

Socioeconomic Monitoring for the Four Forest Restoration Initiative

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April 2012

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Introduction and Background

Preparation and tracking of both the social and economic impacts of the Four Forest Restoration Initiative (4FRI) project is paramount to the success of the project. Social awareness, knowledge and support coupled with economic viability, such as a prepared workforce, adequate infrastructure, and reliable wood supplies, are critical factors that will be primary drivers of the project's progression. Typically, social and economic monitoring has not been a priority and was identified as one of the five major challenges by the Rural Voice for Conservation Coalition's (RVCC) Issue Paper (2011) in stating, "There is insufficient monitoring of the social and economic impacts of land management" and they further stressed this as a key recommendation for the US Forest Service (USFS). Robbins and Daniels (2011) affirm this by reiterating, "...that the socioeconomic aspects of restoration are 'underemphasized, or often ignored all together'" (Aronson et al. 2010). Thus, ensuring integration of ecological, social and economic impacts will augment effective management actions that will address multiple criteria necessary for community health and sustainability.

As the monitoring frameworks were conceptualized, beginning with a broad vision for both social and economic factors affected by restoration can be drawn from the 4FRI's foundational documents, such as the *Path Forward* (2010). Within the *Path Forward*, the importance of integrating monitoring that includes ecological, social and economic impacts was raised in stating, "Landscape-scale restoration efforts should adopt and make full use of rigorous science, including research, monitoring, and adaptive management that enhances our understanding about their ecological, social, and economic implications" (2010).

Purpose and Application

The purpose of this report is to provide a framework to guide socioeconomic monitoring of the 4FRI project for the First Analysis Area Environmental Impact Statement (EIS). Both the 4FRI Science and Monitoring Working Group (S&MWG) and the USFS will contribute to monitoring the socioeconomic aspects of the project. The 4FRI project is funded through the Omnibus Land Management Act of 2009, Title IV-Forest Landscape Restoration. The 4FRI socioeconomic monitoring process is geared towards the purpose of the Act:

- The purpose of this title is to encourage the collaborative, science-based ecosystem restoration of priority forest landscapes through a process that--
- 1) encourages ecological, economic, and social sustainability;
 - 2) leverages local resources with national and private resources;
 - 3) facilitates the reduction of wildfire management costs, including through reestablishing natural fire regimes and reducing the risk of uncharacteristic wildfire; and
 - 4) demonstrates the degree to which--
 - (A) various ecological restoration techniques--
 - (i) achieve ecological and watershed health objectives; and
 - (ii) affect wildfire activity and management costs; and
 - (B) the use of forest restoration byproducts can offset treatment costs while benefitting local rural economies and improving forest health.

The monitoring objectives identified in this report overlap with many of the key social and economic issues analyzed by the USFS in the "Environmental Consequences" section of the EIS. In the EIS, the USFS will assess the social and economic elements of 4FRI implementation. This analysis will include the Coconino and Kaibab National Forests and Coconino, Yavapai and Maricopa counties. Although Maricopa County is not within the Kaibab and

Coconino National Forests, it is included in the analysis due to the social and economic linkages between Maricopa County and the assessment area.

There are two main components to the USFS social and economic analysis that include: 1) the affected environment description and, 2) the assessment of environmental consequences. The USFS analysis of the social and economic affected environment description in the EIS considers population and demographic characteristics and trends (e.g. population change and educational attainment), employment and income data (e.g. economic specialization and median income), and environmental justice concerns (e.g. the distribution of minority and low income populations in the study area and their relationship to the Forest lands). This will include estimates of employment and income consequences during the 4FRI implementation lifecycle. Input-output-analyses using IMPLAN (www.implan.com) will estimate the employment and income effects of the 4FRI project. Ultimately, the estimates from IMPLAN can be compared to actual economic outcomes that will be collected as primary data from contractors, subcontractors, etc.

The USFS environmental consequences analysis estimates will be primarily a qualitative assessment and will describe how 4FRI implementation activities will affect quality of life, non-market economic values and employment and income in the study area. For quality of life, some of the key indicators are: 1) Particulate matter (PM) pollution from wildfire and prescribed fire (air quality modeling) and how PM pollution may lead to reduced quality of life through activity days, respiratory events, hospital admissions, etc.; 2) recreation opportunities (e.g. 4FRI implementation may temporarily displace some activities; uncharacteristic wildfire can have long-term displacement consequences, etc.) and; 3) local economic sustainability; this will extend the quantitative economic discussion of employment and income to the social sphere to discuss how changing economic conditions affect community well-being. Non-market values will be measured chiefly through ecological indicators provided by other USFS specialists in their analysis (e.g. effects on habitat, water quality, soil quality, etc.). The economic efficiency of 4FRI implementation will also be analyzed by the USFS by using data on federal and private expenditures and the projected benefits of ecological restoration.

To supplement the USFS socioeconomic monitoring data and analyses, through multiparty monitoring, the 4FRI Collaborative will utilize the information contained in this report to complete both social and economic monitoring of the 4FRI project. Although this report contains an extensive list of possible objectives that could be monitored, based on the 4FRI Collaborative's priorities and the information gaps contained in the USFS required socioeconomic monitoring, specific objectives/questions will be targeted. To assure the project's success and longevity, it is recommended that socioeconomic monitoring is conducted before project implementation and there is immediate and ongoing execution within approximately the first five years of project implementation (Personal Communication, Nielsen 2011). Once socioeconomic monitoring data verifies the 4FRI project is socially and economically on track, the pressing need to conduct this type of monitoring will dissipate and the priority socioeconomic factors can be monitored less frequently to assess longitudinal changes.

The purpose of the joint effort of the S&MWG and the USFS monitoring process is to assess the accuracy of USFS estimates and provide data for adaptive management. In this way, the information provided by the USFS in the EIS, coupled with this monitoring framework, are linked to support a thorough and on-going assessment of social and economic conditions in the study area.

Methodology in Developing Social and Economic Monitoring Framework

The 4FRI S&MWG developed both social and economic monitoring frameworks to assess relevant socioeconomic factors that will determine these effects in planning, implementation and adaptive management of the 4FRI project. Relative to other land management activities, monitoring issues that need to be addressed within ecological restoration projects are broader and should encompass objectives that affect the widest variety of stakeholders (Egan and Estrada-Bustillo 2011; Fulé 2003). As a starting point, social and economic desired conditions from the *Landscape Restoration Strategy for the First Analysis Area* (LRS) (4FRI Stakeholder Group, Oct 2010) were compiled from the report (Appendix A). Additional economic desired conditions were extrapolated from Appendix A of the LRS report. Within the LRS report, both economic and social desired conditions were defined within three spatial scales that include landscape, analysis area and firescape. These spatial scales are more applicable to biophysical conditions; therefore, for the purpose of developing this monitoring framework, the socioeconomic desired conditions were not delineated by these spatial scales. At times, the original set of desired conditions were either repeated within each scale or they were not applicable as a socioeconomic desired condition for monitoring. Omission or modifications of these desired conditions are listed and explained in tabular format in Appendix B.

Once the final set of desired conditions, or broad goals, were determined, firm, measurable monitoring objectives (UO 2011) were developed through broad stakeholder input. As objectives were developed, considerations were based on those that the stakeholder group and/or the USFS have the ability to influence and adapt (Ibid). Monitoring questions were matched to the objectives to ensure the questions asked provide essential information that is needed to measure the stated objectives. Indicator selection was based on attributes that can be easily measured, are precise, and concisely describe current conditions (Moote 2011) as well as those that are sensitive to changes overtime (Moote 2011; Egan and Estrada-Bustillo 2011). In addition, indicators that can satisfy multiple objectives should be recognized to assist in the efficacy of the monitoring process (Derr et al. 2005). The methods used to evaluate the selected indicators are described in the Toolbox section of this report (page 6). Once the appropriate assessment(s) were delineated, the recommended frequencies of the assessments, how often the monitoring data and analyses are completed, were matched to the assessment. Lastly, data sources, whether primary or secondary, were delineated to retrieve the necessary data to answer the questions. It is important to note that these frameworks should be viewed as a “continuing, inclusive and evolutionary process” (Personal Communication, A. Egan 2011) that is malleable and adaptive over time.

Consideration of temporal and spatial scales is critical to the monitoring process and effects should be addressed at micro and macro levels as well as in the short and long-term. For example, results from project-level monitoring will provide necessary information to assess a variety of programmatic (cumulative) monitoring objectives/questions that can be tracked over time (UO 2011).

The social and economic framework matrices included in this report are not exhaustive; however, provide a basis for framing a 4FRI social and/or economic monitoring project (Appendix C and D). For example, there may be several monitoring questions for a specific objective; however, the associated monitoring questions may not be relevant and/or appropriated funding will only support answering one of the monitoring questions. Similarly,

there is a fairly comprehensive list of indicators; however, not all will be measured for a respective monitoring project. In the end, the purpose of the study, the constituency requesting the information, how the information will be used and, respective funding will ultimately dictate a specific methodology of the monitoring project.

Due to the groundbreaking nature of the landscape scale 4FRI project and the unpredictability of the results, the “If Statements” or triggers for adaptive management, are described as “Undesirable Conditions” (Personal Communication, T. Cheng 2011). The “Undesirable Conditions” have been initially expressed as broad qualitative statements that will delineate trends. As the project matures, and a baseline is established, these triggers can be adjusted to more specific acceptable quantitative ranges that will indicate whether or not adaptive management is necessary for each specific objective/question that is being assessed. In addition, once a contract(s) is awarded and contractors’ business plans are identified, economic triggers can be more clearly delineated and assessments can be designed to determine whether implementation is in line with contractors’ business plans.

In most cases, when socioeconomic studies are conducted, several monitoring questions can be addressed simultaneously, thus increasing the efficacy of the monitoring project. For example, a telephone survey to residents in the first analysis area can provide necessary data for multiple monitoring questions. As economic studies are planned and conducted, when contractor surveys are designed and distributed before project implementation, several indicators can be tracked and these data can be used for multiple monitoring requirements.

Program Evaluation

As monitoring protocols are established and implemented for the 4FRI project, program evaluation can be used as an appropriate social science methodology. Program evaluation is a set of “systematic procedures used in seeking facts or principles” so that theoretical positions can be tested (cited in Royse et al. 2001:2). Program evaluation follows a simple research design procedure that includes four main steps: 1. formulate a problem or question, 2. develop a research design for data collection efforts, 3. collect data, and 4. analyze the data (Ibid). Although this design is similar to a traditional research design, the underlying distinction is based on the results. In most instances, in a research design, results can be generalized to a broader population, while results from a program evaluation may only be applicable to the specific project or multiple projects that have distinct similarities. Moreover, program evaluation is designed to facilitate a “structured comparison” so that conclusions have a type of relative valuation (cited in Royce 2001:11).

Ideally monitoring should be conducted before and after implementation so that pre- and post- measurements can be compared. Due to the ongoing and malleable nature of monitoring, a process evaluation can be conducted throughout the life of the project that provides a program’s description, a program’s monitoring protocol and quality assurance measures (Ibid). Due to the nature of process evaluation, operations are documented and will provide the necessary information to replicate or convey the technology of a specific project. Process evaluations are typically used for research and demonstration projects as they provide information that will inform what was learned during project implementation (Ibid).

To take this one step further, a program logic model developed by the W. K. Kellogg Foundation (W.K. Kellogg Foundation Evaluation Handbook 2004) supports this application whereas evaluations are seen as adaptive, applying mid-course adjustments as needed, while at the same time, documenting its successes (WKKF 2004). This

evaluative approach also encourages a broad participatory base of all involved stakeholders, from developing the question to analyzing the data. The logic model does not just focus on the outcome but explains what you are doing, the expected results and a series of outcomes from immediate to long-term (Ibid). Moreover, this model helps to identify whether the project is on-track and emphasizes learning as an ongoing process - an integral part of the evaluation.

Institutional Review Board (IRB)

When collecting information on human subjects, an Institutional Review Board (IRB) should complete a review of the proposed project. As subjects participate in research projects, he/she should be informed their participation is voluntary and all of their answers are confidential and reported as an aggregate, or as a group response. If research is conducted remotely, through the telephone or the Internet, informed consent is completed verbally or in a screen that is read by the respondent. If participants are interviewed face-to-face, participants should sign consent forms before the interview/focus groups begin. The consent and reviews protect the rights of human subjects when used in research and prevent unethical treatment during the process (IRB NAU 2011).

Tool Box for Assessment

Scale - Sampling Frame

As the purpose of socioeconomic studies is conceptualized, and objectives/questions are designed to study a specific population (e.g. "local"), a concise, self-determined definition is necessary to pinpoint the sampling frame, or scale, of the population under study (UA 2011). Since this definition is dependant on the purpose of the study and, ultimately how the information will be used, it could vary considerably from study to study. The definition of the study's population, or the sampling frame, should reflect one or more factors that include geographic (natural, physical), administrative, social, and/or economic boundaries/conditions that are adequately representative of the location, political and/or public service jurisdictions, group of people or economic factors (EPA 2002).

Study Design

Both social and economic monitoring should begin with an assessment of current conditions by establishing baseline data before project implementation and/or education and outreach programs or events. Once a baseline is established, proceeding data collection should occur after major interventions to assess the change from the baseline to post-intervention and continue to assess changes longitudinally to track them over time. Depending on the selected social or economic analysis, accounting for specific issues and concerns within the population or the designated area of the study (e.g. community, city, county, EIS Analysis Area, etc.) should be considered and integrated in the study design (Egan and Estrada-Bustillo 2011). In addition, the study's design will be dependant on the goals of the study, the constituency, or who is requesting the monitoring results, and ultimately, how the monitoring information will be used. Ideally, socioeconomic monitoring should be a priority and should be implemented immediately and tracked for the first five years to assure the projects success (Personal Communication, Nielsen 2011).

The type of study that is initiated will dictate whether the purpose of the study is exploratory, descriptive or explanatory. Exploratory studies are typically conducted when researchers are breaking new ground, want to better understand the issue at hand, test the feasibility of developing a more extensive study and/or develop

methods to employ in a subsequent study (Babbie 2010). Descriptive research is precise reporting or measurements and answers the what, when, how and where questions and explanatory research reports relationships among the area of study and answers the question, why (Ibid). In general, as socioeconomic research designs are conceptualized, more than one study type will be integrated in its design.

To illustrate utilizing multiple study types in assessing social systems affected by the 4FRI project, understanding the general public's perceptions will most likely take two types of research to adequately answer the monitoring questions. First, an exploratory study that consists of focus groups of the general public and personal interviews with land managers will provide information that is specific to the defined area of study (e.g. 1st Analysis Area, city, county, Forest etc.). Once this qualitative data is analyzed, this information will give researchers a basis for a more structured (quantitative/qualitative) descriptive and/or explanatory study that is geared towards the population in question. For example, if exploratory studies were conducted in the first and second analysis areas, commonalities and differences can be identified between the subpopulations and subsequently, questions relevant to both populations can be formulated as well as modules that are specific to each subpopulation.

Another key driver in the study's design is how the information will be used. If the constituency requesting monitoring data requires findings to be representative of the population in question, probability sampling must be employed. This occurs if all of the individuals in the population have an equal chance of being selected and the selection method is randomized. If this is the case, the results of the study can be generalized to the population as a whole (Babbie 2010). Probability sampling verifies the sample is not biased and enables estimates of the precision that the results reflect the study's population (Fowler 2002). These results can be statistically verified with a sampling error, the degree of inaccuracy in the sampling design, as well as a confidence level, that the results are representative of the population. Non-probability sampling can be appropriate when a complete list of the study's population is unavailable, resources are limited, study requirements do not dictate stringent probability sampling results or the purpose of the study is exploratory. For example, "purposive sampling" is appropriate when a select number of key informants provide information needed to understand the key issues and is either used to understand specific circumstances and/or develop a more stringent study that can be generalized to a broader population.

To all extent possible, in conducting the socioeconomic studies, assuring the results are reliable, they would consistently yield similar results and valid, they adequately represent the concept under consideration, should be an underpinning of the research design (Royse 2001). However, at times, there is a trade off between the two and the purpose of the study, the constituency and how the results will be used will assist in determining whether there is an emphasis on reliability or validity and/or whether this distinction is necessary.

Data Sources

Data sources listed in both the social and economic frameworks include both primary and secondary data. The social analyses primary data collection includes focus groups, interviews, surveys and content analysis. Secondary data sources for social analyses included reports by forests, government reports (city, county state and federal) and federal and private databases, such as Headwaters Institute and Firewise Communities USA.

The economic analyses primary data sources include contractor, visitor and business surveys. Secondary data for the economic analyses include various government reports (forest, municipal, state and federal), previous studies and government databases used in similar studies. As monitoring projects are developed and conducted, data sources in the frameworks will be reassessed and refined and new data sources will be added.

Literature Review

Generally, upon initiation of a socioeconomic study, background research through a literature review is conducted to assess previous research on the topic. More specifically, previous studies can assist with determining a study's design, questionnaire/protocol development, relevant data sources, various analyses that were used and, whether previous studies reveal consistent findings. In addition, this information can reveal whether there are consistent flaws in previous research that may be remedied (Babbie 2010).

Census Research

Census data provide information that is inclusive of all individuals in a population (Fowler 2002). Census data covers 200 specific topics that describe a population or a "community" that includes demographic information such as employment, education, income, a population's size, and "urban" versus "rural" communities (EPA 2002). Census data can also be used to verify the demographic data in the study group is reflective of the demographics of the area under study.

Survey Research

The choice of data collection mode, whether its through the mail, telephone, personal interviews or group administration will be based on the sampling frame, the research question, characteristics of the sample, required response rates, question format, availability of trained staff and facilities and funding available for the project (Fowler 2002).

Surveys are one of the best methods used to describe a population's attitudes and orientations that are too large to observe directly and provide a standardized measurement across individuals in a given population (Ibid). There are self-administered questionnaires and survey administered by interviewers. Self-administered surveys through the mail or on the Internet are generally less representative of a population due to typically low response rates. In administering Internet surveys, many times the population is not representative as the sampling frame is not inclusive of the entire population, nor is the Internet regularly accessible to a broader population. However, Internet surveys can be appropriate to populations that have known computer access, such as USFS employees. In general, telephone surveys delivered by a live interviewer tend to be the most reliable method to collect data as the response rate is much higher, thus revealing results that are more indicative of the group that is being studied. Also, telephone survey methodology, although not perfect, provides a sampling frame that is most inclusive of a population. A note of caution - automated telephone surveys will not yield reliable results for many reasons such as, the respondent's identity is not verified (e.g. a child on the phone), there may be screener questions that verifies specific information about a respondent in the household and there is no assurance that the question was understood and did not need to be repeated. In general surveys, coupled with valid operationalization of concepts through appropriately worded questions, provide uncanny accuracy of a population's beliefs and attitudes (Babbie 2010). In addition, data collection through surveys can also provide a population's characteristics (demographics) that can be linked to the responses thus, increasing understanding of specific group's perceptions or beliefs (EPA 2002).

Data collection of telephone surveys is streamlined through the use of computer programs, such as Computer Assisted Telephone Interviewing (CATI). These programs allow for survey question programming and results are recorded as the interview is conducted. Not only does this improve data collection entry error but also, the phone numbers in the sample are randomized (Random Digit Dialing -RDD) and shown on the screen for the interviewer to call. In addition, programs such as these allow for responses, whether they are closed- or open-ended, to be directly exported into programs such as Statistical Package for the Social Sciences (SPSS) for analysis. Nicholls et al.

reports use of programs such as CATI, are more efficient than conventional techniques (paper and pencil surveys) and do not affect data quality (cited in Babbie 2001:265).

