unless the word used by the speaker elicits the same meaning in the mind of the hearer, effective or accurate communication cannot be achieved. "Communication is effective to the extent that the person interpreting the message attaches a meaning to the message that is relatively similar to what was intended by the person transmitting it. Stated differently, communication is effective to the extent that we are able to minimize misunderstandings," according to Gudykunst and Nishida (2001, p. 67). But how can misunderstandings based on ambiguous meanings of words be minimized?

Addressing the issue of *polysemy*, referring to "a lexical item which has a range of different meanings" (Crystal, 2003, p. 359), researchers have elaborated several different models of how the problem of semantic ambiguity of words can be resolved by participants of communication process. The meanings of linguistic symbols can be clarified by contexts in which they occur (Dash, 2008). When *contrastive ambiguity* takes place, "a lexical item is associated with different, unrelated meanings, as with *bank* (edge of a river) and *bank* (financial institution)" (Aitchison, 2010, p. 165). Alternative readings of *complementary ambiguity*, on the other hand, stem "from the same core sense as it appears from in different contexts as with door in *Mary painted the door*, beside *Mary walked through the door*" (p. 165). It is complementary ambiguity of words that is the most problematic from the point of view of miscommunications, which usually happen when "individuals in a communication situation (interpersonal, intercultural, political, and so on) use the same language and word choices thereby assuming mutual meaning has been created" (Dougherty, Mobley, & Smith, 2010, p. 171). Because of linguistic convergence, divergent meanings may go unnoticed. Most people are unable to recognize differences in underlying meanings "because it simply doesn't occur to them that their meanings could be different from others using the same word" (p. 175). As a result, communicators get an illusion of shared meaning that does not actually exist.

The scarcity of shared meanings occurs within diverse sociocultural milieus and during major sociocultural changes within society (Bennett, Grossberg, & Morris, 2005; Craig & Muller, 2007). Usually, it takes decades or even centuries to observe a noticeable change in linguistic meanings within linguistic communities, but there are important exceptions when change happens rapidly. As Raymond Williams (1985) put it, "When we come to say 'we don't speak the same language,' we mean something more general: that we have different immediate values or different kinds of valuation, or that we are aware, often intangibly, of different formations and distributions of energy and interest" (p. 11).

Finding Common Ground

When wading through mismatched meaning in the context of policy negotiations, it is important to find common language or common ground upon which to build trust, communication, and negotiation. Finding this common ground is a vital precondition to effective communication (Brunner et al., 2002; Clark, 1996). This is achieved primarily through a self-awareness of knowledge or beliefs. Ordinarily,

people can justify a piece of their common ground by pointing to a shared basis for it—a joint perceptual experience or a joint action.

Regardless of the methods through which common ground is achieved, it is important for communicators and participants in stakeholder processes to understand that their message meaning is vital to the success of the process. Both the content and recipients of messages are vital to consider when communicating with other stakeholders. For environmental messages to be effective, messengers have to take into account characteristics of the targeted groups (Pelletier & Sharp, 2008). The labeling of environmental concepts through language and affective communication can powerfully alter the beliefs of participants (Dardis, 2007) and may therefore also alter stakeholder policy discussions.

The literature outlined above indicates that several concepts are central to research seeking to understand the role that message and meaning play in stakeholder negotiations. First, externally imposed meaning can be especially powerful in the context of communication, especially when the definitions imposed are legalistic or otherwise institutionalized. Second, meaning can be unintentionally opaque, purposefully manipulated, or simply misconstrued. The motive or reason behind the lack of clarity may be particularly important to policy discussions. Third, shared values lead more readily to shared meaning in communication. The centrality of motive and values highlights the possibility that trust or in-group/out-group dynamics could be important to consider in stakeholder negotiation communications. In policy contexts within which there are not shared values, we may see a higher degree of miscommunication or policy struggle. This could also be the case in situations where we see a higher degree of ideological differences (political), or may be lessened in cases where we see higher levels of education (due to the agility with which higher educated individuals may use language as well as the awareness that these individuals may have of differing uses of language). This paper will use cross-sectional case study survey research to investigate the role of meaning within the context of a particularly intractable policy venue—water rights in Colorado. The paper will then explore these meanings in the context of the elements highlighted here.

