

Mirrors and Metaphors: Contemporary Narratives of the Wolf in Minnesota

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ABSTRACT *This article serves as a case study of how contemporary residents of the Upper Great Lakes states debate the ethics and meanings of living with wolves. An overview of the challenges facing Minnesota wolf management is provided, and the results of a Q-methodology study are presented. The study revealed three primary factors, or shared belief systems, about wolf management in Minnesota. The idealist perspective tells a redemption story of sin and atonement, the institutional perspective endorses scientific management and rationality and the localist perspective promises justice, respect and acknowledgement for its champions. The factors are interpreted as narratives or latent myths that provide a set of tacit directions to its adherents about understanding the complexities of living among carnivores. The intricacies and unique logic of each of the three factors are discussed, and themes of consensus and disagreement are briefly highlighted.*

Introduction: Living among Carnivores

Gray wolf restoration in the state of Minnesota has been an unqualified success. The state's wolf population has rebounded dramatically since the animal was put on the federal endangered species list 30 years ago, and the US Fish and Wildlife Service is now considering removing the Minnesota population from the endangered species list. A 1997–98 population survey estimated the Minnesota wolf population at 2450 wolves in 385 packs, covering 73,920 km² (Berg and Benson, 1998, pp. 87–88).

In order to decrease a wolf population, it would have to be reduced by 30–50% each year because of its potential for growth (Mech, 1970, p. 64; 2000, p. 21; Fuller, 1989, pp. 24–25). In Minnesota, scientists believe this would require the death of 929–1956 wolves (Mech, 2001, p. 74), which is most certainly a political impossibility because it could only be achieved with poisons (Mech, personal communication). Wolf recovery in Minnesota has met and exceeded biological criteria to such an extent that the challenges now facing its residents are a question of social judgment: How do we want to live with carnivores? This ontological question uncovers different perceptions of the proper way to live in the world, and how humans construct belief systems about human–nature relationships. Many researchers have alluded to the heuristic power of wolves, noting that wolves are a 'fulcrum on which people project some of their deepest and strongest views of nature' (Kellert, 1986, p. 193) and that the wolf debate goes to 'rock bottom problems of philosophy and political ideology' (Naess and Mysterud, 1987, p. 22).

An understanding of these deeper levels of meaning is essential in developing effective strategies for wolf management in the state. A failure to understand that carnivore conservation, especially wolf recovery, is an 'exercise in social planning' (Wilson, 1997, p. 465) may limit the future success of these conservation challenges.

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Without 'addressing the sociopolitical dynamics driving the public discourse' (Wilson, 1997, p. 465), programs based solely on biophysical components are likely to polarize people (Endter-Wada *et al.*, 1998, p. 891) and result in politically unviable management plans (as demonstrated by the highly charged, and ultimately unsuccessful, 1999 Minnesota legislative management plan process) (Mech, 2000, p. 27).

Minnesota Challenges and Surprises

As the Minnesota wolf population increases, the wolf's range is expanding. Currently the established range for the animal encompasses the northern half of the state, but as the population increases, wolves are pushing south into areas with greater human density and activities like livestock raising and farming. This increase in range came as a surprise to some biologists, who anticipated that wolves would be limited by human settlements, road density and habitat fragmentation (Berg, 1996, p. 126; Noss *et al.*, 1996, pp. 956–959). Empirical evidence and modeling have since proven that wolves can exist and thrive in disjunct landscapes, as long as three requirements are met: (1) they are linked by dispersal; (2) human persecution is not excessive; and (3) prey is abundant (Haight *et al.*, 1998, p. 887). This demonstrates that wolves are not strictly a wilderness species, as many believed (Mech, 1995, p. 272; Berg, 1996, p. 126; Mitchell, 1998, p. 15).

However, the ability of wolves to coexist with human settlements does not necessarily ensure that people will be able to coexist with wolves. Verified livestock depredation has increased sixfold since 1979 (calculated from Paul, 2000), and is a serious issue for some farmers in wolf range. The United States Department of Agriculture (USDA) Wildlife Services Depredation Control Program kills an average of 153 depredating wolves each year in Minnesota, and investigates 150–250 complaints annually (Paul, 2000, pp. 4–6; Minnesota Department of Natural Resources, 2001, p. 17). Additionally, wolves have killed an average of 11 dogs each year in Minnesota during the past decade (Paul, 2000, pp. 4–6). Although dog loss may be underreported because there is currently no compensation program for them in the state, pet loss is highly emotional and costly for some. Other potential conflict areas with humans include the perception of increased wolf boldness, and a perceived competition for white-tailed deer (*Odocoileus virginianus*).

Wolf conservation in Minnesota has proven to be highly contentious and politically charged (Mech, 2000, p. 27). Years of political wrangling, lawsuits and metro/out-state divisions have produced a climate of mistrust and bitterness. Research into the reasons behind this acrimony was carried out through a Q-methodology study, which is described below.

