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Technical Guide

September 2006

Social Economic Profile Technical Guide

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A social and economic profile is a key element of a social assessment. A social and economic assessment or profile is used by line officers, planning staff social scientists, and others to inform both forest planning activities and project-level work. It is important to discover how planning and management decisions made by National Forest System staff will affect social and economic conditions in communities surrounding the forest.

Since the writing of this technical guide, the 2005 Planning Rule 36 CFR 219.6 has been released. The new rule again requires that social assessments (evaluations) be done as part of plan activities. Page 41 of the rule, which addresses evaluations and documentation, specifies that the plan document or set of documents will include reports on current social and economic conditions and trends. These evaluation reports are expected for all plan revisions and must be made available to the public.

KEY WORDS: social assessment, economic assessment, profile, demographic characteristics, forest planning

Disclaimer

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Photo: "Old Growth," Chuck Benedict.

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Chapter 1. Introduction

1.1 Business Requirements: Why This Publication Exists

The broad objective or business requirement this guide strives to meet is to "provide the ecological, social, and economic information necessary for the Forest Service to achieve its mission to sustain the health, diversity, and productivity of the Nation's forests and grasslands to meet the needs of present and future generations" (USDA 1940).

A social and economic profile (SEP) to be used by line officers, planning staff, social scientists, and others will meet the following requirements:

- Contribute to establishing a baseline for assessing how planning and management decisions on National Forest System (NFS) lands will affect the social and economic components of sustainability (2004 Planning Rule).
- Help to provide an understanding of the social and economic context within which planning and management on NFS lands takes place, which should be used to inform planning and decisionmaking (i.e., fire management, timber programs, recreation planning).
- Provide a profile of key demographic and economic characteristics of community social environments to guide collaboration efforts (2000/2002 draft planning rules), and U.S. Department of Agriculture (USDA) Forest Service strategic outreach efforts (Forest Service Outreach Plan).
- Contribute to establishing a basis for predicting some of the social and economic effects of Forest Service actions, as required by the National Environmental Policy Act, Executive Order 12898 on Environmental Justice, and USDA Regulation 43004-4 implementing the Civil Rights Act.

1.2 Expected Products

This guide provides the following elements:

- A process for assembling and organizing secondary data pertaining to specific demographic, social, and economic conditions, and trends that help describe a social environment.
- An understanding of how to locate social and economic data from existing sources.
- A set of core variables that provide a general description of the conditions of a socioeconomic environment.
- A general understanding of how certain economic and social variables are relevant to NFS management.

Figure 1.1. *Interpretive signs and stops along a nature trail near Aspen, CO, tell hikers and visitors about the importance of vegetation management.*

This guide suggests a core set of variables relevant to most social situations; however, it is expected that additional socioeconomic data will be required to address specific and unique regional and local issues and problems. Thus, you should consider this guide as a starting platform that can help you formulate your approach to describing the social environment that will be affected by land management decisionmaking and planning.

1.3 Monitoring Questions

Data collected will address the following questions:

- How are the social and economic conditions of an area changing over time, and to what degree?
- Are social and economic conditions different among and within the national, regional, and local scales?

- What are the trends that need further analysis?
- What are the unique or key attributes of a social environment?
- How are the effects of change distributed over communities, ethnic groups, and socioeconomic areas?

1.4 Background and Specific Objectives

The reader. This guide presents analysis techniques to be used by Forest Service social scientists, contractors, and others who need to compile and interpret socioeconomic data across areas that could be impacted by management decisions implemented on NFS lands.

Area of analysis. The social environments analyzed might be towns, counties, States, regions, or other socially defined urban and/or rural locales. This guide identifies secondary-source demographic, social, and economic data that can be used to construct a SEP. These data represent the necessary information for a basic socioeconomic description. They might be used to describe the basic socioeconomic characteristics of a potentially affected environment, or as input into other types of social or economic analyses. The variability of scale, culture, complexity, economic adaptations, etc., however, suggests that other data will be required. For example, if communities surrounding a national forest are experiencing high levels of conflict over managing timber harvests and off-road vehicle use, basic demographic and economic data will not provide adequate information with which to assess the potential effects of management plans and decisions that will affect timber harvests and vehicle use. Thus, additional social, cultural, and economic data and analyses would be required to address those issues.

This guide and its relationship to others. This technical guide is one volume in a suite of social and economic technical guides and is intended as a general starting point from which social scientists, contractors, and others can begin to assemble pertinent demographic and socioeconomic data. The types of information needed and the questions asked will determine the social science skill level necessary to interpret the data and associated information. For example, straightforward descriptions of population trends require limited social science knowledge, whereas more complex questions about relationships among demographic, social, and economic variables require specialized skills. In the decisionmaking and planning process, it is imperative that the participants have a thorough knowledge of the limits of social and economic data, and the theoretical foundations for their use.

Figure 1.2. *Examining spruce trees near Aspen, CO, for disease and damage that could render them unsafe.*

Revisions to this guide. This technical guide will be updated periodically under the direction of the national human dimensions coordinator to reflect new science theories and direction as established by the Human Dimensions Steering Committee. The Human Dimensions Steering Committee consists largely of the regional social science coordinators and representatives from various Washington Office and research staffs.

Data sources. The data types referred to in this guide are derived from secondary sources, such as the U.S. Census Bureau, the Bureau of Economic Analysis, and the U.S. Department of Labor. (This guide does not contain analysis methods for using primary-source data.) As noted above, these data alone usually are not sufficient to provide a complete understanding of the relationships between people and the national forests and grasslands, or the impacts of Forest Service management decisions on communities and regions. Thus, information generated through SEPs should be integrated with other information about history, land use, values, attitudes and beliefs, and the social organization and processes of communities.

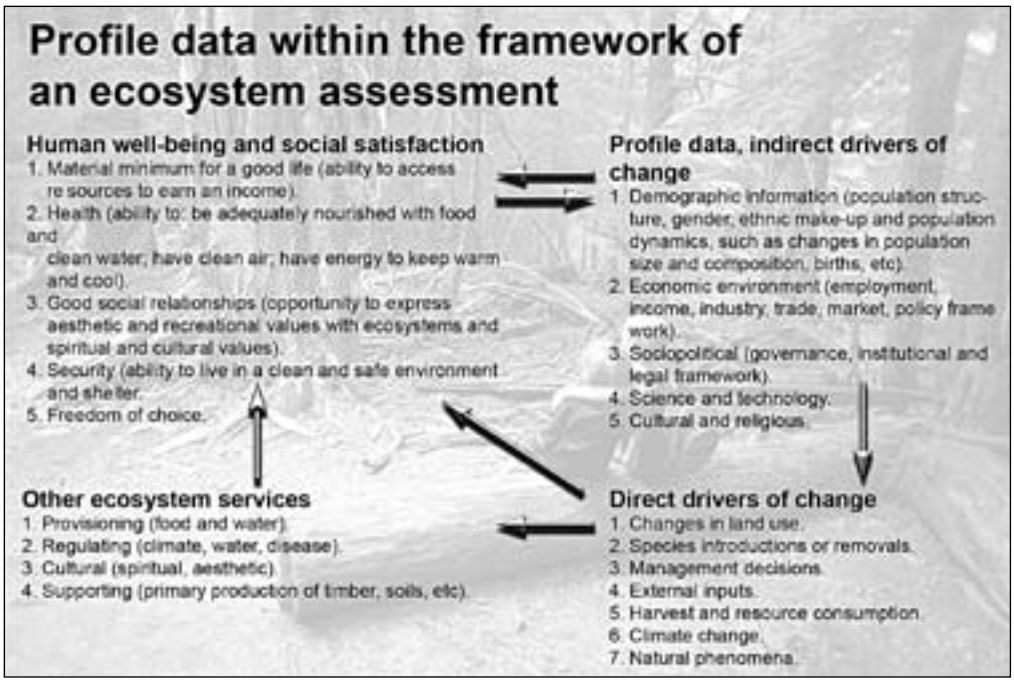
Role in land and resource management planning. The information provided from an SEP assessment can be of significant value when considering whether, or how, to amend or revise a forest plan. In either case, the information will help planners to evaluate the effects each alternative might have on the communities' various interest groups and social and economic sectors. A SEP assessment can consist of just a profile or may include practical data collection (see figure 1.3).

The new planning process contains the following three essential elements:

1. Vision.
2. Strategy.
3. Design Criteria.

The vision provides direction for management and describes desired conditions and contributions forests make to users and surrounding communities. Much of the social and economic conditions and trend data become relevant here. Strategy and design criteria focus on the methods and measures the forest will use to move toward desired conditions and specific standards.

Figure 1.3. *Profile data within the framework of an ecosystem assessment.*



Chapter 2. Planning and Design

2.1 Determine Relevant Characteristics and Scope

The preliminary planning work is the most important step to producing a social and economic profile (SEP), especially if some of the work will be contracted. Funding and planning cycles vary among agencies at all levels of Government, so allow for considerable extra time when planning regional, annual, and multiyear SEPs.

Consider the following questions:

1. **Who will use the SEP?** Consult the decisionmakers who will use the reports or data you will produce to determine the type and quantity of information and data you should obtain, how they will be analyzed, and how much time you will need overall. Users might include forest planners, forest supervisors, interdisciplinary teams, etc.
2. **What are your data sources?** How and from where will you get the information you need?
3. **What is the SEP's purpose?** Is it planning and/or project oriented?
4. **What specific types of information do you need?**
5. **What kinds of analysis will be done?** Secondary data should be considered to ensure that only data collected at the same scale are combined.
6. **At what scale(s) will the analyses be done?** Scale refers to the level of sociopolitical or geographic organization for which data will be assembled and analyzed and will vary with the unique requirements of each specific project. In general, the Forest Service associates its business requirements with one or more of the following four scales:
   (a) National scale: Assessments and analysis, strategic planning (national).
   (b) Broad scale: Ecoregional assessments, forest planning (multistate, State, multicounty).
   (c) Mid-scale: Watershed analysis, project identification and analysis (multicounty, multicommunity, watershed).
   (d) Local scale: Project planning and implementation (multicommunity).

   Appropriate scales and criteria for scales for social or economic assessments/analysis are included in *Forest Service Handbook* 1909.17, chapter 30, and also the *IMPLAN Users Guide*.

7. **What Data Quality Act requirements must the SEP meet?** Quality, reliability, and defensibility are of paramount importance when aggregating data for a profile. Consider the following requirements:
   (a) Population definition and sampling strategies used to select samples should be similar and known.
   (b) Data owners should disclose the limitations of the data, and those limitations should be expressed in the SEP.
   (c) Data sources might supply only certain variables at specific scales; data for different scales might not be comparable.

2.2 Data Sources and Standards

Many private organizations, as well as Federal and State agencies, compile data series that can be used to describe economic conditions and community well-being.

The Natural Resource Information System Human Dimensions Module (HD Module), a Forest Service application, is essentially a clearinghouse for much of this type of data. Each database within the HD Module includes metadata and associated data standards, social and economic data for communities in and around national forests, and predefined queries that can be used to create SEPs. Data can be printed, graphed, or mapped using ArcView, or exported to other programs for analysis. (Note: pay particular attention to metadata; definitions and methods used to collect and interpret data might change from one survey to another.) See http://fsweb.nris.fs.fed.us/Human_Dimensions/downloads/HDModHelp.pdf.

2.3 Logistics

Basic training on the HD Module is required and training in Geospatial Technology Core Competencies for Resource Management and Research is also recommended. The HD Module includes mapping capabilities. If users do not use the module to produce reports, they must have a working knowledge of ArcView to map the data. Users must be competent with Microsoft® Access to prepare data sets and metadata from secondary sources for inclusion in the SEP, and to extract data for use in other applications. Specialized training in the social sciences is needed to analyze and interpret the data and apply them in the planning process. For details, visit the HD Module Web site at http://www.fs.fed.us/emc/nris/hd/index.html.

2.4 Scheduling

A national-scale profile is not often produced. More typical is a local- or forest-scale profile, which is produced in association with the development of Land and Resource Management Planning in accordance with national regulations or policies. A mid-scale SEP should be prepared in support of the ecosystem assessments at the watershed scale. Thus, broad-scale and mid-scale SEPs for specific geographic areas should be conducted once every 5 to 10 years, or as needed to support forest planning efforts. Local-scale SEPs can be generated following this technical guide for project-specific analyses on an as-needed basis. Regardless of the source, the data used to generate profiles age quickly; thus, a profile should be updated periodically.

