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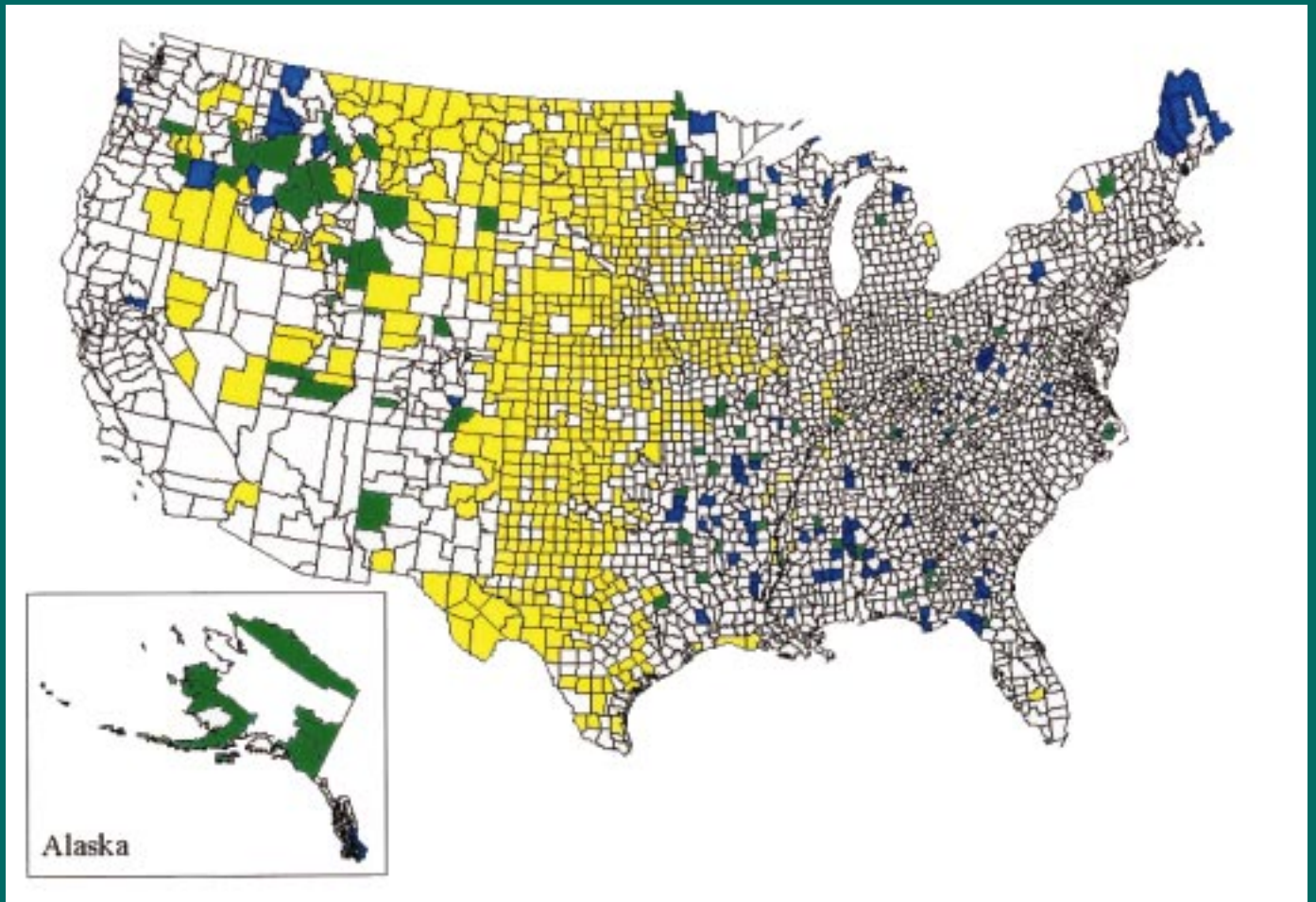
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# Assessing the Viability and Adaptability of Forest-Dependent Communities in the United States

Richard W. Haynes



**Author**

**Richard W. Haynes** is a research forester, Forestry Sciences Laboratory, P.O. Box 3890, Portland, OR 97208-3890.

## Abstract

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The work responds to the need to assess progress toward sustainable forest management as established by the Montréal Process of Criteria and Indicators. The focus is on a single indicator (commonly referred to as Indicator 46), which addresses the “viability and adaptability to changing economic conditions, of forest-dependent communities, including indigenous communities.” From county-level data, a composite measure was developed that combined population density, lifestyle diversity, and economic resiliency. There are 837 counties assigned a low rating representing 36 percent of the area of the United States but that contain less than 3 percent of the U.S. population. The rest of the population is roughly divided among the 2,064 counties assigned medium ratings and the 209 counties assigned high ratings. Of the forest-dependent communities, there are 742 counties with a high proportion of forest land, but only 14 percent are classified as having low viability and adaptability.

**Keywords:** Community resiliency, criteria and indicators, forest dependency, Montréal Process, socioeconomic well-being, sustainable forest management.

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## Introduction

A fundamental societal concern increasingly debated in the past two decades has been the need for human actions that lead to sustainable development that meets the needs of the present without comprising the ability of future generations to meet their needs (WCED 1987). This debate has broadened to include notions of sustainability as a normative concept reflecting the persistence over an indefinite future of certain necessary and desirable characteristics of both ecological and human parts of an ecosystem (modified from Hodge 1997). Within the forestry community, these concerns manifested themselves in the development of frameworks for assessing the progress toward sustainable forest management.

The United States is a signatory participant of the Montréal Process for assessing progress toward sustainable forest management. The Montréal Process is largely used by counties with temperate forest resources and involves seven criteria and 67 indicators.<sup>1</sup> Two of the criteria (numbers six and seven and containing 39 of the 67 indicators) address various human concerns including components of social well-being. These two criteria address the need for forest management to meet societal needs and maintain and enhance long-term multiple socioeconomic benefits. This is a broader context than the frequently cited goal of managing forests to sustain a flow of timber and other benefits to promote the stability of forest industries and communities.

The focus on communities is the subject of this paper. Specifically, the purpose of this paper is to describe an approach to assess community viability and adaptability in the context of the Montréal Process of Criteria and Indicators for sustainable forest management (Montréal Process Working Group 1998). This is Indicator 46 of Criterion 6, which deals with the viability and adaptability to changing economic conditions of forest-dependent communities, including indigenous communities. The term community refers to both the physical place and to the group of people who live in and identify with that place.

## Indicator Interpretation

Criterion 6 and its 19 associated indicators (including Indicator 46) reflect one of the enduring goals of land management: the concern that forest management sustains a flow of timber and other benefits to promote the well-being of forest industries and communities. This criterion takes a broad view of how sustainable forest management influences social well-being that includes the expected concerns about determinants of economic well-being (often measured by jobs) as well as concerns about community well-being. The criterion reflects a notable evolution in thinking on the part of decision-makers, researchers, resource managers, and the public about the relation between communities and forests, as well as what constitutes sustainable forest management.

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<sup>1</sup> See [www.mpci.org](http://www.mpci.org) for a description of the Criteria and Indicators for the Conservation and Sustainable Management of Temperate and Boreal Forests. The seven criteria are Conservation of Biological Diversity; Maintenance of Productive Capacity of Forest Ecosystems; Maintenance of Forest Ecosystem Health and Vitality; Conservation and Maintenance of Soil and Water Resources; Maintenance of Forest Contribution to Global Carbon Cycles; Maintenance and Enhancement of Long-Term Multiple Socio-Economic Benefits to Meet the Needs of Societies; and Legal, Institutional, and Economic Framework for Forest Conservation and Sustainable Forest Management.

## The Evolution of Viability and Adaptability<sup>4</sup>

The discussions<sup>2</sup> of this indicator suggested that there are two types of variables for this indicator: (a) measures of economic dependency on forests and (b) social well-being of communities. Social well-being would be a measure of both the capacity of communities to respond to changes and the socioeconomic status of people. In the reviews of the U.S. efforts to develop a national report on sustainable forests,<sup>3</sup> there were suggestions that measures of dependency should be considered as part of Indicator 44 (employment in the forest sector), but for clarity, both economic and social aspects of well-being are considered in the development of this indicator.

The Montréal Process provides little guidance for defining communities although the information that is available largely addresses communities of place. The various technical notes on the subject refer to communities generically as forest-dependent communities and indigenous communities. They stress the need to assess using quantitative and qualitative information of the trends on the status of a community's flexibility and capacity to adapt to changing economic conditions. Little guidance is available for which scales need to be considered other than general direction to deal with national, regional, and local concerns. No guidance is provided for how to scale community information upward to broader spatial scales.

I acknowledge that there are severe data limitations for assessing community viability and adaptability at the national scale as required in the Montréal Process. Foremost, there is a lack of systematic community-level databases except in some unique cases (such as the Pacific Northwest) where they have been assembled as part of ecoregion assessments. Even where the data have been assembled, there are severe limitations for measuring certain elements of community viability and adaptability.

The past two decades have seen an evolution of many terms used to depict communities that have distinct connections to forest resources: community stability, forest dependence, forest based, community capacity, community resiliency, and now with the Montréal Process, community viability and adaptability. Viability and adaptability are not explicitly defined in the Montréal Process but have the connotation of some of the more recent terms such as resiliency.

This evolution of terms reveals the evolving emphasis on the complex, dynamic, and interrelated aspects of rural communities and the natural resources that surround them. The earliest terms dealt with the limits between improved forest management and stable communities achieved through stable employment. By the late 1980s, the notion of community stability as reflective of sustained-yield timber management was being called into question (Lee 1990, Schallau 1989). Although the use of the term stability continued to endure in policy debates, concern was raised about the lack of a clear definition of stability and how it might be measured (see Richardson 1996). Seeking alternative terms, some researchers began looking beyond employment indicators to other aspects of

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<sup>2</sup> See [www.mpci.org/meetings/tac/mexico/tn1-6\\_e.html](http://www.mpci.org/meetings/tac/mexico/tn1-6_e.html) for a discussion of the rationale and approaches to measurement for Indicator 46.

<sup>3</sup> Roundtable workshops were held in Portland, Oregon, and Washington, D.C., in spring 2002. Reports are on file with: David Darr ([ddarr@fs.fed.us](mailto:ddarr@fs.fed.us)).

<sup>4</sup> This section is condensed from Donoghue and Haynes (2002).

community life in order to assess community well-being (Doak and Kusel 1996, Kusel and Fortmann 1991). In addition to economic measures, indicators for poverty, education, crime, and other sociodemographic measures have been used to assess conditions within communities.

There are two definitions key to developing a measure for Indicator 46. First, communities are defined in terms of a sense of place, organization, or structure. Second, economies are defined by transactions among people that allocate scarce resources among alternative uses. The spatial configurations of both differ, with economies generally being spatially the larger of the two.

Concurrent with discussions about stability and well-being were discussions about the term forest dependence, including several appeals to redefine that term (Richardson and Christensen 1997). Forest and timber dependence were initially defined in terms of commodity production. Various research studies suggest that communities are more complex than traditional measurements of timber dependency would imply (see Haynes and others 1996). Most communities have mixed economies, and their vitality is often linked to other factors besides commodity production. Many of the communities thought of as timber dependent have been confronted with economically significant challenges, such as mill closures, and have displayed resilient behavior as they have dealt with change. Arguments for redefining the term forest dependence emphasized that the economic ties that some communities have to forests are not wood product based, but reside in recreation and other amenities (Kusel 1996). Another concern was that the term forest dependence did not reflect the local living traditions and sense of place held by many communities (Kusel 1996). This broader connotation of the term forest dependence is often what is implied by the term forest based.

The terms community capacity and community resiliency connote the ability of a community to take advantage of opportunities and deal with change (Doak and Kusel 1996, Harris and others 2000). The terms resiliency and, arguably to a lesser extent, capacity differ in meaning from terms such as forest dependence because they represent a projected condition or ability of a community over some period. Levels of resiliency are dynamic, just like external factors that might induce change within a community. The Forest Service is shifting its focus from dependency to concepts like resiliency (see Horne and Haynes 1999, McCool and others 1997). Based on Harris and others (2000), factors useful in assessing community resiliency or adaptability include:

- Population size—Resiliency ratings vary directly with population size:
  - Small (and often lower resiliency), less than 1,500 people.
  - Large (often associated with higher resiliency), greater than 5,000 people.
- Economic diversity—Resiliency ratings vary directly with population size.
- Civic infrastructure—Higher resiliency is associated with strong civic leadership, positive attitudes toward changes, strong social cohesion.
- Amenities—Combines both civic amenities as well as natural amenities.
- Location—Locations on major trade routes; near service centers; shopping, service, or resort destinations are associated with higher resiliency. Spatial isolation is often a characteristic of lower resiliency.

## Developing a Measure of Community Viability and Adaptability

The history behind the evolution of terms combined with the results of recent and current work suggest that connectivity to broad regional economies, community cohesiveness and place attachment, and civic leadership are greater factors in determining community viability and adaptability than factors related to employment.

There are three considerations necessary for the development of a measure of community viability and adaptability. First, there are various factors listed in the previous section used to depict communities and their ability to deal with changes such as changes in the management of the surrounding forests. Second, there is a need to be specific about the geographic scale at which to construct the measure. Third, there is also the issue about how to judge the “goodness” of any measure that is developed. Recent work on ecological indicators (see National Research Council 2000) suggests the following criteria for such judgments: the extent the measure is based on a well-understood conceptual model, its reliability, its ability to detect differences at appropriate spatial scales, and its robustness in the sense of being able to yield reliable measures given the variability in the data.

The first step is to select what factors to use and how to develop measurements of those factors. From the previous review, the following factors were selected for assessing the degree of community viability and adaptability: population size, economic diversity, and amenities lifestyle. The proportion of forest land in the surrounding area was used to measure forest dependency.

The second step involves at what spatial scale this work needs to be conducted. The notion of a social hierarchy combines both political and individual person organization units. For example, one representation is from broad common markets to nations, to states, to counties, to communities and neighborhoods, to families and persons (see for example, Quigley and others 1996). In the context of the Montréal Process, Indicator 46 needs to assess conditions at the national level based on an understanding developed from the next lower spatial scale. In the United States, that scale would most likely be states; however, it is difficult to generalize community conditions at that level.<sup>5</sup> A compromise to gain both greater spatial resolution and to overcome the lack of community data sets is to use county data. These data sets have been used to monitor well-being and to reveal geographic variation, but most social scientists do not like to use these data sets as proxies for communities, primarily because of the lack of data richness for various components of social well-being such as community leadership and infrastructure, quality of life, welfare, and social and economic health of a community.

