Public Involvement in the U.S. Forest Service

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ABSTRACT

This dissertation examines how the U.S. Forest Service implements and uses public involvement during the agency's planning processes as mandated by the National Environmental Policy Act. Focused from the perspective of the agency personnel leading the process, this study is informed by both quantitative and qualitative analyses. Chapters two and three report the results of a web-based survey completed by 489 Forest Service employees. Chapter two shows that these employees most commonly view public involvement as a means for obtaining substantive information that could be used to improve the management decision. Chapter two also reveals that agency personnel who view public involvement as only a procedural requirement tend to achieve less positive process outcomes, but those who explicitly create opportunities for interactive dialogue with the public tend to achieve more positive outcomes, including more positive perceptions of the public involvement process and agency-public relationships. Chapter three shows that agency employees commonly believe more public influence should and does happen during the earlier stages of the planning process, but that agency employees also desire more public influence throughout the process. Chapter four uses qualitative interviews with 16 of the survey respondents to build upon the insights from chapter three. By exploring what may be constraining public influence from occurring at the desired levels, chapter four describes how agency personnel can impact how much public influence happens. The final chapter highlights the importance of looking beyond the specific public involvement technique employed during the process to the nature of the agency-public interactions. Agency personnel who are willing to engage in extra effort to translate public values into substantive management concerns generally achieve more desirable forms of public influence. They also help satisfy the public's desires to communicate their visions for the management of the National Forests. Key barriers include heavy workloads, negative views of the public, and over-reliance on minimum procedural requirements. Conversely, strong normative beliefs about the positive role of the public in agency planning, leadership commitment, and a recognition of the discretion afforded planning personnel can lead to higher levels of desired public influence.

Dedication

To my father and mother, for supporting me in every way for every moment. If the world is my “oyshter”, then you two are both the pearls.

In loving memory of Dillon and Virginia Hoover, Edgar and Peggy Huckestein, Leonard Huckestein, and Marion McGonigle.

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Finally, a special thanks to my favorite boys from Jersey, whose music soothes my soul and provided the soundtrack to each page of this dissertation: “Live for the fight, when it’s all you got” (Bon Jovi, Livin’ on Prayer).

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Attribution

Chapters two, three, and four are individual manuscripts that will be submitted for publication in the near future. Co-authors are listed in the order that they will appear in journal articles. The order of authorship is indicative of the level of contribution made by co-authors. The ideas and insights in each article are primarily my own. The co-authors, however, made signification contributions to these chapters in the following ways: clarified ideas in the early stages of writing; aided in the organization of ideas; suggested content for conclusions; and improved writing. I am grateful to the co-authors for the help in all of these capacities.

Chapter 1

Introduction

The National Environmental Policy Act of 1969 (NEPA) creates a specific planning process for any federal agency proposing to do a project with the potential to create significant environmental impacts. NEPA requires agencies such as the U.S. Forest Service to consider the likely environmental impacts of their actions and to inform the public and other agencies of those impacts. NEPA also creates a legal opportunity for the public to challenge agency decisions and actions based on compliance with the NEPA process. For the Forest Service, NEPA – along with the Administrative Procedures Act and the National Forest Management Act – guides the procedures through which the agency conducts planning efforts and public involvement. The Forest Service conducts more NEPA processes than any other federal agency, and is challenged more frequently; more than one-third of all NEPA lawsuits filed against the federal government are against the Forest Service (Miner et al. 2010). As a result, planning and public involvement for the Forest Service has become increasingly complex, contentious, prolonged, and expensive (U.S. Forest Service 2002).

Forest Service personnel conducting the NEPA planning processes are granted broad discretion in designing and implementing the public involvement process (Predmore et al. 2011b). Agency personnel may use their discretion to control, at least partially, how and when the publics[1] are involved, which issues are deemed important and discussed, and what interests are considered (Germain et al. 2001, Yang and Callahan 2007). In this way, agency personnel have the potential to shape the results of public involvement processes by controlling how the public participates, how the participation influences decision-making processes, and ultimately if and how participation influences the final planning decision (Yang and Callahan 2007, Chess and Purcell 1999). As such, agency personnel may often rely on their own values and judgment to make incremental decisions throughout the process (Dietz and Stern 2008, Yang and Callahan 2007, Stern et al. 2009). Understanding these values and how they inform the choices agency personnel make may provide insight into Forest Service NEPA planning outcomes.

The following three chapters report the results of a mixed methods study which included both quantitative and qualitative analyses to explore how the discretion granted to Forest Service street-level bureaucrats plays out in the implementation of NEPA public involvement. Each of these chapters is a stand-alone product. The fifth and final chapter summarizes their findings to

[1] The "public" or "publics" referred to throughout this document refer to the individuals and array of public entities that represent a diversity of interests but choose to participate in Forest Service planning efforts.

develop a more comprehensive understanding of how agency personnel view and use the public involvement process. The goal of this research was two-fold: first, to contribute theoretically to the scholarly knowledge of public involvement in natural resource decision-making; and second, to help the Forest Service develop strategies to improve the experience and results of the public involvement process for both the public and the agency.

This research is focused entirely from the perspective of the street-level bureaucrat charged with implementing the daily tasks of the NEPA process, known as the interdisciplinary team leader (the IDTL). The IDTL is generally involved in each step of the process and the day-to-day decisions regarding the public involvement process. While the Responsible Official issues the final decision for the agency, their role in the incremental decisions of the process is variable (Stern and Predmore 2011).

Chapters two and three are based on the results of a web-based survey completed by 489 Forest Service employees who served as the IDTL on a recently completed NEPA process. The survey was part of a larger effort to understand the Forest Service NEPA process from the perspective of these agency personnel who are charged with implementing the process, and included questions about the public involvement process and how power is shared between the public and the agency. Chapter two describes how agency personnel value public involvement and which techniques are most commonly used during the public involvement process. Chapter two further explores how those values and techniques relate to process outcomes. The findings suggest that agency personnel commonly see public involvement as a means for improving analysis and decision-making and for removing barriers to project implementation. Less commonly, public involvement is seen as a means for incorporating public values into decision-making and achieving public buy-in for decisions. Intentionally engaging in interactive dialogue with the public is seen as the most effective public involvement technique. Agency personnel who see public involvement as a procedural requirement tend to achieve less positive process outcomes, but those who explicitly create opportunities for interactive two-way dialogue between the agency and the public tend to achieve more positive outcomes.

Chapter three explores how much influence the agency perceives the public has during specific points in the planning process, and how that relates to process outcomes. Agency personnel reported how much public influence they believe should happen at different points during the NEPA process, how much public influence they believe generally happens throughout most agency NEPA processes, and how much public influence they believe happened on a specific NEPA process. The analysis reveals that agency personnel commonly believe more public influence should and does happen at earlier stages in the process. Further, early public influence appears to be related to positive perceptions of the public involvement process and public relations process. Chapter three also indicates that agency personnel commonly believe

there should be more public influence, which suggests there are constraints that prevent the desired levels of public influence from occurring.

Chapter four builds on the insights from chapter three by exploring why agency personnel desire substantive public input and the constraints that may be preventing public influence from occurring at the agency personnel's desired levels. Chapter four is a qualitative analysis based on interviews with 16 of the Forest Service employees who completed the survey that informed the previous two chapters. The interviews discussed the public involvement process in-depth, with particular emphasis on public interactions and how the public influenced the decision or decision-making process. The analysis reveals that agency personnel have substantive, normative, and instrumental justifications for desiring site-specific information from the public, and reveals the ways agency personnel serve as the "gate-keepers" to public influence. Since public influence is not a mandated result of the public involvement process, the default behavior and minimum actions of the agency are not designed to necessarily facilitate such influence. However, agency personnel have the discretion to expend extra effort to go beyond the minimum requirements to encourage more public influence. Agency personnel with strong normative beliefs about the role of the public in agency planning tend to be more willing to put forth extra effort to facilitate public influence, although workload concerns may override those beliefs at times. In addition, a strong leadership commitment to working with the public has the potential to motivate the extra effort to facilitate more public influence.

The final chapter in this dissertation summarizes the findings of chapters two, three, and four and begins to unpack the black box of discretion in Forest Service public involvement. Taken together, this research provides a more comprehensive understanding of how agency personnel conceptualize and use public involvement in Forest Service planning processes. Chapter five describes the type of public influence desired by agency personnel and how they can affect the amount of this type of influence that occurs within their processes. Chapter five concludes by examining the cross-cutting theme of possessing a belief in the utility of the public involvement process and the potential benefits of going beyond the minimum requirements and interacting with the public.

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Chapter Two

Do techniques matter?
Exploring the role of values and public involvement techniques in Forest Service NEPA processes

Katie Hoover and Marc J. Stern

ABSTRACT

This research sets out to explore how the values and opinions held by Forest Service personnel about public involvement impact choices about which public involvement techniques to use during NEPA planning processes, and how those values, opinions and techniques relate to process outcomes. A web-based survey of 489 NEPA planning process team leaders revealed strongest support for substantive and instrumental purposes for public involvement. Public involvement was most commonly seen as a means for improving analyses and decision-making and for removing barriers to project implementation and secondarily as a means for incorporating public values and achieving public buy-in. Team leaders on average placed greatest stock in the effectiveness of intentionally engaging in interactive personal dialogue as a primary public involvement technique. Regression results suggest that team leaders who feel public involvement is merely a procedural requirement tend to achieve less positive process outcomes. Moreover, those who explicitly create opportunities for interactive two-way dialogue between the agency and the public tend to achieve more positive process outcomes.

Introduction

Public involvement serves different functions for both the governmental agency and the public. From an agency perspective, it may inform the agency of public preferences, provide valuable information that improves the quality of the decision, address public concerns, educate the public, and build support for or remove barriers to project implementation (Dietz and Stern 2008, Predmore et al. 2011b, Koontz 1999). From a public perspective, public involvement may provide a forum to influence agency decisions, learn about agency initiatives, air grievances or develop civic capacity (Dietz and Stern 2008, Innes and Booher 2004, Creighton 2005, Germain et al. 2001). Choices concerning which technique(s) to use during public involvement may influence each of these functions.

Land management agencies – such as the U.S. Forest Service – use a variety of public involvement techniques to communicate and interact with the public during planning processes. These techniques include a range of activities, from hosting public meetings and workshops to receiving and responding to public comments. Different techniques influence different styles of communication, levels of interaction, and flows of information (Creighton 2005). The information may flow in one direction at a time, either from the agency to the public or from the public to the agency (Rowe and Frewer 2005). Alternatively, two-way interactions occur when information flows simultaneously between the agency and the public. These different forms of communication and interaction may also influence how power is shared between the agency and the public during the process, with two-way interactions generally indicative of greater power-sharing with the public (Germain et al. 2001).

The National Environmental Policy Act of 1969 (NEPA) creates a specific planning process for any federal agency proposing to do a project with the potential to create significant environmental impacts. NEPA, combined with several other laws and regulations, creates a legal mandate for the Forest Service to conduct public involvement during its planning processes. Agency personnel conducting NEPA planning processes, however, have broad discretion in designing and implementing public involvement (Predmore et al. 2011b). As such, they may often rely on their own values and judgment to make decisions throughout the process, beginning with how to first communicate and present the project to the public and continuing with how to use the comments and feedback provided by the public (Dietz and Stern 2008, Yang and Callahan 2007, Buchy and Hoverman 2000, Stern et al. 2009). These values may not only drive which techniques are used in agency planning processes, but also the nature of the interactions regardless of the specific techniques in play. Understanding these values and how they inform the choices agency personnel make may provide insight into Forest Service NEPA planning outcomes.

This research attempts to unpack the black box of discretion in the design of Forest Service NEPA public involvement processes. First, we identify values about public involvement held by Forest Service personnel leading NEPA planning processes. Second, we examine which public involvement techniques are used most frequently and perceived by process leaders as most effective. We then explore whether certain values appear to predict the use of certain techniques and the extent to which these values and techniques appear to drive process outcomes.

Literature Review

Determining and measuring the success of a public involvement process is challenging (Buchy and Hoverman 2000, Chess and Purcell 1999). Success may take many different forms, depending on the varied perspectives of the differing participants in the process (Webler and Tuler 2006), and can be measured in terms of the process or the outcomes (McCool and Guthrie 2001). Public involvement may achieve an outcome acceptable to the public (and the agency), but the means of achieving that outcome may be questionable to some. Conversely, some processes may be deemed successful even though the outcome was not desirable to the broader public or the agency (Creighton 2005). Research from the public's perspective has found that successful public involvement processes generally engage the participants in meaningful interactions, share information among participants and the agency, reach out to all stakeholders, and attempt to satisfy multiple interests (Webler and Tuler 2006). However, research has identified outcome measures with mixed results. When tested, some publics express gaining influence over the decision as an important measure of success, while other publics reflect it to be less important as an outcome when satisfied with the overall process (Buchy and Hoverman 2000, Germain et al. 2001, Beierle and Konisky 2000, McCool and Guthrie 2001). Further complicating matters is a tendency to evaluate public involvement in natural resource contexts in terms of how the process contributed to improved environmental decision-making, which may or may not be a feasible goal of the process (Predmore et al. 2011a, Creighton 2005).

In the early public involvement literature, suboptimal outcomes were believed to occur either because the wrong technique for a given context was used, or the technique was used incorrectly (Innes and Booher 2004). The idea of matching the public involvement strategy to the context of the planning environment remains a prominent theme (Webler and Tuler 2006, Creighton 2005, Rowe and Frewer 2005). Context includes the characteristics of the participating publics, the agency, and the issue, including levels of controversy, uncertainty and complexity (Creighton 2005, McCool and Guthrie 2001). The implication is that different public involvement strategies should be used for contexts with higher degrees of public controversy and interest compared to contexts with little public interest or mostly technical decisions. However, it

is also recognized that what works in one contextual situation may not work in a similar situation, especially given the wicked and messy nature of natural resource decision-making (Chess and Purcell 1999, Creighton 2005). Given this, matching the public involvement strategy to the context may only be useful in a broad sense, and may not provide helpful guidance for practitioners in the field.

A theme emerging in the literature suggests an alternative explanation for achieving suboptimal outcomes. Beyond the context of the planning environment, or even the specific technique used, successful public involvement may be driven by the way the process is implemented by the agency (Dietz and Stern 2008, Beierle and Konisky 2000, Webler and Tuler 2006). This theory implies that the actual public involvement event (e.g. public hearing, meeting or workshop) is less important than what occurs during the process, such as how agency personnel interact and exchange information with the public (Chess and Purcell 1999). Looking at how public involvement is implemented in this way puts more emphasis on the individuals conducting the public involvement exercise, and suggests the potential for agency personnel to enable or constrain the process based on their incremental decisions and actions throughout the process (Yang and Callahan 2007, Chess and Purcell 1999, Buchy and Hoverman 2000). These decisions include the timing of involvement, how information is disseminated and collected, the nature and content of interactions and discussions, and how the results of the process are used. These decisions and actions may be influenced by how agency personnel view and value public involvement. For example, Yang and Callahan (2007) found the values held by local government officials about the importance of public involvement influenced how often they conducted public involvement efforts and if they incorporated public comments.

Different purposes or justifications may be used for conducting public involvement. We focus here on four key constructs from the literature to characterize the purposes of public involvement. The first is a normative purpose for public involvement, reflecting beliefs that citizens in a democratic society have a right to directly participate in governmental decisions, and administrative agencies have a moral obligation to provide that opportunity (Dietz and Stern 2008, Koontz 1999). Normative public involvement is based on the belief that the values and preferences of participating publics should be reflected in agency decisions (Innes and Booher 2004, Predmore et al. 2011b). The second construct reflects a substantive purpose for public involvement, based on the belief that the public may contribute knowledge or information otherwise unavailable to the agency that may improve the quality of the analysis and decision (Dietz and Stern 2008, Glass 1979, Creighton 2005). This includes local knowledge about on-the-ground conditions or historical perspectives. The third construct suggests an instrumental purpose for public involvement. This entails using the process to achieve public buy-in, reduce conflicts, and potentially remove barriers to project implementation (Glass 1979, Koontz 1999, Dietz and Stern 2008, Lawrence and Deagen 2001, Innes and Booher 2004). The fourth construct

reflects a merely procedural purpose, in which the process is seen as nothing more than a legally mandated procedural requirement (Innes and Booher 2004, Predmore et al. 2011b). This view suggests that public involvement likely would not be conducted, or at least not in the same way, if not dictated by law.

Previous research has explored how Forest Service employees view the goals and strategies of NEPA public involvement. In a survey of over 3,000 Forest Service employees, general consensus existed regarding the primary goals of the process: disclosing potential impacts (or fulfilling legal requirements) first and managing agency-public relations as a secondary goal (Predmore et al. 2011b). Forest Service employees expressed a wider range of opinions, however, about which strategies to employ, from broad inclusive strategies to promote involvement to more exclusive strategies to limit the process. Forest Service employees held widely variable beliefs about planning in general and the public specifically.

