

USING THE INTERNET FOR PUBLIC PARTICIPATION IN NATURAL RESOURCE DECISION
MAKING: U.S. ARMY CORPS OF ENGINEERS AND THE MCNARY SHORELINE
MANAGEMENT PLAN

By

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ABSTRACT

USING THE INTERNET FOR PUBLIC PARTICIPATION IN NATURAL RESOURCE DECISION MAKING: U.S. ARMY CORPS OF ENGINEERS AND THE MCNARY SHORELINE MANAGEMENT PLAN

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The public sector is increasingly relying on Internet technology to fulfill its obligations for public input in decision-making processes. The purpose of this study is to examine citizen and agency perceptions regarding the use of the Internet in the public comment phase of a natural resource management planning process, to identify the perceived benefits and costs of using electronic and non-electronic means of communicating public comment, and to determine if there is a gap between current agency uses of the Internet in public participation and the best practices identified in the literature. The scope is small scale and regional.

From the Internet and public participation interviews conducted for this study, major findings with key practical implications are that citizens were disappointed with (a) the inability to collaborate and learn from each other during the public comment process, and (b) the lack of feedback or acknowledgment from the Corps of Engineers. Both professional practice and research implications are discussed.

This thesis is dedicated to my wife Jennifer, and my family and friends for supporting me in my dreams.

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CHAPTER 1: INTRODUCTOIN

"Government should be participatory. Public engagement enhances the Government's effectiveness and improves the quality of its decisions.

Knowledge is widely dispersed in society, and public officials benefit from having access to that dispersed knowledge. Executive departments and agencies should offer Americans increased opportunities to participate in policymaking and to provide their Government with the benefits of their collective expertise and information. Executive departments and agencies should also solicit public input on how we can increase and improve opportunities for public participation in Government." (Obama, 2009)

Recent advances in Internet technology application and use play a significant role in how government agencies engage with citizens, and how citizens engage with each other as well as with the government. As a result of these advances, the public sector is increasingly relying on Internet technology to fulfill its obligations for public input in decision-making processes. These obligations are part of legal mandates such as the Administrative Procedures Act of 1946, the National Environmental Policy Act of 1969, the E-Government Act of 2002, as well as President Obama's executive order on Transparency and Open Government in 2009 which calls for a government that is more transparent, participatory, and collaborative.

Internet use among American adults has increased significantly over the past 15 years. In 1995, Pew Internet & American Life Surveys found that 15% of American adults utilized the Internet (Pew Internet & American Life Project, 2010).

The figures for 2009 rose to 74% (Pew Internet & American Life Project, 2010). Sixty percent of American adults use broadband connections at home, an increase from 55% in 2008, and an increase from 47% in 2007; only 10% of American adults have dial-up connections in their homes (Pew Internet and American Life Project, 2010). In 2009, 55% of American adults connected to the Internet wirelessly via their laptops with a Wifi or WiMax connection, or through their mobile handheld devices such as a smart phone (Rainie, 2009). Twenty-eight percent of laptop users access the Internet via a wireless broadband card, and 29% of American adults access the Internet via their mobile phone (Rainie, 2009). At the end of 2009, the eight most frequent daily Internet uses were: send or read email (58%), use a search engine to find information (50%), get news (38%), surf the web for fun (38%) check the weather (33%), look for information on a hobby or interest (29%), online social networking (27%), get news or information about politics (25%) (Pew Internet & American Life Project, 2010).

Citizens are now able to reach agency officials through email and through web forums in addition to traditional methods. Of the 80 different ways that individuals use the Internet, "visit a local, state or federal government

website" was 13th in frequency, with 60% (83 million people) of Internet users doing so (Pew Internet & American Life Project, 2010).

Increasing public participation in natural resource management is not an easy task (Jonsson, 2005), and increased collaboration is often difficult to achieve and costly (Schusler, Decker, & Pfeffer, 2003). Studies on public participation in government decision making highlight the range of citizen involvement from negligible to deliberative involvement in every stage of the decision making process (Arnstein, 1969; Bryer, 2010). Internet technology is providing new avenues for citizen involvement. Previous studies demonstrate that online collaboration and successful outcomes are possible when dealing with large-scale national issues such as the 1997 National Organic Rule (Shulman, 2003; Shulman, Schlosberg, Zavestoski, & Courard-Hauri, 2003; Zavestoski, Shulman, & Schlosberg, 2006). National issues tend to generate hundreds of thousands of comments and have thus gathered much research attention (Shulman, 2006; Shulman, Kwon, Hovy, & Huisman, 2008; Zavestoski, et al., 2006); however, the use of Internet technology for small-scale regional issues involving natural resource decision making processes have rarely been studied. This thesis focuses on the role of Internet technology in the public participation process of a natural resource management decision-making process. The purpose of this study is to evaluate the degree to which the use of Internet technology in the public comment process is capable of facilitating perceptions

of a collaborative and successful public comment process for both citizens and the agency seeking comment. The scope is small scale and regional.

This study adds to the scholarly literature on public participation, and also expands the literature on small scale, regional natural resource decision-making processes that use the Internet to gather public input. The scholarly literature has indicated that the use of Internet technology can enhance the public participation process by providing opportunities for online participation, dialogue, and deliberation. These online interactions can increase levels of satisfaction with the public comment and decision-making process for both citizens and that agency seeking comment. While many large-scale agencies can afford and manage more cutting-edge online interaction in their public comment processes, agencies working on issues of a smaller-scale can benefit from the best practices of public participation (both non-electronic and electronic) presented in the scholarly literature and findings of this study.

CHAPTER 2: LITERATURE REVIEW

This thesis examines the use of Internet technology in the public participation process for a natural resource decision-making issue at a small-scale regional level. This literature review is divided into three major sections. First, a historical overview of public participation theories and concepts is presented. Second, the author provides a conceptualization of public participation that blends normative frameworks from scholarly literature with a definition from a recognized professional organization that focuses on public participation best practices. Third, this literature review examines the role of Internet technology in the public participation process. Finally, a statement of the research problem and the research objectives are presented.

The literature on public participation is vast, spanning multiple disciplines and articulated in dozens of journals and numerous websites. This literature recognizes that theories of democracy (Webler & Tuler, 2002), procedural justice (P. D. Smith & McDonough, 2001), fairness and competence (Dalton, 2005; P. D. Smith & McDonough, 2001; Webler & Tuler, 2002), management theory (Thomas, 1993, 1995), collaborative learning (Webler & Tuler, 2002), and communicative action (Webler & Tuler, 2002) all contribute to the understanding of public participation in government decision making.

Regardless of the domain or theory one subscribes to, public participation in natural resource management can lead to conflict (McCool & Guthrie, 2001; Proctor, 1998). Oftentimes government-required public participation in decision

making processes falls short of its objectives (Innes & Booher, 2004). While environmental decisions are typically controversial and lead to large numbers of comments (Schlosberg, Zavestoski, & Shulman, 2007, 2009), it is perceived by citizens that government effort to incorporate public participation is done merely to meet legal requirements (Bryer, 2010; Innes & Booher, 2004).

In an extensive summary of early participatory theorists, Bryer devises a normative framework of the public participation process where better citizens (government trust in citizens, citizen efficacy, and citizen competence) and better government (citizen trust in government, perceived government legitimacy, and responsive government) are the goals of public participation (Bryer, 2010). Bryer's framework offers several principles linked to the attainment of goals such as minimizing the costs of participation, establishing trust between citizens and between citizens and the government, developing citizen ownership in the process, and ensuring transparency through information sharing and open communication (Bryer, 2010). Bryer's principles are reminiscent of Habermas' theory of communicative action. Habermas' theory "is based on his concept of rationality defined as the ability of people to reach a mutual understanding even when interests, cultural frameworks, and languages conflict. The goals of communicative action are to permit us to comprehend each other well enough so that common goals and understanding are possible" (Yankelovich, 1991).

In a classic model of public participation in decision making, Arnstein presents citizen involvement as eight rungs on a ladder where involvement ranges from non-participation in the form of manipulation and therapy, to symbolic participation through the practice of informing, consulting, and placation, to various degrees of citizen power that include partnership, delegated power and citizen control (Arnstein, 1969). This model shows that as power increases, citizens have a greater ability to influence decisions and outcomes. Anything that is short of a partnership is symbolic or manipulative.

Similar to Arnstein's classic ladder of public participation, the International Association of Public Participation (IAP2) offers a spectrum of participation that identifies five levels of public impact. These levels range from least impact to most impact in the following order: inform, consult, involve, collaborate, empower (International Association for Public Participation (IAP2), 2007). While the IAP2 categorizes web sites in the lowest level of public impact, the *inform* stage, it is the author's argument that web sites, and Internet technology in general, can and has been used to support increased levels of public participation and helps groups with divergent opinions reach consensus, build networks, and impact government rulings and decisions directly.

Definitions and frameworks of public participation vary with theoretical literature and professional practice. The IAP2's professional definition of public participation is any process that involves the public in problem solving or

decision making and uses public input to make decisions (International Association for Public Participation (IAP2), 2009).

James L. Creighton, the founder of IAP2, takes the definition a step further by indicating that public participation is a process that involves two-way communication between stakeholders to achieve more acceptable decisions:

“Public participation is the process by which an organization consults with interested or affected individuals, organizations, and government entities before making a decision. Public participation is two-way communication and collaborative problem solving with the goal of achieving better and more acceptable decisions. Public participation prevents or minimizes disputes by creating a process for resolving issues before they become polarized” (Creighton, 2008).

While the goals and frameworks of public participation vary, a general theme emerges that recognizes participation as taking place along a spectrum or scale where citizens have little-to-no control in the decision making process, to where citizens are completely in control of the process itself, including the final outcomes. Each participant in the decision making process, whether it's the citizen, special interest group, or the agency seeking comment, may have different needs, wants, desires, preferences for participation, and areas of participation, and these differences may vary depending on the scope or scale of the decision making process (Wandersman, 1979a, 1979b). As Marcus Lane argues in his historical review of public participation in the planning process,

there is no singular framework or definition of public participation because each instance must be examined in its own context (Lane, 2005). The literature in this vast area points to the conclusion that definitions and theories of public participation should be viewed as they relate to a spectrum of participation and take into account the specific context of the decision-making process being examined.

Considering the aforementioned goals, frameworks, and definitions of public participation, numerous studies have revealed the following characteristics of successful public participation processes ("successful" in this context means participation as a means to better citizens and better government, as emphasized in Bryer's framework):

- Encouraging dialogue among stakeholders along with building networks and institutional capacity (Innes & Booher, 2004).
- Active participant involvement, information exchange, efficient administration, and positive participant interactions (Dalton, 2005).
- Including lay perspectives in addition to scientific or expert generated claims (Kroll-Smith & Couch, 1991; Zavestoski, et al., 2006).
- Citizens need to believe their comments will be heard and have the potential to influence decisions and not simply be overshadowed by the opinions of the agency or scientific experts (Finney, 1999; Schlosberg & Dryzek, 2002).

- Government agencies seeking comment are looking for value added input that improves the final decision outcome (Shulman, 2003; Shulman, et al., 2003; Shulman, Zavestoski, Schlosberg, Courard-Hauri, & Richards, 2001; Zavestoski, et al., 2006)
- Participant perceptions of trust, accountability, engagement, and opportunity to participate (Dalton, 2005; Zavestoski, et al., 2006).
- Participant perceptions of fairness and ownership in the outcome or decision (P. D. Smith & McDonough, 2001).
- Empowerment, competence (ability to participate) and leadership effectiveness (Peterson, et al., 2006; P. D. Smith & Propst, 2001)

Internet technology and public participation

Literature that focuses on the role of the Internet in public participation in decision making is consistent with the general literature on public participation. The Internet, just like any tool or method of public participation, contributes to democratic process only to the extent the method is deliberative, fair, and legitimate (Shulman, 2006; Zavestoski, et al., 2006).

