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Evaluating the effectiveness of the Tennessee Forest Management Advisory Panel

Mark Donovan Miller

To the Graduate Council:

I am submitting herewith a thesis written by Mark Donovan Miller entitled "Evaluating the effectiveness of the Tennessee Forest Management Advisory Panel." I have examined the final electronic copy of this thesis for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Master of Science, with a major in Forestry.

David M. Ostermeier, Major Professor

We have read this thesis and recommend its acceptance:

J. Mark Fly, David L. Feldman, William M. Park

Accepted for the Council:
Carolyn R. Hodges

Vice Provost and Dean of the Graduate School

(Original signatures are on file with official student records.)

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Accepted for the Council:

Associate Vice Chancellor and
Dean of The Graduate School

EVALUATING THE EFFECTIVENESS OF THE TENNESSEE FOREST MANAGEMENT ADVISORY PANEL

A Thesis

Presented for the

Master of Science Degree

The University of Tennessee, Knoxville

Mark Donovan Miller

December 2000

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ABSTRACT

The last decade has seen forest resource conflicts in Tennessee develop regarding issues such as chip mills and their impacts, state forest management practices and water quality concerns related to logging practices. These issues have created conflicts between user groups and stakeholders. These disagreements have resulted in a number of bills being introduced into the Tennessee General Assembly (Senate and House) over the past several years. Realizing the complexity of these issues and the potential for conflict, the Tennessee General Assembly developed and passed Senate Joint Resolution No. 230 in 1997 to address these issues via the Tennessee Forest Management Advisory Panel (TFMAP).

The TFMAP was a stakeholder participation process. The purpose of the TFMAP was to evaluate and recommend appropriate policies and programs that promote forest sustainability and sound stewardship of all Tennessee forestlands. The Panel used collaborative and participatory principles and was a first attempt of its kind in Tennessee where diverse stakeholders were directly involved in a collaborative policy process to address forestry issues at a policy level.

The overall goal of this research is to provide a thorough and comprehensive evaluation of the effectiveness of the TFMAP. The objective of this study was to evaluate the effectiveness of the TFMAP using the following six elements as an evaluation framework: 1) stakeholder representation; 2) process design, facilitation, and management; 3) stakeholder trust of public institutions; 4) stakeholder education

regarding specific forest issues and other interest groups; 5) stakeholder behavior changes; and 6) the overall value of the process and the need for future mechanisms.

The researcher interviewed panel members to gather the necessary data. Most of the in-depth interviews were conducted by telephone, with a few being executed in person when the participant preferred this method. An interview protocol was developed with questions that addressed each of the six elements of the evaluation framework.

The research showed that the TFMAP has produced important value in many areas and was successful to varying degrees for all six elements evaluated. The researcher identified the following successes resulting from the TFMAP process: 1) the TFMAP was representative of the diversity of forest stakeholders in Tennessee, 2) panel management and facilitation was effective, 3) stakeholder trust and understanding of public institutions that play a role in forest management increased to varying degrees for all agencies, 4) stakeholder education of specific forest issues increased and cross-interest group education broadened stakeholder views of other interest group's views and philosophies, 5) stakeholder behavior to work with others holding different views regarding forest issues generally increased, and 6) the overall value of the outcome and the process was generally considered at least "somewhat successful."

As with any newly developed mechanism, this evaluation discovered some shortcomings. The following are perceived areas of weaknesses: 1) the TFMAP process design was complex and this created difficulty for some panel members 2) large groups were not as effective as small groups in promoting 'social capital' and effective negotiation, 3) 'how science was presented' during the process was a source of conflict, 4) the Panel Chair, Panel Facilitator, and participants were constrained by the time

specifications of the process, and 5) the TFMAP process did not create a permanent mechanism for forest stakeholder groups to work together collaboratively.

Without a collaborative mechanism, stakeholder groups will lose an avenue to pursue common ground and the other benefits that the TFMAP was shown to have produced. Therefore, the researcher concludes that a mechanism like the TFMAP is necessary so that forest stakeholders can continue to communicate with each other and do the real work of seeking common ground on the tough issues of how to best manage Tennessee's forest resources.

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CHAPTER 1

INTRODUCTION

Forest resources in the United States provide us with a multitude of products and services. We can look everywhere and see how important trees and forests are to us both personally and collectively. Trees provide us with products like paper, books, newspaper, and lumber. The need and desire for these products provide foresters, loggers and wood-products manufacturers with jobs that support families and sometimes communities. Forests, acting as systems, also provide clean water, recreational areas and aesthetic values to many people who live near them. In addition, wildlife habitat is found in and around forests which hunters, anglers, birders, and ecologists among others depend on for their respective pursuits. Our forests have provided all of these benefits and more for hundreds of years. However, with an ever-increasing population, these benefits are not always available to all forest users at the same time. Therefore, conflicts arise among different users and difficult decisions must be made regarding the use of our productive, but limited forest resources.

In the past century changes in our society have led to increasing conflicts among forest resource user groups. Historically, the resolution of these conflicts and the resultant management decisions were generally handed down through administrative or legislative channels. After initial enabling legislation, Gifford Pinchot and other early Forest Service leadership worked with limited industrial and professional stakeholders to bring about new administrative and legislative changes in the early 1900's.

Since then, several Legislative Acts have had considerable impact on our nation's forests, principally on federal lands. Two of the most important are the Renewable

Resource and Rangeland Planning Act (RPA) of 1974 and the National Forest Management Act (NFMA) of 1976. Recently and especially since these two overarching and complex statutes (RPA/NMFA) were enacted, the courts have been an important channel for making changes to natural resource policy. Both of the above statutes gave people procedural hooks from which they could challenge management activities that did not meet their interests (Yaffee, 1994).

The Northern Spotted owl controversy, which began in the late 1980's in the Pacific Northwest, forced a shift in timber demands in this country. The Northern Spotted owl, an endangered species, was thought to require "old growth" forests for its primary habitat. Therefore, the Endangered Species Act (ESA) of 1973 dictated that many forestlands in that region could not be logged. This increased the fiber demand for timber resources in the Southeast United States. Much of the Southeast's forests, heavily logged in the early part of this century, have matured in the last decades of the twentieth century. The increased pressure on our region's timber resource has brought forest stakeholders into conflict on several issues.

The last decade has seen forest resource conflicts in Tennessee develop regarding issues such as chip mills and their impacts, state forest management practices and water quality concerns related to logging practices. A November 1998 issue of *The Knoxville News Sentinel* article states that "a sharp environmental debate has arisen over the issue of chip mills" in the southeast. Environmentalists and some wildlife experts argue that the proliferation of chip mills has led to increased logging of hardwood forests resulting in massive fragmentation of the landscape due to the large amount of clearcutting (Associated Press, 1998). In another issue, the Tennessee Citizens for Wilderness

Planning placed appropriate use of our state forests on the policy agenda in 1997. This group challenged the Tennessee Department of Agriculture, Division of Forestry (TDF) and the Tennessee Department of Environment and Conservation's (TDEC) lack of multi-use management of state lands (Aldrich, 1997). Furthermore, water quality has increasingly become an issue around logging sites across the state, being more of a problem in east and middle TN where topography exacerbates the situation. Potential siltation of streams during harvest operations causes concern for water managers and anglers among other users.

These issues have created conflicts between user groups and stakeholders. Still other conflicts have occurred between user groups and state agencies. These disagreements have resulted in a number of bills being introduced into the Tennessee General Assembly (Senate and House) over the past several years. Realizing the complexity of these issues and the potential for conflict, the Tennessee General Assembly developed and passed a resolution in 1997 to address these issues via the Tennessee Forest Management Advisory Panel.

The Tennessee General Assembly and Governor Don Sundquist established the Tennessee Forest Management Advisory Panel (TFMAP) after the '96 and '97 legislative sessions saw an increasing number of contentious bills introduced that affected forest management (Walters et al., 1999). To address this growing concern, on May 30, 1997, the state General Assembly adopted, and the Governor approved, Senate Joint Resolution No. 230, which established the Advisory Panel (Gilbert et al., 1997). This action established the panel for the purpose of developing recommendations that promote forest sustainability and sound stewardship of all Tennessee forestlands. The Resolution

recognized the importance of Tennessee's forest resources and acknowledged that there is recurring debate over the appropriateness and sustainability of certain forest management techniques and practices being applied to forests in Tennessee.

The Panel used collaborative and participatory principles and was a first attempt of its kind in Tennessee where diverse stakeholders were directly involved in a collaborative policy process to address forestry issues at a policy level. Although these types of panel processes and focus groups are being used more frequently across the nation to resolve natural resource problems, Tennessee was one of a few states to apply this approach to forest issues (Walters et. al., 1999). Other states have expressed interest in this relatively new policy process and the results of the panel. As one panel staff person, Steve Martin, stated, "This Panel represents an alternative to tiresome and expensive litigious efforts to resolve differences. It showed that a different way is possible (Ibid.)."

Over a period of twelve months, Panel members served over 150 hours attending meetings, field trips, and presentations that investigated and studied issues. Generally speaking, Panel members moved back and forth from defending their positions on forest management to understanding the needs and beliefs of other groups (Ibid.). On December 18, 1998, the Panel sent its final recommendations to the Governor, legislative committees, the Commissioner of Agriculture and the Tennessee Forestry Commission. The 28 "majority consensus" recommendations were organized around four themes: increasing education, enhancing research, promoting partnerships and providing incentives to forest landowners (TFC, 1999.). However, consensus was not reached on all issues. There were still several areas that the panel members were not able to resolve

in the available time, including the impact of chip mills and the role of private property rights (Walters, 1999).

Historically, one can see that problems pertaining to forestry and natural resource issues continue to return to the legislative agenda, as well as create considerable concern for the public. Issues of clearcutting, timber harvesting on public lands, and water quality are just some of the reoccurring forest policy issues in this country. Approximately three years prior to this Panel, the Tennessee Forest Roundtable, a common ground deliberative process, was implemented in this state. Participants in that process attempted to bring up the same issues that were a source of so much contention in the TFMAP (Bullock, 1996). The increasing population in Tennessee and the world, coupled with the increasingly global nature of the economy, will place more demand on our state's natural resources creating more frequent conflicts. Since these conflicts will continue, it will be increasingly important to learn how to effectively resolve these issues. Furthermore, as these issues are revisited, the same stakeholder groups (many times the very same people) will be dialoguing with each other in the future. Through these stakeholder participation processes participants often report that relationships improve and that panel member views shift. Positive social benefits in these processes such as relationship building, fostering trust and establishing communication channels are often collectively referred to as "social capital" (Putnam, 1995). As social capital is increased, subsequent decision processes will be more effective and efficient. According to Ostermeier (1996), social capital is critical for the innovation needed to make the tough decisions in an increasingly complex and resource scarce world.

Many legislators at the local, state, and national level use social capital in policy-making processes. Stakeholders in natural resource issues could emulate these legislators to bring their collective social capital to bear on the contentious future issues regarding natural resources. Researchers have found that the creation of social capital can lead to a positive increase of social outcomes (Putnam, 1995). For example, Putnam found that quality of life (outcome) was significantly improved where there was social capital created. The development of social capital is an important reason to evaluate this type of stakeholder participation policy process and to go beyond a simple evaluation of "what worked well or what did not work well."

Furthermore, stakeholders are often much more knowledgeable about these issues than legislators. This is especially true at state levels where legislators have essentially no staff to assist them with researching and understanding the technical details of various issues. In fact, this was one of the reasons that the legislature and the Governor approved Resolution No. 230. Initially the idea came from Former State Senator Bud Gilbert of Knoxville, who felt that stakeholders understood various forest resource issues better than legislators. In addition, he felt that forest issues required considerable time to investigate and analyze; time the legislative members do not have because of the myriad of other issues that demand the attention of the legislative agenda. A better way to handle these issues would be to place them in the "collective laps" of those prodding the state legislators to take action or stay the present course.

Statement of the Problem

The problem addressed in this research is that we are unsure how effective stakeholder participation processes are. Given the newness of the TFMAP, the lack of objective evaluation of these kinds of stakeholder participation processes in the literature and that forest issues are reoccurring, there is a need to better understand these processes. This is an opportunity to learn from this unique effort about common ground processes. Without an evaluation of this stakeholder panel process, there is little basis to improve and enhance future stakeholder participation processes. This opportunity can best be seized using a comprehensive evaluation framework.

Goal

The overall goal of this research is to provide a thorough and comprehensive evaluation of the effectiveness of the TFMAP. To do this, it is necessary to determine the value of, strengths, and weaknesses of the various elements of the collaborative stakeholder process used in the TFMAP.

Objectives

Collaborative, common ground processes are complex and have multiple dimensions. This panel process was a new way of involving stakeholders in decision-making relative to legislators, the Tennessee Forestry Commission, and TDF. To understand and evaluate the TFMAP, it is important to review a broad range of elements about the process. One relatively broad evaluation framework described in the literature

identifies multiple social goals common to public or stakeholder involvement processes (Beierle, 1998). Thomas Beierle has made significant contributions to the literature by focusing on evaluation frameworks. Because his social goals framework fit this study's need for a comprehensive evaluation, it was chosen as a basis for this study. The researcher adapted his framework and applied it to a context where it fit (TFMAP).

Essentially four of Beierle's six social goals were identified for use as part of the evaluation framework in this research. Those four social goals are 1) educating and informing the public, 2) incorporating public values into decision-making, 3) increasing trust in institutions, and 4) reducing conflict. Improving the substantive quality of decisions and achieving cost effectiveness were two other social goals that were deemed inappropriate as part of the evaluation framework for this research. The former would have been more of an evaluation of the outcome of this process, which was not the focus of this research project. The latter would have required several years of analysis to determine the long-term cost-effectiveness of the TFMAP. In addition, the researcher would probably not have access to all pertinent information regarding the costs of the process and any costs foregone because of what the process produced.

The overall objective of this study is to evaluate the effectiveness of the Tennessee Forest Management Advisory Panel using the following six elements as an evaluation framework (each are briefly described below): 1) stakeholder representation; 2) process design, facilitation, and management; 3) stakeholder trust of public institutions; 4) stakeholder education regarding specific forest issues and other interest groups; 5) stakeholder behavior changes; and 6) the overall value of the process and the need for future mechanisms.

Stakeholder representation.

Who is at the table is a very important issue in any kind of a group process involving public policy issues. This is very similar to the issue of "diverse value representation" in Beierle's work (Beierle, 1998). The central challenge is to first clearly identify how stakeholder groups and stakeholders were identified and selected. The panel process is also investigated to determine how representative it was regarding the various forest stakeholder groups in Tennessee.

Process design, facilitation, and management.

TFMAP was a facilitated process and was designed to identify common ground regarding forest sustainability. To understand and evaluate this issue, the research evaluates the design and the implementation (management and facilitation) of the process.

Stakeholder trust of public institutions.

It is important to determine the impact of the process of stakeholder involvement on stakeholder trust of public institutions, namely TDF, Tennessee Wildlife Resources Agency (TWRA), Tennessee Department of Environment and Conservation (TDEC), and The University of Tennessee, Department of Forestry, Wildlife and Fisheries (UT FWF). This part of the research also focuses on how well the process helped panel members better understand the scope and challenges of public agencies.

Stakeholder education.

This part of the evaluation attempts to determine whether stakeholders have a better understanding of specific forestry issues and approaches to such issues after the TFMAP and whether stakeholders have a better understanding of what forest science says about

the issues. In addition, this section investigates the impact of the panel on cross-interest group education and inquires if panel members have a better understanding of other stakeholder groups' views and philosophies.

Stakeholder behavior.

There are two issues involved here. First, the research looks at the issue of social capital. This issue deals with each stakeholder's ability to work with other stakeholders of diverse values at the end of the project. The research also studies how else TFMAP has affected relationships and panel member communication skill development.

Overall value of the process and the need for future processes and mechanisms.

In this section stakeholders are asked their feelings regarding the overall process and the outcome of the TFMAP process (recommendations). Stakeholders are queried about their thoughts regarding the necessity of stakeholder panel processes for developing forest policy in TN. Stakeholder opinions regarding the lack of an existing mechanism to engage the TFMAP stakeholders are also investigated.

Although the panel process is evaluated for its effectiveness in achieving the social goals individually, there are important linkages among the goals. The evaluation also explores these linkages and analyzes how the six elements are related to each other.

Approach

The researcher interviewed panel members to gather the necessary data. Most of the in-depth interviews were conducted by telephone, with a few being executed in person when the participant preferred this method. An interview protocol was developed with questions that addressed each of the six elements of the evaluation framework.

CHAPTER 2

SUMMARY DESCRIPTION OF THE TFMAP PROCESS

The Tennessee Forest Management Advisory Panel, established by the Tennessee legislature in 1997, was a stakeholder participation process. The purpose of the TFMAP was to evaluate and recommend appropriate policies and programs that promote forest sustainability and sound stewardship of all Tennessee forestlands (Gilbert et al., 1997). Sustainable forestry, or sustainability as used by the panel, refers to the practice of meeting the forest resource needs and values of the present without compromising a similar capability of future generations (Helms, 1998). The panel represented a cooperative consensus-building attempt to develop forest policy in the state.

Panel participants represented a wide range of interests in Tennessee's forest resources. A small group of panel designers (conveners) first identified stakeholder groups that had demonstrated past interest in forest issues and/or played a traditional role in forest resource management. The identification of stakeholder groups was an informal process conducted by TDF, former Sen. Bud Gilbert, a forest industry lobbyist, and an advocate for environmental groups. Stakeholder groups were identified in a back and forth fashion between members of this informal group. For example, the number of stakeholder groups expanded over time, instead of all being identified at the same time.

Once all of the stakeholder groups were identified and invited to participate on the panel, panel designers instructed interest groups to nominate three members to serve as their representative. The criteria that were used to nominate representatives were left to the interest group's discretion. The conveners assumed that groups would choose individuals with the knowledge, experience, communication skills, and the time to devote

to the process. The three nominations were sent to the Governor's office where the selections of stakeholder group representatives were made. The Governor's office selected the individual whom they felt had the greatest ability to work together collaboratively on the panel. Individuals making the decisions sought input from outside sources when needed regarding nominated individuals. Later that year, Governor Sundquist announced 35 appointments to the panel representing inclusive and diverse interests such as forest landowners, timber industry, conservation and environmental groups, various professional societies, and other interests such as tourism and transportation (Walters et al., 1999). One stakeholder group chose not to join the panel and five others withdrew, at various times, after the process began.

There were seven non-voting members nominated to the panel. The Speaker of the House and the Speaker of the Senate each appointed two legislative representatives, and one non-legislative, at-large member (Ibid.). The Tennessee Forestry Commission also had a representative on the panel; however, that individual did not have voting privileges.

Governor Sundquist appointed Dr. Gary Schneider, former Associate Dean of the College of Agricultural Sciences and Natural Resources, as Panel Chair with the task of managing the panel process. The Panel chair and panel designers also decided to seek a neutral, outside facilitator to facilitate the TFMAP. Mirja Hanson, a professional facilitator form Minnesota, was hired as the Panel Facilitator. She had previous experience with stakeholder panel processes regarding natural resource management. Administrative services and support were provided principally by TDF, with the University of Tennessee Institute of Agriculture, Department of Forestry, Wildlife and

Fisheries also providing staff support concerning technical analysis and evaluation and issue assessment (Ibid.).

Beginning in November of 1997, the panel held 11 monthly two-day meetings. The meetings, with a couple of exceptions, took place in consecutive months. Meetings were scheduled at different locations around the state and were generally scheduled for Fridays and Saturdays. The meetings ranged from educational field trips to facilitated discussions on Tennessee's most pressing forestry issues.

Field trips were organized to provide "in the field" experiences and demonstrate to the panel members what actually happens in the field. For example, one field trip to Natchez Trace State Park displayed cut timber of varying diameters on a logging truck. The purpose of this demonstration was to show stakeholders how log quality (diameter, length, straightness, and presence of knots) determines the value of the timber. The value of the log, in turn, determines whether it will go to a sawmill for lumber or to a chipmill for pulp. This kind of field trip was invaluable for educating some panel members who had no previous experience with this type of activity.

Facilitated group discussion sessions took place indoors. These sessions often followed field trips and discussed what panel members saw and what their impressions were. Attempts were made to reconcile different views and find common ground on what actually happened during the field trip and what was learned. Other sessions focused on specific forest issues. For instance, one or more experts or presenters would conduct a presentation about a specific issue (e.g., chipmill sustainability) for the panel. After the presentation, panel members would discuss the presentation in a facilitated manner. Stakeholders would take turns offering their impressions about the information

that was presented. Not surprisingly, there were different perspectives about the same presentation. Group facilitated discussions offered the panel opportunities to discover what they agreed on and where there were differences of opinion. Where there was disagreement, the panel attempted to find ways that would help to resolve the differences. Sometimes this involved requesting more information or seeking other panel presenters.

The last of the eleven meetings focused on reaching common ground through majority consensus recommendations. The first day of the two-day meeting concentrated on drafting potential recommendations. Each stakeholder had the opportunity to develop three recommendations. After documenting and then posting all of the panel member recommendations, the panel reviewed each one for clarification and consolidated similar recommendations.

Voting on these recommendations took place on the second day of the last meeting. From the beginning, the panel was instructed that the goal of the TFMAP was to recommend "appropriate policy and programs that promoted forest sustainability and sound stewardship." The mechanism to arrive at consensus recommendations was a voting procedure that offered three alternatives. The alternatives included, "I support the recommendation," "I don't support, but I can live with the recommendation," and "I do not support the recommendation." The first two alternatives were considered "yes" votes and the third was a "no" vote. A recommendation was approved if it received a "majority" of votes, at least 15 of 29. Hence, recommendations approved were "majority consensus recommendations." The panel endorsed 28 majority recommendations. Recommendations that received less than 15, but more than 7 votes, were included in a minority report in the Report to the Governor. There were 24 minority recommendations.

Due to time constraints, the panel was unable to prepare the Report to the Governor during the last meeting. Because the recommendations needed editing, the Panel chair nominated three panel members to assist him in writing the document prior to the January deadline. The other panel members approved the Panel Chair's nominations to the editing committee. The three panel members selected were individuals who demonstrated collaborative abilities throughout the process and represented the diversity of stakeholder groups on the panel. On December 18, 1998, the Final Report and recommendations, including both majority and minority opinions, were delivered to the Governor, the Senate and House leadership and to the Tennessee Forestry Commission.

The process was principally designed by a few individuals in the administration. Mike Countess, Assistant Commissioner for The TN Department of Agriculture, designed the process with input from a few individuals in the TDF and The UT FWF. The resolution that created the TFMAP dictated that this was the process design to be used. The steps of the process were laid out in the form of a flow chart and given to the Panel Chair and Panel Facilitator as their guide (Figure 1). After the first couple of panel meetings the Panel Facilitator articulated a more in depth process design that she felt better communicated the steps of the process to the panel members (Figure 2). By creating Figure 2, the Panel Facilitator attempted to elaborate upon the process in terms of the activities that would be employed to reach the objectives that were laid out in Figure 1. This revision provided some panel members with more clarity about how the process would proceed.