Methods: a Q-study of Subjective Realities

Attitudinal studies about wolves have been carried out in Minnesota (Kellert, 1986; 1999) and across the world (Bath, 1991; 1992; Kellert, 1991; Lohr *et al.*, 1996; Pate *et al.*, 1996). The issue is still divisive and it appears that educational efforts do little to solve the problem (Kellert *et al.*, 1996, p. 980). Likewise, collaborative efforts recently unraveled in the Minnesota legislature. These failures confirm that the 'role of knowledge in the policy process is limited by the belief systems' of competing constituent groups (Primm and Clark, 1996, p. 1042). These belief systems are structured around complex social dynamics and are usually situated upon core normative values.

An examination of these core normative values seemed prudent, and a Q-methodology-based study was undertaken to determine the subjective reality of participants in the

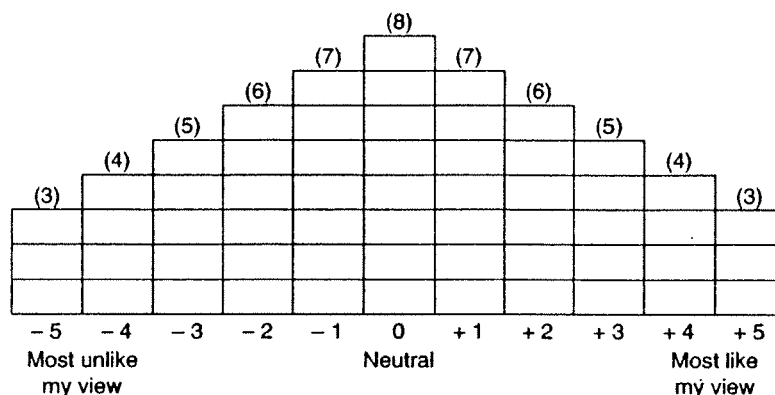


Figure 1. Wolf Q-study statement template.

Minnesota wolf debate. William Stephenson invented Q-analysis in 1935 (see Stephenson (1953) for an overview) as a method for revealing shared an issue. It considers people as whole entities, and correlates individuals instead of traits (for a thorough introduction to Q-methodology, see Brown, 1980). Q-methodology has recently enjoyed widespread use in environmental policy analysis (Kalof, 1997; Peritore, 1999; Van Eeten, 1999; 2001; Addams and Proops, 2000; Robbins, 2000; Steelman and Maguire, 2000; Woolley and McGinnis, 2000; Woolley *et al.*, 2000; Webler *et al.*, 2001), and it offers substantial insights into stakeholder perceptions of an issue.

For the Minnesota wolf study, a sample of 58 statements was selected from public discourse about wolf management in Minnesota. Sampling primarily focused on the transcribed texts of 11 wolf public information meetings, which were held throughout the state by the Minnesota Department of Natural Resources during 5–22 January 1998 with a combined estimated attendance of 3275 people. Statements, many in the original language of participants, were developed around dramatic structures (e.g. plot lines and heroes), situations (e.g. thoughts on wolf abundance, range or depredation) and issues (e.g. perspectives about the role of science in the debate). All of the statements were of subjective opinion, and many had to do with ethics and issues of moral judgment. The statements were structured in accordance with principles of Earnest Bormann's symbolic convergence theory (Bormann, 1985) to ensure that a variety of ideas about Minnesota wolves were included in the sample.

The participants to be included in a Q-study (a 'P-set') are determined by targeted, non-random sampling representing a breadth and diversity of people who are 'theoretically saturated' on the subject. Participants in the wolf Q-study were primarily found (1) at US Fish and Wildlife Service wolf declassification public information meetings and hearings in Minnesota and Wisconsin during the summer of 2000, (2) at the Beef Expo held in St Paul in the fall of 2000, and (3) from 1998 Minnesota citizen roundtable (Mech, 2000, p. 27) participants. Additionally, key figures in the Minnesota wolf debate completed sorts, including wolf biologists, managers and leading wolf advocates. A total of 132 sorts were included in the final analysis.

The sorts were completed as follows: each of the 58 statements was placed on a card, the cards were shuffled and placed in a stack, and participants were instructed to sort the cards on a scale from 'most like my view to most unlike my view'. They placed their cards on a template that formed a quasi-normal distribution, which facilitates the

comparison of many Q-sorts (Addams, 2000, p. 23). The template for the 58-item wolf Q-study is shown in Figure 1.

Data analysis of the collected sorts was conducted using the computer software PQMethod (Schmolck and Atkinson, 2000). The 132 sorts were divided into two primary sets of data for factor analysis; each was correlated and factor analyzed with centroid extraction and varimax rotation. A second-order analysis confirmed the existence of three factors; the results of data set 1 (Minnesota residents who conformed to the template structure) are analyzed in the discussion that follows. The interpretation of the factors is facilitated by the production of factor arrays, whereby the defining sorts from each factor are weighted and merged to form a single Q-sort that is representative of that factor. The factor array for the wolf study appears in the Appendix.