The 1982 planning regulations require a broad-scale social and economic profile (SEP) be prepared as part of the Analysis of the Management Situation advance of forest plan revision or amendment. The 2000 proposed rule and new plan prototype process require the SEP as part of the social and economic assessment be included as new information to feed the evaluation and reporting phase of the proposed planning process. The evaluation includes both a comprehensive 5-year plan and an evaluation of the annual monitoring report to determine if changes are needed. The information and analysis are done before an evaluation for the need to change and before an amendment or revision.

Chapter 3. Data Collection

Many Federal, State, and private agencies collect social and economic data, and most of the data is available from the Natural Resource Information System (NRIS) Human Dimensions Module (HD Module). A social and economic profile (SEP) should address one or more of the following three questions:

1. What are the structure and dynamics of the population in the area of interest?
2. What are the characteristics of employment, income, and industry in the economy of the social environment of interest?
3. What are the social assets and vulnerabilities of an area of interest?

We have identified a set of data categories that address each question. For each category, we discuss how each social and economic variable is relevant to the management of National Forest System lands.

Figure 3.1. *Middle school volunteers planting trees in a campground and along a nature trail in Aspen, CO.*

3.1 Core and Core-Optional Variables

A core variable is one that is required to describe the resource in question. Each core variable must have a standard definition, source, and/or collection procedure. The Forest Service Forest Inventory and Analysis (FIA) group publishes a National Core Field Guide that specifies the national set of core data items, standard collection procedures for each, and measurement quality objectives. A core-optional variable might be added to a core variable, but is not required to describe a resource.

The concept of core variables is useful because it contributes to the quality of the data assembled for a SEP. The use of a predefined set of core variables with standard collection methods and/or reporting will lead to data and information of known quality. In FIA, this procedure promotes quality standard methods and consistency across all units in the Nation because the data is aggregated at a national scale.

The NRIS HD Module delivers all core and core-optional variables at the State, county, and census-designated place levels. Population statistics at other scales (i.e., census tract, block group, block and zip code tabulations) are available at the U.S. Census Bureau Web site. Also, you can query various data sets by place, county, State, and other geographic options at the American FactFinder Web site.

It is important to note that SEPs should use demographic, economic, and social data that are most relevant to the (1) issues and concerns being addressed and (2) management questions that need to be answered. Using such data might require you to select a subset of the core data described for each data category (See tables 4.1, 4.2, and 4.3).

Chapter 4. Analysis and Methods

A social and economic profile (SEP) is necessary to construct a social assessment or address other Forest Service business needs. Certainly, a SEP constructed from selected variables is by definition not a complete accounting of a neighborhood, community, county, or region. Still, these data provide context to a SEP that helps create a broader understanding of how social environments function.

4.1 Analysis of Social and Economic Data

The questions to be answered should be formulated prior to acquiring or analyzing data. For example, the question "How many?" is quite different from the question "What is the relationship of x to y?" both in the data needed to answer them and in the answers they provide.

The questions structuring a SEP are essentially descriptive: for example, "What are existing conditions?" and "What are trends or directions of change?" The population composition of a county at a single point in time describes selected existing conditions. If the data relevant to the point in time being examined are not compared with other social units, the description may lack a discernable point. For example, stating that the population of a community is 2,500 people is more definitive and useful if compared to population data from other communities in the same region.

These cross-sectional data should be displayed in tables, graphs, or charts, which will enable straightforward examination of the point-in-time profile variables. (For principles of the design of such charts, see Tufte 1999.)

Another question to ask is "What has changed?" This question can apply to any of the variables previously identified. For example, if a time series analysis (e.g., 1990–2000) shows an increase of 4 percent for the county, 7 percent for the State, and 12 percent for the Nation overall, then a comparative basis exists for assessing the implications at the county level.

These trend or time series data are best displayed in tables or graphs. The trend data can be displayed as actual numbers or as a percentage change over time from some base year. (It might be useful to show the average rate of change.)

4.2 Example Analyses

Two effective and distinct analyses can be performed using data organized for a SEP: baseline analysis for a social impact assessment (SIA), and community adaptive capacity or resiliency analysis. (Case studies for each are included in appendix A.)

> Energy development in the Western United States in the 1970s and 1980s resulted in what has been termed a boom-and-bust cycle in communities that surrounded these development activities. Population increases from in-migration, changes in community integration, restructuring of patterns of income distribution, and various types of social disruptions such as increased crime and divorce rates were studied and subsequently shown to have resulted from these development activities (Leistritz and Murdock 1981). The social impact assessment (SIA) method of analysis developed from these studies and is becoming an increasingly popular method for analyzing the social consequences or impacts of policies and methods for managing natural resources (Freudenburg and Gramling 1994). Classic SIA methods establish baseline socioeconomic conditions and then examine or predict how a policy or development affects demography, community structure and function, politics, individuals and families, and Infrastructure (Goldman 2000). SIA methods also focus on the distribution of impacts within a population and specific changes related to specific phases of policy implementation or development projects.

4.2.1 SIA Analysis

A fundamental step for SIA analysis is to establish baseline demography, economy, and social conditions within a social environment of interest. Qualified data, such as descriptions of political processes, community resources and Infrastructure, and attitude changes cannot be examined with this type of socioeconomic data. Fundamental questions, however, such as “Is the population number and composition changing?” and “Is unemployment and income distribution changing?” can be addressed by SIA analysis. (Note: If you are unfamiliar with SIA procedures and methodologies, we recommend you consult an economist or trained social scientist before conducting one.)

An SIA analysis of a policy change would meet the following requirements:

1. Describe the baseline social and economic conditions within a social environment.
2. Describe the policy alternatives and their likely interactions with a social environment (social, economic, and demographic) and assess likely public responses.
3. Project or estimate the degree and duration of positive and negative effects associated with the social, economic, and demographic variables with which the policy action interacts.
4. Project or estimate the direct and cumulative effects of the interaction of the policy change with the social, economic, and demographic characteristics of the social environment.

4.2.2 Resiliency

Community well-being (Kusel 1996), stability (Kaufman and Kaufman 1946), and resiliency (USDA Forest Service 1998) are concepts that have been applied to assessing the factors that influence how communities adapt to change. Resiliency has been defined as a community's ability to (1) respond and adapt to change in the most positive and constructive ways possible, and (2) mitigate the impacts of change.

Examining social cohesion can be a useful component of a resiliency analysis. The cohesiveness or integration of communities affects the ability of groups and individuals to organize resources to respond to change. The assumption is that community cohesiveness directly contributes to the adaptive capacity of communities. Social cohesion can be constructed and measured from qualitative and quantitative data assembled from a SEP. For example, one component of cohesion is individual and family diversity within a community. Diversity can be examined by assessing the composition of a population and the structure of income and employment. Questions to ask to construct such an analysis include:

- Is the racial and ethnic composition of the population homogenous or relatively diverse?
- Is the population more rural or urban?
- Is the population's age and gender composition disproportionate?
- Do household size and structure show any unusual distributions, i.e., is there a high number of single parent households?
- Are there indicators of socioeconomic class differences? (This might include consideration of large numbers of workers concentrated in one or more industry sectors, or concentration of high-, medium-, or low-income categories.)
- Do poverty and public assistance payments suggest any disparities in social and economic assets in the population?

4.3 Data and Analysis Limitations

However broad and deep the assembly of economic, demographic, and social data, it is important to recall that the map is not the territory. The data have limitations and often some logical pitfalls are associated with the use of these data. Compiled social and economic statistics are retrospective. Social and economic data describe activities in the past and present, rather than future, and many of the variables are estimates. Also, when comparing income and other monetized economic data at different points in time, it is important to ensure the numbers are represented in constant dollars. It is inappropriate to compare 1999 dollars to 1989 dollars without adjusting for inflation. Time-relative economic variables expressed in dollars can easily be equalized by

using price indexes, such as Gross Domestic Product Implicit Price Deflator or Consumer Price Index.

4.4 Reporting

Profiles will be accounted for on two different scales: (1) small-scale profiles completed for a project or for community planning or inventory done in support of watershed assessments, and (2) large-scale profiles that include a social inventory to support broad projects such as Land and Resource Management Plans or regional assessments.

Two studies used the resiliency concept to assess forest-community interaction:

1. The **Interior Columbia Basin Ecosystem Project (ICBEP)** (USDA Forest Service 1998) assessment of social and economic conditions.
2. The **Columbia Basin Socio-Economic Assessment (CBSEA)** (Barney and Worth et al. 2000).

ICBEP. This project used quantitative measures to examine 543 communities in 98 counties of the Interior Columbia Basin. The ICBEP project "was designed to aid in identifying communities within the project area that might be economically and socially vulnerable to shifts (shifts = changes?) in the management of Forest Service and BLM [Bureau of Land Management]-administered lands" (USDA Forest Service 1998, np). This study examined impacts to standardized industry category data for agriculture, wood products, manufacturing, and mining. (The report acknowledges the importance of the recreation industry to the larger regional economies it serves but did not examine the impacts of management shifts on the recreation industry.) The ICBEP focused on communities within the Interior Columbia Basin affected by land management planning. The ICBEP analysis used three criteria to categorize communities: (1) geographic isolation, (2) community specialization in certain industries, and (3) association with either BLM or Forest Service lands. Communities were scaled or classified within each criterion. Specifically, communities were given a specialization ratio based on the number of jobs present in industries such as mining, wood products, and agriculture. The scaling of association with Forest Service and BLM lands was accomplished by examining economic contributions from agencies, the amount of surrounding agency lands, and the presence of agency offices in communities. Geographic isolation was assessed by distance from a population center of 20,000 people or greater (USDA Forest Service 1998). Seven different management alternatives were examined for their potential effects on resiliency. In general, the findings suggest that the higher the specialization of a community on any set of criteria (isolation, specialization, association with public lands), the more likely they are to experience positive or negative impacts. This finding offers a large-scale comparative analysis on some broad measures that affect resource-dependent communities. Most of the data to develop these scales are part of the information identified above to construct a SEP.

CBSEA. The purpose of this project was to "evaluate what socio-economic impacts due to changing demographics, market shifts, and federal land use decisions have been felt by rural, resource-dependent towns and counties" (Barney and Worth et al. 2000, 1). Community vitality was measured for 99 counties; results were presented in the form of a regional index.

The CBSEA analysis categorized 99 counties within the Interior Columbia Basin and to constructed regional measures of economic vitality. This concept is similar to the notion of resiliency as used by the ICBEP, but the focus was on the economic aspect of resiliency. The indicators of economic vitality were in these broad categories:

- **Population.** Growth, change in youth and retirement populations, in-migration, out-migration, birth and death rates.
- **Income.** Per capita personal income, wage and salary income, public assistance payments.
- **Labor Force.** A 24-month unemployment rate, labor force participation.
- **Economic Base.** Natural resource employment, general employment, employment growth in all sectors, output exported for all sectors.
- **Federal Government Influence.** Revenue sharing, public lands, timber harvests, timber tax.
- **Social Indicators.** Crime rate trends, physicians per 100,000 residents.
- **Tribal Characteristics.** Population, parent-child population, unemployment, labor force.

Broad regional trends for each of these seven categories are described. Cross-sectional analysis should also be done. Based on comparisons to national or regional averages, the data within each category are then categorized as low, medium, or high.

Each of these approaches to using compiled demographic, economic, and social indicators represents an analysis of resiliency specifically related to the effects of forest management policy and planning. Other studies of resiliency incorporate a wider range of variables, including qualitative data about leadership and social cohesion (Kusel 1996).

Statistics are most often used to describe demographic trends or averages. But all statistics have their limitations and your SEP should include statements to that effect.

Consider the term "average." Two types of averages (mean and arithmetic) are quite different from one another. A mean average represents the center of a frequency distribution, i.e., the midpoint on a continuum (line) between a closed set of points of greater and lesser value. An arithmetic average is equal to the sum of all values associated with all points within the set, divided by the total number of points. Now consider the hypothetical community of Smalltown, CO, population 700. Annual incomes are as follows:

$500,000	High
$200,000	
$150,000	
$30,000	**Mean average (midpoint)**
$15,000	
$10,000	
$5,000	Low
$130,000	**Arithmetic average**

The mean average annual income ($30,000) is considerably less than the arithmetic average annual income ($130,000). In this case, limitations exist on how both averages can be applied. In analyzing the data, one might be tempted to infer from the mean average alone that it would be difficult for the average citizen and the community as a whole to fund a large-scale forest improvement program. Likewise, one might be tempted to infer from the arithmetic average that both the average citizen and community as a whole are rather affluent and would have little trouble funding a large-scale forest improvement program. Obviously, it would be unwise to base any decision on either inference alone, and your SEP should include a statement to that effect.