The Internet holds the potential to create opportunities for critical engagement on issues of public concern (Coleman & Gotze, 2001) and provides normative conditions for public opinion formation (Dahlberg, 2001). In his review of the role of the Internet in public participation in deliberative democracy, Rasmussen (Rasmussen, 2007) cites authors who show that the Internet increases opportunities for interaction because it increases the number

of social contacts individuals can have (Coleman & Gotze, 2001; Cummings & Kraut, 2002; DiMaggio, Hargittai, Neuman, & Robinson, 2001; Uslaner, 2004; Wellman, Haase, Witte, & Hampton, 2001). Recent developments in the use of Web 2.0 make online interaction more user friendly and conducive to collaborative decision making (Rinner, Kefler, & Andrulis, 2008). Blogs, forums, and social networking sites offer opportunities for engagement (Coleman & Wright, 2008). These interactions supplement traditional means of offline engagement (Gershuny, 2003; Lievrouw, 2001; Robinson, DiMaggio, & Hargittai, 2003; Shah, Kwak, & Holbert, 2001).

New technology alone will not extend participation in the public sphere (Dahlberg, 2001). The usefulness of Internet technology varies across diverse issues and circumstance and may not be superior to more traditional means of engagement and communication (Rowe & Gammack, 2004). Studies that attempt to uncover citizen perceptions of successful public participation show that it is not the technology used that is important, instead success depends on the process and perceptions of trust, engagement, feedback and say in the final outcome of the decision (Charnley & Engelbert, 2005; Lowndes, Pratchett, & Stoker, 2001; Rose & Sæbø, 2010).

Technology as a tool to enhance participation

The United States Department of Agriculture's (USDA) 1997 National Organic Labeling Rule and the United States Forest Service's year 2000 proposed Roadless Area Conservation Rule offer two examples of early

government projects that used the Internet to engage with citizens (Shulman, 2003). With the organic rule, government officials were able to show how citizen and interest group comments and/or recommendations were included in the plan. Citizens had the ability to read and view other comments during the comment period and these behaviors had a positive impact on citizen perceptions of the success of the rulemaking process (Shulman, 2003; Zavestoski, et al., 2006). Alternatively, the Roadless Area Conservation Rule did not allow for this type of interaction and it was the researchers' conclusion that overall perceptions of satisfaction with the rulemaking process were less than those who participated in the organic rule (Shulman, 2003; Shulman, et al., 2001; Zavestoski, et al., 2006).

Regional decision making processes tend not to generate the large number of comments that national issues do, yet research shows that online deliberation can be incorporated into smaller scale processes (Lowry, 2009). In Lowry's study, 133 participants deliberated over a 31-day period regarding a regional transportation improvement decision. Participants made hundreds of posts and thousands of post-ratings. This case showed that it is possible for regional level groups to participate in online deliberation. A majority of participants were optimistic about online deliberation and claimed it helped them understand and appreciate different perspectives (Lowry, 2009).

Internet technology creates opportunities for dialogue and deliberation that did not exist before the technology was developed. Major benefits include

decreased cost and increased convenience (Gerhards & Schafer, 2010; Rowe & Gammack, 2004). Internet technology provides government agencies a low-cost manner to meet regulatory requirements for public participation (Finney, 1999; Schlosberg & Dryzek, 2002; Shulman, 2005a). The push for efficiency and cost savings is driving the implementation of Internet use for gathering citizen comments in government agencies (McNeal, Hale, & Dotterweich, 2008; Schlosberg & Dryzek, 2002; Shulman, 2005a, 2005b; Shulman, et al., 2003). This push toward efficiency may be at odds with the idea of a participatory democracy where citizens and government agencies have an opportunity to engage with each other on the issue in a deliberative manner (Schlosberg & Dryzek, 2002; Shulman, 2005a; Shulman, et al., 2003).

Nonetheless, the ability to engage and interact with people without having to be physically present allows individuals to participate who otherwise may not show up in person because of potential conflict of interest or confrontation (Stromer-Galley, 2002). Geographical boundaries are reduced because Internet technology increases access of participation for individuals who are physically not able to be there due to geographic distance (Bryer, 2010; Rowe & Gammack, 2004; Schneckenberg, 2009; Voinov & Costanza, 1999). Interest groups use Internet technology to educate and recruit members (Shulman, 2006). In addition interest groups take advantage of web-based tools to generate mass participation in environmental issues through the generation, distribution, and submission of form letters (Schlosberg, et al., 2009). It is proposed

that email and mass email is not ideal for deliberative acts, and form letters generate little new awareness for an issue; they may even get in way of agency getting to new comments because of the complications they pose to identifying original comments (Shulman, 2006). Research is being conducted to help agencies deal with the massive inflow of electronic public comments, and text analysis software is being designed to identify duplicate form letters from those with original comments (Shulman, Callan, Hovy, & Zavestoski, 2004; Shulman, et al., 2008).

While the benefits of decreased cost and increased accessibility are real, it should be noted that access is not always equitable. This is what is referred to in the literature and mass media as the digital divide. People who use the Internet the most to engage politically tend to be highly educated, wealthy people (Blomquist & Schlager, 2005). High income persons are more likely to use the Internet and have high-speed access at home (A. Smith, Schlozman, Verb, & Brady, 2009). Education is highly correlated with government participation whether online or offline (A. Smith, 2010; A. Smith, et al., 2009). Online political engagement favors the young (A. Smith, 2010; A. Smith, et al., 2009). At a regional level, a study shows that not all participants have the skills necessary to use Internet technology appropriately for participation in government decision making processes (Voinov & Costanza, 1999).

A handful of studies have revealed the following characteristics of successful public participation processes that incorporate the use of Internet technology:

- User-friendly online databases can increase access to data and encourage increased civic engagement (Federal Communications Commission, 2010; Howes, 2002; McNeal, et al., 2008; Rose & Sæbø, 2010; Schlosberg, et al., 2007).
- Citizens and government agencies need to have access to training to improve their skills related to Internet technology (De Zuniga, Puig-I-Abril, & Rojas, 2009; Howes, 2002; Rowe & Gammack, 2004).
- Social networks need to be designed so discourse can be easily tracked and managed by users and administrators (Laurent, 2009).
- Websites require user driven design that focuses on open access and optimal usability (Rose & Sæbø, 2010)
- Discussions and posts must produce data for driving change (Laurent, 2009).
- Participants must feel engaged in the process (Laurent, 2009).
- Government agencies must be responsive to comments by providing feedback to those who submit comments (Bryer, 2010; Rose & Sæbø, 2010; Shulman, 2003; Voinov & Costanza, 1999; Zavestoski, et al., 2006).

- Government agencies must clearly show how citizen comments are incorporated into the decision making process (Rose & Sæbø, 2010; Shulman, 2003).
- Participants must have the opportunity to post positive and negative views and give agencies real time access to citizen opinion (Laurent, 2009; Shulman, 2003, 2005a; Zavestoski, et al., 2006).

Statement of the Problem

While the literature suggests there are best practices when it comes to public participation in government decision-making process, it is not clear that public agencies, particularly at the local level, are doing more than simply utilizing the Internet to provide citizens with a quick convenient way to post comments. It is not clear from the literature that the agencies that use the Internet are fostering deliberative democracy. Furthermore, it is largely unknown who is and who is not participating in the public comment process online at the local level. Therefore, the objectives of this study are the following:

Research objectives

- To examine citizen and agency perceptions regarding the use of the Internet in the public comment phase of a natural resource management planning process.
- To identify the perceived benefits and costs of using electronic and non-electronic means of communicating public comment.

- To determine if there is a gap between current agency uses of the Internet in public participation and the best practices identified in the literature.

CHAPTER 3: METHODS

For this research, the project research protocol and instruments were granted IRB approval (IRB# 03-803) from the Office of Human Subject Research at Michigan State University. The research proceeded in two phases. In the first phase, an online survey was deployed to 38 U.S. Army Corps of Engineer District Offices in March of 2009 to gather information on how the U.S. Army Corps of Engineers seeks public comment for natural resource management planning and decision-making processes. Data from this survey were used to select potential study sites based on the role the Internet plays in gathering public comment. The primary criterion for selecting a study site was a recent or ongoing natural resource decision-making process where citizens were able to participate through both electronic and non-electronic means. Responses were received from 24 of the 38 District Offices and 23 potential study sites were identified that met the study site criterion (Figure 1).



Figure 1: Potential U.S Army Corps of Engineers study sites. For interpretation of

the references to color in this and all other figures, the reader is referred to the electronic version of this thesis.

The U.S. Army Corps of Engineers Walla Walla District in Washington was selected as the study site (Figure 2). This site was chosen because at the time of this study, it had recently completed a public comment process where citizens were able to participate through both electronic and non-electronic means on the development of the revision of the McNary Shoreline Management Plan. Additionally, the U.S. Army Corps of Engineers program director for this revision process welcomed our research and was instrumental in providing access to agency personnel and helping the researcher organize agency interviews.

The purpose of a Shoreline Management Plan is to provide guidance for the management, protection, and preservation of a body of water while allowing for a balanced use of the shoreline. The McNary Shoreline Management Plan provides guidance for the McNary (Lake Wallula) shoreline. Lake Wallula lies directly behind the McNary Lock and Dam and extends 64 miles upstream to the U.S. Department of Energy's Hanford Site on the Columbia River. The Hanford Site is approximately 27 miles above the Tri-City Region of Pasco, Kennewick, and Richland in the State of Washington (Figure 3). Lake Wallula has a water surface area of 38,800 acres with approximately 242 miles of shoreline. Additional information and status updates on the McNary Shoreline Management Plan can be found at:

<http://www.nww.usace.army.mil/McNaryShoreline/default.htm>.

The second phase of this study involved semi-structured interviews with agency personnel and citizens who participated in the public comment process for the McNary Shoreline Management Plan. A Freedom of Information Act (FOIA) request was submitted to obtain the names and addresses of citizens who commented on this plan. The FOIA process took approximately one month from the date of the initial written request to the receipt of the citizen list. An attempt to contact each citizen who participated in the public comment process was made with an introductory letter through e-mail and postal mail. There was also an attempt to contact each citizen by phone to follow up on the email and postal letter and to determine if they wanted to participate in the study and schedule interviews.

When conducting qualitative research using semi-structured interviews, it is not possible to predetermine the sample size needed to acquire enough data to answer the research objectives. The sample size for this research population was not predetermined. Rather, potential interviewees were sought from the results of the FOIA request and the list of agency personnel that were directly involved with managing the public comment phase of the McNary Shoreline Management Plan. The result was a nonprobabilistic purposeful sample.

Semi-structured interviews were conducted with 14 citizens and 4 agency personnel (2 agency staff, 2 contractors) who participated in the McNary Shoreline Management Plan. The contract workers were not employed directly by the U.S. Army Corps of Engineers, and they both worked on the information

technology side of the McNary Shoreline Management Plan public comment process. The aim of the interviews was to examine citizen and agency perceptions regarding the use of the Internet in the public comment phase of a natural resource management planning process, to identify the perceived benefits and costs of using electronic and non-electronic means of communicating public comment, and to determine if there is a gap between current agency uses of the Internet in public participation and the best practices identified in the literature.

Agency personnel who were involved in this study were interviewed at their offices at the U.S. Army Corps of Engineers district headquarters in Walla Walla, Washington. Citizens who participated in this study were interviewed either at their homes, or at a hotel in a central location in the Tri-City region of Pasco, Kennewick, and Richland in the State of Washington. Interviews for both the citizens and agency personnel were captured with a digital voice recorder and an IRB-approved interview script. Interviews lasted from 20 minutes to one hour.