For the 4FRI project, generally if researchers are seeking broad public opinion and attitudes about a number of issues, telephone surveys will yield results that can be generalized to the population. For more specific economic data, if secondary data is available from reliable sources, these will be used. In addition, primary data collected through self-administered surveys from contractors or others involved in the restoration process, are the best method, as contractors need to track the information and refer to their records. In collecting primary data from contractors, the sooner they are aware of these efforts and receive the survey forms/files, the easier it will be for them to track the necessary information.

Personal Interviews and Focus Groups

Personal interviews that occur face-to-face can be appropriate when the questions require: qualitative in-depth answers, high response rates, interviewer observation, longer interviews, rapport building and allow for multi data collection modes that could include diagrams (Fowler 2002). Personal interviews can include key informants that will provide valuable in-depth information such as, USFS personnel and community leaders such as, the County Board of Supervisors. Focus groups are a useful tool and usually engage 12-15 people in a guided discussion of a topic. The participants would not statistically represent segments of the population; therefore, this mode of observation is used to more deeply explore a topic and become more familiar with the issues under consideration (Babbie 2010). These results can be used to design a descriptive or explanatory study and/or used for strategic planning efforts (EPA 2002).

Content Analysis

Content analysis is used when various mediums of communication provide information in either a written form, such as newspaper articles, or in a multimedia format such as movies, speeches, photos etc. (C. Marshall and G. Rossman 2006; EPA 2002). These analyses reveal recorded historic human communication or the artifacts of a social group (Babbie 2010; Marshall and G. Rossman 2006). Content analysis will reveal what has been communicated and the analysis will answer the question “why” it was communicated and “what was the effect” of the communication (Babbie 2010). To complete the qualitative analyses of the various formats, a software program, NVivo (2012), can be used for evaluation of the data.

Collaborative Performance

The first collaborative performance evaluation has been conducted through a Survey Monkey instrument developed in conjunction with the 4FRI Stakeholders and the US Institute for Conflict Resolution (October 2011, Appendix E). In addition, a separate evaluation conducted by Northern Arizona University (W. Greer, E. Nielsen) and Colorado State University (T. Cheng) that includes a 4FRI Case History and a Collaborative Governance Case History will supplement the 4FRI Collaborative’s effectiveness and performance measures (May 2012). The intent is to track performance over time and to adaptively manage the Collaborative so that improvements are made to key areas identified by stakeholders.

Economic Analyses

Economic analyses are essential tools for planning, prioritizing and evaluating restoration projects (Robbins and Daniels 2011). Economics will provide a suite of tools to inform decision-making and improve transparency in

selecting projects (Ibid). Based on a recent review of literature in describing economic concepts in the context of ecological restoration, Robbins and Daniels (2011) outline decision-analysis frameworks that incorporate an inclusive array of restoration benefits and costs. A “travel costs method” is employed to determine values associated with recreational sites by assessing visitor time and expenditures. “Stated preference method” or assessing willingness to pay for environmental improvements is used when indirect values, such as watershed protection, are being assessed. The stated preference method can be measured by a “contingent valuation,” or how much individuals are willing to pay for a policy or project. As an alternative, an “experimental choice method” can be employed as a non-monetary valuation that asks individuals to choose from a set of alternatives and rank their preferences. “Benefit costs analysis” includes total benefits or revenues and costs (using a weighted distribution of each) of a project over time with a defensible discount rate. Alternatively, “cost effective analysis” can provide a framework to compare relative costs of alternative methods geared towards achieving the same outcome. Lastly, “multi-criteria decision analysis” uses nonmonetary values through relative quantitative or qualitative performance scores. This review also revealed that although direct costs and revenues should be easy to capture, they are rarely reported. To address this lack of accounting, as suggested early in this report, streamlining expenditure, revenue and employment data reporting with prepared protocols and contractor reporting forms as well as creating a centralized data base prior to project implementation, should assist in closing this gap.

Additionally, to capture local economic conditions, economic base theory, a causal model, can be employed that divides the local economy into two sectors: 1) a basic, or non-local and 2) non-basic, or local. This theory is grounded on the premise that the basic sector, or those businesses that are dependant on non-local firms to buy their products, is the driver of the local economy. Thus, the local economy is strongest when it is not dependant on local factors and can better insulate itself from local economic downturns. This distinction is important because the means of strengthening a local economy is to develop and enhance the basic sector (McClure 2009; Chapin 2004).

Prioritization

Although there are a multitude of monitoring objectives/questions in both the social and economic frameworks, due to identified preferences of the stakeholders and limitations in resources, objectives/questions need to be prioritized by the 4FRI Stakeholders . A basis for prioritizing the questions/objectives are issues and concerns that are relevant to the communities that are directly affected by the ensuing forest restoration efforts as well as those across the four Forests and the State.

In a study conducted by Egan and Estrada-Bustillo (2011), a model to prioritize socioeconomic indicators was developed through a Delphi process. Based on project objectives and availability of resources, results indicate there are three levels of indicators that include: 1) a core set that utilizes minimum effort at the forest or stand level; 2) includes the set of core indicators and balances ecological with socioeconomic dimensions and is used for long-term projects requiring more time and expertise and; 3) includes the first two sets of indicators; however, the primary focus is socioeconomic outcomes and is used across jurisdictions on landscape-scale projects and requires the highest level of expertise and resources. In addition to the recommended intensity of the socioeconomic monitoring, specific indicators can be weighted in using an average/median rating. Based on these results, overall socioeconomic objectives/questions can be identified, will provide guidance in selecting the best indicators for the assessment, and can guide resource allocation for a given project. Although prioritization is necessary, it is

Important to keep in mind, as socioeconomic studies are conducted, multiple monitoring questions can be addressed simultaneously, thus increasing the efficacy of the monitoring project and stakeholders can select groups of objectives/questions as priorities.

Adaptive Management

To complete the adaptive management loop, an initial assessment of the public's awareness, knowledge and support of pressing issues, as well as critical economic factors and conditions, is necessary to determine effects of outreach as well as implementation. Once these factors are understood, hypothesis testing of changes in behavior are developed, empirical data is collected and tracked to monitor the effectiveness of future outreach and implementation efforts. These steps tie back in to the logic model that explains what you are doing, the expected results and a series of outcomes from immediate to long-term (WKKF 2004). Using this model helps to identify whether the project is on-track and emphasizes learning as an ongoing process - an integral part of the evaluation and a critical component of the adaptive management model.

Included in the both the social and economic frameworks is a column "Management Action THEN..." that will be used to describe what needs to be done if an "Undesirable Condition," initially described as a qualitative statement, delineates a trend in the wrong direction. As the project matures, and a baseline is established and awarded contracts and contractors are determined, these triggers can be adjusted to more specific acceptable quantitative ranges that will indicate whether or not adaptive management is necessary for each specific objective/question that is being assessed. In describing the "THEN," stakeholders will need to work closely with the USFS in protocol development of recommended management actions. Additionally, economic forecasting models can be verified and refined with empirical data collected by the S&MWG.

According to a study conducted by Brown and Squirrell (2010), adaptive management is premised on flexibility and job security that enables risk taking. To integrate consistent adaptive management within the USFS, results from this study suggest the need to establish mutual trust between key stakeholders, such as other agencies, nongovernmental organizations, citizens, politicians and the courts, and the USFS. Due to the groundbreaking nature of the 4FRI project and the lack of science based adaptive management within the USFS, solidifying the adaptive management process is a critical step in ensuring the project's success. Stakeholders that are concerned about potential management outcomes are more likely to support management actions if they are confident results from these actions are carefully monitored (RVCC 2011). In the end, monitoring should not be viewed as an added expense, but as an instrument that can ultimately reduce overall costs by minimizing ineffective management practices and potentially reducing appeals and litigation (Ibid).

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Appendix A

LANDSCAPE RESTORATION STRATEGY FOR THE FIRST ANALYSIS AREA DESIRED CONDITIONS

Desired Conditions

Desired conditions (DCs) are defined for the 4FRI area as a set of ecological, social, and economic objectives established as both qualitative aspirations and measureable outcomes of forest restoration activities. The DCs are long-term goals and are different from post-treatment conditions and near-term plant community responses, which are regarded as milestones toward meeting landscape-scale forest restoration objectives. Restoration treatments should put forest ecosystems on a trend toward their natural structure, composition and patterns and facilitate the re-establishment of self-regulating processes consistent with reference conditions. An adaptive management approach would be implemented to promote flexible decision-making that can be adjusted in the face of uncertainty as outcomes from management actions and other events become better understood.

Spatial Scale

DCs for ponderosa pine forests are identified within the 4FRI area at three spatial scales and extents:

- i. *Landscape*— 2.4 million acres in size, encompasses the entire 4FRI project area
- ii. *Analysis area*— ~750,000 acres in size, encompasses the entire analysis area contained in 4FRI's first Environmental Impact Statement (EIS)
- iii. *Firescapes 6* -(>200,000 acres) are a unit of analysis for comparing current base- line forest conditions and desired future conditions as a result of strategic forest restoration activities.

Landscape Desired Conditions

Economics:

- i. The byproducts of mechanical forest restoration offset the costs of treatment implementation.
- ii. The economic value of ecosystem services provided by restored forests (such as the value of recreation or water) are captured and re-invested to support forest restoration and ecosystem management.
- iii. Rural communities receive direct and indirect economic benefits and ecosystem services as a result of forest restoration and resilient forests.

Social Systems

- i. There is broad public awareness, understanding/knowledge and support for collaboratively based forest restoration decisions, processes, and outcomes, including the use of fire as a management tool.
- ii. Social values and recreational opportunities are protected and/or enhanced through forest restoration activities.
- iii. Rural communities are protected from high-severity fire and their quality of life is enhanced through forest restoration.
- iv. Rural communities play an active part in reducing fire risk by implementing FIREWISE actions and creating defensible space around their property.

v. There is broad public support for the 4FRI collaborative as forest restoration activities are implemented.

Analysis Area Desired Conditions

Economics:

- i. The average net cost of treatment per acre for all treatments in the analysis area over a ten year period is reduced significantly.
- ii. Sufficient harvest and manufacturing capacity exists to achieve restoration of at least 300,000 acres in the next ten years.
- iii. Rural communities in the analysis area experience economic benefits and improved ecosystem services associated with a restored forest and reduced high-severity fire risk.

Social Systems

- i. A majority of the general public is aware, knowledgeable and supportive of 4FRI related plans and implemented treatments within the analysis area.
- ii. The general public is aware of 4FRI educational and outreach programs and has the opportunity to participate in the 4FRI effort.
- iii. Treatments within the analysis area minimize short-term impacts and enhance vegetation characteristics valued by Forest users over the long-term.
- iv. 4FRI restoration efforts maintain and/or enhance the quality of life of residents in the analysis area.

Firescape Desired Conditions

Economics:

- i. Fire management costs are reduced; aggressive fire suppression is unneeded or rare.
- ii. Mechanical treatment costs are reduced.

Social Systems

- i. There is low potential for fires to enter communities.
- ii. Rural communities play an active part in reducing fire risk by implementing FIREWISE actions and creating defensible space around their property.
- iii. Strategically placed treatments allow fire managers to safely manage planned and unplanned natural ignition fires without loss of human life and property, or severe environmental impacts.
- iv. Strategically placed treatments allow fire managers to manage planned and unplanned natural ignition fires in locations, seasons, and conditions that maximize smoke dispersion and minimize smoke impacts.
- v. Emissions factors are reduced as fires burn more grass and less green or woody biomass over time.
- vi. The public understands, accepts, and supports fire's natural role in forest ecosystems.

Appendix B

Table 1. Changes to the Desired Conditions from the Landscape Restoration Strategy for the First Analysis Area

<i>Social Systems</i>		
<i>Original Desired Condition (DC)</i>	<i>Modified Desired Condition (DC)</i>	<i>Reason</i>
A majority of the general public is aware, knowledgeable and supportive of 4FRI related plans and implemented treatments within the analysis area.	The general public is aware, knowledgeable and supportive of 4FRI implemented treatments within the analysis area.	A majority of the general public is aware, knowledgeable and supportive of 4FRI related <u>plans</u> is a duplicate DC. Omitted “majority” as this will be a relative measure distinguishing success with an increase from pre- to post.
4FRI restoration efforts maintain and/or enhance the quality of life of residents in the analysis area.	n/a	Duplicate DC
There is low potential for fires to enter communities.	n/a	Duplicate DC
Rural communities play an active part in reducing fire risk by implementing FIREWISE actions and creating defensible space around their property.	n/a	Duplicate DC
Strategically placed treatments allow fire managers to manage planned and unplanned natural ignition fires in locations, seasons, and conditions that maximize smoke dispersion and minimize smoke impacts.	The public is knowledgeable/understands, accepts/supports the byproduct of smoke from prescribed and managed fires.	Not applicable as a social DC, operational. Same DC addressed in the Biophysical Monitoring document (Process section).
Emissions factors are reduced as fires burn more grass and less green or woody biomass over time.	The public is knowledgeable/understands, accepts/supports the byproduct of smoke from prescribed and managed fires.	Not applicable as a social DC, operational. Same DC addressed in the Biophysical Monitoring document (Composition section).
Strategically placed treatments allow fire managers to safely manage planned and	The public is knowledgeable/understands, accepts/supports the byproduct	Not applicable as a social DC, operational.

unplanned natural ignition fires without loss of human life and property, or severe environmental impacts.

of smoke from prescribed and managed fires.

Table 2. Changes to the Desired Conditions from the Landscape Restoration Strategy for the First Analysis Area

<i>Economics</i>		
<i>Original Desired Condition (DC)</i>	<i>Modified Desired Condition (DC)</i>	<i>Reason</i>
Rural communities in the analysis area experience economic benefits and improved ecosystem services associated with a restored forest and reduced high-severity fire risk.	Rural communities in the analysis area experience economic benefits and improved ecosystem services associated with reduced high-severity fire risk.	Rural communities in the analysis area experience economic benefits and improved ecosystem services associated with a restored forest a duplicate DC.
The average net cost of treatment per acre for all treatments in the analysis area over a ten-year period is reduced significantly.	The average net cost per acre of treatment and/or prep, administrative costs in the 4FRI project/analysis area are reduced significantly.	The 4FRI project expects to award 10-year contracts over a period of 30 years. Therefore, can measure difference between contracts. For the analysis area, can determine whether prep, admin costs decrease and the difference between these costs of restoration designations, such as prescription vs description, vs, marking).
Rural communities in the analysis area experience economic benefits and improved ecosystem services associated with reduced high-severity fire risk.	n/a	Similar to DC: Rural communities receive direct and indirect economic benefits and ecosystem services as a result of forest restoration and resilient forests.
Fire management costs are reduced; aggressive fire suppression is unneeded or rare.	Wildfire management costs are reduced; aggressive fire suppression is unneeded or rare.	Changed “Fire management...” to “Wildfire management costs...” Since there is the ecological management goal of increasing the ability to allow ignited fires to burn, costs of all fire management will not

Mechanical treatment costs are reduced.	n/a	decrease; they will in fact increase.
		This was added as an objective for the DC: The average net cost per acre of treatment and/or prep, administrative costs in the 4FRI project/analysis area are reduced significantly.
USFS administrative costs and treatment costs are reduced.	n/a	Duplicate DC

Appendix C: Four Forest Restoration Initiative Socioeconomic Monitoring Framework

Objective	Monitoring Question	Monitoring Indicator(s) (Metric)	Assessment	Frequency of Assessment	Data Source	Threshold IF... (Undesirable Conditions)	Management Action THEN...*	Cost *
SOCIAL SYSTEMS								
I. GOAL: There is broad public awareness, understanding, knowledge and support for collaboratively based forest restoration decisions, processes, and outcomes, including the use of fire as a management tool.								
There is broad public awareness for collaboratively based forest restoration.	Is the public aware of the collaboratively-based 4FRI forest restoration project (e.g. current decisions, processes and outcomes)?	Awareness of the collaboratively-based 4FRI forest restoration project (e.g. current decisions, processes and outcomes).	1. Focus groups with community members. 2. Interviews with land managers/key decision-makers. 3. Telephone survey with	Pre- post-implementation/outreach. Track annually for first 5 years post.	Focus group, interview and survey results.	The public is unaware of the collaboratively-based 4FRI forest restoration project (e.g. current decisions, processes and outcomes).		
There is broad public understanding/knowledge for collaboratively based forest restoration.	Is the public knowledgeable of the collaboratively-based 4FRI forest restoration efforts (e.g. current decisions, processes and outcomes).?	Public's understanding/knowledge for collaboratively-based forest restoration.	1. Focus groups with community members. 2. Interviews with land managers/key decision-makers.. 3. Telephone	Pre- post-implementation/outreach. Track annually for first 5 years post.	Focus group, interview and survey results.	The public is not knowledgeable of collaboratively-based forest restoration.		

There is broad public support/acceptance for collaboratively based forest restoration.	Is there broad public support/acceptance for the collaboratively-based 4FRI forest restoration project (e.g. current decisions, processes and outcomes)?	Support /acceptance for collaboratively-based 4FRI forest restoration project (e.g. current decisions, processes and outcomes).	1. Focus groups with community members. 2. Interviews with land managers/key decision-makers.. 3. Telephone survey with	Pre- post-implementation/outreach. Track annually for first 5 years post.	Focus group, interview and survey results.	The public does not support/accept collaboratively-based forest restoration.		
Number of appeals and lawsuits for 4FRI projects are minimized.	Are the number of appeals and lawsuits for 4FRI projects at a minimum and/or decreasing?	Number & length of time of lawsuits.	Appeals database available at: www.fs.fed.us/forum/nepa (Cortner et. al 2003).	Track annually for first 5 years post/analysis area.	Appeals database available at: www.fs.fed.us/forum/nepa (Cortner et. al 2003).	Appeals and lawsuits for 4FRI projects are delaying project implementation.		
There is broad public awareness for the use of fire as a management tool.	Is the public aware of the use of fire as a management tool?	Public awareness for the use of fire as a management tool.	1. Focus groups with community members. 2. Interviews with land managers/key decision-makers. 3. Telephone survey with	Pre- post-implementation/outreach. Track annually for first 5 years post.	Focus group, interview and survey results.	The public is unaware of the use of fire as a management tool.		
There is broad public understanding/ knowledge for the use of fire as a management tool.	Does the public understand/have knowledge of the use of fire as a management tool?	Public understanding/ knowledge for the use of fire as a management tool.	1. Focus groups with community members. 2. Interviews with land managers/key decision-makers. 3. Telephone survey with	Pre- post-implementation/outreach. Track annually for first 5 years post.	Focus group, interview and survey results.	The public does not have the understanding/ knowledge for the use of fire as a management tool.		

There is broad public support/acceptance for the use of fire as a management tool.	Does the public support/accept the use of fire as a management tool?	Public support/acceptance for the use of fire as a management tool.	1. Focus groups with community members. 2. Interviews with land managers/key decision-makers. 3. Telephone survey with	Pre- post-implementation/outreach. Track annually for first 5 years post.	Focus group, interview and survey results.	The public does not support/accept the use of fire as a management tool.		
II. GOAL: The public is knowledgeable/understands, accepts/supports the byproduct of smoke from prescribed and managed fires.								
The public is knowledgeable/ understands the byproduct of smoke from prescribed/managed/pile fires (presence & duration.)	Is the public knowledgeable/ understands why prescribed/managed/pile fires are necessary and will have the byproduct of smoke?	Public knowledgeable/ understanding of why prescribed fire is necessary and will have the byproduct of smoke.	1. Focus groups with community members. 2. Interviews with land managers/key decision-makers. 3. Telephone survey with residents in study	Pre- post-implementation/outreach. Track annually for first 5 years post.	Focus group, interview and survey results.	Public does not understand why prescribed fire is necessary and will have the byproduct of smoke.		
The public accepts/supports the byproduct of smoke from prescribed/managed/pile fires (presence & duration.).	Does the public accepts/support the byproduct of smoke from prescribed/managed/pile fires?	Public acceptance/support of the byproduct of smoke from prescribed fire.	1. Focus groups with community members. 2. Interviews with land managers/key decision-makers.. 3. Telephone survey with residents in study area. 4. USFS complaint logs.	Pre- post-implementation/outreach. Track annually for first 5 years post.	Focus group, interview and survey results.	Public does not accept/support the byproduct of smoke from prescribed fire.		