Using county data, we can use the general approach developed by Horne and Haynes (1999), which used county data to develop measures of socioeconomic resiliency (defined as the ability of human institutions [both communities and economies] to adapt to change) for the interior Columbia basin. The advantage of this approach was that it was measurable in the context of the definition of social well-being by using existing information. Horne and Haynes (1999) developed a composite measure of three factors: economic resiliency (as a measure of economic diversity in employment), population density (a proxy for civic infrastructure), and lifestyle diversity (a proxy for social and cultural

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<sup>5</sup> For example, the state of Oregon (a relatively small state) has some 400 communities. Donoghue and Haynes (2002) found that about 10 percent of Oregon's communities with about 2 percent of Oregonians had low viability and adaptability.



diversity). Using this approach, we find that counties that have high socioeconomic resiliency demonstrate quick adaptation as indicated by rebounding measures of socioeconomic well-being, whereas counties with low resiliency have more lingering negative impacts. The terms high or low should not be thought of as good or bad but rather as a reflection of the ability of a county to respond to changes in social or economic factors.

Here, a similar approach was developed for the 3,110 counties (and some city-county and borough combinations) in the United States. A composite measure was developed for each county that considered civic infrastructure, economic diversity (in terms of employment), and lifestyle diversity. Forest dependency was interpreted as being related to the extent that each county was forested (measured by proportion of forest land in each county).

Proxy measures were developed for each component of the composite measure. Each proxy was assigned a rating of 1 for low, 2 for medium, and 3 for high. The definitions differ for each measure. Population density represents civic infrastructure. Here, counties with fewer than six people per square mile were assigned a rating of 0. These have been called frontier counties following the definition from the 1890 census. Counties with 6 to 27 people per square mile represent rural areas. Counties with 28 to 250 people per square mile are called intermix counties, and those with over 250 people per square mile are called interface counties<sup>6</sup> and essentially represent urbanlike characteristics. Economic diversity (based on a Shannon-Weaver diversity index) is computed from employment in major sectors including agriculture. Ratings are assigned that reflect how the diversity of a county compares relative to the average of U.S. counties. A high rating reflects counties that are in the top 16 percent (one standard deviation) of counties, and a low rating reflects those counties in the bottom 16 percent of counties. A proxy for lifestyle diversity is composed (in equal parts) of proportion of the county population that is minority (as a proxy for ethnic, income, and lifestyle diversity) and the availability of national forest lands (as a proxy for access to opportunities for outdoor recreation activities). Minority status is based on variation around the country average (15.6 percent). Counties with minority populations greater than 23.94 percent were rated high, whereas those with minority populations less than 7.3 percent were rated low. The ratings for national forest are based on actual acres in each county. Counties with fewer than 35,000 acres are assigned a rating of 1, whereas those counties with over 157,000 acres are assigned a rating of 3.

These indicators were used to develop a composite measure that combined population density, lifestyle diversity, and economic resiliency. Those counties with a composite score of 4 or less were assigned as having low adaptability and viability. Those counties with a composite score of 4.5 to 6.5 were assigned as having medium adaptability and viability. Those counties with a composite score of 7 or greater were assigned as having high adaptability and viability. A summary of the results is shown in table 1. There are 837 counties assigned a low rating representing 36 percent of the area of the United States but just less than 3 percent of the U.S. population. The rest of the population is roughly evenly divided among the 2,064 counties assigned medium ratings and the 209 counties assigned high ratings.

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<sup>6</sup> The definitions for intermix and interface are consistent with research being undertaken as part of the fire plan.

**Table 1—Summary of county data and ratings**

Ranking	Population density	Minority status	Native American	Economic diversity	Forested acres	National forest acres	Composite score
			<i>Number of counties</i>				
Low <sup>a</sup>	1,133	1,409	2,497	299	1,511	2,594	837
Medium	1,603	948	434	2,403	857	259	2,064
High	374	753	179	408	742	257	209
			<i>Percent (by area)</i>				
Low	62.6	32.9	49.7	9.0	47.1	67.4	36.3
Medium	31.3	32.6	26.5	70.3	35.4	9.0	56.3
High	6.1	34.5	23.9	20.7	17.5	23.6	7.4
			<i>Percent (by population)</i>				
Low	5.0	17.0	85.8	2.2	53.9	81.1	3.0
Medium	31.2	37.2	12.6	49.7	35.3	5.6	49.5
High	63.8	45.8	1.6	48.1	10.8	13.2	47.5

<sup>a</sup> Includes 384 counties assigned a rating of 0 because they are frontier counties.

## Discussion

Indicator 46 emphasizes the viability and adaptability of forest-dependent communities. Traditionally, this has been measured (in the United States) by the extent of employment in forest industries, but this tends to overstate the importance of manufacturing (relative to trade and services associated with activities such as recreation) and understates personal connections to the forest for subsistence and nontraditional economic activities. Here, I use the extent of forest land in each county as a proxy for the dependence of local residents on forest resources. Three maps show the results (figs. 1 through 3). The colors denote the extent of forest land in each county. Those with less than the U.S. average (32.5 percent) are shown in yellow, those with more than the U.S. average are shown in green (32.5 to 66.2 percent forest land), and those with greater than 66.3 percent forest land are shown in blue. For the purpose of this indicator, it is the counties shown in blue that represent forest-dependent communities. Figure 1 shows the counties assigned a rating of low viability and adaptability. These counties contain 8.3 million Americans but comprise 36 percent of the area of the United States. Figures 2 and 3 show the counties assigned a rating of medium or high viability and adaptability, respectively. Of the 742 counties with a high level of forest dependence (shown in blue), 102 are assigned a rating of low viability and adaptability.

Because the discussions of the indicator indicate a concern about those communities with less viability and adaptability, the detailed information for the 837 counties (and boroughs) assigned a low composite rating (shown in fig. 1) are listed in the appendix. The results for those counties with a low rating are summarized for both population and area in table 2 by four broad regions. The regional data illustrate how most of the people affected are in the two Eastern regions, whereas most of the area is in the West.

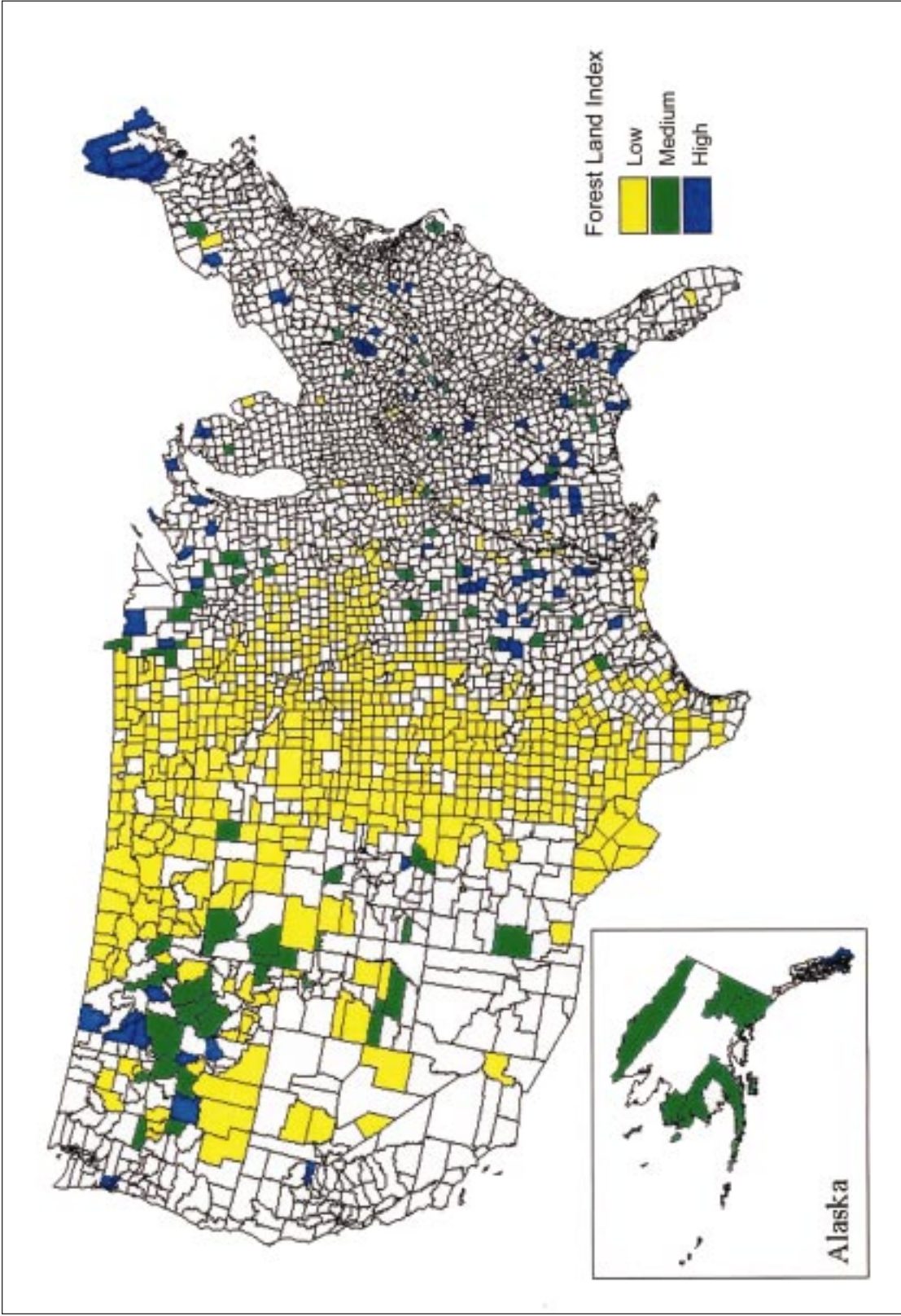


Figure 1—Counties with low viability and adaptability to changing economic conditions.

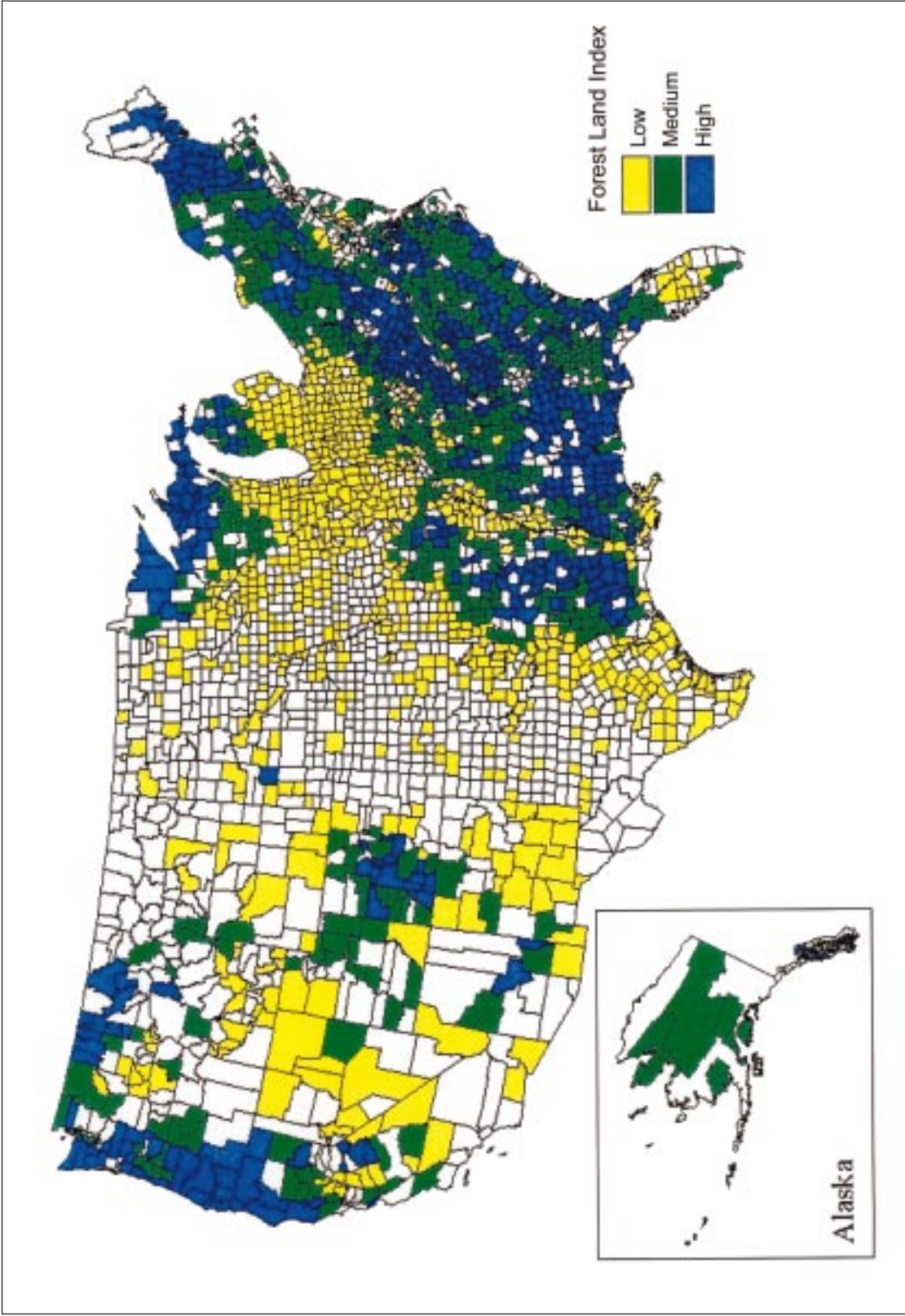


Figure 2—Counties with medium viability and adaptability to changing economic conditions.