Analysis of Data

The recordings for both citizens and agency personnel were transcribed by Michigan State University's Transcription Services department or by the research team. Transcriptions were uploaded into NVivo qualitative data analysis software (QSR International Pty Ltd. Version 8. 2008) for coding and analysis. The transcripts were coded independently by two coders.

Code Development

Codes for this study were adapted from a study with similar objectives and protocol (Propst, Pynnonen, & Egger, 2008). Codes were developed a-priori based on the primary interview questions. Maintaining coding consistency between this and the Propst et al. study allows for direct comparison of results. The interview questions were designed to address the primary research objectives.

Reliability and Validity

Interview script questions were pre-tested in the Propst et al. study (Propst, et al., 2008) to ensure that the flow and meanings of the questions did not confuse respondents. Due to the similarity between the two studies, an additional pretest was not conducted. Two interviewers were selected based on experience with the research topic and experience conducting open-ended and semi-structured interviews. Interviewers conducted interviews together to ensure complete coverage of the thematic areas in the interview script. Having two interviewers also allowed one of them to take notes. When interviews could not be conducted together, interviewers compared notes and interview recordings to ensure all thematic areas of the interview script were addressed.

Intercoder reliability was assessed using NVivo's coding comparison query. Intercoder reliability was improved through a process of codebook revisions and recoding until most codes had a Kappa coefficient of 0.8 or higher. Kappa coefficients are a statistical measure of intercoder agreement. Coefficients of

0.67 are regarded as satisfactory (Burla, et al., 2008) and coefficients of 0.8 or higher indicate strong levels of intercoder agreement (Hruschka, et al., 2004).

In qualitative research, interviews are generally conducted until saturation on thematic issues is reached (Guest, Bunce, & Johnson, 2006). Interview analysis indicated that saturation was clearly reached within the 14 citizen interviews. There is more uncertainty about saturation among the agency employees. Because two were full-time federal employees and two were private contractors hired by the federal government, perspectives on use of the Internet were somewhat different. As such, saturation may not have been reached with the agency staff interviews.

CHAPTER 4: RESULTS AND DISCUSSION

A number of themes emerged through the interview analysis for both agency personnel and citizen participants. Therefore results from the interviews are presented in three parts. First, results from the agency personnel will be presented and followed by a summary. Then results from the citizen interviews will be presented followed by a summary. Discussion will focus on the themes that emerged for these groups. Finally, a comparison of the agency and citizen results will be presented. Before these three sections begin, some context regarding the controversy surrounding the McNary Shoreline Management Plan is needed as an aid to the interpretation of some of the results.

McNary Shoreline Controversy

From the onset of this study, preliminary interviews with both citizens and agency personnel along with a review of the comments obtained through the FOIA process indicated that there was a history of citizen distrust of the agency, and agency distrust of citizens in this region. Additionally, there was indication of a controversy surrounding the McNary Shoreline Management Plan revision. The U.S. Army Corps of Engineers cited scientific research that implicated private docks as a threat to salmonids and the overall health of the salmon population by providing shelter for predatory fish that prey on migrating salmonids. The McNary Shoreline Management Plan regulates private dock permits along this water resource. The revision to this plan proposed substantial changes that would render a private dock practically unobtainable for citizens who own

property along the shoreline. A majority of citizens interviewed in this study were homeowners who had property that provided shoreline access to the Columbia River. These individuals either owned a private dock along the shoreline and/or supported maintaining current permit policy as it relates to private dock ownership along the shoreline. The most common reasons for this stance were related to the property value of their riverfront homes, and for convenient access to the water resource for recreational opportunities such as boating, fishing, sightseeing, and water sports.

Part 1: Agency Personnel

Agency Demographics

Question: "How long have you worked with the agency?"

The average length of time working for the U.S. Army Corps of Engineers was 10.5 years among the four participants, with a range of 6 to 16 years. Two of the agency personnel were Corps employees, the other two were contract workers, and all were female. All interviewed personnel were in some way directly tied into the public comment process, whether they worked in technology, research or administration. Agency personnel job titles were: Project Manager, Landscape Architect/Project Manager, and Contractor. The contract workers were not employed directly by the U.S. Army Corps of Engineers, but they both worked on the information technology side of the McNary Shoreline Management Plan public comment process.

Agency Roles

Question: "What is your role in using Internet technology in the public comment phases of Natural Resource decision-making?"

Individual roles in using Internet technology in the public comment phases of the natural resource decision-making process included:

- Setting up web-pages and databases that categorize and keep track of comments (contract workers),
- Managing the database (contract workers),
- Processing comments received from e-mail, web-form, and mail or fax (both agency and contract workers),
- Posting drafts of the Shoreline Management Plan to a web page or through e-mail (both agency and contract workers).

Electronic Comment Percentage

Question: "Based on your experience, approximately what percentage of public comment is typically electronic when all public comment is compiled?"

The agency received public comments through a variety of methods including letters, public meetings, private meetings, phone calls, and electronic responses. When asked what percent of their comments were received electronically, there were mixed responses. Answers ranged from less than 1% up to 25% being received electronically. There was no clear consensus, though two respondents indicated that approximately 10 – 15% of all comments are received electronically. Agency personnel were unsure of the proportion of

electronic comments that came from web-based forms or from emails, and whether or not they originated from interest groups or unique individuals.

This uncertainty may indicate that the agency does not track and save the source of comments, so they have no easy way to generate accurate estimations on percentage of electronic comments received. This uncertainty may also be tied to the scale and locality of the issue. This is a small scale, local issue garnering mainly local attention by those directly affected by the moratorium and change in regulations on private docks along the river. Agency personnel indicated that in the past, for larger scale issues that gained national awareness, they received many more clone emails or form letters originating from large interest groups.

Comment Type Preference

Question: "Which type of public comment (electronic or non-electronic) do you personally prefer to receive? Why?"

There was a division of preference for how agency personnel like to engage citizens during the public comment process. For the Information Technology contractors, the choice was clearly electronic.

"I don't have a big fat file of paper...I prefer not to deal with the paper."

"Because then they don't have to be scanned."

Agency personnel who regularly engage with citizens understand the obvious logistical benefits associated with receiving comments electronically, yet they

still prefer meeting with citizens face-to-face. This stems from a desire to have more personal contact with the public.

“Dialogue would come face to face”

“I would have time to sit down with people more often.”

Electronic communication can also serve as a buffer when dealing with contentious issues allowing agency personnel to hear from dissatisfied citizens without having to confront them face-to-face.

“Sometimes it’s just not comfortable to go. A lot of the projects, there’s always people who are very unhappy with what you are doing, and sometimes it’s just not fun to have to, you just have to handle yourself and be extremely smooth with everybody and try to meet everybody’s needs.”

Costs and Benefits

“Question: “What are some of the costs and benefits of applying Internet technology to the public comment process?”

The most frequently discussed benefits of Internet technology included ease, efficiency, ability to reach wider audiences, cost effectiveness, speed, and organization of comments.

“When you’re actually getting the comments, you can have them organized so that you can look at them different ways.”

In terms of costs, the major theme that emerged had to do with the quality of comments received. Agency personnel indicated that they want to get as many comments as possible, but they feel that submitting an electronic comment may be too easy and encourages citizens to make irrelevant comments.

“...ease of communication doesn't always support thoughtful communication.”

“ ...electronic formats may allow you to get more comment, but it doesn't mean that you're going to get more helpful quality comment.”

Another cited cost was lack of accessibility.

“A lot of people who really care about these things are in rural areas, and they may not have a computer, even, or know how to use it.”

Weighting the Comments

Question: “How do you weigh electronic comment, hard written letters, comments from a public meeting, form e-mails, or form letters when making a rule or planning decision?”

This question uncovered conflicting responses in the sense that participants stated that each comment received equal weight, then followed that statement with another that indicated comments are not weighted equally based on content and originality.

Initial comments on weight:

“There's no different weight in terms of consideration of anything like that.”

“They're all equal.”

Follow up comments on weight:

“I still think there's probably going to be some weight given to the comments of official agencies, versus, say the comments of an individual. But they're all going to be looked at.”

“...form letters, those are handled a little differently than an original comment.”

Multiple comment channels present a challenge to the agency personnel when trying to make sure all unique comments are weighted equally. At present, the agency does not have an easy way to identify unique comments from the same individual or group if they are received from multiple communication channels, especially if they are received as part of clone emails from organizations. The scholarly literature recognizes this issue and researchers at the eRulemaking Research Group are working on technology to identify unique comments (Schlosberg, et al., 2009; Shulman, 2006).

"So sending it in by many different channels, if it's exactly the same comment, is not going to be counted as more than one comment. And that's something we have to try to be very, very careful about, because if somebody really does have something different, and they send one thing via the web, and then they add a bunch of stuff when they send it in the mail, well then, that would be two comments, if it's really different. But if it's exactly the same, then it's one comment."

While the agency did not receive form letters for this particular issue, they did receive comments from citizens that they considered very similar. Two of the agency personnel stated that they could not believe so many citizens could be aware of the various scientific and environmental factors that informed the Corps' decision to propose changes to private dock regulations. The controversy identified at the beginning of this chapter resulted in some mistrust. One way that mistrust became evident is that the citizens sought out their own sources of scientific information regarding the effects of docks on salmonid population declines. Citizens then presented the results of their own investigation to the Corps of Engineers in a variety of formats, including online public

comments. It is unclear if the agency considered citizen comments on these issues unique or as a type of form letter, thereby assigning less weight.

Degree of Collaboration

Question: "Do you think Internet technology will result in a more collaborative decision making process?"

When agency personnel were asked if the Internet would result in a more collaborative decision-making process, responses were evenly divided between "yes" and "no". Some felt it had the potential to be collaborative if supplemented with other methods.

"...it can help, because at least people get the documents, and then if they want to participate, or if they get notifications of meetings, if they want to participate, then they can."

Others thought it could not do so because their agencies have not designed online collaboration into the public comment process. This discrepancy may be attributed to variations in experience and familiarity working with Internet communication technologies.

One agency respondent cited the case of Dworshak Dam, which was a collaborative process using the Internet that seemed to enjoy some success. In the Dworshak case, the Corps was able to utilize Internet technology to create opportunities for information sharing and collaboration between interested citizens and agency personnel.

"I've seen that work. At Dworshak, we used that with our working groups, and the listserv, and everyone felt very connected and included."

"The way we use the Internet and listservs there, though, was with

some very focused, what we called working groups, and they were special interest issue groups that we established and worked with them over a number of years. So, it worked out very well, that we are able to post documents that they needed to understand issues on to the Internet. And then, as the meetings went through, the meeting notes were posted to the Internet, and then, when it finally came down to resolving conflicts between the recommendations of the groups, that's when the facilitators set up the listserv. And we were having weekly meetings."

Agency personnel indicated that they use Internet technology quite extensively when dealing with other agencies to collaborate on their work internally.

"We work with a lot of other different agencies and we have a lot of inter-agency sites where we share information and work together we do, we have a lot of studies like that."

However, when it comes to dealing with citizens, there appears to be more hesitation to utilize Internet technology to increase collaboration. Agency personnel indicated that this hesitancy was primarily due to the restrictions imposed on hosting a website that private citizens can access on the U.S. Army Corps of Engineers servers.

"We're pretty limited on the Army side of things because of security issues. It would be nice if we could do that all the time but we can't."

"We would never, we personally would never be able to do that with the public. That would be a breach, a total breach of military security."

Currently, the Walla Walla district website is limited in its collaborative nature. Information flows one-way, either from the agency to citizens in the form of posted documents and announcements, or from the citizens to the agency through comments submitted via web-forms.

Decision Quality

Question: "Do you think the quality of decisions will improve as electronic public comment increases?"