III. GOAL: The public understands, accepts, and supports fire's natural role in forest ecosystems.

The public understands fire's natural role in forest ecosystems.	Does the public understand fire's natural role in forest ecosystems?	Public understanding fire's natural role in forest ecosystems.	1. Focus groups with community members. 2. Interviews with land managers/key decision-makers. 3. Telephone survey with	Pre- post-implementation/outreach. Track annually for first 5 years post.	Focus group, interview and survey results.	Public does not understand fire's natural role in forest ecosystems.		
The public accepts/ supports fire's natural role in forest ecosystems.	Does the public accept/support fire's natural role in forest ecosystems?	Public acceptance/ support for fire's natural role in forest ecosystems.	1. Focus groups with community members. 2. Interviews with land managers/key decision-makers. 3. Telephone	Pre- post-implementation/outreach. Track annually for first 5 years post.	Focus group, interview and survey results.	Public does not accept/ support fire's natural role in forest ecosystems.		

IV. GOAL: Rural communities are protected from high-severity fire and their quality of life is enhanced through forest restoration.

Rural communities' risks from high-severity fire are reduced.	Is the frequency and size of high severity fires decreasing?	1. Frequency of wildfires. 2. Size (acres) of wildfires.	Frequency and & size of wildfires 5 yrs. post-4FRI implementation vs. frequency and duration of wildfires 5 yrs. pre-4FRI	5 years	USFS by Forests (GFFP 2010).	Rural communities' risk from high-severity fire are not decreasing.		
Rural community residents' perceived risk of high-severity fire are reduced.	[If frequency and size of high severity fires are decreasing] Do rural community residents' perceive rural communities are being protected from high-severity fire?	Rural community residents' perception of risk of high severity fires.	1. Focus groups with community members. 2. Interviews with land managers/key decision-makers. 3. Telephone	Pre- post-implementation/outreach. Track annually for first 5 years post.	Focus group, interview and survey results.	Rural community residents' perceived risk of high-severity fire are not decreasing.		
Landowners adjacent to or in the proximity of the four forests (e.g. state, private, tribal, municipal, etc.) are encouraged to participate in restoring all forested lands in Northern Arizona.	Q1: Are landowners adjacent to or in the proximity of the four forests participating in restoring their forested lands? Q2: What programs are in place to encourage land owners to treat their lands?	Q1/Q2: 1. Land ownership, location, number and total \$ value of: State Fire Assistance grants, Tribal Forest Protection Act, AZ Forest Health Program, Forest Stewardship Program, etc. 2. Fire behavior including adjacent non-	Q1: Tracking land ownership/location and respective treatments (fire behavior). Q2: 1. Tracking outreach efforts to state, private, tribal, municipal landowners. 2. Tracking land ownership, location number and total \$ value	5 years	1. Headwaters Institute. 2. State, private, tribal, municipal grant/project reports. 3. USFS by Forests. 4. 4FRI Stakeholder Group.	Landowners adjacent to or in the proximity of the four forests (e.g. state, private, tribal, municipal, etc.) are not encouraged to participate/are not restoring forested lands in Northern Arizona.		

V. GOAL: Social values and recreational opportunities are protected and/or enhanced through forest restoration activities.

<p>Recreational opportunities are protected through forest restoration activities.</p>	<p>Q1: Are recreational opportunities protected as restoration projects are implemented? Q2: Does the public perceive recreational opportunities are protected through forest restoration activities?</p>	<p>Q1: Number & type of recreational activities. Q2: Public perception of protection of recreational opportunities through forest restoration activities.</p>	<p>Q1: Analysis of USFS, AZG&F, USFWS reports. Q2: 1. Focus groups with community members. 2. Interviews with land managers/key decision-makers. 3. Telephone survey with residents in study area.</p>	<p>Pre- post-implementation/outreach. Track annually for first 5 years post.</p>	<p>Q1: 1. National Visitor Use Monitoring Program (USFS 2005). 2. Headwaters Institute 3. AZG&F The Economic Importance of Fishing and Hunting (utilizes IMPLAN input/output model) (AZG&F 2001). 4. USFWS National Survey of Fishing, Wildlife, Hunting, & Wildlife</p>	<p>Recreational opportunities are not protected as forest restoration activities occur.</p>		
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<p>Recreational opportunities are enhanced through forest restoration activities.</p>	<p>Q1: Are recreational opportunities improving as restoration projects are implemented? Q2: Does the public perceive recreational opportunities are improving as forest restoration activities are occurring?</p>	<p>Q1: Number & type of recreational activities. Q2: Public perception of improving recreational opportunities as forest restoration activities are occurring.</p>	<p>Q1: 1. Analysis of USFS, AZG&F, USFWS reports. 2. Visitor surveys Q2: 1. Focus groups with community members. 2. Interviews with land</p>	<p>Pre- post-implementation/ outreach. Track annually for first 5 years post.</p>	<p>As above.</p>	<p>Q1: Recreational opportunities are not improving as restoration projects are implemented. Q2: Public perceives recreational opportunities are not improving as forest restoration activities are occurring.</p>		
<p>Aesthetic values are protected through forest restoration activities.</p>	<p>Does the public perceive aesthetic values are protected through forest restoration activities?</p>	<p>Public perception that aesthetic values are protected through forest restoration activities.</p>	<p>1. Focus groups with community members. 2. Interviews with land managers/key decision-makers. 3. Telephone survey with residents in study area. 4. Comparative analysis of field trips to treated vs. untreated sites</p>	<p>1. Pre- post-implementation/ outreach. Track annually for first 5 years post.</p>	<p>1. Focus group, interview and survey results. 2. Headwaters Institute.</p>	<p>The public perceives that aesthetic values are not being protected as forest restoration activities are occurring.</p>		

<p>Aesthetic values are enhanced through forest restoration activities.</p>	<p>Does the public perceive aesthetic values are enhanced through forest restoration activities?</p>	<p>Public perception that aesthetic values are enhanced through forest restoration activities.</p>	<ol style="list-style-type: none"> 1. Focus groups with community members. 2. Interviews with land managers/key decision-makers. 3. Telephone survey with residents in study area. 4. Comparative analysis of field trips to treated vs. untreated sites (*timing 	<p>1. Pre- post-implementation/ outreach. Track annually for first 5 years post.</p>	<ol style="list-style-type: none"> 1. Focus group, interview and survey results. 2. Headwaters Institute. 	<p>The public perceives that aesthetic values are not enhanced as forest restoration activities are occurring.</p>		
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VI. GOAL: Rural communities play an active part in reducing fire risk by implementing FireWise actions and creating defensible space around their property.

Rural community residents are aware/knowledgeable of FireWise principles/FireWise communities.	Are rural community residents aware/knowledgeable of FireWise principles/FireWise communities?	Public awareness/knowledge for FireWise principles.	1. Focus groups with community members. 2. Interviews with fire prevention managers. 3. Telephone survey with	Pre- post-implementation/outreach. Track annually for first 5 years post.	Focus group, interview and survey results.	Rural community residents are unaware/not knowledgeable of FireWise principles/FireWise communities.		
Rural community residents are aware/knowledgeable of implementing defensible space.	Are rural community residents aware/knowledgeable of implementing defensible space?	Public awareness/knowledge of implementing defensible space.	1. Focus groups with community members. 2. Interviews with fire prevention managers. 3. Telephone survey with	Pre- post-implementation/outreach. Track annually for first 5 years post.	Focus group, interview and survey results.	Rural community residents are unaware/not knowledgeable of implementing defensible space.		
Number of communities that are recognized as FireWise increases.	Are the number of communities that are recognized as FireWise increasing?	Number of communities recognized as FireWise.	Track # of communities recognized as Firewise.	Pre- post-implementation /outreach. 5 years.	Firewise Communities USA (http://www.firewise.org/Communities/USA-Recognition).	Number of communities that are recognized as FireWise is not increasing.		

VII. GOAL: There is broad public support for the 4FRI Collaborative as forest restoration activities are implemented.

The public is aware of the 4FRI Collaborative.	Is the public aware of the 4FRI Collaborative?	Public awareness of the 4FRI Collaborative.	1. Focus groups with community members. 2. Interviews with land managers/key decision-makers. 3. Telephone survey with	Pre- post-implementation/outreach. Track annually for first 5 years post.	Focus group, interview and survey results.	The public is not aware of the 4FRI Collaborative.		
The public is knowledgeable/understands the 4FRI Collaborative's role in the 4FRI Initiative.	Is the public knowledgeable/understands the 4FRI Collaborative's role in the 4FRI Initiative?	Public's knowledge of the 4FRI Collaborative's role in the 4FRI Initiative.	1. Focus groups with community members. 2. Interviews with land managers/key decision-makers. 3. Telephone survey with residents in study	Pre- post-implementation/outreach. Track annually for first 5 years post.	Focus group, interview and survey results.	The public does not understand the 4FRI Collaborative's role in the 4FRI Initiative.		

The public is supportive of the 4FRI Collaborative.	Is the public supportive of the 4FRI Collaborative?	Public support for the 4FRI Collaborative.	1. Focus groups with community members. 2. Interviews with land managers/key decision-makers. 3. Telephone survey with residents in study area.	Pre- post-implementation/outreach. Track annually for first 5 years post.	Focus group, interview and survey results.	The public is not supportive of the 4FRI Collaborative.		
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VIII. GOAL: There is public support for the US Forest Service (USFS) as forest restoration activities are implemented.

The public is aware of the USFS's involvement/role with the 4FRI Collaborative.	Is the public aware of the USFS's involvement/role with the 4FRI Collaborative?	Public awareness for the USFS's involvement/role with the 4FRI Collaborative.	1. Focus groups with community members. 2. Interviews with land managers/key decision-makers.. 3. Telephone survey with	Pre- post-implementation/outreach. Track annually for first 5 years post.	Focus group, interview and survey results.	The public is not aware of the USFS's involvement/role with the 4FRI Collaborative.		
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The public is aware of the USFS's involvement with the 4FRI Project.	Is the public aware of the USFS's involvement with the 4FRI Project?	Public awareness for the USFS's involvement/role with the 4FRI Project.	1. Focus groups with community members. 2. Interviews with land managers/key decision-makers. 3. Telephone	Pre- post-implementation/outreach. Track annually for first 5 years post.	Focus group, interview and survey results.	The public is not aware of the USFS's involvement with the 4FRI Project.		
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The public is supportive of the USFS's involvement with the 4FRI Collaborative.	Is there public support/acceptance for the USFS's involvement with the 4FRI Collaborative?	Public support for the USFS's involvement with the 4FRI Collaborative.	1. Focus groups with community members. 2. Interviews with land managers/key decision-makers. 3. Telephone survey with	Pre- post-implementation/outreach. Track annually for first 5 years post.	Focus group, interview and survey results.	The public is not supportive of the USFS's involvement with the 4FRI Collaborative.		
The public is supportive of the USFS's involvement with the 4FRI Project.	Is there public support/acceptance for the USFS's involvement with the 4FRI Project?	Public support for the USFS's involvement with the 4FRI Project.	1. Focus groups with community members. 2. Interviews with land managers/key decision-makers. 3. Telephone survey with	Pre- post-implementation/outreach. Track annually for first 5 years post.	Focus group, interview and survey results.	The public is not supportive of the USFS's involvement with the 4FRI Project.		

IX. GOAL : The general public is aware, knowledgeable and supportive of 4FRI implemented treatments within the analysis area.

The general public is aware of 4FRI implemented treatments within the analysis area.	Is the general public aware of 4FRI implemented treatments within the analysis area?	Public awareness of 4FRI implemented treatments within the analysis area.	1. Focus groups with community members. 2. Interviews with land managers/key decision-makers. 3. Telephone survey with	Pre- post-implementation/outreach. Track annually for first 5 years post.	Focus group, interview and survey results.	The general public is unaware of 4FRI implemented treatments within the analysis area.		
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<p>The general public is knowledgeable/ understands 4FRI implemented treatments (mechanical thinning, road alteration, etc. as necessary tools) for ecological restoration within the analysis area.</p>	<p>Is the general public knowledgeable/ understands 4FRI implemented treatments for ecological restoration within the analysis area?</p>	<p>Public knowledge/ understanding 4FRI implemented treatments (mechanical thinning, road alteration, etc.) as necessary tools for</p>	<p>1. Focus groups with community members. 2. Interviews with land managers/key decision-makers. 3. Telephone survey with residents in study area.</p>	<p>Pre- post-implementation/outreach. Track annually for first 5 years post.</p>	<p>Focus group, interview and survey results.</p>	<p>The general public is not knowledgeable/does not understand 4FRI implemented treatments (mechanical thinning, road alteration, etc.) as necessary tools for ecological restoration within the analysis area.</p>		
<p>The general public is supportive of 4FRI implemented treatments within the analysis area.</p>	<p>Is the general public supportive of 4FRI implemented treatments within the analysis area?</p>	<p>Public support for 4FRI implemented treatments within the analysis area.</p>	<p>1. Focus groups with community members. 2. Interviews with land managers/key decision-makers.. 3. Telephone survey with</p>	<p>Pre- post-implementation/outreach. Track annually for first 5 years post.</p>	<p>Focus group, interview and survey results.</p>	<p>The general public is not supportive of 4FRI implemented treatments within the analysis area.</p>		

There is ample notification to the public of 4FRI implemented projects that may include road construction, mechanical thinning, prescribed and managed fires, etc.	<p>Q1: Does the public believe there is ample notification of restoration projects?</p> <p>Q2: What campaigns and public notifications are in place to inform the public of restoration treatments and/or prep for those treatments?</p>	<p>Q1: Public perception of notification of restoration projects/activities .</p> <p>Q2: Website postings, newspaper, radio, direct signage in the forest, 4FRI 800#, etc.</p>	<p>Q1: 1. Focus groups with community members. 2. Interviews with land managers/key decision-makers. 3. Telephone survey with residents in study area.</p> <p>Q2: Number, type, content analysis of public campaigns/ notifications</p>	<p>Q1: Pre-post-implementation/outreach. Track annually for first 5 years post.</p> <p>Q2: Annual</p>	<p>Q1: Focus group, interview and survey results.</p> <p>Q2: Results from content analysis.</p>	<p>Q1: Public perception of notifications of 4FRI implemented projects is not sufficient (road construction, mechanical thinning, prescribed and managed fires, etc.).</p> <p>Q2: An insufficient amount of campaigns and public notifications are in place to adequately inform the public of restoration treatments and/or prep for those</p>		
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X. GOAL: The general public is aware of 4FRI educational and outreach programs and has the opportunity to participate in the 4FRI effort.

The general public is aware of 4FRI educational and outreach programs.	Is the general public aware of 4FRI educational and outreach programs?	Public awareness of 4FRI educational and outreach programs.	<p>1. Focus groups with community members.</p> <p>2. Interviews with land managers/key decision-makers.</p> <p>3. Telephone survey with</p>	Pre- post-implementation/outreach. Track annually for first 5 years post.	Focus group, interview and survey results.	The general public is unaware of 4FRI educational and outreach programs.		
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The general public has the opportunity to participate in the 4FRI educational and outreach programs.	Does the general public have the opportunity to participate in the 4FRI educational and outreach programs?	Public's opportunity to participate in the 4FRI educational and outreach programs.	<ol style="list-style-type: none"> 1. Focus groups with community members. 2. Interviews with land managers/key decision-makers. 3. Telephone survey with residents in study area. 4. Number, 	Annual	<ol style="list-style-type: none"> 1. Focus group, interview and survey results. 2. USFS by forest. 3. 4FRI Collaborative Stakeholder group. 	The general public has not had ample opportunity to participate in the 4FRI educational and outreach programs.		
Youth are aware of 4FRI educational and outreach programs.	Are youth aware of 4FRI educational and outreach programs?	Youth awareness for 4FRI educational and outreach programs.	<ol style="list-style-type: none"> 1. Focus groups with community members. 2. Interviews with land managers/key decision-makers. 3. Telephone 	Pre- post- implementati on/outreach. Track annually for first 5 years post.	Focus group, interview and survey results.	Youth are not aware of 4FRI educational and outreach programs.		

<p>Youth has the opportunity to participate in the 4FRI educational and outreach programs.</p>	<p>Do youth have the opportunity to participate in the 4FRI educational and outreach programs?</p>	<p>Opportunities for youth to participate in the 4FRI educational and outreach programs.</p>	<ol style="list-style-type: none"> 1. Focus groups with community members. 2. Interviews with land managers/key decision-makers. 3. Telephone survey with residents in study area. 4. Survey local youth group coordinators. 5. Number, frequency, type 	<p>Pre- post-implementation/outreach. Track annually for first 5 years post.</p>	<p>Focus group, interview and survey results.</p>	<p>Youth have not had ample opportunity to participate in the 4FRI educational and outreach programs.</p>		
<p>Low income/minority populations are aware of 4FRI educational and outreach programs.</p>	<p>Are low income/minority populations aware of 4FRI educational and outreach programs?</p>	<p>Awareness of low income/minority populations of 4FRI educational and outreach programs.</p>	<ol style="list-style-type: none"> 1. Focus groups with community members. 2. Interviews with land managers/key decision-makers. 3. Telephone survey with residents in study area. 4. Oversample low income/minority populations. 5. Number, frequency, type of outreach 	<p>Pre- post-implementation/outreach. Track annually for first 5 years post.</p>	<p>Focus group, interview and survey results.</p>	<p>Low income/minority populations are unaware of 4FRI educational and outreach programs.</p>		

<p>Low income/minority populations has the opportunity to participate in the 4FRI educational and outreach programs.</p>	<p>Do low income/minority populations have the opportunity to participate in the 4FRI educational and outreach programs?</p>	<p>Low income/minority populations opportunity to participate in the 4FRI educational and outreach programs.</p>	<ol style="list-style-type: none"> 1. Focus groups with community members. 2. Interviews with land managers/key decision-makers. 3. Telephone survey with residents in study area. 4. Oversample low income/minority populations. 5. Number, frequency, type of outreach 	<p>Pre- post-implementation/outreach. Track annually for first 5 years post.</p>	<p>Focus group, interview and survey results.</p>	<p>Low income/minority populations have not had ample opportunity to participate in the 4FRI educational and outreach programs.</p>		
<p>The general public has the opportunity to participate in the 4FRI effort.</p>	<p>Does the general public have the opportunity to participate in the 4FRI effort?</p>	<p>Public's opportunity to participate in the 4FRI effort.</p>	<ol style="list-style-type: none"> 1. Focus groups with community members. 2. Interviews with land managers/key decision-makers. 3. Telephone survey with residents in study area. 4. Number, frequency, type of outreach programs for public 	<p>Pre- post-implementation/outreach. Track annually for first 5 years post.</p>	<p>Focus group, interview and survey results.</p>	<p>The general public has not had ample opportunity to participate in the 4FRI effort.</p>		

XI. GOAL: Treatments within the analysis area minimize short-term impacts and enhance vegetation characteristics valued by Forest users over the long-term.