Table 4.1. *Demographic characteristics and trends.*

Core variable	**NRIS status**
Total persons	In NRIS
Population density	In NRIS
Sex distribution	In NRIS
Age distribution	In NRIS
Median age	In NRIS
Race & ethnicity	In NRIS
Urban & rural residence	In NRIS
Household characteristics	
Special populations	
Sources of change	
Optional variable	**NRIS status**
Population estimates	Migrating with REIS. Will provide annual estimates at State and county levels.
Population projections	Currently attempting to build a comprehensive dataset for long-term population projections at county level from State data centers. Will include gender/race/ethnicity mixes if available. Comparability between States is a question.
Population in group quarters	Not in NRIS
Length of residence	Not in NRIS

NRIS = Natural Resource Information System; REIS = Regional Economic Impact Survey.

4.5 Notes About Table 4.1

What are the structure and dynamics of the population in the area of interest?

Demography is the study of population structure and its spatial and temporal dynamics. Population data are fundamental building blocks necessary to describe and analyze a functional economy or a social environment. For our purposes, demographic data is divided into two categories: (1) population structure, and (2) population dynamics. Population structure refers to size, density, and composition (e.g., age, gender, ethnicity, etc.); population dynamics concern how population structure and characteristics change over time as a result of migration, births, and deaths.

Population structure and dynamics are essential to describing the effects and consequences of forest management and planning on a social environment. Management decisions might affect some segments of a population more than others. Consequently, any description or analysis of a social environment should consider the interplay between population structure and dynamics, and forest planning and management decisions. For example:

- Population structure might affect the local demand for specific types of forest resources.
- Ethnicity, age, and migration characteristics might affect local values, beliefs, and attitudes toward forest management, as well as patterns of resource use.
- Population size and density, relative to a population's proximity to National Forest System (NFS) lands, also might affect the frequency of different types of uses.
- Spatial distribution of populations in the wildland-urban interface around NFS lands might have management implications for managing fuel loading in forested areas that border on communities.

4.5.1 Data Sources

The U.S. Census Bureau and State-specific census programs are the best sources for State and county demographic data. The Population Estimates Program of the U.S. Census Bureau provides national population data. The U.S. Census Bureau and other organizations also project future population numbers at various scales. In addition, the U.S. Census Bureau maintains a system of local (State-level) data stewards to help with access. Each State has an agency or university center that is also responsible for conducting demographic analyses. You can locate these centers through the U.S. Census Bureau.

(Note: States often compile data for comparative purposes and provide rankings by county or other geopolitical units. The approaches and methodologies employed by social analysts, however, are likely to differ considerably from State to State and

The U.S. Census Bureau has conducted a national census every 10 years since 1790. Hence, the Bureau is the most definitive source for growth- and trend-based population data.

with those employed by the U.S. Census Bureau. Thus, you should exercise care when comparing data from one State against similar data from either another State or the U.S. Census Bureau.)

Demographic data from the U.S. Census Bureau are available at a wide variety of geopolitical or census geographic scales (appendix D). Summary statistics range from the national level to the census block level. Annual update estimates prepared by the U.S. Census Bureau are available at the county level and above. It might be useful to include census data from a variety of scales in a broad-scale or local-scale analysis to gain perspective on how population characteristics and trends within the analysis area compare with those at other scales, or in different geographic areas. For example, it is often useful to compare county and State rates of population change to assess local conditions in relationship to statewide trends.

The Natural Resource Information System (NRIS) Human Dimensions Module (HD Module) contains extensive demographic data from the U.S. Census Bureau, which easily can be accessed and retrieved by location, and mapped. It contains population characteristics and trends information pertinent to the number and composition of people in an area of interest, i.e., a county, borough, or group of counties and boroughs (appendix D). Trends in these data are useful for describing demographic changes occurring within a population that might be affected by planning or management decisions.

4.5.2 Core Variables

Total persons

A count of the total number of people in a geographic area of interest. Changes in population size for the area of interest are essential descriptive data. The U.S. Census Bureau and some State data centers have readily accessible information for total population and other population characteristics from 1790 for each decennial census exist through U.S. Census Bureau sources. County or geopolitical units should be compared with State or other relevant geopolitical unites for comparative purposes. These are descriptive data that show the relationship of change in an area of interest in comparison to other geopolitically relevant units.

Population density

A measure of the number of people per square mile within a county, State, or other geographic area of interest.

Population composition

Measures of population composition, including:

- **Sex distribution.** The number of males and females in a population in total and 5-year increments.
- **Age distribution.** The total number of individuals in different age categories. NRIS also provides these data in 5-year increments.
- **Median age.** The age in a population that separates the younger half from the older half. This number is often a useful measure of population's age structure relative to other geographic or social areas of interest.
- **Race and ethnicity.** Number of people; used to describe one aspect of the heterogeneity of a population. Race is sometimes an indicator of a population's values, social characteristics, and economic conditions. The racial descriptors White, Hispanic/Latino, African American, American Indian and Alaska Native, and Asian and Pacific Islander reflect the race, heritage, nationality group, lineage, or country of birth of the person or the person's parents or ancestors before they arrived in the United States. (People who identify themselves as Spanish, Hispanic, or Latino might be of any race.)

Urban and rural residence

Indicates the number of people living in urban areas, urban clusters, and rural areas of interest. Urban and rural residence is often associated with differences in social, economic, and cultural conditions.

Household characteristics

The U.S. Census Bureau collects a wide range of household data including total households, average household and family size, and relationships by household type, such as family, nonfamily, male and female head of house. Depending on the policy issue addressed in your SEP, other household characteristics, such as households by race and martial status, also might be useful.

Special populations

Ethnic enclaves within areas of interest, especially Native Americans or Native Alaskans, can be identified from U.S. Census Bureau data. Information about race, ancestry, nativity, and language spoken at home can be used to identify special populations. These data might offer perspective on population heterogeneity and other cultural factors that might be of interest for planning or effects analysis.

Sources of change

Data that depict how a population is changing over time and are assessed by examining births, deaths, and net-migration data. These data depict natural and net-migration trends and can show the structure of population change. An examination of net-migration patterns is essential for this data category. Total figures for net migration, in-migration, and out-migration are available from the U.S. Census Bureau, and can be delivered via the NRIS HD Module at the county and State levels. (Information about migration at finer scales, and about people known as movers who, during the most recent survey period, lived in a different house than the one in which they lived during the previous survey period, are also available from the U.S. Census Bureau.) This information can provide managers with insight into how population composition might be changing, and what the implications of those changes might be on Forest Service lands.

4.5.3 Core-Optional Variables

Most of the following data are available from the U.S. Census Bureau Web site or State data sources.

Population estimates

Released annually and describe total population and provide limited information about population characteristics for years that fall between census-taking years. These data might be useful to supplement the decennial census data, especially for areas experiencing rapid changes in population.

Population projections

Available from the U.S. Census Bureau and can be delivered via NRIS HD Module. Projections are based on the most recent estimate at State and county levels and, as of 2004, are available through the year 2025. Projections are for age, sex, race, and Hispanic origin and are released at the State level every 2 years. Population projections on a national level are projected to 2100. Population projections can help managers identify the potential demands and pressures on NFS lands.

Population in group quarters

Describes people who are living in institutional and noninstitutional group quarters rather than households. Institutional facilities are those where individuals are living in formally organized care or custody, such as prisons or nursing homes. Noninstitutional quarters include college dormitories, rooming houses, religious

group homes, communes, and halfway houses. These data can help clarify issues such as age composition and the ratio of males to females.

Length of residence

Information about migration and mobility within a population, and the years in which people moved into households within an area of interest. These data can help establish the degree of population stability within an area of interest.

4.6 Notes About Table 4.2

What are the characteristics of employment, income, and industry in the economy of the social environment of interest?

Local economies might be heavily dependent on earnings from forestry, mining, ranching, nontimber forest products, recreation, or tourism, all of which can be affected by land management decisions. The level of that dependency can be qualified by comparing current employment data in each economic sector (farming, manufacturing, retail trade) to data pertaining to forestry, farming, or tourism. Also, employment and income data might be used to develop an understanding of the extent to which the forest management practices and decisions affect economies bordering National Forest System lands.

Employment and income characteristics and trends include such things as the number of employed and unemployed workers and wages by industry. This information is useful as an indicator of the economic structure of an area of interest. Other potentially useful economic indicators include components of personal income, such as earnings transfer payments and dividends, interest, and rent. Also of use might be the amount of employment and income generated by businesses that attract money into the economy, such as an export-oriented company. Changes in the economic performance of such a company might have significant effects on other businesses within the community or region.

National Forest System land management decisions are only one of many factors that can influence local economic conditions; they are affected by broader regional, national, and international economic conditions as well. Hence, you should consider how planning decisions might affect employment and income, and how employment and income trends might affect management decisions, when choosing a scale for analysis.

Table 4.2. *Economic conditions and trends.*

Core variable	Measures	NRIS status
Industry	Industry composition	Migrating with IMPLAN Summary data
	Economic diversity	IMI has supplied Shannon Weaver indexes at county level
Income	Total personal income	Migrating with REIS
	Per capita personal income	In NRIS
	Household income	Not in NRIS. Household stats will be migrated.
	Average earnings	Migrating with IMPLAN summary data (by major sector aggregates)
Employment	Total civilian labor force and the number of employed persons	Annual and monthly data are in NRIS
	Unemployment rate	Annual and monthly data are in NRIS
	Gender and age characteristics of the labor force	Generally not in NRIS. Not sure of specific measures needed. Working age population is included in NRIS.
	Employment by industry	Migrating with IMPLAN summary data (by major sector aggregates)
Housing	Total housing units	In NRIS
	Home ownership	In NRIS
	Median house value	In NRIS
Federal land-related payments	PILT	In NRIS
	Gross receipt payments	Not sure of measures
Natural resource connections		Not sure of measures
Optional variable		**NRIS status**
Top private employers		?
Farms and production		?
Average earnings		?

IMI = Inventory and Monitoring Institute; IMPLAN = Impact Analysis for Planning; NRIS = Natural Resource Information System; PILT = payments in lieu of taxes; REIS = Regional Economic Impact Survey.

4.6.1 Data Sources

Federal and State agencies compile most of the available economic data. The best sources are the U.S. Census Bureau, including the Economic Census and the Census of Agriculture, the Bureau of Labor Statistics, and the Bureau of Economic Analysis (BEA). Economic data compiled by States is usually maintained by a State department of commerce or similar agency. Economic data are accessible through the NRIS HD Module as well as the Regional Economic Information System (REIS), which is maintained by the BEA.

4.6.2 Core Variables

As previously noted, core variables are required to describe the value or resource in question. Each variable will have a standard definition, source and/or collection procedures. Core variables for an economic profile include information on income, employment, industry composition, natural resource dependency, and economic sustainability. The NRIS HD Module delivers data for most of these variables. In addition, supplementary data not currently available through NRIS might be needed. Possible sources for supplementary data include regional economists, State departments of commerce, the BEA, and the U.S. Census Bureau, including the Economic Census. (See appendix A for a comprehensive source list.)

Industry

Industry composition. Provides an overview of each individual sector's relative size or contribution to the total economy. These data are available from the BEA and they can also be accessed through the NRIS HD Module.

Economic diversity. A measure of the composition of economic activity in an area of interest. Diversity is usually associated with economic stability and the capacity of a community to adapt to changing conditions. The numbers of industries for counties can be used as a measure of diversity and might be retrieved through IMPLAN. Other indicators of diversity include the Shannon-Weaver entropy function, which uses BEA statistics. Shannon-Weaver diversity indexes are also available from NRIS HD Module.

Often small communities have only a few commercial sectors present, thus economic growth is generally limited to a few industries. Economies based primarily on one or a few industries are thought to be more vulnerable to changes beyond the control of the local area than those that are more diversified (Christensen 2000).

Income

Personal income can be used as a measure of economic prosperity. The BEA National Income and Products Accounts Program defines personal income as monies that result from three major sources: (1) earnings from wages and salaries; (2) investments

(dividends, interest, and rent); and (3) transfer payments (such as Social Security, pensions, and welfare). Income data are available by place of residence and indicate how much regional income is generated in aggregate, per capita (aggregate income divided by population), and per household (aggregate income divided by number of households).