All agency personnel agreed that the Internet has the potential to improve the quality of decisions by getting a better sampling of opinions and more interaction with the public on document revisions. Here "more" is seen as better even though it may be wrong to assume that an increased number of comments result in more representativeness.

"If there were some huge increase in use, potentially, you could say, theoretically you're getting a better sampling of the public opinion or something. It may be more fairly representing everybody."

However, one respondent articulated clearly that an increased number of comments improves overall plan quality by creating an iterative, learning process.

"And one of the things that I think happens, is that say a plan is written, or a feasibility study is done, as people make comments, they point out issues that they have, and then the more comments you get. And then the Corps takes those to heart, and then does another iteration of that document, taking into consideration the comments. And so I think the document gets better, and the decisions that are embodied in that document are going to be better because they've had all this input. Things that they might not have thought about, or maybe that they didn't weigh as much, or they want to go back and look at."

Degree of Diversity

Question: "Will electronic public comment help "level the playing field" between large/small organizations, urban/rural influence, and/or the "haves and have nots" of society? In other words, does it limit or expand diversity of participation? How so?"

All agency personnel felt electronic public comment through the Internet has the potential to increase the diversity of participants.

"I think it gives everybody a really good chance to be heard. Like I said it just reaches more people I think."

One individual commented on the lack of Internet accessibility.

"I think that Internet access is not as readily available for lower income folks, unless they go to the library or something."

Dialogue among Stakeholders

Question: "Would government decision making be improved if electronic public comment created the opportunity for dialogue among stakeholders?"

Three out of four agency personnel believed government decision-making would improve if there was electronic dialogue among stakeholders. They believed that if stakeholders have the opportunity for online discourse, then over time they will gain a better understanding of the issues as well as opinions and concerns of the various interested parties.

"I think the more dialoging you have with people, stakeholders, probably the better. So, I think just having more discussion with more people from different places, with different ideas, is always better. And I don't know that it's going to improve your decision making, but I mean really, the more input you can have, the better you want. That's the point of most of our projects. We want everybody to be included and have a say, and want to hear what people have to say. So, I think that would improve maybe the understanding of the people making the decisions, what's out there, in terms of opinion."

Agency personnel thought that some type of electronic blog or online public forum would be a good way to increase stakeholder dialogue, but were

hesitant about doing so because of the effort required to manage it and the inability to control negative comments between stakeholders.

“...dialogue always raises issues that individuals on the team may not have thought of. But it also gives you a lot more to wade through, as I said. It just would take a lot of effort. And that's not a bad thing, but it is good to get ideas from other people that you may not have considered, and those things often come up in unexpected ways.”

“I think of blogs again, and they're not bad, but there's so much potential for abuse, and really high maintenance, that is not the most attractive option to me.”

“if you had some kind of a forum or something, then how are you going to control it when people start bad-mouthing the last person and calling them an idiot or something like that, like happens from time to time on other forums.”

One participant even mentioned how there was a request to create a blog for the McNary Shoreline Management Plan public participation process but they chose not to do it because it would be difficult to manage.

Agency Recommendations

Question: “How can Internet technology improve the public comment process? What specific things would you suggest to make electronic public comment processes transparent, accessible and effective?”

When asked about how Internet technology can improve the public comment process, most of the agency personnel indicated that it would give citizens a more efficient way to provide comments.

“It improves their ability or efficiency of being able to answer.”

This in turn may increase the agency's ability to solicit more comments from citizens and potentially gain a better understanding of their thoughts and opinions.

"I think that perhaps more people will be able to weigh in and maybe we'll get a chance to look at some solutions that are thoughts that we might not otherwise have gotten."

Agency personnel also pointed out that Internet technology, and electronic communication in general, would give them the ability to notify citizens of opportunities to comment more broadly and efficiently, as well as aggregate and compare comments more efficiently.

"Well, just that you can get in touch with people quickly."

"You can do labels and send out notification to people, you can send out e-mails to the ones that have e-mails, and then when you go to an actual meeting, advertise what your website is. Advertise it over and over again. Give people papers that say, this is what our website is, here's where you can make comments, here is my e-mail."

"You can organize the content that you have more easily. Even if you have 300 comments, now, you can handle them more easily than you could before. You know, if you have several thousand, you can still at least get a handle on what the comments are about and deal with them. Let's see, I think that IT is helpful in terms of keeping a record. Suppose that the issue that you're dealing with has legal ramifications or whatever. From the court's point of view, and from everyone's point of view, it's nice to know that you can use IT to have an actual, really good record of what those comments are. It isn't going to depend on a piece of paper that might get lost."

One of the interviewees even indicated how Internet technology could improve the public comment process by supporting online dialogue.

“A public chat forum kind of thing would probably be a nice thing. People could chat not only with each other but maybe have somebody that was dedicated to responding once in a while.”

Adequacy of Resources

Question: “Do you feel adequately staffed and/or skilled and equipped to handle electronic comment well? What would improve your situation?”

All agency personnel felt they did not have the resources they needed to adequately handle electronic comment well. One individual said it depends on the size of the project but that funding is an issue. Most concerns arose when participants talked about their ability to create opportunities for electronic dialogue.

“I don’t think we’re adequately staffed or have enough time.”

“We’re pretty limited on the Army side of things because of security issues.”

One participant indicated that in addition to time constraints, they simply lack the desire to listen to and address negative comments and input that challenges the work the Corps is doing.

“I don’t have time to manage stuff like that, honestly. I’ve received so much cantankerous, negative, and unreasonable comment on McNary that that’s not something I want to read over and over and over every day.”

Overall, agency personnel thought better funding, lack of boundaries and more independence in the districts would improve the way they are able to handle electronic comment.

Unique Adaptations

Question: "How do stakeholder groups currently use Internet technology to realize the objectives of their organizations?"

In responding to this question, agency personnel discussed the ways in which both the Corps and interest groups use Internet technology to realize their objectives. The Corps uses electronic mailing lists of stakeholder groups to forward emails and documents for comment.

"...finding out who in, say, local governments, what are the towns around there, what are the groups that might want this, the individual person...or whatever,...down in Environmental Assessment. They may not know all these different groups that other people have sent things to, and I kind of have an overview, and I have all these databases, and then I say, "OK, this was the list of all the environmental groups that we sent this other document to; pick and choose who you want."

Interest groups, on the other hand, use Internet technology to share information, solicit large numbers of comments from their members, organize information, manage contacts, organize people, and organize meetings.

"They have e-mails that you can find on their websites if you want to, say, send a document to a group for their review."

"...send out a letter saying, "Everybody write a letter; we need a thousand comments."

Ideal Public Comment Process

Questions: "In an ideal world, what are your thoughts on what a perfect public comment process would entail?"

The two agency personnel responsible for engaging with citizens felt more face-to-face interaction would be beneficial. Ultimately, agency personnel

were looking for ways to engage with people where they could build relationships.

“I would have time to sit down with people more often.”

“Dialogue would come face to face”

Those respondents responsible for managing the Information Technology side of the public comment process indicated that a central unit in the office that would process and manage electronic comments would be helpful.

“[Have a] central point in your office that will keep track of these things.”

Another respondent talked of the importance of keeping the website up to date and informational.

“If you have a website, it needs to be up and running, and it needs to have sufficient space so that people can make longer comments... it needs to be very clear as to, if you want to make a longer comment or send us some documents, here is an e-mail, go to it. Because we have had in the past a little bit of problem with, say, people saying that they couldn't get it, or it was down, or whatever, and we have had some web forms that had limited number of characters. But as time goes by, we're down less and less, so that's not as much of an issue.”

Summary of Agency results

Agency personnel were split with their preference to receive comments electronically. Those responsible for managing information technology had a clear preference for receiving electronic comments, whereas the project managers who deal directly with citizens preferred more traditional non-electronic methods of gathering comments. The most frequently discussed benefits of electronic comments included ease, efficiency, ability to reach wider

audiences, cost-effectiveness, speed, and organization. In terms of cost the only concerns had to do with the quality of comments received and accessibility issues for those who do not have access to a computer and the Internet or do not know how to use them effectively.

While opportunities for collecting electronic comment through Internet technology presents many benefits, multiple comment channels opened up through Internet technology present a challenge to agency personnel in terms of trying to make sure all unique comments are weighed equally. All agency personnel agreed that Internet technology has the potential to improve the quality of decisions by gathering a better sampling of opinions and creating more interaction with the public on document revisions. Internet technology also has the potential to increase diversity of participants.

Agency personnel recognize the opportunity to improve the public comment process through the creation of online dialogue opportunities in the form of electronic blogs or online forums, but are quick to recognize the limitations imposed on them by stringent security regulations on Internet technology imposed by the U.S. Army Corps of Engineers headquarters. Even if the security regulations loosened, agency personnel recognized that better funding and more independence in the districts to formulate how they interact with citizens online would improve the way they are able to handle electronic public comment.

Part 2: Citizens

The vast majority of citizens that were interviewed for this study were residents of the Tri-City region of Pasco, Kennewick, and Richland in the southeastern part of the state of Washington with two outliers located in Umatilla, Oregon. The Washington State Office of Financial Management's Forecasting Division estimated the population of the Tri-Cities at 248,200 as of April 1, 2010. Of the 522 ranked areas in Washington, the per capita income of the city of Pasco ranks 47th, the city of Richland ranks 83rd, and the city of Kennewick ranks 200th.

The Tri-City area is slightly ahead of rest of the state of Washington in post-secondary education, and well ahead of the Nation in general education attainment (Pacific Northwest National Laboratory, 2004). The Tri-City area has many more active scientists and engineers than the rest of the state. According to a study released in 2006, the number of engineers and scientists number at 7,000, with 1,600 of them holding PhDs (Pacific Northwest National Laboratory, 2006). The Tri-Cities ranks in the top 20 percent of metropolitan areas in the Nation in terms of technology orientation and ranks 19th in the Nation for employment in creative technology occupations (Pacific Northwest National Laboratory, 2004). The reason for this number of scientists can be attributed to several high-technology businesses and research firms in the area such as the Pacific Northwest National Laboratory, Siemens, and the Department of Energy's Hanford Site.

Citizen demographics

The average age of the 14 citizen participants was 61, with a range from 50 – 73 years. Five participants had some college education, two had a bachelor's degree, and seven had a graduate degree. Of the participants who had some college education, a few completed master apprenticeship programs. Many participants added that they had other advanced forms of on-the-job or professional training. This sample was reflective of the high level of educational and income attainment common in the Tri-City area. Race and gender questions were not directly asked, however the citizen groups' race appeared to be homogeneous and three of the 14 citizens were female. The following results should be interpreted in light of the unique characteristics of this group.

Frequency of Participation

Question: "Was this your first time participating in public comment? Have you participated in the past? If so, how frequently did you participate?"

This was the first time participating in a public comment process for three of the fourteen interviewees. The rest of the interviewees participated in public comment processes in some manner in the past. A few indicated that they have been very actively involved in the Environmental Impact Statement process for other natural resource management issues. Others indicated they had been on the other side of the process where they were the ones seeking comment from citizens. Overall, there was a high level of past public participation among the interview population.

Awareness

Question: "How did you come to be aware of this opportunity to comment regarding this issue?"

Interviewees became aware of the opportunity to comment in a variety of ways. These included:

- Word-of-mouth from a neighbor or significant other.
- From a mail correspondence from the Corps of Engineers.
- From newspapers.
- From the Internet.

Some participants indicated they heard from multiple sources, such as neighbor, Internet, newspaper, and direct mail correspondence from the Corps. Overall there was no clear indication among the interviewees that their awareness of the opportunity to participate came more from one source than another.

Motivation

Question: "What motivated you to participate in this particular natural resource issue?"