This study identifies the specific techniques most commonly used for public involvement in Forest Service NEPA processes. It also examines the values held by agency leaders of the processes in an effort to understand the linkages between these values and decisions about which techniques to employ, and between these values, techniques, and process outcomes.

Methods

We conducted an online survey with Forest Service personnel serving as interdisciplinary team leaders (IDTLs) for NEPA processes completed between January 1, 2007 and December 18, 2009. The initial sample frame was generated from the Forest Service Planning, Appeals, and Litigation (PALS) database, and included all 1,724 NEPA Environmental Assessments or Environmental Impact Statements completed during that time period. The sample was then adjusted to avoid having the same IDTL responding for multiple projects, resulting in 653 different IDTLs for 653 different NEPA processes receiving a survey invitation. The survey response rate was 75%, with 489 responses. For more information about the sampling procedure, see Stern and Predmore (2011). The original sample of 489 was refined by removing 82 “simple” processes that had no uncertainty, controversy, or complexity (Stern and Predmore 2011). We removed these because public involvement on these “simple” processes may be considerably different, or even nonexistent, which may obscure trends in the “challenging” processes (Creighton 2005, McCool and Guthrie 2001). For analyses regarding specific processes, the sample was further refined to capture only the IDTLs who indicated they were one of the primary people in charge of public involvement, bringing the final sample size to N=338.

To identify public involvement values, the IDTLs were asked to indicate the extent of their agreement with a battery of statements reflecting values relating to different purposes of

public involvement (see Table 2.1). The statements were developed from the literature to capture dimensions of *substantive*, *normative*, *instrumental* or *procedural* public involvement values. The IDTLs' responses to these statements were used in an exploratory factor analysis (EFA) with principal components extraction (varimax rotation). For this analysis, we used the entire sample of 489 IDTL responses. EFA is an analytical technique used to consolidate large amounts of data based on co-variance around unique factors (DeVellis 2003). Statements which co-vary have high absolute loading scores on one factor and low absolute loadings on the other factors. Taken together, statements with high loadings on a single factor may indicate the presence of an underlying, latent construct. Along with assessments of internal reliability and validity, EFA results can be used to justify combining the co-varying statements into index measures that describe the latent constructs. Cronbach's alpha presents one measure of the internal reliability associated with creating a single index from co-varying statement, with scores above 0.60 indicating generally acceptable levels (DeVellis 2003). We used the EFA results to develop indexes measuring public involvement values for use in subsequent analyses.

IDTLs were also asked about public involvement techniques used during the NEPA process. Techniques were presented as a list of statements describing different interactions and communications between the agency and the public (see Table 2.22). For each technique, the IDTL was asked to indicate if it was used as a *major* component of the public involvement strategy, used as a *minor* component, or *not used* at all during the NEPA process. If the technique was used, the IDTLs were asked how effective the technique was on the NEPA process in the survey, using a 5-point scale that ranged from not at all effective to extremely effective. IDTLs were also given the opportunity to write-in other techniques not listed in the survey.

We asked the IDTLs to distinguish between techniques that played a minor or major role in their process to be able to distinguish between techniques that were likely used purposefully and repeatedly and those that may have happened by chance or only once or twice. Isolating the major, or primary, techniques more directly addresses the central research objectives examining how values inform the choice of technique and how techniques may potentially influence planning outcomes. A technique that was a major component is more likely to reflect a deliberate choice rather than convenience or opportunity and are more likely to impact overall planning outcomes than techniques that were a minor, or incidental, part of the public involvement process. For example, dialogue may have happened once or twice, or it may have been a central strategy that permeated most aspects of agency-public interactions. Therefore, we created a binary variable to distinguish major techniques from techniques that were not used at all or just used in a minor way (labeled "major/not major"). The major/not major variable was used as the grouping variable in t-tests to explore the interactions between techniques and public involvement values, as well as independent variables in the regression models described below.

We used measures of Forest Service NEPA planning process outcomes as the dependent variables in this study. The NEPA outcome measures (Table 2.3) were previously developed from data from the same survey by Stern and Predmore (2011). The outcomes include one standalone statement about the comparative efficiency of the NEPA process and three indexes comprised of several statements. The *public relations index* includes the IDTLs' perceptions about how the process impacted agency-public relations and the public's degree of satisfaction with the public involvement process and the agency's final decision on the proposed action. The *team outcomes index* measures how the process impacted perceptions of team morale. The *integrated agency and NEPA goals index* measures the IDTLs' perceptions about the degree to which the process achieved agency and NEPA goals.

After identifying and describing the public involvement values and techniques in use, we explored their interactions. We used independent samples t-tests to determine whether the mean scores of values were different in cases when different techniques formed a major component of the public involvement process. We then examined the relationships between techniques, values, and NEPA planning process outcomes through a series of regression models. First, each of the twelve technique major/not major variables and the five public involvement value variables were used as predictors in bivariate linear regression models with each of the four planning outcomes as dependent variables. The bivariate models reveal the direct relationship between each predictor and each outcome variable. To account for the interactions between these variables, all of the predictor variables were entered into a multivariate linear regression model on each outcome. Results reveal which techniques and values best predict process outcomes.

Results

Public Involvement Values

The EFA results on the responses to the public involvement value statements are presented in Table 2.1. The EFA identified three factors accounting for 49% of the variance in the data. Bolded factor loading scores indicate most of the statements loaded onto one of the three factors, suggesting the statements measure the same construct and could be combined into indexes.

The first factor, labeled the *substantive* public involvement value index, reflects beliefs that public involvement should collect facts and information that improves the analysis and decision. The second factor, labeled the *normative* public involvement value index, reflects beliefs that public values should directly influence agency decisions. Both indexes showed acceptable internal reliability (Cronbach's α=.664, .638, respectively).

Table 2.1. Factor loadings for Exploratory Factor Analysis with Varimax Rotation of Public Involvement Value Statements

	Factor 1 *Substantive*	Factor 2 *Normative*	Factor 3 *Procedural*
Public involvement should aim to ensure that public knowledge is incorporated into agency decisions.	**.757**	.086	-.189
Public involvement should focus on soliciting comments that improve the analysis of potential impacts.	**.761**	-.048	.056
Comments from the public that reflect points of fact are particularly valuable to the NEPA process.	**.608**	.053	-.089
Public involvement should help the public to better understand our rationale for management actions.	**.608**	.251	.183
Comments from the public that reflect values and opinions are particularly valuable to the NEPA process.	.035	**.662**	-.230
Public involvement should aim to help the agency understand the preferences of the public.	.093	**.737**	-.013
Public involvement should aim to ensure that public values are incorporated into agency decisions.	.184	**.722**	-.107
Public involvement is a procedural requirement that rarely contributes meaningfully to making better land management decisions.	-.221	-.266	**.573**
The most important task in public involvement is to ensure that procedural requirements are met.	.028	-.060	**.546**
The public should trust the Forest Service to make appropriate decisions regarding forest management.	.049	.050	**.695**
Cross-loading Factors			
Public involvement should aim to remove barriers to project implementation.	.436	.376	.368
Public involvement processes should aim to achieve public buy-in for the proposed action.	-.018	.456	.368

Conversely, the third factor – labeled *procedural* – exhibited low internal consistency (Cronbach's α=.410). Of the three loading statements, the first, *"public involvement is a procedural requirement that rarely contributes meaningfully to making better land management decisions"* best reflects the procedural public involvement concept described in the literature. The other two statements (*"the most important task in public involvement is to ensure that procedural requirements are met" and "the public should trust the Forest Service to make appropriate decisions regarding forest management"*) may have been ambiguously interpreted. Regardless of their value orientations, IDTLs may agree the most important task in public involvement is to meet procedural requirements or that the public should trust the Forest Service. As such, only the first statement was retained as a standalone measure of *procedural public involvement value* for subsequent analyses.

Two of the value statements cross-loaded on more than one factor in the EFA: "Public involvement should aim to remove barriers to project implementation" and "public involvement

processes should aim to achieve public buy-in for the proposed action." Each was retained as a standalone measure of instrumental public involvement. Although they are correlated ($r = .27$, $p < .05$), the statements each represent a different dimension of the instrumental construct identified in the literature (Cronbach's $\alpha = .466$).

Table 2.4 displays mean values and standard deviations of each of the items retained for further analysis, as well as the overall scores of the created indexes. Responses suggest strongest agreement with substantive public involvement values and that public involvement should remove barriers to implementation. The belief that public involvement is merely a procedural requirement received the least support. Normative public involvement and achieving public buy-in were closest to the mid-point of the scale, reflecting ambivalence on the importance of these roles for public involvement.

Public Involvement Techniques

Table 2.2 lists the technique statements and reports the percentage of IDTLs responding for each use category. Providing a written response in the final document was used in nearly all of the projects (85%). Engaging in interactive dialogue with the public (61%) and responding to comments prior to the draft document (56%) were the next most frequently used techniques. Forming an advisory committee and dividing the public into smaller working groups were each used in less than 10% of the projects. Twenty-four IDTLs added "field trips" to the techniques list in the write-in box in the survey.

The mean effectiveness rating for each technique is also listed in Table 2. Engaging in interactive dialogue with the public was rated the most effective, although all the techniques were rated on average between somewhat and moderately effective. A marginally significant analysis of variance test ($F(11, 1273)=1.79$, $p = .052$) with an LSD post-hoc test identified statistically significant differences between several of the highest and lowest rated techniques, as shown in Table 2.2.

Public Involvement Values and Techniques Relationships

We conducted t-tests to compare mean values scores of IDTLs who used each technique as a major part of their public involvement. Table 2.5 presents all of the statistically significant results ($p < .05$) of those tests. No other statistically significant relationships were observed. Engaging in dialogue and displaying project information on posters was associated with all five of the public involvement values, suggesting that those who feel strongest about the value of public involvement in general are most likely to use these techniques. Forming an advisory committee was associated with achieving public buy-in. Addressing the public as one audience,

Table 2.2. Percentage of public involvement technique use and mean effectiveness rating with ANOVA results

	Used (Major or Minor)	Major Component	Minor Component	Effectiveness Rating Mean[a,b]
1. Public comments received a written response in the formal document.	85%	66%	19%	3.71[6]
2. We intentionally engaged in interactive personal dialogue about the project with members of the public.	61%	32%	28%	3.89[5,6,7,8,9,10]
3. Public comments were explicitly responded to prior to the draft document.	56%	31%	24%	3.67
4. We met with different interest groups separately from each other.	51%	21%	31%	3.79[6]
5. We held open public meetings in which we addressed the participating public as one audience.	41%	28%	12%	3.62[2]
6. Public comments were given an immediate verbal response.	35%	6%	29%	3.41[1,2,4]
7. The project information was described on brochures or other handouts.	32%	13%	19%	3.51[2]
8. The project information was displayed on posters or flip charts for the public to peruse.	27%	14%	12%	3.54[2]
9. The project was described in a formal presentation followed by a collection of formal comments.	25%	14%	11%	3.56[2]
10. The public was divided into smaller groups to work together, separated by interest.	6%	3%	4%	3.30[2]
11. The public was divided into smaller groups to work together with mixed interests grouped together.	5%	4%	2%	3.76
12. A formal advisory committee was formed.	4%	2%	2%	3.77

[a]Items were scored on a scale of 1: not at all effective, 2: slightly effective, 3: somewhat effective, 4: moderately effective, 5: extremely effective.
[b]Significant differences ($p < .05$) identified by LSD post-hoc tests between the means are denoted by a superscript number corresponding to the technique number.

Table 2.3. NEPA Planning Process Outcome Indexes (from Stern and Predmore 2011)

Outcome Statements
Public Relations Index (Mean[a]= 3.63, α=.818)
Public participants were satisfied with the final decision
Public participants were satisfied with the process
The process improved relationships between the agency and public participants in the process
The process damaged relationships between the agency and the public participants in the process (inverse)
Team Outcomes Index (Mean[a]=3.93, α=.805)
The process negatively affected team members' ability/desire to work together on subsequent projects (inverse)
Morale of the ID team was negatively affected by the process (inverse)
Integrated Agency & NEPA Goals Index (Mean[a]=4.20, α=.786)
The final decision minimized adverse environmental impacts
The final decision met the original purpose and need of the project
The process resulted in a well-documented rationale for the final decision
The final decision reflects the mission of the agency
Full disclosure of potential impacts was achieved
The final decision minimized adverse socioeconomic impacts
Compared to other NEPA processes I've been involved with, this process was efficient. (Mean[a]=3.23)

[a]The scale is a 5-point Likert-type scale ranging from: 1: Strongly Disagree, 2: Disagree, 3: Neither agree or disagree, 4: Agree, 5: Strongly Agree.

Table 2.4. Public Involvement Value Variables

	Mean[a]	SD
Substantive Public Involvement Values Index (α=.664)	**4.25**	**.47**
Public involvement should aim to ensure that public knowledge is incorporated into agency decisions.	4.16	.65
Public involvement should focus on soliciting comments that improve the analysis of potential impacts.	4.19	.73
Comments from the public that reflect points of fact are particularly valuable to the NEPA process.	4.23	.64
Public involvement should help the public to better understand our rationale for management actions.	4.40	.62
Normative Public Involvement Values Index (α=.638)	**3.49**	**.67**
Comments from the public that reflect values and opinions are particularly valuable to the NEPA process.	3.08	1.06
Public involvement should aim to help the agency understand the preferences of the public.	3.82	.73
Public involvement should aim to ensure that public values are incorporated into agency decisions.	3.56	.84
Procedural Requirement Public Involvement Value	**2.09**	**1.07**
Public involvement is a procedural requirement that rarely contributes meaningfully to making better land management decisions.		
Remove Barriers Public Involvement Value	**3.93**	**.83**
Public involvement should aim to remove barriers to project implementation		
Achieve Public Buy-in Public Involvement Value	**3.18**	**.93**
Public involvement processes should aim to achieve public buy-in for the proposed action.		

[a]The scale is a 5-point Likert-type scale ranging from: 1: Strongly Disagree, 2: Disagree, 3: Neither agree or disagree, 4: Agree, 5: Strongly Agree.

Table 2.5. Significant t-test results between public involvement values and techniques that played a major role in the process

	Factor	Mean[a]	SD	N	t
We intentionally engaged in interactive personal dialogue about the project with members of the public.					
Substantive	Not Major	4.20	.48	221	2.36*
	Major	4.33	.45	108	
Normative	Not Major	3.43	.66	220	2.44*
	Major	3.62	.68	109	
Procedural Requirement	Not Major	2.22	1.07	220	-2.96**
	Major	1.85	1.04	109	
Remove Barriers	Not Major	3.82	.84	221	3.52**
	Major	4.16	.77	109	
Achieve Buy-in	Not Major	3.05	.91	220	3.41**
	Major	3.42	.94	109	
The project information was displayed on posters or flip charts for the public to peruse.					
Substantive	Not Major	4.22	.47	281	2.31*
	Major	4.39	.45	48	
Normative	Not Major	3.45	.66	281	2.51*
	Major	3.71	.68	48	
Procedural Requirement	Not Major	2.14	1.09	282	-2.09*
	Major	1.79	.90	48	
Remove Barriers	Not Major	3.87	.82	282	3.54**
	Major	4.32	.76	47	
Achieve Buy-in	Not Major	3.12	.91	281	3.11**
	Major	3.56	.98	48	
A formal advisory committee was formed.					
Achieve Buy-in	Not Major	3.15	.92	324	3.12**
	Major	4.33	.82	6	
The project information was described on brochures or other handouts.					
Remove Barriers	Not Major	3.88	.81	284	2.51**
	Major	4.23	.91	44	
Public comments were explicitly responded to prior to the draft document.					
Remove Barriers	Not Major	3.85	.85	227	2.62**
	Major	4.11	.74	103	
We **held open public meetings in which we addressed the participating public as one audience.**					
Remove Barriers	Not Major	3.87	.81	237	1.99*
	Major	4.08	.86	93	
Public comments received a written response in the formal document.					
Remove Barriers	Not Major	3.81	.84	113	1.98*
	Major	4.00	.82	218	

[a]The scale is a 5-point Likert-type scale ranging from: 1: Strongly Disagree, 2: Disagree, 3: Neither agree or disagree, 4: Agree, 5: Strongly Agree

*$p < .05$, **$p < .01$.

responding to comments prior to the draft document, and describing the project on handouts were associated with removing barriers to implementation.