Total personal income. Provides an overview of income obtained through labor, proprietorship, property, and transfer payments, and serves as a measure of wealth and economic prosperity for the area of interest. It also is a good indicator of the ratio of wage labor to other types of income, especially transfer payments. Data are available from the REIS, deliverable through the NRIS HD Module, as well as the BEA. The data can be retrieved by geographic areas at different scales (e.g., county, State, or place) and different industry levels also are available. Recent industry aggregations are based on the North American Industry Classification System (NAICS), whereas earlier census data are based on the Standard Industrial Classification (SIC) standards (U.S. Department of Commerce 2006). Data are collected annually at the county level and higher.

Per capita personal income. One of several measures used as an indicator of a region's overall standard of living or economic prosperity, and calculated by dividing total (aggregate) personal income by the population of an area of interest. Data for counties, metropolitan statistical areas, and States are available from the BEA, the U.S. Census Bureau, or the NRIS HD Module.

Household income. Measures all sources of income for each member of a household 15 years of age and older. These data are collected for counties, metropolitan and nonmetropolitan areas, etc. Data are collected annually and are available from the U.S. Census Bureau and the NRIS HD Module.

Average earnings. Average earnings per job is total earnings divided by the total employment. The BEA employment series for States and local areas comprises estimates of the number of jobs, full-time plus part-time, at the place of work. Full-time and part-time jobs are counted at equal weight. Employees, sole proprietors, and active partners are included, but unpaid family workers and volunteers are not included.

Employment

These data show the number of full-time, part-time, seasonal, annual farm, and nonfarm jobs in an economy of interest and are useful to characterize the nature of the workforce in an area of interest. Labor force participation rates provide information pertaining to the percentage of workforce-age individuals who are gainfully employed.

Total civilian labor force and the number of employed persons. The civilian labor force consists of those people over the age of 16 who are either employed or unemployed and looking for employment. Unemployed people who are not looking for work are not considered part of the labor force. The BEA and the Bureau of Labor Statistics each collect and maintain employment data. Important differences exist in the methodologies used by each to collect the data. The Bureau of Labor Statistics' Local Area Unemployment Statistics (LAUS) data are based on individual and place of residence, whereas BEA data are based on job and place of residence. Data at the county level and higher are available through the NRIS HD Module.

Unemployment rate. A measure of people in the civilian labor force who are unemployed. Annual and seasonal unemployment data are useful to describe short- and long-term patterns of unemployment in an area of interest. The data is available from the Bureau of Labor Statistics, or the NRIS HD Module. Seasonal (monthly) unemployment data are available from State employment security agencies, or the LAUS from the Bureau of Labor Statistics.

Gender and age characteristics of the labor force. Data are available at the county level and higher at the NRIS HD Module.

Employment by industry. An effective way to quantify jobs within an area of interest. Recent Bureau of Labor Statistics and U.S. Census Bureau data use NAICS categories; historical data were compiled according to SIC codes. The REIS monitors and compiles data about jobs; the LAUS maintains data on workers.

Housing

The U.S. Census Bureau collects information about housing as part of the decennial census. The American FactFinder Web site is a good source of quantifiable information about housing, such as the number and types of housing units, occupancy rates, ownership rates, mortgage characteristics, structural characteristics, housing value, etc. Data pertaining to the quality of housing is collected by the U.S. Department of Housing and Urban Development. Core data in a profile of housing would include the following:

Total housing units. A housing unit can be a house, apartment, mobile home, group of rooms, or a single room that is occupied (or, if vacant, is intended for occupancy) as separate living quarters. Sometimes it is useful to compare trends in total housing units and types with housing trends in general.

Home ownership. U.S. Census Bureau housing data describe patterns in housing, including occupancy (owner/renter occupied), vacancy, and seasonal and recreational

use. It is sometimes useful to compare occupancy rates in those areas where seasonal recreation might result in higher demands for rental housing with occupancy rates in general.

Median house value. An arbitrary value derived from census respondents' estimates of how much their property (house and lot, mobile home and lot, or condominium unit) would sell for if it were for sale. The numbers of housing units in particular categories as well as the median value for housing is available in the U.S. Census Bureau housing data.

Data about housing tenure, values, and patterns of ownership might be useful. The particular variables to examine, however, will depend on the policy or management questions to be answered.

Federal Land-Related Payments

In 2000, Congress passed the Secure Rural Schools and Community Self Determination Act of 2000 [P.L. 106-393]. The purpose of this act is to address diminishing amounts of the 25 percent monies. This new law gives counties the option of continuing to receive the 25 percent amount or to elect to receive a fixed amount based on the average of the 3 highest years between 1986 and 1999.

Historically, Federal agencies have returned a portion of the gross receipts associated with Federal land management to local governments. Local governments also receive Federal land-related payments through a program for payments in lieu of taxes (PILT). These payments can be crucial to the abilities of local governments to deliver programs and services to their constituencies, especially in rural, resource-dependent counties where such payments represent significant portions of the counties' overall budgets and expenditures. Data on county budgets and expenditures is available from the local government office or the U.S. Census Bureau. Data on total annual dollar amounts collected over 10-year periods at the county level are available from the NRIS HD Module. The following are two categories of Federal land-related payments.

- **PILT.** Based on a complex formula that includes county population, acres of Federal lands, two alternative per-acre payments rates, and receipts for prior years from Federal natural-resource-based programs (Schuster 1995). PILT payments were established through legislation in 1976 [P.L. 94-565, amended P.L. 97-258].
- **Gross receipt payments (forest receipts).** Moneys collected by the Federal agency for the sale, lease, or use of Federal lands or resources and paid to the county or counties in which the national forest is situated. Percentages paid to counties vary among Federal agencies but equate to 25 percent [P.L. 60-136]. County payments must be used for public education and/or roads.

Natural Resource Connections

The task of identifying connections between natural resources and local economies is both descriptive and analytical. An economic profile of an area of interest must

identify the income and employment within local economies associated with the use of natural resources. To that end, the most pertinent data are employment and labor income statistics associated with timber, grazing, mining, oil and gas activity, and recreation. The BEA can provide data about employment and earnings in selected NAICS codes; data for natural-resource-related sectors can be retrieved directly from BEA, NRIS, or IMPLAN.

(Note: You must have a working knowledge of IMPLAN to assess the data available through it. If you are not familiar with IMPLAN, contact your regional economist for help. Training is available through the Inventory Monitoring Institute.)

4.6.3 Core-Optional Variables

Hundreds of economic variables can be used to describe and analyze the economic structure and processes of a social environment. Determining which variables are core and which are core optional can be complicated. In some instances, what might appear to be a core-optional variable should be interpreted as a core (essential) variable. For example, data might indicate that building a new campground on a forest would have a positive socioeconomic impact. Initially, this might imply the benefits represent a core variable. In other words, the campground is a good idea and worth the cost. Cost in this instance is a core-optional variable. Upon further examination, however, it is discovered the community does not have the Infrastructure to support the construction and would have to hire contractors from outside the community. Hence, funds would actually leave the community. In this case, the decisionmakers would weigh the long-term benefits of the campground against the short-term drain on the community's capital. They might determine that the cost is far more significant than originally thought.

Ultimately, what is considered a core or core-optional variable will be determined by the specific policy or analysis question the data must address. Core-optional variables include the following:

- **Top private employers.** Sources of these data are State departments of labor or commerce, regional economic development organizations, and local chambers of commerce. Data such as these generally are updated yearly at the State level.
- **Farms and production.** Agricultural statistics were collected every 10 years from 1840 to 1920, and every 5 years from 1925 to 1974. Since 1982, the U.S. Department of Agriculture (USDA) National Agricultural Statistics Service has conducted an agriculture census in the years ending in 2 and 7. The census contains information about the numbers of farms by acreage, market value of products sold by type, principal occupation of the operators, and various other data about crop and livestock types.

- **Average earnings.** These data are usually categorized by place of work, and can be used for comparative analyses of intra- and interregional pay scales. These data can be obtained from the U.S. Department of Labor. In some instances, these data might be useful for both descriptive and analytical purposes.

Table 4.3. *Social assets and vulnerabilities.*

Core variable		**NRIS status**
Educational attainment		Not currently in NRIS; will be migrated in a future release
Poverty and persistent poverty		In NRIS
Income maintenance and public assistance		Migrating with REIS; will provide annual estimates at State and county levels
Social disruption	Divorce rates	Not in NRIS
	Crime	Not in NRIS
	Net migration	Not in NRIS
Optional variable		**NRIS status**
Specific public assistance programs		Components of income maintenance payments are available with REIS data and will be migrated in a future release; not sure what other measures are needed

NRIS = Natural Resource Information System; REIS = Regional Economic Impact Survey.

4.7 Notes About Table 4.3

What are the social assets and vulnerabilities of an area of interest?

Data that describe social assets and vulnerabilities belong to a subset of information often used to describe what is termed community well-being, quality of life, or social and human capital. Social assets and vulnerabilities are qualified (qualifiable) rather than quantifiable, and refer to such issues as leadership, community problem solving processes, and community cohesiveness (Kusel 1996). Social assets are characteristics of a population or social environment that expedite or enhance elements of social change, such as job losses, the emergence of new industries, or changes in Federal land management plans. Social vulnerabilities are events within a population or social environment that inhibit or diminish the effects of social change.

4.7.1 Data Sources

Data on educational attainment by gender, age, and grade level are available from U.S. Census Bureau sources, including the American FactFinder portal. Data on poverty status is calculated using information about income thresholds and family composition; they are not adjusted for geography, although adjustments are made for inflation using the Consumer Price Index. Poverty data includes information on individuals and families by age, gender, and percent poverty level, and are available from the U.S. Census Bureau. Data on income maintenance and other public assistance information are available from State departments of health or human services and the U.S. Census Bureau. State entities provide or track public assistance, social welfare, or related programs, whereas the U.S. Census Bureau is a source of information about public assistance for households.

4.7.2 Core Variables

Core variables include such things as poverty, educational attainment, and income maintenance and public assistance, each of which affects the capacity of individuals and communities to adapt to changing economic, social, and cultural conditions.

Educational attainment

The educational level of a population is an indicator of the knowledge and skills that can be applied to responding to individual, family, and community demands for change to local governments and can be used to show trends in the educational characteristics within a social environment of interest. The U.S. Census Bureau collects education data on people age 25 and older at the county, State, and regional levels. (Note: The 2000 Census categorizes education data by gender for 11 levels [grades].)

Poverty and persistent poverty

Poverty affects not only public perceptions of well-being in America, but also public policies and programs. The current measure was developed in the early 1960s as an indicator of the number and proportion of people with inadequate family incomes for needed consumption of food and other fundamental goods and services.

To determine who is poor or impoverished, the U.S. Census Bureau uses a set of income thresholds that vary by family size and composition. If a family's total income is less than that family's threshold, then that family and every individual in it is considered poor. The poverty thresholds do not vary geographically, but they are updated annually for inflation using the Consumer Price Index. The official poverty definition is based on gross income (income before taxes) exclusive of capital gains and

noncash benefits, such as public housing, Medicaid, and food stamps. Geographic areas where 20 percent or more of the population is impoverished are considered areas of persistent poverty. Measurements (total number and rate) of poverty are delivered via the NRIS HD Module at various census geographic scales:

- For entire population.
- By race.
- People under the age of 18.
- People over the age of 65.
- Families and by family type.

Income maintenance and public assistance

Income maintenance, which is a form of transfer payment, is an indicator of economic stress and poverty (Christensen 2000). Income maintenance payments consist largely of supplemental security income payments, family assistance, food stamp payments, and other assistance payments, including general assistance (U.S. Department of Commerce, Bureau of Economic Analysis 2006). Income data are collected at the State and county levels by the REIS, and accessible through the NRIS HD Module. Comparing changes in income maintenance (amount per capita) at the local level to changes at the State or national levels can indicate economic stress and poverty.

Social disruption

Changes in a social environment sometimes disrupt social processes. Traditional measures of social disruption include divorce and crime rates, substance abuse statistics, and changes in migration (Goldman 2000). Nontraditional indicators of social disruption include changes in school enrollments and participation in volunteerism within communities.

Divorce rates. Data are available from the National Center for Health Statistics, the U.S. Census Bureau, as well as local and State departments that maintain vital statistics data.

Crime. The U.S. Department of Justice Bureau of Justice Statistics maintains statistics about the numbers and rates of crime in counties and States. These data can be examined for short- and long-term changes in the types of crimes reported.

Net migration. These data are available from the U.S. Census Bureau and NRIS HD Module. Changes in out-migration or in-migration can indicate stress on Infrastructure and other community resources that might affect response to change agents.