As discussed in the Results section, several panel members still struggled with

Senate Joint Resolution 230
TENNESSEE FOREST MANAGEMENT ADVISORY PANEL
Discussion Session Process

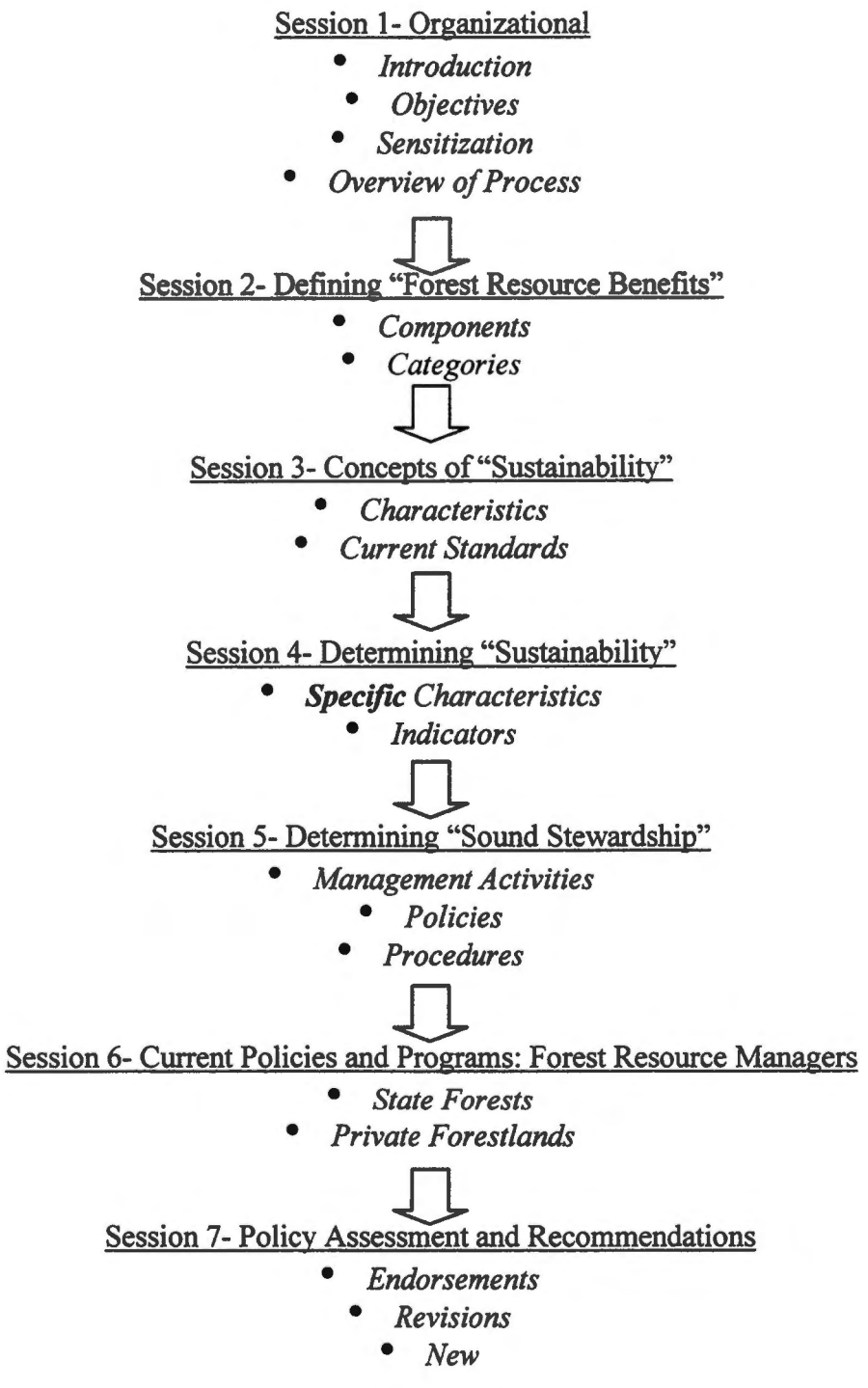

Figure 1. Flow chart depicting Initial Process Design.

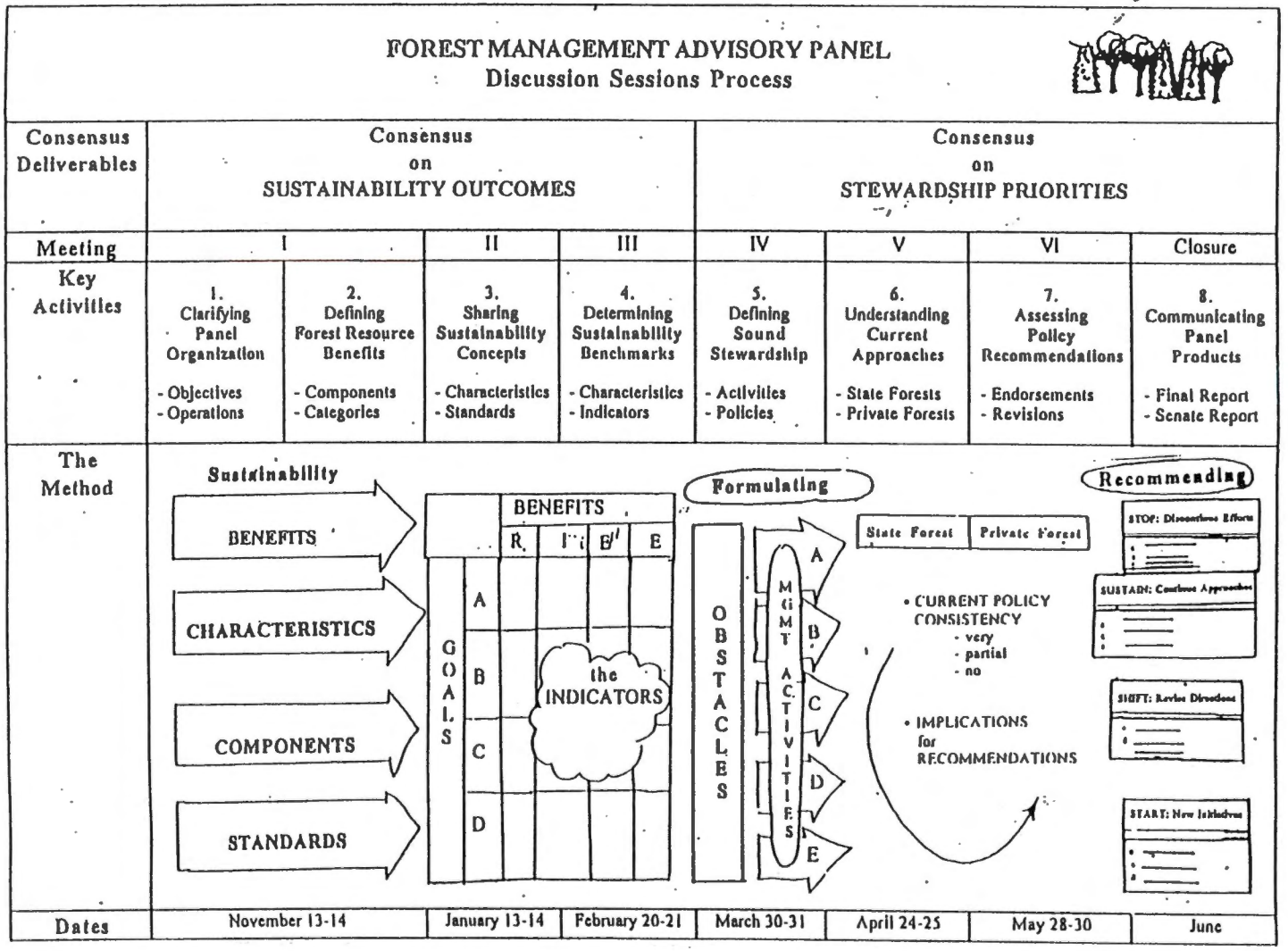

Figure 2. Elaborated Process Design.

understanding the process. Some participants felt confused from time to time about where they were in the process. Others were unclear how the steps were going to lead the panel in developing a set of recommendations for forest policy in Tennessee. For example, there was frustration about the voting procedure. Some panel members claimed that voting actually took place throughout the process under the auspices of various activities, but that they were unaware that this was happening until very late in the process when they felt that it was too late to reverse course. Hence, these individuals felt misled about the voting process. Some of the misunderstanding about the process is understandable, considering the complex nature of the TFMAP process. The complexity of the process is illustrated in the both Figures 1 and 2.

CHAPTER 3

METHODS

Several decades of research in evaluating and analyzing processes has shown that processes should be understood before improvement changes are made (Deming, 1993; Juran and Gryan, 1993). Ostermeier (2000) "suggests that in the absence of a good understanding of the issues and processes that practitioners face (in developing policy), meaningful improvements will be illusive." Therefore a thorough and comprehensive evaluation of the TFMAP is first needed before any improvements can be recommended.

There are many ways to evaluate these stakeholder processes. One method is not necessarily better than the next; rather they are different. However, improving the process through feedback of those who participated in the process is a very effective method (Deming, 1993). The evaluation in this study is from the perspective of those who designed, managed, facilitated and participated in the process.

For each of the six elements of the evaluation framework, research questions were developed (what do we want to know) and a survey instrument was designed to answer these research questions. The following steps outline the methods used in evaluating the TFMAP process.

1. Determine the information (research questions) necessary to evaluate the TFMAP from each evaluative criteria (social goal) perspective.
2. Develop the survey instrument (telephone interview protocol) to gather the required information.
3. Conduct the interviews via telephone or 'in person.'

4. Tabulate and analyze the data using *Statistical Programming for the Social Sciences (SPSS)* software.
5. Link data and analysis to what is known in the literature regarding these kinds of processes.
6. Discuss the results of the evaluation and what is learned from the research.

Research Questions

Questions regarding each of the six elements were developed to assess how well the TFMAP achieved each of the six elements in the evaluation framework. Research questions were developed around each issue using the following two fundamental questions as guiding principles; what happened in the process (to help understand the issue), and what information is needed to improve the process. Development of the research questions, as well as the survey instrument, was an iterative process and there were several drafts for each interview protocol.

Questionnaire Design

The nature of investigating a panel process like the TFMAP led the researcher to choose a telephone interview protocol as the most effective tool for gathering the most complete and accurate data about panel member's thoughts and feelings regarding the panel process. The telephone interview method was used to achieve the necessary in-depth examination of panel member's opinions about the process and suggestions for improving the panel process (Dillman, 1978; Babbie, 1968). In addition, the interview allowed the researcher the opportunity to provide further explanation of the meaning of

the questions, if necessary. A telephone interview, rather than a mailed survey, would make this possible. Finally, the goal was to have 100% participation by all of the panel members. A mail survey was more likely to be discarded and not returned, which might skew the results of the evaluation.

Three different interview questionnaires were developed to investigate what happened in the panel process and to evaluate the TFMAP. The first interview protocol was designed for the **panel members** and was divided into seven sections (Appendix A). The initial section attempted to gather general information. The other six sections focused on the six elements of the evaluation framework. Each section contained multiple questions with a mix of Likert scale and qualitative questions. Likert scale questions are those that are designed with a predetermined list of possible responses arranged in some type of relative rating progression (Dillman, 1978). Qualitative questions were open-ended and did not usually require any prompts. These qualitative questions were generally used to "flesh out" the responses to the Likert scale questions. Twenty-eight of the twenty-nine panel members who actively participated and finished the process were interviewed using this interview protocol.

There were a total of 83 questions in the panel member interview. Twenty-eight of those were Likert scale questions. These were usually on a five-point scale. Open-ended qualitative questions accounted for 40 questions. These questions generally asked interviewees to clarify their responses to the Likert scale questions and inquired about their suggestions for improvements (Ibid.). Inquiries that could be answered with a "Yes or No" accounted for 7 questions. There were 8 follow-up questions that were asked as sub-questions if the interviewee responded with a "Yes." The panel member survey was

pre-tested twice on two test subjects, both of who attended the panel meetings but were not panel members. The pre-tests provided good feedback on the protocol and improved the effectiveness of the interview tool.

The second interview protocol focused on the **Panel Chair** and the **Panel Facilitator** roles (Appendix B). The interview investigated their role, strategies, and their perceptions of what happened in the process. Although their responses were not tabulated with the *panel member* responses, the Panel Chair and Panel Facilitator interviews provided valuable information about the process and how it was managed.

The **conveners** (panel designers) were also queried using an abbreviated interview protocol that focused on who designed the process and how the process was designed (Appendix C). In addition, this interview investigated the processes of identifying stakeholder groups and selecting group representatives. Since the panel designers were not formally selected, the investigator inquired from several sources about who should be interviewed. Sources were cross-referenced to accurately identify all appropriate sources. Six of the seven people identified, as having played at least some role in the panel design, were interviewed. Information gathered in the *panel designer* interviews was not tabulated with the *panel member* responses, but was used to tell the story of how the panel was designed.

Interviews

Potential interviewees were initially contacted in the early summer of 1999 (Appendix D). The researcher introduced himself and explained the research project and requested their participation in the interview process. All interviewees were informed

that their responses would be confidential and would not be associated with their name. Telephone interviews were scheduled at the convenience of the participants. They commenced in late June and ended in early September of the same year.

Most interviews were conducted by telephone from the Human Dimensions Lab at The Department of Forestry, Wildlife, and Fisheries, University of Tennessee Agricultural campus. A few interviews were conducted in person at various locations in Knoxville, TN. Interviews generally lasted 90 minutes, but ranged from 60 minutes to 2 ½ hours, depending on the individual.

A typed protocol was used to guide interviews to assure consistency in the interview process (Ibid.). Participants were alerted when the interview transitioned from one section to the next. The interviewer recorded responses throughout the interview. On major qualitative questions, protracted responses were summarized as best as possible and then read back to the interviewee to ensure the accuracy of what was conveyed. Upon completing the interview, participants were given the opportunity to verbalize any thoughts that they had about the process, especially regarding issues not specifically covered in the interview protocol. After the interview ended, the researcher reviewed the interview notes to verify understanding of what was recorded.

Data Collection and Management

A database was created to store and manage the research information after all the interviews were conducted. Only responses from panel member interviews were entered in the database. The database was set up using the Statistical Programming for the Social Sciences (SPSS) software program. All responses were coded with numbers to manage

the data in this software. For example, Likert scale responses were assigned numbers 1 through 5, rather than recording the actual responses (i.e. "somewhat satisfied"). Text based answers required more work to code. Interview responses to qualitative questions were reviewed to determine the range of responses to each question. Next, each response was assigned a pre-coded number and that number was recorded in the database. Therefore, the database contained only numerals, which represented a specific response to each question recorded in the database codebook.

Before analyzing the responses of the 28 panel members in the interview, each *stakeholder group* represented on the panel was classified into one of three categories to determine if there were significant differences between group classifications regarding how participants answered questions and felt about the process. The stakeholder groups were classified based on their perceived primary interest regarding forestry issues in Tennessee. The three group types were environmental, nonaligned, and utilitarian. The **environmental** groups were those whose interests were thought to be most concerned with preservation and conservation of forest resources. **Utilitarian** group interests were thought to have more of an orientation to manage and use natural resources to produce products. They were normally industry or other interests that tended to be of a commercial nature. **Nonaligned** group interests did not have a clear orientation towards either environmental or utilitarian concerns; hence, the classification of "nonaligned."

The classification of stakeholder groups based on interest and orientation fell into one of three groups, as mentioned above. There were nine environmental (32.1%), eight nonaligned (28.6%), and eleven utilitarian (39.3%) stakeholder groups represented on the

panel, according the researcher's classification scheme (Table 1-4). Each stakeholder group type made up approximately one-third of the panel representatives.

Questionnaire responses were analyzed using descriptive statistics to summarize the data. Pearson's chi-square test was used to test for relationships between variables. All relationships were tested at a significance level of 0.05 ($p < 0.05$). The SPSS software allowed the researcher to determine if there were significant differences between stakeholder group responses. In the subsequent chapter on Results and Analysis, all of the results are presented for all three stakeholder groups, regardless of whether there were statistically significant differences or not.

Determining significant differences between groups to interview questions helped the researcher identify problems endemic to the process and problems that were noted by specific stakeholder groups. For example, if the panel rated the facilitation of the process poorly and there were no differences between stakeholder groups regarding how each rated the facilitation; then one could reasonably draw the conclusion that there was a problem with the panel facilitation. On the other hand, the facilitation might be rated generally good. Yet, there could be significant differences between group responses, meaning one group generally rated the facilitation poorly. In this case, the researcher looked more closely at the associated qualitative questions to determine if there really was a problem with the panel facilitation. It could be that representatives of the stakeholder group that rated the facilitation poorly might instead be dissatisfied with some other aspect of the panel process. However, there may be instances where significant differences exist between stakeholder group responses, yet the research cannot

determine why. Where appropriate, the researcher speculated for the sake of future researchers.

CHAPTER 4

RESULTS/ANALYSIS

1. General Information about Panel Members

The first part of the interview inquired about panel member's previous experience in collaborative panel processes; their objectives for participating in this panel process and to what degree those objectives were met; and to what degree each participant felt he/she was treated in a way that promoted collaborative problem solving. The objective of inquiring about previous experience was to determine whether that experience was valuable or invaluable (restrictive) for effective stakeholder participation on this panel. Furthermore, stakeholder objectives prior to the panel and how well participants felt their objectives were met were investigated. These responses were compared to how they felt about various aspects of the process in order to help determine if the panel members felt there were unforeseen benefits for participating on the panel. Over half, 16 of 28 participants, stated that they had participated in some kind of collaborative process prior to TFMAP (Table 1-1). There was a significant difference ($p < 0.05$) in how much experience the three groups brought to the process. Of those who had previous experience, most represented utilitarian stakeholder groups. In fact, over 80% (9 of 11) of utilitarian representatives had previous experience. A minority, 3 of 9, of environmental group representatives reported that they had previous experience. Nonaligned group representatives were split with half having experience, the other half not. Yet, the benefit of past participation was not clear based on comments regarding

Table 1-1. Previous experience in collaborative panel processes prior to TFMAP * Classification of stakeholder group based on INTEREST and orientation of group Crosstabulation

			Classification of stakeholder group based on INTEREST and orientation of group			
			Environmental group	Nonaligned group	Utilitarian group	Total
Previous experience in collaborative panel processes prior to TFMAP	Yes	Count	3	4	9	16
		% within Classification of stakeholder group based on INTEREST and orientation of group	33.3%	50.0%	81.8%	57.1%
	No	Count	6	4	2	12
		% within Classification of stakeholder group based on INTEREST and orientation of group	66.7%	50.0%	18.2%	42.9%
Total		Count	9	8	11	28
		% within Classification of stakeholder group based on INTEREST and orientation of group	100.0%	100.0%	100.0%	100.0%

how their experience affected their participation in the TFMAP process. In general, participants with previous experience said that they knew what to expect and felt more comfortable and patient with the process than those who did not have experience prior to the panel. A few who had prior experience indicated that their experience "did not help."

There was an inconsistency between pre-panel and post-panel surveys regarding stakeholder objectives for participating on the panel. In a survey conducted prior to the panel, panel members were asked about their objectives for participating in the process. Stakeholder objectives varied widely within and between groups and are too numerous to mention. The same question was asked in the post-interview process and these responses were significantly different from the pre-panel responses. The post-panel stakeholder responses regarding their objectives for participating in the process were much fewer and were organized around seven major themes.

As stakeholders went through TFMAP, their expectations evidently changed and along with that, their objectives for the process changed too. It is possible that panel members saw other value and benefits for participating in this process as they progressed through the steps of the process and accordingly adjusted their objectives. The most common response (post panel survey) to participant's objectives for the process was "to represent their respective organizations." Other frequently mentioned objectives were, "to educate/inform others, to learn about forestry issues, and to protect the forest environment."

When asked about how well stakeholder objectives were met, responses differed significantly ($p < 0.05$) across the three groups (Table 1-2). Utilitarian and nonaligned groups generally felt that their objectives were met "somewhat to very well." In contrast,

Table 1-2. Degree to which stakeholder objectives were met * Classification of stakeholder group based on INTEREST and orientation of group Crosstabulation

			Classification of stakeholder group based on INTEREST and orientation of group			
			Environmental group	Nonaligned group	Utilitarian group	Total
Degree to which stakeholder objectives were met	Somewhat poorly	Count	3	1		4
		% within Classification of stakeholder group based on INTEREST and orientation of group	33.3%	12.5%		14.3%
	Neither poor nor good	Count	3	1	1	5
		% within Classification of stakeholder group based on INTEREST and orientation of group	33.3%	12.5%	9.1%	17.9%
	Somewhat well	Count	3	1	8	12
		% within Classification of stakeholder group based on INTEREST and orientation of group	33.3%	12.5%	72.7%	42.9%
	Very well	Count		5	2	7
		% within Classification of stakeholder group based on INTEREST and orientation of group		62.5%	18.2%	25.0%
Total		Count	9	8	11	28
		% within Classification of stakeholder group based on INTEREST and orientation of group	100.0%	100.0%	100.0%	100.0%

only one third of environmental group representatives felt the same. Overall, 19 of the 28 panel members felt their objectives were met, at least, somewhat well. Of the nine participants that stated otherwise, two-thirds were from environmental groups. As mentioned above, most of the representatives from the environmental groups had no previous experience in collaborative processes. Their inexperience may have created some unrealistic expectations among the environmental stakeholders.

Each stakeholder was also asked about the degree to which they were treated in a way that promoted collaborative problem solving (hereafter referred to as "collaboratively treated"). Overwhelmingly, the panel felt that they treated each other "somewhat" or "very well" (Table 1-3). Half of the participants said that they were collaboratively treated "somewhat" so and the other half stated that they felt they were collaboratively treated "to a high degree." Not a single panel member felt that they were not treated well in regard to collaborative problem solving. Stakeholder groups differed significantly ($p < 0.05$) in how they answered this question. Seven of eight stakeholders in the nonaligned groups felt that they were collaboratively treated "to a high degree" by others. Although less than one-half of representatives in both the environmental and utilitarian groups felt the same, they still felt like they were collaboratively treated at least "somewhat well."

For those who indicated that they were collaboratively treated to a high degree, "the presence of mutual respect" and "the ample opportunity to interact with other panel members" were mentioned most often for why they felt the way they did. Concerning those that reported being collaboratively treated only somewhat well; they generally felt that the "lack of flexibility" and "close-mindedness" of some panel members were

Table 1-3. Degree stakeholder was treated in a way that promoted collaborative problem solving * Classification of stakeholder group based on INTEREST and orientation of group Crosstabulation

			Classification of stakeholder group based on INTEREST and orientation of group			
			Environmental group	Nonaligned group	Utilitarian group	Total
Degree stakeholder was treated in a way that promoted collaborative problem solving	Somewhat well	Count	5	1	8	14
		% within Classification of stakeholder group based on INTEREST and orientation of group	55.6%	12.5%	72.7%	50.0%
	To a high degree	Count	4	7	3	14
		% within Classification of stakeholder group based on INTEREST and orientation of group	44.4%	87.5%	27.3%	50.0%
Total		Count	9	8	11	28
		% within Classification of stakeholder group based on INTEREST and orientation of group	100.0%	100.0%	100.0%	100.0%

obstacles that negatively affected the way in which they were treated. Seven of the eight nonaligned stakeholders indicated that they were collaboratively treated very well.

However, less than half of the stakeholders in both the environmental and utilitarian groups reported being collaboratively treated to a high degree. There were more differences between the environmental and utilitarian groups to begin the process than between the nonaligned groups and the other two groups. Therefore, it seems logical that the environmental and utilitarian stakeholders might see more inflexibility and close-mindedness from the other.

There was an inconsistency between how stakeholders reported they were treated after the process (in the survey) and the level of commitment that each had pledged prior to the process. The pre-panel survey asked each participant about their level of commitment to other individuals in terms of their willingness to make the panel a successful collaborative effort. On a 5-point scale, the mean was 4.77. This very high response represented a high commitment level that did not seem to maintain itself as panel members went through the process. The post-panel survey asked stakeholders how well they felt treated in a way that promoted collaborative problem solving. On 3-point scale, the mean was 1.5. Although the scales are different, one can see the discrepancy between how panel members intended to treat each other in the process relative to how well they felt treated afterwards. The post-panel responses were not as high as the pre-panel responses. It is not unusual for one to feel that they use the "golden rule" more than others do. And this feeling seems to be supported when comparing pre-panel and post-panel responses to closely related questions.

2. Stakeholder Representation

The objective in the first portion of the interview was to determine the extent to which the panel was representative of the forest interests groups in Tennessee. In effect, this information would help ascertain how well the TFMAP represented the diversity of forest interests held by citizens of the state. Representation is a key issue in public policy issues and therefore how well TFMAP represented diverse interests was an important issue. Furthermore, the appropriate level of stakeholder participation would promote legitimacy of the panel process for the interest groups involved as well as for the general public. To determine representation, stakeholders were asked about how well panel members represented the diversity of interest groups in Tennessee and about their thoughts on the size of the panel. In addition, information was sought regarding how panel members communicated with their respective groups.

From the perspective of the panel members, the TFMAP was successful regarding how well the panel represented the diversity of forest stakeholder interests in Tennessee. Almost 90% of panel members felt that the panel represented the diversity of stakeholder interests in Tennessee "somewhat well" to "very well" (Table 2-1). Only two participants felt that the panel did poorly in representing diverse forest stakeholders in Tennessee. Half of the participants commented that "there was a good mix of all different groups." Almost the same number said, "no one was left out of the process."