Research Methods: A Colorado Case Study

This research employed a multiple methods cross-sectional case study research design. Using interview data from 75 participants involved in a specific water rights policy conflict in Colorado, qualitative data were obtained and analyzed to understand how the term "conservation" was used and understood by interview subjects. The subjects include leaders from all primary stakeholder categories in water negotiations—agriculture, municipal use and supply, environmental, recreation, government agencies (local, county, and state), legal, and elected officials. Throughout the interview transcripts, the term "conservation" appeared. The interviews were coded and analyzed using NVivo software to understand in what context and with what meaning subjects used the term. The coding was conducted by a single coder, searching for the term "conservation" and incorporating the surrounding text that specifically related to the term "conservation." These coded segments were then analyzed and categorized for meaning. The analysis

used the statutory language of the Colorado constitution (referenced by several interview subjects), historical water law documents, and traditional dictionary definitions of "conservation" to create an understanding of the evolution of the term, clear definitions that fit with the coded categories of data, and management implications for the two definitions of the term. These data were used for two purposes. First, they were used to help define the term "conservation" and create online survey questions. Second, the qualitative data help develop the case study, presented below, from which an understanding of stakeholder values was derived.[2]

Beyond the qualitative data used to form the foundation of this study, a cross-sectional survey was used to collect data on the use of language among stakeholders in a single Colorado water policy negotiation as well as their experiences within that negotiation process. When attempting to gain an accurate understanding of the opinions or values held by a larger population of people, and those values and opinions can be assessed using a closed-ended questionnaire, a survey method is the preferable research design. This research study attempts to understand the opinions, values, and experiences of participants in water policy in Colorado.

Because it is difficult to ascertain all who are involved in this policy subsystem throughout the state, and because a cross section of interest groups is important to include in such research, this survey project used a public database of names and e-mails of individuals who were involved in Colorado's Interbasin Compact Committee process, an ongoing policy negotiation among Colorado water stakeholders. This negotiation process draws participants from multiple stakeholder groups within each river basin in Colorado to form roundtables. These nine water roundtables each consist of between 30 and 50 participants. Their goal is to create a forum for "broad-based water discussions" among the affected stakeholders in Colorado (IBCC, 2013b). Their primary responsibility is to develop a needs assessment for each water basin in Colorado, upon which water policy can be based at the state and local levels. One requirement of the roundtables is to include representation from all water stakeholder categories in the river basin, which makes this an appropriate sample population for the study outlined here.

The survey was pilot tested on a small sample ($n = 5$) of the initial interview subjects described above. The survey was then administered online, with an e-mail invitation sent to 346 potential respondents. Three e-mail reminders were then sent over a two-week period to increase the response rate for the survey, consistent with the Tailored Design Method (Dillman, 2000). No survey incentives were provided to respondents in this study. The response rate for this survey was 33.23%, with 115 people completing the survey. Expected response rates, according to Dillman (2000), fall between 49% and 54%, depending on contact method for e-mail surveys. This survey followed Dillman's method regarding contacts, personalization of contacts, and survey construction. However, due to lack of incentives and the sample population, the response rate was likely lowered. The subject population comprised the universe of participants in the State of Colorado's Interbasin Compact Committee roundtable process who have e-mail addresses. These participants' e-mail addresses and names are available to the public through the web site of the Colorado Water Conservation Board—the

agency that administers the roundtable process. These participants include adults from a variety of backgrounds: agricultural water users, government employees, environmental and recreation interest group members, private water rights owners, and water development and supply organization employees. Some of these categories of stakeholders are more likely to respond to an Internet survey than others, with the professional government, water supply, and advocacy stakeholders likely to take the time to respond, whereas agricultural users and water rights holders might not be as likely to do so.