There was a wide range of motivations for participation in the public comment phase of the McNary Shoreline Management Plan. The major themes that arose were boat docks, property values, property landscape, love of the river, protecting natural resources, recreational opportunities, general interest in letting the Corps know their opinion, and previous lack of attention by the Corps to citizen concerns. Most of the interviewees indicated more than one of the aforementioned motivations for participation. However, proposed revisions to

boat dock permits was the most common motivator for participation as a majority of those interviewed either owned a boat dock or were in the process of obtaining a boat dock permit.

Internet Use

Question: “Where do you use the Internet? What type of connection do you typically use?”

The interviewees indicated they use the Internet at home, at work, or a mixture of the two. All had a high-speed connection, though one participant stated he had a dial-up connection but had to change due to need for higher bandwidth to deal with sending and receiving large documents related to the public comment period.

The interview population appeared to be an Internet savvy group. While this is contradictory to findings from the Pew Internet studies that typically show people 50 – 73 years of age as being less Internet savvy than other age groups, it appears to be reflective of a population that has high levels of education attainment and experience in technology and research fields such as the citizens of the Tri-Cities.

Preference

Question: “What type of public comment (electronic or non-electronic) do you personally prefer to use? Why?”

- 4 preferred electronic (most common themes were speed, ease, and convenience)
- 5 preferred non-electronic (most common themes of deeper form of face-to-face communication and not being Internet Technology savvy)
- 1 preferred a combination of the two
- 1 said it varies based on the circumstance

- 3 had no-preference

Some reasons for preferring electronic were:

"I'm not out and about like I used to be."

"it's a real pain to go to a public meeting."

"I like electronic if a there's a website to me its just as efficient for me to put my comments in there."

Some reasons for preferring non-electronic were:

"It is like a deeper form of communication."

"I'm a dinosaur in the world of electronics."

"I never learned to type."

One reason for preferring a combination of electronic and non-electronic comment was:

"I don't necessarily have a favorite, I prefer to use the one that is most appropriate and effective for the communication at that point."

Even though the citizens had the technological acumen and resources to rely solely on electronic comment, as a whole they were split on which form of comment they preferred.

Follow-up

Question: "Did you follow up on this issue?"

Four citizens indicated they did not follow up on this issue, the other 10 indicated they followed up on the issue in various ways, such as:

- Receiving updates from a neighbor
- Following it in the newspaper, or public media
- Visiting the Corps website for progress updates
- Speaking directly with the Corps of Engineers

One participant indicated a very high level of follow up on the issue:

"It was like every week I was getting something back and forth, a meeting, a communication, it was a lot of follow-up, a lot of time, maybe five trips to Walla Walla, maybe more like eight trips. I mean, I really did a lot."

A majority of citizens indicated that the follow up was citizen-initiated. The majority indicated that they put considerable effort into keeping up-to-date with the progress of the plan and revision process. However, they felt the agency did not do an adequate job of following up with them on the issues related to the plan.

Perceived Consideration of Comments

Did you feel like the comments submitted were taken into consideration?"

Only one participant felt the comments submitted were taken into consideration. The rest of the citizens either directly said "no" or "I don't know," indicating their belief that the agency simply collected comments to fulfill their legal obligation and appear to be doing nothing with the comments. Because the interviewees received no feedback that their comments were accepted or considered, they indicated that they would have to wait and see if they were taken into consideration and have been incorporated into the new Shoreline Management Plan.

"A lot of agencies just think, ok, well we're taking these comments online, we've fulfilled our duties, it's more democratic now, we're done. We're interested to see if that's actually how it works."

"I don't know that they even got read"

“We never heard anything back from our letters as far as we can determine. I have no idea whether they even read the letter much less took it into consideration.”

“I'm tempted to say no I don't feel like they were because when people take what you say seriously they tend to respond and give you feedback. Now in this case I don't know really how to interpret the absence of feedback. Is it utter disinterest? Is it they disagree? Is it they agree but they don't have time to respond? It could be a multitude of different reasons but what I do know is that I took the time and effort to participate in their process and provide them I think well reasoned articulate well founded input and they don't appear able or willing or something to acknowledge that.”

The lack of feedback was the primary factor contributing to citizens' perceptions that their comments were not taken into consideration.

Success of Comment Period

Question: “In your opinion, do you feel that this comment period was a success?”

Four participants believed the comment period was a success in terms of the process, but they would wait to judge the success of the comment period based on the decision outcome made by the Corps of Engineers.

“It was a success in terms of us having plenty of time to get organized, getting a lot of people involved, researching, and sending in very relevant information to counter what is being proposed. But whether or not it was successful depends on what they come back with.”

Three participants said it was not, with one of these indicating the public comment period was not done with any seriousness. Upon further probing, this interviewee felt that the agency was seeking comments because they were legally obligated to, not because they actually wanted to incorporate citizen input into the revised plan. Six participants said they received no feedback from

the Corps of Engineers; therefore they had no way of knowing if the public comment period was a success.

Costs and Benefits

Question: "What are some of the costs and benefits of applying Internet technology to the public comment process?"

Many participants said that the benefits of the Internet are that it is widespread, accessible, quick, efficient and environmentally friendly (Table 1).

"It's a more cost effective way to keep people involved, who can't afford to go to meetings, or who are working, or on vacation, or something."

"The majority of the people are hooked up to the Internet."

"You can get the same message to a lot of people quickly."

"...receiving all kinds of opinions very quickly."

"It saves trees."

The most frequent costs cited had to do with non-representativeness, user-friendliness, and how impersonal Internet technology can be.

"I can see it representing a disproportionate picture especially where you have aligned groups and nonaligned groups competing for the...time to...get their two cents in."

"What you may get is people that are tech savvy dominating the conversation."

"It's another selection process."

One citizen felt written documents had a higher probability of reaching decision makers than comments communicated electronically. This may be attributed to ones unfamiliarity with the electronic comment process.

“When I sit down and write a letter, and send it to several people, then I know that they’ve got it at least. And I know they can’t duck it. Where, when you start sending things off into cyberspace, how do you know?”

Table 1: Costs and Benefits of Using Internet technology in the Public Comment Process from the Citizen Perspective

Benefits	Costs
Ability to keep public informed	Non-representative
Convenience	Loss of jobs
Cost-effective	Difficult to compile
Ease	Not user friendly
Widespread	Impersonal method
Environmentally conscious	Verification
Reaches a wider audience	Don't know who you're talking to
Instant response time	Un-Reliability
Speed/Efficiency	Another selection process
Less chance of getting lost	Lacks formality
Collate information	Encourages too many responses
Accessibility	

Degree of Collaboration

Question: “Do you think Internet technology will result in a more collaborative decision-making process?”

The majority of participants believed using Internet technology in the public comment process could lead to a more collaborative decision-making process, but their answers were conditional on whether participants understand how to use the technology correctly.

“To the extent that people understand how the tools can be used...what you may get is people that are tech savvy dominating the conversation.”

“If you could bring more people into the fold without sacrificing the quality of the communication then yes, but I am not sure that the processes that are in place and do that.”

“If the agency used it correctly they could.”

One citizen expressed how Internet technology is simply one tool that can be used to increase collaboration, but showed more concern with the integrity of the agency collecting comments than with the technology they use.

"The root cause issue is the attitude and intent of what's going on. And you could have put all of the IT on the planet on this process, and it would not have worked."

Decision Quality

Question: "Do you think the quality of decisions will improve as electronic public comment increases?"

Most of the citizens agreed that as electronic public comment increases, the number of comments, diversity of comments, and diversity of participants should increase, thus giving the agency a better understanding of citizen thoughts and opinions.

"They'll probably get some better comments that have more diversity."

"I think the agency will have a better understanding of what the public actually thinks."

However, citizens were quick to point out that it is not the method of gathering public comment that impacts decision quality.

"I believe the potential certainly exists, but as with any information gathering process the mechanism is only a part of the equation. You've still got a have quality questions. You've still got to have a process that elicits as much as possible unfiltered honest feedback."

"The quality of the process I think will never be any better than the quality of the communication. And mechanical tools, Internet, electronic, to improve the quantity need to also address the quality."

"I think it will be more a function of the decision-maker than the information gathering process."

"Unfortunately this is a political and not a technical process."

Degree of Diversity

Question: "Will electronic public comment limit or expand diversity of participation?"

Most participants believed electronic public comment could expand the diversity of participation in the sense the agency can get more comments from more people. The interviewees were also aware that those who trail in technology adoption may not be included if the public comment process relied on electronic comment.

"You're not going to get comments from the rank-and-file citizens that either don't have a computer or don't actively look for this as a tool provided."

"It could help but I don't see it as an outright answer because the adoption rate of technology I think it's still going to be skewed...it has the potential to expand and increase the number of people that participate, but it's still restricted to the people that have computers, and have that access... You try and undertake things that require greater bandwidth just having a computer in your home on your farm that isn't enough if you're still using a dial up modem."

Dialogue among Stakeholders

Question: "Would government decision making be improved if electronic public comment created the opportunity for dialogue among stakeholders?"

Much like the question on increasing diversity, there was a wide range of responses to this question on dialogue. The citizens' answers were evenly spread among "yes it would," "it has the potential," and "I don't know." There was a

belief that dialogue is a key factor for creating understanding between citizens and the agency.

"I've always thought that dialogue amongst the stakeholders is probably the best way that the government can understand everybody else's comments."

However, dialogue is a two-way process and citizens need to believe it is authentic.

"If you could have the dialogue, that would be great, but I've already indicated that it's a one way process, you dump your brains on them, and then six months later they tell you whether or not they were interested or threw it in the trash can, or what they did with it. Rather than keeping you informed of where they are at and what they are doing."

"It could, if the people want to listen. Otherwise, it's just a way of documenting that I listened and didn't ... it's a tool, and it's the attitude of the people using the tool that is driving whether or not it's good or bad, or useful or not."

One of the citizens made the following suggestion for a way the Corps could create the opportunity for dialogue among stakeholders.

"[Get] somebody from the corps in a video log format where you can logon and you could see the person and you could listen to their audio and you could type in comments to them."

Recommendations for Improvement

Questions: "How can Internet technology improve the public comment process? What specific things would you suggest to make electronic public comment processes transparent, accessible and effective?"

When asked about how Internet technology can improve the public comment process, a variety of responses were given (Table 2). The most frequently discussed recommendations for how Internet technology can improve the public comment process were more opportunities for interaction,

ability to reach more people, advertisement of opportunities to participate through email notices or on web-sites, and ability to aggregate and compare comments.

Table 2: Citizen Participants Recommendations for Improvement

More use of electronic methods	Make comments visible on the Internet
More interaction	Collate comments
Longer comment periods	Network
Keep better records	Gather information
Aggregate voices	Share information
Net meetings/webcasts	Target audiences
Reach more people	Blogger format for dialogue
Compare comments	Reach out to diverse audiences
Make accessible in libraries	More dynamic public meetings
Outreach	Customer database
Transparent process	
Advertise Opportunities	

Citizens felt the incorporation of Internet technology in the public comment process could help make it more accessible.

"By making it more available to the common man, and by encouraging the shyer folks to actually contribute."

"I think as long as you're dealing with people who are capable and willing to use the Internet to do it. I think you could certainly increase the number of people who respond. It makes it easy for people to respond."

Citizens also believed Internet technology could make the comment process more transparent if the agency could use it to show how citizen comments were incorporated into the planning process.

"If they would have put, "here's the conclusions, and here's the technical basis for these conclusions, that would have been valuable. There was none of that."

One concern the citizens voiced was the potential negative impact of using Internet technology to get more public comment without screening it for relevancy.

“It's not just quantity its quality.”

“The only thing worse than having a limited flow of input on the subject would be to dramatically improve the flow but degrade the quality because now you're just making a decision on more bad information, you're diluting the good information.”