Findings

Three significant factors emerged from this analysis; these factors represent shared images or ideal ways of perceiving the wolf issue in Minnesota. The factors are interpreted as myths or narratives that provide a set of tacit directions for understanding the world of wolf conservation. The myths often operate subconsciously for their adherents, but they are archetypal because they represent beliefs shared among their participants.

The value struggles inherent in each of the perspectives have been illuminated by the application of Lasswell's process of social mapping (Lasswell, 1971; also see Clark (2002) and Clark *et al.* (2001) for an excellent introduction to Lasswell's work). Lasswell's model uses eight value terms (power, enlightenment, wealth, well-being, skill, affection, respect and rectitude) to classify the value preferences of groups and individuals. This technique efficiently clarifies what is at stake for participants by summarizing their use of their base values (values already possessed) to achieve new value demands. Table 1 summarizes the characteristics of each factor.

While Q-methodology is not designed to answer questions about distributions of these perspectives throughout a large population, it is interesting to note that, in this study, the demographic characteristics of respondents indicate that these factors are not easily characterized by traditional classification systems of urban residents, rural residents, farmers, environmentalists or managers. For example, not every manager in this study subscribed to the institutional perspective, and geographic residence could not be used to predict adherence to a perspective. Instead, Q-methodology groups people together through an understanding of their subjective reality, which can cut across many demographic parameters. A description of these subjective perceptions is offered below.

Discussion

The following is an interpretation of the three factors or narratives that were revealed in this study. The statements provided refer to the cards sorted by participants. The statements associated with a particular perspective were derived from the results of the factor array, or single defining sort for each factor, which is determined statistically (see Appendix). The statements are offered as references and justifications of a particular perspective's viewpoint.

Factor A: the Idealist Perspective

People subscribing to the idealist perspective see themselves as striving to correct our

Table 1. Factor profiles

	Factor A, idealist perspective	Factor B, institutional perspective	Factor C, localist perspective
<i>Who they are</i>			
Narrative structure	The redemption story	The miracle worker	The oppressed shall rise up
Philosophical locus of power	Ideological power	Institutional power	Local or community power
The good people	Responsible, humble	Rational, impartial	Misunderstood, alienated
Motivations	Justice, equality	Righteousness of objectivity	Respect, self-determination
Source of knowledge	Self-transcendental, emotional	Theoretical	Experiential, empirical
Sanctioning agent	Nature's authority	Rationality	Justice
Human-nature relationship	Interconnection	Understand and control	Human authority, entitlement
Ethical platform	Biocentric, ecocentric	Anthropocentric, ecocentric	Anthropocentric
Ideas of evil	Vested interests, irresponsibility	Emotionalism, irrationality	Animal rights, outsiders
<i>What they want</i>			
Value demands	Rectitude, well-being	Respect, enlightenment (conversion)	Respect, power
Expectations	- (Wolves') well-being; - power	+ (Wolves') well-being; + skill	- Respect; - power; + rectitude
<i>How they get it</i>			
Base values	(Wolves') well-being, respect, affection	Power, skill, enlightenment, (wolves') well-being	Affection
Strategies	Ideological transformation; lawsuits, education	Compromise, economic, education	Direct action, mobilization, vigilante
Accepted forms of control	Managing people and their values	Laws, scientific principles	Management by the people
Preferred locus of management	National	Local	Local
Authority of science	Neutral	Accepted	Rejected
Authority of management	Neutral	Accepted	Accepted

Table 2. Selected statements indicative of factor A, the idealist perspective (scores in parentheses are for factor A, the idealist perspective, factor B, the institutional perspective, and factor C, the localist perspective, respectively)

7.	We must work hard to fight against an unjustified fear of wolves. Wolves have always been unfairly persecuted, and have been a victim in the struggle for human dominance. (+ 5, + 0, - 3)
10.	Ultimately we will discover that all of life is interconnected. There is a natural balance that we must work to restore or we will face serious consequences. (+ 5, - 2, 0)
13.	Let's remember that we've got 2000 wolves and five million people in the state. Enough of this bother about unfairness! We've got to make some room for other creatures to live on this planet. (+ 4, - 1, - 2)
49.	The wolf issue is really a national or maybe even a global issue. It's much bigger than just northern Minnesota. (+ 4, 0, - 1)
53.	When I think of wolves in Minnesota, I see a lot of social struggles. Wolf management is really about managing people and their problems more than it is about managing wolves. (+ 5, + 1, 0)
56.	Farmers should take more responsibility in preventing wolf depredation by putting up fences, using guard dogs and investigating other non-lethal controls. (+ 4, - 1, - 4)

relationship with nature. They reject notions of human dominance, and they believe that, ultimately, human arrogance must be replaced by humility. The restoration of wolves is symbolic of this triumph over human folly.