In addition to the question about diversity, interviewees were asked to rate the number of participant groups that were involved. Ten of the 28 interviewed stated that they felt the number was "about right" (Table 2-2). All others, except one, said that there were "slightly too many" or "too many" groups involved. There was a significant

Table 2-1. How well did panel represent the diversity of stakeholder interests in TN * Classification of stakeholder group based on INTEREST and orientation of group Crosstabulation

			Classification of stakeholder group based on INTEREST and orientation of group			
			Environmental group	Nonaligned group	Utilitarian group	Total
How well did panel represent the diversity of stakeholder interests in TN	Somewhat poorly	Count	1	1		2
		% within Classification of stakeholder group based on INTEREST and orientation of group	11.1%	12.5%		7.1%
	Neither poor nor good	Count			1	1
		% within Classification of stakeholder group based on INTEREST and orientation of group			9.1%	3.6%
	Somewhat well	Count	8	2	3	13
		% within Classification of stakeholder group based on INTEREST and orientation of group	88.9%	25.0%	27.3%	46.4%
	Very well	Count		5	7	12
		% within Classification of stakeholder group based on INTEREST and orientation of group		62.5%	63.6%	42.9%
Total		Count	9	8	11	28
		% within Classification of stakeholder group based on INTEREST and orientation of group	100.0%	100.0%	100.0%	100.0%

Table 2-2. Rate the number of participant groups that were involved with the panel * Classification of stakeholder group based on INTEREST and orientation of group Crosstabulation

			Classification of stakeholder group based on INTEREST and orientation of group			
			Environmental group	Nonaligned group	Utilitarian group	Total
Rate the number of participant groups that were involved with the panel	Slightly too few	Count	1			1
		% within Classification of stakeholder group based on INTEREST and orientation of group	11.1%			3.6%
	About right	Count	4	2	4	10
		% within Classification of stakeholder group based on INTEREST and orientation of group	44.4%	25.0%	36.4%	35.7%
	Slightly too many	Count	3	1	7	11
		% within Classification of stakeholder group based on INTEREST and orientation of group	33.3%	12.5%	63.6%	39.3%
	Too many	Count	1	5		6
		% within Classification of stakeholder group based on INTEREST and orientation of group	11.1%	62.5%		21.4%
Total		Count	9	8	11	28
		% within Classification of stakeholder group based on INTEREST and orientation of group	100.0%	100.0%	100.0%	100.0%

difference ($p < 0.05$) between groups regarding how they felt about the size of the panel. Utilitarian and nonaligned groups were more likely to feel the number of groups was too many than were environmental groups. Yet, all groups felt, to some degree, that there were too many stakeholder groups. Several representatives mentioned that the number was unwieldy at times, especially during large discussion groups, and that smaller groups are better in collaborative processes. Some of the utilitarian and nonaligned group representatives felt that some of the other groups were repetitive in their interest representation.

The vast majority of representatives felt that all of those groups that were at the table had a legitimate stake in forest issues in Tennessee. When asked whether any groups did not have a legitimate place on the panel, 20 of 28 thought every group that was there deserved to be involved (Table 2-3). Only 7 of 28 stakeholders felt that some group or groups did not have a direct connection to forest issues in Tennessee (one participant chose not to answer). Although the difference between groups was not significant, utilitarian stakeholders (four) were more likely to identify groups that they felt did not have a legitimate place on the panel than either environmental (one) or nonaligned (two) representatives. Overall, the results indicate that panel members felt that the conveners did a very good job of identifying and selecting stakeholder groups to participate on the panel.

Communication was generally informal regarding how panel members communicated with their respective constituencies. Almost all representatives communicated with their groups at least once between panel meetings. The subject of these communications varied widely, but reporting the 'progress of the panel' was the

Table 2-3. Were there groups on the panel that did not have a legitimate reason to participate * Classification of stakeholder group based on INTEREST and orientation of group Crosstabulation

			Classification of stakeholder group based on INTEREST and orientation of group			
			Environmental group	Nonaligned group	Utilitarian group	Total
Were there groups on the panel that did not have a legitimate reason to participate	Yes	Count	1	2	4	7
		% within Classification of stakeholder group based on INTEREST and orientation of group	11.1%	25.0%	40.0%	25.9%
	No	Count	8	6	6	20
		% within Classification of stakeholder group based on INTEREST and orientation of group	88.9%	75.0%	60.0%	74.1%
Total		Count	9	8	10	27
		% within Classification of stakeholder group based on INTEREST and orientation of group	100.0%	100.0%	100.0%	100.0%

most common topic mentioned. When asked what the panel designers could do to improve the effectiveness of communication with their interest groups, over two-thirds felt that nothing more was required by those who designed the process. The most common suggestion for improving communication was "to provide the minutes-of-the-meeting directly to group constituencies via mailings or electronically in a timely fashion."

3. Process Design/Management/Facilitation

In this section of the research, panel members were asked what they believed worked well about the overall process and how it was managed and facilitated. In addition, the panel was given the opportunity to articulate what they felt did not work, why and what could be done for the process to be more effective. The interview attempted to understand the panel members' thoughts and assessments regarding the goal of TFMAP and other aspects of the panel process. Representatives were asked to rate the way the panel was managed by the panel chair and facilitated by the panel facilitator. Other aspects of management and facilitation were investigated via open-ended questions.

Process Goal and Design

Because the TFMAP was a process thought sought consensus on forest sustainability in Tennessee, participants were queried about their satisfaction with the focus on forest sustainability. Over two-thirds of the panel (19 of 28) was "somewhat satisfied" or "very satisfied" with this focus for the panel (Table 3-1). Nonaligned groups

Table 3-1. How satisfied was the stakeholder with the focus of "sustainable forestry" for the panel * Classification of stakeholder group based on INTEREST and orientation of group Crosstabulation

			Classification of stakeholder group based on INTEREST and orientation of group			
			Environmental group	Nonaligned group	Utilitarian group	Total
How satisfied was the stakeholder with the focus of "sustainable forestry" for the panel	Very dissatisfied	Count	1	1		2
		% within Classification of stakeholder group based on INTEREST and orientation of group	11.1%	12.5%		7.1%
	Somewhat dissatisfied	Count	3		2	5
		% within Classification of stakeholder group based on INTEREST and orientation of group	33.3%		18.2%	17.9%
	Neither dissatisfied nor satisfied	Count	1		1	2
		% within Classification of stakeholder group based on INTEREST and orientation of group	11.1%		9.1%	7.1%
	Somewhat satisfied	Count	2	2	7	11
		% within Classification of stakeholder group based on INTEREST and orientation of group	22.2%	25.0%	63.6%	39.3%
	Very satisfied	Count	2	5	1	8
		% within Classification of stakeholder group based on INTEREST and orientation of group	22.2%	62.5%	9.1%	28.6%
Total		Count	9	8	11	28
		% within Classification of stakeholder group based on INTEREST and orientation of group	100.0%	100.0%	100.0%	100.0%

were most satisfied with the goal of forest sustainability, with only one participant not feeling satisfied.

Most of the panel felt that the focus of forest sustainability was a good, positive goal. There was some ambivalence about the goal, however, because several voiced the criticism that forest sustainability was never defined to their satisfaction. Since the process was a "top down" design approach, the panel was instructed what the goal of the process was. However, the panel designers did not provide a definition of forest sustainability. Subsequently, the panel had difficulty defining the goal. Hence, panel members indicated they were left to pursue their own definitions and interests.

Most of the panel felt "very skeptical" to "somewhat skeptical" about the process as they were going through the steps of the process (Table 3-2). None of the panel members reported that they were "very confident" in the process and only 8 were "somewhat confident." It is important to note that, for many, stakeholder's confidence varied throughout the process, indicating some panel activities and sessions were viewed as being more effective than others.

Even though there was considerable satisfaction with the focus of the panel (forest sustainability), panel members voiced frustrations and felt conflicted about the process itself. Reasons for skepticism about the process varied. For many stakeholders, the process was too complicated and this complexity created confusion (Figures 1 and 2). One-fourth of the panel members commented that there was a lack of opportunity to *thoroughly* discuss the issues in open discussion sessions. However, this was not due to the size of the panel. Rather, they felt that the facilitator and panel chair limited the discussions because it was feared the process would break down into arguing. Other

Table 3-2. How confident were you that the process was going to produce effective results * Classification of stakeholder group based on INTEREST and orientation of group Crosstabulation

			Classification of stakeholder group based on INTEREST and orientation of group			
			Environmental group	Nonaligned group	Utilitarian group	Total
How confident were you that the process was going to produce effective results	Very skeptical	Count	2	1	2	5
		% within Classification of stakeholder group based on INTEREST and orientation of group	22.2%	12.5%	18.2%	17.9%
	Somewhat skeptical	Count	4	2	2	8
		% within Classification of stakeholder group based on INTEREST and orientation of group	44.4%	25.0%	18.2%	28.6%
	Neither skeptical nor confident	Count	1	2	4	7
		% within Classification of stakeholder group based on INTEREST and orientation of group	11.1%	25.0%	36.4%	25.0%
	Somewhat confident	Count	2	3	3	8
		% within Classification of stakeholder group based on INTEREST and orientation of group	22.2%	37.5%	27.3%	28.6%
Total		Count	9	8	11	28
		% within Classification of stakeholder group based on INTEREST and orientation of group	100.0%	100.0%	100.0%	100.0%

specific activities in the process cited as being "cons" by several were, grouping ideas for discussion under headings, lumping similar proposals for final recommendations together, and the voting procedure. These activities were generally thought to be misleading or confusing by those participants who criticized them. Other stakeholders did not fully understand the consequences of these activities; therefore, they did not see the value of performing them.

Simultaneously, the structure did provide benefits. Even though the process was considered too complex by a majority of panel members, some indicated that the relatively high structure of the process enabled them to deal with this complexity better than others. The stepwise organization of the process (Figure 2) might have enabled several of the stakeholders to navigate the overwhelming complexity and confusion of the process.

Some other positive aspects of the structure hailed by participants were identifying forest benefits, defining objectives, documenting stakeholder concerns, and educating about specific issues through field trips. Identifying the multiple benefits that Tennesseans derive from their forests, such as recreation, quality of life, economics and ecosystem helped to guide the panel in all of their discussions. Defining objectives like increasing education, expanding research, encouraging partnerships, and promoting incentives helped the panel focus when deciding recommendations. In addition, the structure provided ample opportunity to educate the panel about specific forest issues such as the benefits of clearcutting, the differences between even-aged and uneven-aged forest management, and many other issues. However, there was disagreement regarding

whether large group facilitated sessions were more effective than smaller group sessions. There were almost equal numbers of proponents for both.

An alternative way to approach these issues is through an issue-oriented process. This process might deal with specific forest issues (clearcutting, chipmills), rather than focusing on forest sustainability throughout the process. Since, many were not happy with the goal-oriented process (forest sustainability); stakeholders were queried about their preference for an issue-oriented process. Only nine of the 28 stated that they preferred the goal-oriented approach (Table 3-3). Of the other two thirds who would prefer an issue-oriented process, two felt that, as a first step, the goal-oriented process was appropriate. There was a significant difference ($p < 0.05$) between groups regarding which process was preferred. A majority of nonaligned group representatives preferred the goal-oriented approach, while a majority of environmental and utilitarian participants stated a preference for the issue approach. In fact, all nine of the environmental representatives professed a desire for the issue-oriented process. However, one must consider the fact that the panel members had all been through a goal-oriented process and realized many of the pitfalls of this type of process. Many, perhaps most panel members, have never gone through an issue-oriented process, so they likely did not consider the possible drawbacks that such a process might present for the participants. "The grass is greener on the other side of the fence" perspective might be what is driving the preference of some stakeholders and that may not always be the best reason for a choice.

Those who preferred the issue approach, regardless of the type of stakeholder group, felt that the issues needed to be discussed in more detail. And ultimately, the critical issues might be better resolved. As it was, many felt that the issues were not

Table 3-3. Which focus would stakeholder prefer * Classification of stakeholder group based on INTEREST and orientation of group Crosstabulation

			Classification of stakeholder group based on INTEREST and orientation of group			
			Environmental group	Nonaligned group	Utilitarian group	Total
Which focus would stakeholder prefer	Issue-oriented focus	Count	7	3	6	16
		% within Classification of stakeholder group based on INTEREST and orientation of group	77.8%	42.9%	54.5%	59.3%
	Goal oriented (sustainable forestry) focus	Count		4	5	9
		% within Classification of stakeholder group based on INTEREST and orientation of group		57.1%	45.5%	33.3%
	Issue-oriented NOW, but goal-oriented was good first step	Count	2			2
		% within Classification of stakeholder group based on INTEREST and orientation of group	22.2%			7.4%
Total		Count	9	7	11	27
		% within Classification of stakeholder group based on INTEREST and orientation of group	100.0%	100.0%	100.0%	100.0%

resolved because discussion was restricted in an effort to stay focused on "forest sustainability" and avoid getting bogged down in conflicts over differences. Conversely, many participants pointed out that there is a greater chance of polarity in the issue-oriented process, which might reduce the chance for success. Nonaligned groups, by definition, were the least polarized of the groups. The two more polarized groups, environmental and utilitarian, preferred the potentially more divisive process. Both groups stated their desire to freely debate the issues and the details that are necessary to understand them. It is possible that both of these groups feel they fully understand the details and can better support their positions with more in-depth discussion.

Panel Chair Management

The Panel Chair, Dr. Gary Schneider, had the responsibility to manage the panel process. Management of the process consisted of explaining how the panel was created, planning logistics, scheduling meetings, time management, and some individual session facilitation. Stakeholder representatives were asked to rate the way the panel was managed and to comment on what aspects worked well and did not work well. Overall, panel members felt that the panel was well managed with 20 of 28 indicating that panel management was "very good" (Table 3-4). Only one declared that management was "somewhat poor".

Criticism of the Panel Chair was minimal. A few felt that the Chair was biased, mainly because he also was employed by the University of Tennessee and used to be the Department Head of Forestry, Wildlife and Fisheries. Although a few criticized the Panel Chair for limiting discussion of polarizing issues, this was more a function of the goal of the process, finding common ground on forest issues. Finally, a few of the panel

Table 3-4. How would you rate the way the panel was managed * Classification of stakeholder group based on INTEREST and orientation of group Crosstabulation

			Classification of stakeholder group based on INTEREST and orientation of group			
			Environmental group	Nonaligned group	Utilitarian group	Total
How would you rate the way the panel was managed	Somewhat poor	Count	1			1
		% within Classification of stakeholder group based on INTEREST and orientation of group	11.1%			3.6%
	Neither poor nor good	Count	2		1	3
		% within Classification of stakeholder group based on INTEREST and orientation of group	22.2%		9.1%	10.7%
	Somewhat good	Count	3		1	4
		% within Classification of stakeholder group based on INTEREST and orientation of group	33.3%		9.1%	14.3%
	Very good	Count	3	8	9	20
		% within Classification of stakeholder group based on INTEREST and orientation of group	33.3%	100.0%	81.8%	71.4%
Total		Count	9	8	11	28
		% within Classification of stakeholder group based on INTEREST and orientation of group	100.0%	100.0%	100.0%	100.0%

members felt that the Panel Chair should have been more responsive to suggested changes during the process.

The Chair's light-hearted style and humor were cited most often when asked about what aspects worked well. Many felt these skills helped to effectively manage the diversity of interests on the panel. In addition, several panel members from all group types praised the planning and the logistics of the 15-month process. Several participants felt he was effective at helping to facilitate some of the activities.

Although the Panel Facilitator managed individual sessions, the Panel Chair also coordinated with the facilitator during activities in some sessions. Dr. Schneider called sessions to order, introduced presenters, acted as a timekeeper and generally played the role of "cheerleader." In addition, he would identify disagreements and direct the facilitator to facilitate discussion on the disagreement. Sometimes when the discussion was stuck and deteriorating into a debate, he would suspend the discussion and reiterate what the objective of the session was. Furthermore, he often encouraged the panel members to stay focused by informing them of time constraints during some sessions. According to several participants, his coordination with the facilitator was effective in keeping the group focused.

Panel Facilitation

Mirja Hanson, a professional facilitator from Minnesota, was responsible for facilitating the panel. In contrast to the specific duties of the Panel chair mentioned earlier, the facilitator's duty was to facilitate the group sessions, large or small. She usually began the day by explaining where the panel was in the process and what steps they were going to execute for that day. This required much review because the process

was very complex. When discussion began about a specific forest issue or about panel member responses to an expert presentation or field trip, she would also be in charge of effectively guiding and expediting that session to best achieve common ground. These duties required a great deal of energy and considerable interpersonal and communication skills. The roles between the Panel chair and the Panel facilitator were often blurred. This proved to be an asset of the process, however, because they coordinated their duties and worked together effectively.

Panel members overwhelmingly indicated a need for an effective neutral facilitator when asked how important it was to the process. Twenty-three members of the panel felt that it was "very important" (Table 3-5). Only one person responded that it was "somewhat unimportant." Most stakeholders hailed her abilities as an unbiased facilitator. A few participants, all utilitarian stakeholders, felt that the facilitator needed a better understanding of specific forest issues in Tennessee. Yet, by far, they were in the minority.

Next, panel members were queried about how clearly the steps, which the panel went through to arrive at consensus, were communicated to them by the facilitator. Responses were mixed regarding how well the facilitator communicated the steps. A little over half the panel, 16 of 28, responded that the steps were "somewhat or very clear" to them (Table 3-6). Yet, twelve stakeholders were at least "somewhat unclear" about the steps of the process. This seems to indicate that there was a problem with the communication of the process. When considering that this was a long, energy-intensive process that required a high level of time commitment, it seems surprising that so many

Table 3-5. How important was an outside facilitator * Classification of stakeholder group based on INTEREST and orientation of group Crosstabulation

			Classification of stakeholder group based on INTEREST and orientation of group			
			Environmental group	Nonaligned group	Utilitarian group	Total
How important was an outside facilitator	Somewhat important	Count			1	1
		% within Classification of stakeholder group based on INTEREST and orientation of group			9.1%	3.6%
	Neither unimportant nor important	Count		1		1
		% within Classification of stakeholder group based on INTEREST and orientation of group		12.5%		3.6%
	Somewhat important	Count		1	2	3
		% within Classification of stakeholder group based on INTEREST and orientation of group		12.5%	18.2%	10.7%
	Very important	Count	9	6	8	23
		% within Classification of stakeholder group based on INTEREST and orientation of group	100.0%	75.0%	72.7%	82.1%
Total		Count	9	8	11	28
		% within Classification of stakeholder group based on INTEREST and orientation of group	100.0%	100.0%	100.0%	100.0%

Table 3-6. How clearly were the process steps communicated to you * Classification of stakeholder group based on INTEREST and orientation of group Crosstabulation

			Classification of stakeholder group based on INTEREST and orientation of group			
			Environmental group	Nonaligned group	Utilitarian group	Total
How clearly were the process steps communicated to you	Very unclear	Count	1			1
		% within Classification of stakeholder group based on INTEREST and orientation of group	11.1%			3.6%
	Somewhat unclear	Count	4	1	4	9
		% within Classification of stakeholder group based on INTEREST and orientation of group	44.4%	12.5%	36.4%	32.1%
	Neither unclear nor clear	Count	1		1	2
		% within Classification of stakeholder group based on INTEREST and orientation of group	11.1%		9.1%	7.1%
	Somewhat clear	Count	1	2	5	8
		% within Classification of stakeholder group based on INTEREST and orientation of group	11.1%	25.0%	45.5%	28.6%
	Very clear	Count	2	5	1	8
		% within Classification of stakeholder group based on INTEREST and orientation of group	22.2%	62.5%	9.1%	28.6%
Total		Count	9	8	11	28
		% within Classification of stakeholder group based on INTEREST and orientation of group	100.0%	100.0%	100.0%	100.0%

panel members reported that they were unclear about how the process was going to proceed.

When asked how satisfied they were with the overall facilitation of the panel, stakeholders responded very favorably. Over three-quarters of the panel, 22 of 28, stated that they were "somewhat satisfied" to "very satisfied" with the facilitation of the process (Table 3-7). Several panel members cited the facilitator's skills during tense discussions as being very effective. Others praised her flexibility and impartiality. Similar to criticism regarding the panel chair, some felt that the facilitator should have allowed more in-depth discussion and emotional debate of the issues.

Considering that it was principally the responsibility of the facilitator to lay out and explain the process to the stakeholders, it seems inconsistent that almost half of the panel experienced some confusion about the steps of the process, yet the vast majority was satisfied with the overall facilitation. It is possible that the response to the question about 'communication' is really directed at the process and not the facilitator. The problem of 'communication' may, in fact, be a problem of the complexity of the process design. As stated already, the process design was reported by panel members to be too cumbersome and opaque. Those who indicated that there was a lack of clarity in the process, in fact, may be indicating that the process was too complicated to effectively explain to the panel. Therefore, it is possible that no matter how well the process was explained to the panel, confusion would likely have remained because of the complex process design.

Table 3-7. How satisfied were you with the overall facilitation * Classification of stakeholder group based on INTEREST and orientation of group Crosstabulation

			Classification of stakeholder group based on INTEREST and orientation of group			
			Environmental group	Nonaligned group	Utilitarian group	Total
How satisfied were you with the overall facilitation	Somewhat dissatisfied	Count	3			3
		% within Classification of stakeholder group based on INTEREST and orientation of group	33.3%			10.7%
	Neither dissatisfied nor satisfied	Count			3	3
		% within Classification of stakeholder group based on INTEREST and orientation of group			27.3%	10.7%
	Somewhat satisfied	Count	1	3	3	7
		% within Classification of stakeholder group based on INTEREST and orientation of group	11.1%	37.5%	27.3%	25.0%
	Very satisfied	Count	5	5	5	15
		% within Classification of stakeholder group based on INTEREST and orientation of group	55.6%	62.5%	45.5%	53.6%
Total		Count	9	8	11	28
		% within Classification of stakeholder group based on INTEREST and orientation of group	100.0%	100.0%	100.0%	100.0%

4. Stakeholder Trust/Understanding of Tennessee Public Institutions

Stakeholder Trust

During the panel process, participants were presented information through various activities and presentations about the following four Tennessee public institutions that play different roles in forest management: the Tennessee Division of Forestry (TDF), Tennessee Wildlife Resources Agency (TWRA), Tennessee Department of Environment and Conservation (TDEC), and The University of Tennessee, Department of Forestry, Wildlife and Fisheries (UT FWF).

The following section of the interview process investigated the impact the panel process had on stakeholder trust of the four Tennessee public institutions regarding forest issues. In addition, panel members were asked to rate their understanding of the institutional roles of these agencies regarding forest issues.

A majority of the participants, 15 of 28, said that their level of trust in TDF increased (Table 4-1). Eleven of the remaining thirteen said that their level of trust stayed the same. Several of these indicated that their trust in TDF was already high; therefore, it was not likely to increase. Only two panel members indicated that their trust in TDF decreased during the TFMAP. There was some increase in trust within all three groups, although utilitarian groups indicated the most increase. Both of the utilitarian and nonaligned groups gained more trust in TDF than environmental groups, with only the latter group having participants reporting a decrease in trust.

TDF *Power Point* presentations were lauded by several stakeholders for being professional, well organized, and informative. Field trips organized and planned by TDF, interaction with field personnel, and the prompt delivery of information requested by

Table 4-1. How has your level of trust changed regarding TDF * Classification of stakeholder group based on INTEREST and orientation of group Crosstabulation

			Classification of stakeholder group based on INTEREST and orientation of group			
			Environmental group	Nonaligned group	Utilitarian group	Total
How has your level of trust changed regarding TDF	Increased	Count	2	5	8	15
		% within Classification of stakeholder group based on INTEREST and orientation of group	22.2%	62.5%	72.7%	53.6%
	Stayed the same	Count	5	3	3	11
		% within Classification of stakeholder group based on INTEREST and orientation of group	55.6%	37.5%	27.3%	39.3%
	Decreased	Count	2			2
		% within Classification of stakeholder group based on INTEREST and orientation of group	22.2%			7.1%
Total		Count	9	8	11	28
		% within Classification of stakeholder group based on INTEREST and orientation of group	100.0%	100.0%	100.0%	100.0%

panel members were other reasons many felt more trustful of TDF regarding forest management. Criticism of TDF was limited and buffered by comments like, "I distrust the institution, not the individuals." Others felt that their trust might have increased if TDF had more financial resources to carry out their mission. It is important to note that three participants indicated that comments made by the Tennessee Commissioner of Agriculture were negative and affected their trust in the Department of Agriculture and TDF. Although the Commissioner did not officially represent any of the four agencies, TDF is a division within the Department of Agriculture. This may have caused some panel members to view TDF with some mistrust. However, it is even more noteworthy that in spite of this, the TFMAP served to overall increase panel members trust in TDF.