Public Involvement Values, Techniques and Planning Outcomes Regression Models

Table 2.6 presents the bivariate and multivariate regression models, displaying the standardized coefficients (β) for each predictor variable for both the bivariate and the

Table 2.6. Regression models with the NEPA planning outcomes as dependent variables

	Public Relations Index			Team Outcomes Index			Integrated Agency & NEPA Goals Index			Comparative Efficiency		
	Bivariate Regression Models		Multivariate Regression Model (R^2=.10*)	Bivariate Regression Models		Multivariate Regression Model (R^2=.13**)	Bivariate Regression Models		Multivariate Regression Model (R^2=.11**)	Bivariate Regression Models		Multivariate Regression Model (R^2=.13**)
	β[a]	R^2	β[a]	β[a]	R^2	β[a]	β[a]	R^2	β[a]	β[a]	R^2	β[a]
Technique played a major role in process												
1. Formal Written Response	-0.08	.01	-0.08	-0.06	.00	-0.10	0.01	.00	-0.06	-0.02	.00	-0.07
2. Dialogue	0.20**	.04	**0.16***	0.09	.01	0.06	0.13*	.02	0.05	0.16**	.02	**0.13***
3. Response Prior to Draft	0.03	.00	0.03	0.03	.00	0.04	0.08	.01	0.06	-0.01	.00	-0.04
4. Met with Separate Interest Groups	-0.02	.00	-0.08	-0.06	.00	-0.09	0.02	.00	0.01	-0.08	.01	-0.10
5. Addressed One Audience	0.07	.01	0.01	-0.04	.00	-0.06	0.04	.00	-0.01	0.05	.00	-0.01
6. Immediate Verbal Response	0.10	.01	0.06	0.08	.01	0.04	0.03	.00	-0.03	0.05	.00	0.01
7. Handouts	0.05	.00	0.03	0.12*	.01	**0.18****	0.01	.01	0.06	0.18**	.03	**0.19****
8. Open House	0.09	.01	-0.03	0.01	.00	-0.12	0.12*	.02	0.03	0.10	.01	-0.05
9. Presentation & Formal Comment Period	0.04	.00	0.01	0.01	.00	0.05	0.05	.00	0.03	-0.02	.00	-0.05
10. Divided public into groups by interest	0.06	.00	0.02	0.02	.00	-0.03	0.02	.00	-0.02	-0.02	.00	-0.04
11. Divided public into groups, mixed interests	0.09	.01	0.02	-0.01	.00	-0.03	-0.02	.00	-0.06	-0.04	.00	-0.08
12. Formal Advisory Committee	0.12*	.01	0.06	0.10	.01	0.10	0.12*	.02	0.11	0.09	.01	0.08
Value												
Substantive Index	0.11*	.01	0.09	0.17**	.03	0.11	0.23**	.06	**0.17****	0.19**	.04	0.09
Normative Index	0.04	.00	-0.06	0.10	.01	-0.00	0.19**	.04	0.11	0.14**	.02	0.04
Procedural Requirement	-0.11*	.01	-0.07	-0.25**	.06	**-0.23****	-0.16**	.03	-0.08	-0.20**	.04	**-0.15***
Remove Barriers	0.05	.00	-0.05	0.03	.00	-0.03	0.15**	.02	0.04	0.15**	.02	0.07
Achieve Buy-in	0.15**	.02	**0.14***	0.02	.00	0.00	0.05	.00	-0.05	0.08	.01	0.01

[a]Standardized β.
*p < .05, **p < .01.

multivariate models and the R^2 statistic for each model. Significant multivariate β coefficients are in bold type.

Two of the techniques – engaging in dialogue and forming an advisory committee – and three of the values – substantive, procedural requirement (negative relationship), and buy-in – were directly related to the public relations index. However, when all variables were included together in the multivariate model, only dialogue and achieving buy-in retained statistically significant predictive power. The multivariate model explains 10% of the variance in the public relations index.

One technique – describing the project information on handouts – and two values – substantive and procedural requirement (negative relationship) – were significant bivariate predictors of the team outcomes index. The handouts technique and procedural requirement value retained statistical significance in the multivariate model, while the substantive index did not. The multivariate model explains 13% of the variance in the team outcomes index.

For the integrated agency & NEPA goals index regression models, three of the techniques – engaging in dialogue, hosting open houses, and forming an advisory committee – and four values – substantive, normative, procedural requirement (negative relationship) and removing barriers – were statistically significant predictors in the bivariate models. However, only the substantive index was statistically significant in the multivariate model, which explains 11% of the variance.

Two techniques – engaging in dialogue and describing project information on handouts – and four values – substantive, normative, procedural requirement (negative relationship), and remove barriers – were significant bivariate predictors of the comparative efficiency outcome. Both the technique predictors and the procedural requirement value were significant in the multivariate model. The multivariate model explains 13% of the variance in the comparative efficiency outcome.

Discussion

The research set out to uncover relationships between the values and opinions held by Forest Service personnel about public involvement in Forest Service NEPA processes, the most commonly used public involvement techniques, and NEPA process outcomes. Results suggest that certain values and techniques are more common than others and that some are significantly related to process outcomes. We discuss these relationships in more detail below.

Public Involvement Values

The most strongly held values about public involvement within the sample were substantive values, followed by instrumental and normative values. Both substantive and normative values reflect a genuine belief that the public has something of value – knowledge, facts, opinions and values – to contribute to agency planning. Instrumental values reflect using the public involvement process to strategically manage agency-public relations and interactions (Predmore et al. 2011b). While the *removing barriers* variable does not necessarily require public support, the *achieve buy-in* value implies an interest in working toward consensus to gain public support, reflecting a more persuasive orientation (Webler and Tuler 2006, Daniels and Walker 1996, Innes and Booher 2004). Fewer respondents viewed public involvement as merely procedural.

The substantive value is at the heart of agency guidance associated with NEPA (Predmore et al. 2011a), and has been strongly reflected in prior research on agency values (Predmore et al. 2011b). Instrumental values have also been attributed to agency personnel in prior research (Germain et al. 2001, Chess and Purcell 1999). The prevalence of both substantive and normative values suggests that most agency personnel commonly see more than a purely instrumental purpose for public involvement, challenging some commonly held perceptions that the Forest Service only uses public involvement to build public support or otherwise pave the way for implementing internally developed decisions (Germain et al. 2001).

Values and Public Involvement Techniques

IDTLs' values about public involvement were predictive of the use of certain techniques. IDTLs who viewed public involvement as primarily a procedural requirement were significantly less likely to engage in intentional dialogue with the public and conduct open houses, during which dialogue can take place as posters are provided for the public to peruse. Both of these techniques require substantial effort and commitment from agency staff and reflect a willingness to engage in two-way interactions with the public (Germain et al. 2001, Daniels and Walker 1996). Instrumental beliefs about public involvement are associated with these two-way interactions as well, but are also associated with techniques that typify one-way, serial interactions. Specifically, the *removing barriers* variable showed association with several different techniques, suggesting that the IDTLs may believe many techniques – regardless of the level of interaction – may have the potential to remove barriers to implementation.

Values, Techniques, and Outcomes

Certain techniques and values were predictive of process outcomes. While numerous values and techniques showed direct relationships with outcomes, we focus here on only the strongest associations as revealed through multivariate regression analyses. We discuss the

statistically significant predictors for each of the outcomes in turn before summarizing the cross-cutting themes revealed by these results.

The only statistically significant predictor of the achievement of integrated agency and NEPA goals is the IDTL's belief in substantive public involvement. In other words, IDTLs who believe that public involvement should provide information that improves analyses and decisions tended to have greater achievement of integrated agency and NEPA goals than others. These particular goals are most tightly interwoven with improved decision making and procedural compliance. Substantive beliefs are at the core of agency guidance and training in NEPA public involvement and inherently focused on improved decision making (Predmore et al. 2011a). Their linkage to integrated agency and NEPA goals suggests that IDTLs that aim to make public involvement serve these functions appear to achieve some success in doing so. This is consonant with prior findings that suggest that IDTLs may commonly best achieve the values they set out to achieve (Stern et al. 2009).

The public relations outcome is best predicted by engaging in interactive personal dialogue with the public and by the IDTLs' belief in the importance of achieving buy-in. The processes of engaging in dialogue and working toward consensus reflect qualities with high potential to build social trust and create mutual respect between the agency and the public, allowing the public to feel heard and that their input was considered (McCool and Guthrie 2001, Innes and Booher 2004, Chess and Purcell 1999, Lawrence and Deagen 2001, Stern 2010). These elements may promulgate a sense of a more just process (Germain et al. 2001). Dialogue also enhances opportunities for the agency to explain how and why certain decisions are made, creating transparency and potentially alleviating common concerns about pre-determined or disingenuous planning process (Innes and Booher 2004, Buchy and Hoverman 2000, Scardina et al.2007, Stern 2009).

The comparative efficiency outcome demonstrated a positive relationship with engaging in dialogue and providing handouts, and a negative relationship with the *procedural requirement* value. While the public involvement process in general (Koontz 1999) and engaging in dialogue with the public specifically (Germain et al. 2001) is believed to compete with efficiency goals, the transparency created through dialogue may explain the potential for efficiency gains. A more transparent process may clarify and address some of the public's concerns as they arise instead of at the end of the process (Innes and Booher 2004). Dialogue may mitigate public objections to some degree by opening up and creating more understanding about the NEPA process and agency decision-making (Buchy and Hoverman 2000). By dealing with such concerns in an ongoing fashion, larger problems may be lessened or avoided later in the process. Similarly, the inverse relationship between efficiency and the procedural requirement value may reflect a lack of meaningful exchanges that work to make public communications more efficient. Seeing the

public involvement process as primarily an empty exercise in procedural compliance may create feelings of ambivalence in agency personnel, leading to poor task execution and resulting in less efficient processes (Innes and Booher 2004). Handouts – although not used frequently or rated highly by the IDTLs – may enhance efficiency in a more straightforward way, by providing project information at a lower investment of time and effort than direct engagement.

Team outcomes also showed a positive relationship with providing handouts and a negative relationship with the procedural requirement value. The efficiency gains from providing handouts may reduce pressure on ID team members by relieving them of direct and often contentious interactions with the public (Stern et al. 2010). Meanwhile, the belief that public involvement is simply a procedural exercise that requires time and effort but results in little of value to the process may deflate team morale through a process of de-motivation. Without a sense that the work is important or meaningful, team members in multiple contexts often feel disempowered and, as a result, work at suboptimal levels of performance (Mathieu et al. 2008).

In summary, both values and certain techniques were significantly related to process outcomes. Among the techniques examined, intentional engagement in interactive dialogue was particularly predictive of process outcomes. While most IDTLs rated its effectiveness highly, it was only a major part of one-third of the projects in the survey. While the benefits of interactive dialogue have been covered, the risks and costs associated with the technique may contribute to its limited use. One-on-one communication runs the risk of inconsistent communications between the agency and the public unless an explicit internal communications and information-sharing strategy is in place within the project team. Inconsistent or inaccurate communications between agency staff and the public have been shown to damage public trust and have negative impacts on agency mission (Stern 2010). In other cases, low levels of use might be related to a lack of public interest. While dialogue certainly does not guarantee improved outcomes (see Scardina et al. 2007, for example), our finding suggests that dialogue motivated by substantive public involvement values or an effort to achieve buy-in may be particularly helpful to project outcomes.

Among the values examined, the belief that public involvement is a procedural requirement that rarely contributes to better decision making appears particularly damaging, not only to public relations but to each of the other outcomes we examined as well. Having a clearly defined purpose for or conducting public involvement is widely recognized as a key requirement for any measure of success (Buchy and Hoverman 2000, Chess and Purcell 1999). This research suggests that agency personnel should be looking beyond legal requirements for that purpose (Creighton 2005, Chess and Purcell 1999).

Limitations and Future Research

Limitations to the study include limits to the survey items included in the study and the low predictive power of the regression models. To begin, while attempts were made to develop a comprehensive list of techniques and interaction attributes, the list was not exhaustive. Failing to include field trips, for example, was an unfortunate oversight. This study also does not take into account context-specific variables such as the pre-existing relationships between the agency and the public or the dynamics between different public groups, which likely also influence the choice and impact of specific techniques. In addition, the public involvement values and techniques we measured only explain around 10 percent of the variance in Forest Service NEPA outcomes. A parallel effort reveals that internal ID team dynamics as well as external contextual conditions explain greater portions of the variance in these outcomes (Stern and Predmore 2012 in press). This is a useful reminder that public involvement is just one part of NEPA, specifically from the point of view of the agency personnel who are charged with balancing input from various stakeholders, the best available science, and the multiple-use mission of the Forest Service.

This study lays the foundation for several potential directions for future research. In particular, research that explores the relationships between techniques and more context-specific variables would be useful, as well as research which combines both the agency's and the public's perceptions of the public involvement process. As this research only surveyed IDTLs, perceptions of outcomes are from the agency perspective alone.

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Chapter Three

Team leaders' perceptions of public influence in the U.S. Forest Service: Exploring the difference between *doing* and *using* public involvement

Katie Hoover and Marc J. Stern

ABSTRACT

Publics generally participate in agency-sponsored public involvement events in an effort to gain influence over decisions that affect them or the public resources they value. However, not much is known about how the public involvement process actually results in the public gaining influence over agency decisions. This paper reports the results of an online survey completed by 489 Forest Service employees who served as the interdisciplinary team leader in National Environmental Policy Act (NEPA) processes conducted from 2007-2009. Respondents reported how much influence they think the public should have during the NEPA process, how much influence they think the public generally has on most NEPA processes throughout the agency, and how much influence the public had on a specific NEPA process at different points in the process. Respondents reported that more public influence should and does happen at earlier stages in the process. Early public influence appears to be related to positive perceptions of the public involvement process and public relations outcomes. Sixty percent of the respondents think the public should have greater influence than they do.

Introduction

Through several interacting statutes, the United States Forest Service has a clear mandate to involve the public in agency planning efforts that dates back nearly 50 years (Leach 2006). What is less clear, however, is how the public involvement process is connected to agency decision-making. Despite an abundance of scholarly publications on how and why to *do* public involvement, the debate about how to *use* the public involvement process continues.

While the public (or publics) generally participate(s) in agency planning efforts with the goal of influencing agency decisions about public resources, the agency may have different expectations about sharing decision-making power (Cheng and Mattor 2006, Creighton 2005, Germain et al. 2001, King et al. 1998, McCool and Guthrie 2001, Rowe and Frewer 2000, Smiley et al. 2010). Hence, some of the tensions between the Forest Service and various participating publics may be explained by a mismatch of expectations about the purposes of the public involvement process (Buchy and Hoverman 2000, Yang and Callahan 2007, Lachapelle et al. 2003). A common theme in the literature is that public involvement achieves suboptimal results (e.g., appeals and litigation, decreased trust, and increased conflict) in part due to this mismatch (Cheng and Mattor 2006, Smiley et al. 2010, Steelman and Maguire 1999, Buchy and Hoverman 2000). When the public's experience in the public involvement process does not live up to the expectation of gaining influence over the decision, the result is a dissatisfied public that may be more primed to challenge the agency's decision (Germain et al. 2001, King et al. 1998).

There is no legal requirement that specifically directs the Forest Service – or any other federal land management agency – to confer any power to the public to influence agency decision-making (Predmore et al. 2011a). The Forest Service is guided by the National Environmental Policy Act (NEPA, 42 USC 4321–4347) as well as other statutes to conduct planning processes that include the public. However, the agency is afforded considerable discretion with regard to how the public involvement process is designed, implemented, and used (Creighton 2005, Germain et al. 2001, Predmore et al. 2011a, Stern et al. 2009, Tipple and Wellman 1989). Further, while the agency may not be explicitly directed to grant the public any direct influence, the legislative and regulatory framework does not prevent agency personnel from using their discretion to allow the public involvement process to result in the public influencing agency decisions. Agency personnel may use their discretion to control how and when the public is involved, which issues are deemed important and discussed, and what interests are considered (Germain et al. 2001, Yang and Callahan 2007). In this way, agency personnel have the potential to shape the results of public involvement processes by controlling how the public participates, how the participation influences decision-making processes, and ultimately if and how participation influences the final planning decision (Yang and Callahan 2007, King et al. 1998, Chess and Purcell 1999).

How the public involvement process impacts agency decision-making is not well understood from the agency's perspective. The purpose of this paper is to develop a more thorough understanding of how much public influence agency staff perceives happens in Forest Service NEPA processes. This research describes the amount of public influence process leaders believe should and does occur in these processes, and their expectations about public comments in these processes. It also examines the relationships between IDTLs' perceptions of public influence and their perceptions of the outcomes of the NEPA planning process.

Forest Service NEPA Background

NEPA, along with the Administrative Procedures Act and the National Forest Management Act, guides the procedures through which the Forest Service conducts planning and public involvement. NEPA requires administrative agencies to consider the likely environmental impacts of their actions and to inform the public and other agencies of those impacts. NEPA also creates a legal opportunity for the public to challenge agency decisions and actions based on compliance with the NEPA process. The U.S. Forest Service conducts more NEPA processes than any other federal agency, and is challenged more frequently: more than one-third of all NEPA lawsuits filed against the federal government are against the Forest Service (Miner et al. 2010).