This redemption narrative is constructed around three primary themes: the idea of the interconnection of life; the balance of natural order (both are represented in statement 10); and the evils and danger of human dominance (statements 7 and 13) (see Table 2).

The foundational belief that supports these three themes of interconnection, balance and humility is a fundamental reliance on forces that transcend human needs and desires. This confidence in the supremacy of natural laws causes a concentration on ideological or moral precepts that support these beliefs. This informs several key components of the idealist perspective, including its locus of power, motivations, sources of knowledge and choice of strategies.

For example, the philosophical locus of power in this outlook begins with individual responsibility, but this sense of duty is secondary to the power of moral precepts that supersede the individual. This provides the individual with a greater good beyond the self and the local community, and it allows the focus to remain on larger goals of moral transformation. This is evidenced by the need to see the wolf issue as a largely symbolic battle (statement 49) that surpasses transient, parochial desires. This finding asserts, similar to Dayton's transcendentalists (Dayton, 2000, p. 81), that people subscribing to the idealist perspective want moral and value decisions, not necessarily science or rationality, to determine answers to this debate.

In this philosophy, the ethical 'burden of proof' is on human beings, who must respond to forces more powerful than themselves. Farmers are hardly innocent victims in this scenario, which is quite a different stance than what is offered by the other two perspectives. Because the vision of the idealist perspective is founded on higher-order principles of ethics, values and respect, the most important techniques and strategies available to supporters of this outlook are tools that cause an ideological shift. Educational campaigns are often used to this effect. This focus on a 'needed' ideological transformation necessitates an appraisal of human values and desires. This explicit acceptance of the moral component of the wolf debate invites techniques for controlling ('managing') people, their values and their actions (statement 53). Adherents of this perspective also favor tools that help people become more responsible in their relation-

Table 3. Selected statements indicative of factor B, the institutional perspective (scores in parentheses are for factor A, the idealist perspective, factor B, the institutional perspective, and factor C, the localist perspective, respectively)

17.	As wolves expand into areas with more human density, more and more conflicts will occur. We can control these conflicts with good management. (+ 1, + 5, + 3)
19.	With our scientific knowledge, we know how to best manage the wolves. Today we can make informed, educated decisions that won't threaten the wolf population. (+ 1, + 5, 0)
20.	Hunting and trapping seasons would restore a sense of control over our own destiny. This would ensure the wolf's survival by renewing respect and appreciation for wolves where they live. (- 2, + 2, + 2)
23.	Maybe only one or two percent of farms are hit by livestock depredation, but to those families, the loss is devastating. This isn't about statistics. It's about real people, real families, and real farms. (0, + 3, + 5)
28.	Mother nature does pretty well, but she doesn't answer all our problems. We need science and good management to help things run smoothly. (0, + 4, + 2)
32.	I think we have to consider the life of each individual wolf. Wolves have family structures and relationships just like we do. We shouldn't be killing wolves willy-nilly if they haven't done anything wrong. (+ 2, - 5, - 1)
33.	I think you've got to take care of this problem before you lose livestock. The burden of proof rules have got to change because farmers are being put in an unfair position. (- 2, + 3, + 5)
34.	Our main concern should be with the preservation of the Minnesota wolf population as a whole. Sure, some individual wolves are going to get killed, but that's necessary to keep the population healthy and sustainable in the long run. (+ 2, + 5, 0)
40.	The world does not exist for humans to manage. In fact, if we didn't manage wolves at all, they would eventually come into harmony with their environment. (0, - 4, - 3)
42.	I see a lot of emotion and "barstool biology" in the wolf issue, but what we really need to solve the problem is pure, objective science. (- 1, + 4, - 2)
43.	The rights of the wolves have to be represented in this debate. Somebody has to speak for the creatures that can't speak for themselves. (+ 3, - 4, - 4)
51.	It would take many years of study for ordinary people to grasp the complexities of scientific wolf management, so it's best to let experienced professionals make management decisions. (- 1, + 1, - 4)
52.	By working together, citizens in Minnesota can solve the wolf management problem. People may have to compromise, but it's time to patch up and move on. (+ 2, + 4, + 1)
53.	When I think of wolves in Minnesota, I see a lot of social struggles. Wolf management is really about managing people and their problems more than it is about managing wolves. (+ 5, + 1, 0)

ship with the natural world. They are likely to support research into innovative and novel depredation control programs and other tools that assist in the ability of humans to coexist with carnivores (statement 56).

Factor B: the Institutional Perspective

People subscribing to the institutional perspective see wolves as a carnivore, a natural resource that should be managed according to the pure and objective laws of science. They think biologists have the expertise to make competent management decisions about wolves, and that proper management will solve the wolf dilemma. They are unlikely to question authority or traditional organizational structures, and they tend to uphold reason and respect.

