



## Overview of Sustainability Framework

### Background

Since the current Forest Plans were adopted in the early 1990s, the Forest Service's management direction has expanded from sustaining commodity outputs to a broader mission of sustaining the "health, diversity, and productivity of the nation's forests and grasslands to meet the needs of present and future generations" (USDA 2003c). The challenge, however, is to frame or set the context for sustainability so that we can decide what to sustain, for whom, how and for how long, and at what cost for the present and for the future.

### Sustainability Framework

To facilitate achieving this mission, the Blue Mountains Forest Plan Revision Team has adopted a draft framework using criteria and indicators as a way to manage for sustainability, build the content for the revised Forest Plans, and engage in a dialogue about what sustainability means. This effort is intended to build shared ownership in the final decisions.

#### Managing for Sustainability

We are working from three guiding principles for sustainability. This means that the revised Forest Plans need to sustain ecological integrity and they also need to provide social and economic well-being for people in communities in the area and across the nation for the present and into the future. The draft framework is a first approximation of the criteria and indicators relevant to describing sustainability for the Blue Mountains national forests (refer to handout of Sustainability Framework).

It is based on several efforts that have emerged over the last 10-15 years that focus on how to develop criteria and indicators for sustainability that are relevant at the regional, forest, or community level. We've modified it relative to the Blue Mountains national forests and have also incorporated elements from the *USDA Strategic Plan for 2004-2008* (USDA 2003c), the *Interior Columbia Basin Strategy* (USDA/USDI 2003), and other references (see a partial list at the end of this document).

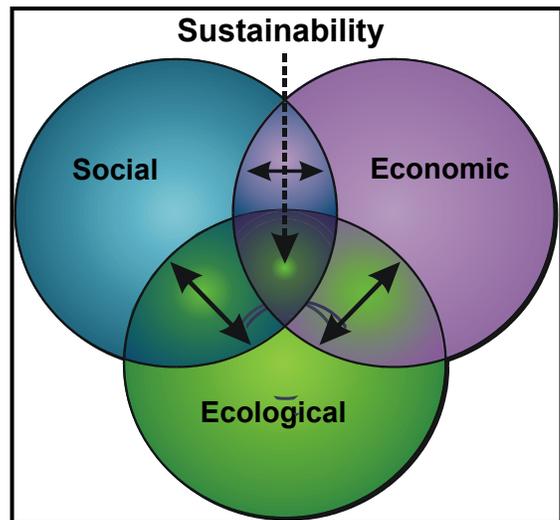


Figure 1 – Conceptual Illustration of Sustainability

The framework provides a common language to describe and evaluate the conditions and processes necessary to sustain the social, ecological, and economic systems that sustain us. By focusing our efforts on the relationships between these systems rather than looking at parts of systems, we can increase our understanding about the role of the Forests to sustainability at the forest level to make better decisions for the future. Figure 1 provides a conceptual illustration of sustainability.

The sustainability framework consists of principles, criteria, indicators, measures, data elements, and reference values that are applicable to social, ecological, and economic systems at the Forest level.

<b>Table 1: Components, Definitions, and Example</b>		
<b>Component</b>	<b>Definition</b>	<b>Example</b>
Principle	A fundamental law or organizing rule serving as a basis for reasoning and action. An explicit element of the sustainability goal	Ecological integrity is maintained
Criteria	A component of the structure of function of the social, ecological, or economic systems, which should be in place as a result of adherence to a principle. Criteria form the conceptual architecture of the systems under investigation.	Structure/composition
Indicator	A quantitative or qualitative parameter than can be assessed in relation to a criteria. Indicators do not imply direction, measurement method, spatial or temporal scale, or reference value.	Landscape patterns
Measure	The methodology and source of information for the indicator. The form, scale, timing, and units of data that are gathered are specified.	Density and distribution of human developed features by use class (e.g., road density, number of road crossings, distance to human developed features)
Data Element	The data element that supports a measure. Some measures are specific enough that the level of data is not needed.	Road density by 4 <sup>th</sup> field watershed
Reference Value	The benchmark, standard, or objective against which the measures is assessed. Reference values specify the range or threshold expressing the desired system condition over a given period.	(.....) road miles/square mile open road density in 4 <sup>th</sup> field watershed

We've used this as the foundation for preparing the description of the current resource conditions and management situation and are using it as the basis for the development of the desired condition statements for the revised Forest Plans.

### ***Building the Forest Plans***

We've also adopted a new format for the revised Forest Plans based on a strategic planning model with three main components – vision, strategy, and design criteria. The vision defines the roles and contributions of national forest lands through a series of desired condition statements. The strategy defines the suitable uses, special area designations, and objectives. The design criteria define standards and other guidance that limits how management activities can occur. Figure 2 provides a conceptual illustration of the format.