The survey consisted of 27 possible questions in the following categories, associated with important components of this study and the established literature. The in-depth interviews conducted established that differing definitions of the term "conservation" were used within water circles in Colorado. The survey sought to establish how pervasive this occurrence was, and also to understand if stakeholders understood that the term may be used in differing ways by other actors. Additionally, the survey asked what experiences the respondents had encountered with conflict, miscommunication, and their perceptions of the reasons for such potential conflict.

Language and definition questions: measure the respondent's use of the word "conservation" and the definition that the respondent and others s/he is familiar with use.[3]

Policy process questions: measure the respondent's experiences in water policy negotiations as they relate to the use of language and communication.

As indicated in much policy literature, as well as the communications literature, values play a critical role in the policy process, especially in stakeholder negotiations around contentious issues. Policies are translations of values, just as language can represent values held by individuals. Because values can at times be assumed by actors due to the organizational and political affiliations of their competing stakeholders, group affiliation questions were asked in addition to basic values questions related to the use of water and the importance of competing uses.

Value statements: measure ideological preferences as they relate to water use, stakeholder groups, and policy processes in Colorado water issues.

Organizational affiliation questions: measure the subject's membership and affiliation with organizations most commonly involved in water matters in Colorado and with the Interbasin Compact Committee process.

Finally, basic demographic questions were included in the survey. Because values can sometimes be measured by political affiliation, this was included in the survey. Educational attainment may at times be linked to either different uses of language (perhaps more sophisticated uses or simply more modern uses of language), this question was included. Finally, geographic residence within Colorado as well as longevity of experience working within water law were measured. Within the state of Colorado, there are important differences in where water is produced (high in the mountains) and consumed (in the urban centers), which have led to important conflicts among the regions of the state.

Demographic questions: measure demographic statistics such as regional residence within Colorado, experience in Colorado water issues, education, political party affiliation, and gender.

The Meaning of "Conservation" in Colorado Water Policy

Water resources in the western United States are managed under the system of prior appropriation. This system for allocating use rights to water resources provides that the allocator who first placed the water in a beneficial use, defined primarily in economic terms, has a right to fulfill his entire water right before the next senior user can fill any of his. This means that in times of scarcity, junior water rights holders can expect little or none of their water (Getches, 1997). The "Doctrine of Prior Appropriation is a law of scarcity not of plenty" (Hobbs, 2007, p. 15). When settlers reached what was referred to as the Great American Desert, west of the 100th meridian, what they saw was a landscape of aridity (Stegner, 1993). Scholars have often mistakenly described the West as united in aridity. The most important characteristic of water resources in the West is rather that they are highly variable in supply, not that water is uniformly scarce (Neel, 1994). Regardless of the characterization of aridity or variability of water resources in the West, it is clear that the geographic characteristics of this region, specifically as it relates to water and the lack of water in many areas, have profoundly impacted the history, political development, and resource development of the American West (Hundley, 1996).

This legacy of settlement in the West means that the primary concern regarding water resources was how to fully utilize the resource to encourage settlement, industry, and agriculture to make the West habitable. Therefore, when agencies and water districts were established, language related to "conservation" focused on the ability of the state to maximally utilize the water resources: "to promote the conservation of the waters of the state of Colorado in order to secure the greatest utilization of such waters" (Colorado Revised Statutes, CRS 37-60-106 (1)). This use of the term "conservation" is still acknowledged among people involved in water matters, especially those from traditional stakeholder groups such as agriculture, industry, water development, and some municipalities. This use of the word leads to water management focused on drawing down river levels and guarding against loss of water to downstream states (i.e., leaving water in the river).