This research focuses upon NEPA processes that resulted in an Environmental Assessment (EA) or Environmental Impact Statement (EIS). These processes typically begin with the agency defining the purpose and need for the process and then publishing a Notice of Intent in the federal register. Scoping then solicits input from outside agencies and public participants to aid in identifying the key issues surrounding the process. These issues are intended to inform the development of alternative courses of action that are proposed to meet the stated purpose and need. The analysis phase investigates the likely socioeconomic and environmental impacts of each alternative and leads to the publication of the draft environmental document. Public comments are then collected, analyzed, responded to and incorporated into the final environmental document. Another public comment period follows, and then the Responsible Official within the agency issues the final decision document indicating the course of action chosen by the agency.

NEPA processes are mostly conducted by different resource specialists working together as an interdisciplinary planning team (ID team), with a designated interdisciplinary team leader (the IDTL). Most of the planning work occurs at the ID team level, and the IDTL is generally involved in each step of the process that produces the final EA or EIS document. As such, this research is focused entirely on the perspective of these IDTLs. Line officers in the Forest Service, such as district rangers and forest supervisors, serve as the Responsible Officials issuing

the final agency decision. Their involvement in the planning process is variable and can range from minimal to extensive oversight and participation (Stern and Predmore 2011).

Literature Review

Public involvement in administrative governance is often characterized as a power dynamic between the participating publics and the agency (Arnstein 1969, Buchy and Hoverman 2000, Germain et al. 2001, Steelman and Maguire 1999, Predmore et al. 2011b). Arnstein's ladder of citizen involvement typifies involvement along a ladder of power, with increasing rungs on the ladder representing higher degrees of citizen power (Arnstein 1969). The lowest rungs represent gradations of non-participation where involvement seeks to educate or manipulate the public, akin to public relations campaigns. Middle rungs represent "tokenism" levels of involvement, including informing and consultation, where the implementing agency seeks the public's opinion but does not guarantee that opinion will influence any decision-making (Germain et al. 2001). Higher levels of involvement on Arnstein's ladder represent increasing the public's power over the decision, culminating with complete citizen control.

During public involvement processes, publics generally participate because they want to climb the ladder and gain influence over decisions that affect them or the public resources they value (King et al. 1998, Smiley et al. 2010, McCool and Guthrie 2001, Germain et al. 2001, Cheng and Mattor 2006, Rowe and Frewer 2000, Creighton 2005). Public involvement processes higher on Arnstein's ladder which result in a corresponding degree of public influence are perceived to be more legitimate than consultative forms of involvement that do not confer any influence or shared power to the public, in part due to perceptions of wasted time and effort (Smiley et al. 2010, Cheng and Mattor 2006, King et al. 1998, Germain et al. 2001, McCool and Guthrie 2001, Irvin and Stansbury 2004). These perspectives assume that increasing the public's influence over administrative decision-making through the public involvement process is positive and desirable.

From the implementing agency's viewpoint, sharing influence with the public may be less desirable and laden with risks. These include financial, time, and staffing constraints, as well as opportunities for increased conflict (Beierle and Konisky 2000, Walters et al. 2000, Predmore et al. 2011b). There is also a fear the participating publics will act irrationally and pursue individual self-interests rather than a collective interest, and that public influence will override sound scientific management, undermine administrative authority, and result in an unstable patchwork of management directives that may or may not meet regulatory requirements or ecosystem management objectives (Chess and Purcell 1999, Tipple and Wellman 1989, Innes and Booher 2004, Walters et al. 2000, Irvin and Stansbury 2004, Selin et al. 2000).

There are several opportunities for the public to gain influence throughout the NEPA process. For example, the review and comment process on the draft and final documents provides the public the opportunity to judge decisions already made by the agency (Innes and Booher 2004, Germain et al. 2001). Although the agency is required to respond to some of those comments, agency personnel are again granted broad discretion in how they respond (Innes and Booher 2004, Predmore et al. 2011a). Forest Service guidance documents suggest that public comments which are "significant and substantive" in nature may potentially impact the agency decision. However, comments that are based on opinion or conjecture may be filtered out. This can diminish many of the value-based comments received from the public (Predmore et al. 2011a). Agency personnel have the discretion to use this filter as a tool to sort and respond to public comments, and in this way can determine how public comments translate into public influence.

The initial scoping process invites the public to identify potential issues with the project. While the agency also has the discretion to apply the "significant and substantive" filter to these responses, the issues identified during scoping may be used directly to generate different alternatives and shape the scope of the effects analyses (USDA Forest Service 2007, Predmore et al. 2011a). The Forest Service and Congress have tried to direct more involvement towards this early phase of the process, mostly through limiting the legal standing to challenge agency decisions to those that made comments during scoping (Germain et al. 2001). There is some evidence that those publics who do engage early in the process are more satisfied and feel like they have more influence over the decision (Germain et al. 2001). However, some publics appear to have a deliberate strategy to engage later in the process. This reactionary strategy may be due to resource constraints, but could also be due in part to perceptions that earlier involvement will not necessarily result in gaining any greater influence (Germain et al. 2001).

Within the natural resources planning literature, there is a belief that the public involvement process should be tailored to the specific contextual circumstances surrounding the process (McCool and Guthrie 2001, Smiley et al. 2010, Creighton 2005, Walters et al. 2000). This is based on the theory that natural resource planning involves problems that are "messy" and "wicked" in nature, with varying levels of public interest, controversy, complexity and uncertainty (Lachapelle et al. 2003). When the levels of controversy are low and there is relative agreement about not only the goals of the process but also the science, the planning process may not require an extensive public involvement process. However, when there are high levels of controversy and disagreement, an extensive public involvement process may be more appropriate to allow the public and agency to work through the conflict (Yang and Callahan 2007).

In a Forest Service study of NEPA public involvement during the development of the first forest plans, the surveyed public and Forest Service staff had widely different perceptions

about the amount of influence the public had in the process. While more than half of the surveyed Forest Service employees thought the public involvement process led to changes in the overall plan, only 3 percent of the surveyed public agreed (Russell et al. 1990). While these results are more than 20 years old, the consistently high number of NEPA-related appeals and lawsuits filed against the Forest Service since then suggests the agency and different publics may continue to have divergent views.

Developing a clearer understanding of both the public's and the agency's point of view may help to inform strategies to reconcile that gap. There is a robust body of literature describing the public's perspective (Cheng and Mattor 2006, Germain et al. 2001, Leach 2006, Selin et al. 2000, McCool and Guthrie 2001, Steelman and Maguire 1999). This paper provides insights into the agency's perspective on how power is shared with the public during the NEPA process.

Methods

This paper reports the results of one part of an online survey administered to Forest Service employees who served as IDTLs for NEPA processes resulting in a completed EA or EIS between January 1, 2007 and December 18, 2009. The Forest Service *Planning Appeals and Litigation System* (PALS database) was used to generate an initial sample of completed processes and associated project managers, which was then used to identify IDTLs for 993 NEPA processes. Using a decision tree that first selected EIS processes over EA processes, and then selected more recent processes over older ones, the sample was then adjusted so there was one unique process for each IDTL, resulting in 653 IDTLs receiving an invitation to participate in the survey. See Stern & Predmore (2011) for a more detailed account of the sampling procedure. We received valid responses from 489 IDTLs on 489 different NEPA processes, indicating a 75% response rate. A comparison of the characteristics of the sampled processes to the sampling frame indicated that a representative sample was achieved (Stern and Predmore 2011). The survey was administered using SurveyPro 5© software and responses were entered into SPSS© PASW 18 software for analysis. The survey contained several batteries of mostly closed-ended questions pertaining to the project context, process and outcomes, and also included questions about the IDTLs' perceptions of public influence.

The IDTLs were asked to rate how influence over the process was divided between the Forest Service and the public at five different stages in the NEPA process. The stages were: developing the purpose and need, issues identification, alternatives development, analysis, and final decision. These stages were selected as points in the NEPA planning process where public influence may most typically occur in Forest Service NEPA processes (Blahna and Yonts-Shepard 1989). The influence spectrum is a 5-point Likert-type scale with a score of 1 representing *entirely Forest Service influence*, 2 representing *mostly Forest Service influence*, 3

representing *equal Forest Service and public influence*, 4 representing *mostly public influence* and 5 representing *entirely public influence*.

For each stage, respondents were asked to rate the influence in three different ways. First, they were asked to rate the amount of public influence they thought *should* happen in NEPA processes. Next, they were asked to rate the amount of public influence they felt *generally happens* in most NEPA processes throughout the Forest Service. Third, they were asked to rate the amount of public influence there *was* on the NEPA process being surveyed. Mean values were calculated for each measure of influence and across each NEPA stage, and one-way analyses of variance (ANOVAs) were performed to determine differences between the measures of influence. An index was created for each measure by equally weighting and calculating the average of the five stages. The *desired amount index* indicates the amount of public influence the IDTLs believed should happen on average across all five stages; the *agency average index* indicates the average amount of public influence the IDTLs perceived happens in the agency across all five stages; the *public influence index* is a measure of the overall amount of public influence that happened on average across all five stages on the NEPA processes being surveyed.

Comparing the IDTLs' desired amount of public influence to the other measures provides a normative insight into the IDTLs' beliefs about how much public influence happens in general throughout the agency and how much public influence happened on the specific NEPA process in the survey. IDTLs perceived the *right amount* of public influence occurred in the process when their perceptions of the amount of public influence that happens in general and happened on the specific NEPA process equaled their desired amount of public influence. *Not enough* public influence occurred when the IDTLs' perception of the amount of public influence that happens in general and happened on the specific process was less than their desired amount. Conversely, *too much* public influence occurred when the IDTLs perception of the amount happens in general or that happened on the specific process was greater than their desired amount. The frequency of these values was calculated for each stage, analyzed across each IDTL, and combined into variables to indicate overall if the *right amount, not enough,* or *too much* public influence occurred across all five stages to enable comparisons with process outcomes.

The IDTLs also answered questions about the context surrounding the process. Measures of context included the degree of uncertainty of the likely effects of the proposed action at the outset of the process (low, moderate, or high), the level of complexity (fairly simple, somewhat complex, very complex), and the expected controversy (none to low, moderate, high). Processes were compared across each context variable individually and were also classified into a binary variable indicating the IDTLs' perception of the overall context of the process. Processes were classified as *simple* if the IDTL perceived low levels of complexity and uncertainty, and

expected no or low levels of controversy. Processes were classified as *challenging* if the IDTL perceived at least a moderate level of complexity, uncertainty, or expected controversy to allow for comparisons between public influence and process context (see Stern & Predmore 2012 in press).

To examine the relationships between public influence and the outcomes of the NEPA process, we use previously defined NEPA outcomes reported in a separate article (Stern and Predmore 2011). These measures were developed from the IDTLs' responses to a battery of statements about NEPA process outcomes using a 5-point Likert-type scale (1: strongly disagree, 2: disagree, 3: neither agree or disagree, 4: agree, 5: strongly agree). Several of the statements were combined into three different index measures; two statements were used as standalone measures of comparative efficiency and subjective judgments about the IDTLs' assessment of the public involvement process (see Table 3.1). The *Public Relations Index* includes the IDTLs' perceptions about the public's degree of satisfaction with the process and decision as well as how the process impacted agency-public relationships. The *Team Outcomes Index* measures how the process impacted the morale of the ID team. The *Integrated Goals Index* measures the IDTLs' perceptions about how well the process achieved both NEPA and agency goals. Correlations between public influence and process outcomes were measured based on the different levels of uncertainty, complexity, and expected controversy, and based on *simple* and *challenging* processes. An ANOVA was performed to determine any differences in the process outcomes when the IDTL felt there was *not enough, too much,* or the *right amount* of public influence during the process.

Results

The IDTLs' perceptions of the desired amount of public influence, the amount of public influence that generally happens throughout the agency, and the amount of public influence that happened on the NEPA process being surveyed are presented in Table 3.2. Most of the responses for each measure fall in the categories of *entirely* or *mostly Forest Service influence*. Very few IDTLs responded in the *mostly* or *entirely public influence* categories for any measure or stage of the process.

Table 3.3 reports the mean values for each measure by stage in the NEPA process. Lower mean values reflect less public influence and higher mean values reflect more public influence. IDTL beliefs about the desired amount of public influence, the amount of public influence typically granted by the agency, and the amount of public influence on the NEPA process in the survey generally follow the same pattern. Desired and actual public influence are highest during the issues identification stage, followed by alternatives development and then developing the purpose and need. The IDTLs tend to think the analysis and final decisions stages should have

Table 3.1. NEPA outcome measures (Stern & Predmore 2011)

Outcome Statements
Public Relations Index (mean[a]=3.63, α=.818)
Public participants were satisfied with the final decision
Public participants were satisfied with the process
The process improved relationships between the agency and public participants in the process
The process damaged relationships between the agency and the public participants in the process (inverse)
Team Outcomes Index (mean[a]=3.93, α=.805)
The process negatively affected team members' ability/desire to work together on subsequent projects (inverse)
Morale of the ID team was negatively affected by the process (inverse)
Integrated NEPA & Agency Goals Index (mean[a]=4.20, α=.786)
The final decision minimized adverse environmental impacts
The final decision met the original purpose and need of the project
The process resulted in a well-documented rationale for the final decision
The final decision reflects the mission of the agency
Full disclosure of potential impacts was achieved
The final decision minimized adverse socioeconomic impacts
Compared to other NEPA processes I've been involved with, this process was efficient. (mean[a]=3.23)
Public involvement on this process went well. (mean[a]=3.93)

[a]The scale is a 5-point Likert scale ranging from: 1: Strongly Disagree, 2: Disagree, 3: Neither agree or disagree, 4: Agree, 5: Strongly Agree

the lowest amounts of public influence. The mean values for each of the indexes are around *mostly Forest Service influence*.

An ANOVA with Games-Howell post-hoc tests to adjust for unequal variances indicate significant differences between the three measures of public influence during four out of the five stages and overall between the index measures (see Table 3.3). This suggests the existence of performance gaps between employee preferences, their perceptions of typical agency practice, and on-the-ground practices in their specific NEPA processes. On average, IDTLs desired more public influence than the amount which they perceived generally happens in the agency and the amount they felt happened on the processes in the survey. Performance gaps are particularly distinct during the development of the purpose and need stage, with statistical differences between all three measures. No gap was detected during the final decision stage.

The frequency distribution of IDTLs who thought there was the *right amount, not enough,* or *too much* public influence in general and on the process being surveyed is presented in Figure 3.1. The IDTLs had similar beliefs about the amount of public influence that happens in general and the amount that happened on the process in the survey. A majority of the IDTLs reported the *right amount* of public influence happens or happened during each stage, especially during the later stages. However, a large percentage of the IDTLs thought there was *not enough* public influence, especially during the earlier stages. Few IDTLs thought there was ever *too much* public influence on any given stage.

Table 3.2. Percentage of IDTL responses to the public influence measures

	1 Entirely Forest Service influence	2 Mostly Forest Service influence	3 Equal Influence	4 Mostly public influence	5 Entirely public influence
Desired amount of influence					
Developing the Purpose & Need	19	58	19	0	0
Issues Identification	5	16	66	7	2
Alternatives Development	4	40	47	4	1
Analysis	41	49	6	0	0
Final Decision	53	30	13	0	0
Amount of influence in the agency					
Developing the Purpose & Need	30	58	6	1	0
Issues Identification	8	39	39	9	0
Alternatives Development	14	58	20	3	0
Analysis	48	43	4	0	0
Final Decision	51	35	8	1	0
Amount of influence on this process					
Developing the Purpose & Need	46	40	9	2	0
Issues Identification	16	30	39	8	2
Alternatives Development	26	43	21	4	1
Analysis	58	34	3	0	0
Final Decision	59	27	8	1	0

The number of IDTLs who believed the *right amount* of public influence occurred on all stages, or that there was *not enough* or *too much* public influence on at least one stage in general and on the surveyed process is presented in Table 3.4. Less than 20% of the IDTLs believed the *right amount* of public influence occurs in general or occurred on the surveyed process, while over 60% of the IDTLs believed there was *not enough* public influence in general or on the surveyed process. Nearly a quarter of the IDTLs' felt *too much* public influence occurs in general, but only 19% felt *too much* occurred on the surveyed process. An ANOVA yielded no significant differences between process outcomes and the IDTLs' beliefs that there was *not enough*, *too much,* or the *right amount* public influence on the process.

Table 3.3. IDTLs' perceptions of public influence in NEPA Processes[a,b]

NEPA STAGE	1. Desired amount of public influence	2. Amount of public influence in general	3. Amount of public influence on this process
Developing the Purpose & Need	$1.99^{2,3}$	$1.77^{1,3}$	$1.66^{1,2}$
Issues Identification	$2.84^{2,3}$	2.52^{1}	2.47^{1}
Alternatives Development	$2.55^{2,3}$	2.14^{1}	2.05^{1}
Analysis	1.63^{3}	1.54^{3}	$1.42^{1,2}$
Final Decision	1.59	1.57	1.50
Index[c]	$2.12^{2,3}$	$1.90^{1,3}$	$1.82^{1,2}$

[a]The scale is a 5-point Likert scale ranging from 1: Entirely Forest Service Influence/No Public Influence, 2: Mostly Forest Service Influence/Some Public Influence, 3: Equal Forest Service & Public Influence, 4: Mostly Public Influence, 5: Entirely Public Influence. Mean values are presented.