In this outlook, systematic, regulated thought is elevated and assumes a primary role (statements 19 and 42, Table 3). Adherents of this perspective couple together scientific

knowledge and management, which they believe will allow proper control of the wolf population in Minnesota (statements 17 and 28) (see Table 3).

Advocates of the institutional perspective acknowledge that emotion plays a part in the wolf debate, but this is generally believed to cause more problems than it is worth and is seen as an obstacle that must be overcome. This perspective most urgently wants a solution to the wolf conflict (statement 52), but does not necessarily believe that managing people and their emotions is the answer to this problem (statement 53).

Established power structures form the center of control of the institutional perspective. Supporters of this belief system clearly uphold the authority of scientific knowledge (statements 19 and 42, discussed previously) and are unqualified champions of the Department of Natural Resources (DNR). Interestingly, this support for institutional power is accompanied by support for local residents (statements 23 and 33). This viewpoint acknowledges that people need to have control over their own lives (statement 20), indicating that it is not necessarily elitist. Furthermore, champions of the institutional perspective are reluctant to assert that only experts should make decisions about this issue (statement 51), reinforcing a populist use of scientific principles.

An emphasis on human knowledge and informed management practices elevates the status of human beings in this belief system. The advancement of anthropocentric principles is further evidenced by beliefs that farmers' rights take priority over the rights of wolves (statement 33), and that it is not the duty of farmers overtly to protect themselves against wolf attacks. Anthropocentric platforms are also confirmed by the institutional perspective's rejection of privileges or freedoms offered to non-human animals (statement 43), and their dismissal of the notion that humans and animals are equal.

But while the institutional perspective is anthropocentric, it also has a strong connection to ecocentric axioms (statement 34). This reliance on population concerns overrides biocentric issues (statement 32), which are strongly rejected; this prevents this outlook from becoming too scientifically atomistic. It is important to remember that while scientific knowledge is founded in observations of the natural world, it is not nature that rules supreme in this belief system. In fact, ideas of primary control by nature are frequently rejected in this perspective (statements 28 and 40).

Factor C: the Localist Perspective

Adherents of the localist perspective subscribe to a storyline that asserts ultimate justice for its supporters. In this scenario, everyday people (statements 23 and 6) feel that they are misunderstood (statement 33), alienated from decision-making processes and oppressed by influential outside forces that care little for their well-being (statement 50) (see Table 4).

Comradery and cohesion seem especially important when localist patrons talk about their goals and direction. This serves to provide the localist perspective's adherents with a sense of community, but the rhetorical power of this cohesion also presents an approach that transcends the needs of individual citizens. This effectively shifts focus from individual needs and desires to a more powerful platform of family and community concerns.

Although advocates of this position see themselves as alienated and oppressed, they do not feel helpless. They are ready to act and take matters into their own hands (statement 44) and they believe that their actions will bring about change (statement 58). Supporters of this perspective want to be involved in the decision-making process, and they do not necessarily feel overwhelmed in diplomatic negotiations.

Table 4. Selected statements indicative of factor C, the localist perspective (scores in parentheses are for factor A, the idealist perspective, factor B, the institutional perspective, and factor C, the localist perspective, respectively)

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2. Many people today are making wolves into something they're not. It's best if we remember that wolves are just another predator that needs to be managed. (- 1, + 3, + 4)
6. We need to focus on the everyday people of Minnesota. They're hardworking citizens just trying to make an honest living, and they know what it's really like to live with wolves. (- 2, + 1, + 3)
23. Maybe only one or two percent of farms are hit by livestock depredation, but to those families, the loss is devastating. This isn't about statistics. It's about real people, real families, and real farms. (0, + 3, + 5)
33. I think you've got to take care of this problem before you lose livestock. The burden of proof rules have got to change because farmers are being put in an unfair position. (- 2, + 3, + 5)
40. The world does not exist for humans to manage. In fact, if we didn't manage wolves at all, they would eventually come into harmony with their environment. (0, - 4, - 3)
44. If something's not done about this wolf problem, people are going to start taking it into their own hands. (- 1, + 2, + 4)
50. The local people should have the right to make their own decisions. But right now they're drowned out by powerful groups who try to dictate how they should live. (- 3, + 1, + 5)
56. Farmers should take more responsibility in preventing wolf depredation by putting up fences, using guard dogs and investigating other non-lethal controls. (+ 4, - 1, - 4)
58. By taking an active part in political and social affairs, people can have an impact. (+ 4, + 3, + 4)
-

Many of the statements about the authentic, genuine reality of everyday people (e.g. statements 6 and 23) point to the role of experiential knowledge in the formation of this perspective's epistemological foundations. The role of experiential knowledge also asserts itself in the need for action and its contribution to self-determination (see Scarce (1998, pp. 35-37) for more information about self-determination and the wolf debate). In this sense, action leads to understanding and a sense of control over one's life.