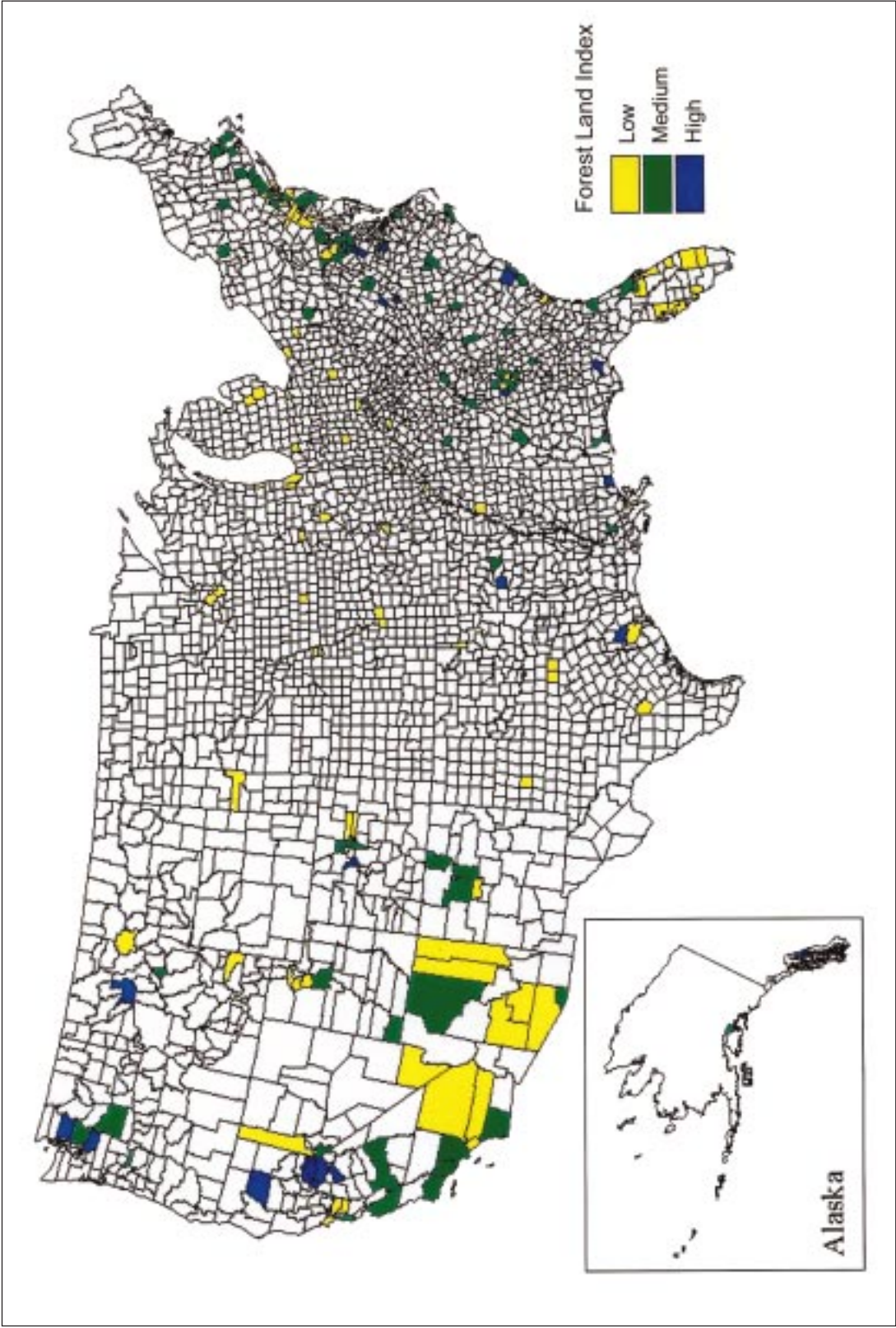


Figure 3—Counties with high viability and adaptability to changing economic conditions.

**Table 2—Population and area of the United States by region, with low variability and adaptability by region**

Region	Population			Area		
	Extent of forest land			Extent of forest land		
	Low	Medium	High	Low	Medium	High
	--- Thousand/people ---			--- Thousand/acre ---		
North	2,702	492	513	164,223	14,328	22,844
South	1,843	367	682	120,405	9,272	21,347
Rocky Mountains	1,088	154	62	196,329	46,506	10,023
Pacific Coast	189	205	49	25,651	178,429	12,752
<b>Total United States</b>	<b>5,823</b>	<b>1,219</b>	<b>1,306</b>	<b>506,608</b>	<b>248,535</b>	<b>66,966</b>

Note: Individual columns may not add to the total owing to rounding.

Although much of the emphasis has been on the counties with low composite rankings, most (640 counties) of the heavily forested counties have actually medium or high rankings. Many of these are counties with extensive urban populations such as those in Atlanta, Seattle, or Portland, whereas others contain significant recreation areas such as Shenandoah and Olympic National Parks or the Upper Peninsula in Michigan. These results suggest that forests often contribute to positive notions of the amenities associated with residential and recreation areas.

There is a question of how well this indicator rates viability and adaptability. In the last section, several criteria were presented for such judgments. The first pertains to the extent to which the measure is based on a well-understood conceptual model. Throughout this paper, I have argued that the evolution of the concern about the viability and adaptability of a community reflects the broader changes in our understanding of community well-being and its relation to the surrounding forest or natural resources. Although there is often ambiguity about the definition of social well-being, there is acceptance of its utility (see McCool and others 1997). The second criterion addresses the reliability of the indicator. One demonstration of this has been the previous use of similar indicators in both community (Harris and others 2000) and bioregional assessments (see Horne and Haynes 1999, McCool and others 1997), and in state-level attempts to address sustainable forest management (see Donoghue and Haynes 2002). In all cases, useful measures were developed and helped expand our understanding of how communities differ in their propensity to deal with external changes. The third criterion pertains to the ability of an indicator to detect differences at appropriate spatial scales. The above examples also demonstrate these abilities in the various measures that were developed. The fourth criterion is robustness of the indicator to provide reliable measures given the variability in the data. The various maps do illustrate the ability to deal with spatial differences, but additional work will be needed to demonstrate the extent of temporal variation inherent in social and economic data. In summary, as a first approximation, the measure developed here for Indicator 46 meets most of the criteria for “goodness.”

## Interpreting the Results

These results (like those of Horne and Haynes 1999) suggest that most Americans live in areas with moderate to high viability and adaptability, but there are extensive areas characterized by low viability and adaptability for economic and social changes. Figure 4 illustrates this dilemma. It also suggests that extent of forest land is more or less evenly distributed across areas of both low and high adaptability. Finally, it should not be concluded that these areas of low adaptability are in some type of distress. They simply have low adaptability or resiliency to social and economic changes.

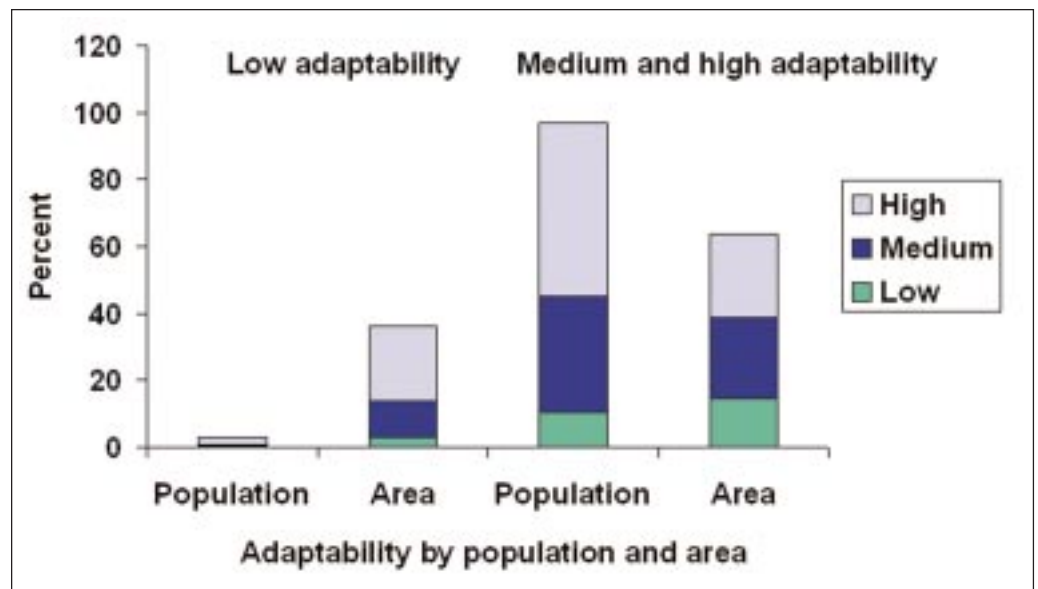


Figure 4—Population and area by degree of adaptability and extent of forest land.

It is interesting to note those counties that are both heavily forested and that have medium or high viability and adaptability. Of the 209 counties with high viability and adaptability, only 22 are heavily forested. Most of these are in urban areas such as Seattle. Of the 2,064 counties with medium viability and adaptability, 30 percent are heavily forested. Several are near urban areas, but others contain significant residential developments including counties thought of as recreation counties (see Johnson and Beale 1995) affirming the rich connections between forests and human populations beyond just timber for wood products. Of the 285 counties identified by Johnson and Beale (1995), 44 percent are heavily forested.

The intent of the original indicator was to identify forest-dependent communities. As was argued in an earlier section, this is both difficult to do and is probably inappropriate at the broad scale of national indicators. However, we do have community data for eastern Oregon where we can examine the relation between the counties rated as having low adaptability and the communities in those counties. In eastern Oregon, there are 10 counties rated as having low adaptability. These 10 counties contain 46 communities ranging in size from a population of 3 to nearly 10,000. Of the 46 communities, 26 were rated by Reyna (1998) as being small, isolated from major population centers, and lacking in economic diversity. The results suggest that the approach taken to develop a measure of Indicator 46 does provide a useful first approximation of areas where community assistance may be needed to offset the effects of changes in broad-scale land management.

Another inference concerns the intent of Indicator 46 to address those areas with indigenous communities. Each county was assigned a scale for its extent of American Indian or Alaska Native population. Counties with an American Indian and Alaska Native population less than 1 percent were assigned a rating of 0. Those counties with a population proportion between 1 and 5.77 percent were assigned a rating of 1 (the U.S. average is

1.9 percent). Those with a population greater than 5.78 percent were assigned a rating of 2. Generally, indigenous communities are difficult to identify other than as communities associated with American Indian reservations. For example, in eastern Oregon, Reyna (1998) identified seven communities as being associated with American Indian reservations. Only 1 of these communities is in 1 of the 10 counties identified as having low adaptability. Seven of the ten counties are identified as having average (1.9 percent of population) or higher populations of American Indians, but none has more than 5.77 percent of its population as being American Indian. There are 65 counties and boroughs that do have significant American Indian or Alaska Native populations. The largest numbers are concentrated in six states: Alaska, Kansas, Montana, North Dakota, South Dakota, and Oklahoma.

Finally, I caution against drawing inferences about economic conditions from the assignment of low viability and adaptability. In other studies (Horne and Haynes 1999), little relation is found between reduced economic opportunities and extent of forest land.

## Closing

Indicator 46 attempts to address the links among land management, the flow of goods and services, and social well-being of human communities. In that sense it reflects the current scientific thinking about the relation between the biophysical and socioeconomic components of ecosystems. It is difficult, however, to reconcile its intent with the almost mystical reference to communities without specific definition or clarity in terms of spatial hierarchy among communities and higher levels of administrative governments.

There are three possible research directions that can be taken to improve our treatment of this indicator. First, there is the need for refinement of the specific proxies used in the composite measure. There is the opportunity to develop other midscale measures that might better represent social and economic conditions. Included in this should be an examination of the relations between the variables used in developing the composite measure. Second, there is the need to use existing (or to develop new) community databases to better understand the relation between midscale measures of social and economic conditions and actual community-level measures. Third, there is the opportunity to improve our ability to estimate nontimber outputs (both goods and services) and to value them. These are key to better describing the benefits of forest management.

Thinking more broadly, there are significant science challenges in developing an indicator for community condition. First, there is the intellectual challenge of developing a measure for viability and adaptability. Multiple terms like adaptability, viability, and resiliency add confusion, but the essential point is the need to capture the essence of the dynamics of communities and changes in their functioning. Second, the development of indicators is a pressing managerial problem. Indicator 46 addresses the need to identify which communities may need assistance in adjusting to changes in land management approaches, outputs, or other changes. This poses two challenges: the need to better understand the relation between forest management and communities and the need to develop adequate proxies for broad-scale measurement of certain attributes of community adaptability. Finally, we need to develop a coincidental understanding of how to engage community development interests in a discussion of viability and adaptability as they are often the agents of change.