4.7.3 Optional Variable

Specific public assistance programs

Data about specific public assistance programs, such as low-income energy assistance, school lunch programs, and Temporary Assistance for Needy Families, are available at the county and State level through the U.S. Census Bureau Consolidated Federal Funds Report and agency-specific sources. For example, data on school lunch programs, including information on the Free or Reduced School Lunch Program, in which most States participate, are reported by school district and can be retrieved from the National Center for Education Statistics.

Appendix A. Information Sources and Case Studies

For detailed methodological information on how to conduct surveys and interviews and to select a sample, see the U.S. Department of Agriculture Forest Service report *A Human Dimensions Framework: Guidelines for Conducting Social Assessments* (Bright et al. 2003), or contact the Inventory and Monitoring Institute. When conducting surveys, Office of Management and Budget guidelines must be followed and, depending on the sample size and methodology, approval must be obtained.

The most recent National Survey on Recreation and the Environment (NSRE), conducted every 10 years, included some new modules on attitudes toward and beliefs about Forest Service management, natural resource values, opinions about the environment, and objectives for managing public lands. For samples of the questionnaire surveys or survey results, contact Dr. Deborah Shields, Forest Service, Rocky Mountain Research Station, Ft. Collins, CO, or Dr. Ken Cordell, Forest Service, Southern Research Station, University of Georgia, Athens, GA. You may also refer to NSRE 2000 on the NSRE Web site at http://www.srs.fs.usda.gov/trends/Nsre/nsre2.html.

The National Resources Inventory (NRI) is a statistically based sample of land use and natural resource conditions and trends on U.S. non-Federal lands. The USDA Natural Resources Conservation Service conducts the NRI every 5 years. Data are available for 1982, 1987, 1992, and 1997. The inventory includes estimates of major land uses at the spatial scale of counties for each sample year, including estimates of the area of developed land in each county. Because of sampling errors inherent in the methods used, estimates of developed land are more reliable at multicounty scales.

The National Survey of Fishing, Hunting, and Wildlife-Associated Recreation presents data on individuals involved in fishing, hunting, and other wildlife-associated recreation, such as wildlife observation, photography, and feeding. Data include the State in which these activities occurred; number of trips taken; duration of trips; and expenditures for food, lodging, transportation, and equipment. The U.S. Census Bureau conducts the survey for the U.S. Fish & Wildlife Service, which prepares printed reports in this field.

The National Visitor Use Monitoring Survey provides estimates of national forest visits at national, regional, and forest levels and includes data about recreation use. It does not provide use estimates for a specific site. The results from this monitoring are delivered through the Natural Resource Information System Human Dimensions Module.

Two Case Studies

The following two case studies illustrate uses of data assembled for social and economic profiles (SEPs). Although each study entails the use of socioeconomic data for social assessment studies, each represents a unique approach to the use of the data. They were completed as part of forest plan revision, and each study shows the adaptation of the social assessment processes to accommodate the specific interests and needs of planners and managers regarding plan revision.

The first study combines three different social assessment projects from Montana and Idaho to illustrate the combination of primary and secondary socioeconomic data. The second study is a statewide social assessment in Michigan that relies exclusively on secondary socioeconomic data that incorporate many data identified for a SEP.

1. Case Study: Montana and Idaho

This case study examines the use of socioeconomic data to prepare social assessments for four national forests in Idaho and Montana (Region 1): (1) Kootenai National Forest (KNF), Lincoln and Sanders Counties, northwest Montana; (2) Beaverhead-Deerlodge National Forest (B-DNF), located within a five-county region of southwestern Montana; (3) Clearwater National Forest (CLNF); and (4) Nez Perce National Forest (NPNF), located in five counties in north-central Idaho. The KNF completed a social assessment in 1995 and an update of that assessment in 2004. The B-DNF completed a social assessment in 2002. As of this writing, the CLNF and NPNF are in the process of completing social assessments for the two forests.

The Identified Need

A forest plan revision was the driving force behind the social assessments conducted. Each planning team, however, had a unique set of issues to address. The 1995 KNF assessment focused on socioeconomic issues regarding the use of ecosystems management in forest planning. The 2003–04 update for this assessment focused on new interest groups within the affected counties, the issues of concern among these groups, and changes in socioeconomic conditions that arose after 1995. The 2002 B-DNF assessment focused on the effects of forest planning on community resiliency. The 2003–04 Idaho assessment (in progress) is examining the major forest management issues of concern to interest groups and stakeholders and how socioeconomic issues affect public involvement in the planning process.

Each project examined data relevant to socioeconomic trends and conditions, and it described the affected environment as a base from which to assess potential effects related to management alternatives. Both primary- and secondary-source data were used. The topics for primary data collection included lifestyles, attitudes, beliefs,

values, assessments about forest management practices, social processes (e.g., conflict, cooperation, leadership), and the uses and meanings of forest resources for different lifestyle and stakeholder groups. Secondary data concentrated on specific demographic and economic characteristics of the counties immediately adjacent to the national forests.

Knowledge and experience in identifying and using socioeconomic data varied among the planning teams. Consequently, the regional social scientist advised the teams about data requirements and other possible issues to examine. Because of the time, resources, and expertise required to collect and analyze the data, additional contractors were hired. Requests for Proposals were developed with the assistance of the regional social scientist, and social science contractors were selected based on the evaluation of the planning team in consultation with the regional social scientist.

Identification of Data Requirements and Variable Selection

Because the focus for each of these assessments was different, the data requirements were assessed in relationship to the expressed needs of the planning team. In each case, however, socioeconomic trends and conditions were judged to be fundamental to describing the affected environment and as one basis to examine potential effects related to management alternatives. The use of secondary socioeconomic data in each of these studies was conceived as both an independent data set and as a means of placing the primary data within a larger context of trends and existing conditions. Some of the issues affecting the data presented in each case example are as follows:

- **1995 KNF social assessment.** Basic demographic and employment data were collected using U.S. Census Bureau and Bureau of Economic Analysis (BEA) sources. Data were assembled to illustrate how natural resources affected local employment, specifically within the timber and mining industries. The demographic data were presented by county. Census data and some BEA data were used to construct tables specific to this report. The 2003–04 report updated those tables, but found that some data categories had changed. Identifying trends in those data categories was difficult, illustrating the need to use data that provide a consistent measure across time. The 1995 social assessment interpreted a precise set of demographic and economic data.
- **The B-DNF social assessment.** Data for the five-county area were compiled both on a per-county and aggregate basis. Detailed data were presented in county-specific chapters that addressed trends and conditions specific to each county. The aggregate data were used to characterize the five-county area as a whole and for comparing each county to the others. State-level data were included to compare trends and conditions within the study area to those existent statewide.

The county-specific data were also used as one element in county-specific assessments of its capacity to adapt to changing conditions (i.e., resiliency).

In this study, the contractors made explicit decisions to present a wider range of demographic and economic data without extensive interpretation. The intent of this decision was to describe to the planning team a wide range of socioeconomic conditions it might when considering forest management alternatives. The contractors had no knowledge of what those alternatives might be; hence, they provided as much broad-based socioeconomic data as possible. Forest Service sources were consulted. They helped variable categories, guided the selection of variables to present in the comparative and county-specific data presentation, and helped define which data categories would be most useful to the study.

- **CLNF and NPNF social assessments.** These two forests combined their planning efforts for forest plan revision. Although some data for particular watersheds, ranger districts, or counties had been compiled for specific management projects, a broad-scale compilation of social and economic data did not exist. Clearly they needed a comprehensive overview of existing conditions and trends to characterize the affected environment. The contractor for the social assessment selected variables for the study from a review of existing management documents, other completed social assessments, reports from Forest Service research stations, and a review of social science literature. The contractor constructed tables characterizing existing demographic and economic trends and conditions, specific variables, the time frame for establishing trends, and the format for data presentation, and reviewed them with planning staff. Specific attention was given to selecting variables and presentation formats that were, within limits, consistent with data presented in other socioeconomic studies. In each instance, the social and economic conditions and trend data met the following requirements:

    - They were useful for constructing part of the social and economic characteristics of the affected environment.
    - They provided necessary context for primary data regarding stakeholder concerns about forest management issues and social processes that affect responses to forest management plans and actions.
    - They would be useful for other analyses in the forest planning process.

Data Collection and Presentation

The KNF, B-DNF, and CLNF/NPNF social assessment reports range from 150 to 400 pages in length, including executive summaries.

For each of these social assessments, the compiled demographic and economic data were assembled from U.S. Census Bureau, BEA, State agencies, and some local sources. The local data sources included information compiled by chambers of commerce, local economic development councils, and community-based social service agencies. A review of the compiled data from local sources suggested some inconsistencies among data categories and types. Consequently, the contractors decided to acquire data directly from the source agencies, such as the U.S. Census Bureau, BEA, or State agencies.

Because of the way in which data were combined and presented (narrative versus table format), updating the KNF social assessment was difficult. Data for the B-DNF and CLNF/NPNF social assessments were generally presented in graphs and tables that compared the affected environment to State- and national-level data, making updates easier.

Use of the Demographic and Economic Information

The planning teams used the data in several distinct ways:

- The 1995 KNF social assessment (1) characterized the relationship between the forest and the surrounding communities, and (2) provided managers with new information about the social environment; the relationship of socioeconomic and cultural factors with types of management concerns within communities; and the social, economic, and cultural basis for conflict and cooperation regarding forest management.
- The 2003-04 KNF update compiled demographic and economic data to analyze the effects of plan alternatives on the community and provided information about social processes that are likely to affect the community's responses to those plan alternatives.
- The B-DNF social assessment characterized existing social, cultural, and economic conditions in the affected environment. It included a description of changes in the planning environment since the 1986 forest plan was developed. Economic, social, and cultural data were used as a basis to assess the community's capacity to change in response to potential forest planning alternatives, and to identify potentially important issues among various stakeholders within the five counties adjacent to the B-DNF. The document continues to serve as a reference source for the planning staff as they assess the effects of plan alternatives on nearby communities. The data and the report have

served as a direct response to increasing public demand that social and economic consequences of forest management, especially in Western States where declining timber harvests have direct implications on the cultural, social, and economic conditions within affected communities, be considered when making forest management decisions.

- The social and economic data for the CLNF/NPNF will be used to describe the affected environment and as a basis to assess the socioeconomic context of constituent concerns about forest management and planning.

Lessons Learned

Several general points regarding lessons learned can be identified from these particular social assessment studies and their use of demographic and economic data:

- The selection, compilation, and presentation of socioeconomic data is most efficient when planning and management teams identify the needs and uses for particular types of data.
- A wide range of potential demographic, economic, and social data is available to characterize and analyze a social setting. Social science expertise is usually necessary to identify, assemble, and interpret these data.
- Variable selection and the organization of data should be established by consultation between knowledgeable social scientists and members of the planning team. This ensures that data collected meet planning needs and the data used have a basis in social science practice and theory.
- Although planning teams on individual forests might have needs for particular data to meet specific needs, there is also a need for a core data set of demographic, economic, and social data to characterize an affected environment and provide a basis to examine the effects of management plans and actions.
- Analysis of social and economic information often requires specialized knowledge to make full use of it and to understand its implications for management and planning.

2. Case Study: Michigan National Forests

Whereas the Montana and Idaho case examples (above) illustrate the use of both primary- and secondary-source data in a social assessment, the Michigan national forests (MNFs) case example illustrates the use of only secondary-source data. The MNFs social assessment is statewide in scale with a focus on 36 counties (31 Michigan counties and 5 Wisconsin counties) surrounding the Ottawa, Huron-Manistee, and Hiawatha National Forests.

Identified Need

The MNFs social assessment was done in preparation for forest plan revision. The data assembled were to help the planning teams with their analysis of the Management Situation by providing them with social and economic data relevant to recreation, land use, and timber harvesting. It was anticipated that the data could be used to assess social and economic sustainability issues and to complement ecological sustainability data sets.

Identification of Data Requirements and Variable Selection

The regional social scientist and the planning teams worked together to develop a framework for social and economic data that would meet both the planners' needs and social science standards. Some planning team members had social science training; however, given the workloads and limited social science expertise among forest staff in general, contractors were employed to complete the social assessment.

The work was described as having several essential components:

- Follow existing guidelines for social assessments.
- Discuss relationship and trends in variables of interest.
- Use secondary data only.
- Identify gaps in the secondary data that might require primary data collection.
- Use indicators that are consistent with other measures of social and economic sustainability.

The contractor and the planning staff worked together to define the variable categories and the impact areas for study. The following issues were relevant to the impact areas:

- Primary uses of these national forests (recreation and timber harvesting).
- Locations of Forest Service lands and offices within counties.
- Means by which different economic data are aggregated by geopolitical areas.