Next, stakeholder trust in TWRA's role concerning forest issues increased somewhat. Almost one-third reported an increase and most indicated "no change" (Table 4-2). A utilitarian and an environmental representative were the only two stating that their level of trust had decreased. Several felt that TWRA's presentation was much less extensive than TDF's; however a TWRA administrator usually attended most meetings as an observer to answer questions and offer input when requested. Yet, representatives from all three groups felt that TWRA could have done more to increase the panel member's trust in their agency.

For TDEC, there was some increase in trust within all three groups. Six panel members reported that their trust increased and 16 said that there was "no change" (Table 4-3). However, there was a significant difference ($p < 0.05$) between groups regarding their trust in TDEC. Four representatives reported that they trusted TDEC less now than before the process and all were environmental group representatives. Only one

Table 4-2. How has your level of trust changed regarding TWRA * Classification of stakeholder group based on INTEREST and orientation of group Crosstabulation

			Classification of stakeholder group based on INTEREST and orientation of group			
			Environmental group	Nonaligned group	Utilitarian group	Total
How has your level of trust changed regarding TWRA	Increased	Count	3	2	4	9
		% within Classification of stakeholder group based on INTEREST and orientation of group	33.3%	25.0%	36.4%	32.1%
	Stayed the same	Count	5	6	6	17
		% within Classification of stakeholder group based on INTEREST and orientation of group	55.6%	75.0%	54.5%	60.7%
	Decreased	Count	1		1	2
		% within Classification of stakeholder group based on INTEREST and orientation of group	11.1%		9.1%	7.1%
Total		Count	9	8	11	28
		% within Classification of stakeholder group based on INTEREST and orientation of group	100.0%	100.0%	100.0%	100.0%

Table 4-3. How has your level of trust changed regarding TDEC * Classification of stakeholder group based on INTEREST and orientation of group Crosstabulation

			Classification of stakeholder group based on INTEREST and orientation of group			
			Environmental group	Nonaligned group	Utilitarian group	Total
How has your level of trust changed regarding TDEC	Increased	Count	1	2	5	8
		% within Classification of stakeholder group based on INTEREST and orientation of group	11.1%	25.0%	45.5%	28.6%
	Stayed the same	Count	4	6	6	16
		% within Classification of stakeholder group based on INTEREST and orientation of group	44.4%	75.0%	54.5%	57.1%
	Decreased	Count	4			4
		% within Classification of stakeholder group based on INTEREST and orientation of group	44.4%			14.3%
Total		Count	9	8	11	28
		% within Classification of stakeholder group based on INTEREST and orientation of group	100.0%	100.0%	100.0%	100.0%

environmental representative indicated their trust had increased, while four stated it remained the same.

Environmental group representatives felt that TDEC's presentation was unclear and that they still did not have a good understanding of the Memorandum of Understanding (MOU) that the agency has signed with TDF regarding the investigation of water quality violations in forestry operations in the state. A few cited post-panel controversy with the pace of citing water quality violations regarding logging operations in central and west Tennessee as evidence that their mistrust in TDEC was warranted. Five utilitarian representatives said their trust increased, six said it remained the same and none reported a decrease. These responses closely mirror the level of trust that utilitarian representatives reported for TDF. Since TDF plays the lead role in investigating water quality violations, as dictated by the MOU between the two agencies, utilitarian representatives may not be very concerned with any lack of clarity regarding TDEC's role in forest issues.

In contrast, environmental groups may feel that TDEC needs to play a counterbalancing role to TDF with respect to water quality in Tennessee forest management operations. The environmental groups' perspective seems to be that TDEC's role is not strong enough, nor clearly mandated, to provide the necessary countervailing pressure to TDF influence. As it is now, these environmental stakeholders may feel that TDF lacks sufficient objectivity to effectively address water quality violations in forestry operations. If this is accurate, it seems to suggest an underlying or pre-panel view that TDF is pro-utilitarian. While the process seems to have raised the overall level of trust and possibly professional view of TDF, it may not have changed an

underlying or pre-panel view. Yet, whenever environmental stakeholders commented on why they did not have a high level of trust in TDF, they were quick to add that whatever mistrust they had was not directed at individuals, but at the institution. This seems to further support the idea that there was some kind of pre-panel view by environmental groups that TDF, the institution, is pro-utilitarian.

Finally, all groups showed some increase in their level of trust in The UT FWF regarding forest issues. Half of all stakeholders reported an increase, while twelve others said their trust stayed the same (Table 4-4). Many in the latter category added that they already had a high level of trust prior to the panel process. Only two, both environmental group stakeholders, said that their trust in The UT FWF decreased. Utilitarian representatives were far more likely to experience an increase in trust in The UT FWF than either nonaligned or environmental group representatives, with 10 of 14 utilitarian stakeholders indicated that there was an increase in their trust as a result of having gone through this process.

In summary, this analysis appears to show that the panel was a success at improving trust in all four public institutions. Even though panel members indicated that their trust increased most in TDF and The UT FWF, there was still an overall increase in trust in TWRA and TDEC. It is important to note that the latter two agencies did not have as many presenters addressing the panel as the two former agencies. This shows an apparent correlation between increased panel trust of agencies and the extent to which panel members were exposed to agencies.

Table 4-4. How has your level of trust changed regarding UT FWF * Classification of stakeholder group based on INTEREST and orientation of group Crosstabulation

			Classification of stakeholder group based on INTEREST and orientation of group			
			Environmental group	Nonaligned group	Utilitarian group	Total
How has your level of trust changed regarding UT FWF	Increased	Count	2	4	8	14
		% within Classification of stakeholder group based on INTEREST and orientation of group	22.2%	50.0%	72.7%	50.0%
	Stayed the same	Count	5	4	3	12
		% within Classification of stakeholder group based on INTEREST and orientation of group	55.6%	50.0%	27.3%	42.9%
	Decreased	Count	2			2
		% within Classification of stakeholder group based on INTEREST and orientation of group	22.2%			7.1%
Total		Count	9	8	11	28
		% within Classification of stakeholder group based on INTEREST and orientation of group	100.0%	100.0%	100.0%	100.0%

Stakeholder Understanding

Stakeholder representatives were asked to rate their understanding of each agency's role regarding forest issues in Tennessee. All participants said that they felt "somewhat or very clear" about TDF's role (Table 4-5). In fact, over two-thirds said that they understood very clearly. Presentations, field trips, and interaction with agency personnel were cited as effective mechanisms explaining why their understanding was clear.

Understanding TWRA's role in forestry was also rated high by the panel. Although four participants reported that they were "somewhat unclear", 23 of 28 said that they felt "somewhat or very clear" about the TWRA role (Table 4-6). Nevertheless, nine interviewees mentioned that TWRA did not sufficiently clarify their role regarding forestry issues and could have done a better job. This suggests a need for a more comprehensive agency presentation or more time for panel interaction with TWRA personnel, since these mechanisms were effectively used in clarifying TDF's role.

Although most of the panel seemed to understand the role of TDEC relating to forestry, only 12 said that their understanding was "very clear" (Table 4-7). Nine utilitarian representatives indicated at least some clarity of understanding. Yet seven of those nine said they were only "somewhat clear". In contrast, a higher number (and percentage) of environmental stakeholders reported a "very clear" understanding. When stakeholders did not have a clear understanding, the participants mentioned that the agency failed to clarify their role during the opportunity that it had to do so when addressing the panel.

Table 4-5. How would you rate your understanding of TDF's role regarding forest issues * Classification of stakeholder group based on INTEREST and orientation of group Crosstabulation

			Classification of stakeholder group based on INTEREST and orientation of group			
			Environmental group	Nonaligned group	Utilitarian group	Total
How would you rate your understanding of TDF's role regarding forest issues	Somewhat clear	Count	4		4	8
		% within Classification of stakeholder group based on INTEREST and orientation of group	44.4%		36.4%	28.6%
	Very clear	Count	5	8	7	20
		% within Classification of stakeholder group based on INTEREST and orientation of group	55.6%	100.0%	63.6%	71.4%
Total		Count	9	8	11	28
		% within Classification of stakeholder group based on INTEREST and orientation of group	100.0%	100.0%	100.0%	100.0%

Table 4-6. How would you rate your understanding of TWRA's role regarding forest issues * Classification of stakeholder group based on INTEREST and orientation of group Crosstabulation

			Classification of stakeholder group based on INTEREST and orientation of group			
			Environmental group	Nonaligned group	Utilitarian group	Total
How would you rate your understanding of TWRA's role regarding forest issues	Somewhat unclear	Count	1	2	1	4
		% within Classification of stakeholder group based on INTEREST and orientation of group	11.1%	25.0%	9.1%	14.3%
	Neither unclear nor clear	Count		1		1
		% within Classification of stakeholder group based on INTEREST and orientation of group		12.5%		3.6%
	Somewhat clear	Count	5		5	10
		% within Classification of stakeholder group based on INTEREST and orientation of group	55.6%		45.5%	35.7%
	Very clear	Count	3	5	5	13
		% within Classification of stakeholder group based on INTEREST and orientation of group	33.3%	62.5%	45.5%	46.4%
Total		Count	9	8	11	28
		% within Classification of stakeholder group based on INTEREST and orientation of group	100.0%	100.0%	100.0%	100.0%

Table 4-7. How would you rate your understanding of TDEC's role regarding forest issues * Classification of stakeholder group based on INTEREST and orientation of group Crosstabulation

			Classification of stakeholder group based on INTEREST and orientation of group			
			Environmental group	Nonaligned group	Utilitarian group	Total
How would you rate your understanding of TDEC's role regarding forest issues	Somewhat unclear	Count	1	1	1	3
		% within Classification of stakeholder group based on INTEREST and orientation of group	11.1%	12.5%	9.1%	10.7%
	Neither unclear nor clear	Count	2		1	3
		% within Classification of stakeholder group based on INTEREST and orientation of group	22.2%		9.1%	10.7%
	Somewhat clear	Count	2	1	7	10
		% within Classification of stakeholder group based on INTEREST and orientation of group	22.2%	12.5%	63.6%	35.7%
	Very clear	Count	4	6	2	12
		% within Classification of stakeholder group based on INTEREST and orientation of group	44.4%	75.0%	18.2%	42.9%
Total		Count	9	8	11	28
		% within Classification of stakeholder group based on INTEREST and orientation of group	100.0%	100.0%	100.0%	100.0%

It seems inconsistent that utilitarian stakeholders appear to largely trust TDEC, even though they do not clearly understand their role. As reported already, utilitarian representatives expressed the highest level of trust in TDEC among the interest groups. Yet, they had the fewest number (2) of stakeholders among the three that indicated that they were "very clear" in understanding the agency role regarding forest issues. Instead, their understanding and trust in TDF, which plays the lead role in water quality monitoring in forestry operations, seems to be what is most important to most utilitarian groups. Otherwise, utilitarian groups would likely have a lower level of trust that reflected their lack of clarity of TDEC's role. However, it may be that utilitarian stakeholders have no mistrust of TDEC simply because this agency does not adversely affect them.

In contrast, environmental group stakeholders recorded a higher level of mistrust in TDEC; even though they reported a higher level of understanding of TDEC's role regarding forestry than utilitarian stakeholders did. The data could suggest that environmental group mistrust might be warranted because they clearly understand TDEC's limitations regarding investigating and identifying water quality violations. This seems plausible considering that water quality and Best Management Practices in logging operations were major issues for environmental groups,.

The panel overwhelmingly felt that they understood the UT FWF role with respect to forest issues. All stakeholders were either "somewhat or very clear" about their role (Table 4-8). Nevertheless, significant differences ($p < 0.05$) between groups were found when rating stakeholder understanding of UT FWF's role regarding forest issues. All of the nonaligned group participants indicated that they were very clear about the UT FWF

Table 4-8. How would you rate your understanding of UT FWF's role regarding forest issues * Classification of stakeholder group based on INTEREST and orientation of group Crosstabulation

			Classification of stakeholder group based on INTEREST and orientation of group			
			Environmental group	Nonaligned group	Utilitarian group	Total
How would you rate your understanding of UT FWF's role regarding forest issues	Somewhat clear	Count	5		4	9
		% within Classification of stakeholder group based on INTEREST and orientation of group	55.6%		36.4%	32.1%
	Very clear	Count	4	8	7	19
		% within Classification of stakeholder group based on INTEREST and orientation of group	44.4%	100.0%	63.6%	67.9%
Total		Count	9	8	11	28
		% within Classification of stakeholder group based on INTEREST and orientation of group	100.0%	100.0%	100.0%	100.0%

role and seven of the eleven utilitarian representatives felt the same. Overall, environmental stakeholders were a little less clear than the other two groups about the UT FWF role. Several of the nonaligned and utilitarian group representatives hold degrees from UT; hence, this might help to explain why these two groups have a higher level of understanding than the environmental groups. Only one environmental participant holds a degree from UT.

Finally, each interviewee was asked if the process could have been designed differently to better clarify the different agency roles. Eleven said yes, while all others felt that the process worked well in this respect (Table 4-9). More environmental stakeholders felt that there was room for improvement than other group representatives. Among the many suggestions for improvement, the desire for more field trips and for more interactions with personnel from the various agencies was mentioned most often. Others suggested that each agency should do a presentation at the very beginning of the process to improve stakeholder trust and understanding of the public agencies involved.

Field trips and the opportunity to interact with field personnel from the agencies were the best mechanisms for understanding the various roles of the public institutions. Furthermore, those stakeholders who indicated that the process could be improved to increase their understanding of the agency roles said that the process did not do enough of the aforementioned activities. This illustrates how effective these mechanisms were to increase panel understanding and the need to get together more. The opportunity to meet face to face with people and discuss issues and to view forests and forest management seemed to be indispensable tools for finding common ground in the TFMAP process.

Table 4-9. Could the process have been designed differently to better clarify roles * Classification of stakeholder group based on INTEREST and orientation of group Crosstabulation

			Classification of stakeholder group based on INTEREST and orientation of group			
			Environmental group	Nonaligned group	Utilitarian group	Total
Could the process have been designed differently to better clarify roles	Yes	Count	5	2	4	11
		% within Classification of stakeholder group based on INTEREST and orientation of group	55.6%	25.0%	36.4%	39.3%
	No	Count	4	6	6	16
		% within Classification of stakeholder group based on INTEREST and orientation of group	44.4%	75.0%	54.5%	57.1%
	Don't know	Count			1	1
		% within Classification of stakeholder group based on INTEREST and orientation of group			9.1%	3.6%
Total		Count	9	8	11	28
		% within Classification of stakeholder group based on INTEREST and orientation of group	100.0%	100.0%	100.0%	100.0%

5. Stakeholder Education

Understanding forest sustainability

Forest sustainability has many dimensions and is a complex topic. The fourth interview section focused on what panel members learned and the extent to which the panel was an educational process. Panel members were asked about how the process affected their understanding of forest sustainability, specific forest issues in TN, and cross-interest group understanding.

Participants were first asked how much they agreed or disagreed with the following statement: "forest sustainability has multiple dimensions, including environmental, social and economic factors." The panel overwhelmingly agreed with the statement. Twenty-four of the panel members said they "agreed very much", three said they "agreed somewhat", and only one indicated that they disagreed (Table 5-1). The fact that there was near unanimous agreement indicates that the panel was working from a common fundamental understanding regarding the multiple dimensions of forest sustainability.

To determine how the process performed in educating participants about forest sustainability, stakeholders were asked the extent, if any, to which the process increased their understanding of this issue. A majority, 22 of 28, felt that their understanding of the concept of forest sustainability increased at least somewhat (Table 5-2). But only six participants stated that their understanding increased "very much." Bearing in mind that forest sustainability was the focus of the process, it seems that the TFMAP was only somewhat successful in educating panel members about the central

Table 5-1. How much do you agree with the following statement regarding "forest sustainability" * Classification of stakeholder group based on INTEREST and orientation of group Crosstabulation

			Classification of stakeholder group based on INTEREST and orientation of group			
			Environmental group	Nonaligned group	Utilitarian group	Total
How much do you agree with the following statement regarding "forest sustainability"	Disagree very much	Count		1		1
		% within Classification of stakeholder group based on INTEREST and orientation of group		12.5%		3.6%
	Agree somewhat	Count	1	1	1	3
		% within Classification of stakeholder group based on INTEREST and orientation of group	11.1%	12.5%	9.1%	10.7%
	Agree very much	Count	8	6	10	24
		% within Classification of stakeholder group based on INTEREST and orientation of group	88.9%	75.0%	90.9%	85.7%
Total		Count	9	8	11	28
		% within Classification of stakeholder group based on INTEREST and orientation of group	100.0%	100.0%	100.0%	100.0%

Table 5-2. How much did the process increase your understanding of "forest sustainability" * Classification of stakeholder group based on INTEREST and orientation of group Crosstabulation

			Classification of stakeholder group based on INTEREST and orientation of group			
			Environmental group	Nonaligned group	Utilitarian group	Total
How much did the process increase your understanding of "forest sustainability"	None at all	Count	1	1	4	6
		% within Classification of stakeholder group based on INTEREST and orientation of group	11.1%	12.5%	36.4%	21.4%
	Somewhat	Count	6	4	6	16
		% within Classification of stakeholder group based on INTEREST and orientation of group	66.7%	50.0%	54.5%	57.1%
	Very much	Count	2	3	1	6
		% within Classification of stakeholder group based on INTEREST and orientation of group	22.2%	37.5%	9.1%	21.4%
Total		Count	9	8	11	28
		% within Classification of stakeholder group based on INTEREST and orientation of group	100.0%	100.0%	100.0%	100.0%

focus of the panel process. Considerable energy was spent by both outside presenters and panel members to enlighten the panel about forest sustainability. Although over 75% of the panel indicated that there was some increase in their understanding, a lack of clarity remains even after going through a 15-month process pursuing this as the goal. As previously mentioned, participants frequently criticized the goal-oriented nature of this process because a definition of forest sustainability was never agreed upon.

Interestingly, six group representatives felt that the process did nothing at all to increase their understanding of forest sustainability. This indicates that these participants were either inflexible or that they did not learn anything about forest sustainability because they "already had a good understanding" regarding forest sustainability.

The most frequent suggestion for how the process could be changed to improve understanding of forest sustainability was to bring in more qualified people to discuss the topic of forest sustainability from an ecology and/or wildlife perspective. Many, especially environmental stakeholders, felt that there was a lack of this type of perspective in panel presentations. A lack of up-to-date forest survey data was also noted as a liability when tying to understand this issue. Some individuals felt more data was needed before any real understanding of forest sustainability in Tennessee could be achieved.

Understanding Specific Forest Issues

Next, panel members were asked about the effectiveness of the process for educating them about specific forest issues. Major forest issues discussed were clearcutting versus uneven-aged management, hardwood to pine conversion, mandatory versus voluntary BMPs, and chipmill proliferation. Other forest issues were mentioned

throughout the process, but the above issues received the most time in large discussion groups.

All 28 stakeholders indicated that their understanding of these specific issues increased at least "somewhat" (Table 5-3). There was a significant difference ($p < 0.05$) regarding how each group's level of understanding changed. Environmental and nonaligned group representatives indicated that they increased their understanding of specific forest issues considerably more than utilitarian representatives did. Since utilitarian representatives were generally more educated about the technical nature of forest issues, it is not surprising to find that they learned less about specific forest issues in this process than the other groups. The other groups did not have the same technical expertise at the beginning of the process. Hence, a lot of time was spent and preparation was made to bring all panel members "up to speed" regarding the fundamentals of each specific forest issue. The time spent and preparations made appear to have been successful, especially for environmental and nonaligned group stakeholders.

One half of all stakeholders mentioned that expert presentations and field trips were the most effective mechanisms in the process for increasing their knowledge about specific issues. For a third of the panel members, two other mechanisms were most effective in increasing their knowledge: individual conversations away from the formal process and the initial presentations conducted by stakeholder representatives regarding their group's understanding of forest sustainability. The data indicate that there were a variety of mechanisms that helped to increase stakeholder knowledge regarding specific forest issues.

Table 5-3. To what degree did the process increase your understanding of SPECIFIC forest issues * Classification of stakeholder group based on INTEREST and orientation of group Crosstabulation

			Classification of stakeholder group based on INTEREST and orientation of group			
			Environmental group	Nonaligned group	Utilitarian group	Total
To what degree did the process increase your understanding of SPECIFIC forest issues	Somewhat	Count	5	3	10	18
		% within Classification of stakeholder group based on INTEREST and orientation of group	55.6%	37.5%	90.9%	64.3%
	Very much	Count	4	5	1	10
		% within Classification of stakeholder group based on INTEREST and orientation of group	44.4%	62.5%	9.1%	35.7%
Total		Count	9	8	11	28
		% within Classification of stakeholder group based on INTEREST and orientation of group	100.0%	100.0%	100.0%	100.0%

In contrast, there were aspects that did not work so well. The first and the most common criticism concerned the restriction on debate about the issues in large discussion group sessions. These sessions, attended by all stakeholders present at the monthly meetings, had a specified forest issue as the topic for discussion. Stakeholders, who had comments to make, would take turns addressing the group regarding the topic. Sometimes the tone of the discussion would change from dialogue to debate, at times becoming tense. It was at these times that the facilitator or the panel chair would intervene to redirect the focus on seeking common ground. Some panel members felt that the facilitation restricted the discussion of the topic and prevented the panel from getting to the core of the issue. These panel members also indicated that they preferred a more direct issue-oriented process. This criticism was echoed earlier when discussing the effectiveness of the panel design and facilitation. Perhaps this is a further reflection of the vagueness of the process and its goals, as echoed earlier.

Second, a few felt that the introductory stakeholder presentations on forest sustainability were not effective in improving their understanding of specific forest issues. These presentations were considered off limits to panel discussion. Therefore, some felt that the information conveyed in the initial stakeholder presentations was of questionable value.

Regarding specific forest issues, the panel was surveyed about how satisfied they were with the way science was presented. The three groups responded very differently to this question. The differences were significant ($p < 0.05$) between the groups. Environmental groups were significantly less satisfied with how well science was presented in the TFMAP process. Seven of the nine environmental representatives

indicated that they were "somewhat dissatisfied" to "very dissatisfied" (Table 5-4). In contrast, only one participant from either nonaligned or utilitarian groups felt "somewhat dissatisfied". Overall, 19 of 28 reported that they were at least somewhat satisfied with how science was presented to the panel.

Although many panel members added that they felt there was a "good balanced approach to science," an almost equal number suggested that the process "needed a better balance of speakers." The latter participants felt that presenters with more of an ecological focus were needed to provide a better balance and give a more comprehensive understanding of specific forest issues. Several environmental representatives thought that they experienced "difficulty in getting meaningful representation to address the panel". The subject of what science and whose science (timber science vs. forest science) to use in the process seemed to be issues that was unresolved. For example, the presentation about alternative fiber sources demonstrated the division that stakeholders experienced regarding how science was presented. Some felt that this presentation was not science. Others were happy to hear the presentation, but felt that it was too difficult getting the panel chair to approve and schedule the presentation.

Stakeholders from both the environmental and nonaligned groups said that outdated or insufficient data limited the effectiveness of science in the panel process. None from the utilitarian group indicated that this was a problem. Rather, utilitarian representatives' main criticism was that there was "too much emphasis on emotion and not enough on science".

How science was presented during the process seemed to be a divisive issue of the TFMAP. Although the majority was satisfied to some degree, almost one entire group

Table 5-4. How satisfied were you with the way science was presented * Classification of stakeholder group based on INTEREST and orientation of group Crosstabulation

			Classification of stakeholder group based on INTEREST and orientation of group			
			Environmental group	Nonaligned group	Utilitarian group	Total
How satisfied were you with the way science was presented	Very dissatisfied	Count	2			2
		% within Classification of stakeholder group based on INTEREST and orientation of group	22.2%			7.1%
	Somewhat dissatisfied	Count	5		1	6
		% within Classification of stakeholder group based on INTEREST and orientation of group	55.6%		9.1%	21.4%
	Neither dissatisfied nor satisfied	Count			1	1
		% within Classification of stakeholder group based on INTEREST and orientation of group			9.1%	3.6%
	Somewhat satisfied	Count	2	2	3	7
		% within Classification of stakeholder group based on INTEREST and orientation of group	22.2%	25.0%	27.3%	25.0%
	Very satisfied	Count		6	6	12
		% within Classification of stakeholder group based on INTEREST and orientation of group		75.0%	54.5%	42.9%
Total		Count	9	8	11	28
		% within Classification of stakeholder group based on INTEREST and orientation of group	100.0%	100.0%	100.0%	100.0%

was dissatisfied. In addition, there was some criticism from participants in all three groups about the way science was presented. The process of presenting science evolved throughout the TFMAP process. Because there were no agreed upon up-front guidelines for how science would be presented, "what science and whose science" became part of the struggle of the panel process.