## Metric Equivalents

When you know:	Multiply by:	To find:
Acres	0.40	Hectares
Square miles	2.59	Square kilometers

## Acknowledgments

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# Appendix

**Table 3—List of 837 forest-dependent counties with low viability and adaptability**

Area key	Area name	Population			Native American <sup>c</sup>	Region <sup>d</sup>	Employment <sup>e</sup>	Composite <sup>f</sup>	Forest land <sup>g</sup>	National forest <sup>h</sup>
		density <sup>a</sup>	Minority <sup>b</sup>	American <sup>c</sup>						
01029	AL, Cleburne County	1	1	0	2	1	3.5	3	2	
01057	AL, Fayette County	2	2	0	2	1	4.0	3		
01061	AL, Geneva County	2	2	0	2	1	4.0	2		
01063	AL, Greene County	1	3	0	2	1	3.5	3		
01065	AL, Hale County	1	3	0	2	1	4.0	2	1	
01075	AL, Lamar County	1	2	0	2	2	4.0	3		
01085	AL, Lowndes County	1	3	0	2	1	3.5	3		
01105	AL, Perry County	1	3	0	2	1	4.0	3	1	
01107	AL, Pickens County	1	3	0	2	1	3.5	3		
01131	AL, Wilcox County	1	3	0	2	1	3.5	3		
02013	AK, Aleutians East Borough	0	3	2	4	2	3.5	2		
02016	AK, Aleutians West Census Area	0	3	2	4	2	3.5	2		
02050	AK, Bethel Census Area	0	3	2	4	2	3.5	2		
02060	AK, Bristol Bay Borough	0	3	2	4	2	3.5	2		
02068	AK, Denali	0	2	1	4	3	4.0	2		
02090	AK, Fairbanks North Star Borough	1	2	2	4	2	4.0	2		
02150	AK, Kodiak Island Borough	0	3	2	4	1	3.0	2	1	
02164	AK, Lake and Peninsula Borough	0	3	2	4	2	3.5	2		
02185	AK, North Slope Borough	0	3	2	4	2	3.5	2		
02201	AK, Prince of Wales-Outer Ketchikan Census Area	0	3	2	4	2	3.5	3		
02240	AK, Southeast Fairbanks Census Area	0	2	2	4	3	4.0	2		
02261	AK, Valdez-Cordova Census Area	0	3	2	4	2	3.5	2		
02270	AK, Wade Hampton Census Area	0	3	2	4	2	3.5	2		
02280	AK, Wrangell-Petersburg Census Area	0	3	2	4	1	2.5	3		
04012	AZ, La Paz County	0	3	2	3	2	3.5	0		
05011	AR, Bradley County	1	3	0	2	1	3.5	3		
05017	AR, Chicot County	1	3	0	2	1	3.5	1		
05025	AR, Cleveland County	1	2	0	2	1	3.0	3		

Table 3—List of 837 forest-dependent counties with low viability and adaptability (continued)

Area key	Area name	Population density <sup>a</sup>	Minority <sup>b</sup>	Native American <sup>c</sup>	Region <sup>d</sup>	Employment <sup>e</sup>	Composite <sup>f</sup>	Forest land <sup>g</sup>	National forest <sup>h</sup>
05049	AR, Fulton County	1	1	0	2	2	3.5	2	
05053	AR, Grant County	1	1	0	2	2	3.5	3	
05065	AR, Izard County	1	1	0	2	2	3.5	3	
05073	AR, Lafayette County	1	3	0	2	1	3.5	2	
05079	AR, Lincoln County	1	3	0	2	1	3.5	2	
05087	AR, Madison County	1	1	1	2	1	3.5	2	2
05089	AR, Marion County	1	1	0	2	2	4.0	3	1
05109	AR, Pike County	1	2	0	2	1	3.5	3	1
05111	AR, Poinsett County	2	2	0	2	1	4.0	1	
05117	AR, Prairie County	1	2	0	2	1	3.0	1	
05127	AR, Scott County	1	1	1	2	1	4.0	3	3
05129	AR, Searcy County	1	1	0	2	2	4.0	3	1
05133	AR, Sevier County	2	2	1	2	1	4.0	3	
05141	AR, Van Buren County	1	1	0	2	2	4.0	3	1
05147	AR, Woodruff County	1	3	0	2	1	3.5	1	
06091	CA, Sierra County	0	1	1	4	2	4.0	3	3
08009	CO, Baca County	0	1	1	3	2	4.0	1	3
08011	CO, Bent County	0	2	1	3	2	3.0	0	
08017	CO, Cheyenne County	0	1	0	3	2	2.5	0	
08023	CO, Costilla County	0	3	1	3	2	4.0	2	1
08025	CO, Crowley County	1	2	1	3	2	4.0	0	
08027	CO, Custer County	0	1	1	3	2	4.0	3	3
08033	CO, Dolores County	0	1	1	3	2	4.0	2	3
08039	CO, Elbert County	1	1	0	3	2	3.5	0	
08055	CO, Huerfano County	0	2	1	3	2	4.0	2	2
08057	CO, Jackson County	0	1	0	3	2	4.0	2	3
08061	CO, Kiowa County	0	1	1	3	2	2.5	0	
08063	CO, Kit Carson County	0	2	0	3	2	3.0	0	
08071	CO, Las Animas County	0	2	1	3	2	4.0	1	2
08073	CO, Lincoln County	0	2	0	3	2	3.0	0	
08075	CO, Logan County	1	2	0	3	2	4.0	0	
08081	CO, Moffat County	0	1	0	3	2	3.5	1	2
08087	CO, Morgan County	1	2	0	3	1	3.0	0	
08095	CO, Phillips County	1	1	0	3	2	3.5	0	
08099	CO, Prowers County	1	2	1	3	1	3.0	0	
08103	CO, Rio Blanco County	0	1	0	3	1	3.0	1	3
08115	CO, Sedgwick County	0	2	0	3	2	3.0	0	
08121	CO, Washington County	0	1	0	3	2	2.5	0	
08125	CO, Yuma County	0	1	0	3	2	2.5	0	
12013	FL, Calhoun County	1	2	1	2	2	4.0	3	
12029	FL, Dixie County	1	2	0	2	2	4.0	3	
12041	FL, Gilchrist County	2	2	0	2	1	4.0	2	
12043	FL, Glades County	1	2	1	2	2	4.0	1	
12045	FL, Gulf County	1	2	0	2	2	4.0	3	
12067	FL, Lafayette County	1	2	0	2	1	3.0	3	
12123	FL, Taylor County	1	2	0	2	2	4.0	3	
13003	GA, Atkinson County	1	3	0	2	1	3.5	3	

**Table 3—List of 837 forest-dependent counties with low viability and adaptability (continued)**

Area key	Area name	Population			Native		Region <sup>d</sup>	Employment <sup>e</sup>	Composite <sup>f</sup>	Forest land <sup>g</sup>	National forest <sup>h</sup>
		density <sup>a</sup>	Minority <sup>b</sup>	American <sup>c</sup>	American <sup>c</sup>						
13005	GA, Bacon County	2	2	0	0	2	1	4.0	3		
13007	GA, Baker County	1	3	0	0	2	1	3.5	2		
13065	GA, Clinch County	1	3	0	0	2	1	3.5	3		
13099	GA, Early County	1	3	0	0	2	1	3.5	2		
13101	GA, Echols County	1	2	1	1	2	1	3.0	3		
13125	GA, Glascock County	1	2	0	0	2	2	4.0	3		
13165	GA, Jenkins County	1	3	0	0	2	1	3.5	3		
13239	GA, Quitman County	1	3	0	0	2	1	3.5	3		
13243	GA, Randolph County	1	3	0	0	2	1	3.5	2		
13259	GA, Stewart County	1	3	0	0	2	1	3.5	3		
13301	GA, Warren County	1	3	0	0	2	1	3.5	3		
13307	GA, Webster County	1	3	0	0	2	1	3.5	3		
13319	GA, Wilkinson County	1	3	0	0	2	1	3.5	3		
16003	ID, Adams County	0	1	1	1	3	2	4.0	3	3	
16011	ID, Bingham County	1	2	2	2	3	2	4.0	1		
16015	ID, Boise County	0	1	0	0	3	2	4.0	3	3	
16025	ID, Camas County	0	1	0	0	3	2	4.0	1	3	
16029	ID, Caribou County	0	1	0	0	3	1	3.0	2	3	
16035	ID, Clearwater County	0	1	1	1	3	1	3.0	3	3	
16037	ID, Custer County	0	1	0	0	3	2	4.0	2	3	
16047	ID, Gooding County	1	2	0	0	3	1	3.0	0		
16049	ID, Idaho County	0	1	1	1	3	1	3.0	2	3	
16051	ID, Jefferson County	1	2	0	0	3	1	3.5	0	1	
16059	ID, Lemhi County	0	1	0	0	3	2	4.0	2	3	
16063	ID, Lincoln County	0	2	1	1	3	2	3.0	0		
16067	ID, Minidoka County	1	2	0	0	3	1	3.0	0		
16071	ID, Oneida County	0	1	0	0	3	2	3.5	1	2	
16073	ID, Owyhee County	0	2	1	1	3	1	2.0	1		
16077	ID, Power County	0	2	1	1	3	1	3.0	1	2	
16079	ID, Shoshone County	0	1	1	1	3	2	4.0	3	3	
16087	ID, Washington County	1	2	0	0	3	1	4.0	1	2	
17009	IL, Brown County	1	2	0	0	1	2	4.0	1		
17013	IL, Calhoun County	1	1	0	0	1	2	3.5	2		
17023	IL, Clark County	2	1	0	0	1	1	3.5	1		
17025	IL, Clay County	2	1	0	0	1	1	3.5	1		
17059	IL, Gallatin County	1	1	0	0	1	2	4.0	1	1	
17061	IL, Greene County	1	1	0	0	1	2	3.5	1		
17065	IL, Hamilton County	1	1	0	0	1	2	3.5	1		
17069	IL, Hardin County	1	1	0	0	1	2	4.0	1	1	
17071	IL, Henderson County	1	1	0	0	1	2	3.5	1		
17079	IL, Jasper County	1	1	0	0	1	1	2.5	1		
17149	IL, Pike County	1	1	0	0	1	2	3.5	1		
17169	IL, Schuyler County	1	1	0	0	1	2	3.5	1		
17171	IL, Scott County	1	1	0	0	1	2	3.5	1		
17175	IL, Stark County	1	1	0	0	1	2	3.5	0		
17189	IL, Washington County	1	1	0	0	1	2	3.5	1		

Table 3—List of 837 forest-dependent counties with low viability and adaptability (continued)

Area key	Area name	Population density <sup>a</sup>	Minority <sup>b</sup>	Native American <sup>c</sup>	Region <sup>d</sup>	Employment <sup>e</sup>	Composite <sup>f</sup>	Forest land <sup>g</sup>	National forest <sup>h</sup>
17191	IL, Wayne County	1	1	0	1	1	2.5	1	1
18007	IN, Benton County	1	1	0	1	2	3.5	0	0
18171	IN, Warrren County	1	1	0	1	2	3.5	1	0
19001	IA, Adair County	1	1	0	1	2	3.5	0	0
19003	IA, Adams County	1	1	0	1	2	3.5	0	0
19005	IA, Allamakee County	1	1	0	1	2	3.5	2	0
19009	IA, Audubon County	1	1	0	1	2	3.5	0	0
19023	IA, Butler County	1	1	0	1	2	3.5	0	0
19025	IA, Calhoun County	1	1	0	1	2	3.5	0	0
19029	IA, Cass County	1	1	0	1	2	3.5	0	0
19035	IA, Cherokee County	1	1	0	1	2	3.5	0	0
19037	IA, Chickasaw County	1	1	0	1	2	3.5	0	0
19039	IA, Clarke County	1	1	0	1	2	3.5	1	1
19043	IA, Clayton County	1	1	1	1	2	3.5	1	1
19047	IA, Crawford County	1	1	0	1	2	3.5	0	0
19051	IA, Davis County	1	1	0	1	2	3.5	1	1
19053	IA, Decatur County	1	1	0	1	2	3.5	1	1
19069	IA, Franklin County	1	1	0	1	2	3.5	1	1
19071	IA, Fremont County	1	1	0	1	2	3.5	0	0
19073	IA, Greene County	1	1	0	1	2	3.5	0	0
19075	IA, Grundy County	1	1	0	1	2	3.5	0	0
19077	IA, Guthrie County	1	1	0	1	2	3.5	1	1
19081	IA, Hancock County	1	1	0	1	2	3.5	0	0
19085	IA, Harrison County	1	1	0	1	2	3.5	1	1
19089	IA, Howard County	1	1	0	1	1	2.5	0	0
19091	IA, Humboldt County	1	1	0	1	2	3.5	0	0
19093	IA, Ida County	1	1	0	1	2	3.5	0	0
19095	IA, Iowa County	1	1	0	1	2	3.5	1	1
19107	IA, Keokuk County	1	1	0	1	2	3.5	1	1
19109	IA, Kossuth County	1	1	0	1	2	3.5	0	0
19117	IA, Lucas County	1	1	0	1	2	3.5	1	1
19119	IA, Lyon County	1	1	0	1	2	3.5	0	0
19121	IA, Madison County	1	1	0	1	2	3.5	1	1
19131	IA, Mitchell County	1	1	0	1	2	3.5	0	0
19133	IA, Monona County	1	1	0	1	2	3.5	1	1
19135	IA, Monroe County	1	1	0	1	2	3.5	1	1
19141	IA, O'Brien County	1	1	0	1	2	3.5	0	0
19143	IA, Osceola County	1	1	0	1	2	3.5	0	0
19147	IA, Palo Alto County	1	1	0	1	1	2.5	0	0
19151	IA, Pocahontas County	1	1	0	1	2	3.5	0	0
19159	IA, Ringgold County	1	1	0	1	2	3.5	1	1
19161	IA, Sac County	1	1	0	1	2	3.5	0	0
19165	IA, Shelby County	1	1	0	1	2	3.5	0	0
19171	IA, Tama County	1	2	2	1	2	4.0	1	1
19173	IA, Taylor County	1	1	0	1	1	2.5	1	1
19177	IA, Van Buren County	1	1	0	1	1	2.5	1	1