<p>Treatments within the analysis area minimize short-term impacts such as skid trails, decks, excessive slash, roads etc.</p>	<p>Q1: What are the short-term impacts of concern to Forest users? Q2: Are treatments within the analysis area minimizing short-term impacts such as: skid trails, decks, excessive slash, roads etc.?</p>	<p>Q1: Treatments' short-term impacts of concern to forest users. Q2: Public's perception of short-term impacts of treatments.</p>	<p>Q1: Review BMP monitoring reports. Q2: 1. Focus groups with community members. 2. Interviews with land managers/key decision-makers. 3. Telephone survey with residents in study</p>	<p>Pre- post-implementation/outreach. Track annually for first 5 years post.</p>	<p>Q1: BMP Reports Q2: Focus group, interview, field trip and survey results.</p>	<p>Treatments within the analysis area are not minimizing short-term impacts of concern to forest users (e.g. skid trails, decks, excessive slash, etc.).</p>		
<p>Treatments within the analysis area enhance vegetation characteristics valued by Forest users over the long-term.</p>	<p>Q1: What are the vegetative characteristics valued by Forest users over the long-term? Q2: Do these treatments enhance vegetation characteristics valued by Forest users over the long-term?</p>	<p>Q1: Vegetative characteristics valued by Forest users over the long-term. Q2: Public's perception of vegetative characteristics that are valued by Forest users</p>	<p>1. Focus groups with community members. 2. Interviews with land managers/key decision-makers. 3. Telephone survey with residents in study area.</p>	<p>Pre- post-implementation/outreach. Track in 10-year increments over life of project.</p>	<p>Focus group, interview and survey results.</p>	<p>Treatments within the analysis area do not enhance vegetation characteristics that are valued by Forest users over the long-term.</p>		

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*Columns "Management Action Then" and "Monitoring Costs" will be completed

References included in this table are listed in the Socioeconomic Monitoring report.

Appendix D: Four Forest Restoration Initiative Socioeconomic Monitoring Framework

Objective	Monitoring Question	Monitoring Indicator(s) (Metric)	Assessment	Frequency of Assessment	Data Source	Threshold IF... (Undesirable Conditions)	Management Action THEN... *	Monitoring Cost *
ECONOMIC								
GOAL: The byproducts of mechanical forest restoration offset the costs of treatment implementation.								
Wood byproduct sales exceed the costs of implementation (Contractors are operating at a profit and the USFS does not have to pay contractors' treatment costs).	Q1: Do byproduct sales exceed operational costs? Q2: Are treatments adequately sequenced to enable contractors to offset their overall operational costs? Q3: Are USFS contracting costs decreasing?	Q1: 1. Operational costs of treatments: a. Mobilization: to move equipment from site to site, to move operators (daily) from homebase to site. b. Loading: cutting, skidding, delimiting, piling slash, loading stems. c. Haul: transport costs from landing to processing site (time & distance). 2. Amount of wood and its value (4FRI 11/2010). 3. Degree of deviation from business plan(s). Q2: 1. # of task orders and location. 2. Wood yields/task	Q1: Operational costs of treatments vs. amount of wood & its value (4FRI 11/2010). Q2: Average wood yields vs. # of task orders balanced on a semi-annual or quarterly basis (4FRI 11/2010).	Dependent on business plan(s).	1. Contractor surveys 2. USFS business plans (PC: D. Jaeorski 2011). 3. Contracts: federal databases a. USAspending.gov b. USFS Natural Resource Manager Database (UO 2011). 4. Headwaters Institute	Q1: Operational costs of treatments exceeds byproduct sales. Q2: Average wood yields per #s of task orders do not support contractors operating at a profit.		

GOAL: The economic value of ecosystem services provided by restored forests (such as the value of recreation or water) are captured and reinvested to support forest restoration and ecosystem management.

<p>The economic value of ecosystem services provided by restored forests, such as <i>the value of recreation/tourism</i>, are captured and re-invested to support forest restoration and ecosystem management.</p>	<p>Q1: What is the increase (%) in direct service revenues related to recreation/tourism? Q2: What is the increase (%) in revenues associated w/fee imposed recreation activities (e.g. hunting, fishing, pass/entry fees etc.)? Q3: 1. Has a portion of the determined value of increased recreational revenues been reinvested in forest restoration? 2. How many collaborators are</p>	<p>Q1: 1. Lodging, 2. Restaurant, 3. Groceries, 4. Gas/Oil, 5. Other transportation, 6. Activities, 7. Admissions/Fees, 8. Souvenirs/Other, expenditures (USFS 2005). Q2: 1. AZG&F license sales by County. 2. Visitor fees. Q3: Dollar value of fees invested in forest restoration activities</p>	<p>Q1-Q3: Travel cost method using: USFS, AZG&F, USFWS reports tracked with investments made in forest restoration from fees/licenses/private revenues.</p>	<p>5 years (USFS 2005; USFWS 2006)</p>	<p>Q1: 1. National Visitor Use Monitoring Program (USFS 2005). 2. Headwaters Institute Q2: 1. AZG&F The Economic Importance of Fishing and Hunting (utilizes IMPLAN input/output model) (AZG&F 2001). 2. USFWS National Survey of Fishing, Wildlife, Hunting, & Wildlife Assoc</p>	<p>Q1/Q2: Direct service revenues and license fees related to recreation/tourism are decreasing as forest restoration activities are occurring. Q3: A portion of revenues generated from recreation and tourism are not being reinvested in forest restoration activities.</p>		
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<p>The economic value of ecosystem services provided by restored forests, such as <i>the value of water</i>, are captured and reinvested to support forest restoration and ecosystem management.</p>	<p>Q1: What is the effect in water yield, pre- post-restoration? Q2: What is the effect in sedimentation, pre-post-restoration? Q3: What is the economic value of increase/loss of water yield? Q4: [If increased] Has a portion of the determined value of increased water yield been reinvested in forest restoration? Q5: Are restoration projects reducing the costs of producing a potable water supply? Q6: How many</p>	<p>Q1/Q2: SRP Paired Watershed Study Costs associated w/:</p> <ol style="list-style-type: none"> Transport, Treating, Developing new/exisiting water supplies, Capture, Delivery <p>Q3-Q5: Watershed fund revenues (e.g. assess a fee to each water consumer based on use, projected at \$x.xx per 5,000 gallons per month (SFWA 2009; CoF 2010).</p> <ol style="list-style-type: none"> Operation & maintenance expenses Taxes/transfers Capital additions/replacement Debt services (principle/interest) Allocated indirect 	<p>Q1/Q2: SRP Paired Watershed Study compare results to Beaver Creek and Castle Creek Watershed Studies (AFRTG 2010). Q3-Q5: Determined value of increased water yield vs. proportion of this value invested in forest restoration activities.</p>	<p>Dependen t on SRP Study and Promotio n of Ecosyste m Services Investme nt.</p>	<p>Q1/Q2: 1. SRP/NAU 2. Beaver Creek Watershed Study 3. Castle Creek Watershed Study (AFRTG 2010). 4. Watershed Conditions Framework (USFS). Q4/Q5/Q6: 1. City of Flagstaff Utilities (Water) Dept. 2. Long-term Financial Plan & Rate & Fee Study (CoF 2010). 3. S&MWG database.</p>	<p>Q1: Water yield is decreasing as restration activities are occurring. Q2: Sedimentation is increasing as estration activities are occurring. Q3: A portion of revenues generated from watershed restoration and protection are not being reinvested in forest restoration activities. Q5: Restoration projects are not assisting in</p>		
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<p>The economic value of ecosystem services provided by restored forests, such as wildlife habitat creation and preservation, are captured and reinvested to support forest restoration and ecosystem management.</p>	<p>Are forest restoration activities maintaining and enhancing habitat for wildlife to an extent that biodiversity offsets and compensation programs can be implemented and resulting funds are reinvested into forest restoration activities?</p>	<p>1. Wetland & Stream Ecosystems Compensation. 2. Endangered Species Compensation. 3. Conservation Banking (Madsen 2010).</p>	<p>Value of compensation for preservation of wetland and stream ecosystems and endangered species vs. the proportion reinvested into forest restoration activities (Madsen 2010).</p>	<p>10 years</p>	<p>USFWS NMFS (Madsen 2010).</p>	<p>Forest restoration activities are not maintaining and enhancing habitat for wildlife to an extent that biodiversity offsets and compensation programs can be implemented and resulting</p>		
<p>The economic value of ecosystem services provided by restored forests, such as wildfire cost savings, are captured and reinvested to support forest restoration and ecosystem management.</p>	<p>Q1: What are the fire suppression costs incurred 5 years post 4FRI implementation and how does this compare to 5 years pre 4FRI implementation? Q2: What is the amount of cost savings (avoided costs vs. treatment costs) of wildfire suppression that has been reinvested in forest restoration activities?</p>	<p>Q1: Federal, state and local suppression costs, Private property losses (insured & uninsured), Damage to utility lines, Damage to recreation facilities, Loss of timber resources, Aid to evacuees (WFLC 2010), resurveying land boundaries (PC: M. Lata 2011). Q2: 1. Acres treated & \$ amount/acre of risk reduction. 2. Dollar value</p>	<p>Wildfire suppression costs 5 yrs. post-4FRI implementation (control for increases in population and housing) vs. the amount of cost savings that is reinvested in forest restoration activities.</p>	<p>5 years post-implementation</p>	<p>Q1: 1. Direct suppression costs obtained from: USFS, BLM, NRCD, NIFC, State, County, FEMA, DHS, Insurance companies, American Red Cross (WFLC 2010). Q1/Q2: 1. Direct treatment costs obtained from: USFS, contractors. 2. Headwaters Economics (population/housing). 3. USFS budget staff (PC: D.</p>	<p>Q1: Fire suppression costs are not decreasing (5 years post 4FRI when compared to 5 years pre 4FRI). Q2: A proportion of cost savings of wildfire suppression has not been reinvested in forest restoration activities.</p>		

GOAL: Rural communities receive direct and indirect economic benefits and ecosystem services as a result of forest restoration and resilient forests.

<p>Forest restoration activities will create direct quality jobs in rural communities in Arizona.</p>	<p>Q1: How many direct jobs have been created by forest restoration activities? Q2: What is the quality of the jobs? Q3: Are the jobs filled by local residents? Q4: How many direct jobs have been filled by low-income/minority populations?</p>	<p>Q1-Q3: Number, Types (FT vs. PT vs. seasonal), Positions, % of jobs over ttl employment (A. Egan, V. Estrada-Bustillo 2011) Avg. length of employment, % receiving benefits or payments in lieu of, Wages (avg./worker, family-supported), Locations, % of contracts w/ on the job training, Safety (% & # of contracts w/o job related injuries/illnesses resulting in lost wk time), % and # of</p>	<p>Economic Impact Analysis: Direct reporting of primary and secondary data.</p>	<p>Annual</p>	<p>1. Contractor reporting form/survey. 2. Headwaters Institute (EPS-HDT Socioeconomic profiles). 3. Bureau of Labor Statistics (Stynes 1992).</p>	<p>Q1: Forest retraction activities have not created a sufficient number of direct jobs. Q2: Forest retraction activities have not created a sufficient number of quality jobs (e.g. FT, positions, benefits, trainings, safety, etc.). Q3: Forest</p>		
<p>Forest restoration activities will create indirect jobs in rural communities in Arizona.</p>	<p>How many indirect jobs have been created by forest restoration activities?</p>	<p>Direct Jobs: Number, Types (FT vs. PT), Avg. length of employment (UO 2011).</p>	<p>Region specific dollar-tracking and multiplier effects of direct employment (<i>for every x \$s spent by a business, x \$s are created</i>) (A. Egan, V. Estrada-Bustillo 2011.</p>	<p>Annual</p>	<p>1. Contractor reporting form/survey. 2. Headwaters Institute (EPS-HDT Socioeconomic profiles). 3. Bureau of Labor Statistics (Stynes</p>	<p>Forest retraction activities have not created a sufficient number of indirect jobs.</p>		

<p>Forest restoration activities will create increased retail sales/services in rural communities in Arizona.</p>	<p>Q1: Has city/county sales tax on goods and services increased as forest restoration activities have occurred? Q2: Have retail sales/service revenues increased as forest restoration activities have occurred?</p>	<p>Q1: City/county sales tax on goods and services. Q2: Retail sales & services revenue.</p>	<p>Dollar-tracking and multiplier effects (region-specific) (WMSP 2010) of business activity (Stynes 1992).</p>	<p>Annual</p>	<p>1. AZ Dept. of Revenue. 2. City reports. 3. County reports. 4. US Census Bureau. 5. U.S. Department of Labor, Bureau of Labor Statistics. 6. Arizona Indicators (MIPP 2011).</p>	<p>Q1: City/county sales tax on goods and services has not increased as forest restoration projects have been implemented. Q2: Retail sales & services</p>		
<p>Forest restoration activities will create increased tax revenues (e.g. property tax, business expenditures) in rural communities in Arizona.</p>	<p>Q1: Have taxes generated from forest industry business expenditures increased as forest restoration activities have occurred? Q2: Have property/sales tax/school revenues generated from forest industry employees (direct/indirect jobs) increased as forest restoration activities have occurred?</p>	<p>Q1: 1. Sales of wood products. 2. Capital expenditures of project materials. 3. Subcontract thinning services (WMSP 2010). Q2: 1. Sales/property taxes generated by employees (direct & indirect) (by county). 2. School revenues generated by avg. family. 3. Sales tax generated by avg. per capita expenditures on consumable goods/supplies (by county) (WMSP</p>	<p>Q1/Q2: Total net employee revenue based on jobs estimates and economic contributions from forest industry employees (direct/indirect). Indirect jobs: use regional multiplier effect, in/out/output modeling) (WMSP 2010).</p>	<p>Annual</p>	<p>1. Contractor reporting form/survey. 2. U.S. Bureau of Economic Analysis (WMSP 2010). 2. Headwaters Institute (EPS-HDT Socioeconomic profiles).</p>	<p>Q1: Taxes generated from forest industry business expenditures have not increased as forest restoration activities are implemented. Q2: Property/sales tax/school revenues generated from forest industry employees (direct/indirect jobs) have not</p>		

<p>Forest restoration activities will increase recreation/tourism in rural communities in Arizona.</p>	<p>Q1: Has recreation increased as forest restoration activities have occurred? Q2: Has tourism increased as forest restoration activities have occurred? Q3: Has tourism related jobs/housing increased as forest restoration activities have occurred?</p>	<p>Q1: 1. AZG&F license sales by County. 2. Visitor days Q2: 1. Lodging 2. Restaurant 3. Groceries 4. Gas/Oil 5. Other transportation 6. Activities 7. Admissions/Fees 8. Souvenirs/Other expenditures (USFS 2005). 9. Tourism tax (e.g. Flagstaff Bed, Board & Booze (BBB) tax). Q3: 1. Travel and tourism jobs (seasonal employment). 2. Housing related to</p>	<p>Economic Impact Analysis: Track flow of economic activity associated with tourism.</p>	<p>5 years (USFS 2005; USFWS 2006).</p>	<p>1. National Visitor Use Monitoring Program (USFS 2005). 2. AZG&F The Economic Importance of Fishing and Hunting (utilizes IMPLAN input/output model) (AZG&F 2001). 3. USFWS National Survey of Fishing, Wildlife, Hunting, & Wildlife Assoc. Recreation (USFWS 2006). 4. Sales Tax by City (if applicable, Tourism tax).</p>	<p>Q1: Recreation has decreased as forest restoration activities have occurred. Q2: Tourism has decreased as forest restoration activities have occurred. Q3: Tourism related jobs/housing has decreased as forest restoration activities have occurred.</p>		
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Opportunity for local contractors to conduct restoration work increases.	Q1: Have opportunities for local contractors to conduct restoration work increased? Q2: What is the proportion of local to non-local awards? Q3: Where are the contractors located?	Q1/Q3: Location of businesses (zip code by county) Q2: Percentage of local contracted businesses (contractor and subcontractors) and total contractual amount for each (UO 2011).	Comparative analysis of local contract awards vs. non-local (# of contracts and respective value).	Every ten years or length of the contract.	1. Contracts: federal databases 1. USAspending.gov 2. USFS Natural Resource Manager Database (UO 2011).	Q1: Opportunities for local contractors to conduct restoration work has not increased. Q2/Q3: Local awards are proportionally lower than non-local awards (#		
Construction and/or improvement of infrastructure required for forest restoration activities increase revenues to local businesses.	Have revenues to local businesses providing supplies for infrastructure increased?	Revenues of local businesses providing supplies for infrastructure.	Economic Impact Analysis: Track flow of economic activity associated with construction and/or improvement of infrastructure.	Dependant on timing of infrastructure development/improvement.	1. Contractor reporting form/survey. 2. Local business reporting form/survey. 3. U.S. Bureau of Economic	Revenues to local businesses supporting construction and/or improvement of infrastructure does not		
GOAL: The average net cost per acre of treatment and/or prep, administrative costs in the 4FRI project/analysis area are reduced significantly.								
The average net cost (operational costs of the contract) of treatment per acre in the 4FRI project area over a thirty-year period (the life of the project) are decreasing over time.	Are the average net cost of treatment per acre that are attached to the contract in the 4FRI project area decreasing as new contracts are released and awarded?	Operational cost (per acre) attached to the contract (PC: D Fleishman 2011).	Tracking and comparison of operational costs of contracts.	Every ten years or length of the contract.	1. Contracts: federal databases: a. USAspending.gov b. USFS Natural Resource Manager Database (UO 2011).	The average net cost of treatment per acre that are attached to the contract in the 4FRI project area are increasing as new contracts		

<p>The average net cost of treatment per acre in the analysis area for preparation and administration costs are reduced over time.</p>	<p>Q1: What is the difference in average net cost of treatment per acre in the analysis area for preparation and administrative costs associated with different restoration designations (e.g. description vs. prescription)? Q2: Is average net cost of treatment per acre in the analysis area for preparation and administration</p>	<p>Costs include: 1. Project prep 2. Task order/contract administration 3. Planning under NEPA/NFMA 4. Project management 5. Project-level monitoring 6. Contract monitoring (4FRI 11/2010; WMSC 2010).</p>	<p>Q1: Cost effective analysis (Robbins and Daniels 2011). Q2: Tracking and comparison of prep and admin costs of contracts.</p>	<p>Every ten years or length of the contract.</p>	<p>Southwestern Region Restoration Task Group (cited in 4FRI LRS 10/2011).</p>	<p>Q1: Various restoration designation costs are not analyzed and compared. Q2: The average net cost of treatment per acre in the analysis area for preparation and administration costs is increasing over time.</p>		
<p>Mechanical treatment costs are reduced. * See Rx fire costs GOAL: Wildfire management costs are reduced; aggressive fire suppression is unneeded or rare (pg. xx).</p>	<p>Are mechanical treatment costs decreasing over time?</p>	<p>1. Move equipment and operators 2. Cutting 3. Skidding 4. Delimiting 5. Loading 6. Slash piling 7. Road Maintenance, 8. Overhead (4FRI 11/2010).</p>	<p>Tracking of mechanical costs over time.</p>	<p>5 years</p>	<p>Contractor surveys.</p>	<p>Mechanical treatment costs increasing over time.</p>		

GOAL: Sufficient harvest and manufacturing capacity exists to achieve restoration of at least 300,000 acres in the next ten years.