Once the impact areas were identified, the following variable categories were applied:

- Demographic patterns and trends.
- Relationship of forests with surrounding communities.
- Economic dependence and vitality of surrounding communities.
- Outdoor recreation.
- Other forest uses and values.

This work emphasized that due to the large number of possible comparisons, the authors and coordinators from the MNFs and the Eastern Region Office identified the most relevant variables for inclusion in this report. Secondary data are more available

for economic variables than for social variables. In some cases, economic and social variables are close substitutes, but often primary data collection is required to gather more extensive social data (Leefers et al. 2003, 1–2).

The 300-page report is separated into eight chapters that address the following issues for each forest:

- Data categories agreed upon by the contractor and the planning team members.
- Demographic patterns and trends.
- Relationship of forests to surrounding communities.
- Economic dependence and vitality of surrounding communities.
- Outdoor recreation.
- Other forest uses and values.
- Summary of findings and data gaps for each of the above.

Each chapter uses tables, graphs, and maps to present the data. The social assessment authors offer some limited interpretation of the data and their implications; however, the data presented are comprehensive and provide a rich reference data set.

Use of the Data

Overall, planning team members recognize that social science data are critical to the process of plan revision. But there are concerns. One planning team member commented that "I am a forester, not a social scientist," recognizing both the need for social science data and his limited expertise in handling the requisite data for a social assessment.

Historically, considerations of the social environment focused on using economic data to examine the effects of management actions. Planning team members, however, said they perceive a change in values and social climate that require them to consider a wider range of social science issues and how they affect, and are affected by, forest management. Consequently, the planning team intended to use this broad and deep data set both as a foundation for understanding the social dimension of their planning environments and to assess the socioeconomic effects of planning alternatives.

Some planning team members anticipate using the social assessment data to examine potential effects of plan alternatives. Each alternative will be examined using data in each of the six different categories. Some members, however, expressed their concerns that, because of their limited expertise in the social sciences, they might not be able to explore the data's full potential.

Lessons Learned

- This type of social assessment offers an objective and replicable comparative framework for examining diverse social environments. It is a systematic compilation of information that is not easily accessible.
- A standardized format or framework can help forest planners and others preparing social assessments establish data categories used in the planning and management process. Knowledgeable social scientists should be consulted when preparing the framework. Wherever possible, the format for identifying social science data categories should be consistent with other Forest Service formats.
- Some social science expertise is required to interpret the meanings, applications, and implications of demographic, social, and economic data. Forest planning staff might not have the required expertise, so experts might be needed to effectively use the data assembled.
- These types of data provide a source of credibility to Forest Service assessments of the effects of management actions and planning alternatives on social environments.
- This type of social assessment relies on secondary sources. While these sources are rich in information about some aspects of a social environment, other social and cultural variables (such as information on beliefs, values, and desired management objectives) can be obtained only from primary sources.
- Identifying data gaps is useful to understand the limits of existing data sets and variables.

Appendix B. Literature Cited and Recommended References

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Demographics

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The National Resource Information System (NRIS) Human Dimensions Module contains extensive demographic data from the U.S. Census Bureau, which can be

easily accessed and retrieved by location, as well as mapped. This is an extremely useful tool for Forest Service employees to use in getting demographic data.

Demographic data can be reported and displayed in a number of useful ways. NRIS will provide various automated graphs and tables for core variables. The Pacific Northwest Atlas (Christensen et al. 2000) provides examples of displays of population distribution, migration status and trends, change in ethnicity, and change in educational attainment data for Washington, Oregon, and northern California.

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Federal and State Census and Data Centers

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Housing

The House Price Index captures changes in the value of single-family homes in the United States as a whole, in various regions of the country, and in the individual States and the District of Columbia. The index includes house price figures for the nine U.S. Census Bureau divisions. In addition, the index contains separate house price indexes for the 50 States, the District of Columbia, and 329 metropolitan statistical areas.

The American Housing Survey is conducted by the U.S. Census Bureau for the U.S. Department of Housing and Urban Development. The survey collects data on the Nation's housing, including apartments, single-family homes, mobile homes, vacant housing units, household characteristics, income, housing and neighborhood quality, housing costs, heating equipment and fuels, size of housing unit, and recent movers. National data are collected in odd numbered years, and data for each of 47 selected metropolitan areas are collected about every 4 years, with an average of 12 metropolitan areas included each year. The national sample covers an average 55,000 housing units. Each metropolitan area sample covers 4,800 or more housing units.

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Other Helpful References

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Appendix C. Web Site Addresses

American FactFinder: http://factfinder.census.gov

Bureau of Labor Statistics: http://www.bls.gov/

Consumer Price Index: http://www.bls.gov/cpi/home.htm

IMPLAN: http://fsweb.ftcol.wo.fs.fed.us/imi/economic_center/ec_implan.html. This site is accessible to Forest Service employees only. Those outside the Forest Service can contact MIG, Inc., at http://www.implan.com/.

Local Area Unemployment Statistics: http://www.bls.gov/lau/

National Center for Education Statistics: http://www.nces.ed.gov/

Natural Resource Information System: http://www.fs.fed.us/emc/nris/

Natural Resource Information System Human Dimensions: http://www.fs.fed.us/emc/nris/hd/index.html

Payments in Lieu of Taxes: http://www.blm.gov/pilt/index.htm

U.S. Census Bureau: http://www.census.gov/

U.S. Census Bureau Housing Reports: http://www.census.gov/prod/www/abs/cons-hou.html

U.S. Department of Labor: http://www.dol.gov/

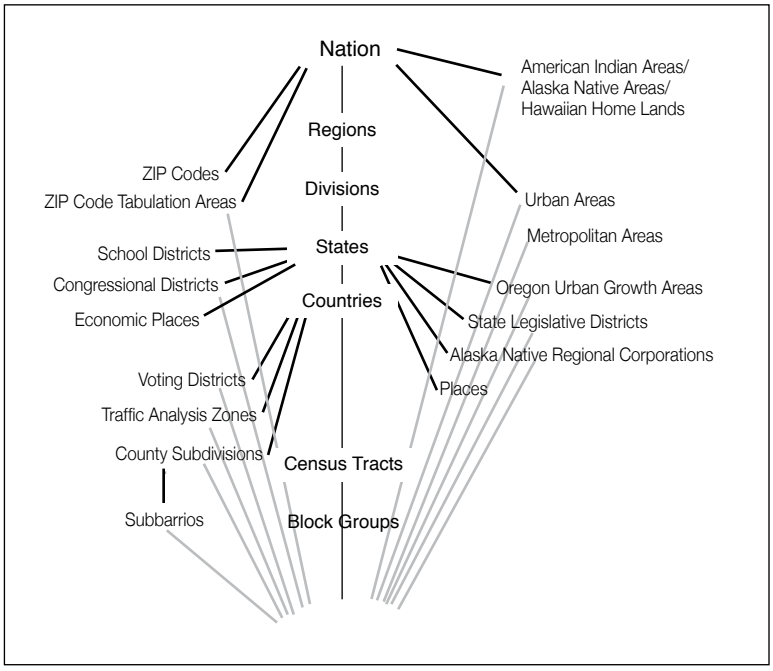
U.S. Small Business Administration: http://www.sba.gov/

Appendix D. Census Geography

Census Geography

Through its many surveys, the U.S. Census Bureau reports data for a wide variety of geographic areas, ranging from the entire United States to a census block. The geographic types that a survey reports on will depend upon the survey's purpose, and how the data were collected.

Figure D.1. *Geographic Breakdown for Census Data.*



The diagram shows the many geographic types for which data are available from the U.S. Census Bureau. In general, larger geographic areas (e.g., State) are shown near the top and smaller geographic areas (e.g., census tract) are shown toward the bottom.

With connecting lines, the diagram also shows the hierarchical relationships between geographic types. For example, a line extends from *States* to *counties* because a State comprises many counties, and a single county can never cross a State boundary. To uniquely name a county, the State name must be included (e.g., Orange County, CA; Orange County, FL).

If no line joins two geographic types, then an absolute and predictable relationship does not exist between them. For example, many places are confined to one county. Some places extend over more than one county, however, such as New York City.

Therefore, an absolute hierarchical relationship does not exist between *counties* and *places*, and any tabulation involving both these geographies might represent only part of one county or one place.

Notice that many lines radiate from *blocks*, indicating that most census geographies can be described as a collection of blocks, the smallest geographic unit for which the U.S. Census Bureau reports data. Only two of these lines, however, also describe the path by which a block is uniquely named; that is, the path through the block group or through the tribal block group.

(For more information, see the U.S. Census Bureau's American FactFinder Web site: http://factfinder.census.gov/home/saff/main.html?_lang=en.)

Appendix E. Glossary

aggregate earnings. Income from all sources of employment.

census block. This term, used only by the U.S. Census Bureau, was created to identify a small geographic unit. In urban areas, a census block is roughly equivalent to a city block. In rural areas, however, the definition of a block becomes difficult and highly variable. In a rural area, a block is again some geographic block of land bounded by a variety of landmarks such as roads, telephone poles, or natural characteristics such as rivers or land formations. Blocks are usually identified so that they do not cross political boundaries.

community cohesiveness. A concept that describes the social processes, values, and beliefs that promote collective action and the identification of individuals and groups as belonging to a community.

community vitality. Community vitality can be thought of as a process of capacity building toward the goal of economic development, the latter incorporating both issues of growth and distribution. A host of interrelated factors are considered important in this process (but difficult to sort out from broader literature on economic development):

- Affordable and diverse housing opportunities.
- Agricultural viability.
- Sustainable use of natural resources.
- Employment creation and business creation, attraction, retention, and expansion.
- Expanded, diverse educational opportunities at all grade levels and including private and noninstitutional settings that respond to economic conditions.
- Local investment.
- Retention of youth.
- Access to local government, decisionmaking processes.

community well-being. A term commonly used to describe the resources that exist within communities to meet the economic, social, cultural, and psychological needs of its citizens.

cross-sectional analysis. A type of research design that examines data for a single point in time as distinguished from a longitudinal analysis or study design that examines data for multiple points in time.

human capital. A concept that refers to attributes such as educational attainment, income, and other personal assets that are resources for individuals or groups to apply to cooperative efforts to achieve civic goals.

resiliency. A concept that refers to the capacity of a community to recognize opportunities and organize resources to respond to those opportunities. Resiliency is often used to measure the capacity of communities to adapt to changing conditions.

social assessment. A study that establishes the baseline social, economic, and cultural conditions within a social environment of interest. The study usually addresses the social and cultural dynamics of social environments as well as profiling existing socioeconomic conditions. A social assessment usually identifies stakeholder groups and their concerns about natural resource issues. It also usually examines how stakeholders and their communities are affected by resource management policies and decisions.

social capital. A concept used to describe to the connections, social processes, and norms within a social environment that contribute to cooperative efforts to achieve civic goals.

social impact analysis. A term that is often synonymous with social impact assessment analysis. This type of study examines the actual or predicted direct, indirect, and cumulative effects of an event (e.g., government policies or laws, development project, disasters) on a social environment.

social profile. A social profile is a description of a social environment that presents an overview of selected characteristics at a particular point in time. A profile is usually based on secondary-source data about social, economic, and demographic conditions and trends.

Appendix F. Contracting Social Science Work

U.S. Department of Agriculture (USDA) Forest Service Region 9 developed the following Statement of Work outline for contracting an assessment. Because a profile is typically just one part of an assessment, please use this outline accordingly. Before putting a contract in place, allow enough time for your regional social scientist to review the Statement of Work.

Eastern Region Social Assessment Statement of Work
Developed by Susan Stewart and Claudia Mielke
February 7, 2002

Social Assessment Statement of Work

(To be submitted with a request for contract or agreement proposals. The local responsible official needs to ensure that information elements specified in the social assessment Statement of Work appropriately and adequately address their situation. This format enables the incorporation of local additives so that it can be tailored to meet individual unit needs.)

Purpose of Assessment

The purpose of the assessment is to characterize the social and economic environment of (name of local unit) by showing the relationship and linkages between National Forest System land and communities. This assessment will help the Forest Service and the public (1) better understand the relationship between public lands and communities; (2) aid in identifying specific elements of the current forest plans that may need to be changed; and (3) assemble the information needed to evaluate tradeoffs between options for future forest management. The information from this assessment will serve to highlight the forest's unique position and clarify the forest's role in and key contributions to the local community, the State, and the Nation. The assessment should be broadly useful to the forest and the public, as a basis for well-informed consideration of future alternatives within and beyond the planning process.