The sustainability framework provides the foundation for how we are currently developing the draft desired conditions based on the participation in the public workshops. It also provides a bridge to revise the current Forest Plan direction and build content for the new Forest Plans in the context of sustainability. Table 2 provides further detail on the components and descriptions of the Forest Plan.

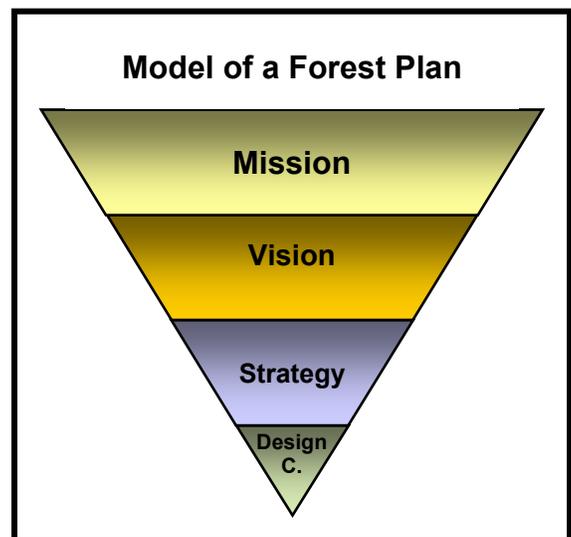


Figure 2 – Conceptual Illustration of Forest Plan

<b>Component</b>	<b>Description</b>
Vision	The vision defines the roles and contributions of National Forest System lands. It is a series of desired condition statement for the landscape, disturbance processes, and the benefits and experiences that these lands can supply. It contains monitoring measures to assess progress toward desired conditions.
Strategy	The strategy describes how the Forest intends to move toward the desired conditions. It explains <i>suitable uses</i> and how the strategy will be monitored. It Includes a prospectus of key <i>objectives</i> for anticipated levels of conditions, uses, and activities. It contains monitoring measures of implementation. Optionally, it can include recommendations for special area designations.
Design Criteria	The design criteria define standards and references to other applicable guidance that limits how management activities can occur. It bounds the strategy and subsequent projects designed to implement the strategy.

This allows us to provide more strategic, integrated direction that is also more accountable in how we know whether or not we are achieving the desired system conditions.

### **Dialogue about Sustainability**

The framework provides an opportunity to integrate social, ecological, and economic concerns with people and places from the very beginning of the collaborative process. Because sustainability is not a fixed, independent state of social, ecological, or economic descriptions, it requires human judgment about the condition or state of complex relationships and processes and the related resources, goods, and services. Inherent in describing sustainability is a wide variety of diverse perspectives about the conditions that people wish to see persist in time and space (Wright et al. 2002).

The sustainability framework engages all of us in a dialogue about the current and desired conditions and the inherent conflicts around achieving sustainability early in the process. By working together and building relationships around places that people care about, we can develop the revised Forest Plans to achieve the vision and design activities to implement the plans in a way that all of us can support. This allows us to deepen our understanding of complexity, recognize uncertainty, and adapt more quickly to new understandings and scientific findings as they emerge.

### **Analysis Levels**

The level of sociopolitical or geographic organization for which data will be assembled and analyzed for the Blue Mountains Forest Plan Revision includes both space and time. The choice of level is relevant to the measure and depends on the specific questions about sustainability associated with the indicators. Tables 2-6 outline the various attributes and characteristics for the initial levels defined for measures in the sustainability framework relevant to the Blue Mountains national forests (adapted from USDA 1996, Wright et al. 2002). Standardized protocols will be used whenever possible.

<b>Attributes</b>	<b>Landscape Ecology</b>	<b>Terrestrial</b>	<b>Aquatic</b>	<b>Social/Economic</b>
Geographic Extent				Nation, multi-state
Data Resolution				
Organizational Hierarchy				Nation, multi-state
Map scale				1:2,000,000
Short-term	3-10 years	3-10 years	3-10 years	3-10 years
Long-term	10+ years	10+ years	10+ years	10+ years

Purpose: national assessments, strategic planning (ex. USDA FS Strategic Plan 2004-2008)