<p>Sufficient contractor capability exists to harvest approx. 30,000 acres per year.</p>	<p>Is there sufficient contractor capability to harvest approx. 30,000 acres per year?</p>	<p>1. Total number of contracts by work type, size and distribution (# of task orders & corresponding acres) (Mosley & Davis, 2010; UO 2011; 4FRI 11/2010). 2. Financial incentive programs (e.g. grants, loan gurantees, tax</p>	<p>1. Track contracts by work type, size and distribution. 2. Track financial incentive programs.</p>	<p>Every ten years or length of the contract.</p>	<p>1. Contracts, federal databases a. USAspending.gov b. USFS Natural Resource Manager Database (UO 2011). 2. Contractor surveys 3. Headwaters Institute-Payments from federal lands</p>	<p>There is insufficient contractor capability to harvest approx. 30,000 acres per year.</p>		
<p>Sufficient private infrastructure exists to utilize woody biomass extracted from approx. 30,000 acres per year.</p>	<p>Is there sufficient private infrastructure to utilize woody biomass extracted from approx. 30,000 acres per year?</p>	<p>1. Volume of material produced per biomass plant vs. volume utilized. 2. Location of private infrastructure relative to harvesting activities.</p>	<p>Track type of infrastructure, location and corresponding processing capability.</p>	<p>Tracked annually across ten years (or length of the contract).</p>	<p>Contractor surveys.</p>	<p>There is insufficient private infrastructure to process woody biomass extracted from approx. 30,000</p>		

<p>A sufficient workforce (public & private) exists to harvest and utilize wood byproducts extracted from approx. 30,000 acres per year.</p>	<p>Is there a sufficient workforce (public & private) to harvest and utilize wood byproducts extracted from approx. 30,000 acres per year?</p>	<p>1. # of FTE USFS employees designated for project planning, administration, implementation. 2. # of FTE private sector employees designated for harvesting & processing. 3. USFS workload (dependent on current conditions-e.g. shift from overgrown forest to savannah system, shift from</p>	<p>1. # of FTE USFS employees designated vs. # of USFS employees needed to plan/administer/ implement 30k acres/year. 2. # of private employees trained and hired vs. # of employees needed to harvest/process 30k acres/year. 3. USFS workload vs. USFS</p>	<p>Tracked annually across ten years or length of the contract.</p>	<p>1. USFS by forest. 2. Headwaters Institute (EPS-HDT Socioeconomic profiles) 3. Bureau of Labor Statistics (Stynes 1992). 4. Contractor reporting form/survey.</p>	<p>There is an insufficient workforce (public & private) to harvest and process woody biomass extracted from approx. 30,000 acres per year.</p>		
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GOAL: Wildfire management costs are reduced; aggressive fire suppression is unneeded or rare.

<p>Direct wildfire suppression costs in 4FRI treated areas are reduced.</p>	<p>Q1: Are direct costs associated with wildfire suppression in 4FRI treated areas decreasing as forest restoration projects are implemented over time? Q2: What is the difference between direct wildfire suppression costs in 4FRI treated areas and treatment (planning, prep, admin & operational) costs?</p>	<p>Q1: Wildfire Supp Costs: (as above). Q2: 1. Planning, prep, admin costs: (as above). 2. Operational Costs: (as above).</p>	<p>Q1: Wildfire suppression costs 5 yrs. post-4FRI implementation (control for increases in population and housing) vs. wildfire suppression costs 5 yrs. pre-4FRI implementation. Q2: Wildfire suppression costs 5 yrs. post-4FRI implementation vs. treatment costs (planning, prep, admin & operational costs)</p>	<p>5 years</p>	<p>Q1: 1. Direct suppression costs obtained from: USFS, BLM, NRCD, NIFC, State, County, FEMA, DHS, Insurance companies, American Red Cross (WFLC 2010). 2. Headwaters Institute (EPS-HDT Socioeconomic profiles). 3. USFS budget staff (PC: D. Jaworski 2011).</p>	<p>Q1: Direct costs associated with wildfire suppression are increasing as forest restoration projects are implemented over time. Q2: Direct wildfire suppression costs are higher than and treatment (planning, prep, admin & operational) costs</p>		
<p>Short-term (direct) rehabilitation costs are reduced.</p>	<p>Are short-term (direct) rehabilitation costs associated with wildfire rehabilitation decreasing as forest restoration projects are implemented over time (e.g. Burned Area</p>	<p>BAER funds appropriated (tracked annually) (WFLC 2010).</p>	<p>BAER expenditures 5 yrs. post-4FRI implementation vs. BAER expenditures 5 yrs. pre-4FRI implementation.</p>	<p>5 years (annual expenditures)</p>	<p>USFS BAER expenditure database (WFLC 2010).</p>	<p>Short-term (direct) rehabilitation costs associated with wildfire rehabilitation are increasing as forest restoration projects are implemented</p>		

Wildfire suppression frequency and duration in 4FRI treated areas are reduced.	Are wildfire suppression efforts in 4FRI treated areas frequency and duration decreasing as forest restoration projects are implemented over	1. Frequency of wildfires. 2. Duration of wildfires.	Frequency and duration of wildfires 5 yrs. post-4FRI implementation vs. frequency and duration of wildfires 5 yrs. pre-	5 years	USFS by Forests (GFFP 2010).	Wildfire suppression efforts frequency and duration are increasing as forest restoration		
Managed fire frequency and duration are increasing.	Are managed fire frequency and duration increasing as forest restoration projects are implemented over time?	1. Frequency of managed fires. 2. Duration of managed fires.	Frequency and duration of managed fires 5 yrs. post-4FRI implementation vs. frequency and duration of managed fires 5	5 years	USFS by Forests (GFFP 2010).	Managed fire frequency and duration are decreasing as forest restoration projects are implemented.		
Prescribed fire frequency and duration are reduced.	Are prescribed fire frequency and duration decreasing as forest restoration projects are implemented over time?	1. Frequency of prescribed fires. 2. Duration of prescribed fires.	Frequency and duration of prescribed fires 10 yrs. post-4FRI implementation vs. frequency and duration of prescribed fires 10	10 years	USFS by Forests (GFFP 2010).	Prescribed fire frequency and duration are increasing as forest restoration projects are implemented.		
Prescribed fire costs are reduced.	Are prescribed fire costs decreasing as forest restoration projects are implemented over time?	1. Burn plans 2. Prep work 3. Cutting hand lines 4. Implement burn 5. Monitor burn (Irwin 2010: cited in 4FRI 11/2010).	Costs of prescribed fires 10 yrs. post-4FRI implementation vs. costs of prescribed fires 10 yrs. pre-4FRI implementation.	10 years	USFS budget staff (PC: D. Jaworski 2011).	Prescribed fire costs are increasing as forest restoration projects are implemented.		

Reduce size, and frequency of pile burns.	<p>Q1: Is the frequency and size of pile burns decreasing as forest restoration projects are implemented over time?</p> <p>Q2: Is the volume of slash that is chipped (not burned) increasing?</p>	<p>Q1: 1. Frequency of pile burns. 2. Size of pile burns.</p> <p>Q2: Volume of slash that is chipped.</p>	<p>Q1: Frequency and size of pile burns 10 yrs. post-4FRI implementation vs. frequency and size of pile burns 10 yrs. pre-4FRI implementation.</p> <p>Q2: Volume of slash chipped 10 yrs. post-4FRI implementation</p>	10 years	USFS by Forests (GFFP 2010).	Size and frequency of pile burns is increasing and volume of slash that is chipped is decreasing as forest restoration projects are implemented.		
GOAL: There is a sufficient market place for small diameter wood products.								
A sufficient market exists to consume wood biomass products.	Is there a sufficient market to sell wood biomass products?	1. # of businesses and type of wood biomass material purchased (e.g. clean chips, dirty chips, roundwood and sawtimber) (WMSP 2010). 2. Dollar amount and/or % of available	Economic Impact Analysis: include # of businesses, type of small diameter wood material purchased and dollar amount and/or % of available inventory/sales	5 years	Business surveys	There is an insufficient market to sell small diameter wood products.		
Economic value of wood biomass products is sufficient to profitably process small diameter wood products.	Does the market value of wood products exceed production costs?	1. Sales (\$ value) of wood products. 2. Production costs: raw materials (wood products), hauling, petroleum products, mill equipment/parts, heavy equipment/parts, electricity, vehicle parts/tires, and	Financial analysis: Compare sales of wood products to production costs.	5 years	Business surveys	The market value of wood products does not exceed production costs.		

Increase the amount of wood products (wood biomass and value-added) that are processed locally.	What is the proportion of biomass processed locally vs. non-local?	1. Number of local businesses processing small diameter wood products. 2. Number of non-local businesses processing small diameter wood products. 3. Amount of wood (volume) products processed locally. 4. Amount of wood (volume) products	1. Compare # of local vs. non-local businesses (% each). 2. Compare local vs. non-local business volume of wood product production (% each).	5 years	1. Contractor surveys. 2. Contracts, federal databases a. USAspending.gov b. USFS Natural Resource Manager Database (UO 2011).	The proportion of biomass processed locally is lower than biomass processed outside of the defined local area.		
Increase the amount of wood products (wood biomass and value-added) that are distributed locally.	Q1: Where are the wood products distributed? Q2: What is the proportion of end-products distributed locally vs. non-	Q1: Location of wood product distribution. Q2: Volume/quantity of wood products distributed locally and non-local.	Compare location of wood product distribution and proportion of volume of wood products distributed locally	5 years	1. Contractor surveys. 2. Contracts, federal databases a. USAspending.gov b. USFS Natural	Q1/Q2: The amount of wood products (small diameter and value-added) that are distributed		

Investment, research and development in utilization of wood biomass is increasing.	Is investment, research and development in utilization of wood biomass increasing?	<ol style="list-style-type: none"> 1. Number of forest product industries involved in market research for small diameter wood uses. 2. Amount invested by businesses for development and research. 3. Type and amount of market analysis. 4. Number of companies applying for grants that support small 	Track # involved in market research for small-diameter wood uses, amount invested, type and intensity of market research, # of companies applying for grants supporting small diameter product development.	5 years	<ol style="list-style-type: none"> 1. Contractor/business surveys. 2. Headwaters Institute 	Investment, research and development in utilization of small diameter trees is not increasing.		
Uses for wood biomass and/or value-added products is expanded and diversified.	<p>Q1: What is the type and proportion of the production of wood biomass end-products?</p> <p>Q2: Are uses for wood biomass and/or value-added products expanding and diversifying?</p>	<p>Q1/Q2: Percentage production of: Pellets, Pallets, Molding, Small lumber, Biomass-energy, Livestock bedding, Soil fertilizers, (Sitko and Hurteau 2010) OSB, Plywood, Particle board, Fiberboard, Roundwood products (Larson 2001: cited in 4FRI 11/2010).</p>	Compare % of production of type of wood products and track over time.	5 years	Contractor/business surveys.	Q1/Q2: Uses for small diameter material and/or value-added products are not expanding and diversifying.		

GOAL: There is a predictable wood supply throughout the life of the 4FRI project.

<p>Ensure the availability of forest material at a sustainable, consistent level to support appropriate forest product industries throughout the life of the 4FRI project.</p>	<p>Q1: Are the length of contracts sufficient to recover costs and realize return on investment? Q2: Do contracts provide the flexibility to respond to fluctuating markets (e.g. pile and burn slash vs. removal) & redetermination of wood product's value? Q3: Do contracts provide guaranteed treatable acres that will provide a return on investment? Q4: Are appeals and lawsuits for 4FRI projects hampering the project's progression?</p>	<p>Q1: 1. Length of contracts. 2. Operational cost incurred to complete contracts (as above). 3. Wood yields and respective value/contract. 4. Number of acres/year USFS admin planning are complete. Q2: 1. Pile/burn costs 2. Slash removal costs 3. Wood product value Q3: 1. Avg. wood yield/ treatable acres/contract. 2. Operational cost incurred to complete contracts (as above). Q4: Number and length of time (each) of appeals and lawsuits that occur</p>	<p>Q1: Economic Impact Analysis: 1. Operational costs vs. wood yields and respective value. 2. # of acres USFS admin/planning are complete vs. # of acres/contract. Q2: Contract analysis of: 1. Pile/burn slash costs vs. removal costs. 2. Valuation of wood products. Q3: Avg. wood yield per treatable acres/contract and its respective value vs. operational costs. Q4: # & length of time of lawsuits; # of delayed treatable acres, volume and its value.</p>	<p>Ten years or length of the contract.</p>	<p>Q1-Q3: 1. Contractor surveys 2. USFS business plans (PC: D. Jaworski 2011). 3. Contracts: federal databases a. USAspending.gov b. USFS Natural Resource Manager Database (UO 2011). 4. Headwaters Institute Q4: Appeals database available at: www.fs.fed.us/forestmanagement/nepa (Cortner et. al 2003).</p>	<p>Q1: The length of contracts are not long enough to recover costs and realize a return on investment. Q2: Contracts do not provide the flexibility to respond to fluctuating markets & redetermination of wood product's value. Q3: Contracts do not provide guaranteed treatable acres that will yield a return on investment. Q4: Appeals and lawsuits for 4FRI projects are significantly delaying the project's</p>		
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Rev. 4/11/12

*Columns "Management Action Then" and "Monitoring Costs" will be completed at a later date.

Acronyms defined (alphabetical order):

AZG&F	Arizona Game & Fish Department
BAER	Burned Area Emergency Rehabilita
BLM	Bureau of Land Management
DHS	Department of Homeland Security
FEMA	Federal Emergency Management Agency
NEPA	National Environmental Protection Act
NIFC	National Interagency Fire Center
NFMA	National Forest Management Act
NMFS	National Marine Fisheries Service
NRC	Natural Resource Conservation
SRP	Salt River Project Power & Water
SWRRTG	Southwestern Region Restoration Task Group
WMSC	White Mountain Stewardship Contract
USFS	United States Forests Service
USFWS	United States Fish & Wildlife Service

References included in this table are listed in the Socioeconomic Monitoring report.

Four Forests Restoration Initiative 2011 Evaluation Report

**Administered and reported on behalf of the Four Forests Restoration Initiative
by the
Udall Foundation's U.S. Institute for Environmental Conflict Resolution**

October 19, 2011

The 4FRI Stakeholder Group tasked a subgroup with designing the 2011 annual evaluation. The evaluation is intended to assess the group's progress, support the group's adaptive management, and build the group's capacity over time. This report summarizes 4FRI's first annual evaluation.

Four Forests Restoration Initiative 2011 Annual Evaluation Report

Overview

The Four Forests Restoration Initiative (4FRI) Charter stipulates in Section VI.1 Annual Evaluation that "the Stakeholder Group will set aside time at least once a year (early October) to systematically evaluate the 4FRI program and actions to ensure regular adaptation and improvement; during the annual evaluations, the stakeholder group will also consider changes to the foundation documents, including the Charter and Structure of the 4FRI."

For the 2011 annual evaluation, the 4FRI Stakeholder Group tasked a subgroup with designing the annual evaluation. The evaluation is intended to assess the group's progress, support the group's adaptive management, and build the group's capacity over time. This report summarizes 4FRI's first annual evaluation.

At the request of the Stakeholder Group, the Udall Foundation's U.S. Institute for Environmental Conflict Resolution (the U.S. Institute), an independent and neutral agency of the federal government, administered and compiled the results of the evaluation.

Report Organization

This report is organized into 3 sections: (1) introduction; (2) statistical results and analysis of the standard questions; and (3) comments provided in answer to the open-ended questions.

Analysis of the Survey Responses

Forty-four (44) respondents completed the survey. This is approximately the same number that attends 4FRI's monthly Stakeholder meetings. Feedback was solicited from everyone on the 4FRI distribution list. When the survey was conducted, the Stakeholder Group had been meeting for approximately two years. Numerous Steering Committee and Work Group meetings had also been convened.

Through the use of descriptive statistics (including the number of respondents and percent frequencies), this report summarizes respondents' feedback. For many of the questions, the respondents were asked to indicate their level of agreement with the evaluation statements (e.g. "Strongly disagree," "Disagree," "Disagree somewhat," "Agree somewhat," "Agree," "Strongly agree," and "Not enough information to know"). Within the survey, values (from 1 to 6) are assigned to each answer choice. "Strongly agree" is assigned a value of 6 and "Strongly disagree" is assigned a value of 1. The values for each statement are then averaged by the Survey Monkey tool in the "Rating Average" column. The higher the Rating Average for each statement, the stronger the agreement with the statement.

We have provided an example below of how the tool analyzes the data. The "Not enough information to know" response has no value and therefore, is not averaged. The numbers listed in parentheses below the percentages indicate the number of people who responded to the answer choice. This report also includes all responses from the open-ended questions.

1. Using the scale below, please rate the following questions about the shared vision.									
	Strongly disagree	Disagree	Disagree somewhat	Agree somewhat	Agree	Strongly agree	Not enough information to know	Rating Average	Response Count
a. Our collaboration has a widely shared vision of what success will look like for the 4FRI project.	2.3% (1)	9.1% (4)	11.4% (5)	34.1% (15)	34.1% (15)	9.1% (4)	0.0% (0)	4.16	44

The statistical results of the survey are transparently displayed, with the descriptive statistics for all categories (see example above). To aid in interpretation, the columns with the highest percentage of responses are shown in **bold**. We strongly encourage readers to draw their own conclusions based on the data provided.

Report Confidentiality

Consistent with the confidentiality protocols noted on the front page of the survey, the U.S. Institute’s administrator has not reported information from the evaluation in a way that respondents or their affiliations can be identified; therefore, the identity of individual respondents has not been disclosed (except for those who indicated that they wanted to identify themselves in question 28 of the survey). In preparing this report, the U.S. Institute reviewed the responses to the open-ended questions and deleted or altered any individual identifying information (e.g., stakeholder names, facilitator names). Bracketed language indicates that identifying information has been replaced.