This is a strongly anthropocentric perspective, which is frequently upheld with notions of human domain over other animals. A favorite card of verbal derision for adherents of this position was statement 26, 'Human beings are animals that need to follow nature's laws. There's nothing special about us. We've got to wake up and learn to respect our own limits' (+ 3, - 2, - 4). Localist advocates would frequently laugh out loud at that statement, and make proclamations like one woman from Duluth: 'Yeah, [right]! Nothing special except we're made in God's image!' The line between humans and other animals is sharply drawn in this position.

This factor's statements also indicate that its supporters feel unfairly burdened by the biocentric platform of the Endangered Species Act. In the localist's opinion, people have not violated any ethical sanctions through the act of farming; it is the wolves that have transgressed the bounds of sanctioned behavior. Because they have committed no sins, it is not the farmers' responsibility to prevent further transgressions by the intruders (statement 56). To do so would be an act of admitting guilt.

Because of the special abilities of people and their sanctioned domain over nature, management and the control of the environment are deemed acceptable, and, perhaps, required (statements 40 and 2). While science and scientific control are questioned in this perspective, management is deemed appropriate. The sense of control brought by management is of greater importance than scientific knowledge because it produces results and provides an outlet for local action.

When the champions of this position are not afforded the opportunity to manage

things for themselves and they feel misunderstood or disregarded by existing power structures, vigilante control techniques become acceptable (statement 44, discussed previously). This corresponds to their need for action and their belief that acting will achieve something. Illegal activities are acceptable in this perspective because little credence is given to authority figures that are perceived to create unreasonable laws.

Conclusion

Three influential narratives were revealed in this analysis: an idealist perspective, which tells a redemption story of sin and atonement; an institutional perspective, which focuses on scientific management and the power of rationality; and a localist perspective, which promises justice, respect and acknowledgement for its patrons. A condensed picture of the perspectives' goals and their strategies for achieving them emerges from a Lasswellian analysis of base values and value demands. The idealist perspective uses the current healthy wolf population to gain respect ('look at all we've accomplished!'), affection and wealth for organizations that support its beliefs. Persuasive educational techniques leverage these values to achieve their ultimate goals of rectitude and well-being for wolves and the environment. The institutional perspective uses educational and collaborative strategies to bolster their current arsenal of power and skill to achieve respect and enlightenment. The localist perspective relies on affection for community and family to mobilize action that ultimately seeks to secure respect and power for its advocates.

Analyses of overlapping or shared beliefs among the three perspectives reveal that all of the factors have a strong locus of control (statement 58) and feel that farmers should be adequately compensated for their losses (statement 22). Substantial disagreement occurs over perceptions of ethical burdens of proof (statement 33), the rights of wolves (statement 43) and the issue of local empowerment (statement 50). Surprisingly, all of the perspectives agree that the wolf debate is not an economic battle (statement 45); there is acknowledgement that the controversy is fundamentally about values and ethics and will likely not be solved by cost-benefit analyses.

Acknowledgement of the ethical implications of this recovery challenge highlights a possible role that this research could play in Minnesota wolf conservation. New understandings and realizations of the meanings and motives inherent in these perspectives could increase participants' appreciation for each other and help foster mutual respect. If people begin to understand why their neighbors believe what they do, they are less likely to dismiss arguments out of hand. Instead, they may realize that there are common struggles inherent in these divisions, and that these struggles should be treated with respect and dignity.

An understanding of the motives inherent in these arguments could also assist in conflict resolution efforts. Recognition of the ultimate but often unconscious or unspoken goals of a constituent group may help prevent difficulties that arise in negotiations. An event in the 1999 Minnesota legislature serves as an example. After months of difficult negotiations in the Minnesota citizens' wolf roundtable, some advocates of the localist perspective agreed to support a consensus agreement, although they had severe reservations. It seems that the process or the outcome of the agreement left them feeling alienated, misunderstood or underrepresented. They therefore decided to go outside of the established structure for dealing with the issue (something that corresponds perfectly with the logic of the localist perspective), and began negotiating with legislators on their own. Their techniques were successful, and in a surprise move, the Minnesota House broke with the roundtable agreement, and passed a bill that supported a cap on the

number of wolves in the state and endorsed public hunting and trapping. This served to radically escalate divisions, and nothing successfully emerged from the 1999 legislature. Perhaps an assessment of the value outcomes of the roundtable agreement could have prevented such difficulties by articulating the concerns of the localists before they took action outside of the roundtable process.