Citizens suggested incorporating some type of screening mechanism or comment comparison mechanism into the comment process as a method to address the quantity versus quality issue.

“Make it relevant to the issue. If it's local make a local, if it's larger geographic find a way to screen it.”

“Look at what kinds of information you're getting from people and seeing whether it's really heartfelt original letters.”

The interviewees were aware that citizens play a critical role in the quality of comments when using Internet technology and they have a responsibility to use the technology to add appropriate and relevant comments.

Ideal Public Comment Process

“In an ideal world, what are your thoughts on what a perfect public comment process would entail?”

Similar to when asked about how Internet technology can improve the public comment process, when asked about their thoughts on what a perfect public comment process would entail, the citizens gave a variety of responses (Table 3). While Table 2 focused on how Internet technology can improve the

public participation, Table 3 is related to the public comment process in general.

Table 3: Citizen Participants' Perceptions of Ideal Comment Process

More informed public
More informed comments
Restrict comments to those directly impacted
More interface with agency
Feedback from agency
Longer comment period
Comments result in action
Comments incorporated into plan
Dialogue
Mechanism to submit and claim written and oral comments
Verification comments were received
Status reports
Clear definition of topics and problems
User friendly website
Ability to copy others on online comment submission
Face-to-face interaction with citizens
Town meetings
Face-to-face interaction with Corps
Impartial
Make public aware of opportunity to comment
Public hearings
Organize and collate comments
Multiple avenues for electronic comment
More diversity
More transparency

Most interviewees indicated that an ideal public comment process would include more interaction with the agency personnel and citizens impacted by the natural resource management issue.

According to the citizens, the public comment process should move away from the traditional one-way flow of information and decision-making

coming from the agency to become more deliberative and encourage dialogue among stakeholders. This could happen either face-to-face or with the use of Internet technology to offer some form of online dialogue.

“I could have gotten word to more people. I could have talked back and forth to folks. I could have had a larger working group. Ideas would have blossomed and would have transformed a bit and been fine-tuned. A lot could be done.”

“An opportunity to bounce ideas back and forth.”

Citizens also felt that receiving feedback was a crucial part of the public comment process. They implied this would make them feel like their comments were being taken seriously.

“Getting some type of response back other than thank you for your letter or we got your thing we’ll take it into consideration.”

“People need to be treated like people and not numbers or cattle.”

Summary of Citizen Results

The age range of the citizens who participated in the interview process was 50 to 73 years old. There was a high level of education attainment and past experience in public participation processes among those interviewed. Most interviewees indicated more than one motivation for participating in the public comment process for the McNary Shoreline Management Plan. The major motivation for participating included concerns about the proposed boat dock regulations. Less frequently mentioned motivators included property values, landscape, recreational opportunities, protecting the natural resources, love of the river, and general interest in sharing their opinion with the U.S. Army Corps of

Engineers. Citizen participants also indicated that there was no clear singular source that made them aware of the opportunity to comment on the McNary Shoreline Management Plan revision. Most interviewees indicated that they became aware of the opportunity to comment through multiple sources. These included hearing from a neighbor either by phone call, personal visit, or e-mail, from a newspaper article, a U.S. Postal Service letter from the U.S. Army Corps of Engineers, and through an Internet source (including the U.S. Army Corps of Engineers website).

The majority of the interviewees use the Internet both at home and at work. All interviewees had a high-speed Internet connection, though one participant indicated he had to upgrade from a dial-up connection due to the need to get higher bandwidth that could better handle sending and receiving large documents related to the public comment process. There was an even split among interviewees regarding their preference for electronic or non-electronic comment opportunities. The most common themes associated with a preference for electronic comment were speed, ease, and convenience. The most common themes for the preference of non-electron comment were not being Internet technology savvy, and a general preference for more intimate face-to-face interaction. Some participants indicated that they did not have a preference for one form of communication over another, and one participant stated their preference depending on the circumstance. Participants believed Internet technology could increase the diversity of participation in the public

comment process by making it more accessible to those that may not otherwise be able to make it to a public meeting. They also thought online forums or web blogs could increase opportunities for dialogue and collaboration among stakeholders. A few interviewees commented on the potential negative impact of electronic comment, with specific concerns about the potential of receiving significantly increase comments without the ability for the agency to screen them for relevancy.

Of the 14 citizens that were interviewed, 10 said they followed up on the issue, or their initial comment, in one form or another. Some of the follow-up included being in touch with a neighbor to see if they knew of any updates, following the issue in the newspaper or on the radio, visiting the U.S. Army Corps of Engineers district website, or speaking directly with a U.S. Army Corps of Engineers employee. The follow-up was typically one-way and initiated by the citizens, not the Corps of Engineers.

When asked if they felt their comments were taken into consideration during the public comment process, most citizens believed they were not. Citizens felt that the agency simply collected public comments to fulfill their legal obligation without any desire to recognize or include public comments in the revised McNary Shoreline Management Plan. The most common justification for this belief was the lack of feedback from the U.S. Army Corps of Engineers. In terms of perceptions of success, a majority of participants said they would wait to pass their judgment on the outcome of the final Shoreline Management Plan.

Citizen interviewees also indicated that the ideal public comment process would include more interaction with the agency personnel and the citizens impacted by the natural resources management issue. Citizens look for a more collaborative decision-making process that moves away from the one-way flow of information and final decision that is typical of public comment process. Citizens want a more deliberative process that encourages dialogue among stakeholders and recognizes that both citizen and agency personnel are responsible for making this happen.

Agency Personnel and Citizens Compared

Examining both agency personnel and citizen data, there was an even split among interviewees regarding their preference for electronic or non-electronic comment opportunities. For both groups the most common themes associated with a preference for electronic comment were speed, ease, and convenience. The most common theme for those who preferred non-electronic comment was a general preference for more intimate face-to-face interaction. Some citizen participants indicated that they did not have a preference for one form of communication over another, and one participant stated their preference depended on the circumstance. The two groups agreed that the benefits of electronic comments include ease, efficiency, ability to reach wider audiences, cost-effectiveness, speed, and organization. The citizen group also mentioned that it was more convenient to comment electronically versus mailing a letter or making a comment at a meeting. In terms of cost of

electronic comment, the only concern the agency personnel cited had to do with the quality of comments received. Citizens on the other hand, alluded to the digital divide when they pointed out that electronic comment is another selection process that allows those who are technology savvy to dominate the conversation.

All agency personnel agreed that Internet technology has the potential to improve the quality of decisions by gathering a better sampling of opinions and creating more interaction with the public on document revisions, yet they were aware that increasing the number of comments does not necessarily lead to increased quality of comments. A few citizens also shared their concern about the potential of receiving significantly increase comments electronically without the ability for the agency to screen them for relevancy. Both agency personnel and citizens perceived that Internet technology has the potential to increase diversity of participants, but were cognizant that those who trail in technology adoption or do not have access to the Internet would be left out if the public comment process relied solely on electronic participation.

A majority of agency personnel and citizens believed that increasing dialogue among stakeholders would help them understand the issues and each others' opinions better. Both groups were also aware of the potential of Internet technology to create dialogue opportunities in the form of electronic blogs or online forums.

When asked if online collaboration and dialogue would help improve decision making both agency personnel and citizens expressed a healthy skepticism. Agency personnel were split on their response, and some felt Internet technology could result in a more collaborative decision making process if it was used to support the work of citizens and interest groups, connect their efforts, increase the quality of comments, and was supplemented with non-electronic methods.

The majority of citizens believed it could improve decision-making, but their answers were conditional on whether participants understand how to use the technology correctly. Most citizens also felt strongly that Internet technology is only a tool, and online collaboration and dialogue would improve decision quality only if the agency really listened to what the citizens had to say.

Agency personnel and citizens were both asked to make recommendations for improvement and comment on what their ideal public comment process would look like. The agency personnel responsible for engaging with the public felt more face-to-face time with the citizens was important so they could build relationships with the citizens. Citizens would welcome this change as they wanted to have more interaction with the agency personnel. Citizens also wanted to have more interaction with other citizens impacted by the proposed revisions to the McNary Shoreline Management Plan. They also wanted a public comment process that was more collaborative and driven by dialogue. The agency personnel who were responsible for managing

electronic comments and Internet technology were primarily concerned with how they could better manage electronic comments and maintain an up-to-date, informational, and interactive website.

CHAPTER 5: CONCLUSIONS AND RECOMMENDATIONS

Conclusions

The results of this study highlight a healthy skepticism for the public comment process among both citizens and agency personnel. This skepticism comes regardless of whether participation was through electronic or non-electronic means. In many ways the results of this study support the results from earlier studies on public participation in decision-making processes, as well as those that focus on the role the Internet plays in this process. The citizen interviewees indicated a desire for a public comment process that includes more interaction with agency personnel and citizens impacted by the natural resource management issue.

According to the citizens, the public comment process should move away from the traditional one-way flow of information where the participation process and decision outcomes come from the agency, to one that is more deliberative, encourages dialogue among stakeholders, and give citizens more power to inform the decision making process. Not only is this finding consistent with Habermas' theory of communicative action (Habermas, 1984) and Arnstein's ladder of citizen participation (Arnstein, 1969), it is consistent with more recent models of "best practices" on public participation (Bryer, 2010; Lane, 2005). As these theorists recommend, public participation should promote active participant involvement, information exchange, efficient administration, and positive participant interactions (Dalton, 2005). Public participation

processes should encouraging dialogue among stakeholders along with building networks and institutional capacity (Innes & Booher, 2004).

Most of the citizens interviewed in this study believed that the agency was simply fulfilling its legal obligation by collecting their comments. As noted in the literature on public participation, citizens need to believe their comments will be heard and have the potential to influence decisions and not simply be overshadowed by the opinions of the agency or scientific experts (Finney, 1999; Schlosberg & Dryzek, 2002). Participant perceptions of trust, accountability, engagement, and opportunity to participate are important aspects of the public participation process (Dalton, 2005; Peterson, et al., 2006; Zavestoski, et al., 2006). One way to improve these perceptions is by including lay perspectives in addition to scientific or expert generated claims (Kroll-Smith & Couch, 1991; Zavestoski, et al., 2006).

Both agency personnel and citizens indicated they are looking for comments that are relevant to the decision making process and ultimately improve the outcome of the final decision. Both agency personnel and citizens were aware of their role in this process and felt that there needed to be mutual trust, respect, and level of competence between the groups. These beliefs are supportive of Bryer's model of public participation where government trust in citizens, citizen efficacy, and citizen competence along with citizen trust in government, perceived government legitimacy, and responsive government

contribute to a public participation process that is open and transparent as well as one that establishes trust between citizens and the government (Bryer, 2010).

The majority of citizens and agency personnel in this study recognized the value of incorporating Internet technology in the public comment process and agreed that its use in government decision-making will continue to increase over time. Both agency personnel and citizens interviewed indicated that Internet technology can help support the public comment process by creating more efficient and cost effective methods of communication. These efficiencies can come in the form of email correspondence, web-based forms, and web-based discussion forums. While well-designed user-friendly online databases can increase access to data and encourage increased civic engagement (Howes, 2002; Zavestoski, et al., 2006), Internet technology infrastructure alone will not lead to this transformation.

In this study, both agency personnel and citizens expressed a desire to have more meaningful communication with each other utilizing current Internet technology. As the researcher's who studied the National Organic Rule conclude, the Internet can serve as a tool to make this happen (Shulman, 2003; Shulman & Des Moines, 2000). In the case of the National Organic Rule, participants were able to view citizen comments on the web and they were also allowed to make comments on these comments, creating a public comment process that was both open and discursive. The government agency provided feedback on these comments and highlighted how they were incorporated into

the final rule revision. Even though it relied on Internet technology and electronic comments, the USDA Organic Rule was considered a success by both citizens and agency personnel, and led to a revised rule that was agreed upon and implemented by the USDA. On the other hand the National Forest Service Roadless Rule was based on a top-down process with one-way communication. The same researchers highlight that when the general suggestions for best practices in public participation are not followed, poor communication, mistrust in the government, and resentment and conflict among stakeholders in the public participation process will remain high (Zavestoski, et al., 2006).