There are two additional exceptions where names of groups were not deleted or altered: (1) given the importance of understanding the working dynamics between the collaborative and the U.S. Forest Service, that agency’s name has not been removed from the comments in order to retain the value of this information; and (2) answers to question 8, “What groups or interests should be approached to join the Collaborative?” contain the names of groups and interests suggested because gathering those suggestions was the purpose of the question

4FRI FY2011 Evaluation Survey



1. Using the scale below, please rate the following questions about the shared vision.

	Strongly disagree (1)	Disagree (2)	Disagree somewhat (3)	Agree somewhat (4)	Agree (5)	Strongly agree (6)	Not enough information to know	Rating Average	Response Count
a. Our Collaborative has a widely shared vision of what success will look like for the 4FRI project.	2.3% (1)	9.1% (4)	11.4% (5)	34.1% (15)	34.1% (15)	9.1% (4)	0.0% (0)	4.16	44
b. Our foundational documents (<i>The Path Forward- Vision and Goals, 4FRI Stakeholder Group Charter, and Memorandum of Understanding between the 4FRI Stakeholder Group and the U.S. Forest Service</i>) support our shared vision of success.	0.0% (0)	2.3% (1)	9.3% (4)	23.3% (10)	39.5% (17)	23.3% (10)	2.3% (1)	4.74	43
c. Our foundational documents (<i>The Path Forward- Vision and Goals, 4FRI Stakeholder Group Charter, and Memorandum of Understanding between the 4FRI Stakeholder Group and the U.S. Forest Service</i>) <u>do not</u> need to be reviewed or adjusted at this time.	2.3% (1)	20.9% (9)	11.6% (5)	16.3% (7)	30.2% (13)	14.0% (6)	4.7% (2)	3.98	43
answered question									44
skipped question									0

2. What can we do to strengthen the degree to which we share the same understanding of success?

	Response Count
	36
answered question	36
skipped question	8

3. Enter other comments you'd like to share related to "Shared Vision."

	Response Count
	18
answered question	18
skipped question	26

4. Using the scale below, please rate the following questions about institutional structure.

	Strongly disagree (1)	Disagree (2)	Disagree Somewhat (3)	Agree somewhat (4)	Agree (5)	Strongly agree (6)	Not enough information to know	Rating Average	Response Count
a. Our existing structure promotes trust and transparency among the stakeholders.	5.0% (2)	12.5% (5)	17.5% (7)	32.5% (13)	30.0% (12)	2.5% (1)	0.0% (0)	3.78	40
b. The existing revolving Co-Chair system is effective.	2.5% (1)	0.0% (0)	7.5% (3)	17.5% (7)	52.5% (21)	15.0% (6)	5.0% (2)	4.71	40
c. Our Work Group arrangement is effective and efficient.	4.9% (2)	14.6% (6)	7.3% (3)	39.0% (16)	29.3% (12)	4.9% (2)	0.0% (0)	3.88	41
d. We have adequate resources (manpower, funds, skills, etc.) to achieve our shared vision.	4.9% (2)	14.6% (6)	24.4% (10)	17.1% (7)	26.8% (11)	7.3% (3)	4.9% (2)	3.72	41
e. The Collaborative is ready for self-facilitation.	24.4% (10)	22.0% (9)	9.8% (4)	22.0% (9)	9.8% (4)	2.4% (1)	9.8% (4)	2.76	41
answered question									41
skipped question									3

5. What additional resources do we need to reach our goals?

	Response Count
	31
answered question	31
skipped question	13

6. Enter other comments you would like to share related to "Institutional Structure."

	Response Count
	19
answered question	19
skipped question	25

7. Using the scale below, please rate the following questions about internal communication.

	Strongly disagree (1)	Disagree (2)	Disagree somewhat (3)	Agree somewhat (4)	Agree (5)	Strongly agree (6)	Not enough information to know	Rating Average	Response Count
a. I feel comfortable openly discussing my views within the Work Groups and in Stakeholder meetings.	0.0% (0)	9.8% (4)	9.8% (4)	26.8% (11)	41.5% (17)	9.8% (4)	2.4% (1)	4.33	41
b. The Work Groups adequately communicate their progress to the larger Stakeholder Group.	0.0% (0)	2.4% (1)	12.2% (5)	19.5% (8)	56.1% (23)	7.3% (3)	2.4% (1)	4.55	41
c. The Work Groups adequately communicate with each other.	2.4% (1)	9.8% (4)	19.5% (8)	26.8% (11)	24.4% (10)	0.0% (0)	17.1% (7)	3.74	41
d. Differing viewpoints are heard and treated with respect within the Collaborative.	4.9% (2)	12.2% (5)	26.8% (11)	17.1% (7)	34.1% (14)	4.9% (2)	0.0% (0)	3.78	41
e. The Collaborative members individually support group decisions and agreements.	12.2% (5)	19.5% (8)	9.8% (4)	31.7% (13)	22.0% (9)	0.0% (0)	4.9% (2)	3.33	41
f. The Collaborative has adequate stakeholder representation from all sectors of the community.	7.5% (3)	12.5% (5)	10.0% (4)	25.0% (10)	37.5% (15)	5.0% (2)	2.5% (1)	3.90	40
								answered question	41
								skipped question	3

8. What groups or interests should be approached to join the Collaborative?

	Response Count
	21
answered question	21
skipped question	23

9. What should be done to improve trust and open communication within the Collaborative?

	Response Count
	29
answered question	29
skipped question	15

10. Enter other comments you would like to share related to "Internal Communication."

	Response Count
	11
answered question	11
skipped question	33

11. Using the scale below, please rate the following questions about external communication.

	Strongly disagree (1)	Disagree (2)	Disagree somewhat (3)	Agree somewhat (4)	Agree (5)	Strongly agree (6)	Not enough information to know	Rating Average	Response Count
a. Our responses and feedback to the Forest Service are timely (we meet deadlines).	7.3% (3)	12.2% (5)	12.2% (5)	31.7% (13)	29.3% (12)	7.3% (3)	0.0% (0)	3.85	41
b. The Forest Service are considering the Collaborative's recommendations in their decisions and planning.	0.0% (0)	2.4% (1)	12.2% (5)	31.7% (13)	31.7% (13)	17.1% (7)	4.9% (2)	4.51	41
c. Our goals and intent are clearly understood within the Forest Service.	0.0% (0)	4.9% (2)	14.6% (6)	36.6% (15)	31.7% (13)	7.3% (3)	4.9% (2)	4.23	41
d. Our goals and intent are clearly understood within the public at large.	2.4% (1)	22.0% (9)	26.8% (11)	19.5% (8)	19.5% (8)	2.4% (1)	7.3% (3)	3.42	41
e. Our outreach to the general public is adequate.	5.1% (2)	10.3% (4)	38.5% (15)	23.1% (9)	12.8% (5)	2.6% (1)	7.7% (3)	3.39	39
								answered question	41
								skipped question	3

12. What ideas do you have that could foster and improve the 4FRI Collaborative's profile among the general public?

	Response Count
	25
answered question	25
skipped question	19

13. Enter other comments you would like to share related to "External Communication."

	Response Count
	12
answered question	12
skipped question	32

14. Using the scale below, please rate the following questions about decision making.

	Strongly disagree (1)	Disagree (2)	Disagree somewhat (3)	Agree somewhat (4)	Agree (5)	Strongly agree (6)	Not enough information to know	Rating Average	Response Count
a. Our Decision Matrix is useful and effective.	4.9% (2)	7.3% (3)	12.2% (5)	24.4% (10)	26.8% (11)	9.8% (4)	14.6% (6)	4.06	41
b. Our decision making process promotes open dialogue and mutual understanding of differing points of view.	4.9% (2)	12.2% (5)	9.8% (4)	31.7% (13)	36.6% (15)	2.4% (1)	2.4% (1)	3.93	41
c. Our decisions are clearly communicated and understood.	7.3% (3)	9.8% (4)	17.1% (7)	19.5% (8)	36.6% (15)	7.3% (3)	2.4% (1)	3.93	41
d. Our decisions are timely and transparent.	7.3% (3)	14.6% (6)	12.2% (5)	34.1% (14)	24.4% (10)	4.9% (2)	2.4% (1)	3.70	41
e. The decisions are useful in the context of the need they address.	2.5% (1)	10.0% (4)	15.0% (6)	15.0% (6)	42.5% (17)	7.5% (3)	7.5% (3)	4.16	40
answered question									41
skipped question									3

15. What suggestions do you have that would improve our decision making?

	Response Count
	19
answered question	19
skipped question	25

16. How effective are our foundational documents in promoting understanding and agreement?

	Response Count
	19
answered question	19
skipped question	25

17. Enter other comments you would like to share related to "Decision Making."

	Response Count
	3
answered question	3
skipped question	41

18. Using the scale below, please rate the following questions about product development.

	Strongly disagree (1)	Disagree (2)	Disagree somewhat (3)	Agree somewhat (4)	Agree (5)	Strongly agree (6)	Not enough information to know	Rating Average	Response Count
a. We use the best available science to inform our product development.	2.5% (1)	12.5% (5)	10.0% (4)	35.0% (14)	37.5% (15)	2.5% (1)	0.0% (0)	4.00	40
b. We deliver requested products on time.	5.0% (2)	17.5% (7)	22.5% (9)	27.5% (11)	25.0% (10)	2.5% (1)	0.0% (0)	3.58	40
c. Our products and input are effective in moving the Restoration Initiative toward our goals.	0.0% (0)	5.0% (2)	12.5% (5)	30.0% (12)	42.5% (17)	7.5% (3)	2.5% (1)	4.36	40
d. We stand behind our products as a group.	10.0% (4)	7.5% (3)	15.0% (6)	32.5% (13)	25.0% (10)	5.0% (2)	5.0% (2)	3.74	40
e. As a stakeholder, I am generally satisfied with the products that have been developed.	0.0% (0)	5.0% (2)	5.0% (2)	42.5% (17)	35.0% (14)	7.5% (3)	5.0% (2)	4.37	40
f. The Collaborative is including monitoring and adaptive management strategies in product development.	2.5% (1)	5.0% (2)	10.0% (4)	20.0% (8)	42.5% (17)	10.0% (4)	10.0% (4)	4.39	40
								answered question	40
								skipped question	4

19. What should be done to improve our timeliness in product development and delivery?

	Response Count
	15
answered question	15
skipped question	29

20. Enter other comments related to "Product Development."

	Response Count
	10
answered question	10
skipped question	34

21. Using the scale below, please rate the following questions about adaptive management.

	Strongly disagree (1)	Disagree (2)	Disagree somewhat (3)	Agree somewhat (4)	Agree (5)	Strongly agree (6)	Not enough information to know	Rating Average	Response Count
a. The Collaborative openly and accurately assesses its actions relative to desired outcomes (shared vision).	0.0% (0)	10.3% (4)	15.4% (6)	33.3% (13)	28.2% (11)	0.0% (0)	12.8% (5)	3.91	39
b. The Collaborative measures its performance effectively and uses the information to improve.	2.6% (1)	5.1% (2)	17.9% (7)	35.9% (14)	20.5% (8)	0.0% (0)	17.9% (7)	3.81	39
c. We are a learning organization and are willing to adapt and continually improve.	0.0% (0)	7.7% (3)	17.9% (7)	35.9% (14)	25.6% (10)	5.1% (2)	7.7% (3)	4.03	39
								answered question	39
								skipped question	5

22. What changes or adaptations do you feel would improve group performance and effectiveness?

	Response Count
	13
answered question	13
skipped question	31

23. Enter other comments you would like to share related to "Adaptive Management."

	Response Count
	7
answered question	7
skipped question	37

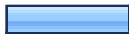







24. How many times per year do you attend the larger Stakeholder meetings?

	Response Count
	38
answered question	38
skipped question	6

25. How many working groups do you regularly participate in?

	Response Count
	37
answered question	37
skipped question	7

26. Do you represent...(select one):

		Response Percent	Response Count
Industry		10.5%	4
Local agency		13.2%	5
State agency		10.5%	4
Federal agency		13.2%	5
NGOs		28.9%	11
Academia		15.8%	6
Private Citizen		2.6%	1
Other		5.3%	2
		answered question	38
		skipped question	6





27. What is the length of time you have worked with the 4FRI Collaborative since its inception?

		Response Average	Response Total	Response Count
Years		2.20	77	35
Months		5.00	90	18
answered question				38
skipped question				6

28. If you would like to identify yourself, please enter your name and affiliation here (not required):

		Response Count
		9
answered question		9
skipped question		35

29. Please indicate your level of involvement in the 4FRI Stakeholder Group

		Response Percent	Response Count
Highly involved (my participation includes at least one Work Group)		35.9%	14
Actively involved (I have attended most monthly meetings)		30.8%	12
Intermittently involved		28.2%	11
Interested, but not active		5.1%	2
Not involved or interested		0.0%	0
		answered question	39
		skipped question	5

Responses to 4 FRI 2011 Evaluation Open-ended Questions

2. What can we do to strengthen the degree to which we share the same understanding of success?

- a) Follow the process and produce documents that state the common view while providing space elsewhere in the document for the opposing view. Also, in these situations, list which stakeholders are in agreement and which support the dissenting view.
- b) Maybe have more opportunities at meetings to have an open discussion of issues that may pop up. Not necessarily every meeting, but on occasion, have a "re-set" meeting where past decisions are evaluated with people given the opportunity to speak up if they had any concerns about the process, decisions made, or statements written.
- c) Maintain an open and transparent planning process that actively seeks new ways of developing forest restoration and management approaches. I think transparency and the degree of stakeholder involvement is not as consistent as some would like, but good overall.
- d) The foundational documents need to be tiered down in scale to build consensus on the actions needed on the ground, and on what proportions of the ground. I think the documents as stated leave broad allowances for implementation, and that there is actually much disagreement about what will be done on the ground.
- e) Stakeholders should collaboratively evaluate landscape treatments proposed in 4FRI on the ground to determine if everyone supports the Desired Future Conditions (DFCs) and determine whether modifications to the DFCs and treatment prescriptions need to be modified to meet various resource objectives (e.g., maintenance and enhancement of wildlife habitats; reduction of fire risk; providing a diversity of forest stand structure, patch sizes, and age classes; and improvement of watershed health and stream/ riparian conditions, etc.)
- f) Get rid of private agendas
- g) Get everything out on the table as was discussed at the April meeting. Stop the hidden agenda @\$%&*. Make certain that the players at the table either (a) have the authority to commit or (b) it is clearly known that they do not and have to answer to a higher HQ. The Wallow Fire (strangely "off the table and out of the media" very quickly) was a great cohesive force towards agreement; if nothing else, in economic terms.
- h) Keep on communicating
- i) Have closer involvement between the contracting portion and the planning portion of the project

- j) I think patience will pay dividends. As some actual on the ground accomplishments get initiated and show success, even if limited, this will help solidify and strengthen the groups understanding of shared vision/success.
- k) Clarify, in separate steps, the operating process and ethics of the collaborative, a vision for the restored landscape, and acceptable methods for getting to the vision.
- l) Discuss the "same understanding of success" during the evaluation and also, a second time during the year. I believe the stronger the shared vision and the more we are reminded of what the broad goals and vision are, the better we will work together to achieve them.
- m) We need some way to know that the USFS will adhere to stakeholder planning guidelines.
- n) We need to utilize the documents that we have to help us get past the points of disagreement. We need to get more involvement from the silent folks and get less direction from the dominate folks - especially those who aren't as committed to getting to the common ground.
- o) Once a decision is made by the group, it is made, now support it.
- p) Have an open and honest discussion about how people define collaboration and their view of success.
- q) We should talk explicitly about what success means for each of our stakeholders. We discussed this briefly in May, but did not follow up on allowing each person to line out what success for 4FRI means to them.
- r) Take time to get together and celebrate the little milestones along the way that bring us closer to the ultimate success.
- s) Some groups need to quit undermining the basic agreements and display behaviors that enable trust and movement forward.
- t) Translation of our "shared vision" into implementable actions will take an honest commitment to collaboration and an effort to stay informed of issues and the development of solution. In my opinion, none of this can happen without a greater sense of accountability to the ideals mentioned in the aforementioned documents...
- u) In light of almost 1,000,000 acres of forest and grasslands suffering through wildfires this year in AZ. alone, I think an expanded emphasis on timeliness and implementation of the 4FRI activities is very important. Success will be measured in part by what we're able to actually preserve, restore and improve on the ground, not just on what we said we plan to do.
- v) Move ahead

- w) There is a disparate view of what Southwestern forest should look like after restoration. Although there is general agreement on what this will be, there is also a lack of trust by some as to how the Forest Service will implement restoration. It is very important to be accurate in document writing to ensure that the consensus reached in meetings is accurately incorporated in documents.
- x) Request USFS to abide by agreements reached by the collaborative or bringing up points of their disagreement during the collaborative discussion.
- y) The single significant contention pertains to the 16" cap, whose advocates admit is not science- based. They have accepted many categorical exceptions. However almost all remaining treatments will require review and negotiation regarding this cap. It is difficult to know what their vision is for this extensive component of 4FRI. Is it comparable to Olympic National Park? Assuming that "we" is the collaborative, we must have more field trips to pre and post treatment areas and the advocates of the 16" cap MUST offer a defense on the ground so that we can understand their vision for restoration.
- z) Success is always seen through different lenses. Stakeholders involved in Industry will always have some differences from watch groups as industry is required to make payroll, pay taxes, and in general keep the wheels on the bus and make it go down the road. Each enjoys different stresses, and has the same desire to benefit the community.
- aa) Greater information is needed from the Forest Service quantifying the existing conditions and the anticipated post-treatment conditions to evaluate whether the current direction is taking us where we all want to go. I have some concerns that overall the effort may fall short of ecological restoration and reducing the threat of high-severity fire.
- bb) We just need to learn to agree to disagree. Look at the bigger picture.
- cc) Continue to encourage diversity in membership and be willing to embrace a range of conditions that will contribute to the overall goals of the collaborative
- dd) We need to concentrate on desired future condition (DFC) and not spend so much time and effort on how to get there. The techniques on how to get to a DFC are quite well known, especially by Forest Service planners, we need to leave that part up to them with our monitoring/review.
- ee) Discuss issues openly and honestly as a group and then approach the Forest Service with a consensus opinion vs. individuals and/or groups moving their agendas forward under the 4FRI umbrella.
- ff) We need a better understanding of what documents mean once they are finalized.

- gg) Work with spatially explicit data, models, and maps to illustrate what the agreements identified in key documents will "look like" in actual locations across the landscape. Without this, understanding of what constitutes success will remain too abstract and prove elusive in actual implementation.
- hh) I'm not sure that anything can be done to move us towards a more detailed definition of success. There is wide agreement at a very general, large scale, but as we dive into the details, the agreement dissolves. Unfortunately, many stakeholders will not view 4FRI as a success unless their detailed vision is accomplished.
- ii) Some members of the group, on both ends of the political spectrum, are not open with one another. The threat of Judicial intervention by "higher ups" hangs over our heads. Evidence of this has surfaced on a few occasions that were very significant. Trust has been eroded. The Forest Service is tiring of the collaborative process. Clearly, and sadly, in this case the NEPA is actually moving forward faster than the 4FRI!
- jj) Base our actions and desires on science, not organizational creeds or beliefs

3. Enter other comments you'd like to share related to "Shared Vision."

- a) To date the "Vision" seems to be co-opted by [a particular stakeholder organization] and functions as yet another platform for their cut & paste rants. Nothing in their comments, whether they are shared in person or in writing, suggests a "shared vision" or collaboration. If after 2 years of collaborating there is no change in how they operate, e.g., see their [long response to] the proposed action replete with mistaken project names, misrepresented documents, and misquoted literature references. In other circles, the consistent misuse of science, misrepresentation of others, and inability to submit a document referencing the correct project would be grounds for dismissal. Nothing about working with them suggests "collaboration." Other groups frequently disagree with the FS, but that has evolved into discussions that have yielded compromise by both parties, That is collaboration.
- b) There is a common vision among stakeholders on a need to restore fire adapted conditions to southwestern forest, however there is also range of ideas on how to get there. This deserves greater attention, clarity and constant reinforcement. I think that the USFS has a huge challenge in managing expectations on how it will develop and ultimately implement a proposed action. Interactions between managers and stakeholders will need to reflect responsiveness to collective concerns and recommendations, that will be translated to actions on the ground. Follow through with monitoring and adjustment to projects implemented on the ground will help to refine and solidify a shared vision. Nevertheless, getting something started on the ground will be the greatest challenge for the 4FRI.
- c) It seems the work on this shared vision may be a little late for the current EIS process - I keep hearing "the train has left the station", but I don't think everyone's on board.