Background and Scope of the Study Area

Local unit to specify in coordination with regional social scientist:
The (name of local unit) comprises approximately (x) acres of land located in (name of county and State). The national forest land is not physically consolidated but rather intermingled within (x) different counties. The forest offers (briefly describe current role of forest). The scope of the study area is approximately (describe area) as displayed on the attached map(s). Local communities that must be included in this assessment are either highlighted on the map and/or listed in the attached document. Most of these communities are in close proximity to, or within, the boundary; but several, such as (name of communities), are located (x) miles away.

Social issues addressed in the previous planning effort included (describe). Many of these issues, such as (describe), are still relevant today because (explain) and/or are currently addressed in several ways (make note of any local issues or locally important differences regarding regional, State, and national issues; also note any deviations from the geographic or temporal scales of analysis to address these localized distinctions). This assessment will provide a link between broader national assessments such as the Resources Planning Act and other regional studies or more local efforts such as (name and list in reference) (this section should also highlight any emerging issues).

Objectives

The social assessment is intentionally broad in scope and multifaceted to provide a context for forest plan revision. The social assessment will build a contextually rich foundation that not only reveals the parts, amounts, patterns and dynamics of the social-economic study area but aids in understanding the history that created the current situation. Findings from the social assessment will be used in concert with other resource information and assessments to develop the Analysis of the Management Situation, need for change, and the notice of intent. The social assessment will be further used in describing the affected environment, setting a reasonable range of alternatives, and providing a baseline for effects analysis of forest plan revision(s). It will also serve in developing communication strategies.

Assessment Topics

Information will be generated about many aspects of the forest and its social setting. For each assessment topic, four perspectives must be considered and included in the report: (1) the *history* of the topic, relationship, or settings; (2) *current conditions*; (3) *trends* over time; and (4) the *scale or scales* at which the issue, relationship, or setting should be addressed. The contractor will use these perspectives to show the interrelationships between or among entities and linkages between the (name of local unit) and communities. In addition, descriptions and information displays are expected to include maps where appropriate and useful. Also see Deliverables.

The following are assessment topics:

1. Socioeconomic status and demographic trends.
2. Forest users and uses.
3. Access and travel patterns.
4. Community relationships.
5. Economic ties.
6. Special places.
7. Land use.

Understanding This Schedule of Work

Tables F.1 through F.7 specify the minimum requirements the contractor must address. Additional work can be proposed, with information chosen to aid in better understanding significant regional social changes, trends or issues of concern to the forest. In preparing the quotation or proposal, it is the offeror's responsibility to make some reasonable estimate of what kinds of additional information and/or analysis they could provide and its relevancy, usefulness, and potential significance to the forest.

The successful offeror will use the table as a starting point and think beyond it to the kinds of display, discussion, interpretation and explanation that will help managers make full and best use of the information. Changes and trends relevant to forest planning will emerge from the data, and the contractor must be able to recognize them and convey their importance to the forest staff. The contractor is expected to have and demonstrate the ability to work from this set of variables to an informative, easily understood report.

Like any request for proposals or quotations, there may be aspects of this one that are unrealistic or unnecessarily difficult. The offeror may suggest alternatives if s/he sees a good way to achieve the goals of the assessment using slightly different information, assuming it lends itself well to use across the Eastern Region.

Note to local unit: The local responsible official needs to ensure which information elements specified in the social assessment Statement of Work appropriately and adequately address their situation. The following tables must be thoroughly reviewed to clearly highlight which information and/or sources are available from the Forest Service. Be as specific as possible as to the type of data, format, scale, etc. Also show other relevant sources that you are aware of and/or if you have copies available. By clearly showing what is available through the Forest Service, the offeror can submit proposals accordingly to maximize Government cost effectiveness.

- Contact forest and regional office specialists, including the regional economist, as well as Eastern Region Natural Resource Integrated Information System data stewards for advice in what data is available and/or data standards. For example,

the regional economist may have applicable IMPLAN data available. The regional social scientist can help with regional office coordination.

- Please note that this Statement of Work should inform and be informed by other local and mid-level analyses or larger assessments such as the Roads Analyses, Regional Forester Sensitive Species Analyses, and Ecosystem Analyses at the Watershed Scale. Include these completed analyses as local references.

Table F.1. Socioeconomic Status and Demographic Trends

(The responsible official needs to ensure which information elements address their local situation.)

The purpose of this section is to (1) describe who lives near the forest and what their living conditions are, and (2) indicate how the population has changed and is likely to change in the future. The forest will use this information to better anticipate who its future forest users might be, to understand how future forest users may be similar to or different from current users, and how pressure on the forest from growing residential populations may change. The forest will also use this information to note minority and low-income groups by looking at differential patterns of consumption, linkages, and vulnerabilities across types of individuals, families, communities, and social groups.

Table F.2. Forest Users and Uses

(The responsible official needs to ensure which information elements address their local situation.)

The purpose of this section is to describe how different parts of the forest are used and by whom, including local and nonlocal people. This includes use for recreation, tourism, subsistence, and solitude, as well as the ways in which the forest provides a scenic resource for the community and for visitors. The forest needs this information to better understand how use of the forest is changing over time, to anticipate the needs of future users, and to target resources to facilities and activities that are most important or most heavily used, and to know how their importance might change in the future.

Table F.1. *Socioeconomic status and demographic trends.*

Information element	Geographic scale	Temporal scale	Potential source	Notes/Unit of analysis	Available from Forest Service
Total population by age, sex	State, county, MCD	Two most recent decadal censuses	Census Bureau	Display distributions and projections	
Racial/ethnic origin	State, county, MCD	Two most recent decadal censuses	Census Bureau	Percent non-Hispanic White, Hispanic, Black, etc.	
Population <18 and >65	County, MCD	Two most recent decadal censuses	Census Bureau		
Population density	County, MCD	Two most recent decadal censuses	Census Bureau	Report in English and metric units (per km^2 and mi^2)	
Net migration	State, county	Most recent estimates; cover 20 years	Census Bureau, ERS, Internal Revenue Service	ERS analysis of Internal Revenue Service data may be useful	
Seasonal population	Region, county	As available; more than one time point	Regional planning agency	Includes seasonal homeowners, renters	
Number of tourists	County, State	Annually over past 20 years	CVB, university, lodging tax receipts		
Median housing value	County, MCD	Two most recent decadal censuses	Census Bureau	Report more detail trends where date is available	
Year housing unit built	State, county, MCD	Two most recent decadal censuses	Census Bureau	Report median, mode(s)	
Number of housing starts	County, MCD	Annually for past decade	Census Bureau		
Seasonal homes	County, MCD	Two most recent housing censuses	Census Bureau	Number, percent of all housing	
Household income and poverty	State, county, MCD	Two most recent censuses	Census Bureau	Salary by logical breakdowns plus percent below poverty by type of household	
Educational achievement by age, sex	State, county, MCD	Two most recent decadal censuses	Census Bureau or BEA	Percent with college, high school degrees	
Number of female head of household	County, MCD	Two most recent decadal censuses	Census Bureau	Actual and percent of total	
Single household	County, MCD	Two most recent decadal censuses	Census Bureau	Actual and percent of total	

BEA = Bureau of Economic Analysis; CVB = Convention and Visitors Bureau; ERS = Economic Research Service; MCD = U.S. Census Bureau, Manufacturing and Construction Division.

Table F.2. *Forest users and uses.*

Information element	Geographic scale	Temporal scale	Potential source	Notes/Unit of analysis	Available from Forest Service
ROS classifications	Forest unit	Latest forest plan ROS objectives and both current and historic inventories (1980s), if available	Forest plan(s) and records, relevant amendments	Display on map	
Outdoor recreation activities, facilities, attractions	State, region, county, forest unit	Time of last forest plan, present plan	State and county records, private recreation providers, NFS data and maps	Inventory areas, facilities, trails, attractions, etc. Map required.	
Visual quality and/or scenic integrity	Forest unit	Latest forest plan visual objectives and both current and historic (1980s) inventories, if available	Forest plan(s), relevant amendments, 1980s inventory	Display on map	
Scenic resources, attractions	State, region, county, forest unit	Last forest plan, present plan	Forest staff, tourism/ CVB officials	Map by area or location, on and off forest	
Special forest products collection	Forest unit	Last plan, present plan	Forest staff, permit records, key informants	Describe what is collected, by whom	
Interpretive resources, activities	Forest unit	Last plan, present plan	Forest staff, partners	Describe what is offered, by whom, to whom	
Cultural attractions	Forest unit	Last plan, present plan	Forest staff	Describe cultural resources and their visitors	
Forest users local and nonlocal by age, race, sex, activities/uses	Forest unit or forest, depending on data available; national trends for comparison	Depends on available records	Monitoring, permits, concessionaires, National Visitor Use Monitoring	Describe trends in activity mix and participation over time noting ROS, new activities, where users come from to do what activities. Highlight Native American users and activities.	
Group events, uses	Occurring on forest unit	Last plan, present plan	Forest staff, Infra for permitted special uses	Group purpose, membership, activities, locations	
Intergroup competition	Forest unit	Previous plan, present plan	Forest staff, user groups, users, community members	Inconsistencies of uses or competition for access, among users, between users and others, over forest use, including access	

CVB = Convention and Visitors Bureau; NFS = National Forest System; ROS = Recreation Opportunity Spectrum.

Table F.3. Access and Travel Patterns

(The responsible official needs to ensure which information elements address their local situation.)

The purpose of this section is to describe the transportation patterns of visitors traveling to and from the forest, and in using the forest. Differences in access across groups as well as changes in access over time are frequently controversial, so this information provides the forest useful background information for understanding any access issues that arise. The forest will use this information to address access needs of current and future users, display user patterns and flow both to and within the forest, and anticipate which issues might become controversial in the future.

Table F.3. *Access and travel patterns.*

Information element	Geographic scale	Temporal scale	Potential source	Notes/Unit of analysis	Available from Forest Service
Transportation modes—travel to and from forest	Within x miles or x hours of forest unit	Present and, as available, historic	County road commission or planner, forest staff, State highway department	Show how groups achieve access: age, sex, SES; highlight Native American rights, interests, routes	
Transportation modes—travel within forest	Forest unit	Present and, as available, historic	Forest staff, forest users, key informants, forest roads analysis	Can use Infra data to crosscheck with roads, trails available; highlight Native American rights, interests, routes	
Seasonal flow patterns	Forest unit and surrounding	Historic and present	State highway department, tourist/CVB	Display with maps; note seasonal differences, if possible, by user type	
Barriers to access by group (age, sex, activity, etc., as relevant); may include special use permits, closure orders, number of permits denied, restrictions by inholdings, number of nonaccess days	Forest unit	Previous plan, current plan	Community leaders, forest users and staff, interest groups, user groups, others	Rules and regulations; restrictions; physical, social, economic, or other perceived barriers	

CVB = Convention and Visitors Bureau; SES = Socioeconomic status.

Table F.4. Community Relationships

(The responsible official needs to ensure which information elements address their local situation.)

This section will describe the relationships between each community in the study area and the forest. It will describe those influencing and being influenced by the forest. Communities include those both of place and interest: tribal communities and governments, neighbors, partners, etc. At a minimum, communities will include (local unit to list and/or map on an attached document; include tribal communities). Relationships include government-to-government, local area development, joint stewardship activities, collaborative efforts, etc. The Forest Service relationship with communities spans many decades. The forest may also use this information to design its communication and outreach activities, compensating for lack of contact with those groups that are not already partners and planning for continued interaction with those who are.

(***Note to local unit***: You may wish to consider accomplishing some of these collection efforts in house. A cautionary note is that in-house efforts may bias collection efforts and interpretation. If the contractor will be conducting interviews with community leaders, it is recommended as a courtesy to give them advance notice of the contractor's interview.)

Table F.4. *Community relationships.*

Information element	Geographic scale	Temporal scale	Potential source	Notes/Unit of analysis	Available from Forest Service
Community profile	Community, MCD	50 years ago, previous plan, current plan	Community records, newspapers, community leaders	Profile: social, cultural, biophysical highlights/notable features, problems, etc. Highlight underserved minority and/or low-income groups.	
Community involvement with natural resources	Community, MCD	Historic: mid-1900s by quarter century to current	Local historic records, BEA, IMPLAN, or other economic data	Consider mapping area distinctions or functionality of communities	
Communities of interest	National, regional, tribal	As available	Urban Connections Study, national interest groups, user groups, forest staff	Identify and describe the nonlocal groups interested in forest, such as "friends groups," users groups, etc.	
Community/forest interaction	Community, MCD	Previous plan, present plan	Community leaders and members, forest staff, forest neighbors	Describe in detail linkages and relationships of communities involved with forest, and forest with communities, such as joint/partnership efforts	
Historically Underserved Business Zones	MCD	Previous plan, current plan	SBA	Helps identify underserved population to address environmental justice concerns	

BEA = Bureau of Economic Analysis; IMPLAN = Impact Analysis for Planning; MCD = U.S. Census Bureau, Maufacturing and Construction Division; SBA = Small Business Administration.