Cross-Interest Group Education

Panel members were questioned about cross-interest group education and the results are presented in this section. First, each participant rated how their understanding of the diversity of values and views has changed regarding forest issues in Tennessee. Twenty-two stakeholders said that their understanding had increased, with nine of those individuals stating that it had "increased very much" (Table 5-5). All of the environmental representatives reported an increase in their understanding of the diversity of group's views involved in forest issues. There were six participants from nonaligned and utilitarian groups who said their understanding "did not change." It is unclear if the process or the participants were limiting.

Several felt that cross-interest group education was the greatest value of the TFMAP process. Over half of the participants specifically said that they not only had a better understanding of the diversity of values regarding forest issues, but that they also suggested they had a better appreciation for those values. Understanding and appreciating others views likely extinguished some misconceptions about certain groups and confirmed their perceptions of other groups. Regardless, the ability to work together is enhanced when groups and individuals understand each other better. The TFMAP generally succeeded in doing this through cross-interest group education. For those who

Table 5-5. Rate how your understanding of the diversity of values/views regarding forest issues has changed * Classification of stakeholder group based on INTEREST and orientation of group Crosstabulation

			Classification of stakeholder group based on INTEREST and orientation of group			
			Environmental group	Nonaligned group	Utilitarian group	Total
Rate how your understanding of the diversity of values/views regarding forest issues has changed	Did not change	Count		2	4	6
		% within Classification of stakeholder group based on INTEREST and orientation of group		25.0%	36.4%	21.4%
	Increased a little	Count	5	4	4	13
		% within Classification of stakeholder group based on INTEREST and orientation of group	55.6%	50.0%	36.4%	46.4%
	Increased very much	Count	4	2	3	9
		% within Classification of stakeholder group based on INTEREST and orientation of group	44.4%	25.0%	27.3%	32.1%
Total		Count	9	8	11	28
		% within Classification of stakeholder group based on INTEREST and orientation of group	100.0%	100.0%	100.0%	100.0%

reported no increase in their understanding of the diversity of views, most said that they already had a high level of understanding of other groups.

All panel members agreed that it was important to understand each other group's views and philosophies (Table 5-6). In fact, 26 of the 28 stakeholders stated that it was "very important". The other two participants said that it was "somewhat important".

The panel was also asked to rate the success of the process in helping each of them understand the other group's views and philosophies. The process did well overall because only two participants rated the process "somewhat unsuccessful" (Table 5-7). All others said that the process was successful, with 17 stakeholders declaring it "very successful". Considering that the vast majority of panel members felt it was very important to understand each other group's views and philosophies, these results indicate that cross-interest group education in the TFMAP was very successful.

Panel members commented that there was a lot of opportunity to exchange group views and interact with other stakeholders. Many indicated that they "didn't agree with some group's views, but that [they] learned a lot about why groups feel they way they do about forests." Suggestions for improving cross-interest group education included allowing more time for stakeholder presentations on group views, encouraging more individual dialogue, and scheduling more informal time outside the formal process. With over 60% of the panel asserting that the process did "very well" in cross-interest education, this is certainly one of the most important accomplishments of TFMAP.

Finally, panel members were queried about the degree to which they represented their group's views or themselves throughout the process. Fifteen of the 28 stakeholders, over half the panel, believed that they represented a balance of both views (Table 5-8).

Table 5-6. How important was it to understand each other group's views and philosphies * Classification of stakeholder group based on INTEREST and orientation of group Crosstabulation

			Classification of stakeholder group based on INTEREST and orientation of group			
			Environmental group	Nonaligned group	Utilitarian group	Total
How important was it to understand each other group's views and philosphies	Somewhat important	Count	1		1	2
		% within Classification of stakeholder group based on INTEREST and orientation of group	11.1%		9.1%	7.1%
	Very important	Count	8	8	10	26
		% within Classification of stakeholder group based on INTEREST and orientation of group	88.9%	100.0%	90.9%	92.9%
Total		Count	9	8	11	28
		% within Classification of stakeholder group based on INTEREST and orientation of group	100.0%	100.0%	100.0%	100.0%

Table 5-7. How successful was the process helping you understand other group's views and philosphies * Classification of stakeholder group based on INTEREST and orientation of group Crosstabulation

			Classification of stakeholder group based on INTEREST and orientation of group			
			Environmental group	Nonaligned group	Utilitarian group	Total
How successful was the process helping you understand other group's views and philosphies	Somewhat unsuccessul	Count		1	1	2
		% within Classification of stakeholder group based on INTEREST and orientation of group		12.5%	9.1%	7.1%
	Somewhat successful	Count	3	2	4	9
		% within Classification of stakeholder group based on INTEREST and orientation of group	33.3%	25.0%	36.4%	32.1%
	Very successful	Count	6	5	6	17
		% within Classification of stakeholder group based on INTEREST and orientation of group	66.7%	62.5%	54.5%	60.7%
Total		Count	9	8	11	28
		% within Classification of stakeholder group based on INTEREST and orientation of group	100.0%	100.0%	100.0%	100.0%

Table 5-8. To what degree did you represent Yourself/Your Interest Group * Classification of stakeholder group based on INTEREST and orientation of group Crosstabulation

			Classification of stakeholder group based on INTEREST and orientation of group			
			Environmental group	Nonaligned group	Utilitarian group	Total
To what degree did you represent Yourself/Your Interest Group	Slightly more myself than my group	Count	2	1		3
		% within Classification of stakeholder group based on INTEREST and orientation of group	22.2%	12.5%		10.7%
	A balance of both views	Count	4	4	7	15
		% within Classification of stakeholder group based on INTEREST and orientation of group	44.4%	50.0%	63.6%	53.6%
	Slightly more my group than myself	Count	2	1	4	7
		% within Classification of stakeholder group based on INTEREST and orientation of group	22.2%	12.5%	36.4%	25.0%
	Mostly my interest group	Count	1	2		3
		% within Classification of stakeholder group based on INTEREST and orientation of group	11.1%	25.0%		10.7%
Total		Count	9	8	11	28
		% within Classification of stakeholder group based on INTEREST and orientation of group	100.0%	100.0%	100.0%	100.0%

Ten felt they represented their group's views more than their own. Only three indicated they represented "themselves slightly more than the group they represented". Although there were a variety of responses to the question regarding how they represented their interest group, the majority indicated that their own views were similar to their group's views.

6. Stakeholder Behavior

Change in Ability to Work with Others Who Hold Diverse Views

In part five of the interview, stakeholder behavior was investigated to determine what affect the TFMAP process had on building social capital between the panel members. Since this was the first time that a stakeholder panel process was attempted for developing forest policy in Tennessee, it is important to determine what effect this process had on stakeholder ability to build relationships and work together on forest issues in the future. Considering that differences remain on how to manage the state's forests for sustainability, an increased ability of diverse stakeholders to work together collaboratively will be of future value.

Panel members were queried about how the process affected their ability to work with those having diverse interests and values regarding forestry issues in Tennessee. Specifically, stakeholders were asked what their interest group had done since the TFMAP; if there were changes in who they were working with concerning forest issues; and whether or not they desired to work more with others holding diverse views about forest issues. In addition, they were asked how participation affected their communication skill development in the process.

When asked how their "ability to work with other people holding different views" changed, 19 indicated that their ability "improved a little" and four representatives felt their ability "increased very much" (Table 6-1). Five panel members reported "no change". Environmental representatives felt their abilities increased the most and three of the nine indicated that their ability "increased very much" because of their participation in this process.

A change in ability represents a commitment to the process to work together collaboratively. Overall, most of the panel showed an increase in commitment. For those who did not, a few of those indicated that they were already working with diverse interests. These stakeholders related that this was the nature of their employment. Environmental groups felt that they increased the most in their ability to 'cross the fence and build bridges.' Since this was their first real opportunity to have input in state forest management practices, it is likely that the environmental stakeholders had more room to improve their ability to work with other groups regarding forest issues. Or perhaps, they might view themselves as more open-minded. Whatever the reason, it is unclear from the results why.

Stakeholders were asked to describe aspects of the process that promoted and discouraged their ability to work together collaboratively. The aspect most frequently cited that promoted panel ability were the informal discussions and communication that took place between individuals outside the formal process. Other aspects mentioned were; the opportunity to honestly express their views and feelings, discussions on field trips, and both small and large group facilitated sessions. Considering that it was a very structured and highly organized process, it is surprising that so many panel members felt

Table 6-1. How has your ability to work with people holding different views changed * Classification of stakeholder group based on INTEREST and orientation of group Crosstabulation

			Classification of stakeholder group based on INTEREST and orientation of group			
			Environmental group	Nonaligned group	Utilitarian group	Total
How has your ability to work with people holding different views changed	Did not change	Count	1	2	2	5
		% within Classification of stakeholder group based on INTEREST and orientation of group	11.1%	25.0%	18.2%	17.9%
	Increased a little	Count	5	5	9	19
		% within Classification of stakeholder group based on INTEREST and orientation of group	55.6%	62.5%	81.8%	67.9%
	Increased very much	Count	3	1		4
		% within Classification of stakeholder group based on INTEREST and orientation of group	33.3%	12.5%		14.3%
Total		Count	9	8	11	28
		% within Classification of stakeholder group based on INTEREST and orientation of group	100.0%	100.0%	100.0%	100.0%

that informal discussion was the one aspect that most promoted their ability to work collaboratively. It is possible that individuals felt safer to express themselves and ask questions in these one-on-one or small group discussions. Furthermore, speaking with another panel member individually probably allows the participants to see each other more as people and less as a representative of a group or view. From this perspective, participants are better able to open themselves up to each other and begin to dialogue and build the necessary level of trust needed in collaborative processes like the TFMAP.

Aspects that discouraged the ability of panel members to work collaboratively were numerous. The comments and activities of some stakeholder groups, mainly environmental groups, outside the panel process frustrated some panel members. Others indicated that the overzealous expression of personal views and the inflexibility of a few representatives turned them off. Still, others felt that the voting procedure was confusing and misunderstanding. They explained that when it became apparent when and how the voting would happen, panel members seemed to be less willing to work together in a collaborative spirit. There was a sense that panel members reverted back to their original positions on issues and ignored the social capital gains achieved up to that point. This negative aspect appears to have been mostly a function of the time limit of the process. The deadline for delivering the outcome and final report to the Governor was looming and stakeholders felt there was pressure to produce some recommendations.

Planning more informal gatherings to provide more opportunity for individual discussions was the most common suggestion for improving panel member ability to work collaboratively. Several went even further and recommended that the process be designed to integrate panel members better. For example, one participant suggested that

panel members could be assigned seating at tables to ensure a balanced representation of all three groups. Representatives tended to gather and interact more with those individuals who shared their own views. Better integration of panel members seems like a reasonable and simple adjustment that could be designed into any future panels. Choosing more flexible stakeholder representatives and allowing more detailed discussion of issues were two other frequently mentioned proposals. The restriction on discussion was dictated by the goal-oriented nature (forest sustainability) of the process and to a lesser degree by the facilitation style of the facilitator. An issue-oriented process would allow for more detailed discussion of the issues.

Change in Stakeholder Activity and Strategy since the Panel

Next, the investigation focused on the panel's effect on stakeholder activity and strategy regarding forestry issues. When asked specifically to describe what their interest groups had done since the TFMAP, many said that their groups were doing nothing new. Yet, most of the environmental representatives reported that their groups were involved in drafting new legislation and lobbying the state legislature.

Almost all of the environmental stakeholders declared that there was increased activity between their respective groups. They had formed an environmental coalition called "Friends of the Forest." This coalition did not exist prior to the panel process, so it was a direct result of participating on the panel. The creation of this coalition might have encouraged the aforementioned activity in drafting new legislation.

Panel members were also asked if there had been a change in their personal activity regarding how they were working on forestry issues since the end of the panel process. Sixteen of the participants said that their behavior had changed since the panel

(Table 6-2). There was a significant difference ($p < 0.05$) between the group's responses. Environmental group representatives showed the greatest change with eight of nine reporting that they were now working on forestry issues differently than before the panel. Only four of eleven utilitarian group stakeholders indicated that there had been a change in their activity. Overall, there has been a significant change in behavior of the panel, but it was not the same for all groups. Why? It is possible that environmental representatives feel that the outcome of the TFMAP did not meet their objectives; therefore, they need to work harder to change what they see as the status quo? For example, the formation of the "Friends of the Forest" coalition, is one example of these group's effort to effect change. Simultaneously, utilitarian groups overall felt satisfied with the outcome of the panel and they do not have the environmental group's desire to change the current situation of forest policy in Tennessee. Nonaligned groups were evenly divided, four representatives on each side, regarding whether there was a change in their activity when working on forestry issues.

Panel members were also asked specifically if they were now working more, the same, or less with other stakeholders who hold differing views regarding forest issues. There was a significant difference ($p < 0.05$) between the group's responses. Only five of twenty-eight stakeholders said that they were working more with people who hold different views regarding forest issues that before the panel (Table 6-3). Three representatives, all from environmental groups, said they were doing less. These individuals all said that they were emotionally drained and needed some time to rest and reflect on their participation on the panel. Twenty of the panel's stakeholders reported that they were working the same with others holding differing views regarding forestry

Table 6-2. Has there been a change in your activity regarding how you are working on issues * Classification of stakeholder group based on INTEREST and orientation of group Crosstabulation

			Classification of stakeholder group based on INTEREST and orientation of group			
			Environmental group	Nonaligned group	Utilitarian group	Total
Has there been a change in your activity regarding how you are working on issues	Yes	Count	8	4	4	16
		% within Classification of stakeholder group based on INTEREST and orientation of group	88.9%	50.0%	36.4%	57.1%
	No	Count	1	4	7	12
		% within Classification of stakeholder group based on INTEREST and orientation of group	11.1%	50.0%	63.6%	42.9%
Total		Count	9	8	11	28
		% within Classification of stakeholder group based on INTEREST and orientation of group	100.0%	100.0%	100.0%	100.0%

Table 6-3. To what degree are you working with people who hold different views regarding forest issues * Classification of stakeholder group based on INTEREST and orientation of group Crosstabulation

			Classification of stakeholder group based on INTEREST and orientation of group			
			Environmental group	Nonaligned group	Utilitarian group	Total
To what degree are you working with people who hold different views regarding forest issues	More	Count	2		3	5
		% within Classification of stakeholder group based on INTEREST and orientation of group	22.2%		27.3%	17.9%
	The same	Count	4	8	8	20
		% within Classification of stakeholder group based on INTEREST and orientation of group	44.4%	100.0%	72.7%	71.4%
	Less	Count	3			3
		% within Classification of stakeholder group based on INTEREST and orientation of group	33.3%			10.7%
Total		Count	9	8	11	28
		% within Classification of stakeholder group based on INTEREST and orientation of group	100.0%	100.0%	100.0%	100.0%

issues as compared to prior to the panel. In fact, all eight nonaligned group participants reported this. Five of the 20 individuals who reported no change stated that they already were working a lot with others because it is a significant aspect of their jobs. This may help explain why so few people seem willing to 'cross the fence' and continue dialoguing with differing interests.

Yet, when asked whether or not they would like to work more with others holding differing views regarding forest issues, 20 of 28 stakeholders said they wanted to do so (Table 6-4). There seems to be a disconnect between the desire to work together collaboratively and the opportunity to work together collaboratively. In fact, almost a third specifically commented that there was "no opportunity to work together." The lack of a post-panel mechanism to give stakeholders the opportunity to work together is the logical reason for the disparity between wanting to work with other diverse interests and actually doing that.

The responses of the panel showed significant differences ($p < 0.05$) between groups. All nine of the environmental group representatives said they had a desire to work more with those holding differing views regarding forest issues. Eight of the eleven utilitarian representatives felt the same. A majority of the nonaligned group representatives, 5 of 8, felt satisfied with their present level of interaction with other stakeholders. Since a majority of both environmental and utilitarian group stakeholders want to work more with other groups holding differing views and both were overall dissatisfied with the goal of forest sustainability for the panel, an issue-oriented process seems like a possible mechanism that would be preferable for the majority of panel members.

Table 6-4. To what degree would you LIKE to work with others holding differing views regarding forest issues * Classification of stakeholder group based on INTEREST and orientation of group Crosstabulation

			Classification of stakeholder group based on INTEREST and orientation of group			
			Environmental group	Nonaligned group	Utilitarian group	Total
To what degree would you LIKE to work with others holding differing views regarding forest issues	More	Count	9	3	8	20
		% within Classification of stakeholder group based on INTEREST and orientation of group	100.0%	37.5%	72.7%	71.4%
	The same	Count		5	3	8
		% within Classification of stakeholder group based on INTEREST and orientation of group		62.5%	27.3%	28.6%
Total		Count	9	8	11	28
		% within Classification of stakeholder group based on INTEREST and orientation of group	100.0%	100.0%	100.0%	100.0%

The need for a mechanism to encourage collaboration in forest issues is reflected in the comments of panel members. For example, over a third of the panel said that it was necessary to work together with diverse interests to solve conflicts, regarding forest issues. Others felt that they thought that there was a need to educate others about forest issues and that forest conflicts were important to resolve. A small but significant group of stakeholders indicated that they wanted to have the opportunity to work with others "if all groups worked in good faith". The bottom line is that a majority of panel members want more contact and interaction with each other to dialogue and resolve forest issues in Tennessee.

Change in Stakeholder Communication Skill Development

As panel members went through the process, each individual had ample opportunity to listen to the views of others and verbalize their own thoughts on various forest issues. The listening and speaking skill level of each participant was likely different when they entered the process. As the panel process proceeded, stakeholders were able to exercise their communication skills and had the opportunity to improve their effectiveness in the process. Later, participants were asked to rate the panel's effect on their communication skill development.

Overall, panel members rated the panel "somewhat successful" in improving stakeholder communication skill development, particularly listening skills. Twenty-two stakeholders felt that the panel was at least "somewhat successful" in improving their listening skills (Table 6-5). Yet, only six of those felt that the process was "very successful". Six other panel members felt that it was "neither successful nor unsuccessful."

Table 6-5. Rate how the panel effected your "listening" skills * Classification of stakeholder group based on INTEREST and orientation of group Crosstabulation

			Classification of stakeholder group based on INTEREST and orientation of group			
			Environmental group	Nonaligned group	Utilitarian group	Total
Rate how the panel effected your "listening" skills	Neither unsuccessful nor successful	Count	3	1	2	6
		% within Classification of stakeholder group based on INTEREST and orientation of group	33.3%	12.5%	18.2%	21.4%
	Somewhat successful	Count	4	4	8	16
		% within Classification of stakeholder group based on INTEREST and orientation of group	44.4%	50.0%	72.7%	57.1%
	Very successful	Count	2	3	1	6
		% within Classification of stakeholder group based on INTEREST and orientation of group	22.2%	37.5%	9.1%	21.4%
Total		Count	9	8	11	28
		% within Classification of stakeholder group based on INTEREST and orientation of group	100.0%	100.0%	100.0%	100.0%

Regarding speaking skills, seventeen panel members said that the panel was at least "somewhat successful" in improving their skill (Table 6-6). Nine felt that it was "neither successful, nor unsuccessful." Two others declared that the panel was "somewhat unsuccessful." Even though the panel was less successful in improving speaking skills than improving listening skills, a majority of the panel reported that it was overall somewhat successful.

It is understandable that listening skills were felt to be more affected by the panel process than speaking skills. With a panel of 28, there is more opportunity to listen to others versus addressing the entire panel. When one is speaking, 27 other panel members are listening. By the time a participant has an opportunity to speak, he or she may have listened to 15 other individuals speak. Since listening skills were exercised more, it seems logical that stakeholder listening skills improved more than speaking skills.

Finally, panel members were asked to comment on the impact the panel process had on the communication skill development of other panel members. Sixteen believed that the panel, as a whole, improved their communication skills. Six thought that the participant's communication skills stayed the same. Panel members sensed that several group representatives gained confidence in expressing themselves. For many, it was the first opportunity to participate in a panel process, so there was a lot of opportunity to improve both listening and speaking skills. Overall, participants sensed that the panel's communication skill's improved somewhat.

Table 6-6. Rate how the panel effected your "speaking" skills * Classification of stakeholder group based on INTEREST and orientation of group Crosstabulation

			Classification of stakeholder group based on INTEREST and orientation of group			
			Environmental group	Nonaligned group	Utilitarian group	Total
Rate how the panel effected your "speaking" skills	Somewhat unsuccessful	Count	1		1	2
		% within Classification of stakeholder group based on INTEREST and orientation of group	11.1%		9.1%	7.1%
	Neither unsuccessful nor successful	Count	2	3	4	9
		% within Classification of stakeholder group based on INTEREST and orientation of group	22.2%	37.5%	36.4%	32.1%
	Somewhat successful	Count	5	4	6	15
		% within Classification of stakeholder group based on INTEREST and orientation of group	55.6%	50.0%	54.5%	53.6%
	Very successful	Count	1	1		2
		% within Classification of stakeholder group based on INTEREST and orientation of group	11.1%	12.5%		7.1%
Total		Count	9	8	11	28
		% within Classification of stakeholder group based on INTEREST and orientation of group	100.0%	100.0%	100.0%	100.0%

7. Overall Value

The last section of the interview investigated the panel's overall feelings and thoughts about the process, the outcome, and about any possible future processes and mechanisms. The criteria for rating the process and the outcome of the panel were left to the stakeholder to determine. Although many will judge a process based primarily on the value of the outcome, the TFMAP process achieved more than just a simple outcome. For example, different players used the process to accomplish different things. Some institutions endeavored to increase stakeholder trust in their agency and improve stakeholder ability to dialogue, rather than debate, about forest issues. Some institutions and stakeholders wanted to educate stakeholders about specific forest issues. And other stakeholders wished to educate and inform other panel members about their interest group's views and philosophies. Hence, this section examined the overall value of the process according to what the interest group stakeholder highly regarded.

Process Value

A majority (21) of the panel believed that the overall value of the panel process was at least "somewhat high" to "very high" (Table 7-1). Ten individuals, over one-third of the panel, reported that the value was "very high." Of the others, four felt that the value was "somewhat low" and one individual stated that it was "very low."

Although a majority of environmental group representatives rated the panel at least "somewhat high", they were more likely to rate the TFMAP lower than the other two groups. Generally, environmental group stakeholders were less satisfied with the recommendations; therefore, they may have rated the overall value of the process somewhat lower. Every nonaligned group stakeholder

Table 7-1. Rate the overall value of the entire process * Classification of stakeholder group based on INTEREST and orientation of group Crosstabulation

			Classification of stakeholder group based on INTEREST and orientation of group			
			Environmental group	Nonaligned group	Utilitarian group	Total
Rate the overall value of the entire process	Very low	Count		1		1
		% within Classification of stakeholder group based on INTEREST and orientation of group		12.5%		3.6%
	Somewhat low	Count	3		1	4
		% within Classification of stakeholder group based on INTEREST and orientation of group	33.3%		9.1%	14.3%
	Neither low nor high	Count	1		1	2
		% within Classification of stakeholder group based on INTEREST and orientation of group	11.1%		9.1%	7.1%
	Somewhat high	Count	1	3	7	11
		% within Classification of stakeholder group based on INTEREST and orientation of group	11.1%	37.5%	63.6%	39.3%
	Very high	Count	4	4	2	10
		% within Classification of stakeholder group based on INTEREST and orientation of group	44.4%	50.0%	18.2%	35.7%
Total		Count	9	8	11	28
		% within Classification of stakeholder group based on INTEREST and orientation of group	100.0%	100.0%	100.0%	100.0%

rated the process "somewhat high" or "very high." An overwhelming majority of utilitarian stakeholders felt the same way. The latter two groups were generally more satisfied with the outcome of the panel; hence, they rated the value of the process high.

Panel members were asked to elaborate on why they rated the panel process as they reported. Almost one-third specifically cited relationship building as a positive result of the panel. Other benefits mentioned were effective cross-interest group education, meaningful discussion of issues, and effective education about specific forest issues. Four participants indicated they felt that contentious legislation was the alternative to this process; therefore, there was value in this process to at least avoid potential political gridlock.