[b]Mean differences were calculated using an ANOVA, with Games-Howell post-hoc tests due to unequal variance distributions; Superscripts denote significant differences between the measures at $p < .05$.

[c]Each index was calculated by averaging all five stages for each measure.

Figure 3.1. Percent of IDTLs who thought not enough, too much, or the right amount of public influence happened by stage, in general and on the NEPA process in the survey.

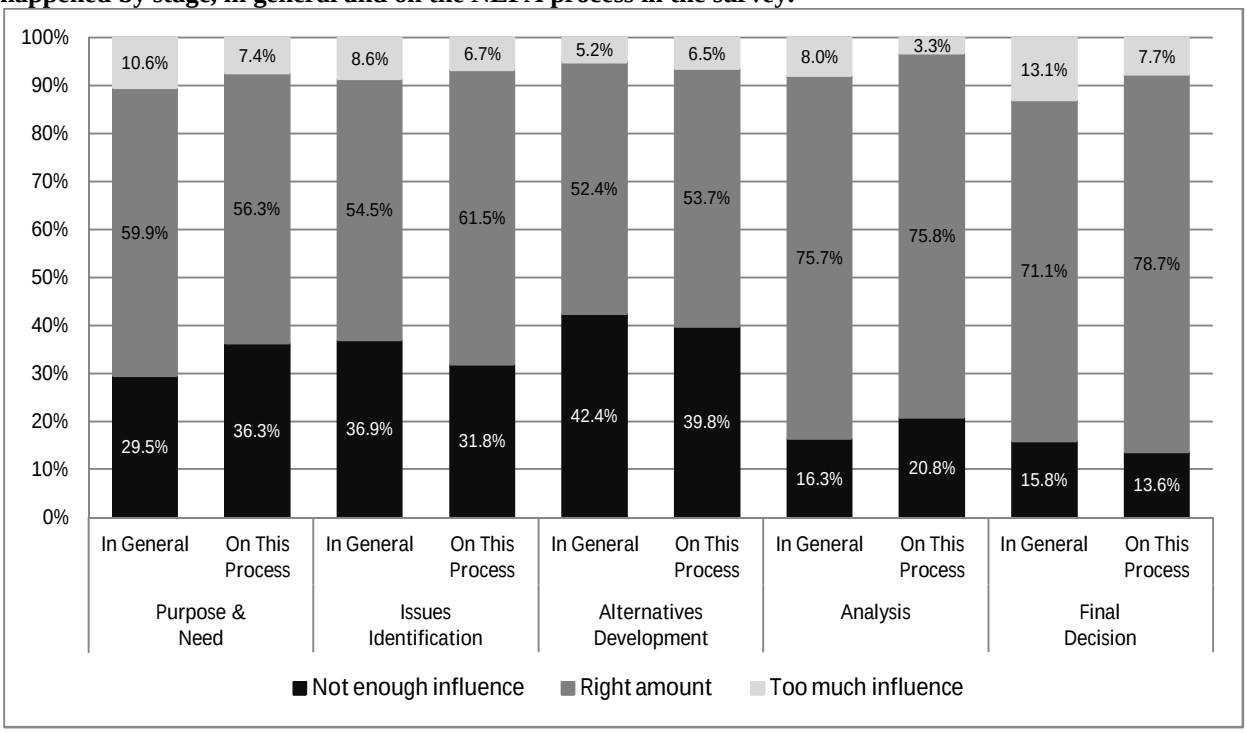

Table 3.4. Percent and frequency of IDTLs who though not enough, the right amount, or too much public influence overall occurred in general and on the NEPA process in the survey.[a]

	In General		On The NEPA Process in the Survey	
	%	N	%	N
Not enough public influence on at least one stage	60.9	298	64.4	315
Right amount of public influence on all stages	19.4	95	19.8	97
Too much public influence on at least one stage	23.9	117	19.2	94

[a]The percentage adds to over 100% because IDTLs who though not enough public influence occurred during one stage but also though too much occurred during another stage were counted in both categories.

Eighty-two of the surveyed NEPA processes were classified as *simple* processes with no expected controversy, complexity and uncertainty; 407 processes were classified as *challenging* processes with at least a moderate level of expected controversy, complexity or uncertainty. *Challenging* processes had greater amounts of public influence during every stage of the NEPA process except the development of the purpose and need (see Table 3.5).

Public influence showed few relationships to process outcomes. On *simple* projects, the degree of public influence that took place was not significantly related to any outcome measure statistically. Table 3.6 shows correlations between public influence measures and process outcomes for those processes characterized as *challenging.* The *Team Outcomes* index was negatively correlated with public influence during the final decision stage. The *Public Relations*

index was positively correlated with public influence during the development of the purpose and need stage. The IDTLs' opinion about whether the public involvement process went well was positively correlated with public influence during three stages (development of the purpose and need, alternatives development, and analysis). Both the *Public Relations* index and perceptions that public involvement went well were also correlated with the overall public influence index.

Table 3.5. Public influence in simple and challenging processes

NEPA Stage	Simple Processes[a]		Challenging Processes[b]		T-stat (df)	Significance
	N	Mean[c]	N	Mean[c]		
Developing the Purpose & Need	77	1.53	393	1.68	-1.62 (468)	.105
Issues Identification	77	2.17	389	2.53	-3.15 (464)	.002
Alternatives Development	78	1.68	386	2.13	-4.33 (462)	.000
Analysis	78	1.28	388	1.44	-2.62† (123)	.010
Final Decision	78	1.32	390	1.54	-2.99† (143)	.003
Public Influence Index	77	1.59	380	1.86	-4.29 (455)	.000

[a]Processes with no or low expected controversy, no complexity, and low uncertainty.
[b]Processes with at least a moderate level of expected controversy, complexity or uncertainty.
[c]The scale is a 5-point Likert scale ranging from 1: Entirely Forest Service Influence/No Public Influence, 2: Mostly Forest Service Influence/Some Public Influence, 3: Equal Forest Service & Public Influence, 4: Mostly Public Influence, 5: Entirely Public Influence
†Unequal variance distributions.

Table 3.6. Spearman's correlation coefficients between public influence and NEPA outcome measures during challenging processes

NEPA Stage	Public Relations Index	Team Outcomes Index	NEPA & Agency Goals Index	Comparative Efficiency	Public involvement on this process went well.
Developing the Purpose & Need	**.186*** **	.059	-.010	.093	**.158** **
Issues Identification	.045	.004	.019	.043	.063
Alternatives Development	.082	.016	.036	-.019	**.123***
Analysis	.053	.021	.027	-.001	**.116***
Final Decision	.051	**-.106***	-.032	-.016	.088
Public Influence Index	**.115***	-.010	-.001	.018	**.146** **

*p<.05, **p<.005, ***p<.001

The correlations were similar when processes were compared at different levels of complexity and expected controversy. However, when the IDTLs did not perceive any level of uncertainty, public influence was negatively correlated with the *Team Outcomes* index during the issues identification (r = -.14, p = .018), analysis (r = -.12, p = .040), and final decision (r = -.21, p < .001) stages, as well the public influence index (r = -.20, p = .001). Conversely, when there was at least a moderate level of uncertainty, public influence was positively correlated with the

Team Outcomes index during the purpose and need (r = .21, p = .006), issues identification (r = .17, p = .028), and analysis stages (r = .17, p = .034), as well as the index (r = .17, p = .035).

Discussion & Conclusion

IDTLs of Forest Service NEPA planning processes report that some public influence is appropriate during the process, but that influence should happen at different levels throughout the process. During the early stages, especially the issues identification stage, IDTLs think more public influence should happen than during the later stages of analysis and making the final decision. The IDTLs perceive a similar pattern happening generally throughout the agency and in practice. On average, the IDTLs think more public influence should happen at nearly every stage and over 60 percent of the IDTLs thought more public influence should have happened on at least one stage. Challenging processes with at least moderate levels of expected controversy, complexity or uncertainty are associated with more public influence than simple processes with no expected controversy, complexity and uncertainty. Few consistent patterns were observed in the relationships between the degree of public influence and different measures of NEPA outcomes. For simple processes, no relationships between public influence and outcomes were detected. On challenging processes, higher amounts of public influence were associated with more positive perceptions of public relations outcomes and perceptions the public involvement process went well.

We first discuss the pattern of public influence across the NEPA stages with particular attention to the ambiguous but important role of public influence during the purpose and need stage. We then discuss the inconsistent relationships between public influence and perceptions of various NEPA process outcomes, and how the desirability of public influence may depend on even more context-specific variables than controversy, complexity, and uncertainty. Finally, we discuss why many of the IDTLs may believe there should be more public influence in agency NEPA processes and make suggestions for future research.

The IDTLs' pattern of perceived and desired public influence across the NEPA stages is not surprising. The highest amount of public influence is perceived to occur during the issues identification stage, a point in the process that specifically calls for public input (Blahna and Yonts-Shepard 1989). The development of alternatives is supposed to be informed in large part by the issues identification stage, contributing to the higher perceptions of public influence during this stage. Because conducting analyses on the effects of each alternative requires sophisticated technical knowledge, lower levels of public influence during the analysis stage is also unsurprising. The Forest Service retains ultimate responsibility and accountability over their

decisions (Creighton 2005), which likely accounts for the lower levels of perceived public influence during the final decision stage.

The role of public influence in developing the purpose and need of the project is less clear and more variable, which may account for the greater discrepancies between the IDTLs' perceptions of how much influence should, does, and did occur during this stage. The development of the purpose and need typically occurs prior to the official start of the NEPA process, at which point the ID team may not be officially formed and the IDTL may not be involved yet. Further, although encouraged throughout the entire planning process, there is no specific legal mandate to involve the public in the development of the purpose and need (USDA Forest Service 2007, Predmore et al. 2011b). The agency thus has discretion about including the public at this point, which may also explain the variation between the public influence measurements.

The purpose and need stage is also the only point in the process where greater public influence is positively associated with public relations outcomes. The purpose and need is the statement of a problem, and how that problem is defined often relies on values-based judgments and assumptions. Defining the problem also determines the decision space available to develop potential solutions (Creighton 2005). Public influence during this stage thus allows the public to participate in the underlying debate informing the problem definition and decision space (Rowe and Frewer 2000, Predmore et al. 2011a). Addressing these issues early could potentially help to diffuse some of the "wickedness" and conflicts that occur later in the process, which often are proxy debates about the underlying issues defining the problem (Predmore et al. 2011b, Rowe and Frewer 2000). Public influence during this stage may also alleviate criticisms that the agency uses the public involvement process to announce and defend previously determined decisions (Chess and Purcell 1999, Innes and Booher 2004, Germain et al. 2001, King et al. 1998). This may contribute to perceptions of improved agency-public relations and public involvement processes, and may account for why IDTLs desire more public influence during the purpose and need stage.

In addition to findings associated with the development of the purpose and need, IDTLs generally felt public involvement went better when public influence was greater in the alternatives development and analysis phases. These associations may suggest a preference for substantive public involvement. Substantive public involvement is when the public involvement process yields factual, site-specific information and local knowledge rather than general opinions or value statements. A preference for specific information from the public is further supported by the pattern of correlations between team outcomes and public influence at different levels of uncertainty. When the IDTL believes the process is relatively straight-forward, input from the public appears to be disruptive to the ID team. However, when there are levels of uncertainty,

public input may help the ID team by providing site-specific information that clarifies the purpose and need, identifies issues, and refines the analysis. Finally, a negative relationship between team outcomes and public influence during the final decision suggests that ID team morale may be negatively impacted when the public has greater influence on the final decision. This may reflect a sense of disempowerment felt by the ID team when it appears their work and analyses throughout the process are trumped by external forces at the end of the process (Stern and Predmore 2011, Tipple and Wellman 1989).

Except for those specific relationships, the IDTLs' perceptions of public influence and NEPA process outcomes were not consistently related. This suggests that public influence is highly nuanced and can have variable impacts on processes and their outcomes. However, this research does advance the scholarship about which contexts public influence may be more or less desirable in two ways. First, the finding that higher amounts of public influence occurred in challenging processes supports the idea that public involvement processes–and hence public influence–may not be as necessary or desirable during simple processes that lack controversial value conflicts, technical complexity, and uncertainty (McCool and Guthrie 2001, Walters et al. 2000, Creighton 2005). Second, the current research also suggests that public influence likely varies across far more factors.

These factors may be both external and internal to the agency, and may create unique and unpredictable contexts that make generalizations about the need for and impact of public influence across cases inappropriate. Factors external to and mostly beyond the control of the agency include place-based characteristics, such as the extent of disagreement between different public groups (Irvin and Stansbury 2004, Chess and Purcell 1999, Cheng and Mattor 2006, Leach 2006). When groups disagree, the agency may be cautious about allowing any public influence for fears of appearing to favor one group over the other. Factors internal to the agency include different experiences, values and worldviews within agency personnel which likely shape different perceptions about the desirability of public influence (Buchy and Hoverman 2000, Steelman and Maguire 1999, Yang and Callahan 2007). Predmore and others (2011) described how different values among Forest Service personnel contribute to different constructions of the public, different views about what the role of the public should be, and different evaluations of the public's capability of contributing to the planning process. The IDTLs captured in the survey likely share this same diversity of values and beliefs (Brown et al. 2010, Cramer et al. 1993). In short, each process may be largely unique in regards to public influence, making generalizations about its desirability across cases inappropriate.

Despite variable and inconsistent relationships with NEPA outcomes, many IDTLs think more public influence should be happening, especially during the early stages of the process. This suggests some agreement among agency personnel about the importance of public

influence. The desire for more and earlier public influence aligns with agency and legislative efforts to encourage earlier public involvement, but suggests that these efforts have met with limited success. Public groups that use a reactionary strategy do so in part based on the belief that efforts to mobilize earlier involvement do not offer any additional or genuine opportunities to gain influence (Germain et al. 2001). However, this research indicates there may be genuine opportunities to gain influence during those early stages, at least according to the IDTLs. Continued efforts to encourage earlier public involvement might highlight the potential opportunity for more influence over the problem definition and subsequent decision space as an incentive.

Finally, the IDTLs' desire for more public influence suggests constraints that prevent the desired amount of public influence from occurring, despite claims about the discretion afforded to the IDTLs in how the public involvement process is conducted and used. These constraints may be external or internal to the agency. External constraints may include the degree of public interest, time, resources, and knowledge. Internal constraints may include the influence of the line officer or an over-reliance on procedural compliance at the expense of using discretion to promote or facilitate public influence (Predmore et al. 2011a). Perceptions about the linear structure and timing of the NEPA process may also constrain the amount of public influence that occurs (Predmore et al. 2011b).

This research represents only one perspective of the public involvement process and how the public impacts agency decision-making, that of the IDTLs most intimately familiar with the processes. Future research would benefit from comparing these perspectives to those of the participating publics to gain a more thorough understanding of this dynamic process. Future research could also explore what public influence means to different agency personnel and what may be preventing the public from influencing the process at desired levels. A better understanding of these constraints may illuminate new strategies (or new ways to implement the same strategies) to better align the agency's and the public's expectations about the public involvement process.

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Chapter Four

Gate-keeping Public Influence in Forest Service NEPA Processes

Katie Hoover and Marc J. Stern

ABSTRACT

The Forest Service is mandated to involve the public during agency planning efforts, but involving the public does not necessarily mean the public will gain any influence over the planning decision. In a recent survey, a majority of agency employees expressed a preference for more substantive public influence to occur during the planning process than they felt currently does. Informed by interviews with 16 Forest Service employees experienced with leading planning processes, this research explores the constraints that prevent public influence from occurring at the desired levels. Agency personnel have a strong hand in shaping how the public involvement process results in public influence through their decisions and actions during the process. In this way, agency personnel serve as key "gate-keepers" to public influence. Agency personnel serve as gatekeepers by choosing to adhere to minimum requirements which allow them to dismiss many public comments or conversely to engage in dialogue with the public to facilitate more directly useful input. The key constraints to doing more include overwhelming workloads, a lack of leadership commitment to public influence, and normative beliefs about the public informed from past and current negative interactions. Key catalysts include manageable workloads, strong normative commitments to the value of public influence at multiple levels within the agency, and recognition of their discretion in addressing public comments by process leaders.