- d) None
- e) It is my perception that where visions of success deviate, the issue seems to be that while most of the participants are willing to be guided by the best available science, there are a few who do not share this value.
- f) Some members have sought to bring pressure on the bosses of members of 4FRI to force the members to bend to the will of the persons doing the politicking. This has engendered a lack of trust and animosity.
- g) I don't we have a shared vision, there are folks who have different views about the desired conditions but yet we haven't fully flushed that out and figured out how to resolve those differences. We just leave the differences buried and continue to talk around them never getting to a true collaborative effort.
- h) For 1b, there are only minor changes needed for the charter to reflect how we operate. Specifically, we have changed our communication protocols this summer, that if they are widely embraced, should be institutionalized in changes to the charter.
- i) I think it would not hurt to review our Charter together as a group, just to remind people of our goals and our ground rules.
- j) Across the Board, individual "agendas" need to be set aside or compromised and the larger goal achieved before additional catastrophes occur, like the Wallow fire.
- k) We are basically on the same page. I believe as we see the 4FRI operational our vision will increase and become even more unified
- l) This group has made great progress in building consensus on a difficult issue. This level of collaboration should serve as a model to other environmental programs that are controversial.
- m) Because of the economic situation that has plagued the market for the last few years, and because the investment I have in my [stakeholder company] is of no value without logs to saw, it was difficult to maintain a long term perspective and shared vision of 4FRI, while having to live with the challenges of the day to day operations and problems of running a company. I am for the whole process, but I also want to be alive and strong to participate in the future results as well.
- n) There needs to be an objective evaluation of how much the collaborative is actually impacting the decision-making process. The prescriptions seem strongly leveraged by considerations for goshawks and spotted owls, leaving little room for other concerns.
- o) There will never be total alignment/agreement on very specific issues, but the collaborative should nevertheless strive for broad, strategic alignment on vision

- p) A "shared vision" only happens when people share their issues/concerns and make an attempt to HEAR others issues/concerns as well. Listening has not been a strength of the collaborative in the first year.
- q) There should be greater accountability (among individuals and organizations) with respect to participants' commitment to shared goals, objectives and procedures. Reversals from previously agreed-to positions and language is destructive to the collaborative process.
- r) It ain't shared if everyone (or their superiors) is crouched in a defensive posture looking for loopholes

5. What additional resources do we need to reach our goals?

- a) A commitment to following the commitments. Last year parties were secretly scheduling a trip to DC while calling for more transparency in 4FRI meetings. There's a process for dissent that is rarely followed. None of the documents requested by the FS have been turned in on time in final form. [A particular stakeholder organization] demanded the FS follow the LTRS in their comments to the PA but a completed version wasn't provided until about a month after the PA was released! If the group cannot effectively follow the institutional structure, then the structure is not adequate.
- b) I would like to see more Collaborative members do some of the work. It appears to me that there is a core group of people who actually do work behind the scenes and away from meetings, then there is a larger group that attends meetings, and that's about it. That seems to be par for the course for most committees, but it'd be nice to maybe have the opportunity to actually delegate actions to be taken by members rather than just depending on volunteering to get things done.
- c) Some improved analysis capabilities to develop management approaches within treatment areas that are truly strategic and reflect modern forest planning methods. These would include enhanced fire modeling, methods for improving and updating data on forest conditions and use of other analytical tools that have become more common in other USFS regions with more active forest management.
- d) I think we need a paid, part-time, objective coordinator to make sure notes and decisions are kept in a consistent manner, are put on websites in a timely manner, that meeting announcements are made consistently, and that partners are held accountable (meet deadlines) for agreed upon deliverables. I think the facilitator should take a bigger role to drive the agenda and make sure outcomes and expectations are clearly defined, and then met by the meeting. The co-chairs being from within the collaboration have a little more difficulty moving the group along.
- e) More expertise on forest ecology, silviculture, wildlife/fish habitat management, and watershed management is needed to fully develop effective treatment prescriptions and monitoring strategies that will help attain and evaluate DFCs and needed adaptive management changes.

- f) A facilitator who can ensure that the group follows its own rules, that every point of view is truly TRULY represented at discussions, but that when a consensus is needed, it is presented that way to the public, the Forest Service, and/or other interested parties.
- g) Get timelines in place for decision-making.
- h) Dollars to hire a full-time administrator and pursue non-profit status
- i) Money ?
- j) More volunteers for co-chairs
- k) Funds
- l) Adequate funding for, and commitment to, monitoring results once 4FRI is implemented.
- m) We have some people that are no longer attending the work groups and even the main meetings. We need the diversity, brain power, and support from these people.
- n) To commit to just move forward, and to get it done for the betterment of all.
- o) We need more stakeholders to step up and assume a leadership role - not sure if this is a resource issue (mainly time) or skills, experience and comfort. I think we need to start in on other aspects of our work - workforce training, restoration economy readiness-building, etc. to ramp up for large scale restoration in a timeframe that will make a difference.
- p) This collaborative is undermined by some history that precedes its establishment. We need two things:
 1. To create safe space for a conversation about the issues that undercut trust
 2. Assistance to empower individuals to call people on behavior contrary to the guidelines established in the Charter. This comes down to facilitation that helps get to these issues.
- q) Dedicated science staff to collect information that help the collaborative group make decisions.
- r) We need ALL partners to contribute to the collaborative. There is a disproportionate participation: some organizations have several full time positions that allow disproportionate workload responsibilities and flexibility
- s) Again, accountability is key. Too often do people volunteer to do things and fail to deliver or fail to acknowledge when something may be beyond their level of expertise. This leads to ineffective and inefficient work group meetings. Too much time is spent bringing people "up to speed" and re-visiting decisions that were made.

- t) Adequate Federal funding NOW to kick this off and assist with stimulating the private investors to provide an outlet for the various timber treatments as well as taking care of those other items needed to restore a healthy forest
- u) Industry
- v) Practical application of the process of reaching goals is always different from the design work of reaching goals. I am confident that the staff we have will have a wonderful learning curve in the initial start up and will learn a lot of themselves in this process. I believe in the staff that they can do it and together with industry and with patience, we will meet our goals.
- w) A coordinator to oversee work groups and make sure products are released in a timely manner would be helpful.
- x) Continue working towards a goal of FOREST RESTORATION and forget those petty differences.
- y) A time machine
- z) Funding.
- aa) I believe we need administrative support.
- bb) Work group structure and membership should be improved to promote a more efficient and authoritative products and outcomes. More and better information could help inform and inspire sub-group efforts.
- cc) We need funds to support monitoring and adaptive management.
- dd) Most collaborative groups are slow but secure and steady. When the MAJOR issues are not addressed and put right out on the table (and yes, perhaps some yelling and arguing will result - that is why there are facilitators) until YEARS into the process (April - August 2011); there is something critically wrong.
- ee) Dedicated staff; true collaboration with the USFS

6. Enter other comments you would like to share related to "Institutional Structure."

- a) So far a couple parties have ruled with facilitators, bogging progress down into strong frustration voiced by several other stakeholders. The group ("Collaborative" does not describe what happens with this group) needs a stronger facilitator, not self-facilitation. Of course, this same group stated they didn't need a NEPA course and all the way through these initial stages it has been evident that they don't

really understand the intent and boundaries associated with each step they are addressing. Some parties do listen and adapt and provide their comments in a useful fashion, but other(s) simply continue the bombastic rant.

- b) I have been very impressed on the structure of the Collaborative, with the steering committee, the various working committees, and the decision-making process.
- c) It seems like much could be learned and gained from a co-management type or institutional structure that leverages a broad range of expertise from inside and outside the USFS and stakeholder support. Some of that is in place that is probably well above what is common, but I would like to see this approach taken much further.
- d) It seems that huge weight is often given to the opinions of a squeaky minority one or two, while the majority view is not always presented as such (as the majority view).
- e) The Forest Service is taking the lead away from the collaborative group.
- f) It seems like that some workgroups work very well and other workgroups are one person shows. I think more attention needs to be spend on those.
- g) It would be nice to see others step up to the plate for the Co-Chair of the Steering Committee. Work groups should communicate more often so each is aware of what the other is doing, especially the LSWG and the S&M WG. Do not see a lot of participation from those from the East in the WGs. I want to caution the Steering Committee that it is not a decision-making body, nor should there be "special session" during their meetings unless they are publicized to the entire collaborative.
- h) People are still pushing agendas and continuing to not trust each other. We have not mastered the collaboration we need to adequately sort out the issues and get a common agreement on how to implement restoration across abroad landscape.
- i) There are still communication gaps between the Steering Committee and the larger Stakeholder Group. I believe some would like to keep it that way as a means of retaining power in the group. The SC is starting to get meeting notes out more rapidly, which is helpful. Also as a general comment - we're very slow as an organization to get products to the FS. We need a more rapid timeline for work group products that improve our image to appear more helpful and less of a hindrance.
- j) The "inactive" status of many shareholders places a burden on the rest due to the conveyance and ratification requirements to share information, make decisions & get work done.
- k) none

- l) Too many work groups. Even though membership is often shared, work groups often work redundant issues. More seriously, running all groups concurrently impairs the ability to focus on priorities. Lastly, the demand for meetings and the presumption that work groups should have products is a vast drain on finite resources. That said, work groups have continued key dialog. The resulting "norming" may be a good thing if it is carried to the stakeholders level. And at least two important position papers have been produced that the USFS has been able to incorporate and to use to lay groundwork for this vast upscaling.
- m) I have always been impressed with the think tank that 4FRI has put together. Great knowledgeable and experienced folks.
- n) We need clearer objectives for workgroups. Expectations feel like a moving target much of the time. By the time products come out of groups, it seems like the Forest Service has moved on and does not really incorporate those products.
- o) Be mindful of structure getting in the way of function...it's easy to create a bureaucracy that becomes burdensome and overly process-laden
- p) Too much is happening in the steering committee and not enough is being done at the stakeholder meetings.
- q) New approaches to leadership would help. Facilitation seems to promote negotiation over collaboration. This can exacerbate conflicts and redirect communications, undermining fragile agreements, rather than strengthening them.
- r) Without true accountability, the group is limited. Accountability is needed to make individuals complete the work they promise to complete. Accountability is needed to prevent dishonesty and the use of self-serving maneuvers.
- s) I remain unconvinced that forest health can be managed through this type of collaborative process. The focus on harvesting and the deep divisions about tree diameter have compromised the entire process. A great deal of this can be traced to the almost obsessive focus on timber harvesting rather than the much more forward-looking opportunities with biomass and other by-products. If 60% of the small-diameter timber harvesting ends up as biomass, then there HAS to be a focus on this. Hasn't happened yet. Finally, [one individual stakeholder] has yet to be brought into the fold as a cooperative partner. However accurate [the individual stakeholder] might be and however much funding [the individual stakeholder] has behind him, [the individual stakeholder] is NOT collaborative (and if this is what [the stakeholder] gets paid for, [the individual stakeholder] is a lobbyist and should NOT be a member of the group - this is a pretty significant Conflict of Interest).

8. What groups or interests should be approached to join the Collaborative?

(Please note that we did not remove the names of organizations from these comments since without them, the question would go unanswered.)

- a) More local representation would be great, e.g., other components of NAU, representatives of the city, local NGOs from other interests other than simply "enviros." The key would be making 4FRI relevant enough for various groups to understand that they really are interested.
- b) We discussed the ranching community at the last meeting; they have been invited (Cattle growers) years ago to be a member but haven't shown up at meetings. Now we're going to try to get to some of the local grazing permittees. I don't know if the Collaborative has invited Northern or White Mtn Audubon chapters? At this point, the Collaborative is open to anyone, basically, that I wonder if we should bother spending the time to solicit new members? If they're not at the table at this point (there's been enough publicity about this group), would they even bother being an active participant?
- c) It would be hard to imagine a larger group than this. It would be hard to imagine [word missing here] interested in AZ forest issues and management has not heard about or become acquainted with 4FRI. It would be interesting to get the perspective of young people on what they expect for the future of the forest that surrounds them.
- d) Livestock permittees or representatives from the AZ Cattle Growers that have the privilege to utilize federal grazing allotments within each Forest within the 4FRI program.
- e) Schools? (High Schools, who have a stake in how/what they teach their students. They are also a potential source for annual monitoring.
- f) From last meeting it turned out that the Cattle growers should really be sitting at the table. But it may not be that they were not invited, but more that they chose not to be there.
- g) National Forest grazing permittees; more industry involvement
- h) Cattle Growers (They have been approached and I believe they plan to get engaged).
- i) Native American Tribes, Recreational Groups, Homeowners Assoc.
- j) Some people are no longer at the table. Tribal interest has never been a part of the collaborative.
- k) Arizona Cattlemen, more industry,
- l) Ranchers, recreationists,

- m) Ranchers, ORV, Tribes, non-extractive business representatives that benefit from a healthy forest
- n) RANCHERS, RANCHERS, RANCHERS!!!! Also, conservation groups such as Audubon, Trout Unlimited, and local hunt/fish groups.
- o) Other natural resource groups vital to maintaining forest health.
- p) This group is open to new members and widely noticed. It would be difficult to imagine a group that has not heard of this group.
- q) No suggestion.
- r) Not aware of any
- s) The ranching community has never been integrated into 4FRI. They will be impacted by restoration but have not participated in the planning process. The recreation sector is also another forest user group that will be greatly impacted but does not have significant representation.
- t) Tribal governments and organizations
- u) We should not worry about those who have not joined - we should focus our efforts on those who have engaged. While we should always reach-out and welcome any new stakeholders, chasing those who've not stepped up is a never ending, and never satisfying, journey of frustration.

9. What should be done to improve trust and open communication within the Collaborative?

- a) Call groups out when they violate the agreed upon rule and make them accountable. I have sat through many meetings where the average person would think the [particular stakeholder group] spoke for the stakeholders (I have quit using the word "collaborators" given the lack of collaboration) and they as a group had significant issues with what the FS was proposing. Afterwards several other stakeholders have contacted me personally to say the [particular stakeholder group] does not represent their views. Great; but what about the process?
- b) I said "disagree" on two statements above because I feel there has been some experiences by some members that have said or reportedly said certain things to the consternation of other members; and instead of trying to resolve the issue then and there, some of the members discuss their concerns behind the backs of these other members and get others caught up in a certain opinion that may or may not appropriately reflect what was originally said that caused this consternation. Later, when an item is open for discussion that may have been the cause of this consternation, no one says anything. It's like they were more content in talking about their concerns in a closed system, and this is detrimental to the

overall cohesiveness of the group. So, while I actually think that the Collaborative is generally open to other viewpoints, and that at the MEETINGS themselves, differing viewpoints are heard, but there is a tendency to have some members discuss their concerns behind the backs of those that concern them. I don't have a solution for this, unless one communicates with the facilitator and asks them for help in broaching the concern in the group setting, which too is difficult. It should be the responsibility of EACH member to voice their concerns to either: 1) the person that caused the concern; and/or 2) the group as a whole.

- c) Be open in communication and demonstrate where recommendations have been incorporated.
- d) There is a resident level of paranoia and distrust among stakeholders. The partners seem very quick to jump to assumptions about how other partners have behaved, and the motivation behind that behavior. I think rumors need to be quickly quelled, and folks need to be more up front with the "he said, she said" crap.
- e) Encourage all stakeholders involved in the 4FRI process to utilize the BASECAMP tool to provide their comments, concerns, and ideas to the stakeholders and work groups in this transparent forum which are documented for all stakeholders to view and discuss. This tool certainly provides a mechanism to open communication beyond just the 4FRI meetings
- f) A good facilitator, one who studies and understands the rules the Stakeholders have agreed to, and ensures that the group follows them. As far as I know, that has only rarely been done so few, if any, really understand how it would feel. Until that happens, it would be difficult for the group to facilitate itself. The facilitator should not be USFS or Stakeholder, but SHOULD be someone who understands the issues (perhaps someone more local?)
- g) Hold members accountable when they do not abide by the communication guidelines as laid out in the charter
- h) Keep on communicating and not have ulterior motives.
- i) Keep at what we are doing
- j) Would be nice to hear from those that don't speak up as much, not sure how this can be accomplished, but I think as time goes on, those that are not as vocal, will begin to feel more comfortable. Social events always have a positive effect as members are able to get to know each other outside of the professional network. Members should look at this endeavor and stepping into a new paradigm, starting anew. Therefore, trust should hold until its disproved.
- k) We need stronger facilitation to work through these issues of distrust.
- l) Be honest and when you do not get your way, go ahead and support the decision.

- m) Active exercises in trust-building, team building, take on the issues actively, understand power-sharing
- n) Unpack the box of bad history and feelings. Call out behavior that undermines trust.
- o) Competitive and aggressive behaviors need to be called out, exposed, and addressed immediately. There is too much power going to a vocal minority. Many are afraid to call this minority out because it often results in political retaliation outside of collaborative meetings. It is the facilitator's job to create a safe space and take on the policing role, and I'd say this is not happening.
- p) Those organizations that clearly have issues need to be forthright & disclose them...there is too much speculation of issues & too much dancing around the issues
- q) It is unacceptable that members of the Collaborative "agree" to final versions of documents and yet continue to re-visit them and politic behind the scenes to undermine them. Again, this is highly inefficient
- r) Don't know
- s) This is a difficult question and really nothing that the group in the aggregate can improve on. It can only be improved when the individual members are willing to be open and honest in discussion/debate and embrace the concept of consensus. On occasion, individuals will be stuck on an issue that is important to them but agreed to by the remainder of the group, which impedes progress.
- t) Working Groups should include candid summaries of issues uncovered during discussions or document reviews.
- u) Speaking for industry, prior to the submitting of a proposal on 4FRI there was always a certain guarding of information. Once the contract is awarded I am looking forward to an open dialog between the collaborative.
- v) More beer nights.
- w) Allow for adequate communication and allow a forum for different views to be heard
- x) Support decisions when a large majority of the group agree on something.
- y) More active listening and less posturing.
- z) Once documents are finalized, stakeholders need to stand behind them. For example, most recently it was stated that the Large Tree Retention Policy was just a theory - not an absolute. My question to the group would be then - why did we spend so much time on it?

- aa) Increase accountability within organizations to honor previous agreements. Increase expectations within the group for clear statements of objectives of diverse constituencies. Utilize factual information and objective methodological approaches to explore and solve emerging challenges, rather than resorting to a "conflict resolution" approach. Do not confuse differences in values and opinions with conflicts. This is all about finding a real path forward, despite real and legitimate differences in values - sharing good information can help people with differences find a way to work together.
- bb) We should engage in direct dialogue and stop conflict avoidance.
- cc) Permit organizations to have only one member on each committee; if there aren't then enough members on any one committee to do work, then we need to ask ourselves is that committee REALLY needed. Identify only one member of any group to be that group's designated rep: others can be alternates or interested parties, but they should not be part of the discussion or decision process unless they are serving in the "acting" capacity at that time.

10. Enter other comments you would like to share related to "Internal Communication."

- a) Questions D & E above highlight areas where I think the [particular stakeholder group's] behavior undermines the stakeholder's efforts. They have refused outright to provide supporting documentation on some opinions, they counter hard science published in highly regarded professional journals with opinion pieces, and when faced with a mountain of evidence that runs against their stance, they simply say "I disagree." Please don't mistake this for a rant, I have personally seen all of the above happen at 4FRI meetings.
- b) See #9.
- c) This process is hard with so many different interests involved and different levels of understanding. I think all individuals involved should strive to communicate their ideas and have a forum to be heard at any time during the process. The large stakeholder meeting do a good job in that regard.
- d) Project coordinator would help facilitate this.
- e) Work group notes are not shared adequately. The steering committee needs to remember it is a recommending group, not a decision group. The work & communications they perform needs to be more transparent.
- f) Additional stakeholder involvement within the work groups needs to occur. Every represented stakeholder should serve on a work group as an active participant. There's no reason why 6-10 people out of a group of 40+ are doing all the work group tasks
- g) None

- h) If steering group cannot bring itself to reduce or stage work groups, then they should call for more joint sessions of work groups.
- i) None
- j) A bigger section of the stakeholder meetings should be devoted to work groups reporting. It doesn't seem like most of the stakeholders are aware of the processes that are happening in the groups. They are mainly approached when there is a product they are called upon to endorse.
- k) Basecamp seems to be a very useful tool

12. What ideas do you have that could foster and improve the 4FRI Collaborative's profile among the general public?

- a) Speak with one voice and speak often. Designate people to put effort into generating interest from the press. Have more of a presence in the community. Write op-ed pieces in between news articles so that there is a regular reference to 4FRI in the news. Much of this is happening, but not at a large enough scale.
- b) Everyone needs to actively participate in outreach, not just a few key members, but everyone.
- c) I think that positive outcomes and progress need to be continually brought forward to the public and reinforced. In the wake of several large fires in the Southwest this year and the Schultz fire of 2010, I think that public is wanting to hear about positive steps being taken to reduce occurrence of these events. This may include the 4FRI and active treatments that are being applied already. There are many new treatments around Flagstaff that could play a role in getting the message across to the public that work is in progress, that will be increased with 4FRI and treat a much greater portion of the Landscape. Treating large landscapes, and not just around communities is clearly needed. That point may already be clear to most, but reminders are good.
- d) Develop additional outreach articles, news briefs, brochures for wide media and public distribution (e.g., distribution to state/local newspapers, TV stations, High schools, Universities, potential stakeholder groups - forest recreationists - hunter/fisherman organizations, OHV organizations, Hiking clubs, etc.). Consider developing a site on a social networking program (e.g., Facebook, Twitter) similar to what federal/state agencies and companies are doing across the U.S.
- e) Get some local sponsors - Target, Wal-Mart...someone who can ensure that a lot more people are exposed to 4FRI.
- f) More information in local press

- g) More outreach events.
- h) The public meetings are too technical for the general public to understand what 4FRI is and what it will look like on the ground. Also, our legislators need to stop trying to legislate forest management, and need to let 4FRI move forward.
- i) I'm not sure the public is all that interested in the work of the collaborative so it is hard to devise a way to keep them informed.
- j) More positive press.
- k) More active outreach, public forums, presence at public events
- l) Reinvigorate the communication committee with professionals to develop and promote messages for the general public.
- m) Larger presence at community events. We could host a 4FRI night at the Green Room in Flagstaff.
- n) More effective outreach: to include more involvement & education efforts
- o) We must be sure to create presentations that address the concerns of "the public" and not necessarily the 4FRI Stakeholders. For example, smoke and its impacts are rarely discussed within the collaborative except to acknowledge that it's "important to the public". Our messaging reflects this casual attitude
- p) Improved/additional media releases throughout the state are necessary to increase awareness of funding issues, project extent, timelines and support for markets. TV coverage in metro markets, while away from many 4FRI activities, is needed to improve the outreach
- q) Start the work and let them see something is getting done and how good it looks.
- r) There does not seem to be a coordinated effort to provide regular, timely press releases to the general public. This is a great project that should be in front of the public on a regular basis to promote not only the great collaboration of the group but also the need/benefit for forest restoration.
- s) This question presumes that there is a need to "...foster and improve..." What aspect do we need to foster?
- t) Cost is always a determining factor to getting out information. We can get it out more, and I am sure we will pick this up as this contract is released and funds come available.
- u) Perhaps for now the level of outreach is adequate. But as time goes on 4FRI will need to ramp up the outreach as we draw closer to action.