Product Value

A majority, 19 of 28, said that the overall quality of the 28 recommendations of the panel were "somewhat good" to "very good" (Table 7-2). Utilitarian groups rated the recommendations the highest. Nonaligned groups also rated them high. However, environmental panel members rated the outcome lower with only one-third of them indicating that the recommendations were "somewhat good." In fact, three of the environmental group participants believed that they were "somewhat low" to "very low."

Most of the comments regarding the recommendations did not speak about the positive effects that they would have on forest policy in Tennessee. Rather, participants spoke of how little harm they would do, how they would maintain the 'status quo', or how politically acceptable the recommendations would be in the state legislature. In fact, five panel members mentioned that they rated the recommendations high because there were "no recommendations encouraging concrete regulations." However, some panel

Table 7-2. Assess the overall quality of the 28 recommendations of the panel * Classification of stakeholder group based on INTEREST and orientation of group Crosstabulation

			lassification of stakeholder group based on INTEREST and orientation of group			
			Environmental group	Nonaligned group	Utilitarian group	Total
Assess the overall quality of the 28 recommendations of the panel	Very poor	Count	1			1
		% within Classification of stakeholder group based on INTEREST and orientation of group	11.1%			3.6%
	Somewhat poor	Count	2	1		3
		% within Classification of stakeholder group based on INTEREST and orientation of group	22.2%	12.5%		10.7%
	Neither poor nor good	Count	3	1	1	5
		% within Classification of stakeholder group based on INTEREST and orientation of group	33.3%	12.5%	9.1%	17.9%
	Somewhat good	Count	3	4	5	12
		% within Classification of stakeholder group based on INTEREST and orientation of group	33.3%	50.0%	45.5%	42.9%
	Very good	Count		2	5	7
		% within Classification of stakeholder group based on INTEREST and orientation of group		25.0%	45.5%	25.0%
Total		Count	9	8	11	28
		% within Classification of stakeholder group based on INTEREST and orientation of group	100.0%	100.0%	100.0%	100.0%

members pointed out that they felt the recommendations were of high value simply because they were agreed upon by majority consensus.

Even though a majority of panel members rated the recommendations high, there were not many comments regarding why they were so positive. It might have been that some panel members were primarily interested in discouraging any recommendations that they, or their group, did not prefer, rather than in drafting recommendations that would ensure forest sustainability in Tennessee. Specifically, there seemed to be a conscious effort to criticize and defeat any recommendation that hinted at regulation of forestry in Tennessee.

Future Considerations

The panel overwhelmingly felt that future stakeholder processes are needed for developing forest policy in Tennessee. Twenty-five of twenty-eight feel that they are at least "somewhat needed" (Table 7-3). Seventeen, almost two-thirds, felt that stakeholder processes are "very needed". The overwhelmingly positive response seems to support the need for an extension of the TFMAP process.

Three-fourths of both environmental and nonaligned group stakeholders feel that future processes are "very needed", as compared to only slightly over one-third of utilitarian stakeholders who feel that strongly. It may be that the environmental and nonaligned group representatives learned more about forest sustainability and specific forest issues than utilitarian representatives did. Therefore, the former two groups believed that these processes benefit them very much and that is why they feel there is a need for these processes. On the other hand, if utilitarian participants did not feel like they benefited as much; it is understandable that they do not feel as strong regarding the

Table 7-3. How needed are future stakeholder processes for developing TN forest policy * Classification of stakeholder group based on INTEREST and orientation of group Crosstabulation

			Classification of stakeholder group based on INTEREST and orientation of group			
			Environmental group	Nonaligned group	Utilitarian group	Total
How needed are future stakeholder processes for developing TN forest policy	Not needed	Count	1	1	1	3
		% within Classification of stakeholder group based on INTEREST and orientation of group	11.1%	12.5%	9.1%	10.7%
	Somewhat needed	Count	1	1	6	8
		% within Classification of stakeholder group based on INTEREST and orientation of group	11.1%	12.5%	54.5%	28.6%
	Very needed	Count	7	6	4	17
		% within Classification of stakeholder group based on INTEREST and orientation of group	77.8%	75.0%	36.4%	60.7%
Total		Count	9	8	11	28
		% within Classification of stakeholder group based on INTEREST and orientation of group	100.0%	100.0%	100.0%	100.0%

need for future processes. Yet, several voiced the need for these processes on the basis that it is necessary to participate for the purpose of educating other panel members about forest issues in Tennessee. In summary, a majority of all three groups feel like future stakeholder processes are needed for developing forest policy in Tennessee.

Almost half suggested that any future process be an issue-oriented process. Others felt any future process might be able to utilize new data that was missing from the TFMAP process. A few others suggested the need to identify separate goals for public and private lands in any future process. Only two participants declared that these kinds of stakeholder panels do not work. Hence, participants in this process generally feel that the TFMAP was a first step that needs to be followed up with other future processes for developing forest policy in the state.

There were several suggestions on how a future process might be structured. Aside from the already mentioned suggestion to have an issue-oriented process, the most common advice was to reduce the number of panel members. However, an equal amount of participants proposed that any future process be similar to the TFMAP process. A few stakeholders felt that a future process should be shorter and an equal number said that they recommended that it be longer. In conclusion, an issue-oriented process similar to this panel with slightly fewer panel members most closely reflects the recommendations of the panel for how to structure a future process.

Finally, panel members were asked if they would be interested in participating in a cross-interest group task force of 6 to 8 people for developing forest policy in Tennessee. A majority, 23 of 28, responded affirmatively (Table 7-4). Participants were also asked the same question for participating in a future TFMAP process again. Again,

Table 7-4. Would you be interested in participating in a cross-interest group task force of 6 to 8 people for developing forest policy * Classification of stakeholder group based on INTEREST and orientation of group Crosstabulation

			Classification of stakeholder group based on INTEREST and orientation of group			
			Environmental group	Nonaligned group	Utilitarian group	Total
Would you be interested in participating in a cross-interest group task force of 6 to 8 people for developing forest policy	Yes	Count	8	7	8	23
		% within Classification of stakeholder group based on INTEREST and orientation of group	88.9%	87.5%	72.7%	82.1%
	No	Count	1	1	3	5
		% within Classification of stakeholder group based on INTEREST and orientation of group	11.1%	12.5%	27.3%	17.9%
Total		Count	9	8	11	28
		% within Classification of stakeholder group based on INTEREST and orientation of group	100.0%	100.0%	100.0%	100.0%

23 of 28, said that they would participate in such a process (Table 7-5). Although a majority of utilitarian representatives said yes, they were less likely to respond that way than the other two groups. Those utilitarian stakeholders that said no indicated that they had become cynical about collaborative processes like the TFMAP.

A few individuals, who said they would participate again, gave stipulations for their participation. They wanted a different type of process that discussed the specific issues more (issue-oriented). Some also indicated that their participation depended on the time commitment that a future process would require. The most frequent remarks regarding why they would participate were, "it is necessary to gain public support for forest management practices", panel members "feel passionate about forest issues", and there is a "need to build upon trust and communication established in this process". Despite the intensity of the process, the conflict of views, the time commitment, and the personal hardship placed on stakeholders; an overwhelming majority of panel members expressed a desire to continue the TFMAP in some future process. This shows a high level of passion about forest issues and a commitment to a process for reaching common ground regarding forest management in Tennessee.

Table 7-5. Would you participate in a future TFMAP again * Classification of stakeholder group based on INTEREST and orientation of group Crosstabulation

			Classification of stakeholder group based on INTEREST and orientation of group			
			Environmental group	Nonaligned group	Utilitarian group	Total
Would you participate in a future TFMAP again	Yes	Count	8	7	8	23
		% within Classification of stakeholder group based on INTEREST and orientation of group	88.9%	87.5%	72.7%	82.1%
	No	Count	1	1	3	5
		% within Classification of stakeholder group based on INTEREST and orientation of group	11.1%	12.5%	27.3%	17.9%
Total		Count	9	8	11	28
		% within Classification of stakeholder group based on INTEREST and orientation of group	100.0%	100.0%	100.0%	100.0%

CHAPTER 5

DISCUSSION

The analysis of the Tennessee Forest Management Advisory Panel has revealed both successes and areas of potential improvement. Since the TFMAP was a first attempt at using a stakeholder panel process for developing forest policy in Tennessee, it was an important learning experience for panel designers, the Panel Chair, the Panel Facilitator, panel members, and everyone else who provided support to the panel process. The discussion that follows is intended to help discover these lessons and to benefit those individuals who may want to continue to employ stakeholder participation processes for developing forest or other natural resource policy in the future. The discussion focuses on the effectiveness of the TFMAP process in achieving the six elements of the framework and explores linkages between the elements.

Stakeholder Representation

The analysis clearly shows that the TFMAP was successful at representing the diversity of stakeholder interests that exists regarding forest issues in Tennessee. Most panel members felt that there was a good mix of groups and most, in fact, could not think of any groups that were left out. The group of individuals who were responsible for identifying stakeholder groups to participate on the panel also felt like they were very inclusive during the identification process. They reported that stakeholder groups were added to their invitation list in piecemeal fashion as advocates for environmental and utilitarian stakeholder groups urged for more inclusion. The identification process was

closed only when it became apparent to the conveners, that some proposed groups were not directly connected to forest issues. Panel member responses validated the efforts of the conveners to be inclusive of all stakeholder groups with a direct connection to forest issues in Tennessee.

Although panel members felt that the panel was representative of diverse interests in forest issues, the majority of them simultaneously felt that there were too many stakeholder groups participating on the panel. This creates a dilemma regarding how to reconcile the two issues of appropriate representation and size of the panel. Reducing panel size by eliminating some stakeholder groups would be one way to resolve this dilemma. However, it is uncertain what criteria would be used to decrease the panel size and whether a smaller panel would be representative of forest stakeholder interests.

Given that panel members so positively supported the breadth and depth of the panel diversity, another, more acceptable, alternative is to design the panel process to increase its efficiency and effectiveness. If this can be accomplished, then panel members might not feel that the size of the panel is too large and ultimately the successful representation of diversity accomplished in the TMFMP will be sustained. Improving the process design will be discussed in the next section and linked to this issue of panel size.

Panel member communication with their respective constituencies was generally thought to be sufficient, but often limited. The majority of stakeholders felt that the panel process was not responsible for promoting communication between representative and interest group constituency. They felt that responsibility rested with the stakeholder

representative. Most reported that they used a variety of mechanisms to communicate including telephone, e-mail, written correspondence, and group meetings.

As with any representative process, those who were represented, but did not participate, did not reap some of the benefits (increasing trust of state agencies, education about specific forest issues) of the panel process. For example, panel members who learned something new about clearcutting that altered his/her view about a specific policy issue may not have been capable of effectively passing their personal transformation on to members of their interest group without criticism or accusations of being duped by "the other side". It may not be possible to prevent this from happening. However, a few panel members suggested that the minutes of panel meetings, presentations, and field trips be electronically transmitted to constituents or be made available on the internet. These suggestions could offer a way for constituents to *grow* along with their interest group representatives as new data are introduced and presenters educate panel members in the long panel process.

Process Design / Management / Facilitation

Process Goal-forest sustainability

Panel members reported that they were generally satisfied with the focus of 'sustainable forestry' for the panel. However, the panel showed ambivalence about the goal because several voiced the criticism that forest sustainability was never defined to the panel's satisfaction. The conveners determined that the panel focus should be on forest sustainability and that panel members would define what that meant. However, the panel had difficulty defining sustainability, leaving a cloud of uncertainty around this

important issue. This uncertainty seemed to add to the problem that the panel had with the complexity of the process design, which will be discussed in the next section.

This process was designed in a linear fashion, as depicted by the flow chart developed by panel designers and given to the panel at the beginning (Figure 1). When there is significant disagreement on issues, as is certainly the case with TFMAP, it is often difficult to move onto subsequent steps or concepts if significant disagreement exists on previous ones. For example, the concept of forest sustainability was discussed at length in the early stages of the process. Each stakeholder representative had an opportunity to present their interest groups views regarding forest sustainability. Later, there was open discussion about the components of forest sustainability, the components being economic, social and ecological. Yet, no activity attempted to pull together and seek common ground regarding the different interest group definitions of what forest sustainability means. Forest sustainability was never defined to the satisfaction of all. The subsequent steps of the process could not build upon these early activities because no successful definition was achieved. Therefore, the panel was not able to effectively use the linear approach in this process, which assumes that agreement is reached at each step and subsequent steps build upon the gains of previous steps. In the TFMAP, it appears that the linear approach assumed too much early on and was subsequently ineffective at times in later stages of the process because there was no agreement on how forest sustainability should be defined.

Process Design

Frustration in understanding and following the steps of the process was reflected in data analysis. Panel members were generally skeptical that the process was going to

produce effective results as they went through the steps of the process. This suggests some ambivalence on the part of stakeholders that continued during the process. For example, panel members generally liked the goal of the panel, but they did not feel very confident that the process was going to achieve effective results. It may well be likely that there was stakeholder skepticism before the process and this was reflected as skepticism of the process design and facilitation techniques used in the process. It is important to note that in responding to questions about the process, panel members did not seem to distinguish between the actual design of the process and the facilitation techniques employed by the Panel facilitator.

Comments from participants about the process suggest some other shortcomings of the process design. Descriptions such as "too complicated", "created confusion", "voting procedure was misleading" demonstrated that at least some of the panel was not happy with the process. There is often a latent lack of trust by some participants in broad-based stakeholder panels that address natural resource issues (Feldman, 2000). Some stakeholders are apprehensive that the panel process might be "beholden" to certain interests. Although stakeholder representatives had some, but limited, voice in the process design and management, it did not come until after the process had already begun. This limited input might have created some mistrust among stakeholders. Nevertheless, it is necessary in stakeholder panel processes, like the TFMAP to proceed in the absence of trust and, in fact, the panel did proceed (Fisher et al., 1991).

The unwieldy nature of the process was another aspect of the process that was criticized by participants. There were many times when participants felt that their opportunity to actively participate in the process was limited by the number of

stakeholders on the panel. For example, panel members had to wait on a queue list to comment on the topic of discussion in the large group sessions. If there were ten people in the queue, as there often were, the wait could be 30 minutes or longer. This discouraged some from commenting, since the topic might have already shifted when their turn arrived. The large number of stakeholder groups and skepticism of and dissatisfaction with the process design might be remedied by more significant use of 'small groups' instead of relying almost entirely on the use of large groups.

The large group sessions were preferred by a majority of panel members early in the process. The reason for this preference might have been due to a number of things including lack of trust and a desire to not miss anything. Some may have feared that their input might not be heard, that they might miss some important piece of information, or that something unacceptable could occur in their absence. If stakeholders trust regarding the process design could have been increased, then more small group activity may have been more easily employed. Such small group processes would reduce the unmanageability and increase the efficiency of the process. It is possible that small groups were abandoned too early in the process for panel members to understand just how effective they could have been.

Panel Facilitation

Panel members overwhelmingly felt that an outside, neutral facilitator was very important to the process. In fact, by hiring the Panel facilitator, the panel designers anticipated a fundamental need of the TFMAP. Mirja Hanson, the Panel facilitator, was not from Tennessee, had no stake in the issues discussed on the panel, and was a

professional facilitator who had previous experience facilitating panels regarding natural resource policy. For this aspect of the process, the panel designers succeeded.

Panel participants were ambivalent regarding how well the Panel facilitator communicated the steps of the process. Some felt that it was well communicated, while others indicated that they never really understood where the process was going. For those who indicated a problem with communication of the steps of the process, their confusion may have little to do with the Panel facilitator and more to do with the process design. For example, when asked if they were satisfied with the panel facilitation, the majority responded that they were satisfied. It seems unlikely that panel members would rate a facilitator poorly concerning how well he/she explained a lengthy 15-month process and subsequently report that they were satisfied with the overall facilitation. It's more probable that the dissatisfaction expressed, regarding how well the steps were communicated to the participants, really is a reflection of the cumbersome nature of the process design. It is feasible that no matter how good the facilitator was at explaining the process, the process was too complex to be understood and to be effectively facilitated. Hence, the data seem to confirm that the panel members were satisfied with the facilitator, but did not feel the same about the process design.

Finally, the coordination of the Panel chair and Panel facilitator roles was considered very effective. Even though the roles were distinct in responsibility, the two individuals who filled them worked almost as one. According to several participants, their seamless coordination worked to benefit the panel.

Stakeholder Trust/Understanding of Tennessee Public Institutions

Stakeholder Trust

It is important to note that there are distinctly different aspects regarding trust in public institutions. The literature states that one aspect of trust in institutions might refer to an individual's confidence in the *integrity* of the people/institution (Covello, 1992; Lewis et al., 1985). Another aspect might be how somebody perceives the *competency* of the people/institution (Ibid.). Although the distinction here may be clear, panel members did not distinguish between these two aspects of trust, nor were the directed by the researcher to do so when responding during the interview. However based on comments during the interviews, the researcher felt that the environmental stakeholders generally regarded this issue from an *integrity* perspective and utilitarian and nonaligned stakeholders generally viewed the issue from a *competency* perspective. Nevertheless, the researcher can not make an accurate distinction for the panel as a whole. Therefore, participant thoughts and feelings regarding trust in TN public institutions may be from one or both perspectives.

Stakeholder trust generally increased for all four TN public institutions regarding forest issues, although, panel members indicated that their trust increased most in TDF and The UT FWF. Although trust may be related to many factors, at least one may be exposure. The panel had considerably more interaction with and exposure to TDF and The UT FWF than to TWRA and TDEC. Through exposure to the four agencies, panel members probably learned that agency personnel were competent in their abilities relating to forestry issues. Assuming that public institutions meet some minimum competency, it seems that the more opportunity that participants have to interact with

agency personnel, the greater their understanding and trust will be of those agencies. To get to know the agencies, it is necessary to get to know the people who *are* the agencies. This suggests that if public trust is an issue, stakeholder panels should attempt to incorporate more participation from all agencies regarding forest issues.

Agency presentations, individual conversations with field personnel from the agencies, and field trips were all very effective mechanisms for increasing trust. In fact, panel members indicated that they wanted more of these mechanisms. This seems to indicate that agencies should increase outreach mechanisms in their day-to-day operations. To gain the trust of the various stakeholder groups, it is necessary for public institutions to reach out and develop communication links with all stakeholder groups. Only then can barriers be removed, communication lines be opened, and trust be fostered.

Stakeholder Understanding

Panel member understanding of the institutional roles of these public institutions (regarding forest issues) also increased for all four agencies. Like the increase in stakeholder *trust*, agency presentations and field trips were reported as effective mechanisms for increasing stakeholder *understanding*. Although there were several facilitated field trips during the course of the panel process, some felt that the process needed even more field experiences.

The results of this research support the literature on issues of public dialogue, communication and trust. For example, David Matthews (Kettering Review, 1994) reports that "professionalism is a major barrier to realizing the promise of public life and that it has little regard for the public or citizens." Professionals may have the right tools to manage natural resources wisely; but to operate in a vacuum is only inviting

misunderstanding and mistrust. Simultaneously, Donald Brown (Kettering Review, 1994) suggests that "professionals will literally not know what they are doing if they have no intellectual or moral basis for understanding how they use what their enterprise has produced and what ends it should serve." To realize who and what they serve, effective communication mechanisms, like field trips during the TFMAP process, are valuable tools for public institutions.

Dialoguing with the public regarding forest management is critical for institutions in Tennessee. The opportunity to meet face to face with people and discuss issues and to view forests and forest management seemed to be indispensable tools for finding common ground in the TFMAP process. The data reflect that stakeholder understanding and trust increased when agencies communicated with the diversity of stakeholders who have an interest in the state's forest and their management. The challenge for these institutions is "to cultivate the political skills that allow people to work productively with others, whether or not they like or agree with each other (Boyte, 1994)". In this respect, the TFMAP was a good step in that direction.

Stakeholder Education

Understanding forest sustainability

Forest sustainability is a complex issue with multiple dimensions. Panel members, almost unanimously, acknowledged that forest sustainability has multiple dimensions including environmental, social, and economic factors. These dimensions reflect the diversity of interests of the various stakeholder groups that participated in the panel.

There are three major points that stand out regarding how the panel process performed in increasing stakeholder understanding of 'forest sustainability. First, the panel process did generally increase panel member understanding of this complex issue. However, participants indicated that their knowledge only increased somewhat. Some either had a very full understanding of forest sustainability as the panel began or they were very rigid in their views because they indicated that their understanding did not change. Second, there were several environmental representatives who suggested that there was a lack of an ecology/wildlife perspective when trying to explain forest sustainability. None of the nonaligned or utilitarian group stakeholders voiced the same sentiment. Third, various stakeholders from all three groups reported that a dearth of current forest inventory data hindered the panel's ability to understand. Unfortunately, much of the data that would have benefited the panel were being gathered during the panel process and is only now recently available.

It is striking to the author that a 15-month panel process whose principal focus was forest sustainability only slightly increased panel member understanding of this issue. This suggests to the researcher that forest sustainability is a very difficult concept to understand. It may be impossible to nail down a definition of forest sustainability because it is an ever-evolving concept. In addition, stakeholders have different values and because of this they may not be able to agree on what forest sustainability is. For example, a stakeholder who owns several thousand acres of forestland will likely have a different perspective and a set of values relative to the forest than will an urban schoolteacher who owns no forestland. The two descriptions above characterize two of the TFMAP participants. Therefore, the TFMAP may have accomplished the best that

can be expected given constraints like the limited available data and that the TFMAP was the first policy process of its kind in Tennessee.

Understanding Specific Forest Issues

All panel members agreed that the process increased their understanding of specific forest issues. This has to be considered a major achievement of the TFMAP since many panel members hold advanced degrees in forestry. Expert presentations and field trips arranged by the panel designers and panel support staff were highly praised by a majority of stakeholders. In addition, initial stakeholder group presentations, individual conversations between agency personnel and panel members, and individual conversations among panel members were effective mechanisms for understanding specific forest issues. Again, it is clear that mechanisms that allow stakeholders access to information regarding forest issues are lacking. One mechanism that was recommended by the panel is a "The State of the State Forests Report," to communicate with and inform interested forest stakeholders about the forests of TN. Mechanisms like this disseminate data that could educate stakeholders about forest issues and, in turn, might foster the search for common ground on polarized issues.

Although the TFMAP process appears to be a success for educating stakeholder representatives about specific forest issues, the verdict is still out regarding whether constituents of these stakeholder groups were educated. It is fair to indicate this because if only the stakeholder is educated and not also his/her constituents, then the activities of the stakeholder group are unlikely to be affected and vary from pre-panel behavior. Therefore, the TFMAP may fall short of achieving this element of the evaluation framework for constituents.

The only significant criticism of the process regarding understanding specific forest issues involved the facilitation of the large discussion groups. Some participants indicated that debate about specific issues was restricted by the Panel chair and Panel facilitator. They felt that the restricted debate constrained their understanding of the issues. This may be so. However, this again may not be criticism about panel facilitation, but rather, about the process design. This was a stakeholder process that pursued common ground by identifying forest issues that stakeholders agreed upon. To allow lengthy debate on specific issues may have invited discord and stifled the search for common ground.

How Science was Presented

Panel members had conflicting views about "how science was presented" in educating the panel about specific forest issues. The majority of stakeholders indicated that they were generally satisfied with how science was presented. However, there was a significant difference between stakeholder groups regarding this issue. The majority of environmental group stakeholders were dissatisfied. They believed that there should have been more of an ecology/wildlife perspective presented to the panel. Although the panel process did present some of this perspective, these individuals did not feel that it was sufficient. Other criticism focused on what some stakeholders termed "junk science". This criticism was directed at a few presentations that some felt were not science based.

This disagreement about science is consistent with the fact that the panel was conflicted as the process began and that science is often part of such ideological battles. "A common causal element regarding disputes is that people look at the same issue but

by using different standards" (Fisher et al., 1991). A remedy is to design the process so that science is less of a battleground. In such a design, "it is important to take standards (science) from beyond the parties involved, in other words from an objective source" (Ibid.). Agreement up front on what science and whose science to use in the panel process is critical. Unfortunately, these parameters were not defined at the beginning. In fact, "how science was presented" evolved throughout the process.

For example, environmental representatives generally felt that there was insufficient ecologically based science presented to the panel. In an effort to be responsive to this criticism and in responding to requests from environmental representatives, a last minute presentation was added to one session on alternatives to wood fiber. This addition received considerable criticism by some panel members who felt that the presentation was advocacy based not science based, and that the addition of the speaker was a concession in the science battle. The end result was that both environmental and utilitarian stakeholders were unhappy and critical. Although disagreement about science and information will never be eliminated from public issues, this example illustrates that an important collaborative principle is to address issues of objectivity (in this case science) and balance early in a consensus-based process (Boyte, 1995).