**Table 3—List of 837 forest-dependent counties with low viability and adaptability (continued)**

Area key	Area name	Population			Native American <sup>c</sup>	Region <sup>d</sup>	Employment <sup>e</sup>	Composite <sup>f</sup>	Forest land <sup>g</sup>	National forest <sup>h</sup>
		density <sup>a</sup>	Minority <sup>b</sup>	American <sup>c</sup>						
19185	IA, Wayne County	1	1	0	1	1	2.5	1	1	
19195	IA, Worth County	1	1	0	1	1	3.5	0	0	
19197	IA, Wright County	1	1	0	1	1	3.5	0	0	
20003	KS, Anderson County	1	1	0	1	1	3.5	1	1	
20007	KS, Barber County	0	1	0	1	1	2.5	0	0	
20011	KS, Bourbon County	1	1	0	1	1	3.5	1	1	
20013	KS, Brown County	1	2	2	1	1	4.0	0	0	
20017	KS, Chase County	0	1	0	1	1	2.5	0	0	
20019	KS, Chautauqua County	1	1	1	1	1	3.5	1	1	
20023	KS, Cheyenne County	0	1	0	1	1	2.5	0	0	
20025	KS, Clark County	0	1	1	1	1	2.5	0	0	
20027	KS, Clay County	1	1	0	1	1	3.5	0	0	
20029	KS, Cloud County	1	1	0	1	1	3.5	0	0	
20031	KS, Coffey County	1	1	0	1	1	3.5	1	1	
20033	KS, Comanche County	0	1	0	1	1	2.5	0	0	
20039	KS, Decatur County	0	1	0	1	1	2.5	0	0	
20041	KS, Dickinson County	1	1	0	1	1	3.5	0	0	
20043	KS, Doniphan County	1	1	1	1	1	2.5	1	1	
20047	KS, Edwards County	1	2	0	1	1	4.0	0	0	
20049	KS, Elk County	0	1	0	1	1	2.5	1	1	
20053	KS, Ellsworth County	1	1	0	1	1	3.5	0	0	
20063	KS, Gove County	0	1	0	1	1	1.5	0	0	
20065	KS, Graham County	0	1	0	1	1	2.5	0	0	
20067	KS, Grant County	1	2	0	1	1	3.0	0	0	
20069	KS, Gray County	1	2	0	1	1	4.0	0	0	
20071	KS, Greeley County	0	1	0	1	1	2.5	0	0	
20073	KS, Greenwood County	1	1	0	1	1	2.5	0	0	
20075	KS, Hamilton County	0	2	0	1	1	3.0	0	0	
20077	KS, Harper County	1	1	0	1	1	2.5	0	0	
20081	KS, Haskell County	1	2	0	1	1	3.0	0	0	
20083	KS, Hodgeman County	0	1	0	1	1	2.5	0	0	
20085	KS, Jackson County	1	2	2	1	1	4.0	1	1	
20089	KS, Jewell County	0	1	0	1	1	2.5	0	0	
20093	KS, Kearny County	0	2	0	1	1	2.0	0	0	
20095	KS, Kingman County	1	1	0	1	1	3.5	0	0	
20097	KS, Kiowa County	0	1	0	1	1	2.5	0	0	
20099	KS, Labette County	2	2	1	1	1	4.0	1	1	
20101	KS, Lane County	0	1	0	1	1	2.5	0	0	
20105	KS, Lincoln County	0	1	0	1	1	2.5	0	0	
20107	KS, Linn County	1	1	0	1	1	3.5	1	1	
20109	KS, Logan County	0	1	0	1	1	2.5	0	0	
20115	KS, Marion County	1	1	0	1	1	3.5	0	0	
20117	KS, Marshall County	1	1	0	1	1	3.5	0	0	
20119	KS, Meade County	0	2	0	1	1	3.0	0	0	
20123	KS, Mitchell County	1	1	0	1	1	3.5	0	0	
20127	KS, Morris County	1	1	0	1	1	3.5	0	0	

Table 3—List of 837 forest-dependent counties with low viability and adaptability (continued)

Area key	Area name	Population			Native		Region <sup>d</sup>	Employment <sup>e</sup>	Composite <sup>f</sup>	Forest land <sup>g</sup>	National forest <sup>h</sup>
		density <sup>a</sup>	Minority <sup>b</sup>	American <sup>c</sup>	American <sup>c</sup>						
20129	KS, Morton County	0	2	1	1	1	2	4.0	0	2	
20131	KS, Nemaha County	1	1	0	1	1	2	3.5	0		
20135	KS, Ness County	0	1	0	0	1	1	1.5	0		
20137	KS, Norton County	1	1	0	1	1	2	3.5	0		
20139	KS, Osage County	1	1	0	1	1	2	3.5	1		
20141	KS, Osborne County	0	1	0	1	1	2	2.5	0		
20143	KS, Ottawa County	1	1	0	1	1	2	3.5	0		
20145	KS, Pawnee County	1	2	0	1	1	2	4.0	0		
20147	KS, Phillips County	1	1	0	1	1	2	3.5	0		
20149	KS, Pottawatomie County	1	1	0	1	1	2	3.5	1		
20151	KS, Pratt County	1	1	0	1	1	2	3.5	0		
20153	KS, Rawlins County	0	1	0	1	1	2	2.5	0		
20157	KS, Republic County	1	1	0	1	1	1	2.5	0		
20159	KS, Rice County	1	1	0	1	1	1	2.5	0		
20163	KS, Rooks County	1	1	0	1	1	2	3.5	0		
20165	KS, Rush County	0	1	0	1	1	1	1.5	0		
20167	KS, Russell County	1	1	0	1	1	1	2.5	0		
20171	KS, Scott County	1	1	0	1	1	2	3.5	0		
20179	KS, Sheridan County	0	1	1	1	1	1	1.5	0		
20181	KS, Sherman County	1	1	0	1	1	2	3.5	0		
20183	KS, Smith County	0	1	0	1	1	2	2.5	0		
20185	KS, Stafford County	1	1	1	1	1	1	2.5	0		
20187	KS, Stanton County	0	2	2	1	1	2	3.0	0		
20191	KS, Sumner County	1	1	0	1	1	2	3.5	0		
20195	KS, Trego County	0	1	1	1	1	2	2.5	0		
20197	KS, Wabaunsee County	1	1	0	1	1	2	3.5	0		
20199	KS, Wallace County	0	1	1	1	1	2	2.5	0		
20201	KS, Washington County	1	1	0	1	1	2	3.5	0		
20203	KS, Wichita County	0	2	2	1	1	2	3.0	0		
20205	KS, Wilson County	1	1	0	1	1	2	3.5	1		
20207	KS, Woodson County	1	1	2	1	1	2	3.5	1		
21017	KY, Bourbon County	2	2	0	2	2	1	4.0	1		
21055	KY, Crittenden County	1	1	0	2	2	2	3.5	2		
21057	KY, Cumberland County	1	1	0	2	2	2	3.5	3		
21077	KY, Gallatin County	2	1	0	2	2	1	3.5	2		
21079	KY, Garrard County	2	1	0	2	2	1	3.5	1		
21097	KY, Harrison County	2	1	0	2	2	1	3.5	1		
21105	KY, Hickman County	1	2	0	2	2	2	4.0	1		
21123	KY, Larue County	2	1	0	2	2	1	3.5	1		
21149	KY, McLean County	2	1	0	2	2	1	3.5	2		
21159	KY, Martin County	2	1	0	2	2	1	3.5	3		
21169	KY, Metcalfe County	2	1	0	2	2	1	3.5	2		
21171	KY, Monroe County	2	1	0	2	2	1	3.5	2		
21189	KY, Owsley County	1	1	0	2	2	2	4.0	3	1	
21201	KY, Robertson County	1	1	0	2	2	2	3.5	2		
21219	KY, Todd County	2	2	0	2	2	1	4.0	1		



**Table 3—List of 837 forest-dependent counties with low viability and adaptability (continued)**

Area key	Area name	Population			Native American <sup>c</sup>	Region <sup>d</sup>	Employment <sup>e</sup>	Composite <sup>f</sup>	Forest land <sup>g</sup>	National forest <sup>h</sup>
		density <sup>a</sup>	Minority <sup>b</sup>	American <sup>c</sup>						
21225	KY, Union County	2	2	0	2	1	4.0	1		
21233	KY, Webster County	2	1	0	2	1	3.5	1		
21237	KY, Wolfe County	2	1	0	2	1	4.0	3	1	
21239	KY, Woodford County	2	2	0	2	1	4.0	1		
22021	LA, Caldwell Parish	1	2	0	2	2	4.0	3		
22023	LA, Cameron Parish	1	1	0	2	1	2.5	0		
22027	LA, Claiborne Parish	1	3	0	2	1	4.0	3	1	
22035	LA, East Carroll Parish	1	3	0	2	1	3.5	1		
22059	LA, La Salle Parish	1	2	0	2	1	3.0	3		
22091	LA, St. Helena Parish	1	3	0	2	1	3.5	3		
22113	LA, Vermilion Parish	2	2	0	2	1	4.0	0		
23003	ME, Aroostook County	1	1	1	1	2	3.5	3		
23007	ME, Franklin County	1	1	0	1	2	3.5	3		
23021	ME, Piscataquis County	0	1	0	1	2	2.5	3		
23023	ME, Sagadahoc County	2	1	0	1	1	3.5	3		
23025	ME, Somerset County	1	1	0	1	2	3.5	3		
23029	ME, Washington County	1	1	1	1	1	2.5	3		
26083	MI, Keweenaw County	0	1	0	1	3	3.5	3		
26095	MI, Luce County	1	2	1	1	2	4.0	3		
26109	MI, Menominee County	1	1	1	1	2	3.5	3		
26113	MI, Missaukee County	1	1	0	1	1	2.5	2		
26119	MI, Montmorency County	1	1	0	1	1	3.5	3		
26141	MI, Presque Isle County	1	1	0	1	2	3.5	3		
26151	MI, Sanilac County	2	1	0	1	1	3.5	1		
27001	MN, Aitkin County	1	1	1	1	2	3.5	2		
27005	MN, Becker County	1	2	2	1	2	4.0	2		
27011	MN, Big Stone County	1	1	0	1	2	3.5	0		
27023	MN, Chippewa County	1	1	1	1	2	3.5	0		
27029	MN, Clearwater County	1	2	2	1	2	4.0	2		
27033	MN, Cottonwood County	1	1	0	1	2	3.5	0		
27043	MN, Faribault County	1	1	0	1	2	3.5	0		
27045	MN, Fillmore County	1	1	0	1	2	3.5	1		
27051	MN, Grant County	1	1	0	1	2	3.5	0		
27057	MN, Hubbard County	1	1	1	1	2	3.5	3		
27063	MN, Jackson County	1	1	0	1	2	3.5	0		
27069	MN, Kittson County	0	1	0	1	2	2.5	1		
27071	MN, Koochiching County	0	1	1	1	2	3.0	3	1	
27073	MN, Lac qui Parle County	1	1	0	1	2	3.5	0		
27077	MN, Lake of the Woods County	0	1	1	1	3	3.5	2		
27081	MN, Lincoln County	1	1	0	1	2	3.5	0		
27089	MN, Marshall County	1	1	0	1	1	2.5	1		
27101	MN, Murray County	1	1	0	1	1	2.5	0		
27107	MN, Norman County	1	1	1	1	1	2.5	0		
27113	MN, Pennington County	1	1	0	1	2	3.5	1		
27115	MN, Pine County	1	1	1	1	2	3.5	2		
27117	MN, Pipestone County	1	1	1	1	2	3.5	0		

Table 3—List of 837 forest-dependent counties with low viability and adaptability (continued)

Area key	Area name	Population			Native American <sup>c</sup>		Region <sup>d</sup>	Employment <sup>e</sup>	Composite <sup>f</sup>	Forest land <sup>g</sup>	National forest <sup>h</sup>
		density <sup>a</sup>	Minority <sup>b</sup>	American <sup>c</sup>	American <sup>c</sup>						
27119	MN, Polk County	1	1	1	1	1	2	3.5	0	0	
27121	MN, Pope County	1	1	0	0	1	2	3.5	0	0	
27125	MN, Red Lake County	1	1	1	1	1	2	3.5	0	0	
27127	MN, Redwood County	1	1	1	1	1	2	3.5	0	0	
27129	MN, Renville County	1	1	0	0	1	1	2.5	0	0	
27133	MN, Rock County	1	1	0	0	1	2	3.5	0	0	
27135	MN, Roseau County	1	1	1	1	1	2	3.5	1	1	
27143	MN, Sibley County	1	1	0	0	1	2	3.5	1	1	
27149	MN, Stevens County	1	1	0	0	1	2	3.5	0	0	
27151	MN, Swift County	1	2	0	0	1	2	4.0	0	0	
27153	MN, Todd County	1	1	0	0	1	2	3.5	1	1	
27155	MN, Traverse County	1	1	1	1	1	2	3.5	0	0	
27159	MN, Wadena County	1	1	0	0	1	2	3.5	2	2	
27165	MN, Watonwan County	1	2	0	0	1	2	4.0	0	0	
27167	MN, Wilkin County	1	1	0	0	1	2	3.5	0	0	
27173	MN, Yellow Medicine County	1	1	1	1	1	2	3.5	0	0	
28013	MS, Calhoun County	1	3	0	0	2	1	3.5	2	2	
28015	MS, Carroll County	1	3	0	0	2	1	3.5	3	3	
28023	MS, Clarke County	1	3	0	0	2	1	3.5	3	3	
28053	MS, Humphreys County	1	3	0	0	2	1	3.5	1	1	
28055	MS, Issaquena County	1	3	0	0	2	1	4.0	2	2	
28061	MS, Jasper County	1	3	0	0	2	1	4.0	3	3	
28069	MS, Kemper County	1	3	1	1	2	1	3.5	3	3	
28103	MS, Noxubee County	1	3	0	0	2	1	3.5	2	2	
28119	MS, Quitman County	1	3	0	0	2	1	3.5	1	1	
28129	MS, Smith County	1	2	0	0	2	1	4.0	3	2	
28155	MS, Webster County	1	2	0	0	2	2	4.0	3	3	
29005	MO, Atchison County	1	1	0	0	1	2	3.5	0	0	
29011	MO, Barton County	1	1	0	0	1	1	2.5	1	1	
29013	MO, Bates County	1	1	0	0	1	2	3.5	1	1	
29015	MO, Benton County	1	1	0	0	1	2	3.5	2	2	
29017	MO, Bollinger County	1	1	0	0	1	2	4.0	2	1	
29025	MO, Caldwell County	1	1	0	0	1	2	3.5	1	1	
29033	MO, Carroll County	1	1	0	0	1	2	3.5	1	1	
29041	MO, Chariton County	1	1	0	0	1	2	3.5	1	1	
29045	MO, Clark County	1	1	0	0	1	2	3.5	1	1	
29057	MO, Dade County	1	1	0	0	1	2	3.5	1	1	
29061	MO, Daviess County	1	1	0	0	1	2	3.5	1	1	
29063	MO, DeKalb County	1	2	0	0	1	2	4.0	0	0	
29075	MO, Gentry County	1	1	0	0	1	2	3.5	1	1	
29079	MO, Grundy County	1	1	0	0	1	2	3.5	1	1	
29081	MO, Harrison County	1	1	0	0	1	2	3.5	1	1	
29085	MO, Hickory County	1	1	0	0	1	2	3.5	2	2	
29087	MO, Holt County	1	1	0	0	1	2	3.5	1	1	
29089	MO, Howard County	1	2	0	0	1	2	4.0	1	1	
29093	MO, Iron County	1	1	0	0	1	1	3.5	3	2	