- v) Most of the general public don't get involved because they either are not interested, or they trust the "professionals" in the FS to do the right thing. They key in to the wildfire situation and don't get involved in more detail. This isn't necessarily bad, we just need to acknowledge that we won't hear from everyone. At the "my back yard" level, many get interested but not on a larger scale.
- w) As much as I hate to say it, we need to have evening meetings and perhaps weekend field trips if we want to actively engage the public. Our current schedule is not conducive to engaging more public entities.
- x) Engage the public in meaningful dialog, rather than promoting the 4FRI.
- y) An organized multi-party stakeholder/USFS approach that is laid out in-advance, calendared, and updated at each monthly stakeholder meeting One single set of easily accessible materials that all have access to and can use at any given public meeting or update

13. Enter comments you would like to share related to "External Communication."

- a) In terms of effectively communicating with the FS, yesterday (10/11) there was a conf call where stakeholders were still disputing the large & old tree retention policy. For crimony sake ... really? How is that "effective?"
- b) There's some very excellent work that has been done, and very useful, and we (the USFS core group) have gone though every page of the Landscape Strategy and the LTRS as a group and used as much as we could (which is a lot). The USFS has only sometimes received products in a timely manner and, even those, are not complete. They have statements like, "Additional time is required for the collaborative group to complete the comprehensive landscape strategy (Landscape strategy, dated October 1, 2010). The Large Tree RS had a number of conflicting statements, some on the same page, relating to the finalization of the document and/or the agreement that had (or had not) been reached by the Stakeholder Group. It also was not truly a treatment recommendation, since it included opposing views along with what we 'should'? assume was the preferred view. The Stakeholder group would have more influence and we (the USFS) would better be able to incorporate the work that is done if it comes in time to be vetted by the core and extended 4FRI team.
- c) Sometimes communications with the FS can be frustrating because their decisions are made by people who are not involved directly with the collaborative, and the FS representatives at the meetings seem unable or unwilling to adequately explain how and why those decisions are made. This leads to distrust of the FS among certain elements of the collaborative group. This is the single largest issue, in my opinion, that needs to be addressed for the Collaborative effort to continue to be successful

- d) We need to know that USFS will adhere to the stakeholder plans. Also, other WUI and fire protection forest treatments that will run concurrent with (or potentially delay) 4FRI should be combined with 4FRI planning (if they include ponderosa pine forests) to streamline execution of the entire plan.
- e) It is critical that the collaborative figure out a way to meet the Forest Service deadlines and provide them with the information we want them to incorporate into the process in a timely fashion.
- f) Create a separate committee that develops a targeted outreach strategy for audiences that are not the general public. For example, [a stakeholder group] wants nuanced messages that allay concerns of the more litigious environmental organizations. Develop a strategy specific to them, while freeing up the communication committee to direct messages at the general public.
- g) I think we do well on this front. But in terms of how the FS views the collaborative, we have not hit a single deadline on time. In a business world, this would be embarrassing. We need to prove it to the FS that we can get them complete products when we say we're going to get them done.
- h) Having it discussed on Science Friday was great.
- i) None
- j) I don't hear any negative responses from the public, but I don't hear anything overwhelmingly positive either. There seems to be a sort of general awareness of 4FRI, but no emotional attachment. We need to think ahead to what it is we want from the public and gradually introduce ideas into the media that lay the groundwork for future understanding and support.
- k) There needs to be one message from the collaborative to the Forest Service, not several.
- l) Idea that communication with the FS is "external" is an illustration of a fundamental problem that we have allowed to develop. The FS is not external to the 4FRI collaborative; assuming that it is reflects the major organizational challenge we face.

15. What suggestions do you have that would improve our decision making?

- a) Try to meet a-e above. Much of my previous comments address these topics. People need to understand that there really are deadlines and that documents full of point and counter point provide no direction, does not qualify as clear communication, and are not useful. Given all the background politics (e.g., [a particular stakeholder group] has put pressure on individual stakeholder representatives via calls to supervisors), how can people even use the word "transparent?"
- b) Collaborative members seem to be focused on "winning" rather than reaching a desired condition.

- c) The majority of the Stakeholders (from what we have seen) would benefit immensely from a good NEPA training. Understanding where the limitations and opportunities are, what the deadlines represent, and what information is appropriate to be incorporated would improve (as in my last comment) the influence the Stakeholders have, the input we are able to include, the usefulness of the info the Stakeholders provide and, therefore, the effectiveness of the 4FRI as a groundbreaking initiative that will achieve all of our goals!
- d) We have evolved from our formal matrix and process to a looser and more informal process of decision making
- e) I think the opportunity for the stakeholders to have meaningful input into many of the collaborative's decisions requires them to be on working group, where they can help formulate original proposals.
- f) We need to use the matrix more. We can't continue to have discussions at meetings and then have conclusions and decisions formulated by a smaller group at a later date.
- g) Once again; When a decision is made it is made, go forward for the good of the group.
- h) We instituted a process this summer of recording and reviewing what has been decided at each meeting. We need to put that info front and center in our meeting minutes, and review at the next stakeholder meeting. Maybe we should have a place on our webpage or basecamp or both that lines out all of our decisions.
- i) We let conversations go way too long. We should use the matrix more often to put discussions to rest and move on. In addition, when decisions are made they are not well recapped and then recorded. This should be better organized. Sometimes we do not even know when a decision has been made. I do not understand the question 14e.
- j) Many external to the collaborative don't quite understand the "reservations" process and often don't read the reservations when they get attached to documents.
- k) Use our decision matrix!! We haven't used it in over a year.
- l) I have not seen the Decision Matrix invoked effectively during my period of involvement with the project
- m) We should not be blackmailed or harangued for very narrow issue or disagreement. Best science and overall goals should rule the decision process
- n) Get the FS to proceed.

- o) Decision making is always enhanced once a general feeling of trust is developed, and trust is developed through time and experience. Give it time and I am confident this group will continue to be very cohesive.
- p) A two-track decision-making process is needed. One for those items that require quick response (e.g. support letter for grant proposals) and one for larger more deliberative processes. Most of this has been pretty well hammered out already though.
- q) Have more discussion between multiple partners at the stakeholder meetings so that everyone can hear the discussion.
- r) Collaborative decisions are generally well considered, but seem to come at the last minute and with considerable conflict. It would be nice to feel and project a sense of strength and excitement, but this is seldom the case. Separation of FS decisions from the collaborative's work has a negative effect on morale.
- s) We need to move deep enough into our discussions that we actually reach meaningful decisions. Our decisions are very "watered down" because our shared decision space only occurs at the broadest scales and we avoid digging deeper.

16. How effective are our foundational documents in promoting understanding and agreement?

- a) They may be meaningful to building the stakeholder group and if so that is very valuable. External to their group the effectiveness plummets.
- b) I think they could be helpful; I've noticed the original authors don't reference them too much. Do they remember what they wrote?
- c) Not very - they were useful for helping the collaborative "gel" and get started, but we rarely go back to them
- d) They are clear and concise and support the decision-making process.
- e) Ok
- f) Good
- g) We all agree on 95% of the content of the foundation documents. We largely understand where everyone is coming from, but the issues that remain unresolved are fairly toxic to the collaborative.
- h) The Charter is crucial in defining the process for making decisions.

- i) They COULD be used more effectively if we reference them
- j) Could be effective, if people were actually accountable for their actions within the context of those documents
- k) Very good
- l) I think that these documents are critical in framing the decisions based on common understanding.
- m) Could a newcomer read them and know what we are about? I think that would be difficult, due to size, segmentation, and turgid prose. Conditions of approval (i.e., minority positions) are invisible.
- n) They are very effective in that they create the basis on which we can build and function.
- o) They are good.
- p) 90% effective, but not so for the 10% that gets too far into the weeds
- q) The documents are not the issue - it is implementation of the documents that is key to promoting understanding and agreement and I'm not convinced our implementation of the documents is always as good as it could be.
- r) So far, not very good. It seems like we reach agreement - and then 3-4 months down the road - someone says that a document doesn't really mean what it was intended to mean.
- s) Very effective; but the group seems to keep circling back and questioning aspects of these that were previously settled.

17. Enter other comments you would like to share related to "Decision Making."

- a) Make some!
- b) None
- c) I think in the past we have conformed to minority positions a bit too much for the sake of keeping the collaborative going. Lately that seems to be less of an issue. I think the steering committee does a good job of staying abreast of things and keeping us on track with the important decisions that need to be made.

19. What should be done to improve our timeliness in product development and delivery?

- a) I have already addressed the dismal track record in terms of timely products. What I don't understand is how people can say they believe in them or that the FS should use them when they lack decisions and are typically late (the reason the FS received a "final draft" old & large tree retention policy is because [the U.S. Forest Service] called and requested one -- the response was "we already provided that" which was later followed up with something like "OMG, we need to finish this!")
- b) Commit to meeting schedules; make decisions regardless of who's attending, or assign a quorum number to meet and if it's not met, cancel meetings so that we don't waste time. Hold people accountable. Silence is agreement.
- c) See previous comments.
- d) It seems that a small group is pulling a lot of load. Given that the number of products produced are pretty good.
- e) Timeliness will come at the expense of process and structured decision making
- f) We need to agree that we are truly a collaborative, we need more facilitation and better leadership.
- g) Just do it, the time for talking is over, the time for doing is now.
- h) There are two camps in this collaborative. One that believes our role is to dictate to the Forest Service how forests should be managed. This camp believes that if the product comes from the collaborative then it should be adopted as widely accepted and therefore the correct answer. This group views the Forest Service as the enemy. This group tends to be more position based. The other camp believes that collaboration should move us towards a respectful partnership with the Forest Service and that we should work together to develop mutually valuable products that further our shared restoration vision. This group tends to be more interest based.
- i) We need to create more separation between science products and organizational agendas so that there is less bickering and time spent on the content of those documents. Our science products do not need to answer the group's questions, they just need to inform the group's decisions or likewise inform the FS decisions. If we could get the coercion out of the work group meetings (LSWG and SMWG) we might get to products quicker.
- j) People who volunteer to do work should DO IT and meet the agreed upon deadlines rather than waiting for others to pick up their slack.

- k) To my knowledge, the work groups have delivered within USFS timelines; however, the stakeholders have had to make a point of insisting on cutting off development and making delivery.
- l) Not sure
- m) Create and enforce deadlines. Delineate clear objectives, tasks, and deliverables. Make sure roles of work group participants are clearly defined.
- n) More effective leadership and greater attention to current science and the capabilities for incorporating scientific understanding into the group's work and product development. Clarity of purpose and greater efficiency in management would allow preliminary discussions to advance, leaving more time for developing and refining maps, plans, recommendations, and other products.
- o) We should create some sort of accountability within the group.

20. Enter other comments related to "Product Development."

- a) Develop some in a timely manner, which, if it's meant to be used by the FS, would mean providing a draft well ahead of the deadline to be sure it's written in a manner that will meet its intent.
- b) The USFS is expecting the Stakeholder group to produce some sort of monitoring/adaptive management plan, but we're almost out of time and have had very little discussion about what is needed, what is required, what is feasible, and where/how Stakeholders can be responsible for doing some of the monitoring and/or evaluating the results. We will have to 'vet' the plan with the extended core team to ensure it will meet the needs of all disciplines (watershed, range, timber, fire, wildlife...) all have to confirm that it will meet requirements for reporting/monitoring.
- c) We don't agree on the science - we have a very credible science institute that has extensive, peer reviewed work in a variety of areas associated with restoration, yet some members of the collaborative feel that science is bogus. Not a good start to incorporating science into our work products.
- d) I haven't seen any adaptive management to our products yet.
- e) I don't know what item f. means. I think the terms monitoring and adaptive management strategies are being used to convey some flexibility and continual self-evaluation of interpersonal relationships and ideas. If so, are you suggesting that each document should identify how our stance may change as our feelings change? I do not think that is a useful exercise. If instead you mean adaptive management and monitoring in the sense that you are implementing management as a hypothesis, monitoring the results, and making new decisions based on data - I would say we are not there yet.
- f) Some products seem to be pursued simply for their own sake.

- g) A conceptual model is needed to show where products fit in the overall scheme. Some kind of periodic review/analysis is needed to determine whether products are meeting objectives. For instance, what has been the benefit of the Landscape Strategy? Has it made a difference in the 4FRI planning process? What about the Large Tree Retention Strategy? Is the Forest Service even citing these collaborative products in their planning documents?
- h) d. Most do, but I sometimes think a few don't always stand strongly behind.
- i) See previous comments.....
- j) All the debate, negotiation, and eventual agreement is not very helpful unless the collaborative delivers clear and timely direction to the FS, and projects a cohesiveness to the public and public officials.

22. What changes or adaptations do you feel would improve group performance and effectiveness?

- a) Openly and accurately assessing its actions; openly and accurately assessing where problems lie and how to address them; and openly and accurately responding to the information. So far there is a lot of subterfuge and arguments without parties adjusting their opinions when the information is compiled. [A particular stakeholder group] is the main group that operates this way, but they coordinate with others who, by their silence in group meetings, support [the particular stakeholder group's] aims and objectives even when they run counter to the stated 4FRI objectives.
- b) More responsibility and actions taken on by some members who mostly just attend the meetings. Brings these people in, gets them more involved, and alleviates then need for a core group of people to always be the ones that get things done.
- c) As mentioned in other topic areas. We'll see how the results of this survey are utilized.
- d) Consider rotating chairs of the WGs. Reviewing and possibly reformulating the WG structure. Meetings between Chairs of the WGs and/or a liaison between the WGs.
- e) Hopefully this exercise will go a long way in getting at the issues.
- f) A lot less talk and a lot more action.
- g) More honest dialogue where people are willing to divulge their real positions and interests. The Canopy Cover discussion is a perfect example of a confounded discussion.

- h) I would LOVE to see us create and participate in opportunities to learn as a group. Isn't that what every textbook says a collaborative should do? We don't do enough learning together. Also very little time and effort taken to evaluate our performance.
- i) See responses to 6, 9, and 10.
- j) Just keep moving forward. Recognize that everyone has a voice, albeit, some are louder than others, but for the most case all have the best interest of the group in mind.
- k) More field trips, fewer meetings. We're a bunch of woodsies. We'll be happier if we get outside. We'll also have better camaraderie that will improve communication and cooperation. Also, I think we're at a point where we've talked enough in generalities and abstractions. We need to take a hard look at applications.
- l) This will continue to be a challenge, as conditions change and urgency increases
- m) New and varied forms of leadership approaches could re-introduce a sense of urgency, shared objectives, and community.

23. Enter other comments you would like to share related to "Adaptive Management."

- a) 2 yrs ago I sat through the 1st meetings of the S&M group. If it wasn't for the efforts of 1 person (a stakeholder) the FS would likely not have gotten any research proposals and what we did get arrived in the 11th a half hour. Why? Hopefully there is a nearly completed adaptive management document, but given the lack of understanding of how NEPA operates amongst the stakeholders, getting a draft early would be a great thing.
- b) I do not think there's a member that doesn't support adapting and changing with changing needs. We are all open to that type of change and adaptation.
- c) How the results of this survey are used will be a good indicator of how we are doing on this issue.
- d) Until we all agree that we want to become a collaborative and work toward collaborative outcomes it will be difficult for us to embrace our own adaptive management process.
- e) Adaptive management has a specific meaning - it is not simply flexibility and self-evaluation; continued misuse of the term and idea lead to confusion.
- f) Although this is a relatively new process, especially at this scale, I think much could be gleaned from other organization's experience. Tap [a stakeholder's] knowledge of collaborative decision-making for ideas on how to evaluate our collaborative and tweak it as needed.

- g) I don't see this really defined or incorporated, or even understood; we seem to do the same things, have the same discussions, produce the same products, see the same people . . . What would we do differently (successfully) based on what we have done and now know? (I'm not sure . . .)

24. How many times per year do you attend the larger Stakeholder meetings?

- a) 4
- b) 10
- c) 3
- d) 6
- e) 2
- f) 6
- g) 4-5
- h) 4-6
- i) 6
- j) 8
- k) 10
- l) 5
- m) 8
- n) 4
- o) 3-4
- p) 10-12
- q) 10
- r) all
- s) 10
- t) 1
- u) 12
- v) 12
- w) 6-8
- x) 6-8
- y) 8
- z) 8
- aa) 9
- bb) 8
- cc) 10
- dd) 5-6
- ee) 8 or 9
- ff) 4-5
- gg) 9
- hh) 2

- ii) 10-12
- jj) 4
- kk) 6
- ll) 8-10

25. How many working groups do you regularly participate in?

- a) 0
- b) 1
- c) 2
- d) 2
- e) 0
- f) 0
- g) 1-2
- h) 0
- i) 0
- j) 0
- k) 2
- l) 0
- m) 1
- n) 1-2
- o) 1
- p) 3
- q) 1
- r) most
- s) 1
- t) 0
- u) 3
- v) 2
- w) 1
- x) 0
- y) 1
- z) 0
- aa) 0
- bb) 2
- cc) 0
- dd) 0
- ee) 0
- ff) 2
- gg) 2
- hh) 3-4

- ii) 0
- jj) 0
- kk) 1
- ll)

28 If you would like to identify yourself, please enter your name and affiliation here (not required):

- a) Note the answers to 24 & 25 used to be 12 & 3 but I got fed up with the time commitment relative to the lack of progress.
- b) Tommie Martin, Gila County
- c) Edward Smith, The Nature Conservancy
- d) Sarah Reif, Arizona Game and Fish Department
- e) Tom Mackin, President, Arizona Wildlife Federation
- f) R Davis
- g) Scott Harger, Coconino Natural Resource Conservation District
- h) Michael Cooley Pioneer Associates and Cooley Forest Products
- i) Don Berry, Chairman White Mtn Stewardship Contract Monitoring Board