<b>Table 3 – Broad-Level</b>				
<b>Attributes</b>	<b>Landscape Ecology</b>	<b>Terrestrial</b>	<b>Aquatic</b>	<b>Social/Economic</b>
Geographic Extent	River basin	River basin	River basin	Multi-state, multi-county
Data Resolution	> 100 h	> 100 ha	Sub-basins (Hydrologic Unit Codes 1 and 2)	Multi-state, multi-county
Organizational Hierarchy	Multiple watersheds	Community and species associations	Watersheds, communities of species	Multi-state, multi-county
Map scale	1:100,000	1:100,000	1:100,000	1:100,000
Short-term	3-10 years	3-10 years	3-10 years	3-10 years
Long-term	10+ years	10+ years	10+ years	10+ years

Purpose: regional assessments and analysis (ex. ICBEPM Scientific assessment)

<b>Table 4 - Mid-Level</b>				
<b>Attributes</b>	<b>Landscape Ecology</b>	<b>Terrestrial</b>	<b>Aquatic</b>	<b>Social/Economic</b>
Geographic Extent	Sub-basins (Hydrologic Unit Codes 3 and 4)	Sub-basins (Hydrologic Unit Codes 3 and 4)	Sub-basins (Hydrologic Unit Codes 3 and 4)	Multi-county, multi-community
Data Resolution	< 100 ha	1-5 ha	15,000 ha watersheds	Multi-county, multi-community
Organizational Hierarchy	Watershed	Species groups	Species groups	Multi-county, multi-community
Map scale	1:100,000; 1:24000	1:100,000; 1:24000	1:100,000; 1:24000	1:100,000; 1:24000
Short-term	3-10 years	3-10 years	3-10 years	3-10 years
Long-term	10+ years	10+ years	10+ years	10+ years

Purpose: forest plan assessment and analysis (ex. Blue Mountains Forest Plan Revision)

<b>Table 5 - Fine-Level</b>				
<b>Attributes</b>	<b>Landscape Ecology</b>	<b>Terrestrial</b>	<b>Aquatic</b>	<b>Social/Economic</b>
Geographic Extent	Watersheds (Hydrologic Unit Code 5)	Watersheds (Hydrologic Unit Code 5)	Watersheds (Hydrologic Unit Code 5)	Census blocks, communities
Data Resolution	< 25 ha	1-5 ha	Watersheds (Hydrologic Unit Code 5), streams	Census blocks, communities
Organizational Hierarchy	Streams and vegetation patterns	Species	Species	Census blocks, communities
Map scale	1:24000	1:24000	1:24000	1:24000
Short-term	3-10 years	3-10 years	3-10 years	3-10 years
Long-term	10+ years	10+ years	10+ years	10+ years

Purpose: project-level analysis (ex. watershed analysis)

<b>Table 6 - Sub-fine/project Level</b>				
<b>Attributes</b>	<b>Landscape Ecology</b>	<b>Terrestrial</b>	<b>Aquatic</b>	<b>Social/Economic</b>
Geographic Extent	Sub-watersheds (Hydrologic Unit Code 6)	Sub-watersheds (Hydrologic Unit Code 6)	Sub-watersheds (Hydrologic Unit Code 6)	Census blocks, neighborhoods
Data Resolution	< 25 ha	1-5 ha	Subwatershed (Hydrologic Unit Code 6), streams	Census blocks, neighborhoods
Organizational Hierarchy	Streams and vegetation patterns	Species	Species	Census blocks, neighborhoods
Map scale	1:12-24000	1:12-24000	1:12-24000	1:12-24000
Short-term	3-10 years	3-10 years	3-10 years	3-10 years
Long-term	10+ years	10+ years	10+ years	10+ years

Purpose: project-level analysis (ex. fuel reduction project). Other terms may be useful in describing the scale of data such as sites, stands, plots, or individuals.

Addressing the questions at all levels of the system is critical to understanding sustainability and making well-informed decisions (USDA 2002). The assessment and analysis for the Forest Plan revision includes system elements primarily associated with the mid-level. The broad and fine-levels will be addressed where necessary to provide a context for reference because several policy questions cannot be adequately addressed at the mid-scale alone. One level up is the context for the next level down. For example, the broad-level is the context for the mid-level, and the mid-level is the context for the fine-level.

The broad-level provides the context for broad-based existing conditions, effects and risks. It may make detection of trends more meaningful and obvious. A coarser analysis may however filter the signals of emerging problems. The fine-level provides the context for understanding conditions or risks that may be uniquely important to the questions and would otherwise disappear or be diluted at the mid-level. Because systems are dynamic, the measures and associated data will depend on the specific questions.

## Summary

The sustainability framework provides a way to meet the Forest Service mission by revising the Forest Plans in the context of sustainability, enables us to develop the content for the plans based on the new strategic model, and facilitates learning and decisions about sustainability in the collaborative process.

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