**Table 3—List of 837 forest-dependent counties with low viability and adaptability (continued)**

Area key	Area name	Population			Native American <sup>c</sup>		Region <sup>d</sup>	Employment <sup>e</sup>	Composite <sup>f</sup>	Forest land <sup>g</sup>	National forest <sup>h</sup>
		density <sup>a</sup>	Minority <sup>b</sup>	American <sup>c</sup>	American <sup>c</sup>						
29103	MO, Knox County	1	1	0	1	1	2	3.5	1		
29111	MO, Lewis County	1	1	0	1	1	2	3.5	1		
29115	MO, Linn County	1	1	0	1	1	2	3.5	1		
29117	MO, Livingston County	1	1	0	1	1	2	3.5	1		
29119	MO, McDonald County	2	2	1	1	1	1	4.0	2		
29121	MO, Macon County	1	1	0	1	1	2	3.5	1		
29125	MO, Maries County	1	1	0	1	1	2	3.5	2		
29129	MO, Mercer County	1	1	0	1	1	2	3.5	1		
29137	MO, Monroe County	1	1	0	1	1	1	2.5	1		
29139	MO, Montgomery County	1	1	0	1	1	2	3.5	1		
29147	MO, Nodaway County	1	1	0	1	1	2	3.5	1		
29151	MO, Osage County	1	1	0	1	1	1	2.5	2		
29163	MO, Pike County	1	2	0	1	1	1	3.0	1		
29171	MO, Putnam County	1	1	0	1	1	2	3.5	1		
29173	MO, Ralls County	1	1	0	1	1	2	3.5	1		
29185	MO, St. Clair County	1	1	0	1	1	2	3.5	2		
29197	MO, Schuyler County	1	1	0	1	1	2	3.5	1		
29199	MO, Scotland County	1	1	0	1	1	2	3.5	1		
29205	MO, Shelby County	1	1	0	1	1	1	2.5	1		
29211	MO, Sullivan County	1	1	0	1	1	1	2.5	1		
29217	MO, Vernon County	1	1	0	1	1	2	3.5	1		
29227	MO, Worth County	1	1	0	1	1	2	3.5	1		
29229	MO, Wright County	1	1	0	1	1	2	4.0	2	1	
30001	MT, Beaverhead County	0	1	1	3	2	2	4.0	2	3	
30003	MT, Big Horn County	0	3	2	3	2	2	3.5	1		
30005	MT, Blaine County	0	3	2	3	2	2	3.5	0		
30007	MT, Broadwater County	0	1	1	3	2	2	4.0	1		
30009	MT, Carbon County	0	1	0	3	2	2	4.0	1		
30011	MT, Carter County	0	1	0	3	2	2	3.5	0		
30015	MT, Chouteau County	0	2	2	3	2	2	3.5	0	1	
30017	MT, Custer County	0	1	1	3	2	2	2.5	0		
30019	MT, Daniels County	0	1	1	3	2	2	2.5	0		
30021	MT, Dawson County	0	1	1	3	2	2	2.5	0		
30025	MT, Fallon County	0	1	0	3	2	2	2.5	0		
30027	MT, Fergus County	0	1	1	3	2	2	3.5	1	2	
30033	MT, Garfield County	0	1	0	3	2	2	2.5	0		
30035	MT, Glacier County	0	3	2	3	2	2	4.0	1	1	
30037	MT, Golden Valley County	0	1	0	3	2	2	3.0	1	1	
30039	MT, Granite County	0	1	1	3	2	2	4.0	3	3	
30041	MT, Hill County	1	2	2	3	2	2	4.0	0		
30043	MT, Jefferson County	1	1	1	3	1	1	4.0	2	3	
30045	MT, Judith Basin County	0	1	0	3	2	2	4.0	1	3	
30051	MT, Liberty County	0	1	0	3	2	2	2.5	0		
30053	MT, Lincoln County	0	1	1	3	2	2	4.0	3	3	
30055	MT, McCone County	0	1	1	3	2	2	2.5	0		
30057	MT, Madison County	0	1	0	3	2	2	4.0	1	3	

Table 3—List of 837 forest-dependent counties with low viability and adaptability (continued)

Area key	Area name	Population			Native American <sup>c</sup>	Region <sup>d</sup>	Employment <sup>e</sup>	Composite <sup>f</sup>	Forest land <sup>g</sup>	National forest <sup>h</sup>
		density <sup>a</sup>	Minority <sup>b</sup>	American <sup>c</sup>						
30059	MT, Meagher County	0	1	1	3	2	4.0	2	3	
30061	MT, Mineral County	0	1	1	3	2	4.0	3	3	
30065	MT, Musselshell County	0	1	1	3	2	2.5	1		
30069	MT, Petroleum County	0	1	0	3	2	2.5	0		
30071	MT, Phillips County	0	2	2	3	2	3.0	0		
30073	MT, Pondera County	0	2	2	3	2	4.0	1	2	
30075	MT, Powder River County	0	1	1	3	2	4.0	1	3	
30077	MT, Powell County	0	2	1	3	1	3.5	2	3	
30079	MT, Prairie County	0	1	0	3	2	2.5	0		
30083	MT, Richland County	0	1	1	3	2	2.5	0		
30085	MT, Roosevelt County	0	3	2	3	2	3.5	0		
30091	MT, Sheridan County	0	1	1	3	2	2.5	0		
30095	MT, Stillwater County	0	1	0	3	2	4.0	1	3	
30097	MT, Sweet Grass County	0	1	0	3	2	4.0	1	3	
30099	MT, Teton County	0	1	1	3	2	4.0	1	3	
30101	MT, Toole County	0	1	1	3	2	2.5	0		
30103	MT, Treasure County	0	1	1	3	2	2.5	1		
30105	MT, Valley County	0	2	2	3	2	3.0	0		
30107	MT, Wheatland County	0	1	0	3	2	3.5	1	2	
30109	MT, Wibaux County	0	1	0	3	2	2.5	0		
31003	NE, Antelope County	1	1	0	1	2	3.5	0		
31005	NE, Arthur County	0	1	0	1	2	2.5	0		
31007	NE, Banner County	0	1	0	1	2	2.5	0		
31009	NE, Blaine County	0	1	0	1	2	3.0	0	1	
31011	NE, Boone County	1	1	0	1	2	3.5	0		
31015	NE, Boyd County	0	1	0	1	2	2.5	0		
31017	NE, Brown County	0	1	0	1	2	2.5	0		
31021	NE, Burt County	1	1	1	1	2	3.5	0		
31023	NE, Butler County	1	1	0	1	1	2.5	0		
31027	NE, Cedar County	1	1	0	1	2	3.5	0		
31029	NE, Chase County	0	1	0	1	2	2.5	0		
31031	NE, Cherry County	0	1	1	1	2	3.5	0	2	
31033	NE, Cheyenne County	1	1	0	1	2	3.5	0		
31035	NE, Clay County	1	1	0	1	2	3.5	0		
31039	NE, Cuming County	1	1	0	1	2	3.5	0		
31041	NE, Custer County	0	1	0	1	2	2.5	0		
31047	NE, Dawson County	1	2	0	1	2	4.0	0		
31049	NE, Deuel County	0	1	0	1	2	2.5	0		
31051	NE, Dixon County	1	1	0	1	2	3.5	0		
31057	NE, Dundy County	0	1	0	1	2	2.5	0		
31059	NE, Fillmore County	1	1	0	1	2	3.5	0		
31061	NE, Franklin County	1	1	0	1	2	3.5	0		
31063	NE, Frontier County	0	1	0	1	2	2.5	0		
31065	NE, Furnas County	1	1	0	1	2	3.5	0		
31067	NE, Gage County	1	1	0	1	2	3.5	0		
31069	NE, Garden County	0	1	0	1	2	2.5	0		

**Table 3—List of 837 forest-dependent counties with low viability and adaptability (continued)**

Area key	Area name	Population			Native		Region <sup>d</sup>	Employment <sup>e</sup>	Composite <sup>f</sup>	Forest land <sup>g</sup>	National forest <sup>h</sup>
		density <sup>a</sup>	Minority <sup>b</sup>	American <sup>c</sup>	American <sup>c</sup>	Forest land <sup>g</sup>					
31071	NE, Garfield County	0	1	0	1	1	2	2.5	0	0	
31073	NE, Gosper County	0	1	0	1	1	2	2.5	0	0	
31075	NE, Grant County	0	1	0	1	1	2	2.5	0	0	
31077	NE, Greeley County	0	1	0	1	1	2	2.5	0	0	
31081	NE, Hamilton County	1	1	0	1	1	2	3.5	0	0	
31083	NE, Harlan County	1	1	0	1	1	2	3.5	0	0	
31085	NE, Hayes County	0	1	0	1	1	2	2.5	0	0	
31087	NE, Hitchcock County	0	1	0	1	1	2	2.5	0	0	
31089	NE, Holt County	0	1	0	1	1	2	2.5	0	0	
31091	NE, Hooker County	0	1	0	1	1	2	2.5	0	0	
31093	NE, Howard County	1	1	0	1	1	2	3.5	1	1	
31095	NE, Jefferson County	1	1	0	1	1	2	3.5	1	1	
31097	NE, Johnson County	1	1	0	1	1	2	3.5	0	0	
31099	NE, Kearney County	1	1	0	1	1	2	3.5	0	0	
31101	NE, Keith County	1	1	0	1	1	2	3.5	0	0	
31103	NE, Keya Paha County	0	1	0	1	1	2	2.5	1	1	
31105	NE, Kimball County	0	1	0	1	1	2	2.5	0	0	
31107	NE, Knox County	1	2	2	1	1	2	4.0	0	0	
31113	NE, Logan County	0	1	1	1	1	2	2.5	0	0	
31115	NE, Loup County	0	1	0	1	1	2	2.5	0	0	
31117	NE, McPherson County	0	1	0	1	1	2	2.5	0	0	
31121	NE, Merrick County	1	1	0	1	1	2	3.5	0	0	
31123	NE, Morrill County	0	1	0	1	1	2	2.5	0	0	
31125	NE, Nance County	1	1	0	1	1	2	3.5	0	0	
31127	NE, Nemaha County	1	1	0	1	1	2	3.5	0	0	
31129	NE, Nuckolls County	1	1	0	1	1	2	3.5	0	0	
31131	NE, Otoe County	1	1	0	1	1	2	3.5	0	0	
31133	NE, Pawnee County	1	1	0	1	1	2	3.5	0	0	
31135	NE, Perkins County	0	1	0	1	1	2	2.5	0	0	
31137	NE, Phelps County	1	1	0	1	1	2	3.5	0	0	
31139	NE, Pierce County	1	1	0	1	1	2	3.5	0	0	
31143	NE, Polk County	1	1	0	1	1	2	3.5	1	1	
31145	NE, Red Willow County	1	1	0	1	1	2	3.5	0	0	
31147	NE, Richardson County	1	1	1	1	1	2	3.5	1	1	
31149	NE, Rock County	0	1	0	1	1	2	2.5	0	0	
31151	NE, Saline County	1	1	0	1	1	2	3.5	0	0	
31155	NE, Saunders County	1	1	0	1	1	2	3.5	0	0	
31161	NE, Sheridan County	0	2	2	1	1	2	3.0	0	0	
31163	NE, Sherman County	1	1	0	1	1	2	3.5	0	2	
31165	NE, Sioux County	0	1	0	1	1	2	3.5	1	1	
31167	NE, Stanton County	1	1	0	1	1	2	3.5	0	0	
31169	NE, Thayer County	1	1	0	1	1	1	2.5	0	0	
31171	NE, Thomas County	0	1	0	1	1	2	3.5	0	2	
31175	NE, Valley County	1	1	0	1	1	2	3.5	0	0	
31179	NE, Wayne County	1	1	0	1	1	2	3.5	0	0	
31181	NE, Webster County	1	1	0	1	1	2	3.5	0	0	

Table 3—List of 837 forest-dependent counties with low viability and adaptability (continued)

Area key	Area name	Population			Native American <sup>c</sup>		Region <sup>d</sup>	Employment <sup>e</sup>	Composite <sup>f</sup>	Forest land <sup>g</sup>	National forest <sup>h</sup>
		density <sup>a</sup>	Minority <sup>b</sup>	American <sup>c</sup>	American <sup>c</sup>						
31183	NE, Wheeler County	0	1	0	1	1	2	2.5	0		
31185	NE, York County	1	1	0	1	1	2	3.5	0		
32001	NV, Churchill County	0	2	1	3	3	2	3.0	1	2	
32009	NV, Esmeralda County	0	2	1	3	3	1	3.0	1	1	
32017	NV, Lincoln County	0	2	1	3	3	2	3.5	1	1	
32027	NV, Pershing County	0	2	1	3	3	1	2.0	0		
35003	NM, Catron County	0	2	1	3	3	1	3.5	2	3	
35007	NM, Colfax County	0	2	1	3	3	2	4.0	1	2	
35011	NM, De Baca County	0	2	0	3	3	2	3.0	0		
35019	NM, Guadalupe County	0	3	1	3	3	2	3.5	0		
35021	NM, Harding County	0	2	1	3	3	2	4.0	1	2	
35029	NM, Luna County	1	3	1	3	3	1	3.5	0		
35037	NM, Quay County	0	2	1	3	3	2	3.0	0		
35059	NM, Union County	0	2	0	3	3	2	4.0	1	2	
36031	NY, Essex County	1	1	0	1	1	2	3.5	2		
36041	NY, Hamilton County	0	1	0	1	1	2	2.5	1		
36049	NY, Lewis County	1	1	0	1	1	2	3.5	3		
37095	NC, Hyde County	1	3	0	2	2	1	3.5	2		
37177	NC, Tyrrell County	1	3	0	2	2	1	3.5	2		
38001	ND, Adams County	0	1	0	1	1	2	2.5	0		
38003	ND, Barnes County	1	1	0	1	1	2	3.5	0		
38005	ND, Benson County	0	3	2	1	1	2	3.5	0		
38007	ND, Billings County	0	1	0	1	1	2	4.0	1	3	
38009	ND, Bottineau County	0	1	1	1	1	2	2.5	0		
38011	ND, Bowman County	0	1	0	1	1	2	2.5	0		
38013	ND, Burke County	0	1	0	1	1	2	2.5	0		
38019	ND, Cavalier County	0	1	0	1	1	2	2.5	0		
38021	ND, Dickey County	0	1	0	1	1	2	2.5	0		
38023	ND, Divide County	0	1	0	1	1	2	2.5	0		
38025	ND, Dunn County	0	2	2	1	1	2	3.0	0		
38027	ND, Eddy County	0	1	1	1	1	2	2.5	0		
38029	ND, Emmons County	0	1	0	1	1	2	2.5	0		
38033	ND, Golden Valley County	0	1	0	1	1	2	3.5	0	2	
38037	ND, Grant County	0	1	1	1	1	2	3.0	0	1	
38039	ND, Griggs County	0	1	0	1	1	2	2.5	0		
38041	ND, Hettinger County	0	1	0	1	1	2	2.5	0		
38043	ND, Kidder County	0	1	0	1	1	2	2.5	0		
38045	ND, LaMoure County	0	1	0	1	1	2	2.5	0		
38047	ND, Logan County	0	1	0	1	1	2	2.5	0		
38049	ND, McHenry County	0	1	0	1	1	2	3.0	0	1	
38051	ND, McIntosh County	0	1	0	1	1	2	2.5	0		
38055	ND, McLean County	0	2	2	1	1	2	3.0	0		
38057	ND, Mercer County	1	1	1	1	1	2	3.5	0		
38059	ND, Morton County	1	1	1	1	1	2	3.5	0		
38061	ND, Mountrail County	0	3	2	1	1	2	3.5	0		
38063	ND, Nelson County	0	1	0	1	1	2	2.5	0		