Cross-Interest Group Education

Possibly the greatest value of the TFMAP process was cross-interest group education. All of the interest group representatives agreed that it was important to understand each other group's views and philosophies. And all but two of those representatives indicated that the panel process was successful at increasing cross-interest

group understanding. Considering that these stakeholders had never before sat down together for a single day, let alone for a year, the panel process was a successful mechanism for facilitating a better understanding of how the various stakeholder groups relate to forest resources and what their thoughts are regarding forest management.

Panel members reported that there was a lot of opportunity to exchange group views with each other. Surprisingly, individual dialogue was considered the most effective mechanism for achieving cross-interest group education. It is surprising because these individual conversations were not designed into the process by the conveners. They just happened spontaneously. When asked for suggestions for improving this aspect of the process, several stated that *informal* gatherings (dinner, outings) should be scheduled into the process. Furthermore, some felt that more formal mechanisms for integrating panel members should be designed into the *formal* process. For example, stakeholders might be assigned seating or be in small groups to interact more with other stakeholders holding views different than their own regarding forest issues.

These suggestions for improvement seem contradictory to participant desires as they were going through the process. As mentioned earlier, a majority of the panel requested a preference for large group facilitated sessions. However, in this post-panel survey, panel members seem to suggest smaller groups and/or one-on-one interactions are more effective. It may be that stakeholders feel confident to discuss issues more openly and honestly with each other in smaller groups than in large groups. Larger groups can carry the burden to act in accordance with other like-minded stakeholders; thus, hampering real open communication.

Symbolic Interaction Theory refers to this phenomenon as "role playing", the enactment of a behavior pattern in line with group expectations (Blumer, 1969). Role-playing is more pronounced in large groups and this can reduce the effectiveness of the collaborative process. In large groups there is more temptation to 'grandstand' to try to influence others. In turn, grandstanding increases the opportunity for participants to role-play, which has the potential for decreasing collaborative problem solving. Again, the design of the process is important to foster the effectiveness of the process. Although it seems cross-interest group education was successful in the TFMAP; it could be improved if smaller groups were used more.

Stakeholder Behavior

Change in Ability to Work with Others Who Hold Diverse Views

The data reveal that the panel process has generally increased panel member ability to work with others holding views on forest issues different than their own. Panel participants reported that the panel experience "created new awareness", "increased their ability to discuss new issues", and "helped to see other interest group representatives as people, rather than just viewpoints". This supports what the conflict resolution literature says about how relationships are built in small working groups (Ostermeier et al., 2000), that participants often report positive shifts in views and attitudes towards others while working together in collaborative processes.

Informal discussions were the most effective mechanism for promoting the ability to work with others. Some felt that these informal conversations encouraged an honest open expression of views. Many suggested that more informal gatherings be planned to increase exchanges of views and philosophies. The panel had mixed feelings regarding

whether small or large group facilitated sessions were more effective for promoting the ability to work together collaboratively. Slightly more participants felt that small groups were more effective for promoting collaboration than large groups. It could be that those who felt large groups were more effective did not really have the opportunity to judge the effectiveness of small groups because they were abandoned early in the process. Mangin and Steger (1990) have found that small groups are more effective than large groups regarding education and negotiation. It is probable that small group processes could be used more to increase stakeholder ability to work together more effectively. Again, a refined panel process design that included significant use of small groups seems critical for panel members to fully realize the benefits of stakeholder processes.

Change in Stakeholder Activity and Strategy since the Panel

There was a mixed response regarding whether groups are now behaving differently since the panel process. Most stakeholder representatives in the utilitarian and nonaligned groups said that they were not doing anything differently than before the panel. However, environmental group representatives indicated that they have changed their behavior considerably. All but one of the environmental group representatives indicated that their interest group was now participating in a coalition of environmental groups. This environmental coalition was created as a direct result of the panel. The coalition, called "Friends of the Forest," at the time of this survey was actively lobbying for changes in existing policy and drafting new legislation. Several panel members said that they had never before sat down together with the wide range of environmental stakeholders, let alone the diversity of interests represented on this panel.

One of the objectives of this panel was to call a 'time out' and put off consideration of any new legislation regarding forest issues in the state. During the course of the panel process, this objective was achieved. Since the end of the panel this process might have actually encouraged the environmental groups to organize and consolidate their efforts for drafting new legislation. Now that most of the environmental groups are working on forest issues in a coalition, the state legislature may actually consider fewer forestry bills in the future. This would be an unforeseen positive outcome of the panel for legislators who are already overburdened by too many contentious bills regarding forestry issues.

Panel members, overall, did not report much change regarding whether they were now working more with people or groups who hold different views on forest issues. Many of these panel members reported that the lack of opportunity to work with other stakeholder groups was the most common reason why they were not doing more collaborative work. There were a few participants who said that they are not doing more with others simply because they already work a lot with different groups.

It is important to note that the majority of panel members reported that they wanted to work more with other people holding diverse views regarding forest issues in Tennessee. Several reasons were cited as to why they wanted to work together. The three most common reasons stated were "forest issues are important to resolve", "there is a need to educate the other interest groups" and "it is necessary to work together with diverse interests". There was a significant difference between groups regarding their present level of interaction with other diverse stakeholder groups. Interestingly, the two most polarized groups (environmental and utilitarian) indicated they had the greatest

desire to work more with other interest groups that have different views regarding forest issues. A majority of nonaligned stakeholders stated that they did not want to work more with other groups. It appears that the stakeholder groups with the most differences between them regarding forest issues are also the most willing participants for a future stakeholder process. All the stakeholder groups are missing is a mechanism for them to get together.

There is a disconnect between what is actually happening and what panel members want to happen. Panel members are not working "across the fence" very much; yet most of them want to do just that. This suggests a mechanism is needed to foster more collaborative work. Several panel members noted with regret that the panel did not adopt a recommendation to encourage some kind of an extension of the TFMAP. When the panel process ended so did a mechanism for bringing together diverse interests to discuss issues and seek common ground. As difficult a process as it was, a majority of panel members want more contact and interaction with each other to dialogue and attempt to resolve forest issues in the state.

Change in Stakeholder Communication Skill Development

For many, participating in this process was their first opportunity to organize their thoughts and feelings about forest issues, address a panel of diverse interest groups and listen to the interests of others regarding various forest issues. The majority of panel members felt like they increased their own communication skill development during the course of the panel process. Interest group representatives indicated that their listening skills improved more than their speaking skills. This is not surprising, since there was more opportunity to use one's listening skills than speaking skills. As mentioned earlier,

panel members would often wait for several minutes to have the opportunity to address the rest of the panel. In addition, the numerous presentations by agency personnel and expert presenters offered all panel members the chance to actively listen to what was being reported. Panel members also felt that other panel representatives generally increased their communication skills.

Overall Value

Panel members generally rated the overall value of the panel process high. They said that the process "built relationships", "was effective for cross-interest group education", and "provided the opportunity for meaningful discussion", among other benefits. Moreover, a few stated that the process had value even though they felt that the outcome was of low value. These types of comments validate the value of the process to the participants beyond the primary product of the panel, which were the panel recommendations. Legislative outcomes regarding forest policy are usually lauded by some and criticized by others, no matter what the outcome. However, the benefits mentioned above would have never been realized by interested stakeholder representatives in a legislative process. Therefore, the value of these types of stakeholder processes has the potential for a multiplicity of benefits that can have longer lasting influence if relationships are built and nurtured.

Regarding the overall quality of the 28 recommendations of the panel, the panel members generally rated the value somewhat high. Yet, participants seemed conflicted about why the recommendations were somewhat high. Several mentioned that they were "politically pleasing" or that they "maintained the status quo". A few indicated their

satisfaction with the recommendations because there was nothing pertaining to regulation of the forest industry in the state. Very few defined why these specific recommendations were going to benefit Tennessee's forests. The data seem to suggest that the real value of the TFMAP was not the product that was delivered to the Governors office, but its true merit was in the benefits of the process to the stakeholders, such as building trust in public agencies, increasing understanding of specific forest issues and increasing understanding of the various interest group views and philosophies.

The vast majority of the panel members feel that future stakeholder processes are needed for developing forest policy in Tennessee. Several mentioned that it should be a panel process similar to the TFMAP with some changes. For example, the majority felt that an issue-oriented process should be the next step. Many suggested slightly fewer stakeholder groups on the future panel. However, the panel was conflicted regarding whether a future panel should have a longer or shorter timeline. The use of small groups in a future stakeholder panel might negate the need for fewer interest groups and allow for more in-depth discussion of the issues that is desired in an issue-oriented approach.

The panel members who suggested the need for future stakeholder processes validate the necessity of such a process by indicating that they would participate again in a future process. They said that they would participate again because of "their passion about forest issues", "the necessity of building trust" and "the need to educate others about forest issues". Clearly, there are interested stakeholders who would like to participate in developing forest policy. What they want is a mechanism to actively participate in developing policy, which does not currently exist. Without such a mechanism will stakeholders who are interested in forest issues return to their "old ways"

in the contentious legislative process? Without an alternative, that seems likely. On the other hand, the TFMAP could be viewed by those in government as a first step towards developing forest policy. Building upon this panel process, a future mechanism or panel could be designed incorporating some of the panel member suggestions in this research to improve the effectiveness of the new process. With each next step, common ground can be widened to incorporate the views of the all stakeholder groups regarding forest issues in Tennessee.

CHAPTER 6

CONCLUSIONS

The TFMAP was evaluated from the following perspectives: appropriate stakeholder representation, effectiveness of process design and facilitation, increasing stakeholder trust of public institutions, educating stakeholders about forest issues and other interest group views, improving stakeholder behavior to work together collaboratively, and the overall value of the process. The research has shown that the TFMAP has produced important value in many areas and was successful to varying degrees for all six elements evaluated. The researcher identified the following successes resulting from the TFMAP process:

- The panel was representative of forest stakeholder groups in Tennessee.
- The focus of forest sustainability was generally considered an appropriate goal.
- Panel management was unbiased, professional and effective.
- Panel facilitation was unbiased, professional and effective.
- Panel member trust of the four Tennessee public institutions regarding forest management generally increased.
- Panel member understanding of the roles of the same public institutions regarding forest management also generally increased.
- Stakeholder understanding of the concept of forest sustainability increased.
- Stakeholder understanding of specific forest issues increased for every panel participant.

- Stakeholder understanding of other interest group views and philosophies overwhelmingly increased.
- Stakeholder ability to work with others who held different views regarding forest issues generally increased.
- Some of the panel members reported that their activity and strategy regarding forest issues has changed since the panel.
- Panel members want to work more with others who have different views than their own regarding forest policy issues.
- Panel member's communication skill development generally increased.
- The majority of panel members rated the overall value of the TFMAP "somewhat high."
- The majority of panel members generally rated the outcome (recommendations) of the panel "somewhat high."
- Most stakeholders felt that future stakeholder panels for developing forest policy in Tennessee are very needed.
- Stakeholders overwhelmingly indicated that they would participate in a future stakeholder panel process again.

As with any newly developed mechanism, this evaluation discovered some shortcomings. The following are perceived areas of weaknesses and/or ways that it could be improved.

Stakeholder participation processes like the TFMAP can be designed to focus on the *outcome* of the process and/or multiple *process goals* such as increasing stakeholder

education, building social capital and increasing stakeholder trust of institutions. The *initial design* (Figure 1) of the TFMAP process clearly emphasized the product goal, almost exclusively. The legislative resolution that created the TFMAP specified that the panel's purpose was to develop recommendations for appropriate policy and programs to promote sustainable forestry and sound stewardship of all Tennessee forestlands and deliver them to the Governor by a certain date. The fact that the legislative resolution was solely product focused seems to have driven the initial process design to also be exclusively product focused. There was, however, nothing in the resolution precluding some design emphasis on process goals. In fact, process conveners indicated that they had goals like stakeholder education, fostering stakeholder deliberation and developing social capital among process participants. These goals were worked into the process as it was implemented but were not initially important in the overall design of the process. As this evolution occurred, tension developed between these process goals and the need to develop the recommendations (process products) in the specified time. This tension became an increasing problem near the end of the process. If the process was initially designed to focus on *both* process goals of stakeholder behavior and education as well as the product goals (recommendations), this tension may have been significantly reduced.

The literature on stakeholder involvement and collaborative negotiation is fairly clear on the need to design stakeholder processes with mechanisms for managing stakeholder behavior (Fisher et al., 1991; Harwood Group, 1993). Many of these begin with an emphasis on establishing a safe environment (Dukes, 1996; UTK Conflict Resolution Program, 1995). The opening of the process should focus on building trusting relationships between the participants and making them feel secure enough to actively

and effectively participate in a collaborative effort. One mechanism that helps to do this is building ritual into the process (Dukes, 1996). Ritual can best be described as any event that is social in nature and helps to bring the participants closer together. Social gatherings such as dinners after formal meetings could be scheduled into the process to allow participants to get to know each other in a different context. Another mechanism that would promote a safe environment is promoting the spirit of collaborative problem solving among participants (Ibid.). Although the TFMAP provided brief written and oral introductions of the principles of collaborative problem solving, activities and exercises are needed to instill these principles in the participants. Exercises like "ropes courses" could be employed to provide an experiential understanding of collaboration while other gaming exercises could provide an intellectual understanding.

Another problem in the TFMAP process was the loss of using small groups in the early stages of the process. At that time, the panel expressed a strong desire to meet together in a large group regarding discussion and dialogue of the issues. The Panel Chair and Facilitator accommodated the panel's wishes. Large group sessions, however, foster more role-playing, promote less social capital, and ultimately are less effective in the deliberation and negotiation work of the panel.

As discussed in the last chapter, larger groups create more opportunities for participants to steer the process for their benefit by role-playing. The peer pressure to role-play is greater in larger groups because participants want to be viewed by other like-minded stakeholders as "being part of the team" (Blumer 1969). Furthermore, role-playing fosters focusing on positions instead of interests. This is contrary to one of the basic principles of negotiating agreement (Fisher et al., 1991), which is to "focus on

interests, not positions." In addition, the use of large groups was inefficient and left almost no time for negotiation in the process. Large group sessions tended to be more divisive due to increased role-playing and used up precious time. In fact, almost the entire TFMAP process focused on large group deliberation and very little time was left for negotiation.

The TFMAP process could be improved by incorporating more small group use into the process design. The literature supports the idea that smaller groups are more effective than large groups in stakeholder participation processes. Mangin and Steger (1990) reached this conclusion in their analysis of the Timber/Fish/Wildlife (T/F/W) Case in Washington State in 1986. Successful negotiation of divisive issues in the T/F/W case was achieved, to no small degree, by the use of small technical and policy groups in the process (Ibid.). Mangin and Steger reported that small technical groups that had representation of each major interest group (industry, environmental, etc) were used effectively to forge agreement on several issues. The smaller groups were able to devote significant time and energy dealing with substantive issues and generate options to address the interests of the various groups represented (Ibid.). The effective use of smaller groups allowed each technical group to reach agreement on some issues and identify other issues where there was no agreement. These undecided issues were then forwarded to a policy group where there was time for negotiation. Addressing the issues in large groups would have been cumbersome and inefficient and success would have been unlikely in the T/F/W case.

In addition, building social capital is more effectively achieved in small groups than larger groups. Smaller groups allow participants more opportunity to be themselves

in the process and not feel pressured to play a role, nor protect a position. Smaller groups are more manageable and participants are able to communicate more with each other because there is more opportunity to do so. Hence, small groups are probably more effective to deal with divisive issues and build social capital in stakeholder panel processes. One-on-one conversations can also reduce role-playing and promote collaborative problem solving. These kinds of individual interactions, which happened spontaneously during the TFMAP process, might be the most effective mechanism for the open and honest communication that is necessary to break down barriers and stereotypes and build trust between participants. In fact, panel participants in the TFMAP reported that they felt social capital came more from small group and informal interaction rather than from large group facilitated sessions.

Another principle of negotiating agreement is to "insist on using objective criteria" (Fisher et al., 1991). It is important that all stakeholders understand and agree to the process and all the various aspects at the beginning. For example, how science was presented in the TFMAP was a source of disagreement. Utilitarian and nonaligned stakeholder representatives were generally satisfied with the way science was presented. On the other hand, almost all of the environmental stakeholders were dissatisfied to varying degrees with how science was presented. They indicated that there was a lack of balance regarding the perspectives of science presented. Yet, they did not recognize this from the beginning. Part of the reason for this was because the way science was presented evolved as the process proceeded. Making changes in how science was presented mid-course created problems for panel members and panel managers alike. Technical groups composed of diverse participants in the T/F/W case (Mangin and

Steger, 1990) were successful in addressing many technical issues where disagreements were technical in nature, partly because there was agreement on what information would be used in the groups (Ostermeier, 1996). This case demonstrated that there is value in addressing and agreeing upon information to be used in the group at the beginning. Hence, it is important to effectively design a process and get agreement from participants prior to commencement of the process regarding what and whose science will be presented.

The Panel Chair, the Panel Facilitator and the participants were also handicapped by the time limits of this process. The legislative resolution that created the TFMAP specified the duration of the process. The TFMAP had a looming deadline that required the panel to develop a set of recommendations for the process to be considered a success. Because the focus of the panel (forest sustainability) was comprehensive and many of the participants had never participated in a stakeholder process before the TFMAP, the educational and deliberative part of the process took up most of the process timeline. Hence, there was very little time left for negotiation between participants. What little negotiation that happened, if any, took place in the last full meeting of the process. The effort to develop recommendations was rushed and the social capital that had developed to that point was not used effectively in the development of the majority consensus recommendations. The process could be improved by using small groups more efficiently, perhaps especially in the negotiation process.

When the TFMAP ended, so did the mechanism that allowed the participants to come together and seek common ground. The social capital built during the TFMAP will slowly dissipate if not used. Social capital, like financial capital, requires maintenance or

its value will decrease. Building social capital is a process that must be nurtured through dialogue and respect for each other. Therefore, "use it or lose it." The leadership shown by former Sen. Bud Gilbert to create this panel and see it through to fruition is certainly worthy of praise as is the work and commitment of all involved parties. Considering that differences of opinion regarding forest policy issues still exist and will continue, it will be necessary for someone and/or some group to provide the leadership to encourage continuation of this process in some form.

If the collaborative spirit of the TFMAP process is not continued in some form, then forest stakeholders will likely return to the alternative previously available to them. Forest stakeholder groups will lobby and draft bills to introduce into the state legislature. These bills will likely be contentious and diverse in their focus. The bills will likely confuse state legislators who generally do not thoroughly understand forest issues. And finally, we will return to where we were a few years ago-- gridlock on forest policy issues in Tennessee.

That is not to say, however, that this would not happen even if a collaborative stakeholder process were in place. There will still be stakeholder groups pushing their legislation regarding forest policy, regardless of whether there is a process available. Yet, without a collaborative mechanism, stakeholder groups will lose an avenue to pursue common ground and the other benefits that the TFMAP was shown to have produced. Therefore, the researcher concludes that a mechanism like the TFMAP is necessary so that forest stakeholders can continue to communicate with each other and do the real work of seeking common ground on the tough issues of how to best manage Tennessee's forest resources.

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APPENDICES

Appendix A

Protocol for TFMAP Panel Members

Introduction

Interview Code Number_____

Date _____

- Re-introduce yourself.
- Confirm that this is a good time.
- Remind them that the interview will take about 60 to 90 minutes.

Your participation is voluntary and this interview is your consent to participate in this study. Your responses will be confidential and not associated with your name. Do you have any questions before we start?

There are six parts to this interview with multiple questions in each part and they will be addressed in the following order: 1) stakeholder representation, 2) the panel process design, panel management and facilitation, 3) stakeholder trust of public institutions, 4) stakeholder education, 5) stakeholder behavior, and finally, 6) the overall value of the TFMAP and your thoughts and feelings on any future processes and mechanisms.

Before we start, I would like to get some general information:

1) Did you have previous experience in collaborative panel processes prior to TFMAP?

Yes_____ No_____

1b) If yes, how did that affect your participation in this process?

2) What were **your objectives** for participating in the panel?

3) To what degree were **your objectives** met?

1-very poorly 2-somewhat poorly 3-neither poor nor good 4-somewhat well 5-very well

4) Regarding interactions with other panel members, to what degree were you **treated** in a way that promoted collaborative problem solving?
PROMPT (respectfully, courteously, rudely, professionally, etc.)

1-Not at all 2-Somewhat 3-To a high degree

4b) Please elaborate.

1. Stakeholder Representation

I would like to begin with questions about stakeholder representation. We are trying to understand how well the panel members represented diverse interest groups in forestry issues in Tennessee and your thoughts on the size of the panel. In addition, we want to understand how panel members communicated with their respective groups.

1) How well do you think this panel **represented** the diversity of stakeholder interests that exist regarding forestry in Tennessee?

1-very poorly 2-somewhat poorly 3-neither poor nor good 4-somewhat well 5-very well

1b) Please elaborate.

2) Regarding the legitimacy of the participant groups on the panel, were there some groups on the panel that you feel did not have a direct connection to forest issues in Tennessee?

Yes_____ No_____

2b) If so, which ones?

1.2. *How would you evaluate the size of stakeholder representation on the panel?*

As you know, there were 33 panel members representing various stakeholder groups:

1) How would you rate the number of participant groups that were involved?

1-too few 2-slightly too few 3-about right 4-slightly too many 5-too many

2) Could you please comment on the overall **size** of the panel?

1.3. *How well did the panel members communicate with their respective groups?*

The next few questions refer to panel member communication with their respective groups:

1) Between panel meetings, did you **communicate** with the individuals or the interest group that you represented about what happened in the panel meetings?

Yes_____ No_____

1b) If so, how many times between panel meetings did you **communicate** with the individuals or the interest group that you represented?

2) If you communicated with your group, what was the subject of communication? (forest sustainability, other interest group views, general process discussion, specific forestry issues)

3) How did you communicate this information? (newsletter, meetings, phone conversation,)

4) What could the panel designers have done, if anything, to improve the effectiveness of your **communication** with your interest group?

2. Process design/management/facilitation

I would now like to move to part two of the interview. In this section, we are trying to understand your thoughts and feelings about the panel process design and the goal of the TFMAP. In addition, we want to know how you feel about panel management and panel facilitation.

2.1. *Evaluate the design of the process.*

Considering the TFMAP was a process whose focus was to seek consensus on sustainable forestry in Tennessee:

1) How satisfied were you with the **focus** of **sustainable forestry** for the panel? (relative to other possible goals like focusing on specific forestry issues)

1-very dissatisfied 2-somewhat dissatisfied 3-neither dissatisfied nor satisfied 4-somewhat satisfied 5-very satisfied

1b) Please elaborate.

2) As you were going through the steps of the panel process, how confident were you that the process was going to produce effective results (consensus recommendations)?

1-very skeptical 2-somewhat skeptical 3-neither skeptical nor confident 4-somewhat confident 5-very confident

3) What were the pros of the steps of the panel process that the panel went through to arrive at recommendations (in general)?

4) What were the cons of the steps of the panel process that the panel went through to arrive at recommendations (in general)?

Another possible focus of stakeholder panels, like TFMAP, is an "issue-oriented" focus. This type of focus might deal with specific issues such as clearcutting, chip mills, water quality among others. Relative to, or in comparison to the focus on "forest sustainability:

5) What would be the pros, if any, of having an "issue-oriented" focus?

6) What would be the cons of having an "issue-oriented" focus?

7) Which focus would you prefer?

7b) Why?

2.2. *Evaluate the management of the panel.*

The panel chair, Dr. Gary Schneider, had the responsibility to manage the panel process

1) How would you rate the way the panel was **managed?**

1-very poor 2-somewhat poor 3-neither poor nor good 4-somewhat good 5-very good

2) What aspects of **panel management** worked well?

3) What would you change about **panel management**, if anything?

3b) Why?

2.3. *Evaluate the facilitation of the process.*

Considering that in working towards common ground and consensus, the panel facilitator, Mirja Hanson, had the responsibility to facilitate the panel.

1) How important was it to the process to have an **outside, neutral facilitator** to facilitate the process?

1-very unimportant 2-somewhat unimportant 3-neither unimportant nor important 4-somewhat important 5-very important

2) How clearly were the steps that the panel went through to arrive at consensus, [PAUSE] **communicated** to you?

1-very unclear 2-somewhat unclear 3-neither unclear nor clear 4-somewhat clear 5-very clear

3) How satisfied were you with overall **facilitation** of the panel?