> Water conservation used to mean not letting any water flow out of your state. [AD-01]

Under the prior appropriation system, minimal value was placed on nonconsumptive or environmental uses of water for the first one hundred years of western settlement. "In the West, to waste water is *not* to consume it—to let it flow unimpeded and undiverted down rivers" (Reisner, 1993, p. 12). This mindset led to the "potentially irreversible degradation of the pristine ecological communities of the West" (Worster, 1985, p. 310). This history of water use led most rivers in Colorado to be overappropriated, which meant that many rivers saw only minimal flows that were insufficient to support aquatic life. An evolution in public preferences by the 1970s led to the adoption of instream flow laws to help protect the natural environment in many states in the West. Over the past 40 years, nearly all of the western states have enacted laws to promote or allow instream flows for environmental health and species protection (Dawdy, 1992). Likely, most Americans would now define the word conservation according to the primary definition given by Webster's: "a careful preservation and protection of something; *especially*: planned management of a natural resource to prevent exploitation, destruction, or neglect,"

driven largely by this evolution in environmental awareness and concern over the past half-century. Similarly, many people involved in water in Colorado use this meaning of the word "conservation," particularly those involved in recreation, environmental advocacy, and some municipal water suppliers.

> Your first step should be to increase conservation and efficiency as much as possible with the existing water that you have, reuse programs, landscape ordinances, all the whole array of possibilities. [ER-04]

> We should be looking at conservation in this state. We should be looking at reuse. We should be looking at getting rid of bluegrass lawns. We live in a high mountain desert. [LG-17]

Of the two definitions of "conservation" described above, one definition suggests that managers should strive to use less of our natural resources in order to preserve the environment and provide for future generations, whereas the other definition suggests that the state (in this case, Colorado) should divert its entire legally allotted water rights in order to prevent "waste" of water resources by allowing water to flow downstream to states such as California, Kansas, and Arizona. These two definitions clearly have very different potential public policy and resource implications. Policy negotiation, therefore, may potentially be hindered by the different meanings of "conservation" used by stakeholders. One of these definitions is historically and institutionally imposed (the traditional definition), whereas the other has evolved as societal values have evolved over the past half-century. This evolution in meaning, as communication scholars argue (Bennett et al., 2005; Craig & Muller, 2007), can create conflict among communicators when the meaning is not specifically articulated, leading to ineffective communication.

Beyond the two definitions outlined above, even when using the more common application of the word "conservation," there is disagreement over whether using less of a resource is generally a good thing within the auspices of Colorado water policy. Some argue that conservation is detrimental to Colorado's ability to survive drought, or protect the riparian habitat and downstream water rights through the elimination of return flows.

> Conservation is a good thing, but conservation is also how we get through short-term droughts, because once you take all the conservation out, then it's gone. You can't rely on that to get you through a drought. And realistically as long as people still have lawns and golf courses, during a drought, you can shut that water off. When you get to where every toilet's efficient, everything's minimum flow . . . then you have a drought, what are you going to shut off then? [ES-02]

> We used to run water up and down hills and the return flow would go back to the river. Now in a reservoir system, we use all of the water but we don't return any of it back to the river because we apply it through a center pivot in a gentle even manner and the return flow goes away. [CO-01]

> Water conservation in the Platte, which is a water short area, if it's applied to agriculture, is not a good thing for the environment . . . the return flows that get back to the stream are going to be lessened and pretty soon you're going to be drying up the riparian habitat. [WP-01]

Others argue that without conservation of water resources, Colorado will be unable to provide for growth, development, or the multiple water uses that it currently does.

> We have to adopt a different philosophy in our state in general, one that appreciates the whole ethic of conservation. [EL-01]

Based on the interview data provided above, polysemy does appear to occur in the instance of the term "conservation" within Colorado water law and policy. It is a type of complementary ambiguity, based on the literature above, that we see here where a core idea has different meanings that are not clearly deciphered simply based on the contextual use of the term. This, as indicated by the literature, is the type of polysemy where we see the most conflict among communicators (Aitchison, 2010). It is clear that this term is not only differentially defined by participants in water policy and law, but it is also a controversial resource management topic. This indicates that it is an appropriate and interesting topic for investigation based on its potential interactions with policy debates and outcomes. This research is also relevant beyond Colorado water law and policy due to its focus on historic institutionalized language and meaning that has evolved over time. In contested environment and natural resource issues, this is not an uncommon situation.