In this study citizens and agency personnel acknowledged the value in using Internet technology during the comment process, but they were not willing to have it completely substitute for non-electronic forms of comment. Both citizen participants and agency personnel were aware that there are notable divides or access issues based on income, age, ability, ethnicity, and geographic location. As recent statistics from the Pew research group show 74% of people use the Internet (Pew Internet & American Life Project, 2010). While Internet usage is increasing among historic minority users (A. Smith, 2010), the need remains for a non-Internet based process if agencies seek inclusivity of the individuals who do not have access to the Internet, are not well versed in its application, or are simply not interested in using it to participate in public comment processes. Both citizens and government agencies need to be aware

of how to use Internet technology, have access training, and be willing to use it if it is to add value (Howes, 2002).

Additionally, the citizens in this study persistently commented that they want their comments to be considered regardless of the manner in which they communicate them with the agency. Just like traditional non-electronic comment processes, participants in online public comment must feel engaged in the process (Laurent, 2009), and online discussions and posts must produce data for driving change (Laurent, 2009). Additionally, the government agency must be responsive to comments by providing feedback to those who submit comments (Bryer, 2010; Rose & Sæbø, 2010; Shulman, 2003; Voinov & Costanza, 1999; Zavestoski, et al., 2006), and clearly show how citizen comments are incorporated into the decision making process (Rose & Sæbø, 2010; Shulman, 2003). Recent research supported these findings highlighting that online networks must allow participants to post positive and negative views, give agency real time access to citizen opinion (Laurent, 2009; Shulman, 2003, 2005a; Zavestoski, et al., 2006), and be designed so discourse can be easily tracked and managed by users and administrators (Laurent, 2009).

In this study, the agency personnel indicated that due to time constraints and technological limitations, they were unable to provide opportunities for online dialogue and were unable to provide feedback to citizens who submitted comments either electronically or non-electronically. Similar to the conclusions Zavestoski et al. came to with the National Forrest Service Roadless

Rule, the citizens indicated their overall dissatisfaction in the public comment process and increased mistrust in the U.S. Army Corps of Engineers district office seeking comment (Zavestoski, et al., 2006).

Study Limitations

The results of this study should be interpreted with some caution and the data should only be extrapolated to public comment processes that involve citizens and agency personnel who share similar demographic backgrounds and express similar levels of experience in the public comment process. In this study both the agency personnel and citizens interviewed had high levels of engagement with previous public comment processes. Additionally, due to the limited sample size of the citizens interviewed, the sample may not be fully representative of all the citizens who commented on the shoreline management plan, or those who would have commented on the plan if they were aware of the opportunity to do so or had the capacity to comment if provided adequate resources or incentive. The citizen sample primarily represented highly educated, high income home and landowners of middle to senior age who were directly impacted by the U.S. Army Corps of Engineers proposal to significantly modify the requirements for dock use and ownership on the Columbia River. The race of the citizen group appeared to be homogeneous, and three of the 14 citizens interviewed were female. As for the agency personnel, the sample was limited to four female participants, two of which were contract workers and not directly employed by the U.S. Army Corps of

Engineers. Responses to the interview questions varied considerably between the Information Technology professionals and project managers. A larger and more representative sample of agency personnel may have helped flush out these differences and allowed the researcher to establish stronger themes.

Additionally, the methods used to uncover the data for this research involved an online survey and in-person semi-structured interviews. In the ten days spent at the study site, interviews were conducted with agency personnel at their office headquarters in Walla Walla, Washington, and with citizen participants at their homes throughout the Tri-city area of Pasco, Kennewick, and Richland in Washington, as well as Umatilla Oregon. In this short amount of time it was only possible to gather a limited perspective on the public comment process and the full cultural context of the interviewees' lives.

It would have been ideal to conduct a case study where multiple methods of inquiry were employed over an extended period of time to attempt to interpret the social phenomenon of public participation in natural resource decision-making as it related to the McNary Shoreline Management Plan revision process. Multiple methods of inquiry, such as interviews, focus groups, document searches and case studies attempt to give all members of a study population voice. While these methods may not elicit complete participation, they take a step toward encouraging more diversity and representativeness (Lather, 1991). Multiple methods of inquiry also allow the researcher to test for validity of their findings through triangulation (Maxwell, 1998).

Recommendations for practice

Natural resource issues are complex in scale, scope, intensity, and locality. Agency personnel and citizens have different motivations for participation. This implies that agency personnel and citizens should work together to plan the public comment process and decide on process and outcome goals together if they want to increase satisfaction with the public comment process.

It is clear from this study that citizens have high expectations of their interactions with the agency whether they occur in person, over the phone, or through some type of online interaction. In a time when comments are received through multiple channels and use of Internet technology to collect comments is increasing, continual feedback through dialogue, updates, or simple responses that citizen comments were received by the agency would help citizens feel their comments were being considered. Additionally, transparently showing how citizen comments are incorporated into the revision process would help citizens feel their comments are being considered.

More avenues of participation opened up by Internet technology can lead to more public participation, however both agency personnel and citizens seek comments that are relevant to the issue and contribute to final decisions. Scholarly literature provides examples of both large scale and small scale instances where national and local government agencies are benefiting from using Internet technology such as online dialogue and deliberation in their public comment process (Lowry, 2009; Shulman, 2003; Zavestoski, et al., 2006). In

this study, it appears that a majority of online offerings provided by the U.S. Army Corps of Engineers for the McNary Shoreline Management Plan are still on the simple end, only providing content or non-transparent one-way information flow. If the agency can create online tools that align with the best practices related to public participation highlighted in the literature review in chapter two of this thesis, they may be better able to engage the public on government issues, encourage more trust in their agency, and solicit comments that are relevant to the issue and can inform the decision making process.

The key findings of this study are consistent with the scholarly and professional literature that reveal citizens need to believe their comments are being heard and have the potential to influence the decision-making process as well as the final decision outcome. As such, the public comment process should be built around two-way communication and collaborative problem solving. The U.S. Army Corps of Engineers can come closer to achieving this by encouraging multiple avenues of electronic and non-electronic participation and dialogue among citizens and the agency seeking comment throughout the development and execution of the public participation process. Both electronic and non-electronic methods of engagement must be well advertised, easily accessible, and user-friendly. The U.S. Army Corps of Engineers must also be responsive to citizen input by providing feedback to those who submit comments during the public comment process. This may go a long way in helping the agency increase participant perceptions of engagement, trust,

fairness, and ownership in the decision making process and final decision outcome.

Recommendations for future research

This was largely an exploratory study that was inductive and let the qualitative data speak for itself. The research design did not have the capacity to test for casual relationships between the use of Internet technology and perceptions of success of the public comment process. However, it provides strong evidence that is consistent with the literature on public participation in the traditional sense, as well as with the application of Internet technology to the public participation process. There was no a-priori model or theory that was explicitly explored. Questions for this study were derived from a previous study versus some guiding theory. While there is nothing inherently wrong with this approach, future research may benefit from a more theory-driven study with both qualitative and quantitative analysis. This in combination with multiple study site locations that gather data from a larger sample size with more diversity in race, gender, income, and levels of education attainment may provide more apparent themes and more generalizable findings, particularly if it is built to test the normative public participation frameworks provided by Habermas, Arnstein, Wandersman, and Bryer in the context of electronic public participation.

APPENDIX

Appendix A: Consent Form – Citizen

Consent to Participate In A Research Study

Title: Effectiveness of the Internet for Public Participation in Natural Resource Decisionmaking

**Study Group: Citizens who Have Commented Electronically
I009190, IRB#03-803**

Description

The study involves the relationship between the Internet and public participation in natural resource decision making. We have identified a case study in your area for which a particular natural resource management or planning decision was recently made or is pending. In addition, to help make the decision, the agency obtained online public comment via email or the Internet. By way of an interview with you, we would like to learn more about (1) your motivation for providing online comment, and (2) your views on the appropriateness and effectiveness of web-based content for public participation in natural resource decisionmaking. The study is funded by the U.S. Department of Agriculture and the U.S. Army Corps of Engineers.

Risks and Benefits:

There are no serious risks to you from participating in this interview (see confidentiality statement).

One benefit is that your ideas and suggestions will help improve the means by which government agencies communicate with citizens regarding natural resource policies and plans. You will be helping us and others learn better ways to foster direct democracy.

Time Commitment, Cost and Payments:

The discussion will take about 45 minutes, during which time we would like to make an audio recording of our interview with you. There are no other costs to you for helping us with this study. The grant for this study does not permit us to offer you any payment for your participation.

Confidentiality:

Although we will record our discussion, we will not put your name on the digital recording or transcript. The only information that will be on the audio recording or in our handwritten notes will be the date of the interview. Therefore, we do not believe that you can be identified. The interview material will be in a locked

location and accessible only by the Principal Investigator and his assistant. At the end of the study period, the recording and the transcripts will be destroyed. Your privacy will be protected to the maximum extent allowable by law.

Right to Withdraw:

Participation in this study is voluntary. You may choose not to participate at all. Furthermore, you may refuse to answer certain questions. If you begin, you may discontinue your participation at any time.

Contact Information:

If you have questions about the study, contact the **Principal Investigator**, Dennis Propst, at 126 Natural Resources Building, Michigan State University, East Lansing, MI 48824, ph (517)353-8239, e-mail propst@msu.edu. If you have questions or concerns about your rights as a research participant, please feel free to contact Peter Vasilenko, Ph.D., Michigan State University's Director of Human Research Protections by phone: (517) 355-2180, fax: (517) 432-4503, email: <irb@msu.edu>, or regular mail: 202 Olds Hall, East Lansing, MI 48824.

Statement of Consent:

I voluntarily agree to participate in the study.

Signature..... Date

I also consent to be recorded for this study:

Signature..... Date

Signature of Investigator:..... Date

Appendix B: Consent Form – Agency

Consent to Participate In A Research Study

Title: Effectiveness of the Internet for Public Participation in Natural Resource Decisionmaking

**Study Group: Public Agency Personnel
I009190, IRB#03-803**

Description

The study involves the relationship between the Internet and public participation in natural resource decision making. We have identified a case study in your area for which a particular natural resource management or planning decision is pending and for which public input for that decision is being (or has recently been) sought. By way of an interview with you, we would like to learn (1) how the public input is used and the degree to which participation via the Internet vs. other methods influences your decision, and (2) your views on the appropriateness and effectiveness of web-based content for public participation in natural resource decisionmaking. The study is funded by the U.S. Department of Agriculture and the U.S. Army Corps of Engineers.

Risks and Benefits:

There are no serious risks to you from participating in this interview (see confidentiality statement).

One benefit is that your ideas and suggestions will help improve the means by which government agencies communicate with citizens regarding natural resource policies and plans. You will be helping us and others learn better ways to foster direct democracy.

Time Commitment, Cost and Payments:

The discussion will take about 45 minutes, during which time we would like to make an audio recording of our interview with you. There are no other costs to you for helping us with this study. The grant for this study does not permit us to offer you any payment for your participation.

Confidentiality:

Although we will record our discussion, we will not put your name on the digital recording or transcript. The only information that will be on the audio recording or in our handwritten notes will be the date of the interview. Therefore, we do not believe that you can be identified. The interview material will be in a locked

location and accessible only by the Principal Investigator and his assistant. At the end of the study period, the recording and the transcripts will be destroyed. Your privacy will be protected to the maximum extent allowable by law.