Introduction

Public involvement has long been a challenge for natural resource management agencies, as publics struggle to gain influence in agency decisions (Germain et al. 2001; Smiley et al. 2010). Agency planners and decision makers have a great deal of discretion regarding the extent to which various publics succeed in these efforts (Stern et al. 2009, Predmore et al. 2011b). Despite claims that agencies often lack a genuine interest in incorporating public comments into their planning processes (Germain et al. 2001), a recent survey has revealed that agency team leaders of planning processes across the United States Forest Service believe that more public influence should be occurring in Forest Service planning processes than typically does (Hoover and Stern, in prep). The same research effort revealed that public influence in the form of substantive comments during the process is viewed positively by agency staff (Hoover and Stern, in prep), as opposed to public influence which may take place through appeals, litigation, or other forms of values-based conflicts (Stern and Mortimer 2009, Mortimer et al. 2011). Substantive comments are those that provide information that can improve management decisions (Predmore and Stern 2011a, Stern and Predmore 2011). This study examines why Forest Service planning team leaders desire this type of public influence and what they do to facilitate or constrain this influence from occurring during the NEPA process.

Background

The Forest Service – and the other federal land management agencies – are mandated to involve the public in agency planning processes by various laws and regulations, including the National Environmental Policy Act of 1969 (NEPA). The public in this sense is not one single entity, but consists of individuals, organized and loosely organized groups that represent a diversity of interests but put forth some effort to participate in the planning process. These publics generally become involved in the planning process with the goal of having a genuine impact – or influence – on decisions that affect them or the public resources they value (Germain et al. 2001; Smiley et al. 2010). There are many different ways the participating publics can gain this influence. One way is through providing input and comments during the public involvement process. However, when an agency issues a decision that does not appear to take into account public input, members of the public may feel frustrated by what they perceive as a "token public involvement process" where the agency is using the process to justify previously made decisions (Chess and Purcell 1999). This may lead to the public losing trust in the agency and ultimately damaging agency-public relations. The public may perceive their time and input was disregarded by the agency, and may be more motivated to pursue other avenues – such as the courts or through elected representatives – to gain influence (Germain et al. 2001). Using the legal system to gain influence may be used in many other circumstances as well. Some publics deliberately choose

not to meaningfully participate in the public involvement process but will still try to gain influence through legal challenges. In addition, some publics may still legally challenge the decision despite feeling satisfied with the results of the public involvement process (Chess and Purcell 1999; Germain et al. 2001).

For the Forest Service, public influence through these types of political or judicial avenues is undesirable, costing the agency time and money, delaying or preventing project implementation, and otherwise damaging employee morale (Germain et al. 2011, Mortimer et al. 2011). Understanding how public influence can positively take place during the NEPA planning process could potentially help to diminish these less desirable types of public influence, in addition to providing information that improves the land management decision and improving agency-public relations.

Both the actions of the public and the actions of the agency influence the degree of public influence in an agency planning process. This research is focused primarily on the actions of the agency personnel leading the process. Granted broad discretion when implementing NEPA public involvement (Stern et al. 2009), agency personnel may serve as "gate-keepers" by controlling how the public's actions are turned into public influence within the process. We explore the different motivations and gate-keeping behaviors of the agency personnel leading the public involvement process and discuss the roles of Forest Service leadership in influencing how the public impacts agency planning decisions.

NEPA in the Forest Service

The Forest Service is directed by NEPA – and other laws such as the Administrative Procedures Act of 1946 and the National Forest Management Act of 1976 – to consider and disclose the potential environmental impacts of their actions, and to allow the public the opportunity to review and respond to the impacts as well as to the overall proposed actions. In the Forest Service, NEPA processes are conducted by an interdisciplinary team (ID team), typically made up of resource specialists, with one member serving as the ID team leader (IDTL). The IDTL generally is responsible for the products of the ID team throughout the various stages of the NEPA planning process, including public involvement, and as such is the primary subject of this research. However, the planning decision is ultimately made by the designated decision-maker, or "Responsible Official," who is typically a line officer within the Forest Service, such as a District Ranger or Forest Supervisor. The role of the decision-maker in the day-to-day decisions of the NEPA process is variable and may range from minimal participation to extensive oversight (Stern and Predmore 2011).

The NEPA process can result in three different types of environmental documents which are used to inform the planning decision: a Categorical Exclusion (CE), Environmental Assessment (EA), or Environmental Impact Assessment (EIS). On a simplified scale, CEs require the least amount of analyses and public involvement, while EAs require more and EISs require the most intensive. Although the Forest Service conducts a large number of CEs, this research is focused on NEPA processes that resulted in an EA or EIS due to their more intensive involvement of the public. These types of NEPA processes typically begin with the agency defining the purpose and need for the project and then soliciting input from outside agencies and public participants to identify the potential issues surrounding the project. This part of the process is called scoping. Different project alternatives are then developed to meet the purpose and need based on the identified key issues. Then, the potential socioeconomic and environmental impacts of each alternative are analyzed, published in a draft environmental document, and released. Comments are then collected, analyzed, responded to and incorporated into the final environmental document. Another public comment period follows, after which the Responsible Official issues the final decision document indicating the course of action chosen by the agency. The public then has the option to challenge the decision on procedural grounds, first through an administrative appeals process and then judicially through the U.S. District Court.

NEPA regulations do not specifically empower the public to directly influence the NEPA process, but the legislation does not prevent influence from occurring. While there are minimum standards related mostly to the timing of involvement and disclosure, the NEPA process grants the implementing agency broad discretion regarding the form and nature of the public involvement process (Stern et al. 2009). Thus, the agency has the freedom to tailor the process depending on the project or other contextual circumstances and can use a wide range of public involvement techniques.

The Forest Service is also given broad discretion about whether and how the public involvement process actually impacts decisions about management actions. While the agency is required to respond formally to some of the comments received from the public, there are some exceptions and caveats. To begin, the requirement is to *respond* to public comments, but a response does not necessarily mean the comment impacts the decision or the decision-making process. Further, the President's Council of Environmental Quality (CEQ) and Forest Service regulations suggest that agency personnel do not have to respond to comments that are based on opinions or conjecture, or do not meet a "significant and substantive" threshold (Predmore et al. 2011a). Predmore and others (2011a) labeled this threshold the *substantive sieve*, as it allows agency personnel to sift through comments based on a legal and scientific standard and prevent values-based comments from passing through for further consideration. The substantive sieve provides agency personnel with a reason to dismiss both values-based comments and more general comments that are not specific to the project area or specific impacts of the proposed action. The use of the substantive

sieve is at the discretion of the agency personnel, although many may interpret agency guidance as mandatory (Stern and Mortimer 2009). In essence, the review and comment process provides the agency with at least two ways to resist granting the public meaningful influence over the decision. First, the agency is only required to respond to public comments with no specific requirements designating an appropriate response; and second, the agency has the discretion to choose to only respond to certain comments.

As the "street-level bureaucrats" who implement the daily tasks of NEPA and most directly interact with the public, Forest Service IDTLs may largely shape the outcomes of the public involvement process (Lipsky 1980). Given considerable amounts of discretion in terms of how to do and use public involvement, the beliefs, values, and attitudes of the IDTLs thus play a large role in the decisions about how to implement the process (Lipsky 1980; Yang 2005). This includes decisions about how the public involvement process ultimately results in the public's level of influence upon the planning decision (Chess and Purcell 1999). Therefore, understanding what motivates the behavior and actions of the IDTLs implementing public involvement may provide insights that improve the experience for both the agency personnel and the public. Yang (2005, 2011) found that how local government administrators viewed the public influenced how they conducted and used the public involvement process. Specific to the Forest Service, Predmore et al. (2011) found agency personnel's beliefs about the public as well as their approach to planning influenced how they viewed the purpose of the public involvement process. This research builds upon those findings to develop a richer understanding of how positive public influence occurs in Forest Service NEPA processes from the perspective of the agency personnel leading the processes. The goal of this research is to gain a deeper understanding of how public involvement results in the public influencing the incremental decisions within the NEPA process as well as the overall land management decision.

Motivations and constraints to public participation

The literature identifies four broad and interrelated factors that appear to most directly influence the specific behaviors of the participating publics and their ability to gain influence during the planning process. First and foremost, the public's values and desires about how the National Forests should be managed will inform their decision to become involved and their behaviors during the process (Beierle and Konisky 2000; Smith and McDonough 2001). Second, the public must have the time and be interested enough to engage in the process (Cheng and Mattor 2006; Creighton 2005; Germain et al. 2001). In other words, their values must be salient enough to outweigh the opportunity costs of participating. Third, the public's prior experiences interacting with the agency influences how much the public trusts the agency to make appropriate decisions about public resources and to conduct a fair involvement process (Beierle and Konisky 2000;

Cheng and Mattor 2006; Halvorsen 2006; Smith and McDonough 2001). Trust and prior experiences also impact how the public chooses to approach and behave during the involvement process, which may range anywhere from adversarial antagonist to trusting collaborator. Finally, the public's knowledge, skills, and competency impacts their abilities to communicate effectively with agency officials (Yang and Pandey 2011; Smiley et al. 2010). This includes the skill of the public to provide comments that trigger a response from the agency. As agency personnel have the discretion to essentially disregard public comments that are conjectural or opinion-based (Predmore et al. 2011a), public groups that are more knowledgeable about Forest Service regulations and more experienced commenting on NEPA processes have likely learned to adapt their comments to meet the "significant and substantive" threshold or use other means to gain influence, such as appeals, litigation, or political pressure.

To improve their ability to influence the process, the public may empower themselves by learning about the NEPA process and Forest Service preferences for public comments. This may have other benefits as well, as research has shown that agency personnel are more likely to allow the public to influence decisions when they believe the public is competent and trustworthy (Yang 2005). However, the actions of the public are just one of the pathways through which public influence occurs. How the agency – particularly the agency personnel leading the process – responds to the public's actions is perhaps a less understood driver of how the public involvement process leads to public influence (Predmore et al. 2011).

Methods

This research is a qualitative case study analysis of interviews with Forest Service employees. Case study analysis enables an in-depth exploration of a topic and may be used to generate new theoretical insights (Eisenhardt 1989). The goal of this research was to explore the motivations behind the behavior of the agency personnel leading Forest Service NEPA planning process and the constraints that were preventing public influence from occurring at their desired levels.

The lead author interviewed 16 Forest Service employees who served as the NEPA interdisciplinary team leader (IDTL) on 16 different NEPA processes completed between 2007 and 2009. Participants were selected using a purposive sampling strategy to explore perceptions of public influence in-depth, rather than to statistically represent a larger population. The initial sample was derived from a pool of specific respondents to a web-based survey completed by 489 IDTLs in 2010 (see Stern and Predmore 2011). The sample was limited to IDTLs who felt not enough public influence occurred during the surveyed NEPA process. We also selected cases on which there was at least a moderate amount of controversy surrounding the process, bringing the sample frame to 161. Processes that had less than moderate levels of controversy were excluded

because they may not have had enough public interest to reasonably expect any meaningful public participation (Stern and Predmore, in press).

Cases were then selected to obtain a diverse set of contextual characteristics, including Forest Service region, NEPA process type, and NEPA project purpose. The final sample of 16 IDTLs includes 15 different National Forests from seven of the nine Forest Service regions, 14 EAs and two EISs, and includes a range of project purposes, such as fuels (n = 5), grazing (n = 2), recreation (n = 2), watershed/biodiversity (n = 3), and timber management (n = 4). The IDTLs chosen to be interviewed also represent a range of characteristics at the individual level. Most of the IDTLs interviewed reported forest management as their professional specialty (n = 9), but biology, ecology, wildlife science, social science, range management, and recreation management were also represented. The IDTLs interviewed also represented a wealth of Forest Service NEPA experience: all of the IDTLs had participated on at least five NEPA interdisciplinary teams prior to the survey and most of the IDTLs reported they had participated on or served as the leader for more than 10 NEPA processes (n=11). This experience allowed us to ask about common practices and prior experiences beyond the single cases addressed in the 2010 survey.

The interviews were conducted in-person and lasted an average of 57 minutes. The interviews began with a consistent set of broad questions relating to how the public involvement process occurred on the NEPA process from the survey. Specific topics were probed for deeper discussion, such as descriptions of the participating publics as well as the interactions between the publics and with the agency. To take advantage of the experience possessed by the IDTLs, comparisons to other NEPA projects were explicitly encouraged.

With the consent of the participant, the interviews were recorded and then transcribed verbatim for analysis using NVivo 9 (QSR 2011). Data analysis followed a grounded theory approach and included an iterative process of coding and memo-writing to develop and refine themes in the data (Charmaz 2006). To support our conclusions, quotes from the participants are used throughout the results and discussion section.

Results and Discussion

The IDTLs – as the leaders of the planning process – commonly serve as the initial gate-keepers to public influence, while the agency personnel who serve as the official decision-makers in the process serve as the final gate-keepers. We first discuss some of the reasons why IDTLs' desire substantive public influence, and then discuss their gate-keeping role with emphasis on the factors that motivate or constrain those behaviors. We also discuss the decision-maker's gate-keeping role and their influence on the gate-keeping behavior of the IDTLs.

Why some IDTLs want more substantive public influence

In a related research effort, Forest Service agency personnel indicated a preference for substantive input from the public, that is, information containing site-specific facts and information (Hoover and Stern, in prep). During our interviews, we attempted to unpack why that type of public influence was desirable. The IDTLs in our interviews presented a range of substantive, instrumental, and normative justifications for wanting this type of public influence to occur during the NEPA process. Substantive justifications reflect the idea that the public has information that will improve the quality of the decision, instrumental justifications reflect the idea the agency will gain some type of benefit from the public input, and normative justifications reflect the idea that public values should be reflected in agency decisions (Creighton 2005).

To begin, some of the IDTLs expressed a preference for substantive, site-specific comments because those types of comments are at the core of agency guidance and training in NEPA public involvement (Predmore et al 2011a). The IDTLs are trained to look for and respond to substantive comments. Because they specifically relate to impacts analyses, there is typically less ambiguity in how to respond to these comments In addition, many of the IDTLs felt substantive public influence increased the breadth and depth of information available to make a more informed land management decision, reflecting a substantive justification for wanting that type of influence. For example, some of the IDTLs described not having the resources available to know every inch of the forest, so the public was a valuable resource:

> You just might hear about something and it's like "oh wow, we didn't know that was happening."

Related, a few of the IDTLs described wanting the public to bring forward specific issues that they may already know about to validate their own impressions and/or add additional information:

> And we know traffic is congested and we should look at mass transit, but it's really good to hear this from a lot of people that will give you comments. Because it helps.

Beyond just providing additional information, some of the IDTLs felt substantive public influence actually helped the agency make a better land management decision by serving more of an oversight role:

> [The public groups] make good points a lot of the time, and I actually think over the years that I've worked doing planning, the [public groups] staying on top of folks makes you do a better job…They catch you on things. It's like, oh, I didn't even think about that, and they make you think about things a little bit differently.
>
> Because I've worked places where if we had had some public scrutiny than maybe some of the decisions that were made wouldn't have been done. And there's times we don't do an adequate job and we should be held accountable.

Those quotes also reflect an instrumental justification for wanting site-specific comments from the public, in that the result has benefits to the agency. Another instrumental justification reflects the idea of educating the public through the participation process, which may have many potential benefits to the agency, including increasing the legitimacy and acceptance of the decision. For example:

> We had this person come in with a chip on their shoulder and they were going to show the Forest Service how things were done. . . .We talked through their comments and the analysis and this person came back and said, "You know, I've learned that you folks are a bunch of professionals and you're really doing a good job and you're looking at all the things I'm concerned about", then he patted me on the back and walked away. So that's a success story.

Finally, some of the IDTLs evoked normative justifications for wanting substantive public influence. Normative justifications reflect the idea that the public has a democratic right to participate in agency planning processes, and some of the IDTLs felt it was only fair to take the time to not only understand the public's comments but try to implement the public's visions into management actions:

> Yeah, because John Q. Public, when they write about something, they're going to take the time to write because they really care, and I think it's only fair to them to make them feel like they're heard and try to respond as best you can.

Another IDTL described this normative desire to implement the public's visions for the management of the National Forests by having a "suite of tools available to create a range of resource conditions" and just needing to know "what the public wants the forest to look like". Substantive comments then provided the IDTLs with specific management directions they could implement on the ground.

The next section will discuss how the IDTLs work to facilitate or constrain receiving the types of substantive comments and influence from the public they desire.

The IDTL as the initial gate-keeper to public influence

The IDTLs are typically involved in each step of the NEPA process, and often are the ones who interact most directly with the public throughout the process. This includes formal interactions such as responding to public comments in the official NEPA documents, presentations during public meetings, hosting workshops or field trips, and other events, and also extends to informal interactions such as telephone conversations and email exchanges.