"Conservation" as It Relates to Policy Making and Negotiation

This study began by asking the following questions: Are there widespread differences in how policy stakeholders define the word "conservation" in water policy in Colorado? If so, who defines the term differently, and do the definitional differences lead to challenges in negotiating policy solutions?

When survey respondents were asked to indicate whether they agree or disagree with the statement that conservation of water resources is important in Colorado, virtually everyone agreed (97% agree or strongly agree), but they did not agree on what the term means. Respondents were then asked to choose between competing definitions of the term "conservation," and were provided examples to help them understand the difference between these two definitions. The definitions are taken from Webster's dictionary, but the examples were developed based on the interviews conducted among water stakeholders. The two choices were written as follows:

> Preventing waste of a natural resource. Example: Fully diverting Colorado's compact entitlements so as to maximize the water resources of the state. (38% of respondents selected this option)

> Careful preservation or protection of a natural resource. Example: Using less of a natural resource to preserve the resource, protect species, or provide for future uses. (62% of respondents selected this option)

According to these data, it does appear that participants in stakeholder negotiations in Colorado define the term "conservation" according to different metrics, as interview data had suggested.

To answer the next research question, specifically regarding who defines the term according to these two categories, and whether language leads to perceived conflict in policy negotiations, several tests were performed. To begin with, analyses were conducted to understand the characteristics of individuals who select the differing definitions. (i) The relationship between definition choice and educational attainment as well as longevity of involvement in water law was tested, hypothesiz-

ing that higher educational attainment would be associated with a higher likelihood of selecting the second definition, focused on preserving environmental resources. The opposite relationship was expected with length of involvement in water law, assuming that people involved in water law for longer would not only be older and more likely to use the traditional definition but may be more influenced by the institutional and historical legacy of definitions. (ii) The political affiliation of individuals who selected the definitions was analyzed, based on the hypothesis that more conservative respondents would select the traditional definition due to the values associated with traditional water use, less government influence over water decisions, and less support of environmental concerns. (iii) The geographic region of residence in Colorado as well as the respondent's status as a Colorado native or immigrant were analyzed to understand if rural Coloradoans or those who are natives were more likely to define the term according to the traditional definition, as expected.

Contrary to predictions, results from an independent samples *t*-test indicated that there was no significant difference between definition choice for respondents with more education ($M = 1.67$, $SD = 0.48$, $n = 66$), $t(112) = 1.13$, $p = .26$ than those with less education ($M = 1.56$, $SD = 0.5$, $n = 48$) at a 95% confidence interval. This analysis is limited due to the fact that only three respondents did not have at least some college education, and therefore the test analyzed the difference between college and graduate school attainment. Among a less professionalized sample, it is possible that we could see a difference in educational attainment and definition choice. As predicted, results from the independent samples *t*-test did indicate a significant relationship between definition choice and length of involvement in Colorado water law, with those involved over 20 years ($M = 1.52$, $SD = 0.5$, $n = 58$), $t(112) = -2.41$, $p = .02$, more likely to choose the traditional definition than those involved less than 20 years ($M = 1.73$, $SD = 0.45$, $n = 56$) at a 95% confidence interval.

To understand the relationship between political affiliation and definition choice, a chi-square test was conducted to understand if the sample of participants differed significantly from the Colorado electorate (44.3% Republican, 41.3% Democrat, 20.4% Independent, according to Gallup[4]). The sample population did not significantly differ from the Colorado population, $\chi^2(2, n = 94) = 2.72$, $p = .26$. A chi-square test was then conducted to determine if a significant difference existed between those who were registered Republican, Democrat, or Independent and the definition they chose. There was, in fact, a significant difference between these groups and the definition they chose, $\chi^2(3, n = 106) = 19.75$, $p < .001$. Interesting details of this finding are illustrated in Table 1 showing that the relationship

Table 1. Crosstab Definition of "Conservation" × Political Affiliation

		Political Affiliation				
		Republican	Democrat	Independent	None	Total
Definition of "conservation"	Prevent waste	9	24	5	2	40
	Protect environment	26	12	18	10	66
Total		35	36	23	12	106

Table 2. Crosstab Definition of "Conservation" × Colorado Native

		Colorado Native		
		Yes	No	Total
Definition of "conservation"	Prevent waste	29	14	43
	Protect environment	34	37	71
Total		63	51	114

between these two variables is opposite that which would be expected. Republicans selected the environmental-oriented definition and Democrats were more likely to select the traditional definition.