**Table 3—List of 837 forest-dependent counties with low viability and adaptability (continued)**

Area key	Area name	Population density <sup>a</sup>			Minority <sup>b</sup>	Native American <sup>c</sup>	Region <sup>d</sup>	Employment <sup>e</sup>	Composite <sup>f</sup>	Forest land <sup>g</sup>	National forest <sup>h</sup>
38065	ND, Oliver County	0	1	1	1	1	2	2.5	0	0	
38067	ND, Pembina County	1	1	1	1	1	1	2.5	0	0	
38069	ND, Pierce County	0	1	0	0	1	2	2.5	0	0	
38071	ND, Ramsey County	1	2	1	1	1	2	4.0	0	0	
38075	ND, Renville County	0	1	0	0	1	2	2.5	0	0	
38077	ND, Richland County	1	1	1	1	1	2	4.0	0	1	
38081	ND, Sargent County	0	1	0	0	1	3	3.5	0	0	
38083	ND, Sheridan County	0	1	0	0	1	2	2.5	0	0	
38085	ND, Sioux County	0	3	2	2	1	2	4.0	0	1	
38089	ND, Stark County	1	1	0	0	1	2	3.5	0	0	
38091	ND, Steele County	0	2	0	0	1	2	3.0	0	0	
38093	ND, Stutsman County	1	1	0	0	1	2	3.5	0	0	
38095	ND, Towner County	0	1	1	1	1	2	2.5	0	0	
38097	ND, Trail County	1	1	0	0	1	2	3.5	0	0	
38099	ND, Walsh County	1	2	0	0	1	2	4.0	0	0	
38103	ND, Wells County	0	2	0	0	1	2	3.0	0	0	
38105	ND, Williams County	1	2	1	1	1	2	4.0	0	0	
39127	OH, Perry County	2	1	0	0	1	1	4.0	2	1	
39175	OH, Wyandot County	2	1	0	0	1	1	3.5	0	0	
40003	OK, Alfalfa County	1	2	1	1	2	2	4.0	0	0	
40007	OK, Beaver County	0	1	1	1	2	2	2.5	0	0	
40009	OK, Beckham County	1	2	1	1	2	2	4.0	0	0	
40011	OK, Blaine County	1	2	2	2	2	1	3.0	0	0	
40025	OK, Cimarron County	0	2	1	1	2	2	3.5	0	1	
40033	OK, Cotton County	1	2	2	2	2	2	4.0	0	0	
40039	OK, Custer County	1	2	2	2	2	2	4.0	0	0	
40043	OK, Dewey County	0	2	1	1	2	2	3.0	0	0	
40045	OK, Ellis County	0	1	1	1	2	2	2.5	0	0	
40049	OK, Garvin County	2	2	2	2	2	1	4.0	0	0	
40051	OK, Grady County	2	2	1	1	2	1	4.0	0	0	
40053	OK, Grant County	0	1	1	1	2	2	2.5	0	0	
40055	OK, Greer County	1	2	1	1	2	2	4.0	0	0	
40059	OK, Harper County	0	1	0	0	2	2	2.5	0	0	
40061	OK, Haskell County	1	2	2	2	2	2	4.0	2	0	
40067	OK, Jefferson County	1	2	1	1	2	1	3.0	0	0	
40069	OK, Johnston County	1	2	2	2	2	2	4.0	0	0	
40073	OK, Kingfisher County	1	2	1	1	2	2	4.0	0	0	
40075	OK, Kiowa County	1	2	2	2	2	2	4.0	0	0	
40077	OK, Latimer County	1	3	2	2	2	1	3.5	3	0	
40085	OK, Love County	1	2	2	2	2	2	4.0	0	0	
40093	OK, Major County	1	1	0	0	2	1	2.5	0	0	
40099	OK, Murray County	2	2	2	2	2	1	4.0	0	0	
40103	OK, Noble County	1	2	2	2	2	2	4.0	0	0	
40107	OK, Okfuskee County	1	3	2	2	2	1	3.5	0	0	
40113	OK, Osage County	1	3	2	2	2	1	3.5	0	0	
40127	OK, Pushmataha County	1	2	2	2	2	2	4.0	3	0	
40129	OK, Roger Mills County	0	2	1	1	2	2	3.5	0	1	

Table 3—List of 837 forest-dependent counties with low viability and adaptability (continued)

Area key	Area name	Population density <sup>a</sup>	Minority <sup>b</sup>	Native American <sup>c</sup>	Region <sup>d</sup>	Employment <sup>e</sup>	Composite <sup>f</sup>	Forest land <sup>g</sup>	National forest <sup>h</sup>
40149	OK, Washita County	1	2	1	2	2	4.0	0	
40151	OK, Woods County	1	1	1	2	1	2.5	0	
40153	OK, Woodward County	1	2	1	2	2	4.0	0	
41001	OR, Baker County	0	1	1	4	2	4.0	2	3
41021	OR, Gilliam County	0	1	0	4	2	2.5	0	
41023	OR, Grant County	0	1	1	4	2	4.0	3	3
41025	OR, Harney County	0	2	1	4	1	3.5	1	3
41037	OR, Lake County	0	2	1	4	1	3.5	1	3
41045	OR, Malheur County	0	3	1	4	1	3.0	0	1
41049	OR, Morrow County	0	2	1	4	1	3.0	1	2
41055	OR, Sherman County	0	1	1	4	1	1.5	0	
41063	OR, Wallowa County	0	1	0	4	2	4.0	2	3
41069	OR, Wheeler County	0	1	0	4	2	4.0	2	3
42023	PA, Cameron County	1	1	0	1	2	3.5	3	
42059	PA, Greene County	2	1	0	1	1	3.5	2	
42105	PA, Potter County	1	1	0	1	2	3.5	3	
46003	SD, Aurora County	0	1	1	3	2	2.5	0	
46005	SD, Beadle County	1	1	0	3	2	3.5	0	
46007	SD, Bennett County	0	3	2	3	2	3.5	0	
46009	SD, Bon Homme County	1	1	1	3	2	3.5	0	
46013	SD, Brown County	1	1	1	3	2	3.5	0	
46017	SD, Buffalo County	0	3	2	3	2	3.5	0	
46019	SD, Butte County	0	1	1	3	2	2.5	0	
46021	SD, Campbell County	0	1	0	3	2	2.5	0	
46025	SD, Clark County	0	1	0	3	2	2.5	0	
46031	SD, Corson County	0	3	2	3	2	4.0	0	1
46033	SD, Custer County	0	1	1	3	2	4.0	1	3
46037	SD, Day County	1	2	2	3	2	4.0	0	
46039	SD, Deuel County	1	1	0	3	2	3.5	0	
46041	SD, Dewey County	0	3	2	3	2	3.5	0	
46043	SD, Douglas County	1	1	0	3	2	3.5	0	
46045	SD, Edmunds County	0	1	0	3	2	2.5	0	
46049	SD, Faulk County	0	1	0	3	1	1.5	0	
46051	SD, Grant County	1	1	0	3	2	3.5	0	
46053	SD, Gregory County	0	1	1	3	2	2.5	0	
46055	SD, Haakon County	0	1	1	3	2	2.5	0	
46057	SD, Hamlin County	1	1	0	3	2	3.5	0	
46059	SD, Hand County	0	1	0	3	2	2.5	0	
46061	SD, Hanson County	1	1	0	3	2	3.5	0	
46063	SD, Harding County	0	1	0	3	2	3.5	0	2
46067	SD, Hutchinson County	1	1	0	3	2	3.5	0	
46069	SD, Hyde County	0	2	2	3	2	3.0	0	
46073	SD, Jerauld County	0	1	0	3	2	2.5	0	
46075	SD, Jones County	0	1	1	3	2	3.0	0	1
46077	SD, Kingsbury County	1	1	0	3	2	3.5	0	
46079	SD, Lake County	1	1	0	3	2	3.5	0	
46087	SD, McCook County	1	1	0	3	2	3.5	0	



**Table 3—List of 837 forest-dependent counties with low viability and adaptability (continued)**

Area key	Area name	Population density <sup>a</sup>			Native American <sup>c</sup>		Region <sup>d</sup>	Employment <sup>e</sup>	Composite <sup>f</sup>	Forest land <sup>g</sup>	National forest <sup>h</sup>
		Minority <sup>b</sup>	American <sup>c</sup>	Minority <sup>b</sup>	American <sup>c</sup>						
46089	SD, McPherson County	0	1	0	0	3	2	2.5	0	0	
46091	SD, Marshall County	0	2	2	2	3	2	3.0	0	0	
46095	SD, Mellette County	0	3	2	2	3	2	3.5	0	0	
46097	SD, Miner County	0	1	0	0	3	2	2.5	0	0	
46101	SD, Moody County	1	2	2	2	3	2	4.0	0	0	
46105	SD, Perkins County	0	1	1	1	3	2	3.5	0	2	
46107	SD, Potter County	0	1	0	0	3	2	2.5	0	0	
46111	SD, Sanborn County	0	1	0	0	3	2	2.5	0	0	
46115	SD, Spink County	0	1	1	1	3	2	2.5	0	0	
46119	SD, Sully County	0	1	0	0	3	2	2.5	0	0	
46123	SD, Tripp County	0	2	2	2	3	2	3.0	0	0	
46125	SD, Turner County	1	1	0	0	3	2	3.5	0	0	
46127	SD, Union County	1	1	0	0	3	2	3.5	0	0	
46137	SD, Ziebach County	0	3	2	2	3	2	4.0	0	0	
47007	TN, Bledsoe County	2	1	0	0	2	1	3.5	3	1	
47033	TN, Crockett County	2	2	0	0	2	1	4.0	1	1	
47057	TN, Grainger County	2	1	0	0	2	1	3.5	2	2	
47067	TN, Hancock County	2	1	0	0	2	1	3.5	3	3	
47135	TN, Perry County	1	1	0	0	2	2	3.5	3	3	
47175	TN, Van Buren County	1	1	0	0	2	2	3.5	3	3	
47181	TN, Wayne County	1	2	0	0	2	2	4.0	3	3	
47183	TN, Weakley County	2	2	0	0	2	1	4.0	1	1	
48003	TX, Andrews County	1	2	0	0	2	1	3.0	0	0	
48009	TX, Archer County	1	1	0	0	2	1	2.5	0	0	
48011	TX, Armstrong County	0	1	0	0	2	2	2.5	0	0	
48017	TX, Bailey County	1	3	0	0	2	1	3.5	0	0	
48019	TX, Bandera County	1	1	0	0	2	2	3.5	0	0	
48023	TX, Baylor County	0	2	0	0	2	2	3.0	0	0	
48031	TX, Blanco County	1	2	0	0	2	2	4.0	0	0	
48033	TX, Borden County	0	2	0	0	2	2	3.0	0	0	
48035	TX, Bosque County	1	2	0	0	2	2	4.0	0	0	
48043	TX, Brewster County	0	2	0	0	2	2	3.0	0	0	
48045	TX, Briscoe County	0	2	0	0	2	2	3.0	0	0	
48051	TX, Burleson County	1	3	0	0	2	1	3.5	0	0	
48059	TX, Callahan County	1	1	0	0	2	1	2.5	0	0	
48065	TX, Carson County	1	1	1	1	2	2	3.5	0	0	
48069	TX, Castro County	1	3	1	1	2	1	3.5	0	0	
48071	TX, Chambers County	2	2	0	0	2	1	4.0	0	0	
48077	TX, Clay County	1	1	1	1	2	2	3.5	0	0	
48079	TX, Cochran County	0	3	0	0	2	1	2.5	0	0	
48081	TX, Coke County	0	2	0	0	2	2	3.0	0	0	
48083	TX, Coleman County	1	2	0	0	2	2	4.0	0	0	
48087	TX, Collingsworth County	0	2	1	1	2	1	2.0	0	0	
48093	TX, Comanche County	1	2	0	0	2	2	4.0	0	0	
48095	TX, Concho County	0	2	0	0	2	2	3.0	0	0	
48101	TX, Cottle County	0	2	0	0	2	2	3.0	0	0	

Table 3—List of 837 forest-dependent counties with low viability and adaptability (continued)