The IDTLs' actions can be represented by a continuum based on the amount of effort expended engaging the public during the process, with differing impacts on public influence. At one end of the continuum is only meeting the minimum agency or legal requirements and essentially leaving

the gate closed to public influence. This level of effort reflects minimizing direct interactions with the public. One prominent example is relying on the substantive sieve to classify and dismiss certain comments without further public interaction. As described previously, agency personnel have the discretion to essentially disregard public comments that are general or opinion-based, focusing only on comments that are site-specific and "substantive and significant" (Predmore et al. 2011a):

> You couldn't even imagine the comments we get back. It's just crazy. They're not specific to the area; they're just general, just general across the board. . . . None of it is specific to the area that we're working on, for the most part. . . We rarely get a specific comment to that project that could only be applied to that project.
>
> A really generalized comment is easier for us to dismiss.

In this way, the substantive sieve works as a constraint to public influence by only allowing specific comments – and subsequently, only those publics knowledgeable enough to make those specific comments – to influence agency decisions.

Relying on the substantive sieve reflects a minimum amount of effort and public interaction because agency personnel are not required to inform or otherwise follow-up on the dismissed comments. They rather may thank the commenter for their interest and describe why their comment warranted no response. Another IDTL describes this dimension of the substantive sieve:

> I can see that it's a frustration on the public's side, because they comment on a project and if their comment isn't relative to regulation, policy, or law, we say thank you for your comment, and then we do whatever we want to do.

In contrast, at the other end of the continuum, agency personnel have the discretion to expend extra effort and go above the minimum legal requirements to potentially facilitate more public influence. For example, an IDTL may still employ the substantive sieve, but may follow-up with those who submitted general comments to clarify their intent and make the comments more site-specific and substantive:

> When folks came up and told me with travel management, for instance, "I don't like that idea". Well, tell me what you don't like about that idea. And tell me what you would do differently, and be a little more specific. And then we can address that.

In this case, the IDTL expended some extra effort interacting with the public and essentially made the holes in the substantive sieve larger to allow more of the public's comments to pass through.

The extra effort may result in a range of activities, such as developing a project alternative based on the public comments or developing innovative ways to conduct a public meeting or otherwise communicate with the public. It may also include educating the public about NEPA and how to

participate more effectively. For example, one IDTL believes the Forest Service should do more to improve the public's participation skills:

> If that's [substantive comments] what we want to hear, we need to get more specific about what we want to hear. Sometimes we just go "here's your opportunity to comment, we want to know what you think". We don't really say here's the kind of stuff that would be really useful for us to hear.

In most regards, putting forth extra effort requires additional direct interaction with the public and may be a very personal decision. The extra effort includes being willing to engage in dialogue that may be difficult and uncomfortable, being willing to compromise, and being open to criticism. In the following passage, one IDTL describes feelings of personal and professional accomplishment for pushing beyond his own feelings of uneasiness about working with the public:

> So I was the one making the initial phone calls to say we have this project we want your input on. And so it was a nervous call for me. And I did sense some tenseness early on in some of those conversations. . . . .and I don't want this to sound prideful, but it seemed like I was able to convince them, you know, hey, I'm just trying to make a concerned effort to get through this process and treat some acres in a way that will benefit the most. And they seemed to come around after that. Just from our dialogue addressing the issues they had, it seemed like that frustration with us seemed to go away and a lot of our conversations after that initial one where they remembered us and what we were trying to do. They were working with us, and you know I could offer them suggestions for their issues and ask them what they thought and they could tell me. And we didn't do everything they recommended because of various reasons, and some places we agreed to disagree, but they didn't object. And they haven't sued.

Some of the IDTLs described similar feelings of unease and discomfort with regard to interacting with the public, and often attributed these feelings to generally being an introverted person:

> I actually never wanted to talk to the public. I wanted to be just out in the woods doing work, and it's unfortunately my job now to talk to people all the time.

Many of the IDTLs were able to overcome these feelings and put forth extra effort in the involvement process. The following quote contrasts the differences between Forest Service personnel who expend the extra effort to those who expend the minimum amount:

> But the point is that this one person likes doing it, and is good at taking people down to a very specific level where they might actually be willing to compromise or look at it another way. But it takes a huge effort to do that. And of course, in a sense, it very often pays off in the end because you don't get appealed. But I just don't think that's something – I think people are still mostly just dealing with the "oh god we have to do public involvement, what's the minimum we have to do".

So if expending this extra effort is not mandated, and can be uncomfortable, why do some IDTLs

still choose to do so while others do not? We propose there are four primary and sometimes interacting factors that either constrain or motivate an IDTL to go above and beyond the minimum requirements to facilitate public influence: 1) the IDTLs' personal beliefs and norms, 2) past and present experiences with the public, 3) the IDTLs' workloads, 4) the influence of the decision-maker.

The IDTLs' trust in the public versus trust in science

The IDTLs' personal beliefs and norms – as informed by their values and experiences – shape their willingness to expend extra effort during public involvement. The IDTLs' beliefs about the public and the public's role in agency planning are particularly important. These beliefs are informed in part by how much the IDTLs trust the public to participate fairly and reasonably and are often weighed against the IDTLs' beliefs about the role of science. For some IDTLs, negative prior experiences with the public have created a sense of distrust in the public's ability to participate or sincerity towards working towards realistic solutions. These IDTLs may believe the public should play a smaller role in the process and may be less willing or likely to put forth any extra effort. In contrast, other IDTLs were able to counter negative experiences with strong normative convictions, maintaining a belief in a larger role for the public in the planning process

In our interviews, the IDTLs' beliefs about the role of the public in the overall management of the National Forests were important motivators of their behavior. Many of the IDTLs who engaged in extra effort provided normative justifications for their actions, suggesting strong beliefs about an active role for the public in agency planning:

> We manage public lands. And as a result of managing public lands, the public should definitely be involved in everything we do. It's their lands and so I just happen to manage them.

These beliefs also extend to the nature of the personal interactions with individual members of the public:

> Everyone's like "oh you can't work with him, he's a pain". Yes, he's a pain. Yes, he requires us to ask for data that he knows we can't give him, but I can work with him. . . . Sometimes you just have to entertain people's ideas. We work for the public. I don't have any issue trying to find something for [X] and having to dig it up. But some people do. I take my job a little bit differently than other people. Like I said, I believe in the public involvement process. I don't take issue with it.

In addition to the IDTLs' evaluative stance on the trustworthiness of the public, they may also have ideas about which publics should have greatest influence. Generally, some IDTLs have strong feelings that distinguish between who they see as the *silent majority*, who are perceived to

be generally supportive but rarely participate, and the *vocal minority*, who represent the interested extremes and actively participate (see also Predmore et al. 2011a). Many of the IDTLs expressed a willingness to put forth an extra effort to get more participation from the silent majority, but at the same time expressed unease about facilitating any amount of public influence from the vocal minority.

Many of the IDTLs explicitly weighed their beliefs about the public against their belief in science (see also Predmore et al. 2011b), with differing results. While some IDTLs felt that science and the public were competing interests and that science should always trump the public's preferences and interests, others felt that the two were complementary:

> We are ultimately charged with basing our decisions on science. And that's our responsibility. We can't always do what the public wants, because sometimes the science isn't there to support it.
>
> I think that we bring to the table maybe more scientific ecosystem management knowledge than a lot of the public does, and I think that's an important piece of it, but I do think it's public lands, and I think that their opinions matter too.

The IDTLs who valued science over the public's preferences tended to believe the public should play a smaller role in agency planning, and, as such, were less willing to put forth any extra effort.

This invocation of science as a classifying standard for public comments in general and the substantive sieve in particular highlights the fuzzy line between dismissing an opinion and investigating it. Any comment that expresses an impact – on the environment or an individual – could be interpreted as a substantive comment calling for scientific analysis of a potential impact, as mandated by NEPA. For example, someone might be opposed to a proposed timber harvest, but not being knowledgeable about participating in Forest Service planning, they may simply send a comment that expresses their opinion about disliking the project without stating why in substantive terms. While some IDTLs – particularly those who emphasize science and the substantive sieve – might dismiss the comment as conjectural, other IDTLs might contact the commenter to ask why they held that opinion. Upon further investigation, the IDTL may learn that the site of the timber harvest is visible from this person's (and probably others') favorite hiking trail, which represents a visual impact and may warrant inclusion in the NEPA analysis. Many of the IDTLs interviewed described discovering the substantive impacts only upon further investigation of an opinion-based comment, especially in travel management cases.

The impact of prior negative encounters with the public

The IDTLs' beliefs about the public and their role in agency planning were largely informed by their prior and present experiences with the public. Many of the IDTLs were strongly influenced

by prior negative encounters with the public while positive encounters did little to counter those beliefs. The following quote describes how a series of negative experiences influenced one IDTL's willingness to host field trips or engage in dialogue with a particular public:

> We've had field trips with him in the past, and when you're in the field, when you're talking, chatting, nice, and "oh yeah, this makes sense, oh this is truly good", and then we get this like flaming letter of just, nasty from him with the "you're going to rape and pillage the land" kind of attitude. When you're sitting together in the car or we'll stand on-site kicking dirt, you know, he's talking about "yeah, this is nice, and I don't see any problems with this", and then turning around, and the letters you get are the complete opposite. . . . So the question becomes, is it worth having another field trip with him when he's going to do the same thing?

Another example of a negative experience includes feeling personally or professionally attacked by individual members of the public, and "shutting down" in response.

> At that point there's nothing I'm going to do with this girl. . . . But she was in la-la land, and I just sat there and thought, you know, if you've got a point in there somewhere it's just kind of hard to accept when you sit there and yell at people that are somebody respected in their field, and you totally discount them, then why should we take you seriously? And maybe they should learn that you shouldn't attack government employees who are just doing their job. We're not there to personally ruin your life because we're doing our job.

Negative experiences also included perceptions that the public is using the public involvement process as a deliberate delay strategy, which includes beliefs the public is "throwing science" at the agency hoping to "catch" or "hook" the agency on something to use for a legal challenge. A different type of negative prior experience occurs when the public is unwilling to engage with, much less compromise with, either the Forest Service or other public groups. The following quote illustrates how one IDTL characterized working with two opposing public groups on a process:

> It was just painful. And we really didn't reach much middle ground. It was a tough, tough process. So when you try that, and you try it more than once, and you don't get the results you're hoping for, what that does is it leaves the decision up to us.

There were a few notable exceptions where despite negative experiences, the IDTLs still believed the public should play a larger role and put forth the extra effort. These particular IDTLs described fairly strong normative beliefs, suggesting that their values override negative experiences:

> You know, there's a lot of people that don't like NEPA, or would like to see NEPA changed or to go away completely, but I think it's an important part of our voice. The Forest Service regulations under NEPA are some of the most, you

> know, challenging for us as the Forest Service but the most beneficial to the public. And I think that's a good thing. It makes my life difficult and challenging. Sometimes it's very hard to answer those questions and it's not very fun to be told that you're stupid or uneducated or other horrible words, but I personally value that right as a citizen and so as difficult as it is, I wouldn't want to see it limited, I guess, in any way. I think it's an important part of our society.

In summary, the IDTLs may bring the wealth – and baggage – of their experiences, beliefs, and values to the table during the planning process, which can result in differing gate-keeping behaviors that either constrain or facilitate public influence. While some IDTLs are driven more by their past experiences, other IDTLs are driven more by their personal norms and values (Ajzen, 2001). This includes their beliefs about the public and the role of science in agency planning decisions as well as their individual history of working with the public.

Workload concerns

The IDTLs' workload also influences their decision to put forth extra effort during the involvement process. Even the IDTLs with very strong beliefs about a larger role for the public will likely forgo putting forth the extra effort responding to the public when their workload is unmanageable. Workload is influenced by factors such as the size and complexity of the project, the number of other NEPA projects currently on-going, as well as other non-NEPA related job responsibilities:

> We're understaffed, and the way things are going with Congress, who knows? We aren't funded the way we should be to do the work that we need to do. So, most of us cringe when we have to do an EA or an EIS. We just go "oh" [shivers], because it takes two years to do a good EIS. It's a lot of work; it's a lot of time. It's a big investment. We had 5 EISs going on the district at one time. It was like crisis management. We were all stressed out. Just too much work. We had so many EISs going on; I was just about to slice my throat. That's *all* we were doing.

When an IDTL feels their workload is unmanageable, they will choose to strategically manage their time and effort expenditures. Strategies such as relying on the substantive sieve to classify and dismiss comments become survival mechanisms, regardless of the IDTLs' personal beliefs about the public:

> We're just trying to get our jobs done, so it's much easier for us just to say yep, thanks for your comment, and move on.

The context of the NEPA project, particularly project size and type, moderates the behavior and the workload of the IDTL during the involvement process. Specific project types, such as travel management or timber harvests, may engender a stronger level of public interest or controversy than other project types (Predmore et al in preparation). Knowing a specific project may be more

controversial may drive an IDTL to put forth some extra effort during public involvement in an attempt to alleviate public concerns. Alternatively, an IDTL may opt to not put forth any extra effort and rely on the procedural and legal minimums when the project is more controversial, in part to due to efficiency and time concerns but also in an effort to maintain a legally defensible process.

The role(s) of the decision-maker

The role of the official decision-maker for Forest Service NEPA processes in facilitating or constraining public influence is two-fold. First, the decision-maker may influence the gate-keeping behavior of the IDTL. Second, the decision-maker serves as the ultimate gate-keeper to public influence by being vested with the authority to make the final planning decision. In addition, the decision-maker also plays an important role in shaping the relationships between the agency and the public.

The decision-makers for Forest Service NEPA processes are usually District Rangers or Forest Supervisors and typically are the IDTLs' superior officer. Superior officers have the potential to motivate – or even dictate to – the IDTL to put forth extra effort during the public involvement process. For the IDTLs that already feel the public should play a stronger role in the process, a superior officer who encourages more engagement efforts with the public reinforces the IDTLs' beliefs and motivates extra effort in the process:

> [It's a] very active forest, and not just from the worker bees down below, it's from leadership all the way down. Leadership hasn't been afraid of controversy or engaging the public. We've had four other Forest Supervisors, and they've all engaged very well with the public and their staffs have been very engaging with them too, and making sure that if we cry up from down below and say hey, something's going on, we need to coordinate this, we do, and we go do that. I've been at other places where I've been involved with the public and then if they did a protest or something, then the Supervisor's office people were hiding under their desks and thinking the world was going to end.

However, for the IDTL who either doesn't have strong beliefs about the public's role or who believes the public should play a smaller role in the process, a superior officer could override or influence those beliefs and motivate the IDTL to put forth some extra effort during the involvement process.

> So we have a new [District Ranger] that's been here like a month, and she's really into collaboration and really the public being involved up front and all that kind of stuff. So there's a lot of influence by the powers that be as to what happens with that. And I think that we're going to be heading into an era with our new Ranger with lots of collaboration and lots of up-front looking at stuff.

In another example, an IDTL described having to put forth extra effort during the involvement process at the order of their superior officer, in one case developing an alternative based on the public's comments and in another case implementing a publicly-developed alternative. Putting forth this "amazing amount of extra work" was challenging to this particular IDTL, who felt strongly about the superiority of science-based decision-making and had many prior negative experiences with the public. As such, she did not believe the public should have such a large role in the planning process. Although these experiences did not appear to change the IDTL's beliefs about the role of the public, she did admit that "sometimes you can do something against science to make somebody happy and still win" when the publicly-developed alternative was implemented and resulted in satisfactory resource conditions.

Superior officers could also work as an opposing force and prevent an IDTL from exerting extra effort to enhance public influence, either directly or by making unrealistic demands on the workload of the IDTL. However, this was not observed in any of our interviews.

The decision-maker has the authority to dictate how the public ultimately influences the process and in this way serves as the final gate-keeper.

> So it was kind of a bummer to go through all of the process and work collaboratively through all of the issues, and then be shut down internally by my own agency.

The previous quote illustrates the frustration felt by an IDTL who had put forth the extra effort with a public group to collaboratively develop an alternative during one particular NEPA process, only to have the entire process blocked at a higher level. Other IDTLs described different ways a superior officer could determine public influence, such as selecting an alternative that was developed with no public influence even though a different alternative may have been developed with public influence.

Finally, a superior officer could be a transformational leader that improves agency-public relationships (Yang and Pandey 2011), breaking a cycle of unproductive interactions and distrusting relationships. Prior experiences on the part of the agency and the public continuously shape future interactions and beliefs. Expending the minimum amount of energy and effort during the process likely has a negative effect on the public's perceptions of the agency, while expending any amount of extra effort has the potential to improve agency-public relations (Germain et al. 2001; Predmore et al. 2011b; Smith and McDonough 2001). To illustrate this, consider these quotes from two different IDTLs describing their experiences working with the public:

> I have a bad attitude about the public. . . I hate them. No [laughter]. . . . [but] I think if we have to read their crap they should have to read ours.

> You know I think a real genuine desire to listen to people and understand them is key, and it goes a long way. I think if you do that you don't necessarily have to do exactly what they want, but if they really think you're treating them with respect and dignity and listening to them and not perceiving them as a problem that I think it goes a long way.