1-very dissatisfied 2-somewhat dissatisfied 3-neither dissatisfied nor satisfied 4-somewhat satisfied 5-very satisfied

3b) Please elaborate.

4) Do you have comments on how **panel facilitation** could be improved, if at all?

3. Stakeholder trust of public institutions.

I would like to move to part three of our interview and inquire about the impact of the panel process on stakeholder trust of public institutions, namely TDF, TWRA, TDEC, and UT FWF.

3.1. *What was the impact of the panel on stakeholder trust of public institutions,* namely TDF, TWRA, TDEC, UT FWF, etc.?

1) Has your level of **trust** in these public institutions regarding forestry issues increased, stayed the same, or decreased because of your participation in the panel process?

Let me address specific public institutions individually. Again, the three responses are increased, stayed the same, or decreased. The first institution is:

	Increased	Stayed the same	Decreased
TDF			
TWRA			
TDEC			
UT FWF			

3.2. *What actions, activities or other factors were important in influencing stakeholder trust in public institutions?*

1) What **specific aspects** of the panel process were most effective at increasing your **trust** of these Tennessee public institutions in regard to forestry issues?

2) Were there **specific aspects** of the panel process that resulted in a decrease in trust of these Tennessee public institutions in regard to forestry issues?

Yes_____ No_____

2b) If so, what were those aspects and for what institutions?

2c) How might these aspects be improved to increase your level of **trust** in public institutions to promote forest sustainability?

3.3.*Do stakeholders have a better understanding of institutional roles now? If so, how?*

1) Since your participation in the TFMAP process, how would you rate your **understanding** of the institutional roles of these public agencies regarding forest issues?

Again, let me address specific public institutions individually. Your response choices are....:

	Very unclear	Somewhat unclear	Neither unclear nor clear	Somewhat clear	Very clear
TDF					
TWRA					
TDEC					
UT FWF					

1b) Why do you feel this way?

2) Could the panel process have been designed differently to do a better job of **clarifying** the role of these public institutions?

Yes_____ No_____

2b) If yes, how?

4. Stakeholder Education.

I would like to move into the fourth section of the interview, focusing on stakeholder education. We would like to know how education impacted panel member understanding of 1) forest sustainability, 2) specific forest issues in Tennessee, and 3) cross-interest group understanding.

4.1. *To what extent do stakeholders better understand forest sustainability? (multiple dimensions- economic, environmental, social -of forest sustainability)*

1) How much do you agree or disagree with the following statement? "Forest sustainability has multiple dimensions, including environmental, social and economic factors.

1-Disagree very much 2-Disagree somewhat 3-Niether disagree nor agree 4-Agree somewhat 5-Agree very much

2) To what extent, if any, did the panel process increase your **understanding** of forest sustainability?

1-None at all 2-somewhat 3-very much

2b) Why?

3) How could the panel process have been changed to improve your understanding of "forest sustainability"?

4.2. *How did the process affect stakeholder understanding of forestry issues*?

The following set of questions refer to more specific forest issues in Tennessee:

1) To what degree did your understanding of **specific forest issues** increase as a result of your participation in the panel?

1-None at all 2-Somewhat 3-Very much

2) What specific aspects of the panel process led to an increase in your **understanding** of these specific forest issues?

3) What specific aspects of the panel process, if any, were not effective in improving your **understanding** of specific forest issues?

4) How satisfied were you with how **science was presented** in educating the panel about specific forest issues in Tennessee?

1-very dissatisfied 2-somewhat dissatisfied 3-neither dissatisfied nor satisfied 4-somewhat satisfied 5-very satisfied

4b) Please elaborate.

4.3. *How successful was cross-interest group education*?

The next several questions refer specifically to cross-interest group education:

1) As a result of participating on the panel, please rate how your understanding of diverse values and views about forestry issues in Tennessee **has changed**?

1-decreased very much 2-decreased a little 3-did not change 4-increased a little 5-increased very much

1b) Please comment.

2) How important was it to the progress of the panel, [PAUSE] for panel members to **understand** each other group's views and philosophies?

1-very unimportant 2-somewhat unimportant 3-neither unimportant nor important 4-somewhat important 5-very important

3) How successful was the panel process in helping you **understand** other group's views and philosophies?

1-very unsuccessful 2-somewhat unsuccessful 3-neither unsuccessful nor successful 4-somewhat successful 5-very successful

3b) Please elaborate.

4) How could cross-interest group education have been **improved or increased**, if at all?

5) To what degree did you **represent** YOURSELF **[PAUSE]** or YOUR INTEREST GROUP VIEWS?

1-Mostly **MYSELF** 2-Slightly more myself than my group 3-A balance of both views 4-Slightly more my group than myself 5-Mostly my **INTEREST GROUP**

5. Stakeholder behavior.

I would like to move to part five of the interview and attempt to understand how the panel affected stakeholders ability to work with those having diverse interests and values regarding forestry issues in Tennessee. Also, how participation affected communication skills development of stakeholders.

5.1.*How did the panel affect stakeholders ability to work with those having diverse interests and values regarding forestry issues* (social/civic capital)?

1) As a result of participating in the panel, **how** has your **ability** to work with people, [PAUSE] holding views of forestry different than yours, changed?

1-decreased very much 2-decreased a little 3-did not change
4-increased a little 5-increased very much

1b) Please elaborate.

2) Please describe what aspects of the panel process **promoted** the ability of panel members to work with people holding differing views.

3) Please describe what aspects of the panel process **discouraged or possibly eroded** the ability of panel members to work with people holding differing views.

4) What could be done to improve stakeholder behavior (ability) to work together more effectively?

5.2.*How did the panel affect other stakeholder activity/strategy regarding forestry issues?*

The following set of questions inquire about the panel's affect on stakeholder activity and strategy regarding forestry issues:

1) Please describe what **your interest group** has done in regard to forestry issues **SINCE** the panel.

2) Since the panel, has there been a change in your activity in how **you** are working on forestry issues? (Who you work with, strategy, other)

Yes_____ No_____

2b) If so, please describe how **your activity** has changed

3) In comparison to ***before*** the panel, are you working **more, the same, or less** with people holding differing views regarding forest issues in Tennessee?

1-More 2-The same 3-Less

3b) Why?

4) In comparison to ***before*** the panel, would you like to work **more, the same, or less** with people holding different views regarding forest issues in Tennessee?

1-More 2-The same 3-Less

4b) Why?

5.3.*How did the panel affect skill development of stakeholders?*

The following set of questions inquires about the panel's affect on communication skill development for the stakeholders involved.

1) How would you rate the panel in affecting your **listening skills** to be an "effective listener"?

1-very unsuccessful 2-somewhat unsuccessful 3-neither unsuccessful nor successful 4-somewhat successful 5-very successful

2) How would you rate the panel in affecting your **speaking skills** to dialogue instead of debate?

1-very unsuccessful 2-somewhat unsuccessful 3-neither unsuccessful nor successful 4-somewhat successful 5-very successful

3) Please comment on the **impact** the panel process had on the communication skill development of other panel members?

6. Overall value/Future processes/mechanisms.

The following section is the final part of the interview. Having discussed many elements of the TFMAP process, we would now like to get your overall feelings and thoughts about the process and about any future processes and mechanisms.

1.1. *Identify overall value of TFMAP.*

1) How would you **rate** the overall value of the entire TFMAP process?

1-very low 2-somewhat low 3-neither low nor high 4-somewhat high 5-very high

1b) Please elaborate.

1,2. *Evaluate the overall quality of the recommendations (collectively?).*

1) How would you **assess** the overall quality of the 28 recommendations of the panel?

1-very poor 2-somewhat poor 3-neither poor nor good 4-somewhat good 5-very good

1b) Please elaborate.

1.3. *General questions:*

1) How needed are future stakeholder processes for developing Tennessee forest policy?

1-Not needed 2-Somewhat needed 3-Very needed

1b) If you think that they are needed, what achievable objectives do you suggest?

2) How might a process to achieve such objectives be structured?

3) Would you be interested in participating in a **cross-interest group task force of 6 to 8 people** for developing forest policy in Tennessee?

Yes_____ No_____

4) Would you **participate** in a future TFMAP process again?

Yes_____ No_____

4b) Why?

5) Is there anything else you would like to say about the TFMAP and the process for which I have not specifically asked about?

That's it. ***I appreciate the time you invested in this study.*** *We will use the information you provided in this interview along with information provided by other panel members to construct a summary of the TFMAP process.*

Appendix B

Protocol for Panel Chair/Panel Facilitator

Introduction

Interview Code Number_____

Date _____

- Re-introduce yourself.
- Confirm that this is a good time.
- Remind them that the interview will take about 60 to 90 minutes.

Your participation is voluntary and this interview is your consent to participate in this study. Your responses will be confidential and not associated with your name. Do you have any questions before we start?

There are four parts to this interview with multiple questions in each part and they will be addressed in the following order: 1) stakeholder representation, 2) the panel process design, 3) panel management and facilitation, and finally 4) the overall value of the TFMAP process and your thoughts and feelings about future processes or mechanisms.

1. Stakeholder Representation

I would like to begin with questions about stakeholder representation on the panel. We are trying to understand how well the panel members represented diverse interest groups in forestry issues in Tennessee and your thoughts on the size of the panel.

3) How well do you think this panel **represented** the diversity of stakeholder interests that existing forestry in Tennessee?

1-very poorly 2-somewhat poorly 3-neither poor nor good 4-somewhat well 5-very well

4) How would you describe the **number** of stakeholders on the panel?

1- too few 2- a few too few 3-about right 4- a few too many 5- too many

5) Regarding stakeholder **representation** of diverse interest groups in forestry issues in Tennessee, please comment on the challenges of the panel relative to its size and the diversity of interests represented.

2. Panel Process design

I would now like to move to part two of the interview. In this section, we are trying to understand the panel process design and how it evolved.

Considering the TFMAP was a "goal-oriented" process whose goal was to seek consensus on sustainable forestry in Tennessee:

8) What were the pros of **working towards this goal** of consensus on sustainable forestry?

9) What were the cons of **working towards this goal** of consensus on sustainable forestry?

10) What were the pros of the steps (**process**) that the panel went through to arrive at consensus recommendations?

11) What were the cons of the steps (**process**) that the panel went through to arrive at consensus recommendations?

12) How did the process change or evolve as it unfolded?

13) Why was it necessary to make these **changes**?

3.Panel Management (PANEL CHAIR ONLY)

I would now like to move to part three of the interview. In this section, we want to understand how the panel was managed and get your thoughts on suggestions for improvement, if any.

The panel chair and support staff had the responsibility to manage the panel process

1) How did you approach your role as the panel chair?

2) How did "staff" meetings with legislators and TDF staff affect your management of the panel?

3) What worked well in effectively managing the panel?

4) What were the biggest struggles with managing the panel?

5) What were the most difficult tasks as the panel chair?

6) What did you view as your most critical function in effectively managing the panel?

7) Did your management strategy change during the course of the panel process?

   7b) If so, how?

8) Did **post-meeting panel member evaluations** change your management of future meetings in the process?

   8b) If so, how?

9) What worked well regarding the **coordination** of the roles of the panel chair and the facilitator in TFMAP.

10) What did not work well regarding the **coordination** of the roles of the panel chair and the facilitator in TFMAP.

11) Do you have suggestions how **panel management** could be improved?

12) Did you have any **previous experience** with managing collaborative panel processes like the TFMAP?

   12b) If so, how did this experience affect your management of the TFMAP process?

13) Are there other comments about chairing the panel that I have not discussed?, If so, please elaborate.

4. Panel Facilitation (PANEL FACILITATOR ONLY)

I would now like to move to part three of the interview. In this section, we want to understand how you facilitated the panel process and get your thoughts on suggestions for improvement, if any.

1) How did you view **your role** of panel facilitator?

2) Was the **goal** of focusing on "forest sustainability" hard to achieve?

2b) Please elaborate.

3) Did you have a **role** in the panel process design?

3b) If yes, please describe your role?

4) Would you like to have had a **larger role** in the panel process design?

4b) Please elaborate.

5) What worked well in the **facilitation** of the panel process?

6) What did not work well in the **facilitation** of the panel process?

7) Do you have suggestions how **panel facilitation** could be improved, if at all?

8) What worked well regarding the **coordination** of the roles of the panel chair and the panel facilitator?

9) What did not work well regarding the **coordination** of roles of the panel chair and the panel facilitator?

10) Are there other comments you would like to make about the facilitation of the panel that I have not discussed that would help us understand in doing an evaluation? If so, please elaborate.

That's it. ***I appreciate the time you invested in this study.*** *We will use the information you provided in this interview along with information provided by other participants to construct a summary of the TFMAP process.*

Appendix C

Protocol for Panel Designers (Conveners)

Introduction

Interview Code Number_____

Date _____

- Re-introduce yourself.
- Confirm that this is a good time.
- Remind them that the interview will take about 60 to 90 minutes.

!!!!!!GET NAMES/NUMBERS/EMAIL ADDRESSES OF OTHER "KEY" PEOPLE FROM MIKE COUNTESS!!!!!!!

1)

2)

3)

4)

5)

Your participation is voluntary and this interview is your consent to participate in this study. Your responses will be confidential and not associated with your name. Do you have any questions before we start?

There are five parts to this interview with multiple questions in each part and they will be addressed in the following order: 1) group and participant identification and selection, 2) the panel goal of forest sustainability, 3) the panel process design, 4) panel management and facilitation, and finally 5) the overall value and of the TFMAP process and your thoughts on any future processes or mechanisms.

A Group Identification and Participant Selection

I would like to begin with questions about how groups were identified and how representatives from those groups were selected for the TFMAP. We are trying to understand who was involved in the identification and selection process, the roles they played and the criteria used.

1.1 *How were groups identified?*

1) First, please describe how the idea/concept of a stakeholder panel began.

2) What were the underlying factors that acted as catalysts for panel creation?

*Now I would like to talk about how **groups** were **identified**:*

3) What criteria were used in **identifying** interests or groups invited to participate?

*Some of these groups asked to participate were **non-stakeholder type** groups, such as, the Tennessee Road Superintendents Association and the County Commissioners Association:*

4) Why were they asked to participate?

5) Who was involved in this deliberation and/or decision-making process about group identification?

6) Describe how those involved worked through the process of identifying participant groups.

7) What were the struggles and issues that arose in **identifying** the 33 groups?

8) Who made the final decisions?

8b) How?

9) Describe the pros of the **identification** process.

10) Describe the cons of the **identification** process.

11) What, if any, **changes** would you make in the process if you were involved again?

12) Are there any comments that you would like to make regarding participant group identification for which you were not specifically asked?

1.2. *How were stakeholder representatives selected?*

*Now I would like to talk about how group **representatives** were **selected**:*

1) What criteria, if any, were used to **select** individual representatives?

1b) Who developed the criteria for the **selection** process?

2) Who made the decisions regarding **individual representatives**?

3) Describe the pros of the **selection** process.

4) Describe the cons of the **selection** process.

5) If you were to do this again, how might you change the selection process, if at all?

B Goal of Forest Sustainability

I would like to move to part two of this interview. In this section, we are trying to understand why and how the goal of 'forest sustainability' for the TFMAP was selected?

1.1 *How and why was this goal chosen?*

Considering the TFMAP was a "goal-oriented" process whose goal was to seek consensus on sustainable forestry in Tennessee:

1) Why was the goal of **"forest sustainability" chosen** for TFMAP?

2) Were any other alternatives considered? **[Such as an "issue-oriented" process]**

3) Who was involved in **choosing** the goal of "forest sustainability" for the panel and what role did each person play?

4) What were the pros of **choosing** this goal?

5) What were the cons of **choosing** this goal?

6) How satisfied are you with choosing "forest sustainability" as the goal for the TFMAP?

1-very dissatisfied	2-somewhat dissatisfied	3-neither dissatisfied nor satisfied
4-somewhat satisfied		5-very satisfied

7) Given what you know now, would you suggest any changes in the goal of the TFMAP process?

7b) If so, why?

C Panel Process Design

I would like to move to part three of our interview. Now that we have talked about how the panel was formed, lets discuss the TFMAP process design ***[the design of the facilitated stakeholder panel process].***

1.1. *How was the TFMAP process designed?*

1) Who was involved in **designing** the TFMAP process?

2) What were their roles?

3) Were **other designs** considered?

4) Was the design based on an existing models?

4b) If so, which model?

4c) Why was this model used?

5) Please discuss the pros of the choice of this **panel process design**?

6) Please discuss the cons of the choice of this **panel process design**?

7) How satisfied were you with the process design of the panel?

1-very dissatisfied 2-somewhat dissatisfied 3-neither dissatisfied nor satisfied 4-somewhat satisfied 5-very satisfied

8) Given what you know at this time, would you change the panel process design?

Yes_____ No_____

8b) If so, why?

D Panel Management and Facilitation

I would now like to move into the fourth section of the interview. Although the next two points are related, we are inquiring about the panel management and administration by the panel chair and the panel facilitation by the panel facilitator.

1.1 *Evaluate Panel management.*

*This first part refers to panel **management** by the panel **chair***

1) What worked well about the panel management and administration?

2) What did not work well about the panel management and administration?

3) How could the management of the panel be improved, if at all?

4) Why do you think these improvements are necessary? **(ASK IF THE PREVIOUS ANSWER DOES NOT RESPOND TO THIS QUESTIONS)**

1.2. *Evaluate Panel Facilitation.*

*The next set of questions refer to panel **facilitation** by the panel **facilitator**:*

1) What did you like about the facilitation by the panel facilitator?

2) What did you not like about the facilitation by the panel facilitator?

3) What improvements would you suggest, if any?

4) Why do you think these improvements are necessary?

5) Please discuss the pros of the **coordination** between the Panel Chair and Panel Facilitator in TFMAP.

6) Please discuss the cons of the **coordination** between the Panel Chair and Panel Facilitator in TFMAP.

7) What would you change, if anything, about the coordination between the Panel Chair and Panel Facilitator?

Before I go on to the next question:

8) Do you have additional comments regarding how the panel was administered and implemented?

E Overall value/Future processes/mechanisms.

As we move to the last part of the interview having discussed many elements of the TFMAP, we would like to get your overall feelings and thoughts about the TFMAP process. In addition, we want to know your thoughts and feelings about future processes and mechanisms.

1.2. *Identify overall value (+/-) of TFMAP.*

2) How would you **rate** the overall value of the TFMAP process?

1-very low 2-somewhat low 3-neither low nor high 4-somewhat high 5-very high

1b) Please elaborate.

1,2. *Evaluate the overall quality of the recommendations (collectively?).*

1) How would you **assess** the overall quality of the collective recommendations of the panel?

1-very poor 2-somewhat poor 3-neither poor nor good 4-somewhat good 5-very good

1b) Please elaborate.

1.3. *General questions:*

5) How needed are future stakeholder processes?

1-very unneeded 2-somewhat unneeded 3-neither unneeded nor needed 4-somewhat needed 5-very needed

6) If you think that they are needed, what feasible (achievable) objectives do you suggest?

7) How might a process to achieve such objectives be structured?

Finally, I would like to ask you a few questions about any previous experience you might have had with collaborative panel processes like TFMAP:

8) Did you have previous experience in collaborative panel processes prior to TFMAP?

9) If yes, how did that affect your effectiveness in this process?

10) Is there **anything else** you would like to say about the TFMAP and the process for which I have not specifically asked?

That's it. ***I appreciate the time you invested in this study.*** *We will use the information you provided in this interview along with information provided by other participants to construct a summary of the TFMAP process and to write a masters thesis in forest policy.*

Appendix D

HUMAN SUBJECTS CERTIFICATION

Evaluating The Effectiveness Of The

Tennessee Forest Management Advisory Panel

Graduate Thesis
Department of Forestry, Fisheries, and Wildlife
University of Tennessee

I.1. Objectives of the Project

The objective of this research is to perform a comprehensive evaluation of the Tennessee Forest Management Advisory Panel (TFMAP). The evaluation will attempt to find out how the panel process was set up and designed and to evaluate the panel process. Data for the project will be collected through structured telephone interviews. An analysis of the panel process will be conducted and suggestions for improvement in the panel process will be offered, where appropriate.

I.2. Subjects

The population from which subjects are selected include all panel members, or stakeholders, in the TFMAP process. There were 29 panel members that finished the panel process. Other participants will include, state administrative officials, lobbyists,

the Panel Chair, and the Panel Facilitator and possibly others. These individuals will be interviewed because they played some role in the creation of the panel and the panel process design, and the implementation of the panel process. The total number of individuals interviewed could be as many as 40 people. The duration of the interviews will be two to three months, beginning in late June or early July 1999.

I.3. Methods or Procedures

We will make our initial contacts with the individuals to be interviewed by telephone or electronic mail. In these initial contacts, we will explain the goals of our project, the kinds of information we seek from interviews, and the product of the interviews. This information will be provided in written form on an information sheet that will be distributed (via mail, fax, or e-mail) to each potential participant who requests it.

The information sheet will explain how participants will contribute to the project and how the information they provide will be used. It will identify the goal of the project, as well as the project's sponsor and a contact for further information. Furthermore, the information sheet will explicitly state that participation in the project is voluntary. The introduction to the interview that will be read to potential participants prior to the interview will remind the participants that their participation is voluntary and that participating in the interview constitutes their consent to participate in the project. In

this introduction, participants will be given an opportunity to ask questions about the project.

The interview protocol indicates the type of information sought and the specific questions that will be asked. We will conduct these structured interviews by telephone.

The interviewer (Mark Miller) will record data on the interview protocol. At the point of interview, the interviewer will know the identity of the participant, but the data will not be recorded. However, no identifiers will be recorded on the interview protocol. Participants will be assigned code numbers, and these code numbers will be recorded on the interview protocol. Participant's names and contact information and their assigned code numbers will be maintained in a separate database. Access to this database will be limited to the principal investigator (Mark Miller) and the project sponsor (Dr. Dave Ostermeier), a professor of forest policy at the University of Tennessee. Project files will be securely stored at the University of Tennessee in the office of Dr. Ostermeier.

In publications resulting from this research project, participant confidentiality will be maintained. No information or opinions will be attributed to specific individuals. The risks of this research to participants are considered to be minimal and the procedures do not deal in sensitive aspects of the participant behavior, or involve information that might jeopardize legal, financial, or job situation. The only conceivable "risk" to participants is that someone will draw conclusions about who contributed particular information based

solely on circumstantial evidence about their view on a specific forest issue, reference to a geographic area, or personal philosophical view.

I.4. Category for Exempt Research Per 45 CFR 46

NA

VITA

Mark Donovan Miller was born in Valdosta, Georgia on Sept. 17, 1960. Having grown up in a military family, he moved often, living in several different states before his early teen years. Much of that time was spent living in Texas and Michigan. He moved to Knoxville, TN, upon his father's retirement from the US Air Force in 1974. The author attended middle school and high school in Knoxville, graduating from Farragut High School in 1979.

In the fall of 1979, he entered The University of Tennessee and began studying Pre-Medicine. After three years and a change of heart, he decided not to pursue a career in medicine. The author went on to graduate with a Bachelor's of Art in Biology in the winter of 1983.

After several years of working in the fields of pharmaceutical sales, restaurant management and management with the 1996 Atlanta Committee for the Olympic Games, Mark joined the US Peace Corps. He served three years as an Agroforestry Extensionist in Paraguay from 1991 to 1993. It was during this time that Mark's interest in the natural world and people's connection to it flourished. His time in the Peace Corps was a life-defining experience that nurtured his passion to work in the natural resource management field. After spending two more years at Guantanamo Bay, Cuba working with Cuban refugees, he decided to return to school to seek a Masters degree in natural resources.

Prior to entering graduate school, he was offered a research assistantship in The University of Tennessee's Department of Forestry, Wildlife and Fisheries and began work early on his graduate research project in the spring of 1998. During the summer of

that year, Mark also worked as a research intern with The National Center for Environmental Decision-Making Research (NCEDR) analyzing Habitat Conservation Plans. In the fall of 1998, he entered The University of Tennessee Graduate School and began work towards a Masters of Science in Forestry, with a concentration in forest policy. Mark's interest in learning was reflected by the variety and number of courses that he chose to take. The breadth of his graduate classroom training included courses in the following academic fields: political science, statistics, planning, economics, agricultural economics, and forest policy in addition to plant and soil science, botany, genetics, forestry, wildlife, and fisheries science. Mark completed his graduate program in August 2000 and received his degree in December of the same year.