Area key	Area name	Population			Native American <sup>c</sup>	Region <sup>d</sup>	Employment <sup>e</sup>	Composite <sup>f</sup>	Forest land <sup>g</sup>	National forest <sup>h</sup>
		density <sup>a</sup>	Minority <sup>b</sup>	American <sup>c</sup>						
48103	TX, Crane County	0	3	0	2	2	3.5	0	0	
48105	TX, Crockett County	0	2	0	2	2	3.0	0	0	
48109	TX, Culberson County	0	3	0	2	2	3.5	0	0	
48111	TX, Dallam County	0	2	0	2	2	4.0	0	2	
48115	TX, Dawson County	1	3	0	2	1	3.5	0	0	
48117	TX, Deaf Smith County	1	3	0	2	1	3.5	0	0	
48119	TX, Delta County	1	2	0	2	2	4.0	0	0	
48123	TX, De Witt County	1	2	0	2	1	3.0	0	0	
48125	TX, Dickens County	0	2	0	2	2	3.0	0	0	
48127	TX, Dimmit County	1	2	0	2	2	4.0	0	0	
48129	TX, Donley County	0	2	0	2	2	3.0	0	0	
48131	TX, Duval County	1	2	0	2	1	3.0	0	0	
48133	TX, Eastland County	1	2	0	2	1	3.0	0	0	
48137	TX, Edwards County	0	2	0	2	2	3.0	0	0	
48143	TX, Erath County	2	2	0	2	1	4.0	0	0	
48149	TX, Fayette County	1	2	0	2	2	4.0	0	0	
48151	TX, Fisher County	0	2	0	2	2	3.0	0	0	
48153	TX, Floyd County	1	3	0	2	1	3.5	0	0	
48155	TX, Foard County	0	2	0	2	2	3.0	0	0	
48161	TX, Freestone County	1	3	0	2	1	3.5	0	0	
48165	TX, Gaines County	1	2	0	2	1	3.0	0	0	
48169	TX, Garza County	0	3	0	2	1	2.5	0	0	
48171	TX, Gillespie County	1	1	0	2	2	3.5	0	0	
48173	TX, Glasscock County	0	2	0	2	2	3.0	0	0	
48175	TX, Goliad County	1	2	0	2	2	4.0	0	0	
48191	TX, Hall County	0	3	0	2	2	3.5	0	0	
48193	TX, Hamilton County	1	1	0	2	2	3.5	0	0	
48195	TX, Hansford County	1	2	0	2	1	3.0	0	0	
48197	TX, Hardeman County	1	2	0	2	1	3.0	0	0	
48205	TX, Hartley County	0	2	0	2	1	2.0	0	0	
48207	TX, Haskell County	1	2	0	2	1	3.0	0	0	
48211	TX, Hemphill County	0	2	0	2	1	2.5	0	1	
48219	TX, Hockley County	1	3	0	2	1	3.5	0	0	
48229	TX, Hudspeth County	0	2	1	2	2	3.0	0	0	
48233	TX, Hutchinson County	1	2	1	2	2	4.0	0	0	
48235	TX, Irion County	0	2	0	2	2	3.0	0	0	
48237	TX, Jack County	1	2	0	2	1	3.0	0	0	
48239	TX, Jackson County	1	2	0	2	2	4.0	0	0	
48243	TX, Jeff Davis County	0	2	0	2	2	3.0	0	0	
48247	TX, Jim Hogg County	0	2	0	2	2	3.0	0	0	
48253	TX, Jones County	1	2	0	2	1	3.0	0	0	
48255	TX, Karnes County	1	3	0	2	1	3.5	0	0	
48261	TX, Kenedy County	0	3	0	2	2	3.5	0	0	
48263	TX, Kent County	0	1	0	2	2	2.5	0	0	
48267	TX, Kimble County	0	2	0	2	2	3.0	0	0	
48269	TX, King County	0	1	1	2	2	2.5	0	0	

**Table 3—List of 837 forest-dependent counties with low viability and adaptability (continued)**

Area key	Area name	Population density <sup>a</sup>			Native American <sup>c</sup>		Region <sup>d</sup>	Employment <sup>e</sup>	Composite <sup>f</sup>	Forest land <sup>g</sup>	National forest <sup>h</sup>
		Minority <sup>b</sup>	American <sup>c</sup>	Minority <sup>b</sup>	American <sup>c</sup>						
48271	TX, Kinney County	0	3	0	2	2	2	3.5	0	0	
48275	TX, Knox County	0	3	1	2	2	1	2.5	0	0	
48279	TX, Lamb County	1	2	0	2	2	2	4.0	0	0	
48281	TX, Lampasas County	1	2	0	2	2	2	4.0	0	0	
48283	TX, La Salle County	0	2	0	2	2	2	3.0	0	0	
48285	TX, Lavaca County	1	2	0	2	2	1	3.0	0	0	
48287	TX, Lee County	1	2	0	2	2	1	3.0	0	0	
48289	TX, Leon County	1	2	0	2	2	2	4.0	2	2	
48293	TX, Limestone County	1	3	0	2	2	1	3.5	0	0	
48295	TX, Lipscomb County	0	2	1	2	2	2	3.0	0	0	
48297	TX, Live Oak County	1	2	0	2	2	2	4.0	0	0	
48301	TX, Loving County	0	2	0	2	2	2	3.0	0	0	
48305	TX, Lynn County	1	3	1	2	2	1	3.5	0	0	
48307	TX, McCulloch County	1	2	0	2	2	2	4.0	0	0	
48311	TX, McMullen County	0	2	0	2	2	2	3.0	0	0	
48317	TX, Martin County	0	2	0	2	2	1	2.0	0	0	
48319	TX, Mason County	0	2	0	2	2	2	3.0	0	0	
48327	TX, Menard County	0	2	0	2	2	2	3.0	0	0	
48331	TX, Milam County	1	2	0	2	2	1	3.0	0	0	
48333	TX, Mills County	1	2	0	2	2	2	4.0	0	0	
48335	TX, Mitchell County	1	3	0	2	2	1	3.5	0	1	
48337	TX, Montague County	1	1	0	2	2	2	4.0	0	0	
48341	TX, Moore County	1	3	0	2	2	1	3.5	0	0	
48345	TX, Motley County	0	2	0	2	2	2	3.0	0	0	
48353	TX, Nolan County	1	2	0	2	2	1	3.0	0	0	
48357	TX, Ochiltree County	1	2	0	2	2	2	4.0	0	0	
48359	TX, Oldham County	0	2	1	2	2	2	3.0	0	0	
48365	TX, Panola County	2	2	0	2	2	1	4.0	2	2	
48371	TX, Pecos County	0	3	0	2	2	2	3.5	0	0	
48377	TX, Presidio County	0	2	0	2	2	2	3.0	0	0	
48383	TX, Reagan County	0	3	0	2	2	1	2.5	0	0	
48385	TX, Real County	0	2	0	2	2	2	3.0	0	0	
48387	TX, Red River County	1	2	0	2	2	2	4.0	2	2	
48389	TX, Reeves County	0	2	0	2	2	1	2.0	0	0	
48391	TX, Refugio County	1	2	0	2	2	1	3.0	0	0	
48393	TX, Roberts County	0	1	0	2	2	2	2.5	0	0	
48399	TX, Runnels County	1	2	0	2	2	1	3.0	0	0	
48411	TX, San Saba County	0	2	1	2	2	2	3.0	0	0	
48413	TX, Schleicher County	0	2	0	2	2	1	2.0	0	0	
48415	TX, Scurry County	1	2	0	2	2	1	3.0	0	0	
48417	TX, Shackelford County	0	1	0	2	2	1	1.5	0	0	
48421	TX, Sherman County	0	2	0	2	2	1	2.0	0	0	
48429	TX, Stephens County	1	2	0	2	2	1	3.0	0	0	
48431	TX, Sterling County	0	2	0	2	2	2	3.0	0	0	
48433	TX, Stonewall County	0	2	0	2	2	2	3.0	0	0	
48435	TX, Sutton County	0	3	0	2	2	2	3.5	0	0	

Table 3—List of 837 forest-dependent counties with low viability and adaptability (continued)

Area key	Area name	Population density <sup>a</sup>	Minority <sup>b</sup>	Native American <sup>c</sup>	Region <sup>d</sup>	Employment <sup>e</sup>	Composite <sup>f</sup>	Forest land <sup>g</sup>	National forest <sup>h</sup>
48437	TX, Swisher County	1	3	0	2	1	3.5	0	
48443	TX, Terrell County	0	2	1	2	2	3.0	0	
48445	TX, Terry County	1	2	0	2	2	4.0	0	
48447	TX, Throckmorton County	0	2	0	2	2	3.0	0	
48457	TX, Tyler County	1	2	0	2	2	4.0	3	
48461	TX, Upton County	0	2	1	2	2	3.0	0	
48465	TX, Val Verde County	1	2	0	2	2	4.0	0	
48475	TX, Ward County	1	2	0	2	2	4.0	0	
48483	TX, Wheeler County	1	2	0	2	1	3.0	0	
48487	TX, Wilbarger County	1	2	0	2	1	3.0	0	
48501	TX, Yoakum County	1	3	0	2	1	3.5	0	
48503	TX, Young County	1	2	0	2	1	3.0	0	
48505	TX, Zapata County	1	2	0	2	1	3.0	0	
49001	UT, Beaver County	0	1	0	3	2	3.5	2	
49009	UT, Daggett County	0	1	0	3	2	4.0	2	2
49015	UT, Emery County	0	1	0	3	2	4.0	1	3
49017	UT, Garfield County	0	1	1	3	2	4.0	2	3
49023	UT, Juab County	0	1	1	3	2	3.5	1	2
49027	UT, Millard County	0	1	1	3	2	4.0	1	3
49029	UT, Morgan County	1	1	0	3	2	4.0	2	1
49031	UT, Piute County	0	1	1	3	2	4.0	2	3
49033	UT, Rich County	0	1	0	3	2	3.5	1	2
49055	UT, Wayne County	0	1	0	3	2	4.0	1	3
51021	VA, Bland County	1	1	0	2	1	3.5	3	2
51029	VA, Buckingham County	1	3	0	2	1	3.5	3	
51037	VA, Charlotte County	1	3	0	2	1	3.5	3	
51097	VA, King and Queen County	1	3	1	2	1	3.5	3	
51105	VA, Lee County	2	1	0	2	1	4.0	2	1
51157	VA, Rappahannock County	1	2	0	2	2	4.0	2	
51167	VA, Russell County	2	1	0	2	1	4.0	2	1
53013	WA, Columbia County	0	1	0	4	2	4.0	2	3
53023	WA, Garfield County	0	1	0	4	2	3.5	1	2
53025	WA, Grant County	2	2	1	4	1	4.0	0	
53039	WA, Klickitat County	1	2	1	4	1	3.5	2	1
53043	WA, Lincoln County	0	1	1	4	2	2.5	1	
53049	WA, Pacific County	1	2	1	4	2	4.0	3	
53069	WA, Wahkiakum County	1	1	1	4	1	2.5	3	
53075	WA, Whitman County	1	2	0	4	2	4.0	0	
54013	WV, Calhoun County	1	1	0	1	1	2.5	3	
54017	WV, Doddridge County	1	1	0	1	2	3.5	3	
54021	WV, Gilmer County	1	1	0	1	1	2.5	3	
54023	WV, Grant County	1	1	0	1	1	3.0	3	1
54085	WV, Ritchie County	1	1	0	1	1	2.5	3	
54087	WV, Roane County	2	1	0	1	1	3.5	3	
54101	WV, Webster County	1	1	0	1	1	3.5	3	2
54105	WV, Wirt County	1	1	0	1	1	2.5	3	

**Table 3—List of 837 forest-dependent counties with low viability and adaptability (continued)**

Area key	Area name	Population density <sup>a</sup>	Minority <sup>b</sup>	Native American <sup>c</sup>	Region <sup>d</sup>	Employment <sup>e</sup>	Composite <sup>f</sup>	Forest land <sup>g</sup>	National forest <sup>h</sup>
55011	WI, Buffalo County	1	1	0	1	2	3.5	2	
55013	WI, Burnett County	1	1	1	1	2	3.5	2	
55019	WI, Clark County	2	1	0	1	1	3.5	2	
55051	WI, Iron County	1	1	0	1	2	3.5	3	
55053	WI, Jackson County	1	2	2	1	2	4.0	2	
55065	WI, Lafayette County	1	1	0	1	1	2.5	1	
55067	WI, Langlade County	1	1	0	1	2	4.0	3	1
55103	WI, Richland County	2	1	0	1	1	3.5	2	
55107	WI, Rusk County	1	1	0	1	2	3.5	2	
55129	WI, Washburn County	1	1	1	1	2	3.5	3	
56003	WY, Big Horn County	0	1	0	3	1	3.0	1	3
56009	WY, Converse County	0	1	0	3	2	4.0	1	3
56011	WY, Crook County	0	1	1	3	1	3.0	2	3
56015	WY, Goshen County	1	1	0	3	2	3.5	0	
56019	WY, Johnson County	0	1	0	3	2	4.0	1	3
56023	WY, Lincoln County	0	1	0	3	2	4.0	2	3
56025	WY, Natrona County	1	1	1	3	2	4.0	1	1
56027	WY, Niobrara County	0	1	0	3	2	3.0	0	1
56029	WY, Park County	0	1	0	3	2	4.0	2	3
56031	WY, Platte County	0	1	0	3	2	3.0	1	1
56035	WY, Sublette County	0	1	0	3	2	4.0	2	3
56037	WY, Sweetwater County	0	2	1	3	2	4.0	0	
56043	WY, Washakie County	0	2	0	3	2	4.0	1	2
56045	WY, Weston County	0	1	1	3	2	4.0	1	3

<sup>a</sup> Population density (person per square mile): 0 = 0–5, 1 = 6–28, 2 = 29–250, 3 = >250.

<sup>b</sup> Minority (percent): 1 = 0–7.33, 2 = 7.34–23.93, 3 = >23.94.

<sup>c</sup> Native American: 0 = 0–1, 1 = 1.1–5.77, 2 = >5.78.

<sup>d</sup> Region: 1 = North, 2 = South, 3 = Rocky Mountains, 4 = Pacific coast.

<sup>e</sup> Employment: (Shannon Weaver Index): 1 = 0–0.76684, 2 = 0.76685–0.87421, 3 = >0.87422–1.

<sup>f</sup> Composite: (population+(minority+NF area)/2)+employment).

<sup>g</sup> Forest land (percent): 0 = 0–5.0, 1 = 5.1–32.5, 2 = 32.6–66.2, 3 = ≥66.3.

<sup>h</sup> National forest: 1 = 0–35,000, 2 = 36,000–157,000, 3 = >157,000 acres.

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<b>Telephone</b>	(503) 808-2592
<b>Publication requests</b>	(503) 808-2138
<b>FAX</b>	(503) 808-2130
<b>E-mail</b>	<a href="mailto:pnw_pnwpubs@fs.fed.us">pnw_pnwpubs@fs.fed.us</a>
<b>Mailing address</b>	Publications Distribution Pacific Northwest Research Station P.O. Box 3890 Portland, OR 97208-3890

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U.S. Department of Agriculture  
Pacific Northwest Research Station  
333 S.W. First Avenue  
P.O. Box 3890  
Portland, OR 97208-3890

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