Beyond the basic demographic variables, this survey evaluated two important demographic variables specific to Colorado. Colorado natives, or people born in Colorado, are often thought to hold different values regarding resource use, the importance of water, and environmental policy in the state. Additionally, there are some important political divisions between regions of Colorado. For example, the Denver Metro region on Colorado's Front Range consumes much of the water that is diverted from the abundant rivers on Colorado's West Slope (the slope of the Rocky Mountains that is west of the Continental Divide and where most of the snowpack and water resources are located). West Slope residents are also thought to hold differing values related to water use and development than their counterparts on the Front Range. There was, in fact, a significant difference between these groups and the definition they chose, $\chi^2(1, n = 114) = 4.14, p < .05$. Specifically, Colorado natives are more likely to use the waste-oriented definition of the word, whereas non-natives are more likely to use the preservation-oriented definition. This is illustrated by Table 2, where a cross-tabulation of these data is presented. Colorado is one of the fastest growing states over the past decade, and these non-natives will likely eventually dominate policy debates, as studies predict that Colorado's population will grow by 50% by 2050 (see IBCC, 2013a). This would possibly affect the accepted definition of "conservation" and the policy discussions that are held related to water issues.

There was, however, no significant difference among those who live in rural and urban areas of Colorado and their definition choice, $\chi^2(3, n = 114) = 2.59, p = .46$.

To understand the role of values in language selection and communication, as was presumed important in stakeholder negotiations, chi-square tests were conducted using the definition variable and a variety of values statements with which respondents were asked to agree or disagree. These value statements were developed based on the qualitative interviewing used to develop this study. The statements were presented to provide respondents with opposing viewpoints related to the various important water uses in Colorado. First, the value statements that "irrigators should use less water," $\chi^2(4, n = 115) = 8.28, p < .01$; "irrigators are out of touch with modern water needs," $\chi^2(4, n = 114) = 12.67, p < .01$; and that "instream flows are important for habitat and species protection," $\chi^2(4, n = 114) = 19.55, p < .001$, all showed significant group differences in definition choice. This confirms the expectation that values will play an important role in determining definition choice and that values are central to understanding stakeholder conflict, unsurprisingly.

Table 3. Correlation Between Perceptions Regarding Language and Policy Negotiation

	Misinterpretation of "Conservation"[5]	Language Can Cause Conflict[7]	Not Focused on Language[8]
Difficulty in negotiations[6]	0.380**	0.306**	–0.003

**Correlation is significant at the 0.01 level (two tailed).

Table 4. Correlation Between Beliefs Related to Language and Political or Group Bias

	Language Reflects Political Bias[9]	Language Reflects Group Affiliation"[10]
Language can cause conflict	0.302**	0.274**

**Correlation is significant at the 0.01 level (two tailed).

Next, after determining which individuals select the different definitions, this study analyzed what perceived policy implications result from these definitional choices, if any. Virtually all respondents—98%—indicated that they personally had experienced conflict during the course of their involvement in water matters in Colorado. As described above, conflict is an historical and cultural legacy of water law in the West and therefore this is not surprising. When asked their opinion regarding whether they think others involved in water negotiations define the term differently, and whether this actually matters to policy negotiations, 90% of respondents answered that they have encountered people who define the term differently than they do. The majority of survey respondents disagreed with the statement that water participants are *not* focused on things like language and wording (63% either disagree or strongly disagree). Additionally, the majority of respondents agreed that terms like "conservation" can cause conflict in water negotiations (64% agree or strongly agree).