Clearly, the sentiment expressed by the first IDTL is warned against by the second. But the main point is that the sincerity expressed by the second IDTL is likely communicated non-verbally to the participating publics, fulfilling these publics' desires to feel heard and respected during the process, and overall contributing to improved perceptions of the process and its outcomes (Germain et al. 2001; Smith and McDonough 2001). In contrast, the negativity expressed by the first IDTL may also be perceived by the participating publics, potentially damaging relationships and reinforcing or exacerbating feelings of distrust. Small attitude adjustments could have ripple effects on the public's perceptions of the fairness of the process and decision, as well as their overall perceptions of the agency (Smith and McDonough 2001). In addition, having negative beliefs about the public involvement process has been shown to detrimentally impact the overall NEPA process (Hoover and Stern, in preparation; Stern and Predmore, in press).

Many of the IDTLs explained that a superior officer has the potential to intensify a cycle of distrust, or to break it. On the negative side, a general lack of a consistent leadership direction was believed to contribute to higher levels of public distrust. In particular, leadership that appeared to go back and forth on promises or decisions aggravated public relations. However, leadership that made consistent and concerted efforts to involve the public, bring the public in to discussions, and otherwise invested in collaboration appeared to have the potential to break the negative feedback cycle and improve agency-public relations. Two IDTLs describe two very different types of leaders:

> I think that you have a lot of line officers who still believe, by God, I'm a line officer, I have the authority and I want to do what I want and it doesn't matter what the public thinks. And I think that that still alienates enough people that we will always have a high level of distrust.

> The [District Ranger] we have now is excellent. He is transparent and he has got people to the table that we haven't had in 3 or 4 years, which is great. It's a challenge, certainly, but at least to get people talking. He talks to people. He listens to what they have to say. He doesn't give his opinions; he listens and asks them about their input. . . . And he is at all the meetings. And internally and externally he makes people feel like they're heard. And if he commits to something, he does it. But the fact that he's there and he listens and he asks, I think is really what has brought people around.

Conclusion

Public influence is not a mandated outcome of the NEPA process, so allowing the public any influence within the process is at the discretion of first the agency personnel implementing the process (the IDTLs) and then ultimately the agency personnel making the final planning decisions (the decision-makers, or line officers). For IDTLs, adhering to the minimum process requirements generally works to constrain public influence from occurring. However, IDTLs also have the discretion to perform above the minimum process requirements, which could potentially facilitate more public influence and improve agency-public relations. IDTLs that have strong normative beliefs about the role of the public in agency planning tend to be more willing to go above and beyond the minimum requirements and put forth extra effort to facilitate public influence. Workload concerns, however, may override those beliefs at times. IDTLs that generally perform only the minimum requirements during the public involvement process may not trust the public or their own abilities to interact well with the public. Otherwise, they may believe the public should play a smaller role in agency planning altogether. A strong leadership commitment to working with the public by the line officer has the potential to motivate any IDTL to put forth extra effort to facilitate more public influence.

In summary, Forest Service IDTLs typically have the discretion to increase the amount of public influence they desire. IDTLs expressed a desire for more substantive influence from the public. The line between substance and opinion is fuzzier than they may realize. While the public may only know how to communicate their opinions, there may actually be a substantive basis to those opinions. Agency personnel have the choice to make comments more substantive by pursuing dialogue with interested and commenting publics. The IDTLs can often make an opinion-based comment meet the "significant and substantive" standard necessary to apply the comment to the project by asking just a couple of follow-up questions regarding why the opinion is held. In this way, the IDTLs can help translate the public's opinions and values for the management of the National Forests into a site-specific reality. In addition to potentially improving the land management decision, this extra effort could also improve the public's satisfaction and relationship with the Forest Service.

This study has also highlighted some of the challenges facing public land managers with regard to public influence. While in many ways working with the public may be rewarding, it may also be taxing, especially when agency personnel are faced with unreasonable publics who treat Forest Service staff poorly and with disrespect. Many of the IDTLs in this study described very personal insults and attacks throughout their careers. While the Forest Service has little control over how the public behaves, the agency may be able to do more to improve their employees' abilities to cope with the pressure and stress of working with the public. In addition to maintaining reasonable workloads, the Forest Service may also consider offering specific

training and support programs throughout an employees' tenure. In this way, the agency may be able to not only cultivate relevant skills and perspectives early in an employee's career, but also reinforce those skills and perspectives often throughout that career.

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Chapter Five

Conclusion

The purpose of this study was to explore how Forest Service personnel involved in leading the NEPA planning process view and implement public involvement. Specifically, this research examined public involvement from the perspective of the agency personnel who served as the interdisciplinary team leader (IDTL) for a recently completed NEPA project. As the street-level bureaucrats charged with implementing the daily tasks of the NEPA planning process, these Forest Service employees have considerable discretion about how the public is involved (Lipsky 1980; Predmore et al. 2011b). They are also the agency personnel who most directly interact with the public during the process. Drawing on both quantitative and qualitative analyses, this study explored the values of these agency personnel regarding public involvement, how those values inform their decisions about implementing the public involvement process, how much they believe the public should influence agency planning efforts, and how the public gains influence through the public involvement process.

The findings from chapter two reveal that agency personnel generally value public involvement for providing specific facts and information that may assist in the land management decision, and for removing barriers to project implementation. Public involvement is less commonly valued as a means for incorporating public values and interests into the decision, or for achieving public buy-in for the decision. While these values for public involvement showed some relationships to process outcomes, the most noteworthy is that IDTLs who believe public involvement is only a procedural requirement tend to achieve less desirable team and efficiency outcomes. In terms of the techniques used during the public involvement process, the findings from chapter two suggest process outcomes are driven more by how the agency and public interact than by the specific technique(s) used by the agency. In particular, agency personnel who interacted with the public through direct two-way dialogue tended to achieve more positive process outcomes.

Chapter three explored what these IDTLs believed the appropriate role of the public to be during the planning process. The IDTLs revealed a preference for some degree of public influence to occur throughout the process, especially during the earlier stages. This suggests the agency is at least partially moving away from the expert-based rational planning model that has dominated the Forest Service since its inception (Predmore et al. 2011; Tipple and Wellman 1989). The IDTLs also indicated the perception that some public influence occurs in the planning process, but a majority believe there should be more. Although perceptions of higher amounts of public influence were associated with more positive perceptions of the public involvement

process and improvements in agency-public relations, there were few correlations with the other outcome measures. This suggests that public influence can have variable impacts on process outcomes depending on the context of the project and the nature of the influence.

The findings from chapter two and three suggest agency personnel desire more substantive public influence, which involves more facts and information at a project-specific level that may improve the land management decision. Chapter four explores the substantive, normative, and instrumental justifications for why IDTLs desire this type of influence, and the roles IDTLs play in determining how much of this public influence occurs. Agency personnel are granted considerable discretion regarding how the public involvement process is implemented (Predmore et al. 2011; Stern et al. 2009). How they choose to use that discretion when interacting with the public plays a critical role in how much influence the public is granted. IDTLs thus serve as key "gate-keepers" to public influence. Agency personnel who choose to only perform the minimum required tasks tend to keep the gate closed to public influence during the process. At a minimum, agency personnel are required to provide notice to the public of proposed agency actions and to allow the public the opportunities to comment at various stages of the planning process. Agency personnel are granted the discretion to respond to public comments that meet a "significant and substantive" legal and scientific standard and to dismiss more general and opinion-based comments (Predmore et al. 2011).

Relying on this substantive standard to respond or dismiss comments may have been intended to enhance the efficiency of the process, and agency personnel described relying on it as a tool to manage demanding workloads. However, doing so places more impetus on the participating publics to participate in a specific, substantive manner in order to gain influence. Often, the participating publics provide values-based comments at a more general level that fail to meet the substantive standard (Predmore et al. 2011). This raises important procedural justice issues by creating a knowledge and competency barrier to effective participation (Yang and Pandey 2011). In contrast, agency personnel who used their discretion to perform above the legally mandated tasks often facilitate – or lift the gate to – more public influence by interacting with the public and helping them translate their values and visions into specific management concerns.

Several interrelated internal and external factors appear to drive the IDTLs' willingness to expend extra effort and perform above the minimum requirements to facilitate public influence. Internal factors include the IDTLs' beliefs about the public and their role in agency planning, beliefs about science, and beliefs about their own skills and ability. These are often based on their prior experiences and training. External factors include their workload demands and the influence of their superior officer(s). Regardless of their beliefs or intentions, agency personnel often perform at the minimum required levels due to the many competing demands on

their time. Superior officers often can motivate – or force – agency personnel to perform above the minimum required efforts. Further, superior officers also can play a transformative role in the agency-public dynamic, by working to (re-)build mutual trust and respect (Yang and Pandey 2011).

In all, this research has highlighted the importance of looking beyond the specific public involvement technique employed during the process to the nature of the interaction between the agency and the participating publics. The forum in which involvement takes place appears to be less important than what occurs during the involvement, specifically two-way communication. Although engaging in dialogue may have certain risks, the benefits to agency-public relationships may have lasting repercussions. Because many of the public's complaints about the Forest Service are grounded in not feeling heard or respected by the agency (Germain et al. 2001; Smith and McDonough 2001), engaging in dialogue with the participating publics and listening to their concerns may go a long way to repair damaged relationships. At the organizational level, the Forest Service might consider encouraging more of this interaction throughout the NEPA planning process as one strategy for improving the relationships with the publics they serve.

Another key insight from this research is the importance of the agency personnel's individual beliefs about the role of the public in National Forest planning and management. Believing the public involvement process is merely a procedural requirement – and by extension, a burden – appears to become a self-fulfilling prophecy with detrimental impacts to process outcomes. However, a belief on behalf of the IDTL that the public has something of value to contribute was associated with better process outcomes as well as potentially improved relationships. Small attitude adjustments can have a ripple effect throughout many different facets of the agency planning process, and may even extend to more internal factors such as employee satisfaction. Improved public relations may clearly make the job more pleasant, or at least less adversarial. The morale of agency personnel has been statistically link with improved process outcomes (Stern and Predmore, in press).

A primary theme that permeated this research was that of mismatched expectations (Germain et al. 2001): the public participates in planning efforts hoping to infuse the decision with their values for the management of the National Forests, while the agency's goals focus more on meeting procedural requirements and gaining substantive, site-specific facts and information. Often, the results of these mismatched expectations can be undesirable for both the agency and the publics (Cheng and Mattor 2006, Germain et al. 2001). However, this study revealed one way some agency personnel were working to reconcile the gap. By recognizing the fuzzy line between dismissing an opinion and investigating it, these personnel went above and beyond their job responsibilities and engaged with the public in an effort to translate their vision

for how the National Forests are managed into a site-specific reality. Often this just required an email or telephone conversation; sometimes, it required a more substantial investment in time and energy. These personnel reported improved relationships with the participating publics and perceptions of higher levels of public satisfaction with the decision-making process.

The Forest Service may be well-served to embrace this strategy and encourage a more sincere and interactive approach to their public involvement activities as one way to improve public satisfaction with their planning processes. Such an approach, however, would come with some inherent risks. The risks primarily involve workload concerns and decreasing the efficiency of the planning process. Agency personnel already feel the burden of competing tasks and heavy workloads. Asking them to go above and beyond the minimum requirements may seem counter-intuitive. Agency personnel would have to learn how to reallocate their efforts throughout the process, as they potentially spend more time translating the comments and conducting additional analyses. Putting forth this extra effort could lengthen the already long planning process. In many ways, this could be seen as continuing to place agency personnel in the unfortunate position of having to navigate between the seemingly competing values of engaging the public and management efficiency, both of which are important for an administrative agency charged with managing public resources (Stern and Predmore, 2011).

This research revealed how framing public involvement and management efficiency as competing can actually have detrimental impacts to some of the agency's defined outcome measures, including the efficiency of the process and agency-public relations. The belief that public involvement is simply a procedural exercise that requires time and effort but results in little of value to the process can create feelings of ambivalence and deflate morale, leading to poor task execution that result in less efficient processes (Innes and Booher, 2004; Stern and Predmore, in press). Further, possessing a bad attitude about public involvement may damage agency-public relationships in part through non-verbal communications when interacting with the public, but also through not putting forth the extra effort to make publics feel heard and respected (Germain et al. 2001; Smith and McDonough 2001). In contrast, working to improve agency-public relationships may in turn build social trust and mutual respect between the agency and the public (Innes and Booher 2004; Smith and McDonough 2001). This could lead to improved agency morale and public satisfaction with the agency, but may also result in more efficient implementation as agency personnel and the participating publics spend less time strategically maneuvering against each other and more time working together (Germain et al. 2001). Perhaps working towards an alternative framing that not only redefines what doing public involvement means to the Forest Service, but also redefines efficiency to look beyond the start and end date of one particular project may help ease the internal and external conflicts surrounding Forest Service planning processes.

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Appendix A

Internal Review Board Approvals

VirginiaTech

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Institutional Review Board
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MEMORANDUM

DATE: April 26, 2010

TO: Marc Stern, Katherine Hoover, Stephen Predmore

FROM: Virginia Tech Institutional Review Board (FWA00000572, expires June 13, 2011)

PROTOCOL TITLE: Success in Forest Service NEPA and Its Key Determinants

IRB NUMBER: 10-227

As of April 23, 2010, the Virginia Tech IRB Administrator, Carmen T. Green, approved the amendment request for the above-mentioned research protocol.

This approval provides permission to begin the human subject activities outlined in the IRB-approved protocol and supporting documents.

Plans to deviate from the approved protocol and/or supporting documents must be submitted to the IRB as an amendment request and approved by the IRB prior to the implementation of any changes, regardless of how minor, except where necessary to eliminate apparent immediate hazards to the subjects. Report promptly to the IRB any injuries or other unanticipated or adverse events involving risks or harms to human research subjects or others.

All investigators (listed above) are required to comply with the researcher requirements outlined at http://www.irb.vt.edu/pages/responsibilities.htm (please review before the commencement of your research).

PROTOCOL INFORMATION:
Approved as: **Exempt, under 45 CFR 46.101(b) category(ies) 2**
Protocol Approval Date: **3/9/2010**
Protocol Expiration Date: **NA**
Continuing Review Due Date*: **NA**
*Date a Continuing Review application is due to the IRB office if human subject activities covered under this protocol, including data analysis, are to continue beyond the Protocol Expiration Date.

FEDERALLY FUNDED RESEARCH REQUIREMENTS:
Per federally regulations, 45 CFR 46.103(f), the IRB is required to compare all federally funded grant proposals / work statements to the IRB protocol(s) which cover the human research activities included in the proposal / work statement before funds are released. Note that this requirement does not apply to Exempt and Interim IRB protocols, or grants for which VT is not the primary awardee.

The table on the following page indicates whether grant proposals are related to this IRB protocol, and which of the listed proposals, if any, have been compared to this IRB protocol, if required.

VirginiaTech

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MEMORANDUM

DATE: February 15, 2012

TO: Marc Stern, Katherine Hoover

FROM: Virginia Tech Institutional Review Board (FWA00000572, expires May 31, 2014)

PROTOCOL TITLE: Public Influence in US Forest Service NEPA Processes

IRB NUMBER: 11-267

Effective March 15, 2012, the Virginia Tech IRB Chair, Dr. David M. Moore, approved the continuation request for the above-mentioned research protocol.

This approval provides permission to begin the human subject activities outlined in the IRB-approved protocol and supporting documents.

Plans to deviate from the approved protocol and/or supporting documents must be submitted to the IRB as an amendment request and approved by the IRB prior to the implementation of any changes, regardless of how minor, except where necessary to eliminate apparent immediate hazards to the subjects. Report promptly to the IRB any injuries or other unanticipated or adverse events involving risks or harms to human research subjects or others.

All investigators (listed above) are required to comply with the researcher requirements outlined at http://www.irb.vt.edu/pages/responsibilities.htm (please review before the commencement of your research).

PROTOCOL INFORMATION:
Approved as: **Expedited, under 45 CFR 46.110 category(ies) 6, 7**
Protocol Approval Date: **3/15/2012 (protocol's initial approval date: 3/15/2011)**
Protocol Expiration Date: **3/14/2013**
Continuing Review Due Date*: **2/28/2013**
*Date a Continuing Review application is due to the IRB office if human subject activities covered under this protocol, including data analysis, are to continue beyond the Protocol Expiration Date.

FEDERALLY FUNDED RESEARCH REQUIREMENTS:
Per federally regulations, 45 CFR 46.103(f), the IRB is required to compare all federally funded grant proposals / work statements to the IRB protocol(s) which cover the human research activities included in the proposal / work statement before funds are released. Note that this requirement does not apply to Exempt and Interim IRB protocols, or grants for which VT is not the primary awardee.

The table on the following page indicates whether grant proposals are related to this IRB protocol, and which of the listed proposals, if any, have been compared to this IRB protocol, if required.