The point of this research has been to understand the underlying motives of people involved in the wolf debate so that a more politically viable management plan can be developed. But the power and principles of players in this debate have demonstrated that in the end, the wolf has become a symbol not of wilderness, but of understanding ourselves. While many are striving for more tolerance of wolves, perhaps it would be more productive to see the wolf debate as a struggle to improve humans' tolerance of each other.

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Appendix

Table A1. Factor array for Q-sort statements

Factor Q-sort values for each statement	Factor array		
	Factor A, idealist perspective	Factor B, institutional perspective	Factor C, localist perspective
Statement number			
1. People in Minnesota have seen the harm that comes from development, greed, and attempts to control nature. It's time to give the wolf another chance. We can make retribution with the past and do what's right.	1	- 2	- 5
2. Many people today are making wolves into something they're not. It's best if we remember that wolves are just another predator that needs to be managed.	- 1	3	4
3. When I think of wolves in Minnesota, I see a beautiful, intelligent creature that teaches us deep truths about the wonder and wisdom of nature.	3	0	- 2
4. Wolves have come out of the wilderness and their behavior has changed dramatically. They have lost their fear of people, and are becoming a nuisance and a threat.	- 3	1	1
5. People who really care about wolves can look beyond their own self-interest. They respect all connections to life, and understand the need for human humility.	2	- 2	- 3
6. We need to focus on the everyday people of Minnesota. They're hardworking citizens just trying to make an honest living, and they know what it's really like to live with wolves.	- 2	1	3
7. We must work hard to fight against an unjustified fear of wolves. Wolves have always been unfairly persecuted, and have been a victim in the struggle for human dominance.	5	0	- 3
8. We must work hard to fight against pro-wolf propaganda. It's put out by small groups who work with government bureaucrats to further the interests of a few elite.	- 5	- 1	2
9. Irrational extremists with no common sense are clouding and complicating the wolf issue.	0	3	3
10. Ultimately we will discover that all of life is interconnected. There is a natural balance that we must work to restore or we will face serious consequences.	5	- 2	0
11. Wolves help make a deer herd stronger because they prey only on the old, the sick and the weak. This creates a natural, healthy balance between predator and prey.	3	0	- 1
12. Some people have the idea that wolves kill only the sick and the weak. That's nonsense! Right now, there are vast areas of Minnesota where deer have been totally devastated.	- 5	- 4	- 1
13. Let's remember that we've got 2000 wolves and five million people in the state. Enough of this bother about unfairness! We've got to make some room for other creatures to live on this planet.	4	- 2	- 2
14. The wolf numbers are really going crazy in this state. They're out of control, and the DNR barely has any idea what's going on.	- 5	- 5	1
15. If you think about it, you'll realize that we're really trespassing on wolf territory. The wolves were here long before we were. So let them spread throughout the state!	1	- 4	- 5

Table A1. Factor array for Q-sort statements—*continued*

16. Wolves have their place in Minnesota. They should be part of the wilderness, up in the Boundary Waters, away from humans.	- 4	- 1	0
17. As wolves expand into areas with more human density, more and more conflicts will occur. We can control these conflicts with good management.	1	5	3
18. The wolf population in Minnesota can still be threatened by disease, weather and illegal killing. Wolves need strong protection if their population is to remain healthy.	1	- 3	- 3
19. With our scientific knowledge, we know how to best manage the wolves. Today we can make informed, educated decisions that won't threaten the wolf population.	1	5	0
20. Hunting and trapping seasons would restore a sense of control over our own destiny. This would ensure the wolf's survival by renewing respect and appreciation for wolves where they live.	- 2	2	2
21. We need to control the wolf population in Minnesota, but I'm a little uneasy about a public hunting and trapping season. I think it's best if state officials reduce the number of wolves.	0	- 2	- 1
22. Farmers should be adequately compensated for their losses to wolves, but we shouldn't blow this issue out of proportion.	3	2	3
23. Maybe only one or two percent of farms are hit by livestock depredation, but to those families, the loss is devastating. This isn't about statistics. It's about real people, real families and real farms.	0	3	5
24. I think that all the anxiety about wolves attacking humans is really fear mongering by people who want to kill wolves.	1	- 2	- 2
25. I'm not against wolves, but I'm worried about people. The wolves are coming right into our towns and into our yards, and people are afraid to go out at night. People shouldn't have to live like that.	- 4	0	1
26. Human beings are animals that need to follow nature's laws. There's nothing special about us. We've got to wake up and learn to respect our own limits.	3	- 2	- 4
27. Our loyalty should always be first to our family and our pets. It doesn't make sense to me when people put the concerns of plants and animals above human concerns.	- 4	0	1
28. Mother nature does pretty well, but she doesn't answer all our problems. We need science and good management to help things run smoothly.	0	4	2
29. Wolves would make a great symbol for wildlands conservation.	1	0	- 2
30. Natural areas are important, but there's no reason why they should be restricted. Multiple use conservation areas benefit the most people.	- 2	2	2
31. You know we've taken care of our environment in Minnesota. We've got good policies and respectable laws that show people can be responsible caretakers.	- 1	2	1
32. I think we have to consider the life of each individual wolf. Wolves have family structures and relationships just like we do. We shouldn't be killing wolves willy-nilly if they haven't done anything wrong.	2	- 5	- 1
33. I think you've got to take care of this problem before you lose livestock. The burden of proof rules have got to change because farmers are being put in an unfair position.	- 2	3	5