As Table 3 indicates, the respondents who believed that policy negotiation problems result from miscommunications also agreed that these problems arise from the use of words like "conservation" within the context of policy discussions. Additionally, there was a significant relationship between those respondents who thought that words can cause conflict in policy negotiations and those who believe that the use of words like "conservation" can cause conflict. Unsurprisingly, the data show that there are relationships among the beliefs that people hold related to the role that language and wording in policy negotiations.

Table 4 shows the significant relationship that exists between the belief that language can cause conflict in policy negotiations and the beliefs that language reflects an individual's political bias and group affiliation. This may indicate that language is a proxy for bias or group affiliation when judging whether it is divisive, offensive, or causes conflict among water policy stakeholders, rather than language directly causing conflict in stakeholder discussions.

Finally, Table 5 shows the correlation between a respondent's awareness that different definitions of the term "conservation" are present within water discussions and the respondent's own perception as to whether their own definition is the most common. This analysis indicates that the people who are most aware that different definitions of the term are commonly used are also those participants who do not perceive their own definition to be the most common. The next section of this

Table 5. Correlation Between Awareness of Different Definitions and Usage

	My Definition Is the Most Common
People define the word "conservation" differently	–0.246**

**Correlation is significant at the 0.01 level (two tailed).

article discusses these findings in greater detail, including the implications for stakeholder negotiations in policy conflicts.

Discussion and Conclusion: Language Clarity and Conflict in Stakeholder Negotiation

We know that stakeholders are increasingly called upon to participate in and inform policy negotiations (Beierle, 1998, 2000; Brunner et al., 2002; Steelman, 2001; Steelman & Ascher, 1997). We also know that inherent values conflicts in cases of finite natural resource management can cause difficulty in stakeholder participation, management, and support of policies (Brunner et al., 2002; Fischer, 2005; Layzer, 2012). Values, language, and meaning can all evolve over time either slowly or rapidly depending on cultural and political conditions (Dougherty et al., 2010; Habermas, 1981). These values emerge forcefully at times through the language choices that stakeholders make (Dash, 2008; Dougherty et al., 2010; M. D. Jones & McBeth, 2010; McBeth et al., 2005; Shanahan et al., 2011). Language and word choice, therefore, are important considerations for scholars attempting to understand effective stakeholder negotiations and outcomes.

This study investigated whether there are widespread differences among Colorado water stakeholders in how they define the term "conservation." An appropriate case due to the conflict, value and language evolution, and increasing acceptance of stakeholder involvement in policy decisions, Colorado water law is an example of an intractable resource issue. Using multiple methods in a cross-sectional case study, definitions were developed to analyze who uses the competing definitions and what possible policy implications these language choices could have. The findings presented above first indicate that stakeholders who have been involved in Colorado water law for over 20 years are more likely to use the traditional definition, as was predicted. Colorado natives are similarly more likely to use the traditional definition. There were also significant relationships that emerged between various values statements and definition choice, all in the predicted directions. However, contrary to predictions, Republicans were more likely to use the environmental definition.

Beyond the question of who defined the term differently, this study also investigated what possible policy implications may result from such differences. Survey respondents who had experienced difficulty in stakeholder negotiations indicated that they believed language and misinterpretation of terms like "conservation" can lead to conflict. Those who believed that language can lead to conflict in stakeholder negotiations also believed that language reflects a political bias or group affiliation. If stakeholders hold preexisting beliefs regarding other stakeholder groups and the values that they hold, then language that reinforces these preexisting beliefs could act to produce conflict within policy negotiations. Based on the data presented

above, there are important differences that exist among Colorado water stakeholders in their use of the term "conservation," with some predicted patterns in the differences between who selects the traditional definition and those who select the environmental definition. There are, however, some surprises such as the significant relationship between Republican political affiliation and use of the environmental definition. The assumption that language correlates with group affiliation may further lead to conflict in policy negotiations in this case, sometimes erroneously.