Right to Withdraw:

Participation in this study is voluntary. You may choose not to participate at all. Furthermore, you may refuse to answer certain questions. If you begin, you may discontinue your participation at any time.

Contact Information:

If you have questions about the study, contact the **Principal Investigator**, Dennis Propst, at 126 Natural Resources Building, Michigan State University, East Lansing, MI 48824, ph (517)353-8239, e-mail propst@msu.edu. If you have questions or concerns about your rights as a research participant, please feel free to contact Peter Vasilenko, Ph.D., Michigan State University's Director of Human Research Protections by phone: (517) 355-2180, fax: (517) 432-4503, email: <irb@msu.edu>, or regular mail: 202 Olds Hall, East Lansing, MI 48824.

Statement of Consent:

I voluntarily agree to participate in the study.

Signature..... Date

I also consent to be recorded for this study:

Signature..... Date

Signature of Investigator:..... Date

Appendix C: Citizen Call Introduction Letter

Dear Citizen,

We are contacting you because you participated in the McNary Shoreline Management Plan public input process. We are working on a research project about Natural Resource Management (NRM) and planning decisions where public input was sought. Our project involves interviewing citizens about their thoughts and feelings concerning their participation in an NRM decision. We are particularly interested in situations in which people were able to use both electronic (Internet, email, etc.) and non-electronic (letters, phone calls, etc.) means of public comment. We would like to find out the degree to which both types of public comment met the needs of the agency and the community in making an NRM decision.

This project has been approved by the Michigan State University Committee on Research Involving Human Subjects for appropriate consent form requirements and confidentiality. To verify this approval, you may call (517) 355-2180, or email irb@msu.edu, this is the Office of Regulatory Affairs at Michigan State University, and refer to IRB# 03-803.

I will attempt to contact you within 1-2 weeks by phone to see if you are interested in participating in the study. This would involve a *one time only* open-ended interview of approximately 40 minutes about your thoughts and opinions regarding the citizen input process. The interview can take place in a location convenient for you or possibly by phone or e-mail. If you have an interest in, or questions about the study, please do not hesitate to contact me (David Dilworth) at 773-349-1034 or dilwort1@msu.edu.

For effective Natural Resource Management, the public must have a voice. By participating in this study, you will help provide a better understanding of the citizen input process. You will also provide perspective on how technology works as a tool for citizen comment. Thank you for your time, and I look forward to speaking with you soon.

Sincerely,

David Dilworth
Research Assistant
Phone: (773) 349-1034
E-mail: dilwort1@msu.edu

Dennis Propst, Professor
Forestry and Community, Agriculture
Recreation and Resource Studies
Phone: (517) 355-8239
E-mail: propst@msu.edu

Appendix D: Interview Script – Agency

Semi-Structured Agency Personnel Interview Questions

Materials/Equipment: consent forms, audio recorders, batteries, microphones, notepad, business cards

Definitions:

IT = Information Technology = email, Internet

Electronic Public Comment = agency web-based forms, interest group websites or email

How long have you worked for the (name of agency)?

What is your role in using IT in the public comment phases of NR decision making?

- a. How long have you served in this role?
- b. What changes have you seen in your role in the past 5-10 years? (if they haven't been in this role for 5 years, then use whatever number of years fits)

Based on your experience, approximately what percentage of public comment is typically electronic when all public comment is compiled?

- a. What proportion of this comment comes from (1) agency web-based forms, (2) form emails from interest group websites, or (3) original (personal) email?

Which type of public comment (**electronic or non-electronic**) do you personally prefer to receive? Why?

How do you weigh electronic comment, hard written letters, comments from a public meeting, form e-mails, or form letters when making a rule or planning decision?

How do stakeholder groups currently use IT to realize the objectives of their organizations?

What are some of the costs and benefits of applying IT to the public comment process?

- a. Do you think IT will result in a more collaborative decision making process?
- b. Do you think the quality of decisions will improve as electronic public comment increases?

- c. Will electronic public comment help “level the playing field” between large/small organizations, urban/rural influence, and/or the “haves and have nots” of society? In other words, does it limit or expand diversity of participation? How so?

How can IT improve the public comment process?

- a. How do you define “improved” in the context of electronic public comment?
- b. What specific things would you suggest to make electronic public comment processes transparent, accessible and effective?
- c. Would government decision making be improved if electronic public comment created the opportunity for dialogue among stakeholders?
 - a. If so, how would you structure it?

Do you feel adequately staffed and/or skilled and equipped to handle electronic comment well? What would improve your situation?

Appendix E: Interview Script – Citizen

Citizen Participant Interview Questions

Was this your first time participating in public comment? Have you ever participated in the past if so how frequently?

How did you come to be aware of this opportunity to comment regarding this issue?

If you found out through a mailing list or list serve how did you get on these lists?

What motivated you to participate in this particular natural resource issue?

How did you participate? Did you: attend a public meeting, participate using an online discussion forum, complete a paper survey, complete an online survey, send a handwritten letter or send an e-mail?

Which type of public comment **(electronic or non-electronic)** do you personally prefer to use? Why?

Where/do you use the Internet?

When you use the Internet, what type of connection do you typically use?

Did you follow up on this issue?

Did you feel like the comments submitted were taken into consideration?

In your opinion, do you feel that this public comment period was a success? Explain.

What are some of the costs and benefits of applying IT to the public comment process?

- d. Do you think IT will result in a more collaborative decision making process?
- e. Do you think the quality of decisions will improve as electronic public comment increases?
- f. Will electronic public comment help “level the playing field” between large/small organizations, urban/rural influence, and/or the “haves and have nots” of society? In other words, does it limit or expand diversity of participation? How so?

How can IT improve the public comment process?

- d. What specific things would you suggest to make electronic public comment processes transparent, accessible and effective?

- e. Would government decision making be improved if electronic public comment created the opportunity for dialogue among stakeholders?

In an ideal world, what are your thoughts on what a perfect public comment process would entail?

For some background information can you tell me what is your age? What is your level of education? (Make note of gender and these demographics on spreadsheet)

Do you have any questions for me?

Appendix F: Codes – Agency

Table 4: Codes for Agency Personnel Interviews

Question 1	HOWLONG	How long (years) have you worked for the agency?
Question 2	ROLEPP=role in public participation process	What is your role in using IT in the public comment phase?
	TITLE=job title(s)	
	HOWLONG-ROLE	How long have you served in this role?
	CHANGE-ROLE	What changes have you seen in your role in the past 5-10 years?
Question 3	ELECPCT = percentage electronic	When all public comment is compiled, about what percent is electronic?
	ELECSOURCEPCT=percentage of various electronic sources	What proportion of the electronic comment comes from agency web-based forms, form emails from interest groups, or original (personal) email?
NEW VARIABLE	METHODS = public comments methods used	What various methods were used to obtain public comment? <i>(this was NOT an interview question, but something the interviewees provided spontaneously)</i>
NEW VARIABLE	HOWMANAGED = how were comments handled?	<i>Again, this was NOT an interview question, but there was a lot of useful information about how the agencies process the comments once they get it; also how they respond to comments</i>
NEW VARIABLE	METHODS-UNIQUE	<i>Unique methods the agencies are experimenting with to manage comments.</i>

Table 4 (cont'd)

Question 4	PREF-ELEC = Prefer electronic	Which type of comment do you prefer?
	PREF-NON = Prefer non-electronic	Which type of comment do you prefer?
	PREF-BOTH = prefer both	
	WHYPREFELEC = Why prefer electronic?	Why prefer this type?
	WHYPREFNON = Why prefer nonelectronic	Why prefer this type?
Question 5	WEIGHT	How do you weigh various types of nonelectronic and electronic comment in decision making?
Question 7	GROUPMETHOD = group methods of using IT	How do stakeholder groups use IT to realize organizational objectives?
Question 8	COSTS	Costs of applying IT to process?
	BENZ = Benefits	Benefits of applying IT to process?
	COLLAB = more collaborative?	Do you think IT will result in a more collaborative decisionmaking process?
	DECQUALITY = better decisions?	Do you think the quality of decisions will improve as electronic public comment increases?
	DIVERSITY = is the playing field leveled?	Will electronic pc help level the playing field, increase or limit diversity?
Question 8	IMPROVE	How can IT improve process?
	TRANSPARENT = transparent, accessible, effective?	What specific things would you suggest to make electronic public comment processes transparent, accessible & effective (improve quality)?

Table 4 (cont'd)

	DIALOGUE = need dialogue among stakeholders?	Would government decision making be improved if electronic public comment created opportunities for dialogue among stakeholders?
	DIALOGUEHOW	If yes to question about dialogue, how would you structure the system?
NEW VARIABLE	UTOPIA	Thought on perfect public comment process? <i>This question was not asked directly but there was some dialogue offered about an ideal process.</i>
Question 9	RESOURCES = were you adequately staffed/skilled?	Do you feel adequately staffed and/or skilled and equipped to handle electronic comment well?
	RESOURCEIMPROVE	What would improve your situation (re: resources)?

Appendix G: Codes – Citizen

Table 5: Codes for Citizen Interviews

Question 1	PART = Participate	1 st time participating in public comment?
	FREQ = Frequency	Participate in the past, if so, how frequently?
	HOWPAST	How did you participate in the past? <i>Not a question we asked, but was offered by interviewee</i>
Question 2	AWARE	How became aware of opportunity to comment?
Question 3	MOT = Motivation	What motivated to participate?
Question 4	HOWPART	How did you participate?
Question 5	PREF-ELEC = Prefer electronic	Which type of comment do you prefer?
	PREF-NON = Prefer non-electronic	Which type of comment do you prefer?
	PREF-BOTH = prefer both	
	WHYPREFELEC = Why prefer electronic?	Why prefer this type?
	WHYPREFNON = Why prefer non-electronic	
	INT-HOME = Internet home	Use internet at home?
	INT-WORK = Internet work	Use internet at work?
	INT-BOTH = Internet both	Use internet at both h/w
	INT-HS = High speed	Use high speed internet
	INT-DIAL = Dial-up	Use dial-up
	INT-MOB = Mobile	Use when mobile, i.e. with broadband card, mobile phone, or hot-spot.
Question 6	FOLLOW = Follow up	Did you follow up on issue?

Table 5 (cont'd)

Question 7	CONSIDER = Considered	Did you feel like comments were considered?
	SOMECONSIDER = somewhat considered	e.g., comments considered in general but specifics were not
	NOCONSIDER = Not Considered	Did you feel like comments were considered?
NEW VARIABLE	FEEDBACK	<i>This was not an interview question, but many comments were offered regarding the feedback on the public comment process.</i>
Question 8	SUCCESS	Do you feel like the public comment period was success?
Question 9	COSTS	Costs of applying IT to process?
	BENZ = Benefits	Benefits of applying IT to process?
	COLLAB = more collaborative?	Do you think IT will result in a more collaborative decisionmaking process?
	DECQUALITY = better decisions?	Do you think the quality of decisions will improve as electronic public comment increases?
	DIVERSITY = is the playing field leveled?	Will electronic pc help level the playing field, increase or limit diversity?
Question 10	IMPROVE	How can IT improve process?

Table 5 (cont'd)

	TRANSPARENT = transparent, accessible, effective?	What specific things would you suggest to make electronic public comment processes transparent, accessible & effective (improve quality)?
	DIALOGUE = need dialogue among stakeholders?	Would government decision making be improved if electronic public comment created opportunities for dialogue among stakeholders?
	DIALOGUEHOW	If yes to question about dialogue, how would you structure the system?
Question 11	UTOPIA	Thought on perfect public comment process?
Question 12	OUTREACH	Was the outreach adequate?
Question 13	AGE	Age
Question 14	EDUC = Education	Education

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