Table A1. Factor array for Q-sort statements—*continued*

34. Our main concern should be with the preservation of the Minnesota wolf population as a whole. Sure, some individual wolves are going to get killed, but that's necessary to keep the population healthy and sustainable in the long run.	2	5	0
35. Extensive focus on livestock and economic self-interest is short-sighted. Private landowners are acting greedy and they don't understand that a much bigger issue is at stake.	0	-3	-5
36. It seems to me that some groups use the wolf as a tool to further their hidden agenda of keeping people off more public lands.	-2	1	-1
37. I feel a little uneasy about the DNR taking control of the wolves in Minnesota. They seem to be more concerned about deer and hunters than anything else.	0	-3	0
38. The DNR should listen to the people who really have a vested interest in this issue—the sportsman, the resorter, the farmer. They should stop trying to be so political and please everybody.	-3	0	4
39. The DNR has an excellent and proven track record of managing predator populations. They know what's best to keep the wolf population healthy.	-1	4	-3
40. The world does not exist for humans to manage. In fact, if we didn't manage wolves at all, they would eventually come into harmony with their environment.	0	-4	-3
41. I don't know why researchers get so hung up on the use of numbers, which never seem very accurate anyway. Stop spending all that taxpayer money! Get rid of those fancy planes and the radio collars, and let the people decide what to do.	-4	-5	2
42. I see a lot of emotion and "barstool biology" in the wolf issue, but what we really need to solve the problem is pure, objective science.	-1	4	-2
43. The rights of the wolves have to be represented in this debate. Somebody has to speak for the creatures that can't speak for themselves.	3	-4	-4
44. If something's not done about this wolf problem, people are going to start taking it into their own hands.	-1	2	4
45. If we could provide economic incentives for preserving wolves, there would be less conflict about wolf conservation.	0	-1	-2
46. Why negotiate on this issue? The cards will be stacked and we won't even have a chance.	-2	-3	0
47. It's important that decisions about the wolf are made in an open, democratic process.	2	1	2
48. I didn't get my knowledge from a book, I got it from the woods. And that's a lot more truthful than book knowledge will ever be.	-1	-1	1
49. The wolf issue is really a national or maybe even a global issue. It's much bigger than just northern Minnesota.	4	0	-1
50. The local people should have the right to make their own decisions. But right now they're drowned out by powerful groups who try to dictate how they should live.	-3	1	5
51. It would take many years of study for ordinary people to grasp the complexities of scientific wolf management, so it's best to let experienced professionals make management decisions.	-1	1	-4

Table A1. Factor array for Q-sort statements—*continued*

52. By working together, citizens in Minnesota can solve the wolf management problem. People may have to compromise, but it's time to patch up and move on.	2	4	1
53. When I think of wolves in Minnesota, I see a lot of social struggles. Wolf management is really about managing people and their problems more than it is about managing wolves.	5	1	0
54. It's time to have harmony on both sides of the wolf debate. We're all residents of Minnesota, and we can all get along if we just listen and respect each other.	2	2	0
55. I think most of these wolf problems have come from the fact that things have been controlled by the Feds. We haven't had the ability to make our own decisions here.	- 3	- 1	3
56. Farmers should take more responsibility in preventing wolf depredation by putting up fences, using guard dogs and investigating other non-lethal controls.	4	- 1	- 4
57. Why do we have to keep all the wolves for the whole 48 states? I say pack some up and ship them out to other states!	- 3	- 3	- 1
58. By taking an active part in political and social affairs, people can have an impact.	4	3	4

Wolf Recovery and Management as Value-based Political Conflict

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ABSTRACT *The debate over wolf recovery and management in the United States is best understood as a value-based political conflict that transcends issues strictly pertaining to science, biology and techno-rational approaches to problem solving. Political and cultural context will shape the future of the wolf as it has its past. A policy-oriented approach has much to offer the debate, especially if it is contextual and places human values and ethics at the center of its analysis. It is also important for those engaged in the debate to acknowledge its value-based character. The policy implications of not doing so are serious and will become only more so in the future.*

There are deeply rooted moral conflicts over wolf recovery. Wolves present a number of difficult ethical and moral challenges, ones that go well beyond science, biology and technical wildlife management. This value-based conflict is over a deeply symbolic animal and is taking place in a very controversial political and cultural context (Nie, 2001). The following is a brief discussion of this context and the nature of this debate.

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