Survey respondents, despite these negative perceptions and assumptions concerning language use within the context of policy negotiations, indicated that they were able to navigate policy negotiations because of their awareness of differing definitions of "conservation." Those respondents who were aware that there were alternative definitions of the term "conservation" were less likely to perceive their own definition to be the dominant one. This indicates an important relationship between feeling marginalized, or part of a minority political group, and awareness of the different meanings present in policy language. Consistent with the literature presented above (Dougherty et al., 2010), majority stakeholders are less likely to be aware of language differences. This research suggests that when policy negotiators and discussants understand that there is a difference in communicated meaning, they can avoid conflict or misunderstanding based on language.

While many of the findings presented here support predictions, one curious finding emerged with regard to political affiliation and definition choice. The interesting finding that Democrats and Republicans selected the opposite definitions than expected brings up an intriguing question—have these groups purposely adopted the other's expected definitions for reasons of political expedience (i.e., to speak "their language," environmentalists have adopted traditional water user language, and similarly, because of public concerns over the environment, traditional water users have adopted a more environmental-leaning communication strategy)? The implications of this question could be productive areas for future research and understanding of effective and accurate communication among stakeholders.

There are several reasons why understanding the connection between language use and value orientation could be central to effective stakeholder negotiations. Preexisting opinions that individuals hold concerning out-groups and the heuristic that stakeholders seem to use regarding language and political bias or group membership could hamper open discussion concerning policy options or willingness for stakeholders to consider opposing policy alternatives. Differences in language and meaning are, of course, not limited to the use of the term "conservation" among water stakeholders. Stakeholder conflict will not always or easily be circumvented simply by clarifying the meaning of key terms at the outset of policy discussions. However, by doing so, facilitators and stakeholders might specifically define and identify some of the key values differences among stakeholders. These differences are key in all cases of environmental negotiation evident in the scholarly literature. This study investigated the alternative uses of the term "conservation," a key value and policy term in Colorado water policy as well as the perceived policy implications of language differences in stakeholder negotiations. While there was an adequate response rate for this survey, the sample population was relatively small

and limited to one stakeholder negotiation. While a good starting point for research on this topic, it would be helpful to expand the scope of this research to include both a larger sample size and a variety of policy contexts. Colorado water issues are highly intractable, which provides an important reference point. Much environmental policy is debated within similar contexts, although with varying historical context and participants. However, due to the longevity of the conflict in Colorado water policy, as well as the legalistic nature of water debates in Colorado, it would be helpful to include policy venues where legislation is the dominant policy venue rather than adjudication, where shorter conflict timeframes are at work, and where resources that are not as limited in supply are in question. Including these variables in future studies may provide some interesting findings related to the generalizability of this research and the contexts within which these findings apply most appropriately.

Notes

1 This paper was originally prepared and presented at the 2011 American Political Science Association's Annual Meeting.
2 To maintain subject privacy, each time a quotation is used in this article, the following coding scheme is used to reference interview subject data: EL = Local elected official; ES = State elected official; CW = Colorado Water Conservation Board employee; CO = Other state agency employee; LR = Local recreation interest; WA = Water attorney; LG = Local government employee; LW = Local water provider; WP = Other water provider; ER = Environmental or recreation interest; RE = Recreation engineer; AD = Water Rights Advocacy Groups. These codes, along with a numerical designation, help identify the subjects used in this research.
3 Level of measurement of definition variable is nominal, whereas most survey questions, including those related to policy experiences with conflict, value statements, and demographic information were ordinal.
4 Gallup polls (2012), State of the States. Accessed on July 6, 2012. http://www.gallup.com/poll/125066/State-States.aspx.
5 "Have you encountered situations in Colorado water issues where the word 'conservation' was misinterpreted or defined differently by the parties involved?"
6 "Have you encountered difficulty reconciling a water matter because of differing interpretations of the word 'conservation'?"
7 "Words like 'conservation' can cause conflict in water negotiations."
8 "Participants are not focused on things like language and wording."
9 "The language people use reflects their political bias."
10 "The language people use reflects their group affiliation."

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