Table F.5. Economic Ties

(The responsible official needs to ensure which information elements address their local situation.)

This section describes the economic links, and important changes in those links, between the community and forest, noting important trends or results. Because planning involves an indepth analysis of economic issues relating to a wide range of its activities, this section is intentionally limited to working with just the information needed to complete the picture of the social context in which the forest exists. More technically demanding analyses, such as the impacts of activities and current and future levels of demand are left for other efforts unless specified. The forest will use this information to understand which groups and industries rely on the forest, and could thus be directly and monetarily affected by any changes in forest management. This information will help understand a community's resiliency to change and the

Table F.5. *Economic ties.*

Information element	Geographic scale	Temporal scale	Potential source	Notes/Unit of analysis	Available from Forest Service
Forest-dependent economic activity	State, county, MCD	Previous plan, current plan	Forest staff, BEA, industry groups, State DNR hunting and fishing data, Native American tribal sources	Describe all local economic activities directly tied to forest; include timber and nontimber to show relationships	
Tourism employment	County, State	Annual over past 20 years	BEA, IMPLAN, or other economic impact model	IMPLAN will indicate which sectors	
Employment by industry	State, county	Annually over past two decades	BEA		
Dominant industry	State, county		BEA, IMPLAN, or other economic impact model; NRIS	Rank top 5 to 10 by income, by employment	
Dominant occupation	State, county		Census Bureau	Rank top 5 to 10 by number of residents in each	
Income from wood products, processing	State, county	Previous plan, current plan, or as available	REIS, IMPLAN, or other economic impact model	Specify by major types	
Income from special forest products, processing	State, county	Previous plan, current plan, or as available	Infra—special use permits; also see topic #2 and #3	Specify by major types and, where appropriate, note relevant policy issues	
Personal income earned, unearned	State, county, MCD	Annually over past two decades	BEA	Report median, mode, range	
Unemployment by age, sex, race	State, county, MCD	Annually over past two decades	BEA	Rates, trends	
Federal lands-related payments	County	Annually over past two decades	County government, NRIS	Include PILT, gross receipts payments, company expenditures	

BEA = Bureau of Economic Analysis; DNR = Department of Natural Resources; IMPLAN = Impact Analysis for Planning; MCD = U.S. Census Bureau, Manufacturing and Construction Division; NRIS = Natural Resource Information System; PILT = Payment in lieu of taxes; REIS = Regional Economic Impact Survey.

role of the forest in communities' economic sustainability. The information will help further refine the ability to anticipate issues and target outreach efforts.

(***Note to local unit***: Tourism is composed of many industries of the economy. These industries need to be defined by the Forest Service staff. Contact the regional economist or sociologist for latest update on effort to use IMPLAN as this source of information.)

Table F.6. Special Places

(The responsible official needs to ensure which information elements address their local situation.)

This section will describe all the places on and around the forest that are special to people (local or nonlocal, forest staff, etc.), regardless of what use or designation those lands have, whose ownership they are in, or whether they are formally named and known places. The focus is on those places people consider special without regard to why they are special. Include a general description of places respondents refuse to name or locate. The forest will use this information to ensure that the recreational and economic uses and interests in the forest do not overshadow the less direct, more difficult to observe, but also important benefits the forest provides. Acknowledging and respecting the widest range of forest values will help ensure that controversial issues are not made more acrimonious by any groups feeling excluded or unimportant.

Use the Forest Service publication *Landscape Aesthetics: A Handbook for Scenery Management* as a guide to help organize and frame your input in a manner that follows an existing Forest Service process. This includes allowing for a place-based

Table F.6. *Special places.*

Information element	Geographic scale	Temporal scale	Potential source	Notes/Unit of analysis	Available from Forest Service
Special places	Forest unit	Historic, previous plan, present plan	Forest staff, community members, users, user groups, appropriate tribal members, interest groups, ethnographies, literature, photographic archives, etc. Also SMS, recreation, and resource maps.	Map different types including scenic quality, historic significance, spiritual meaning, cultural meaning, traditional use, or sense of place. When appropriate, use SMS methodology*.	

*Use the Forest Service *Landscape Aesthetics: A Handbook for Scenery Management*, as a guide to help organize and frame your input in a manner that follows an existing Forest Service process. This approach includes allowing for a "place-based" inventory and evaluation using social assessments derived from constituent analysis. An individual's or community's "sense of place" can be centered around forest aesthetics and the factors (including management practices) that they see affecting their bond to the land.

SMS = Scenery Management System.

inventory and evaluation using social assessments derived from constituent analysis. An individual's or a community's sense of place can be centered around forest aesthetics and the factors (including management practices) that they see affecting their bond to the land.

(***Note to local unit***: A local unit may want to consider accomplishing some of these collection efforts in house. The special places identification could possibly be a community planning exercise. A cautionary note is that in-house efforts may bias collection efforts and interpretation. If the contractor will be conducting interviews with community leaders, it is recommended as a courtesy, to give them advance notice of the contractor's interview.)

Table F.7. Land Use

(The responsible official needs to ensure which information elements address their local situation.)

This section describes current and historical uses of land around the forest including second homes, vacation resorts, different types of agriculture, corporate holdings, private woodlots, mining, ranching, small product harvesting, commercial ventures, Native American tribal interests, etc. This information will help the forest see the patterns of change in land surrounding its forest, provide insight about the Forest Service's role, and anticipate future trends in neighboring activities.

Table F.7. *Land use.*

Information element	Geographic scale	Temporal scale	Potential source	Notes/Unit of analysis	Available from Forest Service
Land use outside forest	Adjacent lands, county	Past 100 years, previous plan, present plan	Forest documents and staff, community leaders, county planners, land ownership maps	Map required; highlight major changes, such as change in parcel size	
Land acquisitions and swaps	Forest unit	Past 20 years	Forest staff, documents	Map required; describe any controversy	
Regional and local long-range plans	Planning regions, counties	According to plans	Regional, county planners	Reference, describe future oriented plans for community growth and change	
Attention, sentiment regarding community change	Community, region	Present plan, previous plan	Mass media	Characterize community debate, attention to growth issues	
Local policy environment	Region, community	Previous plan, current plan	Media, county, or regional records	Describe local land use decisionmaking and enforcement	

Local Additions

Many of the issues specific to a forest or group of forests will be covered under one or more of the questions above. There may be additional specific local concerns that go beyond the assessment topics. Those can be added here or added under a particular assessment topic. Any additions, however, should be discussed with the regional human dimensions coordinator and/or regional social scientist to ensure consistency and feasibility. In this section the forest's assessment or planning team must specify the following:

1. A specific topic, area and/or scope.
2. Additional data or indicators to be collected by the contractor either as required or for optional consideration.
3. Specify geographic or temporal scales of analysis of each study.
4. Local issues, or locally important differences with regard to regional, State and national issues.
5. Specific local resources for data and information to address local additives.

References

(***Note to local unit:*** The following list is an example only; you should prepare your own list so that it is more pertinent to your area.)

1. National Forest Land and Resource Management Plan, environmental impact statement, Record of Decision.
2. Forest recreation and transportation visitor maps.
3. Recreation Opportunity Spectrum (ROS) maps.
4. Scenery Management System/Visual Quality Objective maps.
5. Public Involvement Mailing List.
6. Previous local assessment efforts: list by title, author, date and synopsis of content or findings.
7. http://www.fs.fed.us/recreation.
8. http://www.fs.fed.us/(your region, e.g., r9)/(your local forest site).
9. Assessing Progress in Sustainable Forest Management Proposed Criteria and Indicators for the Upper Great Lakes Region. www.lsfa.org/GLFA_rep2.htm developed by the Lake States Forest Alliance.
10. State Comprehensive Outdoor Recreation Plan.
11. 2000 RPA Assessment of Forest and Range Lands—USDA. USDA Forest Service FS-687, February 2001. http://www.fs.fed.us/pl/rpa.

12. USDA Forest Service, *ROS Users Guide*, specifically pages 29–32 for guidance on mapping attractiveness, activity opportunities, and existing recreation developments.
13. USDA Forest Service. 1996 (Slightly revised in 2000). Landscape Aesthetics: A Handbook for Scenery Management. Agriculture Handbook 701. Washington, DC: U.S. Department of Agriculture. 257 p.
14. Forest Service Handbook 1909.17 Economic and Social Analysis Handbook, Chapter 30. Social Analysis. This chapter provides basic principles, techniques, and general guidance for conducting impact analysis. Note differentiation between social impact analyses and assessments and broader social assessments or overviews.

Methods of Inquiry

Methods of generating the necessary information may include any valid commonly used social science research techniques including both quantitative and qualitative methods and analysis techniques. Maximizing the effectiveness of the proposed research plan will require using a range of methods and techniques. The proposal must specify the proposed approach and provide support (e.g., citations of academic literature, examples of successful assessment that used similar approaches, etc.) for the choice of those methods and techniques. The use of statistics and other summary and reporting conventions must be appropriate to the methods employed and must provide the reader with enough information to assess the likely validity and reliability of the research results.

Deliverables

1. Report to forest. The report generated by the assessment will be structured around the assessment topics described above, based on all the information collected. This report will include comprehensive metadata (data documentation) that meets Forest Service standards. (Note: discuss with regional Eastern Region Natural Resource Integrated Information System coordinator(s) for latest development of national standards and protocols.) All maps unless specified must be mapped at a scale of (local unit to determine; for example 1:24,000) on reproducible paper/ mylar with CD-ROM electronic version compatible with Geographic Information System (local unit to determine). Maps, tables, charts, text, and so on will be used to best advantage to communicate report findings. The research team will expect and allow time for reviews of the draft document by the contract officer,

forest planner(s), and other staff as appropriate, and will plan to work with them to ensure that the final report meets the needs and expectations set forth in this contract. **The report must be in a publishable format with Government-owned reproduction rights.**

2. Manager's summary report. This report is a synopsis of key findings and recommendations based on synthesis of gathered data and information.
3. Access to and documentation for all data sets compiled for the project. This includes reports from or updates to the Natural Resource Information System Human Dimensions Module and documentation of assumptions behind any trend extensions or multipliers.
4. Recommendations regarding conditions that could be monitored and the indicators that could be used to best track relevant changes over time.
5. Annotated bibliography with full citations for all documents referenced and a short (one paragraph) description of the document.

Timeline

The timeline for completion should be completed locally. It is important to meet frequently with the contractor to assure deliverables meet contract specifications. This timeline may need to be adjusted if the local unit wants to include any interim product reviews by internal or external experts or if the contractor is expected to publicly present findings. If external reviews are required of intermediate products, the Statement of Work must cite in the Deliverables section how these reviews will be incorporated in the final report. If public presentations are required, this also must be cited as a Deliverable so the offeror can include in their proposal.

Commerce Business Daily advertisement date:
Award date:
Proposed Submittals and Review dates:

Review Forest Service mapping standards and data requirements	Week 2
Required data collection results	Month 4
Additional data collection results	Month 5
Initial findings and analysis map(s)	Month 6
Draft report	Month 8
Draft manager's summary	Month 8
Final Report due date:	Month 12

Report distribution date: (Electronic and hardcopy versions, both text and maps)

Criteria for Evaluation

1. Overall cost and appropriateness of budget.
2. Adequacy of timeline.
3. Quality of research methods and procedures.
4. Competence and experience of project personnel, including sufficient local knowledge and contacts in the study area.
5. Adequacy of project support staff and facilities including capacity, hardware, and software or contractual arrangements necessary for carrying out data collection, analysis, mapping, and production of reports in a timely manner.
6. Quality of report design in terms of its readability and utility to managers. Research teams are encouraged to include examples of previous reports they have written for managers to demonstrate this experience and capability.

The successful offeror will convey professionalism, competence, thoroughness, honesty, and timeliness. The forest staff is looking for a good partner who demonstrates willingness to work with them and learn from them, as well as a willingness to discover and share new information. The forest and regional staff are ready to provide assistance with this effort to guide the contractor. Specific data requests in addition to what has been itemized in the above tables should be requested by the offeror and may be provided if easily obtained. Major data needs requested by the contractor may be denied as determined by the Forest Service.

Direct any questions regarding this Request for Proposal to (your local contact).